

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک																									
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طرح نگهداشت و افزایش تولید 27 مخزن

STRESS ANALYSIS CALCULATIONS REPORT

نگهداشت و افزایش تولید میدان نفتی بینک

D02	MAR.2023	IFI	M.Noori	M.Fakharian	S.Faramarzpour	
D01	SEP.2023	IFI	M.Noori	M.Fakharian	A.M.Mohseni	
D00	FEB. 2023	IFI	M.Noori	M.Fakharian	M.Mehrshad	

Rev.	Date	Purpose of Issue/Status	Prepared by:	Checked by:	Approved by:	CLIENT Approval

Class:3

CLIENT Doc. Number: F0Z-708906

Status:

IDC: Inter-Discipline Check
 IFC: Issued For Comment
 IFA: Issued For Approval
 AFD: Approved For Design
 AFC: Approved For Construction
 AFP: Approved For Purchase
 AFQ: Approved For Quotation
 IFI: Issued For Information
 AB-R: As-Built for CLIENT Review
 AB-A: As-Built –Approved

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک																									
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D02	0002	RT	PI	120	PEDCO	GCS	BK																			

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 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک																									
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 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک																									
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1.0 INTRODUCTION

Binak oilfield in Bushehr province is a part of the southern oilfields of Iran, is located 20 km northwest of Genaveh city.

With the aim of increasing production of oil from Binak oilfield, an EPC/EPD Project has been defined by NIOC/NISOC and awarded to Petro Iran Development Company (PEDCO). Also PEDCO (as General Contractor) has assigned the EPC-packages of the Project to "Hirgan Energy - Design and Inspection" JV.

As a part of the Project, a New Gas Compressor Station (adjacent to existing Binak GCS) shall be constructed to gather of 15 MMSCFD (approx.) associated gases and compress & transfer them to Siahmakan GIS.

GENERAL DEFINITION

The following terms shall be used in this document.

CLIENT:	National Iranian South Oilfields CLIENT (NISOC)
PROJECT:	Binak Oilfield Development – Surface Facilities; New Gas Compressor Station
EPD/EPC CONTRACTOR (GC):	Petro Iran Development Company (PEDCO)
EPC CONTRACTOR:	Joint Venture of : Hirgan Energy – Design & Inspection (D&I) Companies
VENDOR:	The firm or person who will fabricate the equipment or material.
EXECUTOR:	Executor is the party which carries out all or part of construction and/or commissioning for the project.
THIRD PARTY INSPECTOR (TPI):	The firm appointed by EPD/EPC CONTRACTOR (GC) and approved by CLIENT (in writing) for the inspection of goods.
SHALL:	Is used where a provision is mandatory.
SHOULD:	Is used where a provision is advisory only.
WILL:	Is normally used in connection with the action by CLIENT rather than by an EPC/EPD CONTRACTOR, supplier or VENDOR.
MAY:	Is used where a provision is completely discretionary.

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک																									
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D02	0002	RT	PI	120	PEDCO	GCS	BK																			

2.0 SCOPE

This document covers piping Stress Analysis Calculations Report for BINAK Compressor Gas Station.

3.0 THE PROJECT DOCUMENTS

- BK-GCS-PEDCO-120-PI-SP-0001 Piping Material Specification
- BK-GCS-PEDCO-120-PR-LI-0004 LINE LIST
- BK-GNRAL-PEDCO-000-PI-SP-0012 Specification For Flexibility Analysis
- BK-GCS-PEDCO-120-PI-LI-0001 Critical Line List

4.0 STANDARD AND REFERENCE

- IPS-E-PI-200 Engineering standard for Flexibility Analysis
- IPS-E-PI-240 Engineering standard for plant piping systems
- API 5L Specification for Line Pipe
- ASME B31.3 Process Piping (Petroleum Refinery Piping)
- ASME B16.5 Steel Pipe Flanges, Flanged Valves and Fittings
- ASME B16.9 Factory Made Wrought Steel Butt Welding Fittings
- ASME B16.10 Face to Face and End to End Dimension of Valves
- ASME B16.11 Forged Steel Fittings Socket Welding and Threaded
- ASME B16.34 Valves Flanged, Threaded , and Welding End

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک							
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	BK	GCS	PEDCO	120	PI	RT	0002	D02

5.0 ATTACHEMENT (stress analysis calculation report)

BNK-GCS-CN- · · 1

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Line no.

Stress sketch

Input echo

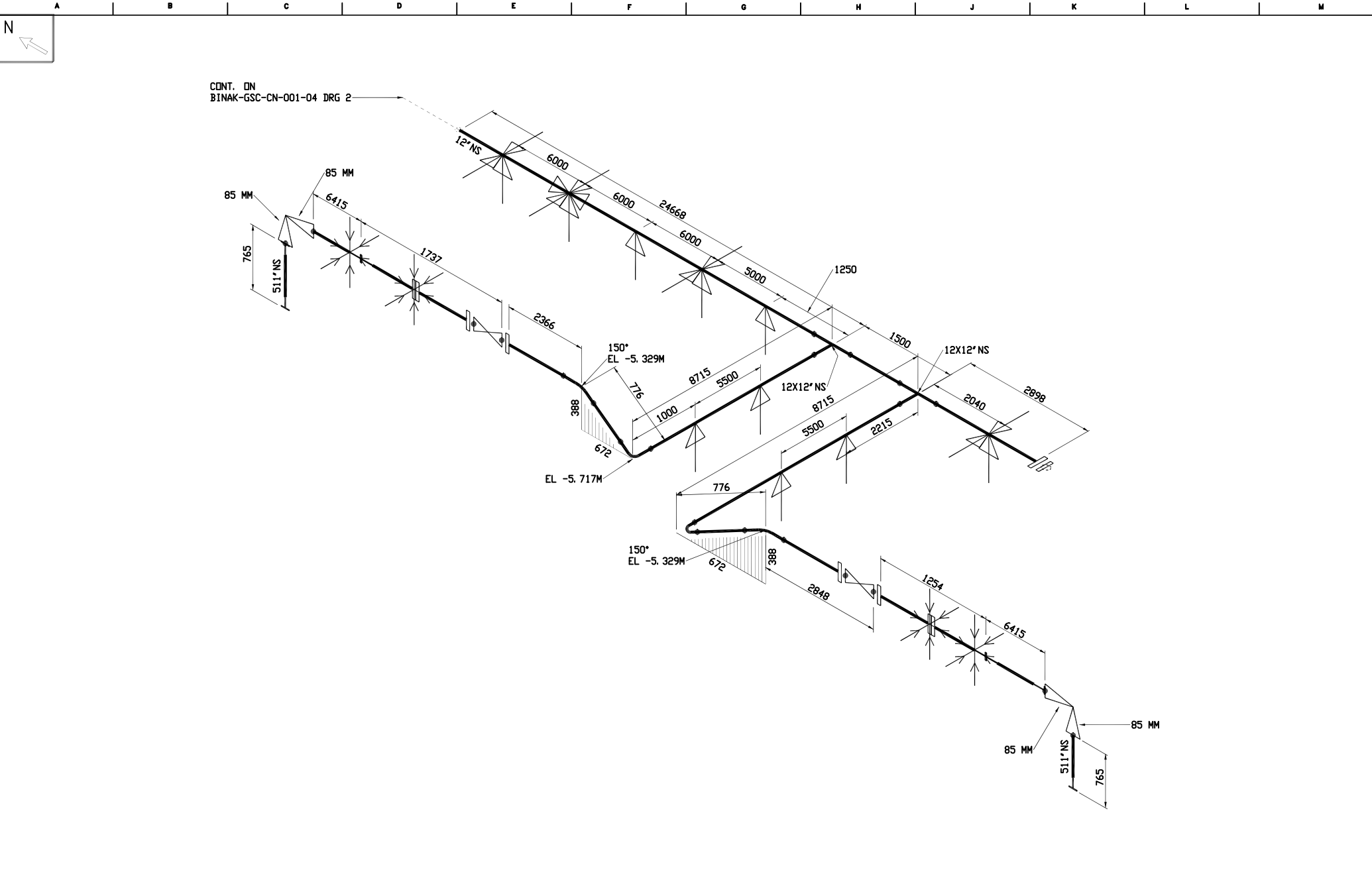
Restraint summary

Stress summary

Nozzle load Table

LINE NO.:

1. FWA-113-0019-AN04-12"-PT
2. FWA-113-0020-AN04-12"-PT
3. FWA-113-0006-AN04-12"-PT
4. FWA-113-0005-AN04-12"-PT
5. FWA-113-0004-AN04-12"-PT



CHECK ISOMETRIC ONLY – DO NOT ISSUE

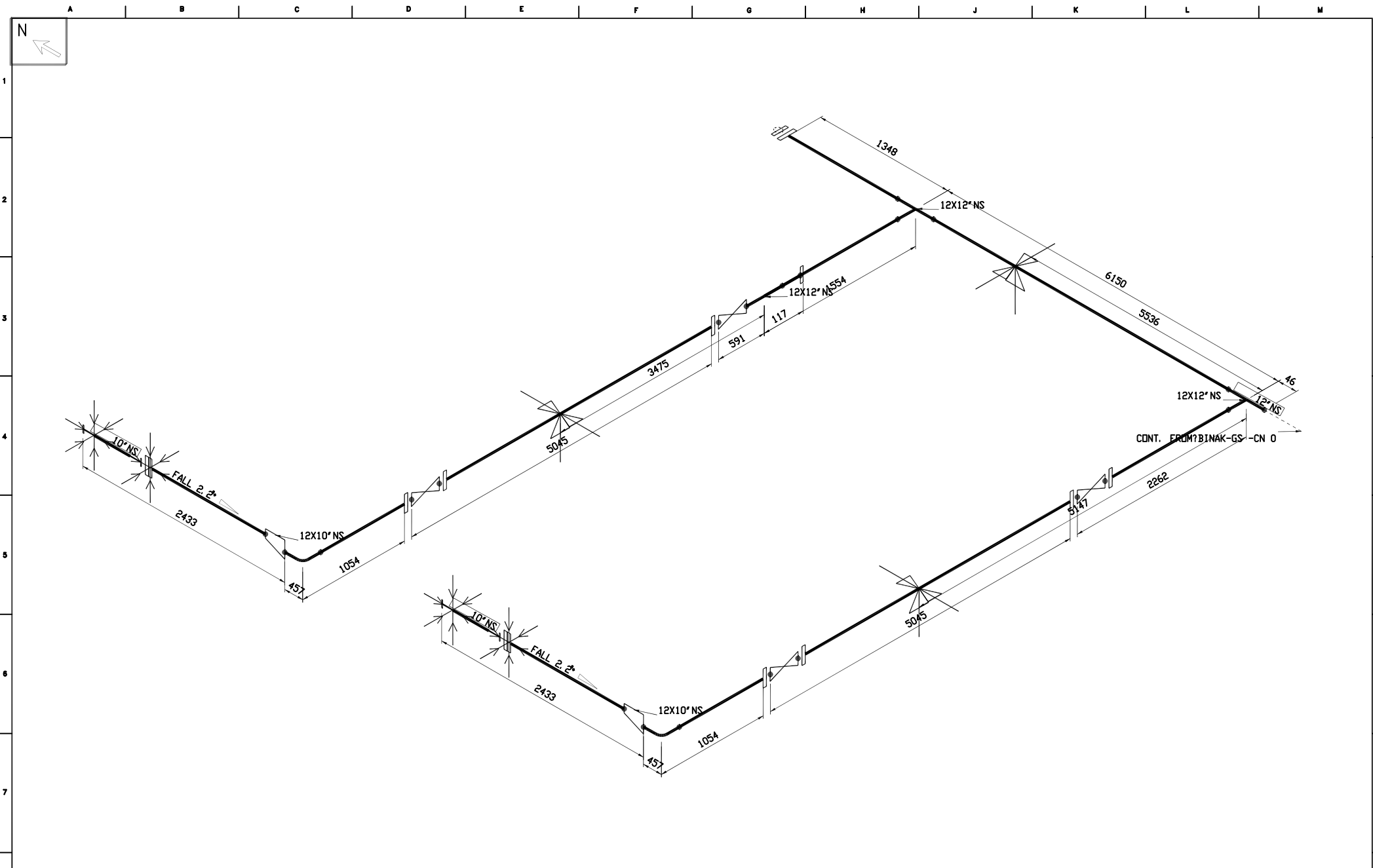
REV.	CHANGE	02 MAR 2024	THIS DRAWING IS THE PROPERTY OF INTERGRAPH LTD AND MUST NOT BE COPIED OR LENT WITHOUT THE CONSENT OF THE COMPANY
		DATE	

PIPING SPEC.		OP. TEMP.	
INSULATION SPEC.		PROJECT NO.	
INSULATION THKS.		SYSTEM	
PAINTING SPEC.		AREA	
MATERIAL		DRAWN BY	
OP. PRESSURE		E.L.DIAGRAM	



PIPELINE REFERENCE

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CHECK ISOMETRIC ONLY – DO NOT ISSUE

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INSULATION SPEC.		PROJECT NO.	
INSULATION THKS.		SYSTEM	
PAINTING SPEC.		AREA	
MATERIAL		DRAWN BY	
OP. PRESSURE		E.L.DIAGRAM	

INTERGRAPH

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DRG.

PIPELINE REFERENCE

2 OF 2

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Job:: BINAK-GSC-CN-001-D02
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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

- 1 (HYD) WW+HP
- 2 (OPE) W+D1+T1+P1
- 3 (Alt-SUS) W+P1
- 4 (OPE) W+D1+T2+P1
- 5 (Alt-SUS) W+P1
- 6 (OPE) W+D1+T3+P1
- 7 (Alt-SUS) W+P1
- 8 (SUS) W+P1
- 9 (SUS) WNC
- 10 (OPE) W+D1+T2+P1+U1
- 11 (OPE) W+D1+T2+P1-U1
- 12 (OPE) W+D1+T2+P1+U2
- 13 (OPE) W+D1+T2+P1+U3
- 14 (OPE) W+D1+T2+P1-U3
- 15 (OCC) L15=L10-L4
- 16 (OCC) L16=L11-L4
- 17 (OCC) L17=L12-L4
- 18 (OCC) L18=L13-L4
- 19 (OCC) L19=L14-L4
- 20 (OCC) L20=L15+L8
- 21 (OCC) L21=L16+L8
- 22 (OCC) L22=L17+L8
- 23 (OCC) L23=L18+L8
- 24 (OCC) L24=L19+L8
- 25 (EXP) L25=L2-L8
- 26 (EXP) L26=L4-L8
- 27 (EXP) L27=L2-L4
- 28 (EXP) L28=L6-L8
- 29 (EXP) L29=L2-L6
- 30 (EXP) L30=L4-L6

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INPUT LISTING

Job Description:

PROJECT:

CLIENT :

ANALYST:

NOTES :

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INPUT LISTING

File created by FEATools

CAESAR II 2018 Ver.10.00.00.7700, (Build 170726) MAR 2,2024 10:45: 6

PIPE DATA

 From 10 To 20 DX= 117.475 mm.

PIPE

Dia= 323.850 mm. Wall= 6.350 mm. Cor= 3.0000 mm.

Element Name= FLANGE_FLG_150

GENERAL

T1= 85 C T2= 50 C T3= 5 C P1= 100.0023 KPa PHyd= 150.0034 KPa

Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 199,086,608 KPa

EH2= 201,258,288 KPa EH3= 204,228,528 KPa EH4= 203,401,232 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0009970 kg./cu.cm.

Insul Thk= .000 mm. Insul Den= .0000000 kg./cu.cm.

RIGID Weight= 360.31 N.

RESTRAINTS

Node 10 ANC Cnode 11

UNIFORM LOAD

Vector1 in G-s X1 Dir = .26 g's Y1 Dir = .00 g's Z1 Dir = .00 g's

Vector2 in G-s X2 Dir = .00 g's Y2 Dir = .12 g's Z2 Dir = .00 g's

Vector3 in G-s X3 Dir = .00 g's Y3 Dir = .00 g's Z3 Dir = .26 g's

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

 From 20 To 30 DX= 887.500 mm.

 From 30 To 40 DX= 117.475 mm.

RIGID Weight= 360.31 N.

 From 40 To 50 DX= 365.000 mm.

RIGID Weight= 3,611.96 N.

 From 50 To 60 DX= 117.475 mm.

RIGID Weight= 360.31 N.

 From 60 To 70 DX= 2,366.000 mm.

BEND at "T0" end

Radius= 457.200 mm. (LONG) Bend Angle= 30.001 Angle/Node @1= 15.00 69

Angle/Node @2= .00 68

 From 70 To 80 DX= 672.000 mm. DY= -388.000 mm.

BEND at "T0" end

Radius= 457.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 79

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INPUT LISTING

 From 80 To 85 DZ= -1,000.000 mm.

RESTRAINTS

Node 85 +Y

 From 85 To 90 DZ= -5,500.000 mm.

RESTRAINTS

Node 90 +Y Mu = .30

 From 90 To 100 DZ= -2,215.000 mm.

SIF's & TEE's

Node 100 Welding Tee

 From 100 To 110 DX= 1,500.000 mm.

SIF's & TEE's

Node 110 Welding Tee

 From 110 To 120 DX= 2,040.000 mm.

RESTRAINTS

Node 120 +Y Mu = .30

Node 120 Z Gap= 3.000 mm.

 From 120 To 130 DX= 858.000 mm.

 From 130 To 140 DX= 117.475 mm.

RIGID Weight= 360.31 N.

 From 140 To 150 DX= 117.475 mm.

RIGID Weight= 360.31 N.

 From 100 To 160 DX= -1,250.000 mm.

RESTRAINTS

Node 160 +Y

 From 160 To 170 DX= -5,000.000 mm.

RESTRAINTS

Node 170 +Y Mu = .30

Node 170 Z Gap= 3.000 mm.

 From 170 To 180 DX= -6,000.000 mm.

RESTRAINTS

Node 180 +Y Mu = .30

 From 180 To 190 DX= -6,000.000 mm.

RESTRAINTS

Node 190 +Y Mu = .30

Node 190 Z Gap= 3.000 mm.

Node 190 X Gap= 3.000 mm. Mu = .30

 From 190 To 200 DX= -6,000.000 mm.

RESTRAINTS

Node 200 +Y Mu = .30

Node 200 Z Gap= 3.000 mm. Mu = .30

 From 200 To 210 DX= -464.000 mm.

SIF's & TEE's

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INPUT LISTING

Node 210 Welding Tee

From 210 To 220 DX= -5,536.000 mm.

RESTRAINTS

Node 220 +Y Mu = .30

Node 220 Z Gap= 3.000 mm.

From 220 To 230 DX= -614.000 mm.

SIF's & TEE's

Node 230 Welding Tee

From 230 To 240 DX= -1,348.000 mm.

From 240 To 250 DX= -117.475 mm.

RIGID Weight= 360.31 N.

From 250 To 260 DX= -117.475 mm.

RIGID Weight= 360.31 N.

From 210 To 270 DZ= 1,554.000 mm.

GENERAL

P1= 1,540.0350 KPa PHyd= 1,680.0382 KPa

From 270 To 280 DZ= 117.475 mm.

RIGID Weight= 360.31 N.

From 280 To 290 DZ= 590.550 mm.

RIGID Weight= 3,611.96 N.

From 290 To 300 DZ= 117.475 mm.

RIGID Weight= 360.31 N.

From 300 To 310 DZ= 2,767.000 mm.

RESTRAINTS

Node 310 +Y Mu = .30

Node 310 X Gap= 3.000 mm. Mu = .30

From 310 To 320 DZ= 1,432.000 mm.

From 320 To 330 DZ= 117.475 mm.

RIGID Weight= 360.31 N.

From 330 To 340 DZ= 729.000 mm.

RIGID Weight= 4,915.29 N.

From 340 To 350 DZ= 117.475 mm.

RIGID Weight= 360.31 N.

From 350 To 360 DZ= 1,054.000 mm.

BEND at "TO" end

Radius= 457.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 359

Angle/Node @2= .00 358

From 360 To 370 DX= -457.000 mm.

From 370 To 380 DX= -203.000 mm. DY= 25.400 mm.

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INPUT LISTING

REDUCER

Diam2= 273.050 mm. Wall2= 6.350 mm.

 From 380 To 390 DX= -1,420.000 mm.

PIPE

Dia= 273.050 mm. Wall= 6.350 mm.
 Insul Thk= .000 mm.

 From 390 To 400 DX= -104.775 mm.

RIGID Weight= 235.76 N.

RESTRAINTS

Node 400 ANC Cnode 401

EQUIPMENT LIMITS

Nozzle Node = 400

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 13,344.67 N. FB= 10,675.73 N.

FC= 8,896.44 N. MA= 4,880.94 N.m. MB= 10,033.05 N.m. MC= 7,592.58 N.m.

Equipment Major Direction Vector= .0000 1.0000 .0000

Interact. Mtd= Absolute

 From 401 To 410 DX= -104.775 mm.

RIGID Weight= 235.76 N.

 From 410 To 420 DX= -600.000 mm.

RIGID Weight= .00 N.

RESTRAINTS

Node 420 ANC

 From 450 To 460 DX= -117.475 mm.

PIPE

Dia= 323.850 mm. Wall= 6.350 mm. Cor= 3.0000 mm.

Element Name= FLANGE_FLG_150

GENERAL

T1= 85 C T2= 50 C T3= 5 C P1= 100.0023 KPa PHyd= 150.0034 KPa

Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 199,086,608 KPa

EH2= 201,258,288 KPa EH3= 204,228,528 KPa EH4= 203,401,232 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0009970 kg./cu.cm.

Insul Thk= .000 mm. Insul Den= .0000000 kg./cu.cm.

RIGID Weight= 360.31 N.

RESTRAINTS

Node 450 ANC Cnode 451

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

 From 460 To 470 DX= -887.500 mm.

 From 470 To 480 DX= -117.475 mm.

RIGID Weight= 360.31 N.

 From 480 To 490 DX= -365.000 mm.

RIGID Weight= 3,611.96 N.

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INPUT LISTING

From 490 To 500 DX= -117.475 mm.

RIGID Weight= 360.31 N.

From 500 To 510 DX= -2,366.000 mm.

BEND at "T0" end

Radius= 457.200 mm. (LONG) Bend Angle= 30.001 Angle/Node @1= 15.00 509

Angle/Node @2= .00 508

From 510 To 520 DX= -672.000 mm. DY= -388.000 mm.

BEND at "T0" end

Radius= 457.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 519

From 520 To 530 DZ= -1,000.000 mm.

RESTRAINTS

Node 530 +Y

From 530 To 540 DZ= -5,500.000 mm.

RESTRAINTS

Node 540 +Y Mu = .30

From 540 To 110 DZ= -2,215.000 mm.

From 610 To 620 DZ= 117.475 mm.

PIPE

Dia= 323.850 mm. Wall= 6.350 mm. Cor= 3.0000 mm.

GENERAL

T1= 85 C T2= 50 C T3= 5 C P1= 1,540.0350 KPa PHyd= 1,680.0382 KPa

Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 199,086,608 KPa

EH2= 201,258,288 KPa EH3= 204,228,528 KPa EH4= 203,401,232 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0009970 kg./cu.cm.

Insul Thk= .000 mm. Insul Den= .0000000 kg./cu.cm.

RIGID Weight= 360.31 N.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 620 To 230 DZ= -1,554.000 mm.

SIF's & TEE's

Node 230 Welding Tee

From 620 To 630 DZ= 590.550 mm.

RIGID Weight= 3,611.96 N.

From 630 To 640 DZ= 117.475 mm.

RIGID Weight= 360.31 N.

From 640 To 650 DZ= 2,767.000 mm.

RESTRAINTS

Node 650 +Y Mu = .30

Node 650 X Gap= 3.000 mm. Mu = .30

From 650 To 660 DZ= 1,432.000 mm.

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INPUT LISTING

From 660 To 670 DZ= 117.475 mm.

RIGID Weight= 360.31 N.

From 670 To 680 DZ= 729.000 mm.

RIGID Weight= 4,915.29 N.

From 680 To 690 DZ= 117.475 mm.

RIGID Weight= 360.31 N.

From 690 To 700 DZ= 1,054.000 mm.

BEND at "T0" end

Radius= 457.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 699

Angle/Node @2= .00 698

From 700 To 710 DX= -457.000 mm.

From 710 To 720 DX= -203.000 mm. DY= 25.400 mm.

REDUCER

Diam2= 273.050 mm. Wall2= 6.350 mm.

From 720 To 730 DX= -1,420.000 mm.

PIPE

Dia= 273.050 mm. Wall= 6.350 mm.

Insul Thk= .000 mm.

From 730 To 740 DX= -104.775 mm.

RIGID Weight= 235.76 N.

RESTRAINTS

Node 740 ANC Cnode 741

EQUIPMENT LIMITS

Nozzle Node = 740

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 13,344.67 N. FB= 10,675.73 N.

FC= 8,896.44 N. MA= 4,880.94 N.m. MB= 10,033.05 N.m. MC= 7,592.58 N.m.

Equipment Major Direction Vector= .0000 1.0000 .0000

Interact. Mtd= Absolute

From 741 To 750 DX= -104.775 mm.

RIGID Weight= 235.76 N.

From 750 To 760 DX= -600.000 mm.

RIGID Weight= .00 N.

RESTRAINTS

Node 760 ANC

From 11 To 770 DX= -117.475 mm.

PIPE

Dia= 323.850 mm. Wall= 6.350 mm.

GENERAL

T2= 21 C P1= 100.0023 KPa PHyd= 150.0034 KPa Insul Thk= .000 mm.

RIGID Weight= 360.31 N.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

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INPUT LISTING

 From 770 To 780 DX= -132.000 mm.

RESTRAINTS

Node 780 ANC Cnode 781

 From 781 To 790 DX= -6,500.000 mm.

PIPE

Dia= 13,000.000 mm. Wall= 6.350 mm. Cor= 1.6000 mm.

Insul Thk= .000 mm.

RIGID Weight= .00 N.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

 From 790 To 800 DY= -850.000 mm.

RIGID Weight= .00 N.

DISPLACEMENTS

Node 800 DX1= .000 mm. DY1= -15.000 mm. DZ1= .000 mm. RX1= .000

RY1= .000 RZ1= .000

 From 451 To 810 DX= 117.475 mm.

PIPE

Dia= 323.850 mm. Wall= 6.350 mm.

Insul Thk= .000 mm.

RIGID Weight= 360.31 N.

 From 810 To 820 DX= 132.000 mm.

RESTRAINTS

Node 820 ANC Cnode 821

 From 821 To 830 DX= 6,500.000 mm.

PIPE

Dia= 13,000.000 mm. Wall= 6.350 mm.

Insul Thk= .000 mm.

RIGID Weight= .00 N.

 From 830 To 840 DY= -850.000 mm.

RIGID Weight= .00 N.

DISPLACEMENTS

Node 840 DX1= .000 mm. DY1= -15.000 mm. DZ1= .000 mm. RX1= .000

RY1= .000 RZ1= .000

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MATERIAL Changes:

10 20 Mat= (106)A106 Grade B E= 203,401,232 KPa

v = .292 Density= .0078 kg./cu.cm.

450 460 Mat= (106)A106 Grade B E= 203,401,232 KPa

v = .292 Density= .0078 kg./cu.cm.

610 620 Mat= (106)A106 Grade B E= 203,401,232 KPa

v = .292 Density= .0078 kg./cu.cm.

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JOBNAME: D:\BINAK PRO\STRESS REPORT\D02\NATIVE\BNK-GCS-CN-001\BINAK-GSC-CN-001-

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INPUT LISTING

ALLOWABLE STRESS Changes

10	20	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
450	460	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
610	620	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
11	770	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
781	790	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	

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BEND ELEMENTS

60	70	Radius= 457.200 mm. (LONG)
		Bend Angle= 30.001 Angle/Node @1= 15.00 69
		Angle/Node @2= .00 68
70	80	Radius= 457.200 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00 79
350	360	Radius= 457.200 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		359 Angle/Node @2= .00 358
500	510	Radius= 457.200 mm. (LONG)
		Bend Angle= 30.001 Angle/Node @1= 15.00
		509 Angle/Node @2= .00 508
510	520	Radius= 457.200 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00

519

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INPUT LISTING

690	700	Radius= 457.200 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
	699	Angle/Node @2= .00 698

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RIGIDS

10	20	RIGID Weight= 360.31 N.
30	40	RIGID Weight= 360.31 N.
40	50	RIGID Weight= 3,611.96 N.
50	60	RIGID Weight= 360.31 N.
130	140	RIGID Weight= 360.31 N.
140	150	RIGID Weight= 360.31 N.
240	250	RIGID Weight= 360.31 N.
250	260	RIGID Weight= 360.31 N.
270	280	RIGID Weight= 360.31 N.
280	290	RIGID Weight= 3,611.96 N.
290	300	RIGID Weight= 360.31 N.
320	330	RIGID Weight= 360.31 N.
330	340	RIGID Weight= 4,915.29 N.
340	350	RIGID Weight= 360.31 N.
390	400	RIGID Weight= 235.76 N.
401	410	RIGID Weight= 235.76 N.
410	420	RIGID Weight= .00 N.
450	460	RIGID Weight= 360.31 N.
470	480	RIGID Weight= 360.31 N.
480	490	RIGID Weight= 3,611.96 N.
490	500	RIGID Weight= 360.31 N.
610	620	RIGID Weight= 360.31 N.
620	630	RIGID Weight= 3,611.96 N.
630	640	RIGID Weight= 360.31 N.
660	670	RIGID Weight= 360.31 N.
670	680	RIGID Weight= 4,915.29 N.
680	690	RIGID Weight= 360.31 N.
730	740	RIGID Weight= 235.76 N.
741	750	RIGID Weight= 235.76 N.
750	760	RIGID Weight= .00 N.
11	770	RIGID Weight= 360.31 N.
781	790	RIGID Weight= .00 N.
790	800	RIGID Weight= .00 N.
451	810	RIGID Weight= 360.31 N.
821	830	RIGID Weight= .00 N.
830	840	RIGID Weight= .00 N.

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SIF's & TEE's

90	100	Node 100	Welding Tee
100	110	Node 110	Welding Tee
200	210	Node 210	Welding Tee
220	230	Node 230	Welding Tee
620	230	Node 230	Welding Tee

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INPUT LISTING

REDUCERS

370 380 Diam2= 273.050 mm. Wall2= 6.350 mm.
 710 720 Diam2= 273.050 mm. Wall2= 6.350 mm.
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RESTRAINTS

NODE	TYPE	CNODE	STIF1	Len GAP STIF2	MU YIELD FORCE	Dir Vectors
10	ANC	11				.000 .000 .000
85	+Y					.000 1.000 .000
90	+Y				.30	.000 1.000 .000
120	+Y				.30	.000 1.000 .000
120	Z			3.00		.000 .000 1.000
160	+Y					.000 1.000 .000
170	+Y				.30	.000 1.000 .000
170	Z			3.00		.000 .000 1.000
180	+Y				.30	.000 1.000 .000
190	+Y				.30	.000 1.000 .000
190	Z			3.00		.000 .000 1.000
190	X			3.00	.30	1.000 .000 .000
200	+Y				.30	.000 1.000 .000
200	Z			3.00	.30	.000 .000 1.000
220	+Y				.30	.000 1.000 .000
220	Z			3.00		.000 .000 1.000
310	+Y				.30	.000 1.000 .000
310	X			3.00	.30	1.000 .000 .000
400	ANC	401				.000 .000 .000
420	ANC					.000 .000 .000
450	ANC	451				.000 .000 .000
530	+Y					.000 1.000 .000
540	+Y				.30	.000 1.000 .000
650	+Y				.30	.000 1.000 .000
650	X			3.00	.30	1.000 .000 .000
740	ANC	741				.000 .000 .000
760	ANC					.000 .000 .000
780	ANC	781				.000 .000 .000
820	ANC	821				.000 .000 .000

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DISPLACEMENTS

790 800 Node 800 DX1= .000 mm. DY1= -15.000 mm.
 DZ1= .000 mm. RX1= .000 RY1= .000
 RZ1= .000
 830 840 Node 840 DX1= .000 mm. DY1= -15.000 mm.
 DZ1= .000 mm. RX1= .000 RY1= .000
 RZ1= .000
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EQUIPMENT LIMITS

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INPUT LISTING

390 400 Nozzle Node = 400

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 13,344.67 N. FB= 10,675.73 N.
 FC= 8,896.44 N. MA= 4,880.94 N.m. MB= 10,033.05 N.m. MC= 7,592.58 N.m.
 Equipment Major Direction Vector= .0000 1.0000 .0000
 Interact. Mtd= Absolute

730 740 Nozzle Node = 740

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 13,344.67 N. FB= 10,675.73 N.
 FC= 8,896.44 N. MA= 4,880.94 N.m. MB= 10,033.05 N.m. MC= 7,592.58 N.m.
 Equipment Major Direction Vector= .0000 1.0000 .0000
 Interact. Mtd= Absolute

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UNIFORM LOAD Changes

10 20

Vector1 in G-s
 X1 Dir = .26 g's Y1 Dir = .00 g's
 Z1 Dir = .00 g's
 Vector2 in G-s
 X2 Dir = .00 g's Y2 Dir = .12 g's
 Z2 Dir = .00 g's
 Vector3 in G-s
 X3 Dir = .00 g's Y3 Dir = .00 g's
 Z3 Dir = .26 g's

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INPUT UNITS USED...

UNITS= SI (m NOM/SCH INPUT= ON

LENGTH	inches	x	25.400	=	mm.
FORCE	pounds	x	4.448	=	N.
MASS(dynamics)	pounds	x	0.454	=	Kg.
MOMENTS(INPUT)	inch-pounds	x	0.113	=	N.m.
MOMENTS(OUTPUT)	inch-pounds	x	0.113	=	N.m.
STRESS	lbs./sq.in.	x	6.895	=	KPa
TEMP. SCALE	degrees F.	x	0.556	=	C
PRESSURE	psig	x	6.895	=	KPa
ELASTIC MODULUS	lbs./sq.in.	x	6.895	=	KPa
PIPE DENSITY	lbs./cu.in.	x	0.028	=	kg./cu.cm.
INSULATION DENS.	lbs./cu.in.	x	0.028	=	kg./cu.cm.
FLUID DENSITY	lbs./cu.in.	x	0.028	=	kg./cu.cm.
TRANSL. STIF	lbs./in.	x	1.751	=	N./cm.
ROTATIONAL STIF	in.lb./deg.	x	0.113	=	N.m./deg
UNIFORM LOAD	lb./in.	x	1.751	=	N./cm.
G LOAD	g's	x	1.000	=	g's
WIND LOAD	lbs./sq.in.	x	6.895	=	KPa
ELEVATION	inches	x	0.025	=	m.
COMPOUND LENGTH	inches	x	25.400	=	mm.
DIAMETER	inches	x	25.400	=	mm.
WALL THICKNESS	inches	x	25.400	=	mm.

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INPUT LISTING

SETUP FILE PARAMETERS

```

-----
CONNECT GEOMETRY THRU CNODES =      YES
MIN ALLOWED BEND ANGLE =             5.00000
MAX ALLOWED BEND ANGLE =             95.0000
BEND LENGTH ATTACHMENT PERCENT =     1.00000
MIN ANGLE TO ADJACENT BEND PT =      5.00000
LOOP CLOSURE TOLERANCE =             25.4000      mm.
THERMAL BOWING HORZ TOLERANCE =      0.100000E-03
AUTO NODE NUMBER INCREMENT=         10.0000
Z AXIS UP=                           NO
USE PRESSURE STIFFENING =             DEFAULT
ALPHA TOLERANCE =                    0.500000E-01
RESLD-FORCE =                         NO
HGR DEF RESWGT STIF =                 0.175127E+13 N./cm.
DECOMP SNG TOL =                     0.100000E+11
BEND AXIAL SHAPE =                    YES
FRICT STIF =                         0.175127E+07 N./cm.
FRICT NORM FORCE VAR =                 0.150000
FRICT ANGLE VAR =                     15.0000
FRICT SLIDE MULT =                    1.00000
ROD TOLERANCE =                       1.00000
ROD INC =                             2.00000
INCORE NUMERICAL CHECK =              NO
OUTCORE NUMERICAL CHECK =             NO
DEFAULT TRANS RESTRAINT STIFF=        0.175127E+13      N./cm.
DEFAULT ROT RESTRAINT STIFF=          0.112985E+12      N.m./deg
IGNORE SPRING HANGER STIFFNESS =      NO
MISSING MASS ZPA =                    EXTRACTED
MIN WALL MILL TOLERANCE =             12.5000
WRC-107 VERSION =                     MAR 79 1B1/2B1
WRC-107 INTERPOLATION =               LAST VALUE
DEFAULT AMBIENT TEMPERATURE=          21.1111      C
BOURDON PRESSURE=                     NONE
COEFFICIENT OF FRICTION (MU) =         0.000000
INCLUDE SPRG STIF IN HGR OPE =         NO
INCLUDE INSULATION IN HYDROTEST =      NO
REDUCED INTERSECTION =                 B31.1(POST1980)
USE WRC329                             NO
NO REDUCED SIF FOR RFT AND WLT         NO
B31.1 REDUCED Z FIX =                  YES
CLASS 1 BRANCH FLEX                    NO
ALL STRESS CASES CORRODED =            NO
ADD TORSION IN SL STRESS =              DEFAULT
ADD F/A IN STRESS =                   DEFAULT
OCCASIONAL LOAD FACTOR =               0.000000
DEFAULT CODE =                         B31.3
B31.3 SUS CASE SIF FACTOR =            0.000000
ALLOW USERS BEND SIF =                 NO
USE SCHNEIDER                          NO
YIELD CRITERION STRESS =               MAX 3D SHEAR
USE PD/4T                              NO
BASE H00P STRESS ON ? =                ID
EN13480 USE IN OUTPLANE SIFS=          NO
LIBERAL EXPANSION ALLOWABLE=           YES
B31.3 SEC 319.2.3C SAXIAL=             Default
  
```

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INPUT LISTING

B31.3 WELDING/CONTOUR TEE ISB16.9 FALSE
 PRESSURE VARIATION IN EXP CASE= DEFAULT
 IMPLEMENT B313 APP-P NO
 IMPLEMENT B313 CODE CASE 178 YES
 IGNORE B31.1/B31.3 Wc FACTOR= YES
 USE FRP SIF = YES
 USE FRP FLEX = YES
 BS 7159 Pressure Stiffening= Design Strain
 FRP Property Data File= CAESAR.FRP
 FRP Emod (axial) = 0.220632E+08 KPa
 FRP Ratio Gmod/Emod (axial) = 0.250000
 FRP Ea/Eh*Vh/a = 0.152730
 FRP Laminate Type = THREE
 FRP Alpha = 21.6000 C
 FRP Density = 0.166079E-02 kg./cu.cm.
 EXCLUDE f2 FROM UK00A BENDING = NO
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EXECUTION CONTROL PARAMETERS

Rigid/ExpJt Print Flag 1.000
 Bourdon Option 000
 Loop Closure Flag 2.000
 Thermal Bowing Delta Temp .. .000 C
 Liberal Allowable Flag 1.000
 Uniform Load Option 1.000

 Ambient Temperature 20.997 C
 Plastic (FRP) Alpha 21.600
 Plastic (FRP) GMOD/EMODa 250
 Plastic (FRP) Laminate Type. 3.000
 Eqn Optimizer 000
 Node Selection 000
 Eqn Ordering 000
 Collins 000
 Degree Determination 000
 User Eqn Control 000
 North Direction -X
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COORDINATE REPORT

NODE	/------(mm.)-----/		
	X	Y	Z
10	6553.000	-5329.350	7060.100
20	6670.475	-5329.350	7060.100
30	7557.975	-5329.350	7060.100
40	7675.450	-5329.350	7060.100
50	8040.450	-5329.350	7060.100
60	8157.925	-5329.350	7060.100
70	10523.926	-5329.350	7060.100
80	11195.926	-5717.350	7060.100
85	11195.926	-5717.350	6060.100
90	11195.926	-5717.350	560.100
100	11195.926	-5717.350	-1654.900

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INPUT LISTING

110	12695.926	-5717.350	-1654.900
120	14735.926	-5717.350	-1654.900
130	15593.926	-5717.350	-1654.900
140	15711.400	-5717.350	-1654.900
150	15828.875	-5717.350	-1654.900
100	11195.926	-5717.350	-1654.900
160	9945.926	-5717.350	-1654.900
170	4945.926	-5717.350	-1654.900
180	-1054.074	-5717.350	-1654.900
190	-7054.074	-5717.350	-1654.900
200	-13054.074	-5717.350	-1654.900
210	-13518.074	-5717.350	-1654.900
220	-19054.074	-5717.350	-1654.900
230	-19668.074	-5717.350	-1654.900
240	-21016.074	-5717.350	-1654.900
250	-21133.549	-5717.350	-1654.900
260	-21251.023	-5717.350	-1654.900
210	-13518.074	-5717.350	-1654.900
270	-13518.074	-5717.350	-100.900
280	-13518.074	-5717.350	16.575
290	-13518.074	-5717.350	607.125
300	-13518.074	-5717.350	724.600
310	-13518.074	-5717.350	3491.600
320	-13518.074	-5717.350	4923.600
330	-13518.074	-5717.350	5041.075
340	-13518.074	-5717.350	5770.075
350	-13518.074	-5717.350	5887.550
360	-13518.074	-5717.350	6941.550
370	-13975.074	-5717.350	6941.550
380	-14178.074	-5691.950	6941.550
390	-15598.074	-5691.950	6941.550
400	-15702.850	-5691.950	6941.550
410	-15807.625	-5691.950	6941.550
420	-16407.625	-5691.950	6941.550
450	17338.850	-5329.350	7060.100
460	17221.375	-5329.350	7060.100
470	16333.875	-5329.350	7060.100
480	16216.400	-5329.350	7060.100
490	15851.400	-5329.350	7060.100
500	15733.926	-5329.350	7060.100
510	13367.926	-5329.350	7060.100
520	12695.926	-5717.350	7060.100
530	12695.926	-5717.350	6060.100
540	12695.926	-5717.350	560.100
110	12695.926	-5717.350	-1654.900
610	-19668.074	-5717.350	-218.375
620	-19668.074	-5717.350	-100.900
230	-19668.074	-5717.350	-1654.900
620	-19668.074	-5717.350	-100.900
630	-19668.074	-5717.350	489.650
640	-19668.074	-5717.350	607.125
650	-19668.074	-5717.350	3374.125
660	-19668.074	-5717.350	4806.125
670	-19668.074	-5717.350	4923.600
680	-19668.074	-5717.350	5652.600
690	-19668.074	-5717.350	5770.075

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INPUT LISTING

700	-19668.074	-5717.350	6824.075
710	-20125.074	-5717.350	6824.075
720	-20328.074	-5691.950	6824.075
730	-21748.074	-5691.950	6824.075
740	-21852.850	-5691.950	6824.075
750	-21957.625	-5691.950	6824.075
760	-22557.625	-5691.950	6824.075
10	6553.000	-5329.350	7060.100
770	6435.525	-5329.350	7060.100
780	6303.525	-5329.350	7060.100
790	-196.475	-5329.350	7060.100
800	-196.475	-6179.350	7060.100
450	17338.850	-5329.350	7060.100
810	17456.324	-5329.350	7060.100
820	17588.324	-5329.350	7060.100
830	24088.324	-5329.350	7060.100
840	24088.324	-6179.350	7060.100

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

- 1 (HYD) WW+HP
- 2 (OPE) W+D1+T1+P1
- 3 (Alt-SUS) W+P1
- 4 (OPE) W+D1+T2+P1
- 5 (Alt-SUS) W+P1
- 6 (OPE) W+D1+T3+P1
- 7 (Alt-SUS) W+P1
- 8 (SUS) W+P1
- 9 (SUS) WNC
- 10 (OPE) W+D1+T2+P1+U1
- 11 (OPE) W+D1+T2+P1-U1
- 12 (OPE) W+D1+T2+P1+U2
- 13 (OPE) W+D1+T2+P1+U3
- 14 (OPE) W+D1+T2+P1-U3
- 15 (OCC) L15=L10-L4
- 16 (OCC) L16=L11-L4
- 17 (OCC) L17=L12-L4
- 18 (OCC) L18=L13-L4
- 19 (OCC) L19=L14-L4
- 20 (OCC) L20=L15+L8
- 21 (OCC) L21=L16+L8
- 22 (OCC) L22=L17+L8
- 23 (OCC) L23=L18+L8
- 24 (OCC) L24=L19+L8
- 25 (EXP) L25=L2-L8
- 26 (EXP) L26=L4-L8
- 27 (EXP) L27=L2-L4
- 28 (EXP) L28=L6-L8
- 29 (EXP) L29=L2-L6
- 30 (EXP) L30=L4-L6

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

LOAD CASE DEFINITION KEY

CASE 1 (HYD) WW+HP
CASE 2 (OPE) W+D1+T1+P1
CASE 4 (OPE) W+D1+T2+P1
CASE 6 (OPE) W+D1+T3+P1
CASE 8 (SUS) W+P1
CASE 9 (SUS) WNC
CASE 10 (OPE) W+D1+T2+P1+U1
CASE 11 (OPE) W+D1+T2+P1-U1
CASE 12 (OPE) W+D1+T2+P1+U2
CASE 13 (OPE) W+D1+T2+P1+U3
CASE 14 (OPE) W+D1+T2+P1-U3
CASE 15 (OCC) L15=L10-L4
CASE 16 (OCC) L16=L11-L4
CASE 17 (OCC) L17=L12-L4
CASE 18 (OCC) L18=L13-L4
CASE 19 (OCC) L19=L14-L4

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
10		TYPE=Rigid ANC;					
	1(HYD)	-17	-7236	37	422	-183	-6029
	2(OPE)	323	2387	-581	3982	704	33363
	4(OPE)	106	2705	-45	3820	-936	34673
	6(OPE)	112	2641	-79	3684	-216	34463
	8(SUS)	-17	-7231	37	422	-183	-6024
	9(SUS)	-9	-5152	22	253	-109	-4115
	10(OPE)	4169	2575	-597	4138	327	34443
	11(OPE)	-4013	2841	820	3407	-3409	34926
	12(OPE)	151	3569	-125	3797	-649	35388
	13(OPE)	-65	2723	5018	3038	-15211	34801
	14(OPE)	449	2684	-4493	4483	10608	34576
	15(OCC)	4063	-130	-552	318	1263	-230
	16(OCC)	-4119	136	865	-414	-2473	253
	17(OCC)	45	864	-79	-23	288	715
	18(OCC)	-171	18	5063	-783	-14274	127
	19(OCC)	344	-20	-4448	662	11545	-97
	MAX	4169/L10	-7236/L1	5063/L18	4483/L14	-15211/L13	35388/L12
85		TYPE=Rigid +Y;					
	1(HYD)	0	-7349	0	0	0	0
	2(OPE)	0	-18546	0	0	0	0
	4(OPE)	0	-18936	0	0	0	0
	6(OPE)	0	-18895	0	0	0	0
	8(SUS)	0	-7339	0	0	0	0
	9(SUS)	0	-3301	0	0	0	0
	10(OPE)	0	-18750	0	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	11(OPE)	0	-19123	0	0	0	0
	12(OPE)	0	-18051	0	0	0	0
	13(OPE)	0	-18907	0	0	0	0
	14(OPE)	0	-18933	0	0	0	0
	15(OCC)	0	186	0	0	0	0
	16(OCC)	0	-187	0	0	0	0
	17(OCC)	0	885	0	0	0	0
	18(OCC)	0	29	0	0	0	0
	19(OCC)	0	3	0	0	0	0
	MAX		-19123/L11				
90		TYPE=Rigid +Y;					
	1(HYD)	86	-5956	-38	0	0	0
	2(OPE)	922	-3254	-320	0	0	0
	4(OPE)	865	-3113	-352	0	0	0
	6(OPE)	-878	-3065	272	0	0	0
	8(SUS)	86	-5947	-38	0	0	0
	9(SUS)	48	-2261	-22	0	0	0
	10(OPE)	932	-3215	-249	0	0	0
	11(OPE)	726	-3018	-541	0	0	0
	12(OPE)	665	-2400	-277	0	0	0
	13(OPE)	902	-3195	325	0	0	0
	14(OPE)	656	-3081	-651	0	0	0
	15(OCC)	67	-103	103	0	0	0
	16(OCC)	-139	95	-189	0	0	0
	17(OCC)	-200	713	76	0	0	0
	18(OCC)	37	-83	677	0	0	0
	19(OCC)	-209	32	-298	0	0	0
	MAX	932/L10	-5956/L1	677/L18			
120		TYPE=Rigid +Y; Rigid Z w/gap;					
	1(HYD)	8	-4661	-9	0	0	0
	2(OPE)	1662	-5565	-157	0	0	0
	4(OPE)	1703	-5700	-156	0	0	0
	6(OPE)	-1731	-5774	-67	0	0	0
	8(SUS)	8	-4655	-9	0	0	0
	9(SUS)	4	-2348	-5	0	0	0
	10(OPE)	1684	-5630	-128	0	0	0
	11(OPE)	1730	-5768	-22	0	0	0
	12(OPE)	1532	-5140	-175	0	0	0
	13(OPE)	1595	-5660	1856	0	0	0
	14(OPE)	1602	-5715	-2839	0	0	0
	15(OCC)	-19	70	28	0	0	0
	16(OCC)	27	-68	134	0	0	0
	17(OCC)	-171	560	-19	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	18(OCC)	-108	40	2012	0	0	0
	19(OCC)	-101	-15	-2683	0	0	0
	MAX	-1731/L6	-5774/L6	-2839/L14			
160		TYPE=Rigid +Y;					
	1(HYD)	0	-6196	0	0	0	0
	2(OPE)	0	-7509	0	0	0	0
	4(OPE)	0	-7388	0	0	0	0
	6(OPE)	0	-7295	0	0	0	0
	8(SUS)	0	-6186	0	0	0	0
	9(SUS)	0	-2387	0	0	0	0
	10(OPE)	0	-7469	0	0	0	0
	11(OPE)	0	-7301	0	0	0	0
	12(OPE)	0	-6649	0	0	0	0
	13(OPE)	0	-7384	0	0	0	0
	14(OPE)	0	-7397	0	0	0	0
	15(OCC)	0	-81	0	0	0	0
	16(OCC)	0	86	0	0	0	0
	17(OCC)	0	739	0	0	0	0
	18(OCC)	0	4	0	0	0	0
	19(OCC)	0	-9	0	0	0	0
	MAX		-7509/L2				
170		TYPE=Rigid +Y; Rigid Z w/gap;					
	1(HYD)	-1	-6817	-2	0	0	0
	2(OPE)	2020	-6937	-2402	0	0	0
	4(OPE)	1920	-6959	-819	0	0	0
	6(OPE)	-1993	-6968	631	0	0	0
	8(SUS)	-1	-6806	-2	0	0	0
	9(SUS)	-1	-2717	-1	0	0	0
	10(OPE)	2012	-6961	-561	0	0	0
	11(OPE)	1513	-6957	-1437	0	0	0
	12(OPE)	1688	-6143	-739	0	0	0
	13(OPE)	1778	-6953	1449	0	0	0
	14(OPE)	1743	-6967	-4649	0	0	0
	15(OCC)	91	-2	258	0	0	0
	16(OCC)	-407	2	-618	0	0	0
	17(OCC)	-232	817	80	0	0	0
	18(OCC)	-142	6	2268	0	0	0
	19(OCC)	-177	-7	-3830	0	0	0
	MAX	2020/L2	-6968/L6	-4649/L14			
180		TYPE=Rigid +Y;					
	1(HYD)	1	-7531	1	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	2(OPE)	2242	-7491	151	0	0	0
	4(OPE)	2244	-7486	81	0	0	0
	6(OPE)	-2241	-7484	-137	0	0	0
	8(SUS)	1	-7519	1	0	0	0
	9(SUS)	0	-2960	1	0	0	0
	10(OPE)	2246	-7486	-16	0	0	0
	11(OPE)	-2162	-7487	609	0	0	0
	12(OPE)	1974	-6584	64	0	0	0
	13(OPE)	1373	-7488	1778	0	0	0
	14(OPE)	1720	-7485	-1444	0	0	0
	15(OCC)	1	0	-97	0	0	0
	16(OCC)	-4406	-0	528	0	0	0
	17(OCC)	-270	902	-17	0	0	0
	18(OCC)	-871	-1	1697	0	0	0
	19(OCC)	-525	2	-1525	0	0	0
	MAX	-4406/L16	-7531/L1	1778/L13			
190		TYPE=Rigid +Y; Rigid Z w/gap; Rigid X w/gap;					
	1(HYD)	2	-7350	-1	0	0	0
	2(OPE)	4045	-7346	-568	0	0	0
	4(OPE)	1484	-7348	-751	0	0	0
	6(OPE)	-32	-7349	394	0	0	0
	8(SUS)	2	-7339	-1	0	0	0
	9(SUS)	2	-2943	-1	0	0	0
	10(OPE)	9929	-7348	2338	0	0	0
	11(OPE)	-12476	-7348	-1355	0	0	0
	12(OPE)	1722	-6467	-894	0	0	0
	13(OPE)	1110	-7347	1904	0	0	0
	14(OPE)	404	-7349	-2167	0	0	0
	15(OCC)	8445	-0	3089	0	0	0
	16(OCC)	-13959	-0	-603	0	0	0
	17(OCC)	238	881	-142	0	0	0
	18(OCC)	-374	0	2656	0	0	0
	19(OCC)	-1080	-1	-1416	0	0	0
	MAX	-13959/L16	-7350/L1	3089/L15			
200		TYPE=Rigid +Y; Rigid Z w/gap;					
	1(HYD)	6	-11164	-5	0	0	0
	2(OPE)	-5832	-11116	-17327	0	0	0
	4(OPE)	-2487	-11129	-2228	0	0	0
	6(OPE)	2534	-11141	2180	0	0	0
	8(SUS)	6	-11149	-5	0	0	0
	9(SUS)	4	-5227	-4	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	10(OPE)	1579	-11130	-2942	0	0	0
	11(OPE)	-2962	-11130	-1542	0	0	0
	12(OPE)	-2116	-9791	-2037	0	0	0
	13(OPE)	-2142	-11128	-2560	0	0	0
	14(OPE)	-1911	-11133	-4377	0	0	0
	15(OCC)	4066	-1	-715	0	0	0
	16(OCC)	-475	-1	685	0	0	0
	17(OCC)	371	1338	191	0	0	0
	18(OCC)	345	1	-333	0	0	0
	19(OCC)	576	-4	-2150	0	0	0
	MAX	-5832/L2	-11164/L1	-17327/L2			
220		TYPE=Rigid +Y; Rigid Z w/gap;					
	1(HYD)	7	-11711	-6	0	0	0
	2(OPE)	-3150	-11693	-19814	0	0	0
	4(OPE)	-3140	-11696	-1566	0	0	0
	6(OPE)	3158	-11695	1528	0	0	0
	8(SUS)	7	-11697	-6	0	0	0
	9(SUS)	5	-6281	-4	0	0	0
	10(OPE)	-1662	-11696	-3090	0	0	0
	11(OPE)	-3266	-11690	-1278	0	0	0
	12(OPE)	-2742	-10292	-1420	0	0	0
	13(OPE)	-3099	-11695	-1645	0	0	0
	14(OPE)	-2671	-11694	-3738	0	0	0
	15(OCC)	1478	0	-1524	0	0	0
	16(OCC)	-126	6	289	0	0	0
	17(OCC)	398	1404	146	0	0	0
	18(OCC)	41	1	-78	0	0	0
	19(OCC)	469	2	-2171	0	0	0
	MAX	-3266/L11	-11711/L1	-19814/L2			
310		TYPE=Rigid +Y; Rigid X w/gap;					
	1(HYD)	-23	-12555	16	0	0	0
	2(OPE)	1393	-12641	3527	0	0	0
	4(OPE)	-1245	-12586	-3565	0	0	0
	6(OPE)	578	-12542	919	0	0	0
	8(SUS)	-23	-12544	16	0	0	0
	9(SUS)	-17	-8270	12	0	0	0
	10(OPE)	3655	-12579	-940	0	0	0
	11(OPE)	-3430	-12585	-1577	0	0	0
	12(OPE)	-1135	-11079	-3124	0	0	0
	13(OPE)	47	-12593	3778	0	0	0
	14(OPE)	-611	-12568	-3721	0	0	0
	15(OCC)	4900	6	2625	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	16(OCC)	-2185	1	1987	0	0	0
	17(OCC)	110	1507	441	0	0	0
	18(OCC)	1292	-8	7342	0	0	0
	19(OCC)	634	17	-156	0	0	0
	MAX	4900/L15	-12641/L2	7342/L18			
400		TYPE=Rigid ANC;					
	1(HYD)	14	-5061	-12	-45	12	-7376
	2(OPE)	-2515	-4983	15335	-258	-25918	-7312
	4(OPE)	-299	-5030	5092	-115	-8579	-7336
	6(OPE)	189	-5067	-2899	-5	4887	-7382
	8(SUS)	14	-5056	-12	-45	12	-7371
	9(SUS)	10	-3311	-9	-64	10	-5146
	10(OPE)	805	-5035	4157	-102	-7274	-7330
	11(OPE)	-2424	-5032	2891	-78	-3661	-7374
	12(OPE)	-299	-4424	4672	-103	-7819	-6453
	13(OPE)	-931	-5023	7051	-136	-11423	-7339
	14(OPE)	-99	-5046	-101	-44	140	-7355
	15(OCC)	1105	-5	-935	13	1305	6
	16(OCC)	-2124	-3	-2201	37	4919	-38
	17(OCC)	-0	605	-420	12	760	883
	18(OCC)	-631	7	1959	-22	-2844	-3
	19(OCC)	200	-16	-5193	71	8719	-19
	MAX	-2515/L2	-5067/L6	15335/L2	-258/L2	-25918/L2	-7382/L6
420		TYPE=Rigid ANC;					
	1(HYD)	14	-5351	-12	-45	20	-11133
	2(OPE)	-2515	-5273	15335	-258	-36725	-11013
	4(OPE)	-299	-5320	5092	-115	-12168	-11070
	6(OPE)	189	-5357	-2899	-5	6930	-11142
	8(SUS)	14	-5347	-12	-45	20	-11124
	9(SUS)	10	-3547	-9	-64	17	-7634
	10(OPE)	881	-5325	4157	-102	-10204	-11067
	11(OPE)	-2499	-5323	2891	-78	-5698	-11110
	12(OPE)	-299	-4680	4672	-103	-11112	-9738
	13(OPE)	-931	-5313	7126	-136	-16442	-11069
	14(OPE)	-99	-5336	-177	-44	260	-11101
	15(OCC)	1180	-5	-935	13	1964	3
	16(OCC)	-2200	-3	-2201	37	6470	-40
	17(OCC)	-0	640	-420	12	1056	1332
	18(OCC)	-631	7	2034	-22	-4274	1
	19(OCC)	200	-16	-5269	71	12428	-31
	MAX	-2515/L2	-5357/L6	15335/L2	-258/L2	-36725/L2	-11142/L6
450		TYPE=Rigid ANC;					

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	1(HYD)	20	-7266	40	416	189	6103
	2(OPE)	1963	2361	3368	1745	9881	-33280
	4(OPE)	480	2658	1416	3026	5049	-34567
	6(OPE)	-248	2635	-844	4075	-2052	-34428
	8(SUS)	20	-7260	40	415	189	6098
	9(SUS)	10	-5159	23	251	111	4132
	10(OPE)	4547	2787	1847	2740	5821	-34793
	11(OPE)	-3570	2531	1295	3221	5499	-34359
	12(OPE)	515	3531	1347	2989	4738	-35300
	13(OPE)	1090	2700	6547	2125	19091	-34725
	14(OPE)	107	2631	-2832	3613	-5774	-34465
	15(OCC)	4067	129	430	-286	773	-226
	16(OCC)	-4050	-126	-122	196	450	208
	17(OCC)	35	874	-69	-37	-311	-733
	18(OCC)	610	42	5130	-900	14042	-158
	19(OCC)	-373	-27	-4248	587	-10823	103
	MAX	4547/L10	-7266/L1	6547/L13	4075/L6	19091/L13	-35300/L12
530		TYPE=Rigid +Y;					
	1(HYD)	0	-7275	0	0	0	0
	2(OPE)	0	-18650	0	0	0	0
	4(OPE)	0	-18895	0	0	0	0
	6(OPE)	0	-18824	0	0	0	0
	8(SUS)	0	-7265	0	0	0	0
	9(SUS)	0	-3284	0	0	0	0
	10(OPE)	0	-19088	0	0	0	0
	11(OPE)	0	-18697	0	0	0	0
	12(OPE)	0	-18029	0	0	0	0
	13(OPE)	0	-18918	0	0	0	0
	14(OPE)	0	-18884	0	0	0	0
	15(OCC)	0	-193	0	0	0	0
	16(OCC)	0	197	0	0	0	0
	17(OCC)	0	866	0	0	0	0
	18(OCC)	0	-24	0	0	0	0
	19(OCC)	0	11	0	0	0	0
	MAX		-19088/L10				
540		TYPE=Rigid +Y;					
	1(HYD)	-95	-6201	-29	0	0	0
	2(OPE)	921	-3191	-262	0	0	0
	4(OPE)	941	-3278	-284	0	0	0
	6(OPE)	-1001	-3364	131	0	0	0
	8(SUS)	-94	-6191	-29	0	0	0
	9(SUS)	-50	-2305	-16	0	0	0
	10(OPE)	929	-3155	-180	0	0	0
	11(OPE)	879	-3413	-524	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	12(OPE)	723	-2529	-231	0	0	0
	13(OPE)	882	-3309	456	0	0	0
	14(OPE)	708	-3247	-669	0	0	0
	15(OCC)	-12	123	104	0	0	0
	16(OCC)	-62	-134	-240	0	0	0
	17(OCC)	-219	749	54	0	0	0
	18(OCC)	-60	-31	741	0	0	0
	19(OCC)	-234	31	-385	0	0	0
	MAX	-1001/L6	-6201/L1	741/L18			
650		TYPE=Rigid +Y; Rigid X w/gap;					
	1(HYD)	-22	-12531	21	0	0	0
	2(OPE)	-1776	-12604	3338	0	0	0
	4(OPE)	-2780	-12546	-2537	0	0	0
	6(OPE)	1376	-12508	687	0	0	0
	8(SUS)	-22	-12520	21	0	0	0
	9(SUS)	-16	-8238	16	0	0	0
	10(OPE)	3291	-12545	-1826	0	0	0
	11(OPE)	-3547	-12550	-1261	0	0	0
	12(OPE)	-2365	-11043	-2320	0	0	0
	13(OPE)	-1429	-12553	3484	0	0	0
	14(OPE)	-1700	-12532	-3353	0	0	0
	15(OCC)	6072	1	711	0	0	0
	16(OCC)	-767	-4	1276	0	0	0
	17(OCC)	416	1503	217	0	0	0
	18(OCC)	1352	-6	6021	0	0	0
	19(OCC)	1080	14	-817	0	0	0
	MAX	6072/L15	-12604/L2	6021/L18			
740		TYPE=Rigid ANC;					
	1(HYD)	13	-5083	-14	-160	16	-7159
	2(OPE)	-1272	-5008	16159	-388	-27345	-7071
	4(OPE)	506	-5057	4982	-230	-8532	-7109
	6(OPE)	-276	-5090	-2794	-120	4795	-7176
	8(SUS)	13	-5079	-14	-160	16	-7153
	9(SUS)	10	-3336	-11	-178	13	-4936
	10(OPE)	947	-5058	4700	-226	-8057	-7110
	11(OPE)	-2096	-5057	3382	-201	-4478	-7153
	12(OPE)	443	-4448	4771	-208	-8121	-6253
	13(OPE)	-111	-5052	6519	-246	-10617	-7114
	14(OPE)	325	-5070	426	-168	-737	-7132
	15(OCC)	440	-1	-282	4	475	-1
	16(OCC)	-2602	1	-1600	29	4053	-44
	17(OCC)	-64	609	-211	23	410	856
	18(OCC)	-617	5	1537	-15	-2085	-5

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	19(OCC)	-181	-13	-4556	63	7795	-23
	MAX	-2602/L16	-5090/L6	16159/L2	-388/L2	-27345/L2	-7176/L6
760		TYPE=Rigid ANC;					
	1(HYD)	13	-5374	-14	-160	25	-10931
	2(OPE)	-1272	-5298	16159	-388	-38733	-10790
	4(OPE)	506	-5348	4982	-230	-12043	-10863
	6(OPE)	-276	-5380	-2794	-120	6764	-10953
	8(SUS)	13	-5369	-14	-160	25	-10922
	9(SUS)	10	-3572	-11	-178	21	-7441
	10(OPE)	1022	-5349	4700	-226	-11369	-10865
	11(OPE)	-2171	-5347	3382	-201	-6862	-10906
	12(OPE)	443	-4704	4771	-208	-11484	-9554
	13(OPE)	-111	-5342	6595	-246	-15260	-10864
	14(OPE)	325	-5361	351	-168	-988	-10895
	15(OCC)	516	-1	-282	4	673	-2
	16(OCC)	-2677	1	-1600	29	5181	-43
	17(OCC)	-64	644	-211	23	559	1308
	18(OCC)	-617	5	1613	-15	-3217	-1
	19(OCC)	-181	-13	-4631	63	11055	-32
	MAX	-2677/L16	-5380/L6	16159/L2	-388/L2	-38733/L2	-10953/L6
780		TYPE=Rigid ANC;					
	1(HYD)	-17	-7847	37	422	-193	-7931
	2(OPE)	323	1777	-581	3982	849	33862
	4(OPE)	106	2095	-45	3820	-925	35252
	6(OPE)	112	2031	-79	3684	-197	35026
	8(SUS)	-17	-7841	37	422	-192	-7924
	9(SUS)	-9	-5577	22	253	-115	-5473
	10(OPE)	4327	1965	-597	4138	476	34990
	11(OPE)	-4172	2231	820	3407	-3614	35539
	12(OPE)	151	3032	-125	3797	-618	36194
	13(OPE)	-65	2113	5177	3038	-16487	35384
	14(OPE)	449	2074	-4651	4483	11754	35150
	15(OCC)	4221	-130	-552	318	1401	-262
	16(OCC)	-4278	136	865	-414	-2688	287
	17(OCC)	45	937	-79	-23	307	942
	18(OCC)	-171	18	5222	-783	-15562	132
	19(OCC)	344	-20	-4606	662	12679	-102
	MAX	4327/L10	-7847/L1	5222/L18	4483/L14	-16487/L13	36194/L12
800		TYPE=Displ. Reaction;					
	1(HYD)	-17	-7847	37	454	-434	-58920
	2(OPE)	323	1777	-581	3488	4628	45139
	4(OPE)	106	2095	-45	3782	-632	48779

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	6(OPE)	112	2031	-79	3618	315	48131
	8(SUS)	-17	-7841	37	453	-433	-58876
	9(SUS)	-9	-5577	22	272	-256	-41714
	10(OPE)	4327	1965	-597	3631	4358	44086
	11(OPE)	-4172	2231	820	4103	-8941	53583
	12(OPE)	151	3032	-125	3692	192	55776
	13(OPE)	-65	2113	5177	7438	-50136	49173
	14(OPE)	449	2074	-4651	529	41987	48252
	15(OCC)	4221	-130	-552	-151	4990	-4693
	16(OCC)	-4278	136	865	321	-8308	4805
	17(OCC)	45	937	-79	-91	824	6997
	18(OCC)	-171	18	5222	3656	-49504	394
	19(OCC)	344	-20	-4606	-3253	42619	-527
	MAX	4327/L10	-7847/L1	5222/L18	7438/L13	-50136/L13	-58920/L1
820		TYPE=Rigid ANC;					
	1(HYD)	20	-7876	40	416	199	8012
	2(OPE)	1963	1751	3368	1745	10721	-33773
	4(OPE)	480	2048	1416	3026	5402	-35134
	6(OPE)	-248	2025	-844	4075	-2262	-34989
	8(SUS)	20	-7870	40	415	199	8006
	9(SUS)	10	-5584	23	251	117	5492
	10(OPE)	4706	2177	1847	2740	6282	-35392
	11(OPE)	-3728	1921	1295	3221	5822	-34895
	12(OPE)	515	2995	1347	2989	5074	-36096
	13(OPE)	1090	2090	6705	2125	20749	-35302
	14(OPE)	107	2021	-2990	3613	-6506	-35025
	15(OCC)	4226	129	430	-286	880	-258
	16(OCC)	-4209	-126	-122	196	420	239
	17(OCC)	35	947	-69	-37	-328	-962
	18(OCC)	610	42	5289	-900	15347	-168
	19(OCC)	-373	-27	-4407	587	-11908	109
	MAX	4706/L10	-7876/L1	6705/L13	4075/L6	20749/L13	-36096/L12
840		TYPE=Displ. Reaction;					
	1(HYD)	20	-7876	40	450	462	59191
	2(OPE)	1963	1751	3368	4608	32614	-46825
	4(OPE)	480	2048	1416	4230	14609	-48853
	6(OPE)	-248	2025	-844	3358	-7745	-47939
	8(SUS)	20	-7870	40	449	462	59146
	9(SUS)	10	-5584	23	271	263	41779
	10(OPE)	4706	2177	1847	4310	18286	-53543
	11(OPE)	-3728	1921	1295	4322	14238	-44215
	12(OPE)	515	2995	1347	4134	13830	-55999
	13(OPE)	1090	2090	6705	7825	64334	-49812
	14(OPE)	107	2021	-2990	1071	-25943	-48254

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	15(OCC)	4226	129	430	80	3678	-4690
	16(OCC)	-4209	-126	-122	92	-370	4638
	17(OCC)	35	947	-69	-96	-778	-7146
	18(OCC)	610	42	5289	3595	49725	-960
	19(OCC)	-373	-27	-4407	-3158	-40551	599
	MAX	4706/L10	-7876/L1	6705/L13	7825/L13	64334/L13	59191/L1

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS 2
Stress Summary : Multiple 3

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

- 1 (HYD) WW+HP
- 2 (OPE) W+D1+T1+P1
- 3 (Alt-SUS) W+P1
- 4 (OPE) W+D1+T2+P1
- 5 (Alt-SUS) W+P1
- 6 (OPE) W+D1+T3+P1
- 7 (Alt-SUS) W+P1
- 8 (SUS) W+P1
- 9 (SUS) WNC
- 10 (OPE) W+D1+T2+P1+U1
- 11 (OPE) W+D1+T2+P1-U1
- 12 (OPE) W+D1+T2+P1+U2
- 13 (OPE) W+D1+T2+P1+U3
- 14 (OPE) W+D1+T2+P1-U3
- 15 (OCC) L15=L10-L4
- 16 (OCC) L16=L11-L4
- 17 (OCC) L17=L12-L4
- 18 (OCC) L18=L13-L4
- 19 (OCC) L19=L14-L4
- 20 (OCC) L20=L15+L8
- 21 (OCC) L21=L16+L8
- 22 (OCC) L22=L17+L8
- 23 (OCC) L23=L18+L8
- 24 (OCC) L24=L19+L8
- 25 (EXP) L25=L2-L8
- 26 (EXP) L26=L4-L8
- 27 (EXP) L27=L2-L4
- 28 (EXP) L28=L6-L8
- 29 (EXP) L29=L2-L6
- 30 (EXP) L30=L4-L6

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
 Various Load Cases

LOAD CASE DEFINITION KEY

CASE 1 (HYD) WW+HP
 CASE 3 (Alt-SUS) W+P1
 CASE 5 (Alt-SUS) W+P1
 CASE 7 (Alt-SUS) W+P1
 CASE 8 (SUS) W+P1
 CASE 9 (SUS) WNC
 CASE 20 (OCC) L20=L15+L8
 CASE 21 (OCC) L21=L16+L8
 CASE 22 (OCC) L22=L17+L8
 CASE 23 (OCC) L23=L18+L8
 CASE 24 (OCC) L24=L19+L8
 CASE 25 (EXP) L25=L2-L8
 CASE 26 (EXP) L26=L4-L8
 CASE 27 (EXP) L27=L2-L4
 CASE 28 (EXP) L28=L6-L8
 CASE 29 (EXP) L29=L2-L6
 CASE 30 (EXP) L30=L4-L6

Piping Code: B31.3 = B31.3 -2016, Jan 31, 2017

CODE STRESS CHECK PASSED : LOADCASE 1 (HYD) WW+HP

Highest Stresses: (KPa)	LOADCASE 1 (HYD) WW+HP	
Ratio (%):	15.2 @Node 390	
Code Stress:	36604.5	Allowable Stress: 241316.5
Axial Stress:	20234.7 @Node 710	
Bending Stress:	19791.2 @Node 390	
Torsion Stress:	1279.1 @Node 230	
Hoop Stress:	41160.9 @Node 270	
Max Stress Intensity:	43889.9 @Node 650	

CODE STRESS CHECK PASSED : LOADCASE 3 (Alt-SUS) W+P1

Highest Stresses: (KPa)	LOADCASE 3 (Alt-SUS) W+P1	
Ratio (%):	48.2 @Node 390	
Code Stress:	66498.9	Allowable Stress: 137895.1
Axial Stress:	36190.6 @Node 710	
Bending Stress:	36264.3 @Node 390	
Torsion Stress:	2356.3 @Node 230	
Hoop Stress:	72898.8 @Node 270	
Max Stress Intensity:	75681.7 @Node 650	

CODE STRESS CHECK PASSED : LOADCASE 5 (Alt-SUS) W+P1

Highest Stresses: (KPa)	LOADCASE 5 (Alt-SUS) W+P1	
Ratio (%):	48.2 @Node 390	
Code Stress:	66499.9	Allowable Stress: 137895.1
Axial Stress:	36191.7 @Node 710	

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
Various Load Cases

Bending Stress:	36264.0	@Node	390
Torsion Stress:	2356.2	@Node	230
Hoop Stress:	72898.8	@Node	270
Max Stress Intensity:	75681.7	@Node	650

CODE STRESS CHECK PASSED : LOADCASE 7 (Alt-SUS) W+P1

Highest Stresses: (KPa)	LOADCASE 7 (Alt-SUS) W+P1		
Ratio (%):	48.2	@Node	390
Code Stress:	66500.1	Allowable Stress:	137895.1
Axial Stress:	36191.9	@Node	710
Bending Stress:	36264.0	@Node	390
Torsion Stress:	2356.3	@Node	230
Hoop Stress:	72898.8	@Node	270
Max Stress Intensity:	75681.7	@Node	650

CODE STRESS CHECK PASSED : LOADCASE 8 (SUS) W+P1

Highest Stresses: (KPa)	LOADCASE 8 (SUS) W+P1		
Ratio (%):	48.2	@Node	390
Code Stress:	66500.2	Allowable Stress:	137895.1
Axial Stress:	36192.0	@Node	710
Bending Stress:	36264.0	@Node	390
Torsion Stress:	2356.3	@Node	230
Hoop Stress:	72898.8	@Node	270
Max Stress Intensity:	75681.7	@Node	650

CODE STRESS CHECK PASSED : LOADCASE 9 (SUS) WNC

Highest Stresses: (KPa)	LOADCASE 9 (SUS) WNC		
Ratio (%):	18.5	@Node	390
Code Stress:	25457.3	Allowable Stress:	137895.1
Axial Stress:	177.4	@Node	70
Bending Stress:	25451.5	@Node	390
Torsion Stress:	1786.8	@Node	230
Hoop Stress:	0.0	@Node	20
Max Stress Intensity:	25457.3	@Node	390

CODE STRESS CHECK PASSED : LOADCASE 20 (OCC) L20=L15+L8

Highest Stresses: (KPa)	LOADCASE 20 (OCC) L20=L15+L8		
Ratio (%):	44.9	@Node	650
Code Stress:	82313.3	Allowable Stress:	183400.5
Axial Stress:	36377.2	@Node	359
Bending Stress:	51196.8	@Node	210
Torsion Stress:	2357.5	@Node	230
Hoop Stress:	72898.8	@Node	270
Max Stress Intensity:	113731.8	@Node	210

CODE STRESS CHECK PASSED : LOADCASE 21 (OCC) L21=L16+L8

Highest Stresses: (KPa) LOADCASE 21 (OCC) L21=L16+L8

CAESAR II 2018 Ver.10.00.00.7700, (Build 170726) Date: MAR 2, 2024 Time: 10:45

Job:: BINAK-GSC-CN-001-D02

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
Various Load Cases

Ratio (%):	50.2	@Node	390	
Code Stress:	92019.7	Allowable Stress:		183400.5
Axial Stress:	36724.4	@Node	320	
Bending Stress:	61060.9	@Node	390	
Torsion Stress:	2373.6	@Node	230	
Hoop Stress:	72898.8	@Node	270	
Max Stress Intensity:	92673.2	@Node	390	

CODE STRESS CHECK PASSED : LOADCASE 22 (OCC) L22=L17+L8

Highest Stresses: (KPa)	LOADCASE 22 (OCC) L22=L17+L8			
Ratio (%):	39.4	@Node	390	
Code Stress:	72261.8	Allowable Stress:		183400.5
Axial Stress:	36196.4	@Node	320	
Bending Stress:	42025.2	@Node	390	
Torsion Stress:	2074.7	@Node	230	
Hoop Stress:	72898.8	@Node	270	
Max Stress Intensity:	79205.0	@Node	650	

CODE STRESS CHECK PASSED : LOADCASE 23 (OCC) L23=L18+L8

Highest Stresses: (KPa)	LOADCASE 23 (OCC) L23=L18+L8			
Ratio (%):	49.2	@Node	780	
Code Stress:	90311.4	Allowable Stress:		183400.5
Axial Stress:	36508.3	@Node	650	
Bending Stress:	87811.4	@Node	780	
Torsion Stress:	2354.5	@Node	230	
Hoop Stress:	72898.8	@Node	270	
Max Stress Intensity:	90321.5	@Node	780	

CODE STRESS CHECK PASSED : LOADCASE 24 (OCC) L24=L19+L8

Highest Stresses: (KPa)	LOADCASE 24 (OCC) L24=L19+L8			
Ratio (%):	59.9	@Node	390	
Code Stress:	109832.0	Allowable Stress:		183400.5
Axial Stress:	37402.0	@Node	358	
Bending Stress:	79523.7	@Node	390	
Torsion Stress:	2375.1	@Node	230	
Hoop Stress:	72898.8	@Node	270	
Max Stress Intensity:	110485.5	@Node	390	

CODE STRESS CHECK PASSED : LOADCASE 25 (EXP) L25=L2-L8

Highest Stresses: (KPa)	LOADCASE 25 (EXP) L25=L2-L8			
Ratio (%):	27.3	@Node	820	
Code Stress:	87722.5	Allowable Stress:		321685.5
Axial Stress:	3068.4	@Node	230	
Bending Stress:	87374.1	@Node	820	
Torsion Stress:	5476.4	@Node	80	
Hoop Stress:	0.0	@Node	20	
Max Stress Intensity:	156927.7	@Node	780	

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
 Various Load Cases

CODE STRESS CHECK PASSED : LOADCASE 26 (EXP) L26=L4-L8

Highest Stresses: (	KPa	)	LOADCASE 26 (EXP) L26=L4-L8	
Ratio (%):	28.1	@Node	780	
Code Stress:	87866.1	Allowable Stress:		312714.8
Axial Stress:	1473.3	@Node	200	
Bending Stress:	88123.1	@Node	820	
Torsion Stress:	5558.2	@Node	80	
Hoop Stress:	0.0	@Node	20	
Max Stress Intensity:	161966.6	@Node	780	

CODE STRESS CHECK PASSED : LOADCASE 27 (EXP) L27=L2-L4

Highest Stresses: (	KPa	)	LOADCASE 27 (EXP) L27=L2-L4	
Ratio (%):	18.3	@Node	730	
Code Stress:	51224.9	Allowable Stress:		279397.2
Axial Stress:	2644.1	@Node	270	
Bending Stress:	52422.0	@Node	110	
Torsion Stress:	2604.3	@Node	510	
Hoop Stress:	0.0	@Node	20	
Max Stress Intensity:	97089.7	@Node	110	

CODE STRESS CHECK PASSED : LOADCASE 28 (EXP) L28=L6-L8

Highest Stresses: (	KPa	)	LOADCASE 28 (EXP) L28=L6-L8	
Ratio (%):	27.9	@Node	780	
Code Stress:	87376.3	Allowable Stress:		312714.8
Axial Stress:	1216.2	@Node	200	
Bending Stress:	87338.1	@Node	820	
Torsion Stress:	5597.0	@Node	520	
Hoop Stress:	0.0	@Node	20	
Max Stress Intensity:	161063.7	@Node	780	

CODE STRESS CHECK PASSED : LOADCASE 29 (EXP) L29=L2-L6

Highest Stresses: (	KPa	)	LOADCASE 29 (EXP) L29=L2-L6	
Ratio (%):	32.9	@Node	230	
Code Stress:	101233.5	Allowable Stress:		308099.4
Axial Stress:	3423.1	@Node	200	
Bending Stress:	95178.9	@Node	110	
Torsion Stress:	4475.5	@Node	510	
Hoop Stress:	0.0	@Node	20	
Max Stress Intensity:	177677.6	@Node	110	

CODE STRESS CHECK PASSED : LOADCASE 30 (EXP) L30=L4-L6

Highest Stresses: (	KPa	)	LOADCASE 30 (EXP) L30=L4-L6	
Ratio (%):	18.3	@Node	230	
Code Stress:	56501.6	Allowable Stress:		308099.4
Axial Stress:	2689.5	@Node	200	
Bending Stress:	53731.8	@Node	230	
Torsion Stress:	1871.3	@Node	510	

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
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Hoop Stress:	0.0	@Node	20
Max Stress Intensity:	100481.9	@Node	230

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Licensed To:: SPLM: Edit company name in <system>\company.txt

LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

- 1 (HYD) WW+HP
- 2 (OPE) W+D1+T1+P1
- 3 (Alt-SUS) W+P1
- 4 (OPE) W+D1+T2+P1
- 5 (Alt-SUS) W+P1
- 6 (OPE) W+D1+T3+P1
- 7 (Alt-SUS) W+P1
- 8 (SUS) W+P1
- 9 (SUS) WNC
- 10 (OPE) W+D1+T2+P1+U1
- 11 (OPE) W+D1+T2+P1-U1
- 12 (OPE) W+D1+T2+P1+U2
- 13 (OPE) W+D1+T2+P1+U3
- 14 (OPE) W+D1+T2+P1-U3
- 15 (OCC) L15=L10-L4
- 16 (OCC) L16=L11-L4
- 17 (OCC) L17=L12-L4
- 18 (OCC) L18=L13-L4
- 19 (OCC) L19=L14-L4
- 20 (OCC) L20=L15+L8
- 21 (OCC) L21=L16+L8
- 22 (OCC) L22=L17+L8
- 23 (OCC) L23=L18+L8
- 24 (OCC) L24=L19+L8
- 25 (EXP) L25=L2-L8
- 26 (EXP) L26=L4-L8
- 27 (EXP) L27=L2-L4
- 28 (EXP) L28=L6-L8
- 29 (EXP) L29=L2-L6
- 30 (EXP) L30=L4-L6

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NOZZLE CHECK REPORT: Nozzle Loads Screening

Various Load Cases

LOAD CASE DEFINITION KEY

CASE 2 (OPE) W+D1+T1+P1

CASE 4 (OPE) W+D1+T2+P1

CASE 6 (OPE) W+D1+T3+P1

CASE 8 (SUS) W+P1

CASE 9 (SUS) WNC

Node		fa N.	fb N.	fc N.	Forces Check	ma N.m.	mb N.m.	mc N.m.	Moments Check	
400		Absolute Method								
	Limits	13345	10676	8896		4881	10033	7593		
	2(OPE)	2515	-4983	-15335	1.724	258	-25918	7312	2.583	*
	4(OPE)	299	-5030	-5092	0.572	115	-8579	7336	0.966	
	6(OPE)	-189	-5067	2899	0.475	5	4887	7382	0.972	
	8(SUS)	-14	-5056	12	0.474	45	12	7371	0.971	
	9(SUS)	-10	-3311	9	0.310	64	10	5146	0.678	
740		Absolute Method								
	Limits	13345	10676	8896		4881	10033	7593		
	2(OPE)	1272	-5008	-16159	1.816	388	-27345	7071	2.725	*
	4(OPE)	-506	-5057	-4982	0.560	230	-8532	7109	0.936	
	6(OPE)	276	-5090	2794	0.477	120	4795	7176	0.945	
	8(SUS)	-13	-5079	14	0.476	160	16	7153	0.942	
	9(SUS)	-10	-3336	11	0.312	178	13	4936	0.650	

BNK-GCS-CN-004

Table of contents:

Line no.

Stress sketch

Input echo

Restraint summary

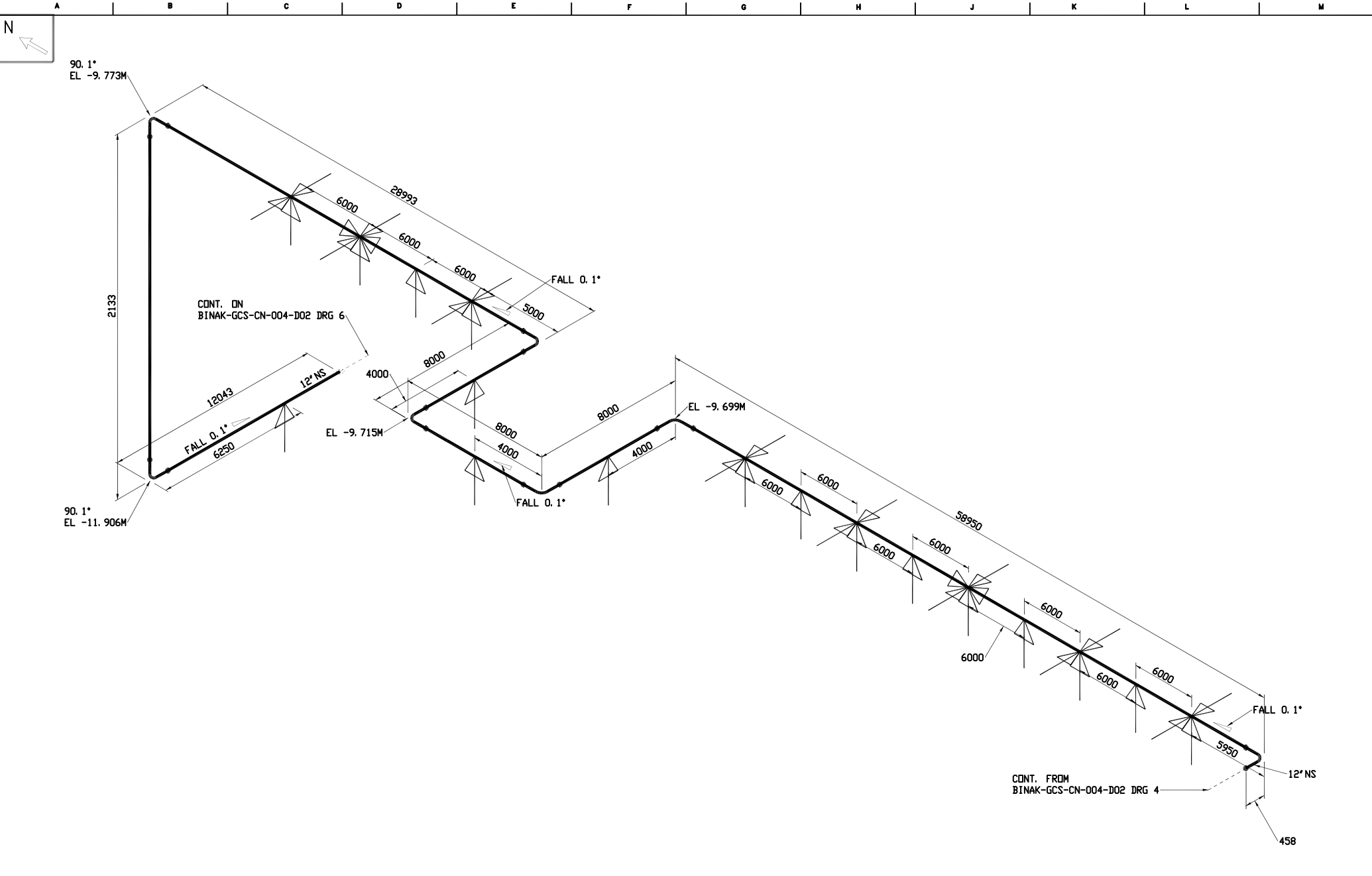
Stress summary

Nozzle load Table

BNK-GCS-CN-004

LINE Nos.

1. FL-112-0004-AN07-12"-PT



CHECK ISOMETRIC ONLY – DO NOT ISSUE

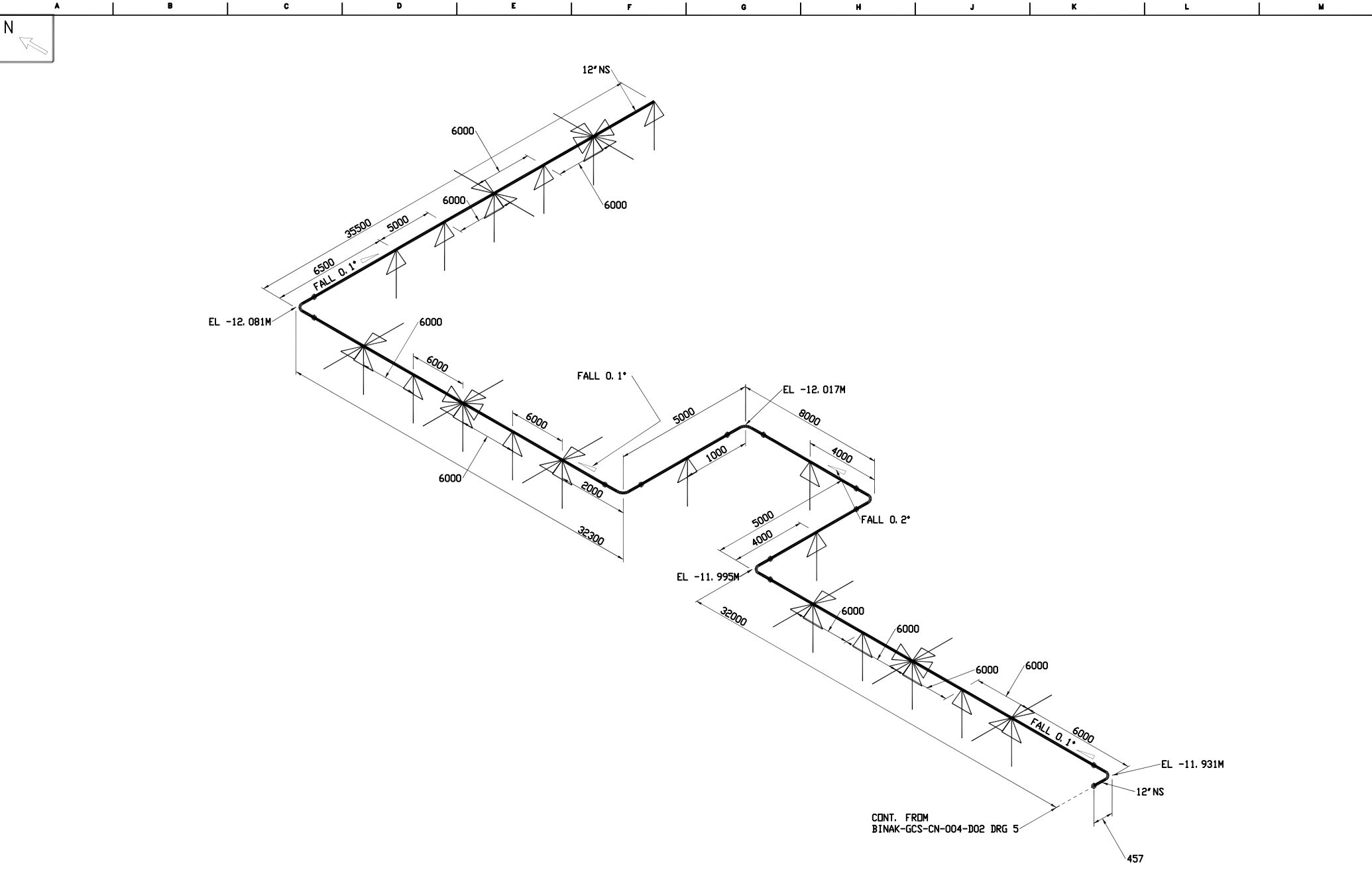
REV.	CHANGE	27 FEB 2024	THIS DRAWING IS THE PROPERTY OF INTERGRAPH LTD AND MUST NOT BE COPIED OR LENT WITHOUT THE CONSENT OF THE COMPANY
		DATE	

PIPING SPEC.		OP. TEMP.	
INSULATION SPEC.		PROJECT NO.	
INSULATION THKS.		SYSTEM	
PAINTING SPEC.		AREA	
MATERIAL		DRAWN BY	
OP. PRESSURE		E.I. DIAGRAM	



PIPELINE REFERENCE

REV.	
DRG.	5 OF 6



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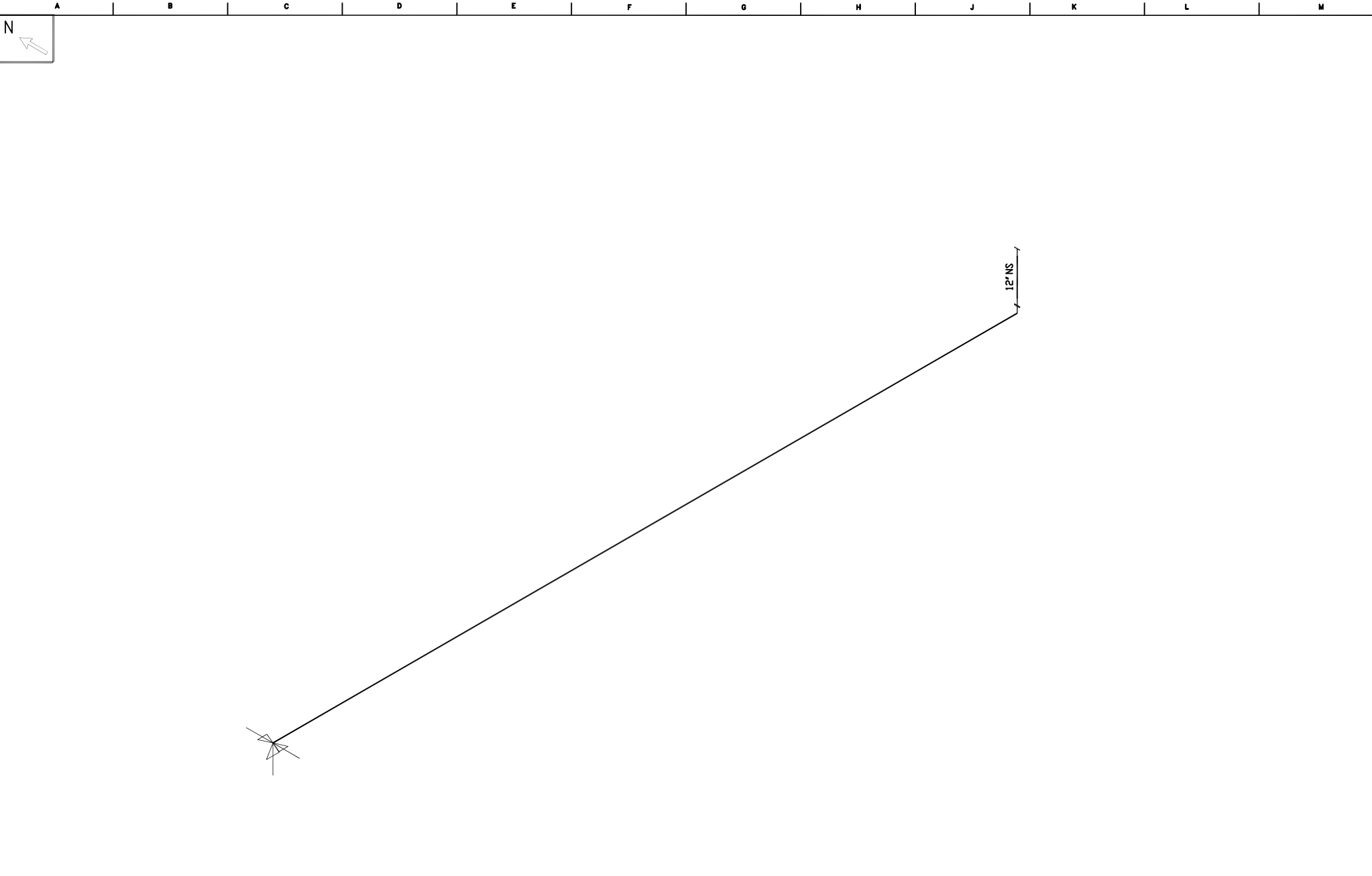
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PIPING SPEC.		OP. TEMP.	
INSULATION SPEC.		PROJECT NO.	
INSULATION THKS.		SYSTEM	
PAINTING SPEC.		AREA	
MATERIAL		DRAWN BY	
OP. PRESSURE		E.I.DIAGRAM	



PIPELINE REFERENCE

REV.	
DRG.	
	6 OF 6



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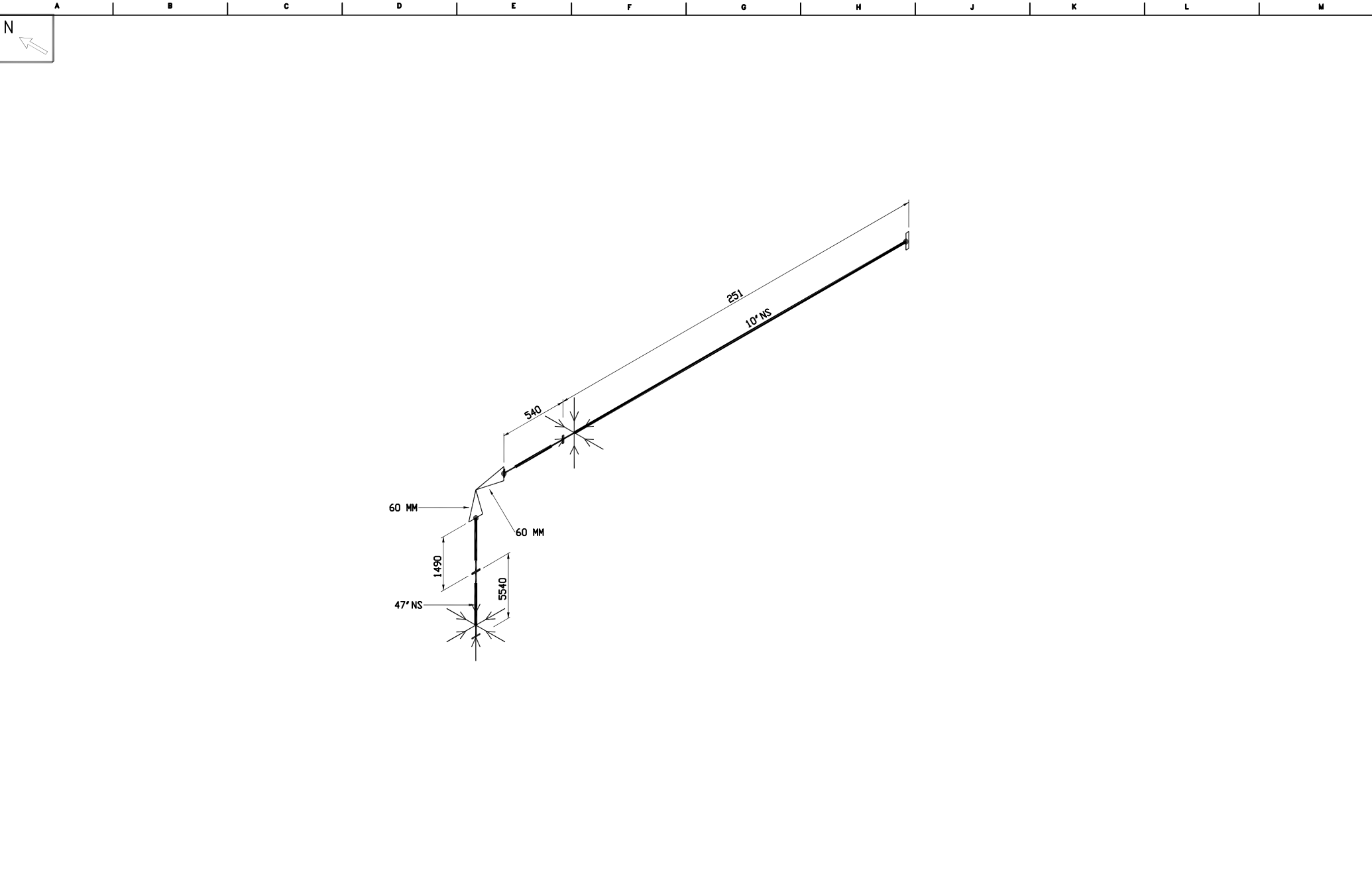
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PIPING SPEC.		OP. TEMP.	
INSULATION SPEC.		PROJECT NO.	
INSULATION THKS.		SYSTEM	
PAINTING SPEC.		AREA	
MATERIAL		DRAWN BY	
OP. PRESSURE		E.I.DIAGRAM	



PIPELINE REFERENCE

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PIPING SPEC.		OP. TEMP.	
INSULATION SPEC.		PROJECT NO.	
INSULATION THKS.		SYSTEM	
PAINTING SPEC.		AREA	
MATERIAL		DRAWN BY	
OP. PRESSURE		E.I.DIAGRAM	



PIPELINE REFERENCE

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

- 1 (HYD) WW+HP
- 2 (OPE) W+T1+P1
- 3 (Alt-SUS) W+P1
- 4 (OPE) W+T2+P1
- 5 (Alt-SUS) W+P1
- 6 (OPE) W+T3+P1
- 7 (Alt-SUS) W+P1
- 8 (SUS) W+P1
- 9 (SUS) WNC
- 10 (OPE) W+T2+P1+U1
- 11 (OPE) W+T2+P1-U1
- 12 (OPE) W+T2+P1+U2
- 13 (OPE) W+T2+P1+U3
- 14 (OPE) W+T2+P1-U3
- 15 (OCC) L15=L10-L4
- 16 (OCC) L16=L11-L4
- 17 (OCC) L17=L12-L4
- 18 (OCC) L18=L13-L4
- 19 (OCC) L19=L14-L4
- 20 (OCC) L20=L15+L8
- 21 (OCC) L21=L16+L8
- 22 (OCC) L22=L17+L8
- 23 (OCC) L23=L18+L8
- 24 (OCC) L24=L19+L8
- 25 (EXP) L25=L2-L8
- 26 (EXP) L26=L2-L4
- 27 (EXP) L27=L6-L8
- 28 (EXP) L28=L2-L6
- 29 (EXP) L29=L4-L6

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INPUT LISTING

Job Description:

PROJECT:

CLIENT :

ANALYST:

NOTES :

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INPUT LISTING

File created by FEATools

CAESAR II 2018 Ver.10.00.00.7700, (Build 170726) FEB 27,2024 11:40:42

PIPE DATA

 From 10 To 20 DY= -9.640 mm. DZ= -136.600 mm.

PIPE

Dia= 273.050 mm. Wall= 9.271 mm. Cor= 6.0000 mm.

Element Name= FLANGE_FLG_150

GENERAL

T1= 270 C T2= 272 C T3= -28 C P1= 600.0137 KPa PHyd= 900.0205 KPa

Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 187,483,936 KPa

EH2= 187,335,024 KPa EH3= 205,934,864 KPa EH4= 203,401,232 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000015 kg./cu.cm.

Insul Thk= .000 mm. Insul Den= .0000000 kg./cu.cm.

RIGID Weight= 235.76 N.

RESTRAINTS

Node 10 ANC Cnode 1530

UNIFORM LOAD

Vector1 in G-s X1 Dir = .26 g's Y1 Dir = .00 g's Z1 Dir = .00 g's

Vector2 in G-s X2 Dir = .00 g's Y2 Dir = .12 g's Z2 Dir = .00 g's

Vector3 in G-s X3 Dir = .00 g's Y3 Dir = .00 g's Z3 Dir = .26 g's

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 129,638 KPa Sh2= 129,365 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

 From 20 To 30 DZ= -203.000 mm.

REDUCER

Diam2= 323.850 mm. Wall2= 10.312 mm.

 From 30 To 1710 DY= -2.000 mm. DZ= -999.998 mm.

PIPE

Dia= 323.850 mm. Wall= 10.312 mm.

Insul Thk= .000 mm.

BEND at "T0" end

Radius= 457.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1709

Angle/Node @2= .00 1708

 From 1710 To 1720 DX= -1,914.000 mm.

BEND at "T0" end

Radius= 457.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1719

Angle/Node @2= .00 1718

 From 1720 To 1740 DY= -3.610 mm. DZ= -1,804.998 mm.

RESTRAINTS

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INPUT LISTING

Node 1740 +Y Mu = .30

From 1740 To 35 DY= -3.610 mm. DZ= -1,804.998 mm.

BEND at "T0" end

Radius= 457.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 34

Angle/Node @2= .00 33

From 35 To 1730 DX= 1,914.000 mm.

BEND at "T0" end

Radius= 457.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1729

Angle/Node @2= .00 1728

From 1730 To 50 DY= -3,637.000 mm.

BEND at "T0" end

Radius= 457.200 mm. (LONG) Bend Angle= 89.886 Angle/Node @1= 44.94 49

Angle/Node @2= .00 48

From 50 To 60 DX= -1,410.002 mm. DY= -2.812 mm.

RESTRAINTS

Node 60 +Y Mu = .30

Node 60 Z Gap= 3.000 mm.

From 60 To 70 DX= -6,999.986 mm. DY= -14.018 mm.

RESTRAINTS

Node 70 +Y Mu = .30

Node 70 Z Gap= 3.000 mm.

Node 70 X Gap= .000 mm.

From 70 To 80 DX= -5,999.988 mm. DY= -12.016 mm.

RESTRAINTS

Node 80 +Y Mu = .30

Node 80 Z Gap= .000 mm.

From 80 To 120 DX= -2,649.999 mm. DY= -2.091 mm.

BEND at "T0" end

Radius= 457.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 119

Angle/Node @2= .00 118

From 120 To 130 DZ= 4,250.000 mm.

RESTRAINTS

Node 130 +Y Mu = .30

From 130 To 140 DZ= 4,250.000 mm.

BEND at "T0" end

Radius= 457.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 139

Angle/Node @2= .00 138

From 140 To 150 DX= -3,349.989 mm. DY= -10.714 mm.

RESTRAINTS

Node 150 +Y Mu = .30

From 150 To 160 DX= -3,349.989 mm. DY= -10.714 mm.

BEND at "T0" end

Radius= 457.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 159

Angle/Node @2= .00 158

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INPUT LISTING

From 160 To 170 DZ= -4,250.000 mm.

RESTRAINTS

Node 170 +Y Mu = .30

From 170 To 180 DZ= -4,250.000 mm.

BEND at "TO" end

Radius= 457.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 179

Angle/Node @2= .00 178

From 180 To 190 DX= -2,649.999 mm. DY= -2.091 mm.

RESTRAINTS

Node 190 +Y Mu = .30

From 190 To 200 DX= -5,999.988 mm. DY= -12.016 mm.

RESTRAINTS

Node 200 +Y Mu = .30

Node 200 Z Gap= 3.000 mm.

From 200 To 202 DX= -5,999.988 mm. DY= -12.016 mm.

RESTRAINTS

Node 202 +Y Mu = .30

Node 202 X Gap= 3.000 mm.

From 202 To 204 DX= -5,999.988 mm. DY= -12.016 mm.

RESTRAINTS

Node 204 +Y Mu = .30

Node 204 Z Gap= 3.000 mm.

From 204 To 1750 DX= -2,649.995 mm. DY= -5.307 mm.

BEND at "TO" end

Radius= 457.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1749

Angle/Node @2= .00 1748

From 1750 To 1760 DZ= 4,250.000 mm.

RESTRAINTS

Node 1760 +Y Mu = .30

From 1760 To 1770 DZ= 4,250.000 mm.

BEND at "TO" end

Radius= 457.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1769

Angle/Node @2= .00 1768

From 1770 To 1780 DX= -3,349.994 mm. DY= -6.709 mm.

RESTRAINTS

Node 1780 +Y Mu = .30

From 1780 To 1790 DX= -3,349.993 mm. DY= -6.709 mm.

BEND at "TO" end

Radius= 457.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1791

Angle/Node @2= .00 1792

From 1790 To 1800 DX= .000 mm. DY= .000 mm. DZ= -4,250.000 mm.

RESTRAINTS

Node 1800 +Y Mu = .30

From 1800 To 1810 DZ= -4,250.000 mm.

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INPUT LISTING

BEND at "T0" end

Radius= 457.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1809
Angle/Node @2= .00 1808

From 1810 To 210 DX= -2,649.995 mm. DY= -5.307 mm.

RESTRAINTS

Node 210 +Y Mu = .30

Node 210 Z Gap= 3.000 mm. Mu = .00

From 210 To 220 DX= -5,999.988 mm. DY= -12.016 mm.

RESTRAINTS

Node 220 +Y Mu = .30

Node 220 X Gap= 3.000 mm.

From 220 To 230 DX= -5,999.988 mm. DY= -12.016 mm.

RESTRAINTS

Node 230 +Y Mu = .30

Node 230 Z Gap= 3.000 mm. Mu = .30

From 230 To 240 DX= -5,999.988 mm. DY= -12.016 mm.

RESTRAINTS

Node 240 +Y Mu = .30

From 240 To 250 DX= -1,993.996 mm. DY= -3.993 mm.

BEND at "T0" end

Radius= 457.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 249
Angle/Node @2= .00 248

From 250 To 260 DY= -9.000 mm. DZ= -4,499.991 mm.

RESTRAINTS

Node 260 +Y Mu = .30

Node 260 X Gap= 3.000 mm. Mu = .30

From 260 To 270 DY= -12.000 mm. DZ= -5,999.988 mm.

RESTRAINTS

Node 270 +Y Mu = .30

From 270 To 280 DY= -12.000 mm. DZ= -5,999.988 mm.

RESTRAINTS

Node 280 +Y Mu = .30

Node 280 Z Gap= 3.000 mm. Mu = .30

From 280 To 290 DY= -12.000 mm. DZ= -5,999.988 mm.

RESTRAINTS

Node 290 +Y Mu = .30

Node 290 X Gap= 3.000 mm.

From 290 To 295 DY= -12.000 mm. DZ= -5,999.988 mm.

RESTRAINTS

Node 295 +Y Mu = .30

From 295 To 300 DY= -1.800 mm. DZ= -899.998 mm.

BEND at "T0" end

Radius= 457.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 299
Angle/Node @2= .00 298

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INPUT LISTING

From 300 To 310 DX= -3,900.000 mm.

RESTRAINTS

Node 310 +Y Mu = .30

From 310 To 320 DX= -3,900.000 mm.

BEND at "T0" end

Radius= 457.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 319

Angle/Node @2= .00 318

From 320 To 330 DY= -1.800 mm. DZ= -899.998 mm.

From 330 To 340 DY= -4.200 mm. DZ= -2,099.996 mm.

RESTRAINTS

Node 340 +Y Mu = .30

From 340 To 350 DY= -4.200 mm. DZ= -2,099.996 mm.

From 350 To 360 DY= -1.800 mm. DZ= -899.998 mm.

BEND at "T0" end

Radius= 457.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 359

Angle/Node @2= .00 358

From 360 To 370 DX= 3,900.000 mm.

RESTRAINTS

Node 370 +Y Mu = .30

From 370 To 380 DX= 3,900.000 mm.

BEND at "T0" end

Radius= 457.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 379

Angle/Node @2= .00 378

From 380 To 390 DY= -10.200 mm. DZ= -5,099.990 mm.

RESTRAINTS

Node 390 +Y Mu = .30

Node 390 X Gap= 3.000 mm.

From 390 To 400 DY= -12.000 mm. DZ= -5,999.988 mm.

RESTRAINTS

Node 400 +Y Mu = .30

From 400 To 410 DY= -12.000 mm. DZ= -5,999.987 mm.

RESTRAINTS

Node 410 +Y Mu = .30

Node 410 X Gap= 3.000 mm. Mu = .30

From 410 To 420 DY= -12.000 mm. DZ= -5,999.988 mm.

RESTRAINTS

Node 420 +Y Mu = .30

From 420 To 430 DY= -12.000 mm. DZ= -5,999.988 mm.

RESTRAINTS

Node 430 +Y Mu = .30

Node 430 Z Gap= 3.000 mm.

Node 430 X Gap= 3.000 mm. Mu = .30

From 430 To 440 DY= -12.000 mm. DZ= -5,999.988 mm.

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INPUT LISTING

RESTRAINTS

Node 440 +Y Mu = .30

From 440 To 450 DY= -12.000 mm. DZ= -5,999.988 mm.

RESTRAINTS

Node 450 +Y Mu = .30

Node 450 X Gap= 3.000 mm. Mu = .30

From 450 To 460 DY= -12.000 mm. DZ= -5,999.988 mm.

RESTRAINTS

Node 460 +Y Mu = .30

From 460 To 470 DY= -12.000 mm. DZ= -5,999.988 mm.

RESTRAINTS

Node 470 +Y Mu = .30

Node 470 X Gap= 3.000 mm.

From 470 To 480 DY= -4.500 mm. DZ= -2,249.996 mm.

BEND at "T0" end

Radius= 457.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 479

Angle/Node @2= .00 478

From 480 To 490 DX= -4,665.000 mm.

RESTRAINTS

Node 490 +Y Mu = .30

From 490 To 500 DX= -4,835.000 mm.

BEND at "T0" end

Radius= 457.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 499

Angle/Node @2= .00 498

From 500 To 510 DY= -7.500 mm. DZ= -3,749.993 mm.

RESTRAINTS

Node 510 +Y Mu = .30

From 510 To 520 DY= -7.500 mm. DZ= -3,749.993 mm.

BEND at "T0" end

Radius= 457.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 519

Angle/Node @2= .00 518

From 520 To 530 DX= 4,850.000 mm.

RESTRAINTS

Node 530 +Y Mu = .30

From 530 To 540 DX= 4,650.000 mm.

BEND at "T0" end

Radius= 457.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 539

Angle/Node @2= .00 538

From 540 To 550 DY= -4.500 mm. DZ= -2,249.996 mm.

RESTRAINTS

Node 550 +Y Mu = .30

From 550 To 560 DY= -12.000 mm. DZ= -5,999.988 mm.

RESTRAINTS

Node 560 +Y

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INPUT LISTING

```

Node 560 X Gap= 3.000 mm. Mu = .30
-----
From 560 To 570 DY= -12.000 mm. DZ= -5,999.988 mm.
RESTRAINTS
Node 570 +Y Mu = .30
-----
From 570 To 580 DY= -12.000 mm. DZ= -5,999.988 mm.
RESTRAINTS
Node 580 +Y Mu = .30
Node 580 X Gap= 3.000 mm.
-----
From 580 To 590 DY= -12.000 mm. DZ= -5,999.988 mm.
RESTRAINTS
Node 590 +Y Mu = .30
Node 590 Z Gap= .000 mm.
-----
From 590 To 600 DY= -12.000 mm. DZ= -5,999.988 mm.
RESTRAINTS
Node 600 +Y Mu = .30
Node 600 X Gap= 3.000 mm. Mu = .30
-----
From 600 To 610 DY= -12.000 mm. DZ= -5,999.988 mm.
RESTRAINTS
Node 610 +Y Mu = .30
-----
From 610 To 620 DY= -12.000 mm. DZ= -5,999.988 mm.
RESTRAINTS
Node 620 +Y Mu = .30
Node 620 X Gap= 3.000 mm. Mu = .30
-----
From 620 To 630 DY= -12.000 mm. DZ= -5,999.988 mm.
RESTRAINTS
Node 630 +Y Mu = .30
-----
From 630 To 640 DY= -4.700 mm. DZ= -2,349.995 mm.
BEND at "T0" end
Radius= 457.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 639
-----
From 640 To 650 DX= -4,665.000 mm.
RESTRAINTS
Node 650 +Y Mu = .30
-----
From 650 To 660 DX= -4,635.000 mm.
BEND at "T0" end
Radius= 457.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 659
Angle/Node @2= .00 658
-----
From 660 To 670 DY= -7.300 mm. DZ= -3,649.993 mm.
RESTRAINTS
Node 670 +Y Mu = .30
-----
From 670 To 680 DY= -7.300 mm. DZ= -3,649.993 mm.
BEND at "T0" end
Radius= 457.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 679
Angle/Node @2= .00 678
-----

```


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INPUT LISTING

From 680 To 690 DX= 4,650.000 mm.

RESTRAINTS

Node 690 +Y Mu = .30

From 690 To 700 DX= 4,650.000 mm.

BEND at "T0" end

Radius= 457.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 699

Angle/Node @2= .00 698

From 700 To 710 DY= -4.700 mm. DZ= -2,349.995 mm.

RESTRAINTS

Node 710 +Y Mu = .30

From 710 To 720 DY= -12.000 mm. DZ= -5,999.988 mm.

RESTRAINTS

Node 720 +Y Mu = .30

Node 720 X Gap= 3.000 mm.

From 720 To 730 DY= -12.000 mm. DZ= -5,999.988 mm.

RESTRAINTS

Node 730 +Y Mu = .30

From 730 To 740 DY= -12.000 mm. DZ= -5,999.988 mm.

RESTRAINTS

Node 740 +Y Mu = .30

Node 740 X Gap= 3.000 mm. Mu = .30

From 740 To 750 DY= -8.001 mm. DZ= -4,000.410 mm.

BEND at "T0" end

Radius= 457.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 749

Angle/Node @2= .00 748

From 750 To 760 DX= -1,999.996 mm. DY= -4.000 mm.

RESTRAINTS

Node 760 +Y Mu = .30

From 760 To 770 DX= -6,000.000 mm. DY= -12.000 mm.

RESTRAINTS

Node 770 +Y Mu = .30

Node 770 Z Gap= 3.000 mm. Mu = .30

From 770 To 780 DX= -6,000.000 mm. DY= -12.000 mm.

RESTRAINTS

Node 780 +Y Mu = .30

Node 780 X

Node 780 Z Gap= 3.000 mm.

From 780 To 790 DX= -6,000.000 mm. DY= -12.000 mm.

RESTRAINTS

Node 790 +Y Mu = .30

From 790 To 800 DX= -6,000.000 mm. DY= -12.000 mm.

RESTRAINTS

Node 800 +Y Mu = .30

Node 800 Z Gap= 3.000 mm.

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INPUT LISTING

```

From 800 To 810 DX= -3,950.004 mm. DY= -7.900 mm.
BEND at "T0" end
  Radius= 457.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 809
  Angle/Node @2= .00 808
-----
From 810 To 820 DZ= 4,000.000 mm.
RESTRAINTS
  Node 820 +Y Mu = .30
-----
From 820 To 830 DZ= 4,000.000 mm.
BEND at "T0" end
  Radius= 457.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 829
  Angle/Node @2= .00 828
-----
From 830 To 840 DX= -1,999.996 mm. DY= -4.000 mm.
-----
From 840 To 850 DX= -1,999.996 mm. DY= -4.000 mm.
RESTRAINTS
  Node 850 +Y Mu = .30
-----
From 850 To 860 DX= -3,000.006 mm. DY= -6.000 mm.
-----
From 860 To 870 DX= -1,006.998 mm. DY= -2.014 mm.
BEND at "T0" end
  Radius= 457.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 869
  Angle/Node @2= .00 868
-----
From 870 To 880 DZ= -4,000.000 mm.
RESTRAINTS
  Node 880 +Y Mu = .30
-----
From 880 To 890 DZ= -4,000.000 mm.
BEND at "T0" end
  Radius= 457.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 889
-----
From 890 To 900 DX= -5,950.000 mm. DY= -11.900 mm.
RESTRAINTS
  Node 900 +Y Mu = .30
  Node 900 Z Gap= 3.000 mm.
-----
From 900 To 910 DX= -6,000.000 mm. DY= -12.000 mm.
RESTRAINTS
  Node 910 +Y Mu = .30
-----
From 910 To 920 DX= -6,000.000 mm. DY= -12.000 mm.
RESTRAINTS
  Node 920 +Y Mu = .30
  Node 920 Z Gap= 3.000 mm. Mu = .30
-----
From 920 To 930 DX= -6,000.000 mm. DY= -12.000 mm.
RESTRAINTS
  Node 930 +Y Mu = .30
-----
From 930 To 940 DX= -6,000.000 mm. DY= -12.000 mm.
RESTRAINTS
  Node 940 +Y Mu = .30

```

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INPUT LISTING

```

Node 940 X Gap= 3.000 mm.
Node 940 Z Gap= 3.000 mm. Mu = .30
-----
From 940 To 950 DX= -6,000.000 mm. DY= -12.000 mm.
RESTRAINTS
Node 950 +Y Mu = .30
-----
From 950 To 960 DX= -6,000.000 mm. DY= -12.000 mm.
RESTRAINTS
Node 960 +Y Mu = .30
Node 960 Z Gap= 3.000 mm. Mu = .30
-----
From 960 To 970 DX= -6,000.000 mm. DY= -12.000 mm.
RESTRAINTS
Node 970 +Y Mu = .30
-----
From 970 To 980 DX= -6,000.000 mm. DY= -12.000 mm.
RESTRAINTS
Node 980 +Y Mu = .30
Node 980 Z Gap= 3.000 mm. Mu = .30
-----
From 980 To 990 DX= -4,999.990 mm. DY= -10.000 mm.
BEND at "T0" end
Radius= 457.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 989
Angle/Node @2= .00 988
-----
From 990 To 1000 DZ= 4,000.000 mm.
RESTRAINTS
Node 1000 +Y Mu = .30
-----
From 1000 To 1010 DZ= 4,000.000 mm.
BEND at "T0" end
Radius= 457.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1009
Angle/Node @2= .00 1008
-----
From 1010 To 1020 DX= -2,000.008 mm. DY= -4.000 mm.
-----
From 1020 To 1030 DX= -2,000.002 mm. DY= -4.000 mm.
RESTRAINTS
Node 1030 +Y Mu = .30
-----
From 1030 To 1040 DX= -1,999.996 mm. DY= -4.000 mm.
-----
From 1040 To 1050 DX= -1,999.996 mm. DY= -4.000 mm.
BEND at "T0" end
Radius= 457.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1049
Angle/Node @2= .00 1048
-----
From 1050 To 1060 DZ= -4,000.000 mm.
RESTRAINTS
Node 1060 +Y Mu = .30
-----
From 1060 To 1070 DZ= -4,000.000 mm.
BEND at "T0" end
Radius= 457.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1069
Angle/Node @2= .00 1068

```

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INPUT LISTING

 From 1070 To 1080 DX= -4,999.990 mm. DY= -10.000 mm.

RESTRAINTS

Node 1080 +Y Mu = .30
 Node 1080 Z Gap= 3.000 mm. Mu = .30

From 1080 To 1090 DX= -6,000.000 mm. DY= -12.000 mm.

RESTRAINTS

Node 1090 +Y Mu = .30

From 1090 To 1100 DX= -6,000.000 mm. DY= -12.000 mm.

RESTRAINTS

Node 1100 +Y Mu = .30
 Node 1100 Z Gap= 3.000 mm. Mu = .30
 Node 1100 X

From 1100 To 1110 DX= -6,000.000 mm. DY= -12.000 mm.

RESTRAINTS

Node 1110 +Y Mu = .30
 Node 1110 Z Gap= 3.000 mm. Mu = .30

From 1110 To 1120 DX= -5,992.988 mm. DY= -11.986 mm.

BEND at "TO" end

Radius= 457.200 mm. (LONG) Bend Angle= 89.885 Angle/Node @1= 44.94 1119
 Angle/Node @2= .00 1118

From 1120 To 1130 DY= -2,133.000 mm.

BEND at "TO" end

Radius= 457.200 mm. (LONG) Bend Angle= 89.885 Angle/Node @1= 44.94 1129
 Angle/Node @2= .00 1128

From 1130 To 1140 DY= -12.500 mm. DZ= -6,250.000 mm.

RESTRAINTS

Node 1140 +Y Mu = .30

From 1140 To 1150 DY= -12.500 mm. DZ= -6,250.000 mm.

BEND at "TO" end

Radius= 457.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1149
 Angle/Node @2= .00 1148

From 1150 To 1160 DX= -5,999.988 mm. DY= -12.001 mm.

RESTRAINTS

Node 1160 +Y Mu = .30
 Node 1160 Z Gap= 3.000 mm. Mu = .30

From 1160 To 1170 DX= -5,999.988 mm. DY= -12.001 mm.

RESTRAINTS

Node 1170 +Y Mu = .30

From 1170 To 1180 DX= -5,999.988 mm. DY= -12.001 mm.

RESTRAINTS

Node 1180 +Y Mu = .30
 Node 1180 Z Gap= 3.000 mm. Mu = .30
 Node 1180 X Gap= 3.000 mm.

From 1180 To 1190 DX= -5,999.988 mm. DY= -12.001 mm.

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INPUT LISTING

RESTRAINTS

Node 1190 +Y Mu = .30

 From 1190 To 1200 DX= -5,999.988 mm. DY= -12.001 mm.

RESTRAINTS

Node 1200 +Y Mu = .30

Node 1200 Z Gap= 3.000 mm. Mu = .30

 From 1200 To 1210 DX= -1,999.996 mm. DY= -4.000 mm.

BEND at "T0" end

Radius= 457.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1209

Angle/Node @2= .00 1208

 From 1210 To 1220 DZ= -4,000.000 mm.

RESTRAINTS

Node 1220 +Y Mu = .30

 From 1220 To 1230 DZ= -1,000.000 mm.

BEND at "T0" end

Radius= 457.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1229

Angle/Node @2= .00 1228

 From 1230 To 1240 DX= -999.998 mm. DY= -2.000 mm.

 From 1240 To 1250 DX= -2,999.994 mm. DY= -6.000 mm.

RESTRAINTS

Node 1250 +Y Mu = .30

 From 1250 To 1260 DX= -2,999.994 mm. DY= -6.000 mm.

 From 1260 To 1270 DX= -1,000.000 mm. DY= -8.001 mm.

BEND at "T0" end

Radius= 457.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1269

Angle/Node @2= .00 1268

 From 1270 To 1280 DZ= 1,000.000 mm.

RESTRAINTS

Node 1280 +Y Mu = .30

 From 1280 To 1290 DZ= 4,000.000 mm.

BEND at "T0" end

Radius= 457.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1289

Angle/Node @2= .00 1288

 From 1290 To 1300 DX= -1,999.996 mm. DY= -4.000 mm.

RESTRAINTS

Node 1300 +Y Mu = .30

Node 1300 Z Gap= 3.000 mm. Mu = .30

 From 1300 To 1310 DX= -5,999.988 mm. DY= -12.001 mm.

RESTRAINTS

Node 1310 +Y Mu = .30

 From 1310 To 1320 DX= -5,999.988 mm. DY= -12.001 mm.

RESTRAINTS

Node 1320 +Y Mu = .30

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INPUT LISTING

Node 1320 Z Gap= 3.000 mm. Mu = .30

Node 1320 X Gap= 3.000 mm.

From 1320 To 1330 DX= -5,999.988 mm. DY= -12.001 mm.

RESTRAINTS

Node 1330 +Y Mu = .30

From 1330 To 1340 DX= -5,999.988 mm. DY= -12.001 mm.

RESTRAINTS

Node 1340 +Y Mu = .30

Node 1340 Z Gap= 3.000 mm. Mu = .30

From 1340 To 1350 DX= -6,300.130 mm. DY= -12.601 mm.

BEND at "T0" end

Radius= 457.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1349

Angle/Node @2= .00 1348

From 1350 To 1355 DY= -13.001 mm. DZ= -6,499.987 mm.

RESTRAINTS

Node 1355 +Y Mu = .30

From 1355 To 1360 DY= -10.001 mm. DZ= -4,999.990 mm.

RESTRAINTS

Node 1360 +Y Mu = .30

From 1360 To 1370 DY= -12.001 mm. DZ= -5,999.988 mm.

RESTRAINTS

Node 1370 +Y Mu = .30

Node 1370 X Gap= 3.000 mm. Mu = .30

From 1370 To 1380 DY= -12.001 mm. DZ= -5,999.988 mm.

RESTRAINTS

Node 1380 +Y Mu = .30

From 1380 To 1390 DY= -12.001 mm. DZ= -5,999.988 mm.

RESTRAINTS

Node 1390 +Y Mu = .30

Node 1390 Z Gap= 3.000 mm. Mu = .30

Node 1390 X Gap= 3.000 mm.

From 1390 To 1400 DY= -12.001 mm. DZ= -5,999.988 mm.

RESTRAINTS

Node 1400 +Y Mu = .30

From 1400 To 1410 DY= -12.001 mm. DZ= -5,999.988 mm.

RESTRAINTS

Node 1410 +Y Mu = .30

Node 1410 X Gap= 3.000 mm.

From 1410 To 1420 DY= -12.001 mm. DZ= -5,999.988 mm.

RESTRAINTS

Node 1420 +Y Mu = .30

From 1420 To 1430 DY= -7.701 mm. DZ= -3,850.094 mm.

BEND at "T0" end

Radius= 457.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1429

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INPUT LISTING

Angle/Node @2= .00 1428

 From 1430 To 1440 DX= -4,849.991 mm. DY= -9.513 mm.

RESTRAINTS

Node 1440 +Y Mu = .30

 From 1440 To 1445 DX= -2,775.005 mm. DY= -5.443 mm.

 From 1450 To 1690 DY= -31.400 mm.

RIGID Weight= .00 N.

SIF's & TEE's

Node 1690 Unreinforced Tee

 From 1445 To 1450 DX= -2,775.005 mm. DY= -5.443 mm.

BEND at "T0" end

Radius= 457.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1449

Angle/Node @2= .00 1448

 From 1450 To 1460 DY= -2.120 mm. DZ= -1,060.000 mm.

 From 1460 To 1470 DY= -.235 mm. DZ= -117.475 mm.

RIGID Weight= 360.31 N.

 From 1470 To 1480 DY= -.235 mm. DZ= -117.475 mm.

RIGID Weight= 360.31 N.

 From 1480 To 1490 DY= -1.710 mm. DZ= -856.000 mm.

BEND at "T0" end

Radius= 457.200 mm. (LONG) Bend Angle= 89.886 Angle/Node @1= 44.94 1489

Angle/Node @2= .00 1488

 From 1490 To 1500 DY= -1,743.000 mm.

 From 1500 To 1510 DY= -203.000 mm.

REDUCER

Diam2= 273.050 mm. Wall2= 9.271 mm.

 From 1510 To 1520 DY= -104.775 mm.

PIPE

Dia= 273.050 mm. Wall= 9.271 mm.

Insul Thk= .000 mm.

RIGID Weight= 235.76 N.

RESTRAINTS

Node 1520 ANC Cnode 1600

 From 1530 To 1540 DZ= 104.775 mm.

RIGID Weight= 235.76 N.

 From 1540 To 1550 DZ= 146.000 mm.

PIPE

Dia= 273.050 mm. Wall= 9.271 mm.

Insul Thk= .000 mm.

RESTRAINTS

Node 1550 ANC Cnode 1560

EQUIPMENT LIMITS

Nozzle Node = 1550

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INPUT LISTING

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 14,000.70 N. FB= 14,000.70 N.
 FC= 10,500.52 N. MA= 10,500.45 N.m. MB= 7,000.30 N.m.
 MC= 9,100.39 N.m. Equipment Major Direction Vector= .0000 1.0000 .0000
 Interact. Mtd= Absolute

 From 1560 To 1570 DZ= 600.000 mm.

PIPE

Dia= 1,200.000 mm. Wall= 9.271 mm.

Insul Thk= .000 mm.

RIGID Weight= .00 N.

 From 1570 To 1580 DY= -1,550.000 mm.

RIGID Weight= .00 N.

 From 1580 To 1590 DY= -5,540.000 mm.

RIGID Weight= .00 N.

RESTRAINTS

Node 1590 ANC

 From 1600 To 1610 DY= -104.775 mm.

PIPE

Dia= 273.050 mm. Wall= 9.271 mm.

Insul Thk= .000 mm.

RIGID Weight= 235.76 N.

 From 1610 To 1620 DY= -174.000 mm.

RESTRAINTS

Node 1620 ANC Cnode 1630

EQUIPMENT LIMITS

Nozzle Node = 1620

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 14,000.70 N. FB= 14,000.70 N.

FC= 10,500.52 N. MA= 10,500.45 N.m. MB= 7,000.30 N.m.

MC= 9,100.39 N.m. Equipment Major Direction Vector= .0000 .0000 1.0000

Interact. Mtd= Absolute

 From 1630 To 1640 DY= -507.000 mm.

PIPE

Dia= 1,014.000 mm. Wall= 9.271 mm.

Insul Thk= .000 mm.

RIGID Weight= .00 N.

 From 1640 To 1650 DX= 100.000 mm.

RIGID Weight= .00 N.

 From 1650 To 1660 DY= -507.000 mm.

RIGID Weight= .00 N.

RESTRAINTS

Node 1660 +Y

Node 1660 Z Gap= 3.000 mm. Mu = .30

 From 1650 To 1670 DX= 2,200.000 mm. DZ= .000 mm.

RIGID Weight= .00 N.

 From 1670 To 1680 DY= -507.000 mm.

RIGID Weight= .00 N.

RESTRAINTS

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INPUT LISTING

Node 1680 ANC

 From 1690 To 1700 DZ= 500.000 mm.

PIPE

Dia= 219.075 mm. Wall= 8.179 mm. Cor= .0000 mm.

GENERAL

T1= 21 C T2= 21 C T3= 21 C P1= .0000 KPa PHyd= .0000 KPa
 Mat= (102)A53 Grade B E= 203,401,232 KPa EH1= 203,401,232 KPa
 EH2= 203,401,232 KPa EH3= 203,401,232 KPa EH4= 203,401,232 KPa
 EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa
 EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292
 Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000000 kg./cu.cm.
 Insul Thk= .000 mm.

RESTRAINTS

Node 1700 +Y Mu = .30
 Node 1700 X Gap= 3.000 mm. Mu = .30

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

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MATERIAL Changes:

10	20	Mat= (106)A106 Grade B E= 203,401,232 KPa
		v = .292 Density= .0078 kg./cu.cm.
1690	1700	Mat= (102)A53 Grade B E= 203,401,232 KPa
		v = .292 Density= .0078 kg./cu.cm.

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ALLOWABLE STRESS Changes

10	20	B31.3 (2016) Cycle Max Switch = ---
		Sc= 137,895 KPa Sh1= 129,638 KPa
		Sh2= 129,365 KPa Sh3= 137,895 KPa
		Sh4= 137,895 KPa Sh5= 137,895 KPa
		Sh6= 137,895 KPa Sh7= 137,895 KPa
		Sh8= 137,895 KPa Sh9= 137,895 KPa
		Sy= 241,316 KPa
1690	1700	B31.3 (2016) Cycle Max Switch = ---
		Sc= 137,895 KPa Sh1= 137,895 KPa
		Sh2= 137,895 KPa Sh3= 137,895 KPa
		Sh4= 137,895 KPa Sh5= 137,895 KPa
		Sh6= 137,895 KPa Sh7= 137,895 KPa
		Sh8= 137,895 KPa Sh9= 137,895 KPa
		Sy= 241,316 KPa

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BEND ELEMENTS

30	1710	Radius= 457.200 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1709 Angle/Node @2= .00 1708

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INPUT LISTING

1710	1720	Radius= 457.200 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1719 Angle/Node @2= .00 1718
1740	35	Radius= 457.200 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00 34
		Angle/Node @2= .00 33
35	1730	Radius= 457.200 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1729 Angle/Node @2= .00 1728
1730	50	Radius= 457.200 mm. (LONG)
		Bend Angle= 89.886 Angle/Node @1= 44.94 49
		Angle/Node @2= .00 48
80	120	Radius= 457.200 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		119 Angle/Node @2= .00 118
130	140	Radius= 457.200 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		139 Angle/Node @2= .00 138
150	160	Radius= 457.200 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		159 Angle/Node @2= .00 158
170	180	Radius= 457.200 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		179 Angle/Node @2= .00 178
204	1750	Radius= 457.200 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1749 Angle/Node @2= .00 1748
1760	1770	Radius= 457.200 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1769 Angle/Node @2= .00 1768
1780	1790	Radius= 457.200 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1791 Angle/Node @2= .00 1792
1800	1810	Radius= 457.200 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1809 Angle/Node @2= .00 1808
240	250	Radius= 457.200 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		249 Angle/Node @2= .00 248
295	300	Radius= 457.200 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		299 Angle/Node @2= .00 298
310	320	Radius= 457.200 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		319 Angle/Node @2= .00 318
350	360	Radius= 457.200 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		359 Angle/Node @2= .00 358
370	380	Radius= 457.200 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		379 Angle/Node @2= .00 378
470	480	Radius= 457.200 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		479 Angle/Node @2= .00 478
490	500	Radius= 457.200 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00

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INPUT LISTING

		499	Angle/Node @2= .00 498
510	520		Radius= 457.200 mm. (LONG)
			Bend Angle= 90.000 Angle/Node @1= 45.00
		519	Angle/Node @2= .00 518
530	540		Radius= 457.200 mm. (LONG)
			Bend Angle= 90.000 Angle/Node @1= 45.00
		539	Angle/Node @2= .00 538
630	640		Radius= 457.200 mm. (LONG)
			Bend Angle= 90.000 Angle/Node @1= 45.00
		639	
650	660		Radius= 457.200 mm. (LONG)
			Bend Angle= 90.000 Angle/Node @1= 45.00
		659	Angle/Node @2= .00 658
670	680		Radius= 457.200 mm. (LONG)
			Bend Angle= 90.000 Angle/Node @1= 45.00
		679	Angle/Node @2= .00 678
690	700		Radius= 457.200 mm. (LONG)
			Bend Angle= 90.000 Angle/Node @1= 45.00
		699	Angle/Node @2= .00 698
740	750		Radius= 457.200 mm. (LONG)
			Bend Angle= 90.000 Angle/Node @1= 45.00
		749	Angle/Node @2= .00 748
800	810		Radius= 457.200 mm. (LONG)
			Bend Angle= 90.000 Angle/Node @1= 45.00
		809	Angle/Node @2= .00 808
820	830		Radius= 457.200 mm. (LONG)
			Bend Angle= 90.000 Angle/Node @1= 45.00
		829	Angle/Node @2= .00 828
860	870		Radius= 457.200 mm. (LONG)
			Bend Angle= 90.000 Angle/Node @1= 45.00
		869	Angle/Node @2= .00 868
880	890		Radius= 457.200 mm. (LONG)
			Bend Angle= 90.000 Angle/Node @1= 45.00
		889	
980	990		Radius= 457.200 mm. (LONG)
			Bend Angle= 90.000 Angle/Node @1= 45.00
		989	Angle/Node @2= .00 988
1000	1010		Radius= 457.200 mm. (LONG)
			Bend Angle= 90.000 Angle/Node @1= 45.00
		1009	Angle/Node @2= .00 1008
1040	1050		Radius= 457.200 mm. (LONG)
			Bend Angle= 90.000 Angle/Node @1= 45.00
		1049	Angle/Node @2= .00 1048
1060	1070		Radius= 457.200 mm. (LONG)
			Bend Angle= 90.000 Angle/Node @1= 45.00
		1069	Angle/Node @2= .00 1068
1110	1120		Radius= 457.200 mm. (LONG)
			Bend Angle= 89.885 Angle/Node @1= 44.94
		1119	Angle/Node @2= .00 1118
1120	1130		Radius= 457.200 mm. (LONG)
			Bend Angle= 89.885 Angle/Node @1= 44.94
		1129	Angle/Node @2= .00 1128
1140	1150		Radius= 457.200 mm. (LONG)
			Bend Angle= 90.000 Angle/Node @1= 45.00
		1149	Angle/Node @2= .00 1148
1200	1210		Radius= 457.200 mm. (LONG)

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INPUT LISTING

		Bend Angle= 90.000	Angle/Node @1= 45.00
1220	1230	1209 Angle/Node @2= .00	1208
		Radius= 457.200 mm.	(LONG)
		Bend Angle= 90.000	Angle/Node @1= 45.00
1260	1270	1229 Angle/Node @2= .00	1228
		Radius= 457.200 mm.	(LONG)
		Bend Angle= 90.000	Angle/Node @1= 45.00
1280	1290	1269 Angle/Node @2= .00	1268
		Radius= 457.200 mm.	(LONG)
		Bend Angle= 90.000	Angle/Node @1= 45.00
1340	1350	1289 Angle/Node @2= .00	1288
		Radius= 457.200 mm.	(LONG)
		Bend Angle= 90.000	Angle/Node @1= 45.00
1420	1430	1349 Angle/Node @2= .00	1348
		Radius= 457.200 mm.	(LONG)
		Bend Angle= 90.000	Angle/Node @1= 45.00
1445	1450	1429 Angle/Node @2= .00	1428
		Radius= 457.200 mm.	(LONG)
		Bend Angle= 90.000	Angle/Node @1= 45.00
1480	1490	1449 Angle/Node @2= .00	1448
		Radius= 457.200 mm.	(LONG)
		Bend Angle= 89.886	Angle/Node @1= 44.94
		1489 Angle/Node @2= .00	1488

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RIGIDS

10	20	RIGID Weight= 235.76 N.
1450	1690	RIGID Weight= .00 N.
1460	1470	RIGID Weight= 360.31 N.
1470	1480	RIGID Weight= 360.31 N.
1510	1520	RIGID Weight= 235.76 N.
1530	1540	RIGID Weight= 235.76 N.
1560	1570	RIGID Weight= .00 N.
1570	1580	RIGID Weight= .00 N.
1580	1590	RIGID Weight= .00 N.
1600	1610	RIGID Weight= 235.76 N.
1630	1640	RIGID Weight= .00 N.
1640	1650	RIGID Weight= .00 N.
1650	1660	RIGID Weight= .00 N.
1650	1670	RIGID Weight= .00 N.
1670	1680	RIGID Weight= .00 N.

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SIF's & TEE's

1450	1690	Node 1690 Unreinforced Tee

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REDUCERS

20	30	Diam2= 323.850 mm.	Wall2= 10.312 mm.
1500	1510	Diam2= 273.050 mm.	Wall2= 9.271 mm.

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RESTRAINTS

NODE	TYPE	CNODE	STIF1	Len GAP STIF2	MU YIELD FORCE	Dir Vectors
10	ANC	1530				.000 .000 .000
1740	+Y				.30	.000 1.000 .000
60	+Y				.30	.000 1.000 .000
60	Z			3.00		.000 .000 1.000
70	+Y				.30	.000 1.000 .000
70	Z			3.00		.000 .000 1.000
70	X			.00		1.000 .000 .000
80	+Y				.30	.000 1.000 .000
80	Z			.00		.000 .000 1.000
130	+Y				.30	.000 1.000 .000
150	+Y				.30	.000 1.000 .000
170	+Y				.30	.000 1.000 .000
190	+Y				.30	.000 1.000 .000
200	+Y				.30	.000 1.000 .000
200	Z			3.00		.000 .000 1.000
202	+Y				.30	.000 1.000 .000
202	X			3.00		1.000 .000 .000
204	+Y				.30	.000 1.000 .000
204	Z			3.00		.000 .000 1.000
1760	+Y				.30	.000 1.000 .000
1780	+Y				.30	.000 1.000 .000
1800	+Y				.30	.000 1.000 .000
210	+Y				.30	.000 1.000 .000
210	Z			3.00		.000 .000 1.000
220	+Y				.30	.000 1.000 .000
220	X			3.00		1.000 .000 .000
230	+Y				.30	.000 1.000 .000
230	Z			3.00		.000 .000 1.000
240	+Y				.30	.000 1.000 .000
260	+Y				.30	.000 1.000 .000
260	X			3.00		.30 1.000 .000 .000
270	+Y				.30	.000 1.000 .000
280	+Y				.30	.000 1.000 .000
280	Z			3.00		.30 .000 .000 1.000
290	+Y				.30	.000 1.000 .000
290	X			3.00		1.000 .000 .000
295	+Y				.30	.000 1.000 .000
310	+Y				.30	.000 1.000 .000
340	+Y				.30	.000 1.000 .000
370	+Y				.30	.000 1.000 .000
390	+Y				.30	.000 1.000 .000
390	X			3.00		1.000 .000 .000
400	+Y				.30	.000 1.000 .000
410	+Y				.30	.000 1.000 .000
410	X			3.00		.30 1.000 .000 .000
420	+Y				.30	.000 1.000 .000
430	+Y				.30	.000 1.000 .000
430	Z			3.00		.000 .000 1.000
430	X			3.00		.30 1.000 .000 .000
440	+Y				.30	.000 1.000 .000

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INPUT LISTING

450	+Y		.30	.000	1.000	.000
450	X	3.00	.30	1.000	.000	.000
460	+Y		.30	.000	1.000	.000
470	+Y		.30	.000	1.000	.000
470	X	3.00		1.000	.000	.000
490	+Y		.30	.000	1.000	.000
510	+Y		.30	.000	1.000	.000
530	+Y		.30	.000	1.000	.000
550	+Y		.30	.000	1.000	.000
560	+Y			.000	1.000	.000
560	X	3.00	.30	1.000	.000	.000
570	+Y		.30	.000	1.000	.000
580	+Y		.30	.000	1.000	.000
580	X	3.00		1.000	.000	.000
590	+Y		.30	.000	1.000	.000
590	Z	.00		.000	.000	1.000
600	+Y		.30	.000	1.000	.000
600	X	3.00	.30	1.000	.000	.000
610	+Y		.30	.000	1.000	.000
620	+Y		.30	.000	1.000	.000
620	X	3.00	.30	1.000	.000	.000
630	+Y		.30	.000	1.000	.000
650	+Y		.30	.000	1.000	.000
670	+Y		.30	.000	1.000	.000
690	+Y		.30	.000	1.000	.000
710	+Y		.30	.000	1.000	.000
720	+Y		.30	.000	1.000	.000
720	X	3.00		1.000	.000	.000
730	+Y		.30	.000	1.000	.000
740	+Y		.30	.000	1.000	.000
740	X	3.00	.30	1.000	.000	.000
760	+Y		.30	.000	1.000	.000
770	+Y		.30	.000	1.000	.000
770	Z	3.00	.30	.000	.000	1.000
780	+Y		.30	.000	1.000	.000
780	X			1.000	.000	.000
780	Z	3.00		.000	.000	1.000
790	+Y		.30	.000	1.000	.000
800	+Y		.30	.000	1.000	.000
800	Z	3.00		.000	.000	1.000
820	+Y		.30	.000	1.000	.000
850	+Y		.30	.000	1.000	.000
880	+Y		.30	.000	1.000	.000
900	+Y		.30	.000	1.000	.000
900	Z	3.00		.000	.000	1.000
910	+Y		.30	.000	1.000	.000
920	+Y		.30	.000	1.000	.000
920	Z	3.00	.30	.000	.000	1.000
930	+Y		.30	.000	1.000	.000
940	+Y		.30	.000	1.000	.000
940	X	3.00		1.000	.000	.000
940	Z	3.00	.30	.000	.000	1.000
950	+Y		.30	.000	1.000	.000
960	+Y		.30	.000	1.000	.000
960	Z	3.00	.30	.000	.000	1.000
970	+Y		.30	.000	1.000	.000

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INPUT LISTING

980	+Y		.30	.000	1.000	.000
980	Z	3.00	.30	.000	.000	1.000
1000	+Y		.30	.000	1.000	.000
1030	+Y		.30	.000	1.000	.000
1060	+Y		.30	.000	1.000	.000
1080	+Y		.30	.000	1.000	.000
1080	Z	3.00	.30	.000	.000	1.000
1090	+Y		.30	.000	1.000	.000
1100	+Y		.30	.000	1.000	.000
1100	Z	3.00	.30	.000	.000	1.000
1100	X			1.000	.000	.000
1110	+Y		.30	.000	1.000	.000
1110	Z	3.00	.30	.000	.000	1.000
1140	+Y		.30	.000	1.000	.000
1160	+Y		.30	.000	1.000	.000
1160	Z	3.00	.30	.000	.000	1.000
1170	+Y		.30	.000	1.000	.000
1180	+Y		.30	.000	1.000	.000
1180	Z	3.00	.30	.000	.000	1.000
1180	X	3.00		1.000	.000	.000
1190	+Y		.30	.000	1.000	.000
1200	+Y		.30	.000	1.000	.000
1200	Z	3.00	.30	.000	.000	1.000
1220	+Y		.30	.000	1.000	.000
1250	+Y		.30	.000	1.000	.000
1280	+Y		.30	.000	1.000	.000
1300	+Y		.30	.000	1.000	.000
1300	Z	3.00	.30	.000	.000	1.000
1310	+Y		.30	.000	1.000	.000
1320	+Y		.30	.000	1.000	.000
1320	Z	3.00	.30	.000	.000	1.000
1320	X	3.00		1.000	.000	.000
1330	+Y		.30	.000	1.000	.000
1340	+Y		.30	.000	1.000	.000
1340	Z	3.00	.30	.000	.000	1.000
1355	+Y		.30	.000	1.000	.000
1360	+Y		.30	.000	1.000	.000
1370	+Y		.30	.000	1.000	.000
1370	X	3.00	.30	1.000	.000	.000
1380	+Y		.30	.000	1.000	.000
1390	+Y		.30	.000	1.000	.000
1390	Z	3.00	.30	.000	.000	1.000
1390	X	3.00		1.000	.000	.000
1400	+Y		.30	.000	1.000	.000
1410	+Y		.30	.000	1.000	.000
1410	X	3.00		1.000	.000	.000
1420	+Y		.30	.000	1.000	.000
1440	+Y		.30	.000	1.000	.000
1520	ANC	1600		.000	.000	.000
1550	ANC	1560		.000	.000	.000
1590	ANC			.000	.000	.000
1620	ANC	1630		.000	.000	.000
1660	+Y			.000	1.000	.000
1660	Z	3.00	.30	.000	.000	1.000
1680	ANC			.000	.000	.000
1700	+Y		.30	.000	1.000	.000

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INPUT LISTING

1700 X 3.00 .30 1.000 .000 .000
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EQUIPMENT LIMITS

1540 1550 Nozzle Node = 1550

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 14,000.70 N. FB= 14,000.70 N.
 FC= 10,500.52 N. MA= 10,500.45 N.m. MB= 7,000.30 N.m.
 MC= 9,100.39 N.m. Equipment Major Direction Vector= .0000 1.0000 .0000
 Interact. Mtd= Absolute

1610 1620 Nozzle Node = 1620

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 14,000.70 N. FB= 14,000.70 N.
 FC= 10,500.52 N. MA= 10,500.45 N.m. MB= 7,000.30 N.m.
 MC= 9,100.39 N.m. Equipment Major Direction Vector= .0000 .0000 1.0000
 Interact. Mtd= Absolute

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UNIFORM LOAD Changes

10 20 Vector1 in G-s
 X1 Dir = .26 g's Y1 Dir = .00 g's
 Z1 Dir = .00 g's
 Vector2 in G-s
 X2 Dir = .00 g's Y2 Dir = .12 g's
 Z2 Dir = .00 g's
 Vector3 in G-s
 X3 Dir = .00 g's Y3 Dir = .00 g's
 Z3 Dir = .26 g's

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INPUT UNITS USED...

UNITS= SI (m NOM/SCH INPUT= ON

LENGTH	inches	x	25.400	=	mm.
FORCE	pounds	x	4.448	=	N.
MASS(dynamics)	pounds	x	0.454	=	Kg.
MOMENTS(INPUT)	inch-pounds	x	0.113	=	N.m.
MOMENTS(OUTPUT)	inch-pounds	x	0.113	=	N.m.
STRESS	lbs./sq.in.	x	6.895	=	KPa
TEMP. SCALE	degrees F.	x	0.556	=	C
PRESSURE	psig	x	6.895	=	KPa
ELASTIC MODULUS	lbs./sq.in.	x	6.895	=	KPa
PIPE DENSITY	lbs./cu.in.	x	0.028	=	kg./cu.cm.
INSULATION DENS.	lbs./cu.in.	x	0.028	=	kg./cu.cm.
FLUID DENSITY	lbs./cu.in.	x	0.028	=	kg./cu.cm.
TRANSL. STIF	lbs./in.	x	1.751	=	N./cm.
ROTATIONAL STIF	in.lb./deg.	x	0.113	=	N.m./deg
UNIFORM LOAD	lb./in.	x	1.751	=	N./cm.
G LOAD	g's	x	1.000	=	g's
WIND LOAD	lbs./sq.in.	x	6.895	=	KPa

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INPUT LISTING

ELEVATION	inches	x	0.025	=	m.
COMPOUND LENGTH	inches	x	25.400	=	mm.
DIAMETER	inches	x	25.400	=	mm.
WALL THICKNESS	inches	x	25.400	=	mm.

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SETUP FILE PARAMETERS

```

CONNECT GEOMETRY THRU CNODES = YES
MIN ALLOWED BEND ANGLE = 5.00000
MAX ALLOWED BEND ANGLE = 95.0000
BEND LENGTH ATTACHMENT PERCENT = 1.00000
MIN ANGLE TO ADJACENT BEND PT = 5.00000
LOOP CLOSURE TOLERANCE = 25.4000 mm.
THERMAL BOWING HORZ TOLERANCE = 0.100000E-03
AUTO NODE NUMBER INCREMENT= 10.0000
Z AXIS UP= NO
USE PRESSURE STIFFENING = DEFAULT
ALPHA TOLERANCE = 0.500000E-01
RESLD-FORCE = NO
HGR DEF RESWGT STIF = 0.175127E+13 N./cm.
DECOMP SNG TOL = 0.100000E+11
BEND AXIAL SHAPE = YES
FRICT STIF = 0.175127E+07 N./cm.
FRICT NORM FORCE VAR = 0.150000
FRICT ANGLE VAR = 15.0000
FRICT SLIDE MULT = 1.00000
ROD TOLERANCE = 1.00000
ROD INC = 2.00000
INCORE NUMERICAL CHECK = NO
OUTCORE NUMERICAL CHECK = NO
DEFAULT TRANS RESTRAINT STIFF= 0.175127E+13 N./cm.
DEFAULT ROT RESTRAINT STIFF= 0.112985E+12 N.m./deg
IGNORE SPRING HANGER STIFFNESS = NO
MISSING MASS ZPA = EXTRACTED
MIN WALL MILL TOLERANCE = 12.5000
WRC-107 VERSION = MAR 79 1B1/2B1
WRC-107 INTERPOLATION = LAST VALUE
DEFAULT AMBIENT TEMPERATURE= 21.1111 C
BOURDON PRESSURE= NONE
COEFFICIENT OF FRICTION (MU) = 0.000000
INCLUDE SPRG STIF IN HGR OPE = NO
INCLUDE INSULATION IN HYDROTEST = NO
REDUCED INTERSECTION = B31.1(POST1980)
USE WRC329 NO
NO REDUCED SIF FOR RFT AND WLT NO
B31.1 REDUCED Z FIX = YES
CLASS 1 BRANCH FLEX NO
ALL STRESS CASES CORRODED = NO
ADD TORSION IN SL STRESS = DEFAULT
ADD F/A IN STRESS = DEFAULT
OCCASIONAL LOAD FACTOR = 0.000000
DEFAULT CODE = B31.3
B31.3 SUS CASE SIF FACTOR = 0.000000
ALLOW USERS BEND SIF = NO
USE SCHNEIDER NO

```

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INPUT LISTING

YIELD CRITERION STRESS =	MAX 3D SHEAR	
USE PD/4T	NO	
BASE HOOP STRESS ON ? =	ID	
EN13480 USE IN OUTPLANE SIFS=	NO	
LIBERAL EXPANSION ALLOWABLE=	YES	
B31.3 SEC 319.2.3C SAXIAL=	Default	
B31.3 WELDING/CONTOUR TEE ISB16.9	FALSE	
PRESSURE VARIATION IN EXP CASE=	DEFAULT	
IMPLEMENT B313 APP-P	NO	
IMPLEMENT B313 CODE CASE 178	YES	
IGNORE B31.1/B31.3 Wc FACTOR=	YES	
USE FRP SIF =	YES	
USE FRP FLEX =	YES	
BS 7159 Pressure Stiffening=	Design Strain	
FRP Property Data File=	CAESAR.FRP	
FRP Emod (axial) =	0.220632E+08	KPa
FRP Ratio Gmod/Emod (axial) =	0.250000	
FRP Ea/Eh*Vh/a =	0.152730	
FRP Laminate Type =	THREE	
FRP Alpha =	21.6000	C
FRP Density =	0.166079E-02	kg./cu.cm.
EXCLUDE f2 FROM UK00A BENDING =	NO	

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EXECUTION CONTROL PARAMETERS

Rigid/ExpJt Print Flag	1.000
Bourdon Option	.000
Loop Closure Flag	2.000
Thermal Bowing Delta Temp ..	.000 C
Liberal Allowable Flag	1.000
Uniform Load Option	1.000
Ambient Temperature	20.997 C
Plastic (FRP) Alpha	21.600
Plastic (FRP) GMOD/EMODa ...	.250
Plastic (FRP) Laminate Type.	3.000
Eqn Optimizer	.000
Node Selection	.000
Eqn Ordering	.000
Collins	.000
Degree Determination	.000
User Eqn Control	.000
North Direction	-X

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COORDINATE REPORT

	/------(mm.)-----/		
NODE	X	Y	Z
10	6553.000	-5329.350	7060.100
20	6553.000	-5338.990	6923.500
30	6553.000	-5338.990	6720.500
1710	6553.000	-5340.990	5720.502
1720	4639.000	-5340.990	5720.502

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INPUT LISTING

1740	4639.000	-5344.600	3915.503
35	4639.000	-5348.210	2110.505
1730	6553.000	-5348.210	2110.505
50	6553.000	-8985.210	2110.505
60	5142.998	-8988.021	2110.505
70	-1856.988	-9002.040	2110.505
80	-7856.976	-9014.056	2110.505
120	-10506.976	-9016.146	2110.505
130	-10506.976	-9016.146	6360.505
140	-10506.976	-9016.146	10610.505
150	-13856.965	-9026.860	10610.505
160	-17206.953	-9037.574	10610.505
170	-17206.953	-9037.574	6360.505
180	-17206.953	-9037.574	2110.505
190	-19856.953	-9039.665	2110.505
200	-25856.941	-9051.681	2110.505
202	-31856.930	-9063.696	2110.505
204	-37856.918	-9075.712	2110.505
1750	-40506.914	-9081.019	2110.505
1760	-40506.914	-9081.019	6360.505
1770	-40506.914	-9081.019	10610.505
1780	-43856.906	-9087.728	10610.505
1790	-47206.898	-9094.437	10610.505
1800	-47206.898	-9094.437	6360.505
1810	-47206.898	-9094.437	2110.505
210	-49856.895	-9099.743	2110.505
220	-55856.883	-9111.759	2110.505
230	-61856.871	-9123.774	2110.505
240	-67856.859	-9135.790	2110.505
250	-69850.859	-9139.783	2110.505
260	-69850.859	-9148.783	-2389.486
270	-69850.859	-9160.783	-8389.475
280	-69850.859	-9172.783	-14389.463
290	-69850.859	-9184.783	-20389.451
295	-69850.859	-9196.783	-26389.439
300	-69850.859	-9198.583	-27289.437
310	-73750.859	-9198.583	-27289.437
320	-77650.859	-9198.583	-27289.437
330	-77650.859	-9200.383	-28189.436
340	-77650.859	-9204.583	-30289.432
350	-77650.859	-9208.783	-32389.428
360	-77650.859	-9210.583	-33289.426
370	-73750.859	-9210.583	-33289.426
380	-69850.859	-9210.583	-33289.426
390	-69850.859	-9220.783	-38389.414
400	-69850.859	-9232.783	-44389.402
410	-69850.859	-9244.783	-50389.391
420	-69850.859	-9256.783	-56389.379
430	-69850.859	-9268.783	-62389.367
440	-69850.859	-9280.783	-68389.352
450	-69850.859	-9292.783	-74389.336
460	-69850.859	-9304.783	-80389.320
470	-69850.859	-9316.783	-86389.305
480	-69850.859	-9321.283	-88639.297
490	-74515.859	-9321.283	-88639.297
500	-79350.859	-9321.283	-88639.297

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INPUT LISTING

510	-79350.859	-9328.783	-92389.289
520	-79350.859	-9336.283	-96139.281
530	-74500.859	-9336.283	-96139.281
540	-69850.859	-9336.283	-96139.281
550	-69850.859	-9340.783	-98389.273
560	-69850.859	-9352.783	-104389.266
570	-69850.859	-9364.783	-110389.250
580	-69850.859	-9376.783	-116389.234
590	-69850.859	-9388.783	-122389.219
600	-69850.859	-9400.783	-128389.203
610	-69850.859	-9412.783	-134389.187
620	-69850.859	-9424.783	-140389.172
630	-69850.859	-9436.783	-146389.156
640	-69850.859	-9441.483	-148739.156
650	-74515.859	-9441.483	-148739.156
660	-79150.859	-9441.483	-148739.156
670	-79150.859	-9448.783	-152389.156
680	-79150.859	-9456.083	-156039.156
690	-74500.859	-9456.083	-156039.156
700	-69850.859	-9456.083	-156039.156
710	-69850.859	-9460.783	-158389.156
720	-69850.859	-9472.783	-164389.141
730	-69850.859	-9484.783	-170389.125
740	-69850.859	-9496.783	-176389.109
750	-69850.859	-9504.784	-180389.516
760	-71850.859	-9508.784	-180389.516
770	-77850.859	-9520.784	-180389.516
780	-83850.859	-9532.784	-180389.516
790	-89850.859	-9544.784	-180389.516
800	-95850.859	-9556.784	-180389.516
810	-99800.867	-9564.685	-180389.516
820	-99800.867	-9564.685	-176389.516
830	-99800.867	-9564.685	-172389.516
840	-101800.859	-9568.685	-172389.516
850	-103800.852	-9572.685	-172389.516
860	-106800.859	-9578.685	-172389.516
870	-107807.859	-9580.698	-172389.516
880	-107807.859	-9580.698	-176389.516
890	-107807.859	-9580.698	-180389.516
900	-113757.859	-9592.599	-180389.516
910	-119757.859	-9604.599	-180389.516
920	-125757.859	-9616.599	-180389.516
930	-131757.859	-9628.599	-180389.516
940	-137757.859	-9640.599	-180389.516
950	-143757.859	-9652.599	-180389.516
960	-149757.859	-9664.599	-180389.516
970	-155757.859	-9676.599	-180389.516
980	-161757.859	-9688.599	-180389.516
990	-166757.844	-9698.599	-180389.516
1000	-166757.844	-9698.599	-176389.516
1010	-166757.844	-9698.599	-172389.516
1020	-168757.859	-9702.599	-172389.516
1030	-170757.859	-9706.599	-172389.516
1040	-172757.859	-9710.599	-172389.516
1050	-174757.859	-9714.599	-172389.516
1060	-174757.859	-9714.599	-176389.516

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INPUT LISTING

1070	-174757.859	-9714.599	-180389.516
1080	-179757.844	-9724.599	-180389.516
1090	-185757.844	-9736.599	-180389.516
1100	-191757.844	-9748.599	-180389.516
1110	-197757.844	-9760.599	-180389.516
1120	-203750.828	-9772.585	-180389.516
1130	-203750.828	-11905.585	-180389.516
1140	-203750.828	-11918.085	-186639.516
1150	-203750.828	-11930.585	-192889.516
1160	-209750.812	-11942.586	-192889.516
1170	-215750.797	-11954.587	-192889.516
1180	-221750.781	-11966.588	-192889.516
1190	-227750.766	-11978.589	-192889.516
1200	-233750.750	-11990.590	-192889.516
1210	-235750.750	-11994.590	-192889.516
1220	-235750.750	-11994.590	-196889.516
1230	-235750.750	-11994.590	-197889.516
1240	-236750.750	-11996.590	-197889.516
1250	-239750.750	-12002.590	-197889.516
1260	-242750.750	-12008.590	-197889.516
1270	-243750.750	-12016.591	-197889.516
1280	-243750.750	-12016.591	-196889.516
1290	-243750.750	-12016.591	-192889.516
1300	-245750.750	-12020.591	-192889.516
1310	-251750.734	-12032.592	-192889.516
1320	-257750.719	-12044.593	-192889.516
1330	-263750.719	-12056.594	-192889.516
1340	-269750.719	-12068.595	-192889.516
1350	-276050.844	-12081.196	-192889.516
1355	-276050.844	-12094.197	-199389.500
1360	-276050.844	-12104.198	-204389.484
1370	-276050.844	-12116.199	-210389.469
1380	-276050.844	-12128.200	-216389.453
1390	-276050.844	-12140.201	-222389.437
1400	-276050.844	-12152.202	-228389.422
1410	-276050.844	-12164.203	-234389.406
1420	-276050.844	-12176.204	-240389.391
1430	-276050.844	-12183.905	-244239.484
1440	-280900.844	-12193.419	-244239.484
1445	-283675.844	-12198.862	-244239.484
1450	-286450.844	-12204.306	-244239.484
1690	-286450.844	-12235.706	-244239.484
1445	-283675.844	-12198.862	-244239.484
1450	-286450.844	-12204.306	-244239.484
1460	-286450.844	-12206.426	-245299.484
1470	-286450.844	-12206.661	-245416.953
1480	-286450.844	-12206.896	-245534.422
1490	-286450.844	-12208.606	-246390.422
1500	-286450.844	-13951.606	-246390.422
1510	-286450.844	-14154.606	-246390.422
1520	-286450.844	-14259.382	-246390.422
10	6553.000	-5329.350	7060.100
1540	6553.000	-5329.350	7164.875
1550	6553.000	-5329.350	7310.875
1570	6553.000	-5329.350	7910.875
1580	6553.000	-6879.350	7910.875

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INPUT LISTING

1590	6553.000	-12419.350	7910.875
1520	-286450.844	-14259.382	-246390.422
1610	-286450.844	-14364.157	-246390.422
1620	-286450.844	-14538.157	-246390.422
1640	-286450.844	-15045.157	-246390.422
1650	-286350.844	-15045.157	-246390.422
1660	-286350.844	-15552.157	-246390.422
1650	-286350.844	-15045.157	-246390.422
1670	-284150.844	-15045.157	-246390.422
1680	-284150.844	-15552.157	-246390.422
1690	-286450.844	-12235.706	-244239.484
1700	-286450.844	-12235.706	-243739.484

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

- 1 (HYD) WW+HP
- 2 (OPE) W+T1+P1
- 3 (Alt-SUS) W+P1
- 4 (OPE) W+T2+P1
- 5 (Alt-SUS) W+P1
- 6 (OPE) W+T3+P1
- 7 (Alt-SUS) W+P1
- 8 (SUS) W+P1
- 9 (SUS) WNC
- 10 (OPE) W+T2+P1+U1
- 11 (OPE) W+T2+P1-U1
- 12 (OPE) W+T2+P1+U2
- 13 (OPE) W+T2+P1+U3
- 14 (OPE) W+T2+P1-U3
- 15 (OCC) L15=L10-L4
- 16 (OCC) L16=L11-L4
- 17 (OCC) L17=L12-L4
- 18 (OCC) L18=L13-L4
- 19 (OCC) L19=L14-L4
- 20 (OCC) L20=L15+L8
- 21 (OCC) L21=L16+L8
- 22 (OCC) L22=L17+L8
- 23 (OCC) L23=L18+L8
- 24 (OCC) L24=L19+L8
- 25 (EXP) L25=L2-L8
- 26 (EXP) L26=L2-L4
- 27 (EXP) L27=L6-L8
- 28 (EXP) L28=L2-L6
- 29 (EXP) L29=L4-L6

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

LOAD CASE DEFINITION KEY

CASE 1 (HYD) WW+HP
CASE 2 (OPE) W+T1+P1
CASE 4 (OPE) W+T2+P1
CASE 6 (OPE) W+T3+P1
CASE 8 (SUS) W+P1
CASE 9 (SUS) WNC
CASE 10 (OPE) W+T2+P1+U1
CASE 11 (OPE) W+T2+P1-U1
CASE 12 (OPE) W+T2+P1+U2
CASE 13 (OPE) W+T2+P1+U3
CASE 14 (OPE) W+T2+P1-U3
CASE 15 (OCC) L15=L10-L4
CASE 16 (OCC) L16=L11-L4
CASE 17 (OCC) L17=L12-L4
CASE 18 (OCC) L18=L13-L4
CASE 19 (OCC) L19=L14-L4

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
10		TYPE=Rigid ANC;					
	1(HYD)	-444	-3227	-82	-2424	464	73
	2(OPE)	3316	-4508	1966	-11296	-9171	8440
	4(OPE)	3346	-4512	1989	-11359	-9249	8473
	6(OPE)	-1291	532	-2278	2564	-208	-5738
	8(SUS)	-233	-1772	-42	-1276	244	37
	9(SUS)	-233	-1769	-42	-1275	244	37
	10(OPE)	4740	-4463	2065	-11332	-11637	7827
	11(OPE)	1970	-4565	1907	-11390	-6867	9139
	12(OPE)	3374	-4075	1996	-10947	-9329	7950
	13(OPE)	3460	-4384	4184	-11248	-7577	8519
	14(OPE)	3188	-4375	167	-11174	-10543	8218
	15(OCC)	1393	49	76	27	-2388	-645
	16(OCC)	-1377	-54	-82	-32	2382	666
	17(OCC)	27	436	7	412	-80	-522
	18(OCC)	114	127	2195	111	1671	46
	19(OCC)	-158	136	-1822	185	-1294	-254
	MAX	4740/L10	-4565/L11	4184/L13	-11390/L11	-11637/L10	9139/L11
60		TYPE=Rigid +Y; Rigid Z w/gap;					
	1(HYD)	-217	-14054	247	0	0	0
	2(OPE)	2135	-7177	-1328	0	0	0
	4(OPE)	2130	-7159	-1340	0	0	0
	6(OPE)	-1666	-5613	245	0	0	0
	8(SUS)	-114	-7379	129	0	0	0
	9(SUS)	-114	-7369	129	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	10(OPE)	2237	-7520	-1186	0	0	0
	11(OPE)	2019	-6786	-1356	0	0	0
	12(OPE)	1779	-5980	-1316	0	0	0
	13(OPE)	2172	-7254	-141	0	0	0
	14(OPE)	2200	-7393	-3117	0	0	0
	15(OCC)	107	-361	154	0	0	0
	16(OCC)	-111	373	-16	0	0	0
	17(OCC)	-351	1179	24	0	0	0
	18(OCC)	42	-95	1199	0	0	0
	19(OCC)	70	-234	-1777	0	0	0
	MAX	2237/L10	-14054/L1	-3117/L14			
70		TYPE=Rigid +Y; Rigid Z w/gap; Rigid X;					
	1(HYD)	-369	-8724	-42	0	0	0
	2(OPE)	-204	-6053	-1911	0	0	0
	4(OPE)	-201	-6067	-1951	0	0	0
	6(OPE)	-1204	-4386	-306	0	0	0
	8(SUS)	-194	-4581	-22	0	0	0
	9(SUS)	-194	-4574	-22	0	0	0
	10(OPE)	5833	-5662	-2912	0	0	0
	11(OPE)	-5833	-6483	-1945	0	0	0
	12(OPE)	-141	-5562	-2126	0	0	0
	13(OPE)	-1015	-6097	-1969	0	0	0
	14(OPE)	393	-5920	-1776	0	0	0
	15(OCC)	6035	405	-961	0	0	0
	16(OCC)	-5632	-415	6	0	0	0
	17(OCC)	61	505	-175	0	0	0
	18(OCC)	-814	-30	-18	0	0	0
	19(OCC)	595	147	175	0	0	0
	MAX	6035/L15	-8724/L1	-2912/L10			
80		TYPE=Rigid +Y; Rigid Z;					
	1(HYD)	-1	-9831	18	0	0	0
	2(OPE)	-1844	-6146	-677	0	0	0
	4(OPE)	-1847	-6155	-642	0	0	0
	6(OPE)	1516	-5053	2654	0	0	0
	8(SUS)	-0	-5162	10	0	0	0
	9(SUS)	-0	-5155	10	0	0	0
	10(OPE)	-1881	-6271	-668	0	0	0
	11(OPE)	-1811	-6036	458	0	0	0
	12(OPE)	-1657	-5525	-191	0	0	0
	13(OPE)	-1858	-6192	5136	0	0	0
	14(OPE)	-1879	-6264	-6005	0	0	0
	15(OCC)	-35	-115	-26	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	16(OCC)	36	119	1100	0	0	0
	17(OCC)	189	631	451	0	0	0
	18(OCC)	-11	-37	5778	0	0	0
	19(OCC)	-33	-109	-5363	0	0	0
	MAX	-1881/L10	-9831/L1	-6005/L14			
130		TYPE=Rigid +Y;					
	1(HYD)	6	-9973	-8	0	0	0
	2(OPE)	-407	-4150	1177	0	0	0
	4(OPE)	-404	-4139	1174	0	0	0
	6(OPE)	957	-5358	-1292	0	0	0
	8(SUS)	3	-5237	-4	0	0	0
	9(SUS)	3	-5229	-4	0	0	0
	10(OPE)	115	-4108	1227	0	0	0
	11(OPE)	-721	-4172	1023	0	0	0
	12(OPE)	-327	-3513	1002	0	0	0
	13(OPE)	-171	-4105	1220	0	0	0
	14(OPE)	-519	-4068	1104	0	0	0
	15(OCC)	520	31	53	0	0	0
	16(OCC)	-316	-33	-151	0	0	0
	17(OCC)	78	626	-172	0	0	0
	18(OCC)	233	34	46	0	0	0
	19(OCC)	-115	71	-70	0	0	0
	MAX	957/L6	-9973/L1	-1292/L6			
150		TYPE=Rigid +Y;					
	1(HYD)	-5	-12101	-0	0	0	0
	2(OPE)	190	-6353	1896	0	0	0
	4(OPE)	193	-6353	1896	0	0	0
	6(OPE)	295	-6354	-1883	0	0	0
	8(SUS)	-3	-6354	-0	0	0	0
	9(SUS)	-3	-6345	-0	0	0	0
	10(OPE)	880	-6371	1697	0	0	0
	11(OPE)	-469	-6335	1842	0	0	0
	12(OPE)	198	-5589	1665	0	0	0
	13(OPE)	490	-6348	1840	0	0	0
	14(OPE)	-16	-6365	1909	0	0	0
	15(OCC)	687	-18	-199	0	0	0
	16(OCC)	-662	19	-54	0	0	0
	17(OCC)	5	764	-231	0	0	0
	18(OCC)	297	5	-56	0	0	0
	19(OCC)	-210	-11	13	0	0	0
	MAX	880/L10	-12101/L1	1909/L14			
170		TYPE=Rigid +Y;					

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	1(HYD)	5	-9930	2	0	0	0
	2(OPE)	1220	-5389	1061	0	0	0
	4(OPE)	1219	-5390	1063	0	0	0
	6(OPE)	-1504	-5195	-407	0	0	0
	8(SUS)	3	-5214	1	0	0	0
	9(SUS)	3	-5207	1	0	0	0
	10(OPE)	1290	-5380	970	0	0	0
	11(OPE)	1127	-5402	1164	0	0	0
	12(OPE)	1055	-4766	965	0	0	0
	13(OPE)	866	-5399	1369	0	0	0
	14(OPE)	1547	-5390	472	0	0	0
	15(OCC)	71	10	-93	0	0	0
	16(OCC)	-92	-11	102	0	0	0
	17(OCC)	-164	624	-98	0	0	0
	18(OCC)	-353	-9	306	0	0	0
	19(OCC)	328	0	-591	0	0	0
	MAX	1547/L14	-9930/L1	1369/L13			
190		TYPE=Rigid +Y;					
	1(HYD)	-1	-9925	-2	0	0	0
	2(OPE)	1530	-5111	-107	0	0	0
	4(OPE)	1530	-5110	-105	0	0	0
	6(OPE)	-1441	-5227	619	0	0	0
	8(SUS)	-1	-5211	-1	0	0	0
	9(SUS)	-1	-5204	-1	0	0	0
	10(OPE)	1534	-5120	86	0	0	0
	11(OPE)	1512	-5100	-233	0	0	0
	12(OPE)	1344	-4485	-64	0	0	0
	13(OPE)	1457	-5107	474	0	0	0
	14(OPE)	1478	-5111	-410	0	0	0
	15(OCC)	4	-9	190	0	0	0
	16(OCC)	-17	10	-128	0	0	0
	17(OCC)	-186	626	41	0	0	0
	18(OCC)	-72	3	578	0	0	0
	19(OCC)	-52	-1	-305	0	0	0
	MAX	1534/L10	-9925/L1	619/L6			
200		TYPE=Rigid +Y; Rigid Z w/gap;					
	1(HYD)	-1	-8480	0	0	0	0
	2(OPE)	1326	-4490	-2610	0	0	0
	4(OPE)	1326	-4491	-2629	0	0	0
	6(OPE)	-1203	-4450	579	0	0	0
	8(SUS)	-1	-4452	0	0	0	0
	9(SUS)	-1	-4446	0	0	0	0
	10(OPE)	1336	-4491	-992	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	11(OPE)	1326	-4491	-3639	0	0	0
	12(OPE)	1169	-3957	-2529	0	0	0
	13(OPE)	1327	-4492	521	0	0	0
	14(OPE)	1326	-4490	-6507	0	0	0
	15(OCC)	10	-0	1637	0	0	0
	16(OCC)	-0	-0	-1009	0	0	0
	17(OCC)	-158	534	100	0	0	0
	18(OCC)	0	-1	3150	0	0	0
	19(OCC)	-0	0	-3878	0	0	0
	MAX	1336/L10	-8480/L1	-6507/L14			
202		TYPE=Rigid +Y; Rigid X w/gap;					
	1(HYD)	-1	-8478	-0	0	0	0
	2(OPE)	-2321	-4441	-1011	0	0	0
	4(OPE)	-2333	-4441	-1014	0	0	0
	6(OPE)	1259	-4451	445	0	0	0
	8(SUS)	-1	-4451	-0	0	0	0
	9(SUS)	-1	-4445	-0	0	0	0
	10(OPE)	5366	-4428	-1113	0	0	0
	11(OPE)	-10785	-4455	-195	0	0	0
	12(OPE)	-2143	-3906	-915	0	0	0
	13(OPE)	-2338	-4440	-87	0	0	0
	14(OPE)	-2387	-4441	-750	0	0	0
	15(OCC)	7700	13	-99	0	0	0
	16(OCC)	-8452	-14	819	0	0	0
	17(OCC)	190	535	98	0	0	0
	18(OCC)	-5	1	927	0	0	0
	19(OCC)	-54	-0	264	0	0	0
	MAX	-10785/L11	-8478/L1	-1113/L10			
204		TYPE=Rigid +Y; Rigid Z w/gap;					
	1(HYD)	-1	-9929	1	0	0	0
	2(OPE)	-1555	-5229	-342	0	0	0
	4(OPE)	-1555	-5229	-330	0	0	0
	6(OPE)	1449	-5208	583	0	0	0
	8(SUS)	-1	-5213	0	0	0	0
	9(SUS)	-1	-5206	0	0	0	0
	10(OPE)	-1545	-5232	-2442	0	0	0
	11(OPE)	-1556	-5226	197	0	0	0
	12(OPE)	-1371	-4603	-166	0	0	0
	13(OPE)	-1556	-5230	2686	0	0	0
	14(OPE)	-1555	-5229	-4238	0	0	0
	15(OCC)	10	-3	-2112	0	0	0
	16(OCC)	-0	3	527	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	17(OCC)	184	626	164	0	0	0
	18(OCC)	-0	-1	3016	0	0	0
	19(OCC)	0	1	-3908	0	0	0
	MAX	-1556/L13	-9929/L1	-4238/L14			
210		TYPE=Rigid +Y; Rigid Z w/gap;					
	1(HYD)	-1	-9898	-1	0	0	0
	2(OPE)	1542	-5185	-4558	0	0	0
	4(OPE)	1542	-5185	-4590	0	0	0
	6(OPE)	-1394	-5202	700	0	0	0
	8(SUS)	-1	-5197	-0	0	0	0
	9(SUS)	-1	-5190	-0	0	0	0
	10(OPE)	1543	-5189	-3268	0	0	0
	11(OPE)	1541	-5181	-5689	0	0	0
	12(OPE)	1357	-4561	-4315	0	0	0
	13(OPE)	1554	-5184	63	0	0	0
	14(OPE)	1542	-5185	-9146	0	0	0
	15(OCC)	1	-5	1322	0	0	0
	16(OCC)	-1	3	-1098	0	0	0
	17(OCC)	-185	623	276	0	0	0
	18(OCC)	12	0	4653	0	0	0
	19(OCC)	0	-0	-4556	0	0	0
	MAX	1554/L13	-9898/L1	-9146/L14			
220		TYPE=Rigid +Y; Rigid X w/gap;					
	1(HYD)	-1	-8475	0	0	0	0
	2(OPE)	24658	-4410	-1276	0	0	0
	4(OPE)	24894	-4409	-1277	0	0	0
	6(OPE)	-1139	-4450	696	0	0	0
	8(SUS)	-1	-4450	0	0	0	0
	9(SUS)	-1	-4444	0	0	0	0
	10(OPE)	30863	-4399	-1271	0	0	0
	11(OPE)	18920	-4419	-1283	0	0	0
	12(OPE)	24953	-3875	-1124	0	0	0
	13(OPE)	25021	-4409	-1262	0	0	0
	14(OPE)	24646	-4410	-1277	0	0	0
	15(OCC)	5968	11	6	0	0	0
	16(OCC)	-5974	-10	-6	0	0	0
	17(OCC)	59	534	153	0	0	0
	18(OCC)	127	0	15	0	0	0
	19(OCC)	-248	-0	-0	0	0	0
	MAX	30863/L10	-8475/L1	-1283/L11			
230		TYPE=Rigid					

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
		+Y; Rigid Z w/gap;					
	1(HYD)	-1	-8541	-1	0	0	0
	2(OPE)	-5347	-4473	13661	0	0	0
	4(OPE)	-5387	-4473	13791	0	0	0
	6(OPE)	961	-4484	-942	0	0	0
	8(SUS)	-0	-4485	-1	0	0	0
	9(SUS)	-0	-4478	-1	0	0	0
	10(OPE)	-5443	-4477	13974	0	0	0
	11(OPE)	-5321	-4471	13571	0	0	0
	12(OPE)	-5193	-3935	13644	0	0	0
	13(OPE)	-6014	-4475	15879	0	0	0
	14(OPE)	-4851	-4473	12004	0	0	0
	15(OCC)	-56	-3	182	0	0	0
	16(OCC)	67	2	-221	0	0	0
	17(OCC)	195	538	-147	0	0	0
	18(OCC)	-627	-2	2087	0	0	0
	19(OCC)	536	0	-1788	0	0	0
	MAX	-6014/L13	-8541/L1	15879/L13			
240		TYPE=Rigid +Y;					
	1(HYD)	-1	-9704	3	0	0	0
	2(OPE)	-968	-5097	1184	0	0	0
	4(OPE)	-968	-5097	1183	0	0	0
	6(OPE)	952	-5097	-1196	0	0	0
	8(SUS)	-0	-5095	2	0	0	0
	9(SUS)	-0	-5088	2	0	0	0
	10(OPE)	-969	-5098	1183	0	0	0
	11(OPE)	-967	-5094	1184	0	0	0
	12(OPE)	-852	-4486	1042	0	0	0
	13(OPE)	-968	-5096	1183	0	0	0
	14(OPE)	-969	-5095	1182	0	0	0
	15(OCC)	-1	-1	-0	0	0	0
	16(OCC)	1	2	0	0	0	0
	17(OCC)	117	611	-141	0	0	0
	18(OCC)	-0	1	-1	0	0	0
	19(OCC)	-1	1	-1	0	0	0
	MAX	-969/L10	-9704/L1	-1196/L6			
260		TYPE=Rigid +Y; Rigid X w/gap;					
	1(HYD)	2	-9141	-1	0	0	0
	2(OPE)	-28298	-4833	9898	0	0	0
	4(OPE)	-28546	-4833	9973	0	0	0
	6(OPE)	1882	-4798	-1567	0	0	0
	8(SUS)	1	-4800	-1	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	9(SUS)	1	-4793	-1	0	0	0
	10(OPE)	-25570	-4833	9080	0	0	0
	11(OPE)	-30564	-4836	10579	0	0	0
	12(OPE)	-28484	-4257	9787	0	0	0
	13(OPE)	-25982	-4838	9206	0	0	0
	14(OPE)	-29441	-4830	10241	0	0	0
	15(OCC)	2976	-0	-893	0	0	0
	16(OCC)	-2018	-2	606	0	0	0
	17(OCC)	62	576	-187	0	0	0
	18(OCC)	2564	-4	-768	0	0	0
	19(OCC)	-895	3	268	0	0	0
	MAX	-30564/L11	-9141/L1	10579/L11			
270		TYPE=Rigid +Y;					
	1(HYD)	-1	-8807	-1	0	0	0
	2(OPE)	961	-4604	992	0	0	0
	4(OPE)	963	-4604	990	0	0	0
	6(OPE)	160	-4629	-1380	0	0	0
	8(SUS)	-0	-4624	-0	0	0	0
	9(SUS)	-0	-4618	-0	0	0	0
	10(OPE)	1020	-4604	931	0	0	0
	11(OPE)	939	-4604	1012	0	0	0
	12(OPE)	842	-4049	875	0	0	0
	13(OPE)	1073	-4606	870	0	0	0
	14(OPE)	907	-4601	1041	0	0	0
	15(OCC)	57	-1	-59	0	0	0
	16(OCC)	-24	-0	22	0	0	0
	17(OCC)	-120	555	-115	0	0	0
	18(OCC)	110	-3	-120	0	0	0
	19(OCC)	-56	2	51	0	0	0
	MAX	1073/L13	-8807/L1	-1380/L6			
280		TYPE=Rigid +Y; Rigid Z w/gap;					
	1(HYD)	0	-8668	-1	0	0	0
	2(OPE)	5631	-4588	-14982	0	0	0
	4(OPE)	5681	-4588	-15131	0	0	0
	6(OPE)	-546	-4548	1250	0	0	0
	8(SUS)	0	-4551	-0	0	0	0
	9(SUS)	0	-4545	-0	0	0	0
	10(OPE)	5227	-4584	-13423	0	0	0
	11(OPE)	5578	-4587	-14842	0	0	0
	12(OPE)	5540	-4042	-15199	0	0	0
	13(OPE)	2874	-4571	-5363	0	0	0
	14(OPE)	7987	-4602	-23583	0	0	0
	15(OCC)	-454	3	1708	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	16(OCC)	-104	1	289	0	0	0
	17(OCC)	-142	546	-68	0	0	0
	18(OCC)	-2807	17	9768	0	0	0
	19(OCC)	2306	-14	-8452	0	0	0
	MAX	7987/L14	-8668/L1	-23583/L14			
290		TYPE=Rigid +Y; Rigid X w/gap;					
	1(HYD)	-0	-10113	-1	0	0	0
	2(OPE)	20	-5305	-1591	0	0	0
	4(OPE)	19	-5305	-1591	0	0	0
	6(OPE)	-546	-5308	1496	0	0	0
	8(SUS)	-0	-5310	-0	0	0	0
	9(SUS)	-0	-5303	-0	0	0	0
	10(OPE)	5634	-5305	-1578	0	0	0
	11(OPE)	-4879	-5305	-1578	0	0	0
	12(OPE)	-74	-4668	-1398	0	0	0
	13(OPE)	3294	-5308	-1579	0	0	0
	14(OPE)	-1757	-5303	-1577	0	0	0
	15(OCC)	5615	0	13	0	0	0
	16(OCC)	-4898	-0	13	0	0	0
	17(OCC)	-93	638	193	0	0	0
	18(OCC)	3275	-2	13	0	0	0
	19(OCC)	-1776	3	14	0	0	0
	MAX	5634/L10	-10113/L1	-1591/L2			
295		TYPE=Rigid +Y;					
	1(HYD)	-1	-4999	-2	0	0	0
	2(OPE)	-269	-2646	-747	0	0	0
	4(OPE)	-271	-2646	-746	0	0	0
	6(OPE)	-166	-2620	768	0	0	0
	8(SUS)	-1	-2625	-1	0	0	0
	9(SUS)	-1	-2621	-1	0	0	0
	10(OPE)	-76	-2646	-790	0	0	0
	11(OPE)	-456	-2647	-650	0	0	0
	12(OPE)	-269	-2332	-646	0	0	0
	13(OPE)	-291	-2649	-740	0	0	0
	14(OPE)	-320	-2644	-726	0	0	0
	15(OCC)	195	1	-44	0	0	0
	16(OCC)	-185	-1	96	0	0	0
	17(OCC)	3	315	100	0	0	0
	18(OCC)	-20	-3	7	0	0	0
	19(OCC)	-49	2	20	0	0	0
	MAX	-456/L11	-4999/L1	-790/L10			
310		TYPE=Rigid					

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
		+Y;					
	1(HYD)	2	-11195	9	0	0	0
	2(OPE)	-1701	-5862	-445	0	0	0
	4(OPE)	-1702	-5862	-442	0	0	0
	6(OPE)	570	-5878	1669	0	0	0
	8(SUS)	1	-5878	4	0	0	0
	9(SUS)	1	-5870	4	0	0	0
	10(OPE)	-1654	-5864	-600	0	0	0
	11(OPE)	-1739	-5860	-255	0	0	0
	12(OPE)	-1501	-5156	-374	0	0	0
	13(OPE)	-1759	-5863	-7	0	0	0
	14(OPE)	-1632	-5860	-654	0	0	0
	15(OCC)	48	-2	-158	0	0	0
	16(OCC)	-37	2	187	0	0	0
	17(OCC)	201	706	68	0	0	0
	18(OCC)	-57	-1	435	0	0	0
	19(OCC)	70	2	-212	0	0	0
	MAX	-1759/L13	-11195/L1	1669/L6			
340		TYPE=Rigid +Y;					
	1(HYD)	0	-8437	-9	0	0	0
	2(OPE)	-1269	-4440	406	0	0	0
	4(OPE)	-1269	-4440	405	0	0	0
	6(OPE)	1287	-4428	-328	0	0	0
	8(SUS)	0	-4430	-5	0	0	0
	9(SUS)	0	-4424	-5	0	0	0
	10(OPE)	-1192	-4439	594	0	0	0
	11(OPE)	-1289	-4441	337	0	0	0
	12(OPE)	-1124	-3909	333	0	0	0
	13(OPE)	-1146	-4442	680	0	0	0
	14(OPE)	-1327	-4438	114	0	0	0
	15(OCC)	77	1	189	0	0	0
	16(OCC)	-20	-1	-69	0	0	0
	17(OCC)	144	531	-72	0	0	0
	18(OCC)	123	-2	275	0	0	0
	19(OCC)	-58	2	-292	0	0	0
	MAX	-1327/L14	-8437/L1	680/L13			
370		TYPE=Rigid +Y;					
	1(HYD)	-1	-12031	10	0	0	0
	2(OPE)	-993	-6311	1612	0	0	0
	4(OPE)	-994	-6310	1611	0	0	0
	6(OPE)	162	-6321	-1889	0	0	0
	8(SUS)	-0	-6317	5	0	0	0
	9(SUS)	-0	-6309	5	0	0	0
	10(OPE)	-757	-6310	1735	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	11(OPE)	-1258	-6311	1415	0	0	0
	12(OPE)	-897	-5552	1404	0	0	0
	13(OPE)	-1013	-6314	1600	0	0	0
	14(OPE)	-1084	-6307	1551	0	0	0
	15(OCC)	237	0	124	0	0	0
	16(OCC)	-264	-1	-196	0	0	0
	17(OCC)	97	758	-208	0	0	0
	18(OCC)	-19	-3	-11	0	0	0
	19(OCC)	-90	3	-60	0	0	0
	MAX	-1258/L11	-12031/L1	-1889/L6			
390		TYPE=Rigid +Y; Rigid X w/gap;					
	1(HYD)	0	-13227	-2	0	0	0
	2(OPE)	749	-6928	2077	0	0	0
	4(OPE)	728	-6928	2077	0	0	0
	6(OPE)	-859	-6952	-2033	0	0	0
	8(SUS)	0	-6945	-1	0	0	0
	9(SUS)	0	-6936	-1	0	0	0
	10(OPE)	5777	-6928	2077	0	0	0
	11(OPE)	-4573	-6928	2077	0	0	0
	12(OPE)	377	-6095	1827	0	0	0
	13(OPE)	-202	-6931	2078	0	0	0
	14(OPE)	2190	-6924	2076	0	0	0
	15(OCC)	5049	-0	0	0	0	0
	16(OCC)	-5301	-0	0	0	0	0
	17(OCC)	-351	833	-250	0	0	0
	18(OCC)	-930	-3	1	0	0	0
	19(OCC)	1462	4	-1	0	0	0
	MAX	5777/L10	-13227/L1	2078/L13			
400		TYPE=Rigid +Y;					
	1(HYD)	-0	-6402	-2	0	0	0
	2(OPE)	124	-3368	1003	0	0	0
	4(OPE)	124	-3368	1003	0	0	0
	6(OPE)	-183	-3361	-992	0	0	0
	8(SUS)	-0	-3361	-1	0	0	0
	9(SUS)	-0	-3357	-1	0	0	0
	10(OPE)	90	-3369	1007	0	0	0
	11(OPE)	64	-3369	1009	0	0	0
	12(OPE)	113	-2966	882	0	0	0
	13(OPE)	74	-3371	1009	0	0	0
	14(OPE)	118	-3367	1003	0	0	0
	15(OCC)	-34	-1	4	0	0	0
	16(OCC)	-59	-0	6	0	0	0
	17(OCC)	-11	403	-120	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	18(OCC)	-50	-3	6	0	0	0
	19(OCC)	-5	1	0	0	0	0
	MAX	-183/L6	-6402/L1	1009/L13			
410		TYPE=Rigid +Y; Rigid X w/gap;					
	1(HYD)	0	-9594	-1	0	0	0
	2(OPE)	1357	-5031	1874	0	0	0
	4(OPE)	1380	-5031	1881	0	0	0
	6(OPE)	-135	-5041	-1506	0	0	0
	8(SUS)	0	-5038	-0	0	0	0
	9(SUS)	0	-5031	-0	0	0	0
	10(OPE)	3372	-5031	2481	0	0	0
	11(OPE)	-18	-5032	1510	0	0	0
	12(OPE)	1510	-4427	1744	0	0	0
	13(OPE)	1123	-5034	1812	0	0	0
	14(OPE)	1227	-5029	1835	0	0	0
	15(OCC)	1993	1	599	0	0	0
	16(OCC)	-1398	-1	-372	0	0	0
	17(OCC)	130	604	-137	0	0	0
	18(OCC)	-256	-3	-70	0	0	0
	19(OCC)	-153	3	-47	0	0	0
	MAX	3372/L10	-9594/L1	2481/L10			
420		TYPE=Rigid +Y;					
	1(HYD)	-0	-8753	-0	0	0	0
	2(OPE)	14	-4594	1378	0	0	0
	4(OPE)	13	-4594	1378	0	0	0
	6(OPE)	-22	-4598	-1379	0	0	0
	8(SUS)	-0	-4596	-0	0	0	0
	9(SUS)	-0	-4589	-0	0	0	0
	10(OPE)	234	-4594	1358	0	0	0
	11(OPE)	-248	-4594	1356	0	0	0
	12(OPE)	4	-4042	1213	0	0	0
	13(OPE)	40	-4596	1378	0	0	0
	14(OPE)	26	-4591	1377	0	0	0
	15(OCC)	221	-0	-20	0	0	0
	16(OCC)	-260	-0	-22	0	0	0
	17(OCC)	-8	551	-165	0	0	0
	18(OCC)	27	-2	0	0	0	0
	19(OCC)	13	2	-1	0	0	0
	MAX	-260/L16	-8753/L1	-1379/L6			
430		TYPE=Rigid +Y; Rigid Z w/gap;					

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
		Rigid X w/gap;					
	1(HYD)	-0	-8981	-0	0	0	0
	2(OPE)	-290	-4719	-2039	0	0	0
	4(OPE)	-292	-4719	-2054	0	0	0
	6(OPE)	153	-4714	522	0	0	0
	8(SUS)	-0	-4715	-0	0	0	0
	9(SUS)	-0	-4709	-0	0	0	0
	10(OPE)	1247	-4717	-669	0	0	0
	11(OPE)	-2720	-4717	-962	0	0	0
	12(OPE)	-250	-4153	-1998	0	0	0
	13(OPE)	-302	-4690	13741	0	0	0
	14(OPE)	-158	-4747	-17188	0	0	0
	15(OCC)	1539	3	1385	0	0	0
	16(OCC)	-2428	2	1092	0	0	0
	17(OCC)	42	566	56	0	0	0
	18(OCC)	-10	29	15795	0	0	0
	19(OCC)	134	-28	-15134	0	0	0
	MAX	-2720/L11	-8981/L1	-17188/L14			
440		TYPE=Rigid +Y;					
	1(HYD)	0	-8895	-0	0	0	0
	2(OPE)	-1	-4673	-1402	0	0	0
	4(OPE)	-1	-4673	-1402	0	0	0
	6(OPE)	-49	-4668	1400	0	0	0
	8(SUS)	0	-4671	-0	0	0	0
	9(SUS)	0	-4664	-0	0	0	0
	10(OPE)	151	-4673	-1394	0	0	0
	11(OPE)	-150	-4673	-1394	0	0	0
	12(OPE)	9	-4112	-1234	0	0	0
	13(OPE)	-47	-4675	-1402	0	0	0
	14(OPE)	30	-4671	-1401	0	0	0
	15(OCC)	151	-0	8	0	0	0
	16(OCC)	-149	-0	8	0	0	0
	17(OCC)	10	561	168	0	0	0
	18(OCC)	-47	-2	0	0	0	0
	19(OCC)	30	2	1	0	0	0
	MAX	151/L15	-8895/L1	-1402/L2			
450		TYPE=Rigid +Y; Rigid X w/gap;					
	1(HYD)	-0	-9014	-0	0	0	0
	2(OPE)	1977	-4739	-1981	0	0	0
	4(OPE)	1988	-4739	-1984	0	0	0
	6(OPE)	-185	-4729	1407	0	0	0
	8(SUS)	-0	-4733	-0	0	0	0

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 Various Load Cases

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	9(SUS)	-0	-4726	-0	0	0	0
	10(OPE)	4644	-4741	-2781	0	0	0
	11(OPE)	59	-4738	-1420	0	0	0
	12(OPE)	1872	-4170	-1783	0	0	0
	13(OPE)	2497	-4741	-2132	0	0	0
	14(OPE)	1510	-4736	-1840	0	0	0
	15(OCC)	2656	-2	-796	0	0	0
	16(OCC)	-1929	1	564	0	0	0
	17(OCC)	-116	568	201	0	0	0
	18(OCC)	509	-3	-147	0	0	0
	19(OCC)	-478	3	144	0	0	0
	MAX	4644/L10	-9014/L1	-2781/L10			
460		TYPE=Rigid +Y;					
	1(HYD)	0	-8618	-1	0	0	0
	2(OPE)	153	-4520	-1347	0	0	0
	4(OPE)	151	-4520	-1348	0	0	0
	6(OPE)	-315	-4524	1320	0	0	0
	8(SUS)	0	-4525	-0	0	0	0
	9(SUS)	0	-4519	-0	0	0	0
	10(OPE)	173	-4520	-1345	0	0	0
	11(OPE)	133	-4521	-1350	0	0	0
	12(OPE)	116	-3977	-1187	0	0	0
	13(OPE)	220	-4523	-1339	0	0	0
	14(OPE)	116	-4518	-1350	0	0	0
	15(OCC)	21	0	3	0	0	0
	16(OCC)	-18	-1	-2	0	0	0
	17(OCC)	-35	543	160	0	0	0
	18(OCC)	69	-3	9	0	0	0
	19(OCC)	-35	2	-3	0	0	0
	MAX	-315/L6	-8618/L1	-1350/L14			
470		TYPE=Rigid +Y; Rigid X w/gap;					
	1(HYD)	-1	-9571	-1	0	0	0
	2(OPE)	-13	-5044	-1513	0	0	0
	4(OPE)	-16	-5044	-1513	0	0	0
	6(OPE)	-782	-5020	1468	0	0	0
	8(SUS)	-1	-5025	-0	0	0	0
	9(SUS)	-1	-5019	-0	0	0	0
	10(OPE)	4868	-5045	-1512	0	0	0
	11(OPE)	-5433	-5042	-1512	0	0	0
	12(OPE)	-90	-4440	-1331	0	0	0
	13(OPE)	790	-5046	-1513	0	0	0
	14(OPE)	-1205	-5041	-1511	0	0	0
	15(OCC)	4884	-1	1	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	16(OCC)	-5416	2	1	0	0	0
	17(OCC)	-74	604	182	0	0	0
	18(OCC)	806	-2	0	0	0	0
	19(OCC)	-1189	3	2	0	0	0
	MAX	-5433/L11	-9571/L1	-1513/L4			
490		TYPE=Rigid +Y;					
	1(HYD)	1	-10454	4	0	0	0
	2(OPE)	-943	-5485	-1348	0	0	0
	4(OPE)	-948	-5484	-1345	0	0	0
	6(OPE)	157	-5487	1639	0	0	0
	8(SUS)	1	-5489	2	0	0	0
	9(SUS)	1	-5482	2	0	0	0
	10(OPE)	-781	-5483	-1448	0	0	0
	11(OPE)	-1104	-5487	-1221	0	0	0
	12(OPE)	-882	-4825	-1148	0	0	0
	13(OPE)	-1156	-5487	-1172	0	0	0
	14(OPE)	-826	-5483	-1422	0	0	0
	15(OCC)	167	1	-103	0	0	0
	16(OCC)	-156	-2	124	0	0	0
	17(OCC)	66	659	197	0	0	0
	18(OCC)	-208	-2	173	0	0	0
	19(OCC)	122	2	-78	0	0	0
	MAX	-1156/L13	-10454/L1	1639/L6			
510		TYPE=Rigid +Y;					
	1(HYD)	0	-14314	-4	0	0	0
	2(OPE)	-2254	-7515	65	0	0	0
	4(OPE)	-2254	-7515	64	0	0	0
	6(OPE)	2252	-7515	115	0	0	0
	8(SUS)	0	-7515	-2	0	0	0
	9(SUS)	0	-7505	-2	0	0	0
	10(OPE)	-2254	-7517	-69	0	0	0
	11(OPE)	-2229	-7511	330	0	0	0
	12(OPE)	-1983	-6613	45	0	0	0
	13(OPE)	-2045	-7517	950	0	0	0
	14(OPE)	-2128	-7512	-741	0	0	0
	15(OCC)	-1	-2	-133	0	0	0
	16(OCC)	24	3	266	0	0	0
	17(OCC)	270	902	-20	0	0	0
	18(OCC)	208	-2	885	0	0	0
	19(OCC)	125	3	-805	0	0	0
	MAX	-2254/L10	-14314/L1	950/L13			
530		TYPE=Rigid +Y;					

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 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	1(HYD)	-1	-10639	5	0	0	0
	2(OPE)	-1055	-5592	1304	0	0	0
	4(OPE)	-1059	-5592	1301	0	0	0
	6(OPE)	-21	-5588	-1676	0	0	0
	8(SUS)	-1	-5586	2	0	0	0
	9(SUS)	-1	-5579	2	0	0	0
	10(OPE)	-598	-5589	1566	0	0	0
	11(OPE)	-1323	-5596	1034	0	0	0
	12(OPE)	-972	-4922	1111	0	0	0
	13(OPE)	-942	-5595	1389	0	0	0
	14(OPE)	-1185	-5590	1187	0	0	0
	15(OCC)	461	3	265	0	0	0
	16(OCC)	-264	-4	-268	0	0	0
	17(OCC)	87	670	-190	0	0	0
	18(OCC)	117	-3	88	0	0	0
	19(OCC)	-126	2	-114	0	0	0
	MAX	-1323/L11	-10639/L1	-1676/L6			
550		TYPE=Rigid +Y;					
	1(HYD)	1	-9346	-1	0	0	0
	2(OPE)	-98	-4888	1463	0	0	0
	4(OPE)	-100	-4888	1463	0	0	0
	6(OPE)	-400	-4913	-1419	0	0	0
	8(SUS)	0	-4907	-1	0	0	0
	9(SUS)	0	-4901	-1	0	0	0
	10(OPE)	115	-4890	1462	0	0	0
	11(OPE)	-390	-4886	1413	0	0	0
	12(OPE)	-114	-4300	1285	0	0	0
	13(OPE)	-153	-4891	1459	0	0	0
	14(OPE)	-45	-4885	1465	0	0	0
	15(OCC)	216	-2	-1	0	0	0
	16(OCC)	-289	2	-50	0	0	0
	17(OCC)	-13	589	-178	0	0	0
	18(OCC)	-53	-3	-4	0	0	0
	19(OCC)	55	3	2	0	0	0
	MAX	-400/L6	-9346/L1	1465/L14			
560		TYPE=Rigid +Y; Rigid X w/gap;					
	1(HYD)	0	-8696	0	0	0	0
	2(OPE)	2031	-4572	609	0	0	0
	4(OPE)	2030	-4572	609	0	0	0
	6(OPE)	-338	-4565	-101	0	0	0
	8(SUS)	0	-4566	0	0	0	0
	9(SUS)	0	-4560	0	0	0	0
	10(OPE)	7304	-4569	2191	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	11(OPE)	-2799	-4573	840	0	0	0
	12(OPE)	1717	-4025	515	0	0	0
	13(OPE)	570	-4575	171	0	0	0
	14(OPE)	3406	-4569	1022	0	0	0
	15(OCC)	5273	4	1582	0	0	0
	16(OCC)	-4830	-0	231	0	0	0
	17(OCC)	-313	548	-94	0	0	0
	18(OCC)	-1460	-3	-438	0	0	0
	19(OCC)	1376	3	413	0	0	0
	MAX	7304/L10	-8696/L1	2191/L10			
570		TYPE=Rigid +Y;					
	1(HYD)	-0	-8991	-0	0	0	0
	2(OPE)	112	-4716	1410	0	0	0
	4(OPE)	113	-4716	1410	0	0	0
	6(OPE)	-247	-4724	-1395	0	0	0
	8(SUS)	-0	-4721	-0	0	0	0
	9(SUS)	-0	-4714	-0	0	0	0
	10(OPE)	72	-4716	1413	0	0	0
	11(OPE)	-23	-4716	1415	0	0	0
	12(OPE)	116	-4150	1240	0	0	0
	13(OPE)	166	-4718	1406	0	0	0
	14(OPE)	62	-4713	1413	0	0	0
	15(OCC)	-41	-0	3	0	0	0
	16(OCC)	-136	0	4	0	0	0
	17(OCC)	3	566	-171	0	0	0
	18(OCC)	53	-3	-4	0	0	0
	19(OCC)	-51	3	2	0	0	0
	MAX	-247/L6	-8991/L1	1415/L11			
580		TYPE=Rigid +Y; Rigid X w/gap;					
	1(HYD)	0	-8911	-0	0	0	0
	2(OPE)	91	-4676	1400	0	0	0
	4(OPE)	92	-4676	1400	0	0	0
	6(OPE)	-74	-4681	-1402	0	0	0
	8(SUS)	0	-4679	-0	0	0	0
	9(SUS)	0	-4672	-0	0	0	0
	10(OPE)	1217	-4677	1387	0	0	0
	11(OPE)	-434	-4677	1387	0	0	0
	12(OPE)	99	-4115	1231	0	0	0
	13(OPE)	170	-4679	1393	0	0	0
	14(OPE)	18	-4674	1402	0	0	0
	15(OCC)	1124	-0	-13	0	0	0
	16(OCC)	-526	-0	-13	0	0	0
	17(OCC)	7	561	-169	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	18(OCC)	78	-2	-7	0	0	0
	19(OCC)	-74	2	2	0	0	0
	MAX	1217/L10	-8911/L1	-1402/L6			
590		TYPE=Rigid +Y; Rigid Z;					
	1(HYD)	-0	-8941	-1	0	0	0
	2(OPE)	368	-4691	1535	0	0	0
	4(OPE)	379	-4691	1541	0	0	0
	6(OPE)	208	-4697	-1124	0	0	0
	8(SUS)	-0	-4694	-0	0	0	0
	9(SUS)	-0	-4688	-0	0	0	0
	10(OPE)	1407	-4689	2844	0	0	0
	11(OPE)	-1408	-4692	1278	0	0	0
	12(OPE)	523	-4128	1380	0	0	0
	13(OPE)	360	-4662	17639	0	0	0
	14(OPE)	366	-4720	-14245	0	0	0
	15(OCC)	1027	3	1303	0	0	0
	16(OCC)	-1787	-1	-263	0	0	0
	17(OCC)	143	563	-161	0	0	0
	18(OCC)	-20	30	16098	0	0	0
	19(OCC)	-13	-29	-15786	0	0	0
	MAX	-1787/L16	-8941/L1	17639/L13			
600		TYPE=Rigid +Y; Rigid X w/gap;					
	1(HYD)	0	-8900	-0	0	0	0
	2(OPE)	45	-4675	-1402	0	0	0
	4(OPE)	46	-4675	-1402	0	0	0
	6(OPE)	-55	-4670	1400	0	0	0
	8(SUS)	0	-4673	-0	0	0	0
	9(SUS)	0	-4666	-0	0	0	0
	10(OPE)	505	-4675	-1475	0	0	0
	11(OPE)	-300	-4675	-1414	0	0	0
	12(OPE)	48	-4114	-1233	0	0	0
	13(OPE)	-38	-4677	-1403	0	0	0
	14(OPE)	116	-4673	-1397	0	0	0
	15(OCC)	460	-0	-74	0	0	0
	16(OCC)	-345	-0	-12	0	0	0
	17(OCC)	3	561	169	0	0	0
	18(OCC)	-83	-2	-1	0	0	0
	19(OCC)	70	2	5	0	0	0
	MAX	505/L10	-8900/L1	-1475/L10			
610		TYPE=Rigid +Y;					
	1(HYD)	-0	-9037	-0	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	2(OPE)	81	-4750	-1423	0	0	0
	4(OPE)	81	-4750	-1423	0	0	0
	6(OPE)	-227	-4742	1404	0	0	0
	8(SUS)	-0	-4745	-0	0	0	0
	9(SUS)	-0	-4739	-0	0	0	0
	10(OPE)	37	-4750	-1425	0	0	0
	11(OPE)	-17	-4750	-1425	0	0	0
	12(OPE)	82	-4180	-1251	0	0	0
	13(OPE)	23	-4752	-1426	0	0	0
	14(OPE)	129	-4748	-1418	0	0	0
	15(OCC)	-45	-0	-2	0	0	0
	16(OCC)	-98	0	-2	0	0	0
	17(OCC)	1	570	171	0	0	0
	18(OCC)	-58	-2	-3	0	0	0
	19(OCC)	48	3	4	0	0	0
	MAX	-227/L6	-9037/L1	-1426/L13			
620		TYPE=Rigid +Y; Rigid X w/gap;					
	1(HYD)	0	-8519	-1	0	0	0
	2(OPE)	2291	-4469	-2006	0	0	0
	4(OPE)	2298	-4469	-2008	0	0	0
	6(OPE)	-386	-4471	1285	0	0	0
	8(SUS)	0	-4473	-0	0	0	0
	9(SUS)	0	-4467	-0	0	0	0
	10(OPE)	8407	-4473	-3842	0	0	0
	11(OPE)	-3133	-4470	-2259	0	0	0
	12(OPE)	2049	-3932	-1775	0	0	0
	13(OPE)	3712	-4472	-2433	0	0	0
	14(OPE)	1024	-4466	-1625	0	0	0
	15(OCC)	6109	-4	-1834	0	0	0
	16(OCC)	-5430	-1	-251	0	0	0
	17(OCC)	-249	537	233	0	0	0
	18(OCC)	1414	-3	-425	0	0	0
	19(OCC)	-1274	3	383	0	0	0
	MAX	8407/L10	-8519/L1	-3842/L10			
630		TYPE=Rigid +Y;					
	1(HYD)	-1	-9702	-1	0	0	0
	2(OPE)	-52	-5113	-1533	0	0	0
	4(OPE)	-53	-5114	-1533	0	0	0
	6(OPE)	-455	-5089	1457	0	0	0
	8(SUS)	-1	-5094	-1	0	0	0
	9(SUS)	-0	-5087	-1	0	0	0
	10(OPE)	229	-5113	-1517	0	0	0
	11(OPE)	-424	-5114	-1475	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	12(OPE)	-66	-4502	-1349	0	0	0
	13(OPE)	15	-5116	-1535	0	0	0
	14(OPE)	-105	-5111	-1530	0	0	0
	15(OCC)	282	1	16	0	0	0
	16(OCC)	-370	-0	59	0	0	0
	17(OCC)	-12	612	184	0	0	0
	18(OCC)	68	-3	-2	0	0	0
	19(OCC)	-51	3	3	0	0	0
	MAX	-455/L6	-9702/L1	-1535/L13			
650		TYPE=Rigid +Y;					
	1(HYD)	1	-10455	5	0	0	0
	2(OPE)	-918	-5483	-1365	0	0	0
	4(OPE)	-920	-5483	-1363	0	0	0
	6(OPE)	-187	-5488	1636	0	0	0
	8(SUS)	1	-5489	2	0	0	0
	9(SUS)	1	-5482	2	0	0	0
	10(OPE)	-247	-5485	-1627	0	0	0
	11(OPE)	-1302	-5481	-1004	0	0	0
	12(OPE)	-837	-4824	-1181	0	0	0
	13(OPE)	-996	-5486	-1310	0	0	0
	14(OPE)	-838	-5480	-1415	0	0	0
	15(OCC)	673	-2	-263	0	0	0
	16(OCC)	-382	2	360	0	0	0
	17(OCC)	84	659	183	0	0	0
	18(OCC)	-76	-3	53	0	0	0
	19(OCC)	83	3	-51	0	0	0
	MAX	-1302/L11	-10455/L1	1636/L6			
670		TYPE=Rigid +Y;					
	1(HYD)	0	-13645	-5	0	0	0
	2(OPE)	-2117	-7167	-375	0	0	0
	4(OPE)	-2117	-7167	-377	0	0	0
	6(OPE)	2110	-7164	409	0	0	0
	8(SUS)	0	-7165	-2	0	0	0
	9(SUS)	0	-7155	-2	0	0	0
	10(OPE)	-2005	-7167	-778	0	0	0
	11(OPE)	-2122	-7167	-347	0	0	0
	12(OPE)	-1862	-6307	-336	0	0	0
	13(OPE)	-2103	-7169	452	0	0	0
	14(OPE)	-1853	-7165	-1089	0	0	0
	15(OCC)	112	-1	-401	0	0	0
	16(OCC)	-5	-0	29	0	0	0
	17(OCC)	255	860	40	0	0	0
	18(OCC)	14	-2	829	0	0	0
	19(OCC)	264	2	-713	0	0	0

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 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	MAX	-2122/L11	-13645/L1	-1089/L14			
690		TYPE=Rigid +Y;					
	1(HYD)	-1	-10416	4	0	0	0
	2(OPE)	-1137	-5473	1185	0	0	0
	4(OPE)	-1139	-5473	1183	0	0	0
	6(OPE)	353	-5471	-1603	0	0	0
	8(SUS)	-1	-5469	2	0	0	0
	9(SUS)	-1	-5461	2	0	0	0
	10(OPE)	7	-5471	1641	0	0	0
	11(OPE)	-1505	-5475	658	0	0	0
	12(OPE)	-1035	-4817	1009	0	0	0
	13(OPE)	-998	-5475	1304	0	0	0
	14(OPE)	-1347	-5471	937	0	0	0
	15(OCC)	1145	2	459	0	0	0
	16(OCC)	-366	-2	-525	0	0	0
	17(OCC)	104	656	-174	0	0	0
	18(OCC)	140	-2	121	0	0	0
	19(OCC)	-209	2	-246	0	0	0
	MAX	-1505/L11	-10416/L1	1641/L10			
710		TYPE=Rigid +Y;					
	1(HYD)	1	-9733	-1	0	0	0
	2(OPE)	0	-5094	1528	0	0	0
	4(OPE)	-0	-5094	1528	0	0	0
	6(OPE)	-600	-5116	-1413	0	0	0
	8(SUS)	0	-5110	-1	0	0	0
	9(SUS)	0	-5104	-1	0	0	0
	10(OPE)	445	-5094	1462	0	0	0
	11(OPE)	-408	-5094	1473	0	0	0
	12(OPE)	-20	-4481	1344	0	0	0
	13(OPE)	-65	-5097	1528	0	0	0
	14(OPE)	87	-5090	1525	0	0	0
	15(OCC)	445	-0	-66	0	0	0
	16(OCC)	-408	-0	-56	0	0	0
	17(OCC)	-20	613	-184	0	0	0
	18(OCC)	-65	-3	-0	0	0	0
	19(OCC)	87	3	-3	0	0	0
	MAX	-600/L6	-9733/L1	1528/L2			
720		TYPE=Rigid +Y; Rigid X w/gap;					
	1(HYD)	0	-8530	-1	0	0	0
	2(OPE)	-4091	-4479	1340	0	0	0
	4(OPE)	-4160	-4479	1340	0	0	0

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 Various Load Cases

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	6(OPE)	-259	-4481	-1319	0	0	0
	8(SUS)	0	-4479	-0	0	0	0
	9(SUS)	0	-4473	-0	0	0	0
	10(OPE)	214	-4479	1340	0	0	0
	11(OPE)	-10469	-4479	1339	0	0	0
	12(OPE)	-4408	-3942	1179	0	0	0
	13(OPE)	-5667	-4481	1340	0	0	0
	14(OPE)	-2427	-4477	1339	0	0	0
	15(OCC)	4374	0	-0	0	0	0
	16(OCC)	-6310	0	-1	0	0	0
	17(OCC)	-248	538	-161	0	0	0
	18(OCC)	-1507	-2	0	0	0	0
	19(OCC)	1733	2	-1	0	0	0
	MAX	-10469/L11	-8530/L1	1340/L13			
730		TYPE=Rigid +Y;					
	1(HYD)	-1	-8965	-1	0	0	0
	2(OPE)	-905	-4719	1089	0	0	0
	4(OPE)	-905	-4720	1089	0	0	0
	6(OPE)	308	-4703	1377	0	0	0
	8(SUS)	-0	-4707	-0	0	0	0
	9(SUS)	-0	-4701	-0	0	0	0
	10(OPE)	-860	-4719	1125	0	0	0
	11(OPE)	-881	-4720	1109	0	0	0
	12(OPE)	-793	-4155	961	0	0	0
	13(OPE)	-909	-4722	1087	0	0	0
	14(OPE)	-967	-4717	1033	0	0	0
	15(OCC)	45	0	36	0	0	0
	16(OCC)	24	-0	20	0	0	0
	17(OCC)	112	565	-128	0	0	0
	18(OCC)	-4	-3	-2	0	0	0
	19(OCC)	-62	3	-56	0	0	0
	MAX	-967/L14	-8965/L1	1377/L6			
740		TYPE=Rigid +Y; Rigid X w/gap;					
	1(HYD)	1	-8603	-1	0	0	0
	2(OPE)	32935	-4473	-1476	0	0	0
	4(OPE)	33256	-4473	-1425	0	0	0
	6(OPE)	-3611	-4519	1988	0	0	0
	8(SUS)	1	-4517	-1	0	0	0
	9(SUS)	1	-4511	-1	0	0	0
	10(OPE)	34813	-4476	-2800	0	0	0
	11(OPE)	34359	-4466	-10682	0	0	0
	12(OPE)	33457	-3930	-1127	0	0	0
	13(OPE)	34094	-4459	-10209	0	0	0

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Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	14(OPE)	32859	-4485	-10096	0	0	0
	15(OCC)	1557	-3	-1376	0	0	0
	16(OCC)	1103	6	-9257	0	0	0
	17(OCC)	201	543	298	0	0	0
	18(OCC)	838	14	-8785	0	0	0
	19(OCC)	-398	-12	-8672	0	0	0
	MAX	34813/L10	-8603/L1	-10682/L11			
760		TYPE=Rigid +Y;					
	1(HYD)	-0	-9300	3	0	0	0
	2(OPE)	1349	-4861	-554	0	0	0
	4(OPE)	1349	-4861	-554	0	0	0
	6(OPE)	-1061	-4885	1011	0	0	0
	8(SUS)	-0	-4883	1	0	0	0
	9(SUS)	-0	-4877	1	0	0	0
	10(OPE)	1349	-4862	-555	0	0	0
	11(OPE)	1330	-4858	-595	0	0	0
	12(OPE)	1186	-4275	-487	0	0	0
	13(OPE)	1342	-4862	-571	0	0	0
	14(OPE)	1333	-4860	-590	0	0	0
	15(OCC)	-0	-1	-1	0	0	0
	16(OCC)	-19	3	-41	0	0	0
	17(OCC)	-163	586	67	0	0	0
	18(OCC)	-7	-1	-17	0	0	0
	19(OCC)	-16	1	-36	0	0	0
	MAX	1349/L4	-9300/L1	1011/L6			
770		TYPE=Rigid +Y; Rigid Z w/gap;					
	1(HYD)	-0	-8514	-1	0	0	0
	2(OPE)	4118	-4483	-9500	0	0	0
	4(OPE)	4158	-4483	-9628	0	0	0
	6(OPE)	-1091	-4471	780	0	0	0
	8(SUS)	-0	-4470	-1	0	0	0
	9(SUS)	-0	-4464	-1	0	0	0
	10(OPE)	4094	-4486	-9414	0	0	0
	11(OPE)	4461	-4482	-10640	0	0	0
	12(OPE)	4047	-3947	-9765	0	0	0
	13(OPE)	3640	-4484	-7902	0	0	0
	14(OPE)	4730	-4481	-11540	0	0	0
	15(OCC)	-63	-3	214	0	0	0
	16(OCC)	303	2	-1012	0	0	0
	17(OCC)	-111	536	-137	0	0	0
	18(OCC)	-518	-1	1726	0	0	0
	19(OCC)	573	2	-1912	0	0	0
	MAX	4730/L14	-8514/L1	-11540/L14			

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RESTRAINT SUMMARY REPORT: Loads On Restraints
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Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
780		TYPE=Rigid +Y; Rigid X; Rigid Z w/gap;					
	1(HYD)	-2	-9208	0	0	0	0
	2(OPE)	-22614	-4878	368	0	0	0
	4(OPE)	-22881	-4879	421	0	0	0
	6(OPE)	212	-4834	347	0	0	0
	8(SUS)	-1	-4835	0	0	0	0
	9(SUS)	-1	-4828	0	0	0	0
	10(OPE)	-15007	-4866	101	0	0	0
	11(OPE)	-32544	-4895	1469	0	0	0
	12(OPE)	-23054	-4299	539	0	0	0
	13(OPE)	-23719	-4880	1464	0	0	0
	14(OPE)	-22952	-4879	-763	0	0	0
	15(OCC)	7874	13	-319	0	0	0
	16(OCC)	-9663	-17	1048	0	0	0
	17(OCC)	-173	580	118	0	0	0
	18(OCC)	-837	-2	1043	0	0	0
	19(OCC)	-70	-0	-1184	0	0	0
	MAX	-32544/L11	-9208/L1	1469/L11			
790		TYPE=Rigid +Y;					
	1(HYD)	-1	-8208	-0	0	0	0
	2(OPE)	-1262	-4299	-264	0	0	0
	4(OPE)	-1263	-4299	-261	0	0	0
	6(OPE)	1275	-4310	216	0	0	0
	8(SUS)	-1	-4310	-0	0	0	0
	9(SUS)	-1	-4304	-0	0	0	0
	10(OPE)	-1250	-4301	-321	0	0	0
	11(OPE)	-1280	-4297	-152	0	0	0
	12(OPE)	-1116	-3781	-202	0	0	0
	13(OPE)	-1280	-4299	-157	0	0	0
	14(OPE)	-1254	-4299	-302	0	0	0
	15(OCC)	13	-2	-60	0	0	0
	16(OCC)	-17	2	109	0	0	0
	17(OCC)	147	518	59	0	0	0
	18(OCC)	-17	-0	104	0	0	0
	19(OCC)	9	0	-41	0	0	0
	MAX	-1280/L11	-8208/L1	-321/L10			
800		TYPE=Rigid +Y; Rigid Z w/gap;					
	1(HYD)	-2	-10108	0	0	0	0
	2(OPE)	-1600	-5335	-31	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	4(OPE)	-1600	-5335	-28	0	0	0
	6(OPE)	1515	-5300	482	0	0	0
	8(SUS)	-1	-5307	0	0	0	0
	9(SUS)	-1	-5300	0	0	0	0
	10(OPE)	-1597	-5339	-1229	0	0	0
	11(OPE)	-1595	-5331	781	0	0	0
	12(OPE)	-1409	-4698	28	0	0	0
	13(OPE)	-1596	-5335	4976	0	0	0
	14(OPE)	-1596	-5335	-4641	0	0	0
	15(OCC)	3	-4	-1201	0	0	0
	16(OCC)	5	4	809	0	0	0
	17(OCC)	191	637	56	0	0	0
	18(OCC)	4	-0	5004	0	0	0
	19(OCC)	4	-0	-4612	0	0	0
	MAX	-1600/L4	-10108/L1	5004/L18			
820		TYPE=Rigid +Y;					
	1(HYD)	12	-13253	-1	0	0	0
	2(OPE)	-677	-6945	1971	0	0	0
	4(OPE)	-707	-6945	1960	0	0	0
	6(OPE)	2011	-6958	-559	0	0	0
	8(SUS)	6	-6959	-0	0	0	0
	9(SUS)	6	-6949	-0	0	0	0
	10(OPE)	-225	-6947	2072	0	0	0
	11(OPE)	-1032	-6942	1809	0	0	0
	12(OPE)	-596	-6109	1733	0	0	0
	13(OPE)	-483	-6944	2027	0	0	0
	14(OPE)	-876	-6945	1890	0	0	0
	15(OCC)	483	-2	112	0	0	0
	16(OCC)	-325	2	-151	0	0	0
	17(OCC)	112	835	-226	0	0	0
	18(OCC)	224	1	67	0	0	0
	19(OCC)	-169	-0	-70	0	0	0
	MAX	2011/L6	-13253/L1	2072/L10			
850		TYPE=Rigid +Y;					
	1(HYD)	-13	-9620	0	0	0	0
	2(OPE)	543	-5056	1417	0	0	0
	4(OPE)	522	-5056	1424	0	0	0
	6(OPE)	-397	-5051	-1462	0	0	0
	8(SUS)	-7	-5051	0	0	0	0
	9(SUS)	-7	-5044	0	0	0	0
	10(OPE)	824	-5058	1275	0	0	0
	11(OPE)	110	-5054	1512	0	0	0
	12(OPE)	436	-4451	1262	0	0	0
	13(OPE)	489	-5056	1436	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	14(OPE)	606	-5056	1391	0	0	0
	15(OCC)	301	-2	-150	0	0	0
	16(OCC)	-412	2	88	0	0	0
	17(OCC)	-87	606	-162	0	0	0
	18(OCC)	-34	0	12	0	0	0
	19(OCC)	83	-0	-33	0	0	0
	MAX	824/L10	-9620/L1	1512/L11			
880		TYPE=Rigid +Y;					
	1(HYD)	14	-14108	0	0	0	0
	2(OPE)	1887	-7409	1175	0	0	0
	4(OPE)	1889	-7408	1171	0	0	0
	6(OPE)	-2219	-7411	-144	0	0	0
	8(SUS)	7	-7407	0	0	0	0
	9(SUS)	7	-7397	0	0	0	0
	10(OPE)	1956	-7412	1058	0	0	0
	11(OPE)	1787	-7404	1319	0	0	0
	12(OPE)	1649	-6519	1051	0	0	0
	13(OPE)	1673	-7409	1464	0	0	0
	14(OPE)	2041	-7407	879	0	0	0
	15(OCC)	67	-4	-113	0	0	0
	16(OCC)	-102	4	148	0	0	0
	17(OCC)	-240	889	-120	0	0	0
	18(OCC)	-216	-1	293	0	0	0
	19(OCC)	152	1	-292	0	0	0
	MAX	-2219/L6	-14108/L1	1464/L13			
900		TYPE=Rigid +Y; Rigid Z w/gap;					
	1(HYD)	-3	-13960	-0	0	0	0
	2(OPE)	2190	-7305	-1330	0	0	0
	4(OPE)	2190	-7305	-1600	0	0	0
	6(OPE)	-2146	-7337	925	0	0	0
	8(SUS)	-1	-7330	-0	0	0	0
	9(SUS)	-1	-7320	-0	0	0	0
	10(OPE)	2191	-7309	-288	0	0	0
	11(OPE)	2189	-7302	-3076	0	0	0
	12(OPE)	1926	-6426	-1413	0	0	0
	13(OPE)	2190	-7304	3218	0	0	0
	14(OPE)	2190	-7306	-6632	0	0	0
	15(OCC)	1	-4	1313	0	0	0
	16(OCC)	-1	3	-1475	0	0	0
	17(OCC)	-263	879	187	0	0	0
	18(OCC)	-0	1	4819	0	0	0
	19(OCC)	0	-1	-5031	0	0	0
	MAX	2191/L10	-13960/L1	-6632/L14			

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 Various Load Cases

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910		TYPE=Rigid +Y;					
	1(HYD)	-3	-6059	0	0	0	0
	2(OPE)	953	-3194	-100	0	0	0
	4(OPE)	953	-3194	-98	0	0	0
	6(OPE)	-942	-3180	154	0	0	0
	8(SUS)	-1	-3181	0	0	0	0
	9(SUS)	-1	-3177	0	0	0	0
	10(OPE)	953	-3196	-101	0	0	0
	11(OPE)	953	-3192	-96	0	0	0
	12(OPE)	839	-2812	-89	0	0	0
	13(OPE)	958	-3194	-20	0	0	0
	14(OPE)	956	-3193	-67	0	0	0
	15(OCC)	0	-2	-3	0	0	0
	16(OCC)	-0	2	2	0	0	0
	17(OCC)	-114	382	9	0	0	0
	18(OCC)	5	-1	78	0	0	0
	19(OCC)	3	0	31	0	0	0
	MAX	958/L13	-6059/L1	154/L6			
920		TYPE=Rigid +Y; Rigid Z w/gap;					
	1(HYD)	-1	-9687	-0	0	0	0
	2(OPE)	1820	-5079	-1116	0	0	0
	4(OPE)	1796	-5078	-1037	0	0	0
	6(OPE)	-1523	-5090	108	0	0	0
	8(SUS)	-1	-5086	-0	0	0	0
	9(SUS)	-1	-5079	-0	0	0	0
	10(OPE)	1850	-5081	-1207	0	0	0
	11(OPE)	1705	-5076	-748	0	0	0
	12(OPE)	1638	-4468	-1106	0	0	0
	13(OPE)	1521	-5079	95	0	0	0
	14(OPE)	2355	-5078	-2891	0	0	0
	15(OCC)	55	-3	-169	0	0	0
	16(OCC)	-91	2	289	0	0	0
	17(OCC)	-158	610	-69	0	0	0
	18(OCC)	-275	-0	1133	0	0	0
	19(OCC)	559	1	-1853	0	0	0
	MAX	2355/L14	-9687/L1	-2891/L14			
930		TYPE=Rigid +Y;					
	1(HYD)	-1	-8721	0	0	0	0
	2(OPE)	1373	-4578	-39	0	0	0
	4(OPE)	1372	-4577	-48	0	0	0
	6(OPE)	-1374	-4581	13	0	0	0

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 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	8(SUS)	-0	-4579	0	0	0	0
	9(SUS)	-0	-4573	0	0	0	0
	10(OPE)	1374	-4580	-19	0	0	0
	11(OPE)	1371	-4575	-56	0	0	0
	12(OPE)	1208	-4028	-37	0	0	0
	13(OPE)	1345	-4578	279	0	0	0
	14(OPE)	1359	-4577	-194	0	0	0
	15(OCC)	1	-2	29	0	0	0
	16(OCC)	-1	2	-8	0	0	0
	17(OCC)	-165	549	11	0	0	0
	18(OCC)	-28	-0	327	0	0	0
	19(OCC)	-13	0	-146	0	0	0
	MAX	-1374/L6	-8721/L1	327/L18			
940		TYPE=Rigid +Y; Rigid X w/gap; Rigid Z w/gap;					
	1(HYD)	-0	-9019	0	0	0	0
	2(OPE)	1388	-4731	296	0	0	0
	4(OPE)	-515	-4735	294	0	0	0
	6(OPE)	-942	-4738	-130	0	0	0
	8(SUS)	-0	-4735	0	0	0	0
	9(SUS)	-0	-4729	0	0	0	0
	10(OPE)	16221	-4704	214	0	0	0
	11(OPE)	-16344	-4764	6	0	0	0
	12(OPE)	-1197	-4168	360	0	0	0
	13(OPE)	177	-4733	3051	0	0	0
	14(OPE)	1223	-4731	-1773	0	0	0
	15(OCC)	16736	31	-80	0	0	0
	16(OCC)	-15830	-29	-287	0	0	0
	17(OCC)	-682	567	67	0	0	0
	18(OCC)	691	2	2757	0	0	0
	19(OCC)	1738	3	-2067	0	0	0
	MAX	16736/L15	-9019/L1	3051/L13			
950		TYPE=Rigid +Y;					
	1(HYD)	-1	-8772	-0	0	0	0
	2(OPE)	-1384	-4615	-29	0	0	0
	4(OPE)	-1384	-4614	-29	0	0	0
	6(OPE)	1381	-4602	13	0	0	0
	8(SUS)	-0	-4606	-0	0	0	0
	9(SUS)	-0	-4600	-0	0	0	0
	10(OPE)	-1385	-4616	-18	0	0	0
	11(OPE)	-1383	-4612	-50	0	0	0
	12(OPE)	-1218	-4061	-16	0	0	0

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	13(OPE)	-1370	-4615	202	0	0	0
	14(OPE)	-1365	-4614	-231	0	0	0
	15(OCC)	-1	-2	11	0	0	0
	16(OCC)	1	3	-21	0	0	0
	17(OCC)	166	553	13	0	0	0
	18(OCC)	14	-0	231	0	0	0
	19(OCC)	19	0	-202	0	0	0
	MAX	-1385/L10	-8772/L1	-231/L14			
960		TYPE=Rigid +Y; Rigid Z w/gap;					
	1(HYD)	-1	-9476	0	0	0	0
	2(OPE)	-1852	-4959	-1346	0	0	0
	4(OPE)	-1895	-4958	-1484	0	0	0
	6(OPE)	1488	-4975	111	0	0	0
	8(SUS)	-0	-4975	0	0	0	0
	9(SUS)	-0	-4969	0	0	0	0
	10(OPE)	-1846	-4962	-1329	0	0	0
	11(OPE)	-1775	-4957	-1077	0	0	0
	12(OPE)	-1768	-4361	-1643	0	0	0
	13(OPE)	-1487	-4956	10	0	0	0
	14(OPE)	-2439	-4961	-3306	0	0	0
	15(OCC)	49	-3	155	0	0	0
	16(OCC)	119	1	406	0	0	0
	17(OCC)	126	597	-159	0	0	0
	18(OCC)	408	2	1494	0	0	0
	19(OCC)	-544	-3	-1822	0	0	0
	MAX	-2439/L14	-9476/L1	-3306/L14			
970		TYPE=Rigid +Y;					
	1(HYD)	-2	-6864	-0	0	0	0
	2(OPE)	-1097	-3683	-128	0	0	0
	4(OPE)	-1098	-3684	-129	0	0	0
	6(OPE)	1062	-3591	182	0	0	0
	8(SUS)	-1	-3604	-0	0	0	0
	9(SUS)	-1	-3599	-0	0	0	0
	10(OPE)	-1097	-3683	-134	0	0	0
	11(OPE)	-1100	-3677	-79	0	0	0
	12(OPE)	-968	-3252	-118	0	0	0
	13(OPE)	-1105	-3690	-66	0	0	0
	14(OPE)	-1098	-3677	-105	0	0	0
	15(OCC)	1	0	-4	0	0	0
	16(OCC)	-3	7	50	0	0	0
	17(OCC)	129	432	11	0	0	0
	18(OCC)	-7	-6	63	0	0	0
	19(OCC)	-1	7	24	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	MAX	-1105/L13	-6864/L1	182/L6			
980		TYPE=Rigid +Y; Rigid Z w/gap;					
	1(HYD)	-2	-12590	0	0	0	0
	2(OPE)	-2288	-6489	-1218	0	0	0
	4(OPE)	-2208	-6487	-952	0	0	0
	6(OPE)	2075	-6624	900	0	0	0
	8(SUS)	-1	-6610	0	0	0	0
	9(SUS)	-1	-6601	0	0	0	0
	10(OPE)	-2610	-6496	-2285	0	0	0
	11(OPE)	-1946	-6492	70	0	0	0
	12(OPE)	-1801	-5692	-381	0	0	0
	13(OPE)	-3111	-6479	3969	0	0	0
	14(OPE)	-3702	-6501	-5919	0	0	0
	15(OCC)	-401	-8	-1333	0	0	0
	16(OCC)	262	-4	1022	0	0	0
	17(OCC)	407	795	571	0	0	0
	18(OCC)	-903	8	4921	0	0	0
	19(OCC)	-1493	-14	-4968	0	0	0
	MAX	-3702/L14	-12590/L1	-5919/L14			
1000		TYPE=Rigid +Y;					
	1(HYD)	12	-13215	-0	0	0	0
	2(OPE)	-1826	-7182	1144	0	0	0
	4(OPE)	-1825	-7185	1147	0	0	0
	6(OPE)	2065	-6899	-146	0	0	0
	8(SUS)	6	-6939	-0	0	0	0
	9(SUS)	6	-6929	-0	0	0	0
	10(OPE)	-1684	-7181	1344	0	0	0
	11(OPE)	-1807	-7167	1165	0	0	0
	12(OPE)	-1603	-6353	1030	0	0	0
	13(OPE)	-1600	-7201	1451	0	0	0
	14(OPE)	-1920	-7166	967	0	0	0
	15(OCC)	141	3	197	0	0	0
	16(OCC)	18	17	18	0	0	0
	17(OCC)	221	831	-117	0	0	0
	18(OCC)	224	-17	304	0	0	0
	19(OCC)	-96	19	-181	0	0	0
	MAX	2065/L6	-13215/L1	1451/L13			
1030		TYPE=Rigid +Y;					
	1(HYD)	-11	-9907	-0	0	0	0
	2(OPE)	-427	-4985	1433	0	0	0
	4(OPE)	-443	-4983	1428	0	0	0

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 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	6(OPE)	352	-5233	-1530	0	0	0
	8(SUS)	-6	-5202	-0	0	0	0
	9(SUS)	-6	-5195	-0	0	0	0
	10(OPE)	5	-4990	1497	0	0	0
	11(OPE)	-760	-4993	1291	0	0	0
	12(OPE)	-391	-4357	1247	0	0	0
	13(OPE)	-356	-4967	1447	0	0	0
	14(OPE)	-465	-5000	1426	0	0	0
	15(OCC)	448	-7	69	0	0	0
	16(OCC)	-317	-11	-137	0	0	0
	17(OCC)	52	626	-180	0	0	0
	18(OCC)	87	16	19	0	0	0
	19(OCC)	-21	-17	-1	0	0	0
	MAX	-760/L11	-9907/L1	-1530/L6			
1060		TYPE=Rigid +Y;					
	1(HYD)	6	-13862	-29	0	0	0
	2(OPE)	880	-6806	1842	0	0	0
	4(OPE)	851	-6801	1854	0	0	0
	6(OPE)	-2172	-7354	-389	0	0	0
	8(SUS)	3	-7278	-15	0	0	0
	9(SUS)	3	-7268	-15	0	0	0
	10(OPE)	1061	-6824	1751	0	0	0
	11(OPE)	305	-6816	2022	0	0	0
	12(OPE)	685	-5925	1640	0	0	0
	13(OPE)	566	-6770	1951	0	0	0
	14(OPE)	1111	-6836	1724	0	0	0
	15(OCC)	209	-23	-103	0	0	0
	16(OCC)	-546	-15	168	0	0	0
	17(OCC)	-166	876	-214	0	0	0
	18(OCC)	-286	31	96	0	0	0
	19(OCC)	259	-36	-130	0	0	0
	MAX	-2172/L6	-13862/L1	2022/L11			
1080		TYPE=Rigid +Y; Rigid Z w/gap;					
	1(HYD)	0	-11328	130	0	0	0
	2(OPE)	2230	-6978	-636	0	0	0
	4(OPE)	2218	-6989	-582	0	0	0
	6(OPE)	-1639	-5789	573	0	0	0
	8(SUS)	0	-5948	68	0	0	0
	9(SUS)	0	-5940	68	0	0	0
	10(OPE)	2077	-6941	148	0	0	0
	11(OPE)	2593	-6958	-1862	0	0	0
	12(OPE)	1881	-6282	-119	0	0	0
	13(OPE)	3361	-7056	4326	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints
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Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	14(OPE)	3803	-6908	-5946	0	0	0
	15(OCC)	-141	48	730	0	0	0
	16(OCC)	375	31	-1280	0	0	0
	17(OCC)	-337	707	463	0	0	0
	18(OCC)	1143	-67	4908	0	0	0
	19(OCC)	1585	81	-5363	0	0	0
	MAX	3803/L14	-11328/L1	-5946/L14			
1090		TYPE=Rigid +Y;					
	1(HYD)	0	-9006	-142	0	0	0
	2(OPE)	1050	-3666	-327	0	0	0
	4(OPE)	1047	-3655	-327	0	0	0
	6(OPE)	-1425	-4922	388	0	0	0
	8(SUS)	0	-4729	-75	0	0	0
	9(SUS)	0	-4722	-75	0	0	0
	10(OPE)	1109	-3764	-212	0	0	0
	11(OPE)	1032	-3608	-326	0	0	0
	12(OPE)	883	-3088	-281	0	0	0
	13(OPE)	1053	-3593	-232	0	0	0
	14(OPE)	1076	-3724	-299	0	0	0
	15(OCC)	62	-109	115	0	0	0
	16(OCC)	-15	47	0	0	0	0
	17(OCC)	-164	567	46	0	0	0
	18(OCC)	6	62	95	0	0	0
	19(OCC)	30	-69	27	0	0	0
	MAX	-1425/L6	-9006/L1	388/L6			
1100		TYPE=Rigid +Y; Rigid Z w/gap; Rigid X;					
	1(HYD)	-424	-3029	-909	0	0	0
	2(OPE)	-2020	-3804	-4794	0	0	0
	4(OPE)	-1949	-3827	-4904	0	0	0
	6(OPE)	1788	-1131	-125	0	0	0
	8(SUS)	-222	-1591	-477	0	0	0
	9(SUS)	-222	-1588	-477	0	0	0
	10(OPE)	7848	-3457	-4196	0	0	0
	11(OPE)	-12124	-4112	-4603	0	0	0
	12(OPE)	-1564	-3619	-4980	0	0	0
	13(OPE)	-1141	-3931	-4361	0	0	0
	14(OPE)	-5262	-3715	-4742	0	0	0
	15(OCC)	9797	370	708	0	0	0
	16(OCC)	-10175	-285	301	0	0	0
	17(OCC)	386	207	-76	0	0	0
	18(OCC)	808	-105	542	0	0	0
	19(OCC)	-3313	111	162	0	0	0

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	MAX	-12124/L11	-4112/L11	-4980/L12			
1110		TYPE=Rigid +Y; Rigid Z w/gap;					
	1(HYD)	-210	-19369	1999	0	0	0
	2(OPE)	-5092	-6293	11036	0	0	0
	4(OPE)	-5125	-6252	11181	0	0	0
	6(OPE)	3219	-10802	-376	0	0	0
	8(SUS)	-110	-10170	1050	0	0	0
	9(SUS)	-110	-10156	1048	0	0	0
	10(OPE)	-5055	-6416	10794	0	0	0
	11(OPE)	-4892	-6285	10375	0	0	0
	12(OPE)	-4782	-5016	11207	0	0	0
	13(OPE)	-5991	-6101	14213	0	0	0
	14(OPE)	-4094	-6431	7578	0	0	0
	15(OCC)	70	-164	-387	0	0	0
	16(OCC)	233	-33	-807	0	0	0
	17(OCC)	342	1236	25	0	0	0
	18(OCC)	-867	151	3032	0	0	0
	19(OCC)	1030	-179	-3604	0	0	0
	MAX	-5991/L13	-19369/L1	14213/L13			
1140		TYPE=Rigid +Y;					
	1(HYD)	1470	-21112	-904	0	0	0
	2(OPE)	3893	-13529	1148	0	0	0
	4(OPE)	3901	-13555	1149	0	0	0
	6(OPE)	-635	-10773	-533	0	0	0
	8(SUS)	772	-11085	-475	0	0	0
	9(SUS)	771	-11070	-474	0	0	0
	10(OPE)	4033	-13739	849	0	0	0
	11(OPE)	3554	-13245	1777	0	0	0
	12(OPE)	3522	-12257	1056	0	0	0
	13(OPE)	3181	-13614	2562	0	0	0
	14(OPE)	4018	-13478	-448	0	0	0
	15(OCC)	132	-183	-300	0	0	0
	16(OCC)	-347	311	627	0	0	0
	17(OCC)	-379	1298	-93	0	0	0
	18(OCC)	-720	-58	1412	0	0	0
	19(OCC)	118	78	-1597	0	0	0
	MAX	4033/L10	-21112/L1	2562/L13			
1160		TYPE=Rigid +Y; Rigid Z w/gap;					
	1(HYD)	-422	-14420	-169	0	0	0
	2(OPE)	5109	-6713	-10477	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints
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	4(OPE)	5138	-6705	-10579	0	0	0
	6(OPE)	-2121	-7616	849	0	0	0
	8(SUS)	-222	-7571	-88	0	0	0
	9(SUS)	-221	-7561	-88	0	0	0
	10(OPE)	5009	-6408	-10439	0	0	0
	11(OPE)	5333	-7023	-10948	0	0	0
	12(OPE)	4833	-5771	-10477	0	0	0
	13(OPE)	4176	-6732	-7347	0	0	0
	14(OPE)	6194	-6680	-14126	0	0	0
	15(OCC)	-129	297	140	0	0	0
	16(OCC)	195	-318	-369	0	0	0
	17(OCC)	-304	934	103	0	0	0
	18(OCC)	-962	-27	3233	0	0	0
	19(OCC)	1057	25	-3546	0	0	0
	MAX	6194/L14	-14420/L1	-14126/L14			
1170		TYPE=Rigid +Y;					
	1(HYD)	-212	-5990	45	0	0	0
	2(OPE)	1161	-3915	176	0	0	0
	4(OPE)	1164	-3923	177	0	0	0
	6(OPE)	-895	-3127	282	0	0	0
	8(SUS)	-111	-3145	24	0	0	0
	9(SUS)	-111	-3141	24	0	0	0
	10(OPE)	1255	-4227	183	0	0	0
	11(OPE)	1050	-3580	225	0	0	0
	12(OPE)	1061	-3575	157	0	0	0
	13(OPE)	1166	-3912	133	0	0	0
	14(OPE)	1163	-3930	195	0	0	0
	15(OCC)	91	-304	6	0	0	0
	16(OCC)	-114	343	49	0	0	0
	17(OCC)	-103	349	-20	0	0	0
	18(OCC)	2	11	-44	0	0	0
	19(OCC)	-1	-7	19	0	0	0
	MAX	1255/L10	-5990/L1	282/L6			
1180		TYPE=Rigid +Y; Rigid Z w/gap; Rigid X w/gap;					
	1(HYD)	-108	-9816	-11	0	0	0
	2(OPE)	2198	-4955	4146	0	0	0
	4(OPE)	2228	-4953	4200	0	0	0
	6(OPE)	-666	-5160	-401	0	0	0
	8(SUS)	-57	-5154	-6	0	0	0
	9(SUS)	-56	-5147	-6	0	0	0
	10(OPE)	11623	-4860	4490	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	11(OPE)	-6941	-5055	4292	0	0	0
	12(OPE)	2475	-4327	4303	0	0	0
	13(OPE)	3620	-4953	6659	0	0	0
	14(OPE)	1377	-4952	2246	0	0	0
	15(OCC)	9394	93	290	0	0	0
	16(OCC)	-9169	-103	92	0	0	0
	17(OCC)	247	626	103	0	0	0
	18(OCC)	1392	-0	2459	0	0	0
	19(OCC)	-851	0	-1954	0	0	0
	MAX	11623/L10	-9816/L1	6659/L13			
1190		TYPE=Rigid +Y;					
	1(HYD)	-59	-8264	3	0	0	0
	2(OPE)	-1237	-4360	424	0	0	0
	4(OPE)	-1238	-4360	424	0	0	0
	6(OPE)	1152	-4337	-606	0	0	0
	8(SUS)	-31	-4339	2	0	0	0
	9(SUS)	-31	-4333	2	0	0	0
	10(OPE)	-1228	-4373	461	0	0	0
	11(OPE)	-1265	-4347	315	0	0	0
	12(OPE)	-1086	-3840	384	0	0	0
	13(OPE)	-1153	-4359	617	0	0	0
	14(OPE)	-1249	-4361	391	0	0	0
	15(OCC)	9	-12	37	0	0	0
	16(OCC)	-28	13	-109	0	0	0
	17(OCC)	151	520	-40	0	0	0
	18(OCC)	85	1	193	0	0	0
	19(OCC)	-11	-1	-32	0	0	0
	MAX	-1265/L11	-8264/L1	617/L13			
1200		TYPE=Rigid +Y; Rigid Z w/gap;					
	1(HYD)	-39	-9639	-2	0	0	0
	2(OPE)	-1808	-5166	-1005	0	0	0
	4(OPE)	-1819	-5167	-1039	0	0	0
	6(OPE)	1399	-5055	-585	0	0	0
	8(SUS)	-21	-5061	-1	0	0	0
	9(SUS)	-21	-5054	-1	0	0	0
	10(OPE)	-1788	-5204	-899	0	0	0
	11(OPE)	-1939	-5123	-1461	0	0	0
	12(OPE)	-1774	-4563	-1476	0	0	0
	13(OPE)	-2047	-5168	1798	0	0	0
	14(OPE)	-2922	-5167	-4718	0	0	0
	15(OCC)	31	-37	140	0	0	0
	16(OCC)	-120	44	-422	0	0	0
	17(OCC)	45	604	-437	0	0	0

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Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	18(OCC)	-228	-1	2837	0	0	0
	19(OCC)	-1104	0	-3679	0	0	0
	MAX	-2922/L14	-9639/L1	-4718/L14			
1220		TYPE=Rigid +Y;					
	1(HYD)	3	-7267	1	0	0	0
	2(OPE)	150	-3729	-1109	0	0	0
	4(OPE)	150	-3728	-1108	0	0	0
	6(OPE)	-866	-3816	749	0	0	0
	8(SUS)	1	-3816	1	0	0	0
	9(SUS)	1	-3810	1	0	0	0
	10(OPE)	313	-3690	-1062	0	0	0
	11(OPE)	-187	-3773	-1116	0	0	0
	12(OPE)	137	-3266	-970	0	0	0
	13(OPE)	217	-3727	-1097	0	0	0
	14(OPE)	157	-3730	-1108	0	0	0
	15(OCC)	163	38	47	0	0	0
	16(OCC)	-336	-46	-8	0	0	0
	17(OCC)	-13	462	138	0	0	0
	18(OCC)	68	0	11	0	0	0
	19(OCC)	7	-2	0	0	0	0
	MAX	-866/L6	-7267/L1	-1116/L11			
1250		TYPE=Rigid +Y;					
	1(HYD)	15	-7642	-2	0	0	0
	2(OPE)	16	-3991	-1197	0	0	0
	4(OPE)	16	-3991	-1197	0	0	0
	6(OPE)	-23	-4023	1207	0	0	0
	8(SUS)	8	-4013	-1	0	0	0
	9(SUS)	8	-4007	-1	0	0	0
	10(OPE)	171	-4005	-1189	0	0	0
	11(OPE)	-237	-3974	-1168	0	0	0
	12(OPE)	20	-3510	-1053	0	0	0
	13(OPE)	37	-3989	-1196	0	0	0
	14(OPE)	26	-3991	-1197	0	0	0
	15(OCC)	155	-14	8	0	0	0
	16(OCC)	-253	16	29	0	0	0
	17(OCC)	4	480	144	0	0	0
	18(OCC)	21	2	1	0	0	0
	19(OCC)	11	-0	0	0	0	0
	MAX	-253/L16	-7642/L1	1207/L6			
1280		TYPE=Rigid +Y;					
	1(HYD)	-20	-6413	2	0	0	0
	2(OPE)	-82	-3418	-1022	0	0	0

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	4(OPE)	-83	-3419	-1022	0	0	0
	6(OPE)	773	-3355	645	0	0	0
	8(SUS)	-11	-3367	1	0	0	0
	9(SUS)	-11	-3363	1	0	0	0
	10(OPE)	106	-3417	-1019	0	0	0
	11(OPE)	-397	-3423	-947	0	0	0
	12(OPE)	-65	-3014	-902	0	0	0
	13(OPE)	-87	-3419	-1022	0	0	0
	14(OPE)	-70	-3419	-1023	0	0	0
	15(OCC)	188	2	3	0	0	0
	16(OCC)	-314	-4	75	0	0	0
	17(OCC)	17	404	120	0	0	0
	18(OCC)	-4	-0	0	0	0	0
	19(OCC)	12	-0	-1	0	0	0
	MAX	773/L6	-6413/L1	-1023/L14			
1300		TYPE=Rigid +Y; Rigid Z w/gap;					
	1(HYD)	1	-10580	0	0	0	0
	2(OPE)	1653	-5511	6	0	0	0
	4(OPE)	1653	-5511	4	0	0	0
	6(OPE)	-1532	-5564	-663	0	0	0
	8(SUS)	1	-5555	0	0	0	0
	9(SUS)	1	-5548	0	0	0	0
	10(OPE)	1667	-5514	-173	0	0	0
	11(OPE)	1649	-5506	97	0	0	0
	12(OPE)	1453	-4845	-31	0	0	0
	13(OPE)	2698	-5511	3624	0	0	0
	14(OPE)	2475	-5508	-2883	0	0	0
	15(OCC)	14	-3	-177	0	0	0
	16(OCC)	-4	5	93	0	0	0
	17(OCC)	-200	666	-36	0	0	0
	18(OCC)	1045	0	3620	0	0	0
	19(OCC)	822	3	-2887	0	0	0
	MAX	2698/L13	-10580/L1	3624/L13			
1310		TYPE=Rigid +Y;					
	1(HYD)	-0	-7816	-1	0	0	0
	2(OPE)	1115	-4121	534	0	0	0
	4(OPE)	1115	-4121	535	0	0	0
	6(OPE)	-1060	-4103	-625	0	0	0
	8(SUS)	-0	-4104	-0	0	0	0
	9(SUS)	-0	-4098	-0	0	0	0
	10(OPE)	1162	-4123	424	0	0	0
	11(OPE)	1030	-4120	683	0	0	0
	12(OPE)	987	-3629	460	0	0	0

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	13(OPE)	1076	-4121	609	0	0	0
	14(OPE)	1146	-4121	465	0	0	0
	15(OCC)	47	-2	-110	0	0	0
	16(OCC)	-85	1	148	0	0	0
	17(OCC)	-128	492	-75	0	0	0
	18(OCC)	-39	0	74	0	0	0
	19(OCC)	31	0	-70	0	0	0
	MAX	1162/L10	-7816/L1	683/L11			
1320		TYPE=Rigid +Y; Rigid Z w/gap; Rigid X w/gap;					
	1(HYD)	-1	-10735	3	0	0	0
	2(OPE)	1679	-5622	-5513	0	0	0
	4(OPE)	1694	-5622	-5575	0	0	0
	6(OPE)	-368	-5637	448	0	0	0
	8(SUS)	-0	-5636	2	0	0	0
	9(SUS)	-0	-5629	2	0	0	0
	10(OPE)	9901	-5608	-5912	0	0	0
	11(OPE)	-8668	-5639	-5158	0	0	0
	12(OPE)	1595	-4946	-5640	0	0	0
	13(OPE)	493	-5625	-3124	0	0	0
	14(OPE)	-686	-5626	-8358	0	0	0
	15(OCC)	8207	14	-338	0	0	0
	16(OCC)	-10362	-17	417	0	0	0
	17(OCC)	-99	676	-65	0	0	0
	18(OCC)	-1201	-3	2451	0	0	0
	19(OCC)	-2379	-4	-2783	0	0	0
	MAX	-10362/L16	-10735/L1	-8358/L14			
1330		TYPE=Rigid +Y;					
	1(HYD)	-3	-2703	-11	0	0	0
	2(OPE)	-287	-1446	-326	0	0	0
	4(OPE)	-287	-1447	-326	0	0	0
	6(OPE)	409	-1420	121	0	0	0
	8(SUS)	-2	-1419	-6	0	0	0
	9(SUS)	-2	-1418	-6	0	0	0
	10(OPE)	-269	-1448	-341	0	0	0
	11(OPE)	-315	-1445	-298	0	0	0
	12(OPE)	-255	-1277	-286	0	0	0
	13(OPE)	-296	-1444	-316	0	0	0
	14(OPE)	-293	-1449	-321	0	0	0
	15(OCC)	17	-1	-15	0	0	0
	16(OCC)	-28	1	28	0	0	0
	17(OCC)	31	170	40	0	0	0

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Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	18(OCC)	-9	2	10	0	0	0
	19(OCC)	-6	-2	4	0	0	0
	MAX	409/L6	-2703/L1	-341/L10			
1340		TYPE=Rigid +Y; Rigid Z w/gap;					
	1(HYD)	-1	-18692	16	0	0	0
	2(OPE)	-10578	-9778	25740	0	0	0
	4(OPE)	-10651	-9778	25980	0	0	0
	6(OPE)	3226	-9816	-3040	0	0	0
	8(SUS)	-1	-9814	8	0	0	0
	9(SUS)	-1	-9801	8	0	0	0
	10(OPE)	-10870	-9782	26723	0	0	0
	11(OPE)	-10508	-9770	25487	0	0	0
	12(OPE)	-10299	-8600	25953	0	0	0
	13(OPE)	-11276	-9779	28057	0	0	0
	14(OPE)	-10096	-9774	24128	0	0	0
	15(OCC)	-219	-4	743	0	0	0
	16(OCC)	143	8	-494	0	0	0
	17(OCC)	352	1178	-28	0	0	0
	18(OCC)	-625	-2	2077	0	0	0
	19(OCC)	555	4	-1852	0	0	0
	MAX	-11276/L13	-18692/L1	28057/L13			
1355		TYPE=Rigid +Y;					
	1(HYD)	18	-19190	-1	0	0	0
	2(OPE)	-1872	-10075	2373	0	0	0
	4(OPE)	-1872	-10075	2373	0	0	0
	6(OPE)	1516	-10065	-2611	0	0	0
	8(SUS)	10	-10076	-1	0	0	0
	9(SUS)	10	-10062	-1	0	0	0
	10(OPE)	-1760	-10076	2458	0	0	0
	11(OPE)	-1978	-10074	2285	0	0	0
	12(OPE)	-1657	-8864	2080	0	0	0
	13(OPE)	-1877	-10083	2372	0	0	0
	14(OPE)	-1880	-10067	2363	0	0	0
	15(OCC)	112	-2	85	0	0	0
	16(OCC)	-106	0	-88	0	0	0
	17(OCC)	215	1211	-293	0	0	0
	18(OCC)	-5	-8	-1	0	0	0
	19(OCC)	-8	8	-10	0	0	0
	MAX	-1978/L11	-19190/L1	-2611/L6			
1360		TYPE=Rigid +Y;					
	1(HYD)	-13	-752	-4	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints
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Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	2(OPE)	-60	-403	105	0	0	0
	4(OPE)	-60	-404	105	0	0	0
	6(OPE)	36	-405	-116	0	0	0
	8(SUS)	-7	-395	-2	0	0	0
	9(SUS)	-7	-394	-2	0	0	0
	10(OPE)	-53	-402	108	0	0	0
	11(OPE)	-65	-403	102	0	0	0
	12(OPE)	-53	-358	93	0	0	0
	13(OPE)	-59	-402	105	0	0	0
	14(OPE)	-60	-405	106	0	0	0
	15(OCC)	6	1	3	0	0	0
	16(OCC)	-5	0	-3	0	0	0
	17(OCC)	6	46	-12	0	0	0
	18(OCC)	0	2	-0	0	0	0
	19(OCC)	-0	-2	0	0	0	0
	MAX	-65/L11	-752/L1	-116/L6			
1370		TYPE=Rigid +Y; Rigid X w/gap;					
	1(HYD)	3	-10683	-1	0	0	0
	2(OPE)	-5117	-5595	3166	0	0	0
	4(OPE)	-5173	-5595	3184	0	0	0
	6(OPE)	112	-5610	-1679	0	0	0
	8(SUS)	1	-5609	-1	0	0	0
	9(SUS)	1	-5601	-1	0	0	0
	10(OPE)	-1614	-5597	2117	0	0	0
	11(OPE)	-8770	-5593	4262	0	0	0
	12(OPE)	-5262	-4922	3014	0	0	0
	13(OPE)	-5167	-5599	3183	0	0	0
	14(OPE)	-5255	-5591	3207	0	0	0
	15(OCC)	3559	-2	-1067	0	0	0
	16(OCC)	-3597	2	1078	0	0	0
	17(OCC)	-89	673	-170	0	0	0
	18(OCC)	6	-4	-1	0	0	0
	19(OCC)	-82	4	23	0	0	0
	MAX	-8770/L11	-10683/L1	4262/L11			
1380		TYPE=Rigid +Y;					
	1(HYD)	-1	-8503	-1	0	0	0
	2(OPE)	374	-4486	1293	0	0	0
	4(OPE)	375	-4486	1292	0	0	0
	6(OPE)	-106	-4470	-1337	0	0	0
	8(SUS)	-0	-4465	-1	0	0	0
	9(SUS)	-0	-4459	-1	0	0	0
	10(OPE)	348	-4486	1300	0	0	0
	11(OPE)	346	-4484	1300	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

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	12(OPE)	339	-3952	1136	0	0	0
	13(OPE)	364	-4487	1296	0	0	0
	14(OPE)	358	-4485	1297	0	0	0
	15(OCC)	-28	-0	8	0	0	0
	16(OCC)	-29	2	8	0	0	0
	17(OCC)	-36	534	-156	0	0	0
	18(OCC)	-12	-1	3	0	0	0
	19(OCC)	-17	1	5	0	0	0
	MAX	375/L4	-8503/L1	-1337/L6			
1390		TYPE=Rigid +Y; Rigid Z w/gap; Rigid X w/gap;					
	1(HYD)	-0	-8906	-1	0	0	0
	2(OPE)	4346	-4619	-15611	0	0	0
	4(OPE)	4391	-4619	-15765	0	0	0
	6(OPE)	-283	-4664	2249	0	0	0
	8(SUS)	-0	-4676	-1	0	0	0
	9(SUS)	-0	-4670	-1	0	0	0
	10(OPE)	2336	-4619	-15945	0	0	0
	11(OPE)	-5001	-4627	-16517	0	0	0
	12(OPE)	4489	-4054	-15931	0	0	0
	13(OPE)	-865	-4604	-4121	0	0	0
	14(OPE)	-8049	-4635	-27798	0	0	0
	15(OCC)	-2054	0	-180	0	0	0
	16(OCC)	-9392	-8	-752	0	0	0
	17(OCC)	98	564	-166	0	0	0
	18(OCC)	-5255	15	11644	0	0	0
	19(OCC)	-12440	-16	-12033	0	0	0
	MAX	-12440/L19	-8906/L1	-27798/L14			
1400		TYPE=Rigid +Y;					
	1(HYD)	1	-9447	-1	0	0	0
	2(OPE)	-277	-5297	-1565	0	0	0
	4(OPE)	-279	-5301	-1566	0	0	0
	6(OPE)	-196	-4988	1483	0	0	0
	8(SUS)	1	-4960	-1	0	0	0
	9(SUS)	1	-4953	-1	0	0	0
	10(OPE)	-254	-5303	-1571	0	0	0
	11(OPE)	-358	-5278	-1542	0	0	0
	12(OPE)	-253	-4719	-1393	0	0	0
	13(OPE)	-288	-5281	-1558	0	0	0
	14(OPE)	-295	-5321	-1569	0	0	0
	15(OCC)	25	-2	-5	0	0	0
	16(OCC)	-78	23	23	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

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	17(OCC)	27	582	173	0	0	0
	18(OCC)	-9	20	8	0	0	0
	19(OCC)	-15	-20	-3	0	0	0
	MAX	-358/L11	-9447/L1	-1571/L10			
1410		TYPE=Rigid +Y; Rigid X w/gap;					
	1(HYD)	-5	-6847	-3	0	0	0
	2(OPE)	5728	-2326	-696	0	0	0
	4(OPE)	5781	-2311	-692	0	0	0
	6(OPE)	-298	-3479	1000	0	0	0
	8(SUS)	-3	-3595	-2	0	0	0
	9(SUS)	-3	-3590	-2	0	0	0
	10(OPE)	8437	-2304	-690	0	0	0
	11(OPE)	3082	-2401	-718	0	0	0
	12(OPE)	5786	-1827	-547	0	0	0
	13(OPE)	5867	-2399	-718	0	0	0
	14(OPE)	5630	-2225	-666	0	0	0
	15(OCC)	2656	7	2	0	0	0
	16(OCC)	-2698	-89	-27	0	0	0
	17(OCC)	5	484	145	0	0	0
	18(OCC)	87	-88	-26	0	0	0
	19(OCC)	-151	87	26	0	0	0
	MAX	8437/L10	-6847/L1	1000/L6			
1420		TYPE=Rigid +Y;					
	1(HYD)	9	-12557	-4	0	0	0
	2(OPE)	1072	-9595	-2672	0	0	0
	4(OPE)	1075	-9626	-2680	0	0	0
	6(OPE)	-734	-6518	1812	0	0	0
	8(SUS)	4	-6593	-2	0	0	0
	9(SUS)	4	-6584	-2	0	0	0
	10(OPE)	1119	-9577	-2646	0	0	0
	11(OPE)	1043	-9531	-2662	0	0	0
	12(OPE)	998	-8901	-2477	0	0	0
	13(OPE)	1063	-9514	-2649	0	0	0
	14(OPE)	1089	-9735	-2710	0	0	0
	15(OCC)	44	48	34	0	0	0
	16(OCC)	-32	95	18	0	0	0
	17(OCC)	-77	725	203	0	0	0
	18(OCC)	-12	112	31	0	0	0
	19(OCC)	14	-110	-30	0	0	0
	MAX	1119/L10	-12557/L1	-2710/L14			
1440		TYPE=Rigid +Y;					

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 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	1(HYD)	216	-12287	32	0	0	0
	2(OPE)	212	-1811	-500	0	0	0
	4(OPE)	207	-1768	-488	0	0	0
	6(OPE)	-714	-6831	1921	0	0	0
	8(SUS)	113	-6453	17	0	0	0
	9(SUS)	113	-6444	17	0	0	0
	10(OPE)	271	-2142	-582	0	0	0
	11(OPE)	194	-1718	-477	0	0	0
	12(OPE)	111	-944	-261	0	0	0
	13(OPE)	219	-1867	-515	0	0	0
	14(OPE)	195	-1671	-462	0	0	0
	15(OCC)	65	-374	-94	0	0	0
	16(OCC)	-12	49	11	0	0	0
	17(OCC)	-96	824	228	0	0	0
	18(OCC)	12	-99	-27	0	0	0
	19(OCC)	-12	97	27	0	0	0
	MAX	-714/L6	-12287/L1	1921/L6			
1520		TYPE=Rigid ANC;					
	1(HYD)	-114	-5811	-472	-292	-161	-135
	2(OPE)	-5598	-7666	-4667	-2718	8419	6273
	4(OPE)	-5635	-7691	-4712	-2777	8505	6306
	6(OPE)	1117	-1169	1170	-827	-1146	-2052
	8(SUS)	-60	-3297	-274	-169	-84	-70
	9(SUS)	-60	-3294	-274	-169	-84	-70
	10(OPE)	-1965	-7369	-4406	-2603	12334	769
	11(OPE)	-7453	-8221	-5171	-2798	7248	9091
	12(OPE)	-5471	-7114	-4794	-3293	8783	5989
	13(OPE)	-5724	-7641	-2674	655	7865	6519
	14(OPE)	-5545	-7740	-6718	-6147	9121	6087
	15(OCC)	3671	321	306	174	3829	-5536
	16(OCC)	-1818	-530	-459	-21	-1257	2786
	17(OCC)	165	577	-82	-516	278	-316
	18(OCC)	-88	50	2038	3432	-640	213
	19(OCC)	91	-49	-2006	-3370	616	-218
	MAX	-7453/L11	-8221/L11	-6718/L14	-6147/L14	12334/L10	9091/L11
1550		TYPE=Rigid ANC;					
	1(HYD)	-444	-3674	-82	-3302	576	73
	2(OPE)	3316	-4831	1966	-12480	-10003	8440
	4(OPE)	3346	-4834	1989	-12543	-10088	8473
	6(OPE)	-1291	210	-2278	2644	115	-5738
	8(SUS)	-233	-2094	-42	-1774	302	37
	9(SUS)	-233	-2091	-42	-1771	302	37
	10(OPE)	4823	-4785	2065	-12504	-12839	7827
	11(OPE)	1886	-4887	1907	-12588	-7347	9139

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Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	12(OPE)	3374	-4359	1996	-12016	-10175	7950
	13(OPE)	3460	-4706	4268	-12401	-8445	8519
	14(OPE)	3188	-4698	84	-12324	-11343	8218
	15(OCC)	1477	49	76	39	-2751	-645
	16(OCC)	-1461	-54	-82	-45	2741	666
	17(OCC)	27	475	7	528	-87	-522
	18(OCC)	114	127	2279	143	1643	46
	19(OCC)	-158	136	-1905	219	-1254	-254
	MAX	4823/L10	-4887/L11	4268/L13	-12588/L11	-12839/L10	9139/L11
1590		TYPE=Rigid ANC;					
	1(HYD)	-444	-3674	-82	-6086	842	3223
	2(OPE)	3316	-4831	1966	-1441	-11992	-15069
	4(OPE)	3346	-4834	1989	-1342	-12096	-15253
	6(OPE)	-1291	210	-2278	-13378	890	3416
	8(SUS)	-233	-2094	-42	-3329	442	1689
	9(SUS)	-233	-2091	-42	-3325	442	1687
	10(OPE)	4823	-4785	2065	-735	-15733	-26370
	11(OPE)	1886	-4887	1907	-1999	-8478	-4232
	12(OPE)	3374	-4359	1996	-481	-12199	-15968
	13(OPE)	3460	-4706	4268	15036	-10521	-16015
	14(OPE)	3188	-4698	84	-14550	-13255	-14385
	15(OCC)	1477	49	76	607	-3637	-11117
	16(OCC)	-1461	-54	-82	-657	3617	11021
	17(OCC)	27	475	7	861	-103	-715
	18(OCC)	114	127	2279	16378	1574	-762
	19(OCC)	-158	136	-1905	-13208	-1159	868
	MAX	4823/L10	-4887/L11	4268/L13	16378/L18	-15733/L10	-26370/L10
1620		TYPE=Rigid ANC;					
	1(HYD)	-114	-6288	-472	-424	-161	-103
	2(OPE)	-5598	-8005	-4667	-4019	8419	7834
	4(OPE)	-5635	-8029	-4712	-4090	8505	7877
	6(OPE)	1117	-1507	1170	-501	-1146	-2363
	8(SUS)	-60	-3636	-274	-246	-84	-54
	9(SUS)	-60	-3632	-274	-246	-84	-54
	10(OPE)	-1877	-7708	-4406	-3831	12334	1301
	11(OPE)	-7541	-8559	-5171	-4239	7248	11185
	12(OPE)	-5471	-7412	-4794	-4629	8783	7515
	13(OPE)	-5724	-7979	-2586	-74	7865	8114
	14(OPE)	-5545	-8078	-6806	-8036	9121	7633
	15(OCC)	3759	321	306	260	3829	-6576
	16(OCC)	-1906	-530	-459	-149	-1257	3309
	17(OCC)	165	618	-82	-539	278	-362
	18(OCC)	-88	50	2126	4017	-640	238
	19(OCC)	91	-49	-2094	-3946	616	-243

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	MAX	-7541/L11	-8559/L11	-6806/L14	-8036/L14	12334/L10	11185/L11
1660		TYPE=Rigid +Y; Rigid Z w/gap;					
	1(HYD)	0	-6495	0	0	0	0
	2(OPE)	0	-13303	0	0	0	0
	4(OPE)	0	-13358	0	0	0	0
	6(OPE)	0	-199	0	0	0	0
	8(SUS)	0	-3756	0	0	0	0
	9(SUS)	0	-3752	0	0	0	0
	10(OPE)	0	-9065	0	0	0	0
	11(OPE)	0	-15903	0	0	0	0
	12(OPE)	0	-12511	0	0	0	0
	13(OPE)	0	-13437	0	0	0	0
	14(OPE)	0	-13275	0	0	0	0
	15(OCC)	0	4293	0	0	0	0
	16(OCC)	0	-2545	0	0	0	0
	17(OCC)	0	846	0	0	0	0
	18(OCC)	0	-79	0	0	0	0
	19(OCC)	0	83	0	0	0	0
	MAX		-15903/L11				
1680		TYPE=Rigid ANC;					
	1(HYD)	-114	207	-472	-903	-1247	187
	2(OPE)	-5598	5298	-4667	-8750	-2314	2655
	4(OPE)	-5635	5328	-4712	-8868	-2333	2672
	6(OPE)	1117	-1308	1170	686	1546	-468
	8(SUS)	-60	121	-274	-524	-714	105
	9(SUS)	-60	120	-274	-523	-713	105
	10(OPE)	-1877	1357	-4406	-8299	2199	990
	11(OPE)	-7541	7344	-5171	-9483	-4645	3532
	12(OPE)	-5471	5099	-4794	-9490	-2243	2584
	13(OPE)	-5724	5457	-2586	-2696	1917	2710
	14(OPE)	-5545	5196	-6806	-14938	-6533	2632
	15(OCC)	3759	-3972	306	570	4532	-1682
	16(OCC)	-1906	2015	-459	-614	-2313	861
	17(OCC)	165	-229	-82	-622	90	-88
	18(OCC)	-88	129	2126	6173	4250	39
	19(OCC)	91	-132	-2094	-6069	-4200	-40
	MAX	-7541/L11	7344/L11	-6806/L14	-14938/L14	-6533/L14	3532/L11
1700		TYPE=Rigid +Y; Rigid X w/gap;					
	1(HYD)	-106	-3041	450	0	0	0
	2(OPE)	0	0	0	0	0	0

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 Job:: BINAK-GCS-CN-004-D02
 Licensed To:: SPLM: Edit company name in <system>\company.txt

RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	4(OPE)	0	0	0	0	0	0
	6(OPE)	567	-3617	-925	0	0	0
	8(SUS)	-56	-1708	262	0	0	0
	9(SUS)	-56	-1706	262	0	0	0
	10(OPE)	0	0	0	0	0	0
	11(OPE)	-1914	466	335	0	0	0
	12(OPE)	0	0	0	0	0	0
	13(OPE)	0	0	0	0	0	0
	14(OPE)	0	0	0	0	0	0
	15(OCC)	0	0	0	0	0	0
	16(OCC)	-1914	466	335	0	0	0
	17(OCC)	0	0	0	0	0	0
	18(OCC)	0	0	0	0	0	0
	19(OCC)	0	0	0	0	0	0
	MAX	-1914/L11	-3617/L6	-925/L6			
1740		TYPE=Rigid +Y;					
	1(HYD)	1028	-7659	-134	0	0	0
	2(OPE)	0	0	0	0	0	0
	4(OPE)	0	0	0	0	0	0
	6(OPE)	1270	-8287	2137	0	0	0
	8(SUS)	540	-4022	-71	0	0	0
	9(SUS)	539	-4017	-71	0	0	0
	10(OPE)	0	0	0	0	0	0
	11(OPE)	0	0	0	0	0	0
	12(OPE)	0	0	0	0	0	0
	13(OPE)	0	0	0	0	0	0
	14(OPE)	0	0	0	0	0	0
	15(OCC)	0	0	0	0	0	0
	16(OCC)	0	0	0	0	0	0
	17(OCC)	0	0	0	0	0	0
	18(OCC)	0	0	0	0	0	0
	19(OCC)	0	0	0	0	0	0
	MAX	1270/L6	-8287/L6	2137/L6			
1760		TYPE=Rigid +Y;					
	1(HYD)	5	-9924	-1	0	0	0
	2(OPE)	-879	-5207	1292	0	0	0
	4(OPE)	-876	-5207	1293	0	0	0
	6(OPE)	1556	-5209	-150	0	0	0
	8(SUS)	3	-5211	-1	0	0	0
	9(SUS)	3	-5204	-1	0	0	0
	10(OPE)	-101	-5208	1559	0	0	0
	11(OPE)	-989	-5205	1208	0	0	0
	12(OPE)	-756	-4582	1148	0	0	0
	13(OPE)	-630	-5206	1429	0	0	0

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 Licensed To:: SPLM: Edit company name in <system>\company.txt

RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	14(OPE)	-968	-5208	1226	0	0	0
	15(OCC)	775	-1	266	0	0	0
	16(OCC)	-113	2	-85	0	0	0
	17(OCC)	120	626	-145	0	0	0
	18(OCC)	247	1	136	0	0	0
	19(OCC)	-92	-1	-67	0	0	0
	MAX	1556/L6	-9924/L1	1559/L10			
1780		TYPE=Rigid +Y;					
	1(HYD)	-5	-12108	0	0	0	0
	2(OPE)	-3	-6357	1907	0	0	0
	4(OPE)	-3	-6357	1907	0	0	0
	6(OPE)	56	-6357	-1906	0	0	0
	8(SUS)	-3	-6358	0	0	0	0
	9(SUS)	-3	-6349	0	0	0	0
	10(OPE)	634	-6359	1799	0	0	0
	11(OPE)	-670	-6355	1785	0	0	0
	12(OPE)	-11	-5594	1678	0	0	0
	13(OPE)	-52	-6357	1906	0	0	0
	14(OPE)	-4	-6356	1907	0	0	0
	15(OCC)	637	-3	-108	0	0	0
	16(OCC)	-667	2	-122	0	0	0
	17(OCC)	-7	763	-229	0	0	0
	18(OCC)	-48	-0	-1	0	0	0
	19(OCC)	-0	0	-0	0	0	0
	MAX	-670/L11	-12108/L1	1907/L2			
1800		TYPE=Rigid +Y;					
	1(HYD)	5	-9953	1	0	0	0
	2(OPE)	712	-5229	1398	0	0	0
	4(OPE)	709	-5229	1399	0	0	0
	6(OPE)	-1567	-5228	-70	0	0	0
	8(SUS)	3	-5226	1	0	0	0
	9(SUS)	3	-5219	1	0	0	0
	10(OPE)	1047	-5229	1169	0	0	0
	11(OPE)	181	-5228	1558	0	0	0
	12(OPE)	613	-4602	1237	0	0	0
	13(OPE)	516	-5230	1481	0	0	0
	14(OPE)	759	-5229	1372	0	0	0
	15(OCC)	338	-0	-231	0	0	0
	16(OCC)	-528	1	159	0	0	0
	17(OCC)	-96	627	-162	0	0	0
	18(OCC)	-193	-1	82	0	0	0
	19(OCC)	51	0	-27	0	0	0
	MAX	-1567/L6	-9953/L1	1558/L11			

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Stress Summary : Multiple 3

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Job:: BINAK-GCS-CN-004-D02
Licensed To:: SPLM: Edit company name in <system>\company.txt

LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

- 1 (HYD) WW+HP
- 2 (OPE) W+T1+P1
- 3 (Alt-SUS) W+P1
- 4 (OPE) W+T2+P1
- 5 (Alt-SUS) W+P1
- 6 (OPE) W+T3+P1
- 7 (Alt-SUS) W+P1
- 8 (SUS) W+P1
- 9 (SUS) WNC
- 10 (OPE) W+T2+P1+U1
- 11 (OPE) W+T2+P1-U1
- 12 (OPE) W+T2+P1+U2
- 13 (OPE) W+T2+P1+U3
- 14 (OPE) W+T2+P1-U3
- 15 (OCC) L15=L10-L4
- 16 (OCC) L16=L11-L4
- 17 (OCC) L17=L12-L4
- 18 (OCC) L18=L13-L4
- 19 (OCC) L19=L14-L4
- 20 (OCC) L20=L15+L8
- 21 (OCC) L21=L16+L8
- 22 (OCC) L22=L17+L8
- 23 (OCC) L23=L18+L8
- 24 (OCC) L24=L19+L8
- 25 (EXP) L25=L2-L8
- 26 (EXP) L26=L2-L4
- 27 (EXP) L27=L6-L8
- 28 (EXP) L28=L2-L6
- 29 (EXP) L29=L4-L6

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
 Various Load Cases

LOAD CASE DEFINITION KEY

CASE 1 (HYD) WW+HP
 CASE 3 (Alt-SUS) W+P1
 CASE 5 (Alt-SUS) W+P1
 CASE 7 (Alt-SUS) W+P1
 CASE 8 (SUS) W+P1
 CASE 9 (SUS) WNC
 CASE 20 (OCC) L20=L15+L8
 CASE 21 (OCC) L21=L16+L8
 CASE 22 (OCC) L22=L17+L8
 CASE 23 (OCC) L23=L18+L8
 CASE 24 (OCC) L24=L19+L8
 CASE 25 (EXP) L25=L2-L8
 CASE 26 (EXP) L26=L2-L4
 CASE 27 (EXP) L27=L6-L8
 CASE 28 (EXP) L28=L2-L6
 CASE 29 (EXP) L29=L4-L6

Piping Code: B31.3 = B31.3 -2016, Jan 31, 2017

CODE STRESS CHECK PASSED : LOADCASE 1 (HYD) WW+HP

Highest Stresses: (KPa)	LOADCASE 1 (HYD) WW+HP	
Ratio (%):	21.3 @Node 1140	
Code Stress:	51453.7	Allowable Stress: 241316.5
Axial Stress:	6527.2 @Node 1119	
Bending Stress:	44847.4 @Node 1140	
Torsion Stress:	2370.7 @Node 1130	
Hoop Stress:	13232.1 @Node 30	
Max Stress Intensity:	51568.5 @Node 1140	

CODE STRESS CHECK PASSED : LOADCASE 3 (Alt-SUS) W+P1

Highest Stresses: (KPa)	LOADCASE 3 (Alt-SUS) W+P1	
Ratio (%):	49.7 @Node 1140	
Code Stress:	64240.8	Allowable Stress: 129365.3
Axial Stress:	12095.5 @Node 20	
Bending Stress:	53174.9 @Node 1140	
Torsion Stress:	11824.4 @Node 20	
Hoop Stress:	24443.4 @Node 20	
Max Stress Intensity:	64391.2 @Node 1140	

CODE STRESS CHECK PASSED : LOADCASE 5 (Alt-SUS) W+P1

Highest Stresses: (KPa)	LOADCASE 5 (Alt-SUS) W+P1	
Ratio (%):	49.7 @Node 1140	
Code Stress:	64241.5	Allowable Stress: 129365.3
Axial Stress:	12095.5 @Node 20	
Bending Stress:	53175.6 @Node 1140	

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
 Various Load Cases

Torsion Stress:	11824.4	@Node	20
Hoop Stress:	24443.4	@Node	20
Max Stress Intensity:	64391.9	@Node	1140

CODE STRESS CHECK PASSED : LOADCASE 7 (Alt-SUS) W+P1

Highest Stresses: (KPa)	LOADCASE 7 (Alt-SUS) W+P1	
Ratio (%):	49.8	@Node 1140
Code Stress:	64439.5	Allowable Stress: 129365.3
Axial Stress:	12059.9	@Node 20
Bending Stress:	53386.4	@Node 1140
Torsion Stress:	2791.9	@Node 1130
Hoop Stress:	24443.4	@Node 20
Max Stress Intensity:	64526.0	@Node 1140

CODE STRESS CHECK PASSED : LOADCASE 8 (SUS) W+P1

Highest Stresses: (KPa)	LOADCASE 8 (SUS) W+P1	
Ratio (%):	49.7	@Node 1140
Code Stress:	64295.2	Allowable Stress: 129365.3
Axial Stress:	12088.7	@Node 20
Bending Stress:	53245.0	@Node 1140
Torsion Stress:	2814.6	@Node 1148
Hoop Stress:	24443.4	@Node 20
Max Stress Intensity:	64436.7	@Node 1140

CODE STRESS CHECK PASSED : LOADCASE 9 (SUS) WNC

Highest Stresses: (KPa)	LOADCASE 9 (SUS) WNC	
Ratio (%):	41.4	@Node 1140
Code Stress:	53596.5	Allowable Stress: 129365.3
Axial Stress:	1310.1	@Node 1620
Bending Stress:	53172.6	@Node 1140
Torsion Stress:	2810.8	@Node 1130
Hoop Stress:	0.0	@Node 20
Max Stress Intensity:	53596.5	@Node 1140

CODE STRESS CHECK PASSED : LOADCASE 20 (OCC) L20=L15+L8

Highest Stresses: (KPa)	LOADCASE 20 (OCC) L20=L15+L8	
Ratio (%):	41.7	@Node 1140
Code Stress:	71776.4	Allowable Stress: 172055.9
Axial Stress:	12744.5	@Node 940
Bending Stress:	60323.0	@Node 1140
Torsion Stress:	10134.2	@Node 1510
Hoop Stress:	24443.4	@Node 20
Max Stress Intensity:	79168.6	@Node 639

CODE STRESS CHECK PASSED : LOADCASE 21 (OCC) L21=L16+L8

Highest Stresses: (KPa)	LOADCASE 21 (OCC) L21=L16+L8	
Ratio (%):	42.8	@Node 1140

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
 Various Load Cases

Code Stress:	73691.7	Allowable Stress:	172055.9
Axial Stress:	12715.5	@Node	940
Bending Stress:	64661.5	@Node	699
Torsion Stress:	3629.3	@Node	1510
Hoop Stress:	24443.4	@Node	20
Max Stress Intensity:	85065.8	@Node	699

CODE STRESS CHECK PASSED : LOADCASE 22 (OCC) L22=L17+L8

Highest Stresses: (KPa)	LOADCASE 22 (OCC) L22=L17+L8	
Ratio (%):	41.4	@Node 1140
Code Stress:	71203.5	Allowable Stress: 172055.9
Axial Stress:	12086.2	@Node 20
Bending Stress:	60118.8	@Node 1140
Torsion Stress:	2603.9	@Node 1148
Hoop Stress:	24443.4	@Node 20
Max Stress Intensity:	71324.9	@Node 1140

CODE STRESS CHECK PASSED : LOADCASE 23 (OCC) L23=L18+L8

Highest Stresses: (KPa)	LOADCASE 23 (OCC) L23=L18+L8	
Ratio (%):	41.3	@Node 1110
Code Stress:	71144.1	Allowable Stress: 172055.9
Axial Stress:	12710.3	@Node 430
Bending Stress:	63274.2	@Node 539
Torsion Stress:	3989.5	@Node 1129
Hoop Stress:	24443.4	@Node 20
Max Stress Intensity:	83180.8	@Node 539

CODE STRESS CHECK PASSED : LOADCASE 24 (OCC) L24=L19+L8

Highest Stresses: (KPa)	LOADCASE 24 (OCC) L24=L19+L8	
Ratio (%):	42.0	@Node 1110
Code Stress:	72214.0	Allowable Stress: 172055.9
Axial Stress:	12776.0	@Node 1550
Bending Stress:	61007.4	@Node 1110
Torsion Stress:	2694.5	@Node 1130
Hoop Stress:	24443.4	@Node 20
Max Stress Intensity:	77570.7	@Node 539

CODE STRESS CHECK PASSED : LOADCASE 25 (EXP) L25=L2-L8

Highest Stresses: (KPa)	LOADCASE 25 (EXP) L25=L2-L8	
Ratio (%):	53.7	@Node 249
Code Stress:	173322.1	Allowable Stress: 322980.9
Axial Stress:	3140.6	@Node 780
Bending Stress:	170889.5	@Node 249
Torsion Stress:	15926.8	@Node 1120
Hoop Stress:	0.0	@Node 20
Max Stress Intensity:	392119.1	@Node 249

CODE STRESS CHECK PASSED : LOADCASE 26 (EXP) L26=L2-L4

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
 Various Load Cases

Highest Stresses: (	KPa	)	LOADCASE 26 (EXP)	L26=L2-L4	
Ratio (%):	0.9		@Node	889	
Code Stress:	2784.3		Allowable Stress:		309815.9
Axial Stress:	90.7		@Node	940	
Bending Stress:	2747.9		@Node	889	
Torsion Stress:	150.1		@Node	1120	
Hoop Stress:	0.0		@Node	20	
Max Stress Intensity:	6298.8		@Node	889	

CODE STRESS CHECK PASSED : LOADCASE 27 (EXP) L27=L6-L8

Highest Stresses: (	KPa	)	LOADCASE 27 (EXP)	L27=L6-L8	
Ratio (%):	7.7		@Node	1349	
Code Stress:	25404.3		Allowable Stress:		327867.0
Axial Stress:	896.8		@Node	950	
Bending Stress:	25131.5		@Node	1349	
Torsion Stress:	5893.1		@Node	1550	
Hoop Stress:	0.0		@Node	20	
Max Stress Intensity:	57466.8		@Node	1349	

CODE STRESS CHECK PASSED : LOADCASE 28 (EXP) L28=L2-L6

Highest Stresses: (	KPa	)	LOADCASE 28 (EXP)	L28=L2-L6	
Ratio (%):	58.9		@Node	249	
Code Stress:	190251.1		Allowable Stress:		322980.9
Axial Stress:	3625.8		@Node	780	
Bending Stress:	187564.3		@Node	249	
Torsion Stress:	18046.4		@Node	1120	
Hoop Stress:	0.0		@Node	20	
Max Stress Intensity:	430420.2		@Node	249	

CODE STRESS CHECK PASSED : LOADCASE 29 (EXP) L29=L4-L6

Highest Stresses: (	KPa	)	LOADCASE 29 (EXP)	L29=L4-L6	
Ratio (%):	59.5		@Node	249	
Code Stress:	191912.8		Allowable Stress:		322639.7
Axial Stress:	3653.3		@Node	780	
Bending Stress:	189203.8		@Node	249	
Torsion Stress:	18196.5		@Node	1120	
Hoop Stress:	0.0		@Node	20	
Max Stress Intensity:	434179.3		@Node	249	

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Licensed To:: SPLM: Edit company name in <system>\company.txt

LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

- 1 (HYD) WW+HP
- 2 (OPE) W+T1+P1
- 3 (Alt-SUS) W+P1
- 4 (OPE) W+T2+P1
- 5 (Alt-SUS) W+P1
- 6 (OPE) W+T3+P1
- 7 (Alt-SUS) W+P1
- 8 (SUS) W+P1
- 9 (SUS) WNC
- 10 (OPE) W+T2+P1+U1
- 11 (OPE) W+T2+P1-U1
- 12 (OPE) W+T2+P1+U2
- 13 (OPE) W+T2+P1+U3
- 14 (OPE) W+T2+P1-U3
- 15 (OCC) L15=L10-L4
- 16 (OCC) L16=L11-L4
- 17 (OCC) L17=L12-L4
- 18 (OCC) L18=L13-L4
- 19 (OCC) L19=L14-L4
- 20 (OCC) L20=L15+L8
- 21 (OCC) L21=L16+L8
- 22 (OCC) L22=L17+L8
- 23 (OCC) L23=L18+L8
- 24 (OCC) L24=L19+L8
- 25 (EXP) L25=L2-L8
- 26 (EXP) L26=L2-L4
- 27 (EXP) L27=L6-L8
- 28 (EXP) L28=L2-L6
- 29 (EXP) L29=L4-L6

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NOZZLE CHECK REPORT: Nozzle Loads Screening

Various Load Cases

LOAD CASE DEFINITION KEY

CASE 2 (OPE) W+T1+P1

CASE 4 (OPE) W+T2+P1

CASE 6 (OPE) W+T3+P1

CASE 8 (SUS) W+P1

CASE 9 (SUS) WNC

Node		fa N.	fb N.	fc N.	Forces Check	ma N.m.	mb N.m.	mc N.m.	Moments Check	
1550		Absolute Method								
	Limits	14001	14001	10501		10500	7000	9100		
	2(OPE)	1966	-4831	-3316	0.345	8440	-10003	12480	1.429	*
	4(OPE)	1989	-4834	-3346	0.345	8473	-10088	12543	1.441	*
	6(OPE)	-2278	210	1291	0.163	-5738	115	-2644	0.546	
	8(SUS)	-42	-2094	233	0.150	37	302	1774	0.195	
	9(SUS)	-42	-2091	233	0.149	37	302	1771	0.195	
1620		Absolute Method								
	Limits	14001	14001	10501		10500	7000	9100		
	2(OPE)	8005	-4667	5598	0.572	-8419	7834	4019	1.119	*
	4(OPE)	8029	-4712	5635	0.573	-8505	7877	4090	1.125	*
	6(OPE)	1507	1170	-1117	0.108	1146	-2363	501	0.338	
	8(SUS)	3636	-274	60	0.260	84	-54	246	0.027	
	9(SUS)	3632	-274	60	0.259	84	-54	246	0.027	

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Line no.

Stress sketch

Input echo

Restraint summary

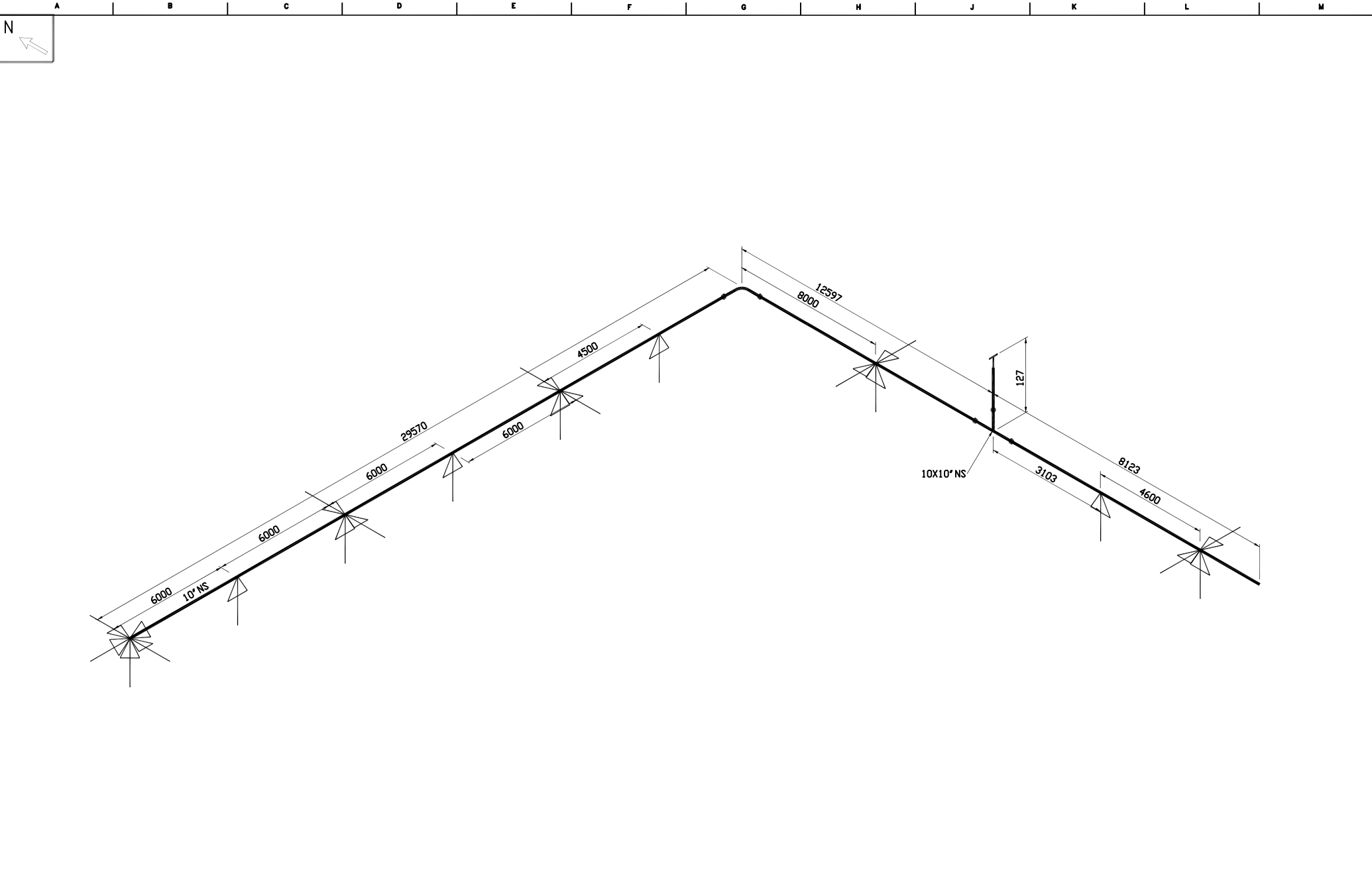
Stress summary

Nozzle load Table

BNK-GCS-CN-005

LINE Nos.

1. GAS-111-0014-AN07-8"-PT
2. GAS-111-0013-AN07-8"-PT
3. FL-112-0006-AN07-10"-PT
4. FL-112-0005-AN07-10"-PT



CHECK ISOMETRIC ONLY – DO NOT ISSUE

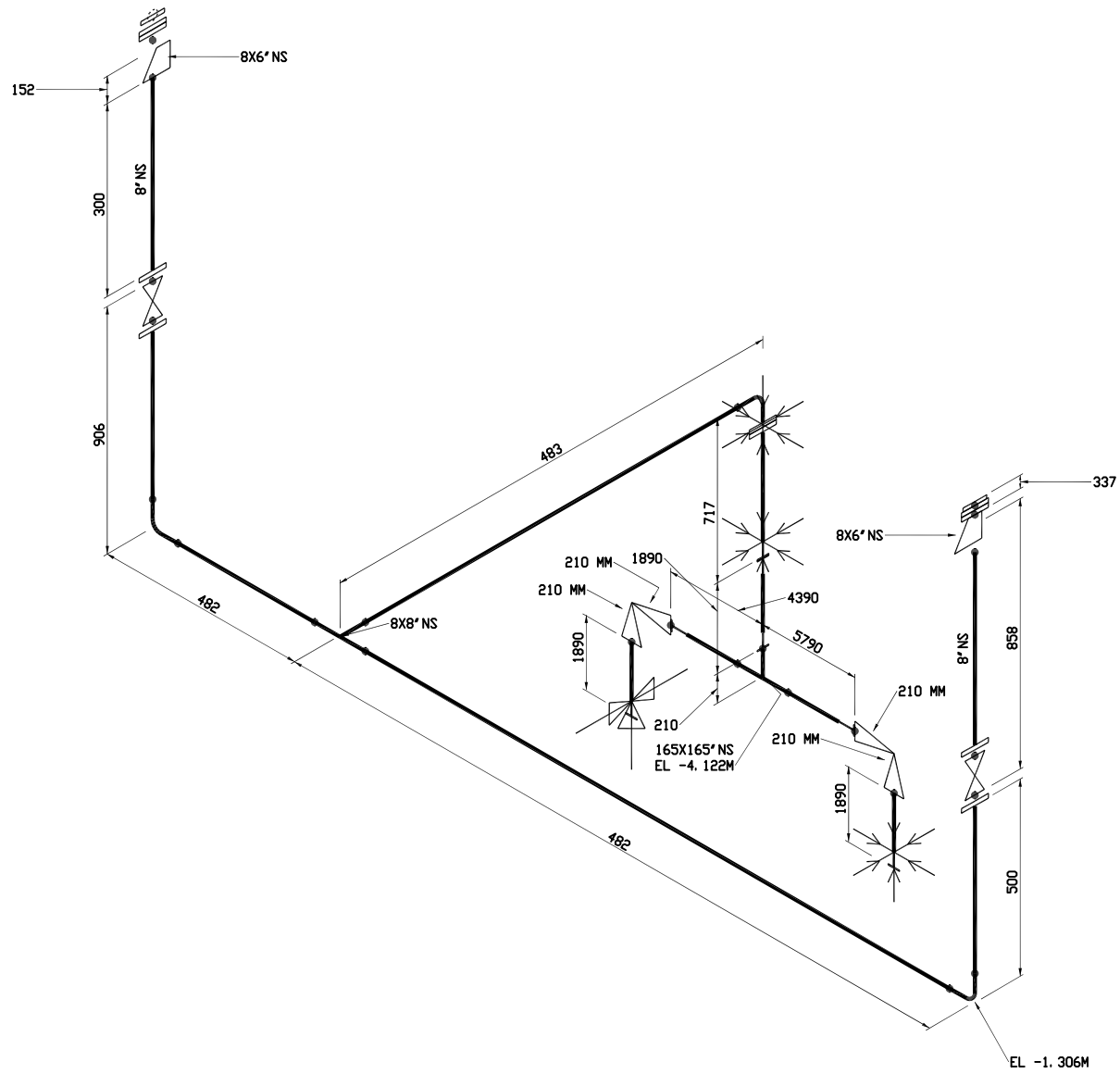
REV.	CHANGE	27 FEB 2024	THIS DRAWING IS THE PROPERTY OF INTERGRAPH LTD AND MUST NOT BE COPIED OR LENT WITHOUT THE CONSENT OF THE COMPANY
		DATE	

PIPING SPEC.		OP. TEMP.	
INSULATION SPEC.		PROJECT NO.	
INSULATION THKS.		SYSTEM	
PAINTING SPEC.		AREA	
MATERIAL		DRAWN BY	
OP. PRESSURE		E.L.DIAGRAM	



PIPELINE REFERENCE

REV.	
DRG.	
	1 OF 1



CHECK ISOMETRIC ONLY – DO NOT ISSUE

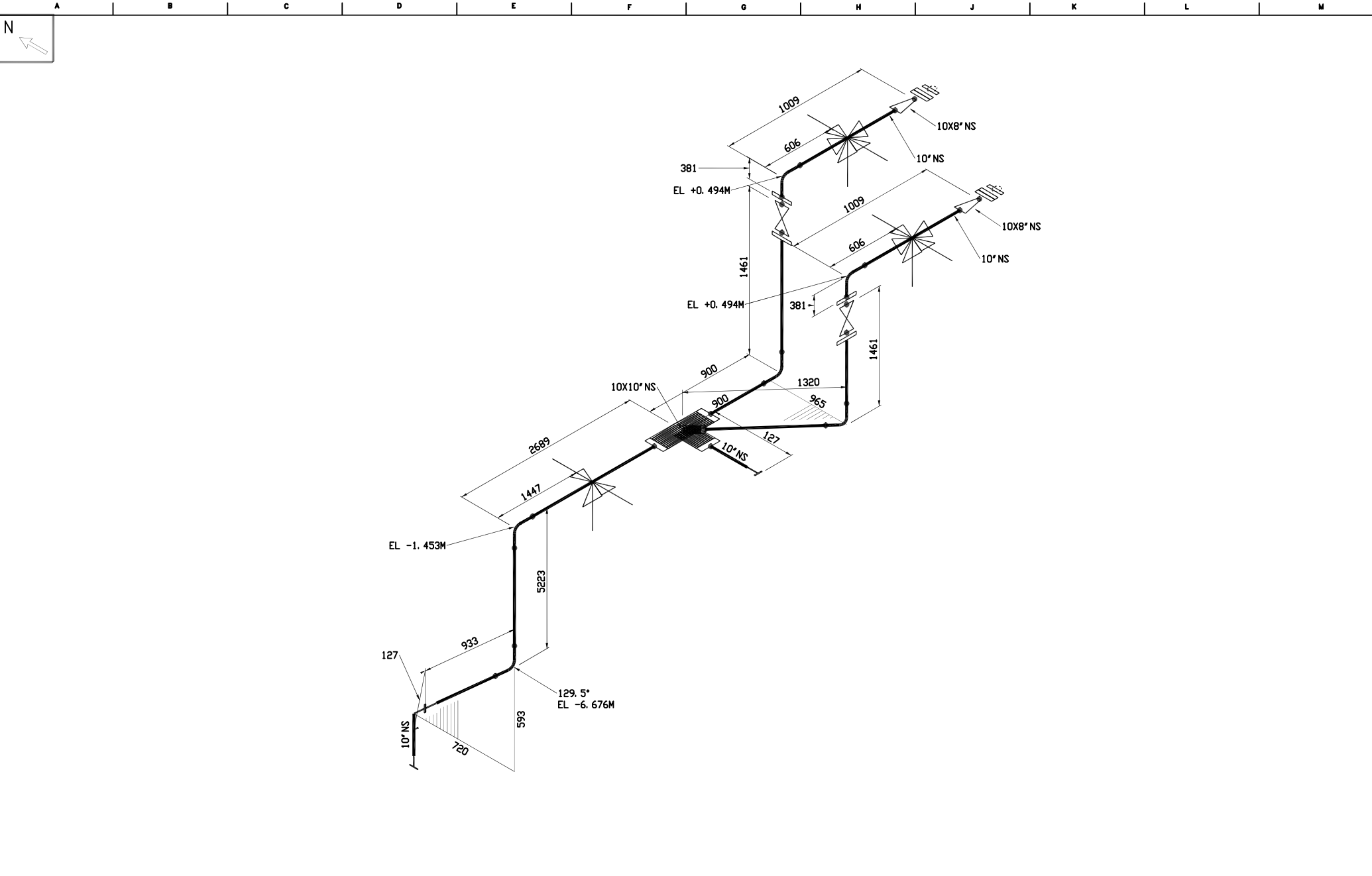
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		DATE	

PIPING SPEC.		OP. TEMP.	
INSULATION SPEC.		PROJECT NO.	
INSULATION THKS.		SYSTEM	
PAINTING SPEC.		AREA	
MATERIAL		DRAWN BY	
OP. PRESSURE		E.L.DIAGRAM	



PIPELINE REFERENCE

REV.	
DRG.	
1 OF 1	



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REV.	CHANGE	27 FEB 2024	THIS DRAWING IS THE PROPERTY OF INTERGRAPH LTD AND MUST NOT BE COPIED OR LENT WITHOUT THE CONSENT OF THE COMPANY
		DATE	

PIPING SPEC.		OP. TEMP.	
INSULATION SPEC.		PROJECT NO.	
INSULATION THKS.		SYSTEM	
PAINTING SPEC.		AREA	
MATERIAL		DRAWN BY	
OP. PRESSURE		E.I.DIAGRAM	



PIPELINE REFERENCE

REV.	
DRG.	
1 OF 1	

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

- 1 (HYD) WW+HP
- 2 (OPE) W+T1+P1
- 3 (Alt-SUS) W+P1
- 4 (OPE) W+T2+P1
- 5 (Alt-SUS) W+P1
- 6 (OPE) W+T3+P1
- 7 (Alt-SUS) W+P1
- 8 (SUS) W+P1
- 9 (SUS) WNC
- 10 (OPE) W+T2+P1+U1
- 11 (OPE) W+T2+P1-U1
- 12 (OPE) W+T2+P1+U2
- 13 (OPE) W+T2+P1+U3
- 14 (OPE) W+T2+P1-U3
- 15 (OPE) W+T2+P1+F1
- 16 (OCC) L16=L10-L4
- 17 (OCC) L17=L11-L4
- 18 (OCC) L18=L12-L4
- 19 (OCC) L19=L13-L4
- 20 (OCC) L20=L14-L4
- 21 (OCC) L21=L15-L4
- 22 (OCC) L22=L16+L8
- 23 (OCC) L23=L17+L8
- 24 (OCC) L24=L18+L8
- 25 (OCC) L25=L19+L8
- 26 (OCC) L26=L20+L8
- 27 (OCC) L27=L21+L8
- 28 (EXP) L28=L2-L8
- 29 (EXP) L29=L4-L8
- 30 (EXP) L30=L2-L4
- 31 (EXP) L31=L6-L8
- 32 (EXP) L32=L2-L6
- 33 (EXP) L33=L4-L6

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INPUT LISTING

Job Description:

PROJECT:

CLIENT :

ANALYST:

NOTES :

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INPUT LISTING

File created by FEATools

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PIPE DATA

 From 10 To 20 DY= 127.000 mm.

PIPE

Dia= 273.050 mm. Wall= 9.271 mm. Cor= 6.0000 mm.

GENERAL

T1= 272 C T2= 272 C T3= -28 C P1= 750.0171 KPa P2= .0000 KPa
 PHyd= 1,125.0256 KPa Mat= (106)A106 Grade B E= 203,401,232 KPa
 EH1= 187,335,024 KPa EH2= 187,335,024 KPa EH3= 205,934,864 KPa
 EH4= 203,401,232 KPa EH5= 203,401,232 KPa EH6= 203,401,232 KPa
 EH7= 203,401,232 KPa EH8= 203,401,232 KPa EH9= 203,401,232 KPa
 v = .292 Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000015 kg./cu.cm.
 Insul Thk= .000 mm. Insul Den= .0001362 kg./cu.cm.

RIGID Weight= .00 N.

UNIFORM LOAD

Vector1 in G-s X1 Dir = .26 g's Y1 Dir = .00 g's Z1 Dir = .00 g's
 Vector2 in G-s X2 Dir = .00 g's Y2 Dir = .12 g's Z2 Dir = .00 g's
 Vector3 in G-s X3 Dir = .00 g's Y3 Dir = .00 g's Z3 Dir = .26 g's

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 129,365 KPa Sh2= 129,365 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 20 To 30 DX= 720.000 mm. DY= 593.000 mm.

GENERAL

T1= 272 C T2= 272 C T3= -28 C P1= 600.0137 KPa PHyd= 900.0205 KPa

BEND at "T0" end

Radius= 381.000 mm. (LONG) Bend Angle= 50.525 Angle/Node @1= 25.26 29
 Angle/Node @2= .00 28

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 129,365 KPa Sh2= 129,365 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 30 To 40 DY= 5,223.000 mm.

BEND at "T0" end

Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 39
 Angle/Node @2= .00 38

 From 40 To 50 DZ= -1,447.000 mm.

RESTRAINTS

Node 50 +Y Mu = .30
 Node 50 X Gap= 3.000 mm.

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INPUT LISTING

From 50 To 60 DZ= -1,242.000 mm.

From 60 To 70 DZ= -900.000 mm.

BEND at "TO" end

Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 69

Angle/Node @2= .00 68

From 70 To 80 DY= 1,017.000 mm.

From 80 To 90 DY= 104.775 mm.

RIGID Weight= 235.76 N.

From 90 To 100 DY= 339.000 mm.

RIGID Weight= 3,563.03 N.

From 100 To 110 DY= 104.775 mm.

RIGID Weight= 235.76 N.

From 110 To 120 DY= 381.000 mm.

BEND at "TO" end

Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 119

From 120 To 130 DZ= -606.000 mm.

RESTRAINTS

Node 130 +Y Cnode 580

Node 130 X Cnode 580 Gap= 3.000 mm.

Node 130 Z Cnode 580 Gap= 3.000 mm.

From 130 To 140 DZ= -225.000 mm.

From 140 To 150 DZ= -178.000 mm.

REDUCER

Diam2= 219.075 mm. Wall2= 10.312 mm.

From 150 To 160 DZ= -104.775 mm.

PIPE

Dia= 219.075 mm. Wall= 10.312 mm.

Insul Thk= .000 mm.

RIGID Weight= 177.93 N.

From 60 To 170 DX= 127.000 mm.

PIPE

Dia= 273.050 mm. Wall= 9.271 mm.

Insul Thk= .000 mm.

RIGID Weight= .00 N.

SIF's & TEE's

Node 170 Unreinforced Tee

From 60 To 180 DX= 965.000 mm. DZ= -900.000 mm.

BEND at "TO" end

Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 179

Angle/Node @2= .00 178

SIF's & TEE's

Node 60 Unreinforced Tee

From 180 To 190 DY= 1,017.000 mm.

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INPUT LISTING

From 190 To 200 DY= 104.775 mm.

RIGID Weight= 235.76 N.

From 200 To 210 DY= 339.000 mm.

RIGID Weight= 3,563.03 N.

From 210 To 220 DY= 104.775 mm.

RIGID Weight= 235.76 N.

From 220 To 230 DY= 381.000 mm.

BEND at "T0" end

Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 229

From 230 To 240 DZ= -606.000 mm.

RESTRAINTS

Node 240 +Y Cnode 590

Node 240 X Cnode 590 Gap= 3.000 mm.

Node 240 Z Cnode 590 Gap= 3.000 mm.

From 240 To 250 DZ= -225.000 mm.

From 250 To 260 DZ= -178.000 mm.

REDUCER

Diam2= 219.075 mm. Wall2= 10.312 mm.

From 260 To 270 DZ= -104.775 mm.

PIPE

Dia= 219.075 mm. Wall= 10.312 mm.

Insul Thk= .000 mm.

RIGID Weight= 177.93 N.

From 270 To 280 DZ= -105.000 mm.

PIPE

Dia= 219.075 mm. Wall= 10.312 mm.

GENERAL

T1= 85 C T2= 32 C T3= 15 C P1= 900.0205 KPa PHyd= 1,350.0308 KPa

Fluid Den= .0000060 kg./cu.cm. Insul Thk= .000 mm.

RIGID Weight= 177.93 N.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 280 To 290 DZ= -136.000 mm.

RIGID Weight= 200.01 N.

FORCES & MOMENTS

Node 290 FY1= 2,000.10 N. FZ1= -3,000.15 N.

From 290 To 300 DY= -122.500 mm.

PIPE

Dia= 168.275 mm. Wall= 10.973 mm.

Insul Thk= .000 mm.

RIGID Weight= 200.01 N.

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INPUT LISTING

From 300 To 310 DY= -122.500 mm.

RIGID Weight= 111.21 N.

From 310 To 320 DY= -92.075 mm.

RIGID Weight= 111.21 N.

From 320 To 330 DY= -152.000 mm.

REDUCER

Diam2= 219.075 mm. Wall2= 10.312 mm.

From 330 To 340 DY= -300.000 mm.

PIPE

Dia= 219.075 mm. Wall= 10.312 mm.

Insul Thk= .000 mm.

From 340 To 350 DY= -104.775 mm.

RIGID Weight= 177.93 N.

From 350 To 360 DY= -301.000 mm.

RIGID Weight= 2,259.70 N.

From 360 To 370 DY= -104.775 mm.

RIGID Weight= 177.93 N.

From 370 To 380 DY= -500.000 mm.

BEND at "T0" end

Radius= 304.800 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 379

Angle/Node @2= .00 378

From 380 To 390 DX= -482.000 mm.

From 160 To 400 DZ= -105.000 mm.

PIPE

Dia= 219.075 mm. Wall= 10.312 mm. Cor= 6.0000 mm.

GENERAL

T1= 85 C T2= 32 C T3= 15 C P1= 900.0205 KPa P2= .0000 KPa

Phyd= 1,350.0308 KPa Mat= (106)A106 Grade B E= 203,401,232 KPa

EH1= 199,086,608 KPa EH2= 202,494,736 KPa EH3= 203,685,616 KPa

EH4= 203,401,232 KPa EH5= 203,401,232 KPa EH6= 203,401,232 KPa

EH7= 203,401,232 KPa EH8= 203,401,232 KPa EH9= 203,401,232 KPa

v = .292 Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000060 kg./cu.cm.

Insul Thk= .000 mm. Insul Den= .0001362 kg./cu.cm.

RIGID Weight= 177.93 N.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 400 To 410 DZ= -136.000 mm.

RIGID Weight= 200.01 N.

FORCES & MOMENTS

Node 410 FY1= 2,000.10 N. FZ1= -3,000.15 N.

From 410 To 420 DY= -148.000 mm.

PIPE

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INPUT LISTING

```

    Dia= 168.275 mm.   Wall= 10.973 mm.
    Insul Thk= .000 mm.
RIGID Weight= 200.01 N.
-----
From 420 To 430 DY= -92.075 mm.
RIGID Weight= 111.21 N.
-----
From 430 To 440 DY= -92.075 mm.
RIGID Weight= 111.21 N.
-----
From 440 To 450 DY= -152.000 mm.
REDUCER
    Diam2= 219.075 mm.   Wall2= 10.312 mm.
-----
From 450 To 460 DY= -300.000 mm.
PIPE
    Dia= 219.075 mm.   Wall= 10.312 mm.
    Insul Thk= .000 mm.
-----
From 460 To 470 DY= -104.775 mm.
RIGID Weight= 177.93 N.
-----
From 470 To 480 DY= -301.000 mm.
RIGID Weight= 2,259.70 N.
-----
From 480 To 490 DY= -104.775 mm.
RIGID Weight= 177.93 N.
-----
From 490 To 500 DY= -500.000 mm.
BEND at "TO" end
    Radius= 304.800 mm. (LONG)   Bend Angle= 90.000   Angle/Node @1= 45.00 499
    Angle/Node @2= .00 498
-----
From 500 To 390 DX= 482.000 mm.
-----
From 390 To 800 DZ= -483.000 mm.
BEND at "TO" end
    Radius= 304.800 mm. (LONG)   Bend Angle= 90.000   Angle/Node @1= 45.00 799
    Angle/Node @2= .00 798
-----
From 800 To 510 DY= -305.000 mm.
-----
From 510 To 520 DY= -104.775 mm.
RIGID Weight= 177.93 N.
RESTRAINTS
    Node 520 ANC   Cnode 530
-----
From 530 To 540 DY= -104.775 mm.
RIGID Weight= 177.93 N.
-----
From 540 To 550 DY= -202.000 mm.
PIPE
    Dia= 219.075 mm.   Wall= 10.312 mm.
    Insul Thk= .000 mm.
RESTRAINTS
    Node 550 ANC   Cnode 560

```

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INPUT LISTING

EQUIPMENT LIMITS

Nozzle Node = 550

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 11,200.56 N. FB= 11,200.56 N.

FC= 8,400.42 N. MA= 6,720.29 N.m. MB= 4,480.19 N.m. MC= 5,820.25 N.m.

Equipment Major Direction Vector= .0000 .0000 1.0000

Interact. Mtd= Absolute

From 560 To 570 DY= -2,100.000 mm.

PIPE

Dia= 4,200.000 mm. Wall= 10.312 mm.

Insul Thk= .000 mm.

RIGID Weight= .00 N.

From 560 To 580 DX= -483.000 mm. DY= 2,516.175 mm. DZ= 1,231.773 mm.

RIGID Weight= .00 N.

From 560 To 590 DX= 482.000 mm. DY= 2,516.175 mm. DZ= 1,231.773 mm.

RIGID Weight= .00 N.

From 570 To 600 DX= -4,600.000 mm.

RIGID Weight= .00 N.

From 600 To 610 DY= -2,100.000 mm.

RIGID Weight= .00 N.

RESTRAINTS

Node 610 +Y Mu = .30

Node 610 Z Gap= 3.000 mm. Mu = .30

From 570 To 620 DX= 6,000.000 mm.

RIGID Weight= .00 N.

From 620 To 630 DY= -2,100.000 mm.

RIGID Weight= .00 N.

RESTRAINTS

Node 630 ANC

From 650 To 660 DZ= -6,000.000 mm.

PIPE

Dia= 273.050 mm. Wall= 9.271 mm. Cor= 6.0000 mm.

GENERAL

T1= 270 C T2= 272 C T3= -28 C P1= 600.0137 KPa PHyd= 900.0205 KPa

Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 187,483,936 KPa

EH2= 187,335,024 KPa EH3= 205,934,864 KPa EH4= 203,401,232 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000015 kg./cu.cm.

Insul Thk= .000 mm. Insul Den= .0001362 kg./cu.cm.

RESTRAINTS

Node 660 +Y Mu = .30

Node 650 +Y Mu = .30

Node 650 X Gap= 3.000 mm. Mu = .30

Node 650 Z Gap= 3.000 mm. Mu = .30

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 129,638 KPa Sh2= 129,365 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

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INPUT LISTING

Sh9= 137,895 KPa Sy= 241,316 KPa

 From 660 To 670 DZ= -6,000.000 mm.

RESTRAINTS

Node 670 +Y Mu = .30

Node 670 X Gap= 3.000 mm.

 From 670 To 680 DZ= -6,000.000 mm.

RESTRAINTS

Node 680 +Y Mu = .30

 From 680 To 690 DZ= -6,000.000 mm.

RESTRAINTS

Node 690 +Y Mu = .30

Node 690 X Gap= 3.000 mm.

 From 690 To 700 DZ= -4,500.000 mm.

RESTRAINTS

Node 700 +Y Mu = .30

 From 700 To 710 DZ= -1,070.000 mm.

BEND at "TO" end

Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 709

Angle/Node @2= .00 708

 From 710 To 720 DX= 3,500.000 mm.

 From 720 To 730 DX= 4,500.000 mm.

RESTRAINTS

Node 730 +Y Mu = .30

Node 730 Z

 From 730 To 740 DX= 4,500.000 mm.

 From 740 To 750 DX= 97.000 mm.

 From 750 To 20 DY= 127.000 mm.

RIGID Weight= .00 N.

SIF's & TEE's

Node 20 Welding Tee

 From 750 To 770 DX= 3,103.000 mm.

RESTRAINTS

Node 770 +Y Mu = .30

 From 770 To 780 DX= 4,600.000 mm.

RESTRAINTS

Node 780 +Y Mu = .00

Node 780 Z

 From 780 To 790 DX= 420.000 mm.

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MATERIAL Changes:

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INPUT LISTING

10	20	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
160	400	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
650	660	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.

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ALLOWABLE STRESS Changes

10	20	B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa Sh1= 129,365 KPa Sh2= 129,365 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa Sh9= 137,895 KPa Sy= 241,316 KPa
20	30	B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa Sh1= 129,365 KPa Sh2= 129,365 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa Sh9= 137,895 KPa Sy= 241,316 KPa
270	280	B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa Sh9= 137,895 KPa Sy= 241,316 KPa
160	400	B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa Sh9= 137,895 KPa Sy= 241,316 KPa
650	660	B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa Sh1= 129,638 KPa Sh2= 129,365 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa Sh9= 137,895 KPa Sy= 241,316 KPa

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BEND ELEMENTS

20	30	Radius= 381.000 mm. (LONG) Bend Angle= 50.525 Angle/Node @1= 25.26 29 Angle/Node @2= .00 28
30	40	Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 39 Angle/Node @2= .00 38

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INPUT LISTING

60	70	Radius= 381.000 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00 69
		Angle/Node @2= .00 68
110	120	Radius= 381.000 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		119
60	180	Radius= 381.000 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		179 Angle/Node @2= .00 178
220	230	Radius= 381.000 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		229
370	380	Radius= 304.800 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		379 Angle/Node @2= .00 378
490	500	Radius= 304.800 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		499 Angle/Node @2= .00 498
390	800	Radius= 304.800 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		799 Angle/Node @2= .00 798
700	710	Radius= 381.000 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		709 Angle/Node @2= .00 708

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RIGIDS

10	20	RIGID Weight= .00 N.
80	90	RIGID Weight= 235.76 N.
90	100	RIGID Weight= 3,563.03 N.
100	110	RIGID Weight= 235.76 N.
150	160	RIGID Weight= 177.93 N.
60	170	RIGID Weight= .00 N.
190	200	RIGID Weight= 235.76 N.
200	210	RIGID Weight= 3,563.03 N.
210	220	RIGID Weight= 235.76 N.
260	270	RIGID Weight= 177.93 N.
270	280	RIGID Weight= 177.93 N.
280	290	RIGID Weight= 200.01 N.
290	300	RIGID Weight= 200.01 N.
300	310	RIGID Weight= 111.21 N.
310	320	RIGID Weight= 111.21 N.
340	350	RIGID Weight= 177.93 N.
350	360	RIGID Weight= 2,259.70 N.
360	370	RIGID Weight= 177.93 N.
160	400	RIGID Weight= 177.93 N.
400	410	RIGID Weight= 200.01 N.
410	420	RIGID Weight= 200.01 N.
420	430	RIGID Weight= 111.21 N.
430	440	RIGID Weight= 111.21 N.
460	470	RIGID Weight= 177.93 N.
470	480	RIGID Weight= 2,259.70 N.
480	490	RIGID Weight= 177.93 N.
510	520	RIGID Weight= 177.93 N.

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INPUT LISTING

530	540	RIGID Weight= 177.93 N.
560	570	RIGID Weight= .00 N.
560	580	RIGID Weight= .00 N.
560	590	RIGID Weight= .00 N.
570	600	RIGID Weight= .00 N.
600	610	RIGID Weight= .00 N.
570	620	RIGID Weight= .00 N.
620	630	RIGID Weight= .00 N.
750	20	RIGID Weight= .00 N.

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SIF's & TEE's

60	170	Node 170 Unreinforced Tee
60	180	Node 60 Unreinforced Tee
750	20	Node 20 Welding Tee

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REDUCERS

140	150	Diam2= 219.075 mm.	Wall2= 10.312 mm.
250	260	Diam2= 219.075 mm.	Wall2= 10.312 mm.
320	330	Diam2= 219.075 mm.	Wall2= 10.312 mm.
440	450	Diam2= 219.075 mm.	Wall2= 10.312 mm.

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RESTRAINTS

NODE	TYPE	CNODE	STIF1	Len GAP STIF2	MU YIELD FORCE	Dir Vectors
50	+Y				.30	.000 1.000 .000
50	X			3.00		1.000 .000 .000
130	+Y	580				.000 1.000 .000
130	X	580		3.00		1.000 .000 .000
130	Z	580		3.00		.000 .000 1.000
240	+Y	590				.000 1.000 .000
240	X	590		3.00		1.000 .000 .000
240	Z	590		3.00		.000 .000 1.000
520	ANC	530				.000 .000 .000
550	ANC	560				.000 .000 .000
610	+Y				.30	.000 1.000 .000
610	Z			3.00	.30	.000 .000 1.000
630	ANC					.000 .000 .000
660	+Y				.30	.000 1.000 .000
650	+Y				.30	.000 1.000 .000
650	X			3.00	.30	1.000 .000 .000
650	Z			3.00	.30	.000 .000 1.000
670	+Y				.30	.000 1.000 .000
670	X			3.00		1.000 .000 .000
680	+Y				.30	.000 1.000 .000
690	+Y				.30	.000 1.000 .000
690	X			3.00		1.000 .000 .000
700	+Y				.30	.000 1.000 .000
730	+Y				.30	.000 1.000 .000

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INPUT LISTING

730	Z			.000	.000	1.000
770	+Y	.30		.000	1.000	.000
780	+Y	.00		.000	1.000	.000
780	Z			.000	.000	1.000

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EQUIPMENT LIMITS

540 550 Nozzle Node = 550

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 11,200.56 N. FB= 11,200.56 N.
 FC= 8,400.42 N. MA= 6,720.29 N.m. MB= 4,480.19 N.m. MC= 5,820.25 N.m.
 Equipment Major Direction Vector= .0000 .0000 1.0000
 Interact. Mtd= Absolute

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FORCES AND MOMENTS

280	290	Node 290	FY1= 2,000.10 N.
			FZ1= -3,000.15 N.
400	410	Node 410	FY1= 2,000.10 N.
			FZ1= -3,000.15 N.

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UNIFORM LOAD Changes

10	20	Vector1 in G-s
		X1 Dir = .26 g's Y1 Dir = .00 g's
		Z1 Dir = .00 g's
		Vector2 in G-s
		X2 Dir = .00 g's Y2 Dir = .12 g's
		Z2 Dir = .00 g's
		Vector3 in G-s
		X3 Dir = .00 g's Y3 Dir = .00 g's
		Z3 Dir = .26 g's

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INPUT UNITS USED...

UNITS= SI (m NOM/SCH INPUT= ON

LENGTH	inches	x	25.400	=	mm.
FORCE	pounds	x	4.448	=	N.
MASS(dynamics)	pounds	x	0.454	=	Kg.
MOMENTS(INPUT)	inch-pounds	x	0.113	=	N.m.
MOMENTS(OUTPUT)	inch-pounds	x	0.113	=	N.m.
STRESS	lbs./sq.in.	x	6.895	=	KPa
TEMP. SCALE	degrees F.	x	0.556	=	C
PRESSURE	psig	x	6.895	=	KPa
ELASTIC MODULUS	lbs./sq.in.	x	6.895	=	KPa
PIPE DENSITY	lbs./cu.in.	x	0.028	=	kg./cu.cm.
INSULATION DENS.	lbs./cu.in.	x	0.028	=	kg./cu.cm.
FLUID DENSITY	lbs./cu.in.	x	0.028	=	kg./cu.cm.

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INPUT LISTING

TRANSL. STIF	lbs./in.	x	1.751	=	N./cm.
ROTATIONAL STIF	in.lb./deg.	x	0.113	=	N.m./deg
UNIFORM LOAD	lb./in.	x	1.751	=	N./cm.
G LOAD	g's	x	1.000	=	g's
WIND LOAD	lbs./sq.in.	x	6.895	=	KPa
ELEVATION	inches	x	0.025	=	m.
COMPOUND LENGTH	inches	x	25.400	=	mm.
DIAMETER	inches	x	25.400	=	mm.
WALL THICKNESS	inches	x	25.400	=	mm.

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SETUP FILE PARAMETERS

```

CONNECT GEOMETRY THRU CNODES = YES
MIN ALLOWED BEND ANGLE = 5.00000
MAX ALLOWED BEND ANGLE = 95.0000
BEND LENGTH ATTACHMENT PERCENT = 1.00000
MIN ANGLE TO ADJACENT BEND PT = 5.00000
LOOP CLOSURE TOLERANCE = 25.4000 mm.
THERMAL BOWING HORZ TOLERANCE = 0.100000E-03
AUTO NODE NUMBER INCREMENT= 10.0000
Z AXIS UP= NO
USE PRESSURE STIFFENING = DEFAULT
ALPHA TOLERANCE = 0.500000E-01
RESLD-FORCE = NO
HGR DEF RESWGT STIF = 0.175127E+13 N./cm.
DECOMP SNG TOL = 0.100000E+11
BEND AXIAL SHAPE = YES
FRICT STIF = 0.175127E+07 N./cm.
FRICT NORM FORCE VAR = 0.150000
FRICT ANGLE VAR = 15.0000
FRICT SLIDE MULT = 1.00000
ROD TOLERANCE = 1.00000
ROD INC = 2.00000
INCORE NUMERICAL CHECK = NO
OUTCORE NUMERICAL CHECK = NO
DEFAULT TRANS RESTRAINT STIFF= 0.175127E+13 N./cm.
DEFAULT ROT RESTRAINT STIFF= 0.112985E+12 N.m./deg
IGNORE SPRING HANGER STIFFNESS = NO
MISSING MASS ZPA = EXTRACTED
MIN WALL MILL TOLERANCE = 12.5000
WRC-107 VERSION = MAR 79 1B1/2B1
WRC-107 INTERPOLATION = LAST VALUE
DEFAULT AMBIENT TEMPERATURE= 21.1111 C
BOURDON PRESSURE= NONE
COEFFICIENT OF FRICTION (MU) = 0.000000
INCLUDE SPRG STIF IN HGR OPE = NO
INCLUDE INSULATION IN HYDROTEST = NO
REDUCED INTERSECTION = B31.1(POST1980)
USE WRC329 NO
NO REDUCED SIF FOR RFT AND WLT NO
B31.1 REDUCED Z FIX = YES
CLASS 1 BRANCH FLEX NO
ALL STRESS CASES CORRODED = NO
ADD TORSION IN SL STRESS = DEFAULT
ADD F/A IN STRESS = DEFAULT

```

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INPUT LISTING

```
OCCASIONAL LOAD FACTOR = 0.000000
DEFAULT CODE = B31.3
B31.3 SUS CASE SIF FACTOR = 0.000000
ALLOW USERS BEND SIF = NO
USE SCHNEIDER NO
YIELD CRITERION STRESS = MAX 3D SHEAR
USE PD/4T NO
BASE H00P STRESS ON ? = ID
EN13480 USE IN OUTPLANE SIFS= NO
LIBERAL EXPANSION ALLOWABLE= YES
B31.3 SEC 319.2.3C SAXIAL= Default
B31.3 WELDING/CONTOUR TEE ISB16.9 FALSE
PRESSURE VARIATION IN EXP CASE= DEFAULT
IMPLEMENT B313 APP-P NO
IMPLEMENT B313 CODE CASE 178 YES
IGNORE B31.1/B31.3 Wc FACTOR= YES
USE FRP SIF = YES
USE FRP FLEX = YES
BS 7159 Pressure Stiffening= Design Strain
FRP Property Data File= CAESAR.FRP
FRP Emod (axial) = 0.220632E+08 KPa
FRP Ratio Gmod/Emod (axial) = 0.250000
FRP Ea/Eh*Vh/a = 0.152730
FRP Laminate Type = THREE
FRP Alpha = 21.6000 C
FRP Density = 0.166079E-02 kg./cu.cm.
EXCLUDE f2 FROM UK00A BENDING = NO
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```

EXECUTION CONTROL PARAMETERS

```
Rigid/ExpJt Print Flag ..... 1.000
Bourdon Option ..... .000
Loop Closure Flag ..... 2.000
Thermal Bowing Delta Temp .. .000 C
Liberal Allowable Flag ..... 1.000
Uniform Load Option ..... 1.000

Ambient Temperature ..... 20.997 C
Plastic (FRP) Alpha ..... 21.600
Plastic (FRP) GMOD/EMODa ... .250
Plastic (FRP) Laminate Type. 3.000
Eqn Optimizer ..... .000
Node Selection ..... .000
Eqn Ordering ..... .000
Collins ..... .000
Degree Determination ..... .000
User Eqn Control ..... .000
North Direction ..... -X
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```

COORDINATE REPORT

```

/------(mm.)-----/
NODE          X          Y          Z
```

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INPUT LISTING

10	-2503.080	-7395.683	-35745.781
20	-2503.080	-7268.683	-35745.781
30	-1783.080	-6675.683	-35745.781
40	-1783.080	-1452.683	-35745.781
50	-1783.080	-1452.683	-37192.781
60	-1783.080	-1452.683	-38434.781
70	-1783.080	-1452.683	-39334.781
80	-1783.080	-435.683	-39334.781
90	-1783.080	-330.908	-39334.781
100	-1783.080	8.092	-39334.781
110	-1783.080	112.867	-39334.781
120	-1783.080	493.867	-39334.781
130	-1783.080	493.867	-39940.781
140	-1783.080	493.867	-40165.781
150	-1783.080	493.867	-40343.781
160	-1783.080	493.867	-40448.555
60	-1783.080	-1452.683	-38434.781
170	-1656.080	-1452.683	-38434.781
60	-1783.080	-1452.683	-38434.781
180	-818.080	-1452.683	-39334.781
190	-818.080	-435.683	-39334.781
200	-818.080	-330.908	-39334.781
210	-818.080	8.092	-39334.781
220	-818.080	112.867	-39334.781
230	-818.080	493.867	-39334.781
240	-818.080	493.867	-39940.781
250	-818.080	493.867	-40165.781
260	-818.080	493.867	-40343.781
270	-818.080	493.867	-40448.555
280	-818.080	493.867	-40553.555
290	-818.080	493.867	-40689.555
300	-818.080	371.367	-40689.555
310	-818.080	248.867	-40689.555
320	-818.080	156.792	-40689.555
330	-818.080	4.792	-40689.555
340	-818.080	-295.208	-40689.555
350	-818.080	-399.983	-40689.555
360	-818.080	-700.983	-40689.555
370	-818.080	-805.758	-40689.555
380	-818.080	-1305.758	-40689.555
390	-1300.080	-1305.758	-40689.555
160	-1783.080	493.867	-40448.555
400	-1783.080	493.867	-40553.555
410	-1783.080	493.867	-40689.555
420	-1783.080	345.867	-40689.555
430	-1783.080	253.792	-40689.555
440	-1783.080	161.717	-40689.555
450	-1783.080	9.717	-40689.555
460	-1783.080	-290.283	-40689.555
470	-1783.080	-395.058	-40689.555
480	-1783.080	-696.058	-40689.555
490	-1783.080	-800.833	-40689.555
500	-1783.080	-1300.833	-40689.555
500	-1782.080	-1305.758	-40689.555
390	-1300.080	-1305.758	-40689.555
800	-1300.080	-1305.758	-41172.555

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INPUT LISTING

510	-1300.080	-1610.758	-41172.555
520	-1300.080	-1715.533	-41172.555
540	-1300.080	-1820.308	-41172.555
550	-1300.080	-2022.308	-41172.555
570	-1300.080	-4122.308	-41172.555
550	-1300.080	-2022.308	-41172.555
130	-1783.080	493.867	-39940.781
550	-1300.080	-2022.308	-41172.555
240	-818.080	493.867	-39940.781
570	-1300.080	-4122.308	-41172.555
600	-5900.080	-4122.308	-41172.555
610	-5900.080	-6222.308	-41172.555
570	-1300.080	-4122.308	-41172.555
620	4699.920	-4122.308	-41172.555
630	4699.920	-6222.308	-41172.555
650	-15100.080	-7395.683	-6175.781
660	-15100.080	-7395.683	-12175.781
670	-15100.080	-7395.683	-18175.781
680	-15100.080	-7395.683	-24175.781
690	-15100.080	-7395.683	-30175.781
700	-15100.080	-7395.683	-34675.781
710	-15100.080	-7395.683	-35745.781
720	-11600.080	-7395.683	-35745.781
730	-7100.080	-7395.683	-35745.781
740	-2600.080	-7395.683	-35745.781
750	-2503.080	-7395.683	-35745.781
20	-2503.080	-7268.683	-35745.781
750	-2503.080	-7395.683	-35745.781
770	599.920	-7395.683	-35745.781
780	5199.920	-7395.683	-35745.781
790	5619.920	-7395.683	-35745.781

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

- 1 (HYD) WW+HP
- 2 (OPE) W+T1+P1
- 3 (Alt-SUS) W+P1
- 4 (OPE) W+T2+P1
- 5 (Alt-SUS) W+P1
- 6 (OPE) W+T3+P1
- 7 (Alt-SUS) W+P1
- 8 (SUS) W+P1
- 9 (SUS) WNC
- 10 (OPE) W+T2+P1+U1
- 11 (OPE) W+T2+P1-U1
- 12 (OPE) W+T2+P1+U2
- 13 (OPE) W+T2+P1+U3
- 14 (OPE) W+T2+P1-U3
- 15 (OPE) W+T2+P1+F1
- 16 (OCC) L16=L10-L4
- 17 (OCC) L17=L11-L4
- 18 (OCC) L18=L12-L4
- 19 (OCC) L19=L13-L4
- 20 (OCC) L20=L14-L4
- 21 (OCC) L21=L15-L4
- 22 (OCC) L22=L16+L8
- 23 (OCC) L23=L17+L8
- 24 (OCC) L24=L18+L8
- 25 (OCC) L25=L19+L8
- 26 (OCC) L26=L20+L8
- 27 (OCC) L27=L21+L8
- 28 (EXP) L28=L2-L8
- 29 (EXP) L29=L4-L8
- 30 (EXP) L30=L2-L4
- 31 (EXP) L31=L6-L8
- 32 (EXP) L32=L2-L6
- 33 (EXP) L33=L4-L6

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

LOAD CASE DEFINITION KEY

CASE 1 (HYD) WW+HP
CASE 2 (OPE) W+T1+P1
CASE 4 (OPE) W+T2+P1
CASE 6 (OPE) W+T3+P1
CASE 8 (SUS) W+P1
CASE 9 (SUS) WNC
CASE 10 (OPE) W+T2+P1+U1
CASE 11 (OPE) W+T2+P1-U1
CASE 12 (OPE) W+T2+P1+U2
CASE 13 (OPE) W+T2+P1+U3
CASE 14 (OPE) W+T2+P1-U3
CASE 15 (OPE) W+T2+P1+F1
CASE 16 (OCC) L16=L10-L4
CASE 17 (OCC) L17=L11-L4
CASE 18 (OCC) L18=L12-L4
CASE 19 (OCC) L19=L13-L4
CASE 20 (OCC) L20=L14-L4
CASE 21 (OCC) L21=L15-L4

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
50		TYPE=Rigid +Y; Rigid X w/gap;					
	1(HYD)	6	-12562	-102	0	0	0
	2(OPE)	948	0	0	0	0	0
	4(OPE)	1764	0	0	0	0	0
	6(OPE)	-9	-12190	-3657	0	0	0
	8(SUS)	37	-6853	-322	0	0	0
	9(SUS)	37	-6844	-323	0	0	0
	10(OPE)	6037	0	0	0	0	0
	11(OPE)	0	0	0	0	0	0
	12(OPE)	1945	0	0	0	0	0
	13(OPE)	2037	0	0	0	0	0
	14(OPE)	1388	0	0	0	0	0
	15(OPE)	1493	0	0	0	0	0
	16(OCC)	4273	0	0	0	0	0
	17(OCC)	-1764	0	0	0	0	0
	18(OCC)	181	0	0	0	0	0
	19(OCC)	273	0	0	0	0	0
	20(OCC)	-376	0	0	0	0	0
	21(OCC)	-271	0	0	0	0	0
	MAX	6037/L10	-12562/L1	-3657/L6			
130		TYPE=Rigid +Y; Rigid X w/gap; Rigid Z					

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
		w/gap;					
	1(HYD)	0	-8349	0	0	0	0
	2(OPE)	0	-737	0	0	0	0
	4(OPE)	0	0	0	0	0	0
	6(OPE)	0	-8114	0	0	0	0
	8(SUS)	0	-7659	0	0	0	0
	9(SUS)	0	-7656	0	0	0	0
	10(OPE)	0	0	0	0	0	0
	11(OPE)	-1730	0	0	0	0	0
	12(OPE)	0	0	0	0	0	0
	13(OPE)	0	-3403	0	0	0	0
	14(OPE)	0	0	0	0	0	0
	15(OPE)	0	0	0	0	0	0
	16(OCC)	0	0	0	0	0	0
	17(OCC)	-1730	0	0	0	0	0
	18(OCC)	0	0	0	0	0	0
	19(OCC)	0	-3403	0	0	0	0
	20(OCC)	0	0	0	0	0	0
	21(OCC)	0	0	0	0	0	0
	MAX	-1730/L11	-8349/L1				
240		TYPE=Rigid +Y; Rigid X w/gap; Rigid Z w/gap;					
	1(HYD)	0	-11392	0	0	0	0
	2(OPE)	0	0	0	0	0	0
	4(OPE)	0	0	0	0	0	0
	6(OPE)	0	-12684	0	0	0	0
	8(SUS)	0	-9327	0	0	0	0
	9(SUS)	0	-9323	0	0	0	0
	10(OPE)	0	0	0	0	0	0
	11(OPE)	0	0	0	0	0	0
	12(OPE)	0	0	0	0	0	0
	13(OPE)	0	0	0	0	0	0
	14(OPE)	0	0	-1697	0	0	0
	15(OPE)	0	0	-3543	0	0	0
	16(OCC)	0	0	0	0	0	0
	17(OCC)	0	0	0	0	0	0
	18(OCC)	0	0	0	0	0	0
	19(OCC)	0	0	0	0	0	0
	20(OCC)	0	0	-1697	0	0	0
	21(OCC)	0	0	-3543	0	0	0
	MAX		-12684/L6	-3543/L15			
520		TYPE=Rigid ANC;					

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	1(HYD)	-10	-2537	396	518	71	221
	2(OPE)	1497	-14229	-1901	1063	4365	1340
	4(OPE)	760	-14359	-2116	-35	2403	1718
	6(OPE)	-539	2292	4563	1305	-255	509
	8(SUS)	-39	-1757	481	434	31	134
	9(SUS)	-39	-1751	481	433	31	134
	10(OPE)	4082	-14362	-2112	-58	2956	-1368
	11(OPE)	-2221	-14339	-2130	-52	452	3995
	12(OPE)	712	-12257	-2031	-1127	2384	2043
	13(OPE)	672	-10864	4144	2964	2327	847
	14(OPE)	1026	-14555	-6659	-3036	2391	1617
	15(OPE)	1133	-11357	-4369	-2988	2332	2296
	16(OCC)	3322	-3	4	-23	552	-3086
	17(OCC)	-2981	20	-14	-17	-1951	2277
	18(OCC)	-48	2102	85	-1092	-19	325
	19(OCC)	-89	3495	6261	2999	-77	-871
	20(OCC)	266	-197	-4543	-3001	-13	-101
	21(OCC)	373	3002	-2252	-2953	-71	578
	MAX	4082/L10	-14555/L14	-6659/L14	-3036/L14	4365/L2	3995/L11
550		TYPE=Rigid ANC;					
	1(HYD)	-10	-2913	396	640	71	224
	2(OPE)	1497	-14513	-1901	479	4365	881
	4(OPE)	760	-14642	-2116	-684	2403	1485
	6(OPE)	-539	2009	4563	2705	-255	675
	8(SUS)	-39	-2040	481	582	31	146
	9(SUS)	-39	-2033	481	581	31	146
	10(OPE)	4156	-14645	-2112	-706	2956	-2635
	11(OPE)	-2295	-14622	-2130	-705	452	4691
	12(OPE)	712	-12506	-2031	-1750	2384	1824
	13(OPE)	672	-11147	4218	4250	2327	641
	14(OPE)	1026	-14839	-6732	-5093	2391	1303
	15(OPE)	1133	-11641	-4369	-4328	2332	1948
	16(OCC)	3395	-3	4	-21	552	-4120
	17(OCC)	-3055	20	-14	-21	-1951	3206
	18(OCC)	-48	2136	85	-1066	-19	339
	19(OCC)	-89	3495	6334	4934	-77	-844
	20(OCC)	266	-197	-4616	-4409	-13	-182
	21(OCC)	373	3002	-2252	-3644	-71	463
	MAX	4156/L10	-14839/L14	-6732/L14	-5093/L14	4365/L2	4691/L11
610		TYPE=Rigid +Y; Rigid Z w/gap;					
	1(HYD)	-97	-10683	-65	0	0	0
	2(OPE)	-2243	-7476	-0	0	0	0
	4(OPE)	-2193	-7309	-2	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	6(OPE)	2534	-8447	7	0	0	0
	8(SUS)	-82	-9013	-45	0	0	0
	9(SUS)	-82	-9007	-45	0	0	0
	10(OPE)	-1848	-6160	-1	0	0	0
	11(OPE)	-2747	-9156	-3	0	0	0
	12(OPE)	-1881	-6269	-1	0	0	0
	13(OPE)	-2208	-7359	4	0	0	0
	14(OPE)	-2192	-7306	-7	0	0	0
	15(OPE)	-1746	-5821	-5	0	0	0
	16(OCC)	345	1148	0	0	0	0
	17(OCC)	-554	-1848	-1	0	0	0
	18(OCC)	312	1040	0	0	0	0
	19(OCC)	-15	-51	6	0	0	0
	20(OCC)	1	3	-6	0	0	0
	21(OCC)	446	1487	-3	0	0	0
	MAX	-2747/L11	-10683/L1	-65/L1			
630		TYPE=Rigid ANC;					
	1(HYD)	87	-11971	461	26618	3134	21492
	2(OPE)	3937	-7774	-1901	-6599	-7041	7200
	4(OPE)	2860	-7334	-2115	-9572	-10278	8674
	6(OPE)	-3136	-10342	4556	47488	27045	23941
	8(SUS)	43	-10013	526	23525	3391	18131
	9(SUS)	43	-10006	526	23517	3391	18118
	10(OPE)	6016	-8485	-2111	-9576	-9702	2483
	11(OPE)	-1136	-5466	-2127	-9651	-14427	16626
	12(OPE)	2455	-6237	-2030	-10280	-9789	7423
	13(OPE)	2796	-7191	4214	26157	27593	8755
	14(OPE)	3006	-7533	-8423	-44766	-47299	8581
	15(OPE)	3126	-5819	-7906	-46475	-43372	5327
	16(OCC)	3156	-1151	4	-3	576	-6191
	17(OCC)	-3996	1868	-12	-79	-4149	7952
	18(OCC)	-406	1096	85	-708	489	-1250
	19(OCC)	-64	143	6329	35730	37871	82
	20(OCC)	146	-199	-6308	-35194	-37021	-93
	21(OCC)	265	1514	-5792	-36903	-33094	-3347
	MAX	6016/L10	-11971/L1	-8423/L14	47488/L6	-47299/L14	23941/L6
650		TYPE=Rigid +Y; Rigid X w/gap; Rigid Z w/gap;					
	1(HYD)	0	-2575	0	0	0	0
	2(OPE)	-131	-1398	12657	0	0	0
	4(OPE)	-141	-1398	12726	0	0	0
	6(OPE)	-1792	-1397	-6373	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	8(SUS)	0	-1397	0	0	0	0
	9(SUS)	0	-1396	0	0	0	0
	10(OPE)	660	-1398	12265	0	0	0
	11(OPE)	-3863	-1398	13050	0	0	0
	12(OPE)	-130	-1231	12002	0	0	0
	13(OPE)	-140	-1398	17463	0	0	0
	14(OPE)	-2320	-1398	8091	0	0	0
	15(OPE)	-133	-1398	12697	0	0	0
	16(OCC)	800	-0	-461	0	0	0
	17(OCC)	-3723	0	324	0	0	0
	18(OCC)	11	168	-724	0	0	0
	19(OCC)	1	-0	4737	0	0	0
	20(OCC)	-2179	0	-4635	0	0	0
	21(OCC)	8	0	-29	0	0	0
	MAX	-3863/L11	-2575/L1	17463/L13			
660		TYPE=Rigid +Y;					
	1(HYD)	-0	-7423	0	0	0	0
	2(OPE)	21	-4023	-1207	0	0	0
	4(OPE)	14	-4023	-1207	0	0	0
	6(OPE)	-70	-4029	1207	0	0	0
	8(SUS)	-0	-4029	0	0	0	0
	9(SUS)	-0	-4023	0	0	0	0
	10(OPE)	136	-4023	-1199	0	0	0
	11(OPE)	-274	-4023	-1175	0	0	0
	12(OPE)	19	-3540	-1062	0	0	0
	13(OPE)	15	-4023	-1207	0	0	0
	14(OPE)	6	-4024	-1207	0	0	0
	15(OPE)	19	-4024	-1207	0	0	0
	16(OCC)	121	0	8	0	0	0
	17(OCC)	-289	-0	31	0	0	0
	18(OCC)	4	483	145	0	0	0
	19(OCC)	1	0	0	0	0	0
	20(OCC)	-8	-0	-0	0	0	0
	21(OCC)	5	-1	-0	0	0	0
	MAX	-289/L17	-7423/L1	-1207/L15			
670		TYPE=Rigid +Y; Rigid X w/gap;					
	1(HYD)	0	-6224	1	0	0	0
	2(OPE)	1286	-3400	-1016	0	0	0
	4(OPE)	1364	-3399	-1016	0	0	0
	6(OPE)	-4	-3375	1012	0	0	0
	8(SUS)	0	-3378	0	0	0	0
	9(SUS)	0	-3374	0	0	0	0
	10(OPE)	3081	-3401	-1017	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	11(OPE)	-16	-3399	-1020	0	0	0
	12(OPE)	1286	-2992	-895	0	0	0
	13(OPE)	1357	-3400	-1017	0	0	0
	14(OPE)	1421	-3398	-1016	0	0	0
	15(OPE)	1299	-3396	-1015	0	0	0
	16(OCC)	1717	-1	-0	0	0	0
	17(OCC)	-1380	0	-3	0	0	0
	18(OCC)	-78	407	122	0	0	0
	19(OCC)	-7	-1	-0	0	0	0
	20(OCC)	57	1	0	0	0	0
	21(OCC)	-64	3	1	0	0	0
	MAX	3081/L10	-6224/L1	-1020/L11			
680		TYPE=Rigid +Y;					
	1(HYD)	-0	-6893	2	0	0	0
	2(OPE)	136	-3659	-1089	0	0	0
	4(OPE)	140	-3660	-1089	0	0	0
	6(OPE)	124	-3753	1119	0	0	0
	8(SUS)	-0	-3741	1	0	0	0
	9(SUS)	-0	-3736	1	0	0	0
	10(OPE)	124	-3655	-1089	0	0	0
	11(OPE)	110	-3661	-1093	0	0	0
	12(OPE)	118	-3217	-958	0	0	0
	13(OPE)	140	-3656	-1088	0	0	0
	14(OPE)	145	-3664	-1090	0	0	0
	15(OPE)	136	-3673	-1093	0	0	0
	16(OCC)	-16	5	-1	0	0	0
	17(OCC)	-31	-1	-4	0	0	0
	18(OCC)	-22	442	131	0	0	0
	19(OCC)	-1	3	1	0	0	0
	20(OCC)	4	-4	-1	0	0	0
	21(OCC)	-4	-13	-4	0	0	0
	MAX	145/L14	-6893/L1	1119/L6			
690		TYPE=Rigid +Y; Rigid X w/gap;					
	1(HYD)	1	-5086	4	0	0	0
	2(OPE)	-9227	-3195	-958	0	0	0
	4(OPE)	-9510	-3188	-956	0	0	0
	6(OPE)	606	-2697	776	0	0	0
	8(SUS)	1	-2760	2	0	0	0
	9(SUS)	1	-2757	2	0	0	0
	10(OPE)	-6412	-3214	-963	0	0	0
	11(OPE)	-12257	-3184	-954	0	0	0
	12(OPE)	-9208	-2823	-846	0	0	0
	13(OPE)	-9478	-3207	-961	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	14(OPE)	-9710	-3168	-950	0	0	0
	15(OPE)	-9300	-3121	-936	0	0	0
	16(OCC)	3098	-26	-8	0	0	0
	17(OCC)	-2747	4	1	0	0	0
	18(OCC)	302	365	110	0	0	0
	19(OCC)	32	-18	-5	0	0	0
	20(OCC)	-200	20	6	0	0	0
	21(OCC)	210	67	20	0	0	0
	MAX	-12257/L11	-5086/L1	-963/L10			
700		TYPE=Rigid +Y;					
	1(HYD)	-27	-7184	8	0	0	0
	2(OPE)	-196	-2814	-821	0	0	0
	4(OPE)	-199	-2772	-807	0	0	0
	6(OPE)	436	-4245	1197	0	0	0
	8(SUS)	-14	-3900	4	0	0	0
	9(SUS)	-14	-3895	4	0	0	0
	10(OPE)	-147	-2688	-793	0	0	0
	11(OPE)	-224	-2775	-802	0	0	0
	12(OPE)	-162	-2370	-692	0	0	0
	13(OPE)	-197	-2746	-800	0	0	0
	14(OPE)	-208	-2810	-817	0	0	0
	15(OPE)	-201	-2890	-843	0	0	0
	16(OCC)	52	84	15	0	0	0
	17(OCC)	-25	-3	6	0	0	0
	18(OCC)	37	402	115	0	0	0
	19(OCC)	2	26	8	0	0	0
	20(OCC)	-9	-38	-10	0	0	0
	21(OCC)	-2	-118	-36	0	0	0
	MAX	436/L6	-7184/L1	1197/L6			
730		TYPE=Rigid +Y; Rigid Z;					
	1(HYD)	19	-10265	-80	0	0	0
	2(OPE)	3283	-10945	-9157	0	0	0
	4(OPE)	3382	-11273	-9284	0	0	0
	6(OPE)	-560	-3560	896	0	0	0
	8(SUS)	10	-5566	-42	0	0	0
	9(SUS)	10	-5558	-42	0	0	0
	10(OPE)	3578	-11925	-8713	0	0	0
	11(OPE)	-132	-11274	-9886	0	0	0
	12(OPE)	3117	-10391	-9135	0	0	0
	13(OPE)	3409	-11363	-6825	0	0	0
	14(OPE)	3330	-11101	-11840	0	0	0
	15(OPE)	3268	-10894	-9274	0	0	0
	16(OCC)	196	-652	571	0	0	0
	17(OCC)	-3514	-1	-602	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	18(OCC)	-265	882	150	0	0	0
	19(OCC)	27	-90	2460	0	0	0
	20(OCC)	-52	173	-2555	0	0	0
	21(OCC)	-114	379	10	0	0	0
	MAX	3578/L10	-11925/L10	-11840/L14			
770		TYPE=Rigid +Y;					
	1(HYD)	11	-7671	-279	0	0	0
	2(OPE)	2918	-11223	1679	0	0	0
	4(OPE)	2963	-11549	1795	0	0	0
	6(OPE)	0	0	0	0	0	0
	8(SUS)	6	-4148	-152	0	0	0
	9(SUS)	6	-4142	-151	0	0	0
	10(OPE)	2953	-10956	1443	0	0	0
	11(OPE)	2871	-11569	1949	0	0	0
	12(OPE)	2622	-10126	1533	0	0	0
	13(OPE)	2865	-11562	1956	0	0	0
	14(OPE)	3039	-11504	1636	0	0	0
	15(OPE)	2815	-10869	1646	0	0	0
	16(OCC)	-10	592	-352	0	0	0
	17(OCC)	-92	-20	154	0	0	0
	18(OCC)	-341	1423	-262	0	0	0
	19(OCC)	-99	-13	161	0	0	0
	20(OCC)	75	45	-159	0	0	0
	21(OCC)	-148	680	-149	0	0	0
	MAX	3039/L14	-11569/L11	1956/L13			
780		TYPE=Rigid +Y; Rigid Z;					
	1(HYD)	0	-2038	50	0	0	0
	2(OPE)	0	0	1901	0	0	0
	4(OPE)	0	0	1980	0	0	0
	6(OPE)	0	-1870	-445	0	0	0
	8(SUS)	0	-1109	27	0	0	0
	9(SUS)	0	-1108	27	0	0	0
	10(OPE)	0	0	1997	0	0	0
	11(OPE)	0	0	1831	0	0	0
	12(OPE)	0	0	2052	0	0	0
	13(OPE)	0	0	2882	0	0	0
	14(OPE)	0	0	1041	0	0	0
	15(OPE)	0	0	2007	0	0	0
	16(OCC)	0	0	17	0	0	0
	17(OCC)	0	0	-149	0	0	0
	18(OCC)	0	0	72	0	0	0
	19(OCC)	0	0	902	0	0	0
	20(OCC)	0	0	-939	0	0	0
	21(OCC)	0	0	27	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	MAX		-2038/L1	2882/L13			

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS 2
Stress Summary : Multiple 3

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

- 1 (HYD) WW+HP
- 2 (OPE) W+T1+P1
- 3 (Alt-SUS) W+P1
- 4 (OPE) W+T2+P1
- 5 (Alt-SUS) W+P1
- 6 (OPE) W+T3+P1
- 7 (Alt-SUS) W+P1
- 8 (SUS) W+P1
- 9 (SUS) WNC
- 10 (OPE) W+T2+P1+U1
- 11 (OPE) W+T2+P1-U1
- 12 (OPE) W+T2+P1+U2
- 13 (OPE) W+T2+P1+U3
- 14 (OPE) W+T2+P1-U3
- 15 (OPE) W+T2+P1+F1
- 16 (OCC) L16=L10-L4
- 17 (OCC) L17=L11-L4
- 18 (OCC) L18=L12-L4
- 19 (OCC) L19=L13-L4
- 20 (OCC) L20=L14-L4
- 21 (OCC) L21=L15-L4
- 22 (OCC) L22=L16+L8
- 23 (OCC) L23=L17+L8
- 24 (OCC) L24=L18+L8
- 25 (OCC) L25=L19+L8
- 26 (OCC) L26=L20+L8
- 27 (OCC) L27=L21+L8
- 28 (EXP) L28=L2-L8
- 29 (EXP) L29=L4-L8
- 30 (EXP) L30=L2-L4
- 31 (EXP) L31=L6-L8
- 32 (EXP) L32=L2-L6
- 33 (EXP) L33=L4-L6

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
 Various Load Cases

LOAD CASE DEFINITION KEY

CASE 1 (HYD) WW+HP
 CASE 3 (Alt-SUS) W+P1
 CASE 5 (Alt-SUS) W+P1
 CASE 7 (Alt-SUS) W+P1
 CASE 8 (SUS) W+P1
 CASE 9 (SUS) WNC
 CASE 22 (OCC) L22=L16+L8
 CASE 23 (OCC) L23=L17+L8
 CASE 24 (OCC) L24=L18+L8
 CASE 25 (OCC) L25=L19+L8
 CASE 26 (OCC) L26=L20+L8
 CASE 27 (OCC) L27=L21+L8
 CASE 28 (EXP) L28=L2-L8
 CASE 29 (EXP) L29=L4-L8
 CASE 30 (EXP) L30=L2-L4
 CASE 31 (EXP) L31=L6-L8
 CASE 32 (EXP) L32=L2-L6
 CASE 33 (EXP) L33=L4-L6

Piping Code: B31.3 = B31.3 -2016, Jan 31, 2017

CODE STRESS CHECK PASSED : LOADCASE 1 (HYD) WW+HP

Highest Stresses: (KPa)	LOADCASE 1 (HYD) WW+HP	
Ratio (%):	9.2 @Node 730	
Code Stress:	22099.4	Allowable Stress: 241316.5
Axial Stress:	6681.2 @Node 330	
Bending Stress:	16137.6 @Node 730	
Torsion Stress:	700.2 @Node 500	
Hoop Stress:	12989.9 @Node 330	
Max Stress Intensity:	22103.6 @Node 730	

CODE STRESS CHECK PASSED : LOADCASE 3 (Alt-SUS) W+P1

Highest Stresses: (KPa)	LOADCASE 3 (Alt-SUS) W+P1	
Ratio (%):	43.5 @Node 750	
Code Stress:	56304.9	Allowable Stress: 129365.3
Axial Stress:	15344.9 @Node 110	
Bending Stress:	60496.4 @Node 800	
Torsion Stress:	16117.3 @Node 798	
Hoop Stress:	24443.4 @Node 28	
Max Stress Intensity:	72393.2 @Node 800	

CODE STRESS CHECK PASSED : LOADCASE 5 (Alt-SUS) W+P1

Highest Stresses: (KPa)	LOADCASE 5 (Alt-SUS) W+P1	
Ratio (%):	70.6 @Node 750	
Code Stress:	91323.5	Allowable Stress: 129365.3

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
 Various Load Cases

Axial Stress:	13477.6	@Node	220
Bending Stress:	120977.4	@Node	800
Torsion Stress:	11783.4	@Node	178
Hoop Stress:	24443.4	@Node	28
Max Stress Intensity:	137704.7	@Node	800

CODE STRESS CHECK PASSED : LOADCASE 7 (Alt-SUS) W+P1

Highest Stresses: (KPa)	LOADCASE 7 (Alt-SUS) W+P1	
Ratio (%):	42.9	@Node 50
Code Stress:	55502.6	Allowable Stress: 129365.3
Axial Stress:	14374.9	@Node 38
Bending Stress:	43293.5	@Node 50
Torsion Stress:	2023.0	@Node 500
Hoop Stress:	24443.4	@Node 28
Max Stress Intensity:	55500.5	@Node 50

CODE STRESS CHECK PASSED : LOADCASE 8 (SUS) W+P1

Highest Stresses: (KPa)	LOADCASE 8 (SUS) W+P1	
Ratio (%):	27.3	@Node 730
Code Stress:	35269.5	Allowable Stress: 129365.3
Axial Stress:	13744.3	@Node 220
Bending Stress:	23193.5	@Node 730
Torsion Stress:	997.7	@Node 500
Hoop Stress:	24443.4	@Node 28
Max Stress Intensity:	35319.9	@Node 730

CODE STRESS CHECK PASSED : LOADCASE 9 (SUS) WNC

Highest Stresses: (KPa)	LOADCASE 9 (SUS) WNC	
Ratio (%):	17.9	@Node 730
Code Stress:	23174.7	Allowable Stress: 129365.3
Axial Stress:	1670.4	@Node 220
Bending Stress:	23163.9	@Node 730
Torsion Stress:	994.9	@Node 500
Hoop Stress:	0.0	@Node 20
Max Stress Intensity:	23174.7	@Node 730

CODE STRESS CHECK PASSED : LOADCASE 22 (OCC) L22=L16+L8

Highest Stresses: (KPa)	LOADCASE 22 (OCC) L22=L16+L8	
Ratio (%):	33.9	@Node 50
Code Stress:	58246.8	Allowable Stress: 172055.9
Axial Stress:	13643.9	@Node 220
Bending Stress:	50444.9	@Node 28
Torsion Stress:	10470.6	@Node 40
Hoop Stress:	24443.4	@Node 28
Max Stress Intensity:	74646.4	@Node 28

CODE STRESS CHECK PASSED : LOADCASE 23 (OCC) L23=L17+L8

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
 Various Load Cases

Highest Stresses: (KPa) LOADCASE 23 (OCC) L23=L17+L8
 Ratio (%): 24.6 @Node 690
 Code Stress: 42297.8 Allowable Stress: 172055.9
 Axial Stress: 13771.8 @Node 220
 Bending Stress: 30101.8 @Node 690
 Torsion Stress: 6268.3 @Node 800
 Hoop Stress: 24443.4 @Node 28
 Max Stress Intensity: 49317.3 @Node 690

CODE STRESS CHECK PASSED : LOADCASE 24 (OCC) L24=L18+L8

Highest Stresses: (KPa) LOADCASE 24 (OCC) L24=L18+L8
 Ratio (%): 23.2 @Node 730
 Code Stress: 39943.7 Allowable Stress: 172055.9
 Axial Stress: 13552.2 @Node 220
 Bending Stress: 27759.4 @Node 730
 Torsion Stress: 1378.8 @Node 798
 Hoop Stress: 24443.4 @Node 28
 Max Stress Intensity: 40927.7 @Node 20

CODE STRESS CHECK PASSED : LOADCASE 25 (OCC) L25=L19+L8

Highest Stresses: (KPa) LOADCASE 25 (OCC) L25=L19+L8
 Ratio (%): 29.6 @Node 730
 Code Stress: 50853.2 Allowable Stress: 172055.9
 Axial Stress: 13775.7 @Node 119
 Bending Stress: 48466.7 @Node 230
 Torsion Stress: 3203.7 @Node 380
 Hoop Stress: 24443.4 @Node 28
 Max Stress Intensity: 61544.7 @Node 230

CODE STRESS CHECK PASSED : LOADCASE 26 (OCC) L26=L20+L8

Highest Stresses: (KPa) LOADCASE 26 (OCC) L26=L20+L8
 Ratio (%): 30.1 @Node 730
 Code Stress: 51805.6 Allowable Stress: 172055.9
 Axial Stress: 13745.5 @Node 650
 Bending Stress: 47118.2 @Node 230
 Torsion Stress: 4449.7 @Node 500
 Hoop Stress: 24443.4 @Node 28
 Max Stress Intensity: 60350.8 @Node 230

CODE STRESS CHECK PASSED : LOADCASE 27 (OCC) L27=L21+L8

Highest Stresses: (KPa) LOADCASE 27 (OCC) L27=L21+L8
 Ratio (%): 23.3 @Node 800
 Code Stress: 42801.1 Allowable Stress: 183400.5
 Axial Stress: 14087.8 @Node 110
 Bending Stress: 42061.5 @Node 800
 Torsion Stress: 4182.2 @Node 500
 Hoop Stress: 24443.4 @Node 28
 Max Stress Intensity: 61122.1 @Node 800

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
 Various Load Cases

CODE STRESS CHECK PASSED : LOADCASE 28 (EXP) L28=L2-L8

Highest Stresses: (	KPa	)	LOADCASE 28 (EXP) L28=L2-L8	
Ratio (%):	49.4	@Node	709	
Code Stress:	157561.0	Allowable Stress:		319151.3
Axial Stress:	1844.2	@Node	550	
Bending Stress:	156110.2	@Node	709	
Torsion Stress:	6427.6	@Node	800	
Hoop Stress:	0.0	@Node	20	
Max Stress Intensity:	418063.5	@Node	709	

CODE STRESS CHECK PASSED : LOADCASE 29 (EXP) L29=L4-L8

Highest Stresses: (	KPa	)	LOADCASE 29 (EXP) L29=L4-L8	
Ratio (%):	50.4	@Node	709	
Code Stress:	160525.1	Allowable Stress:		318810.1
Axial Stress:	1863.3	@Node	800	
Bending Stress:	159046.3	@Node	709	
Torsion Stress:	5808.4	@Node	380	
Hoop Stress:	0.0	@Node	20	
Max Stress Intensity:	425928.4	@Node	709	

CODE STRESS CHECK PASSED : LOADCASE 30 (EXP) L30=L2-L4

Highest Stresses: (	KPa	)	LOADCASE 30 (EXP) L30=L2-L4	
Ratio (%):	3.9	@Node	799	
Code Stress:	10329.5	Allowable Stress:		261639.9
Axial Stress:	94.1	@Node	500	
Bending Stress:	10825.3	@Node	798	
Torsion Stress:	2909.5	@Node	800	
Hoop Stress:	0.0	@Node	20	
Max Stress Intensity:	23904.4	@Node	798	

CODE STRESS CHECK PASSED : LOADCASE 31 (EXP) L31=L6-L8

Highest Stresses: (	KPa	)	LOADCASE 31 (EXP) L31=L6-L8	
Ratio (%):	6.2	@Node	750	
Code Stress:	15695.3	Allowable Stress:		253414.3
Axial Stress:	850.1	@Node	799	
Bending Stress:	19209.7	@Node	709	
Torsion Stress:	2148.4	@Node	178	
Hoop Stress:	0.0	@Node	20	
Max Stress Intensity:	51472.0	@Node	709	

CODE STRESS CHECK PASSED : LOADCASE 32 (EXP) L32=L2-L6

Highest Stresses: (	KPa	)	LOADCASE 32 (EXP) L32=L2-L6	
Ratio (%):	55.4	@Node	709	
Code Stress:	176950.9	Allowable Stress:		319151.3
Axial Stress:	2477.1	@Node	660	
Bending Stress:	175312.2	@Node	709	

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
 Various Load Cases

Torsion Stress:	7860.2	@Node	260
Hoop Stress:	0.0	@Node	20
Max Stress Intensity:	469512.8	@Node	709

CODE STRESS CHECK PASSED : LOADCASE 33 (EXP) L33=L4-L6

Highest Stresses: (KPa)	LOADCASE 33 (EXP) L33=L4-L6	
Ratio (%):	56.4	@Node 709
Code Stress:	179915.8	Allowable Stress: 318810.1
Axial Stress:	2486.1	@Node 660
Bending Stress:	178249.0	@Node 709
Torsion Stress:	7555.8	@Node 178
Hoop Stress:	0.0	@Node 20
Max Stress Intensity:	477380.0	@Node 709

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Nozzle Check : Multiple 3

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

- 1 (HYD) WW+HP
- 2 (OPE) W+T1+P1
- 3 (Alt-SUS) W+P1
- 4 (OPE) W+T2+P1
- 5 (Alt-SUS) W+P1
- 6 (OPE) W+T3+P1
- 7 (Alt-SUS) W+P1
- 8 (SUS) W+P1
- 9 (SUS) WNC
- 10 (OPE) W+T2+P1+U1
- 11 (OPE) W+T2+P1-U1
- 12 (OPE) W+T2+P1+U2
- 13 (OPE) W+T2+P1+U3
- 14 (OPE) W+T2+P1-U3
- 15 (OPE) W+T2+P1+F1
- 16 (OCC) L16=L10-L4
- 17 (OCC) L17=L11-L4
- 18 (OCC) L18=L12-L4
- 19 (OCC) L19=L13-L4
- 20 (OCC) L20=L14-L4
- 21 (OCC) L21=L15-L4
- 22 (OCC) L22=L16+L8
- 23 (OCC) L23=L17+L8
- 24 (OCC) L24=L18+L8
- 25 (OCC) L25=L19+L8
- 26 (OCC) L26=L20+L8
- 27 (OCC) L27=L21+L8
- 28 (EXP) L28=L2-L8
- 29 (EXP) L29=L4-L8
- 30 (EXP) L30=L2-L4
- 31 (EXP) L31=L6-L8
- 32 (EXP) L32=L2-L6
- 33 (EXP) L33=L4-L6

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NOZZLE CHECK REPORT: Nozzle Loads Screening

Various Load Cases

LOAD CASE DEFINITION KEY

CASE 2 (OPE) W+T1+P1

CASE 4 (OPE) W+T2+P1

CASE 6 (OPE) W+T3+P1

CASE 8 (SUS) W+P1

CASE 9 (SUS) WNC

Node		fa N.	fb N.	fc N.	Forces Check	ma N.m.	mb N.m.	mc N.m.	Moments Check	
550		Absolute Method								
	Limits	11201	11201	8400		6720	4480	5820		
	2(OPE)	14513	-1901	-1497	1.296	-4365	881	-479	0.650	*
	4(OPE)	14642	-2116	-760	1.307	-2403	1485	684	0.358	*
	6(OPE)	-2009	4563	539	0.407	255	675	-2705	0.465	
	8(SUS)	2040	481	39	0.182	-31	146	-582	0.100	
	9(SUS)	2033	481	39	0.182	-31	146	-581	0.100	

BNK-GCS-CN-۰۰۶

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Line no.

Stress sketch

Input echo

Restraint summary

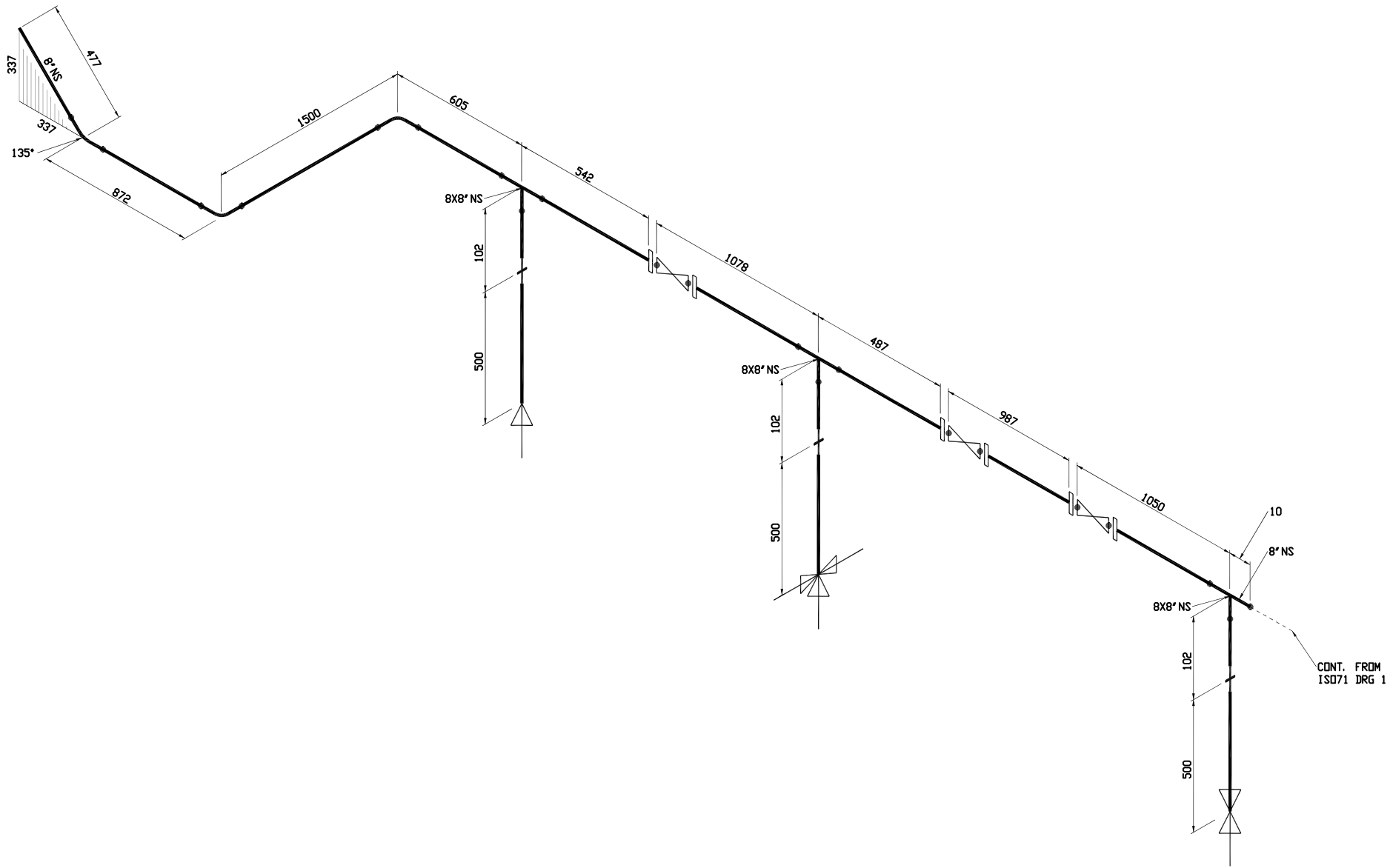
Stress summary

Nozzle load Table

BNK-GCS-CN-006

LINE Nos.

1. GAS-111-0058A-FS00-6"-IS
2. GAS-111-0051A-FN05-6"-IS
3. GAS-111-0055A-FS00-6"-IS
4. GAS-111-0045A-FS00-6"-NP
5. GAS-111-0046A-CN07-6"-PT
6. GAS-111-0026A-AN07-8"-PT
7. GAS-111-0026A-CN07-8"-PT
8. GAS-111-0057A-FS00-4"-IS
9. FL-112-0024A-AN07-4"-PT
10. GAS-111-0044A-CN05-6"-ET
11. GAS-111-0160A-CN05-2"-PT
12. FL-112-0119A-AN07-3"-PT
13. GAS-111-0047A-FN05-2"-PT
14. GAS-111-0048A-FN05-2"-PT
15. FL-112-0021A-AN07-2"-PT
16. FL-112-0020A-AN07-6"-PT
17. FL-112-0022A-AN07-6"-PT



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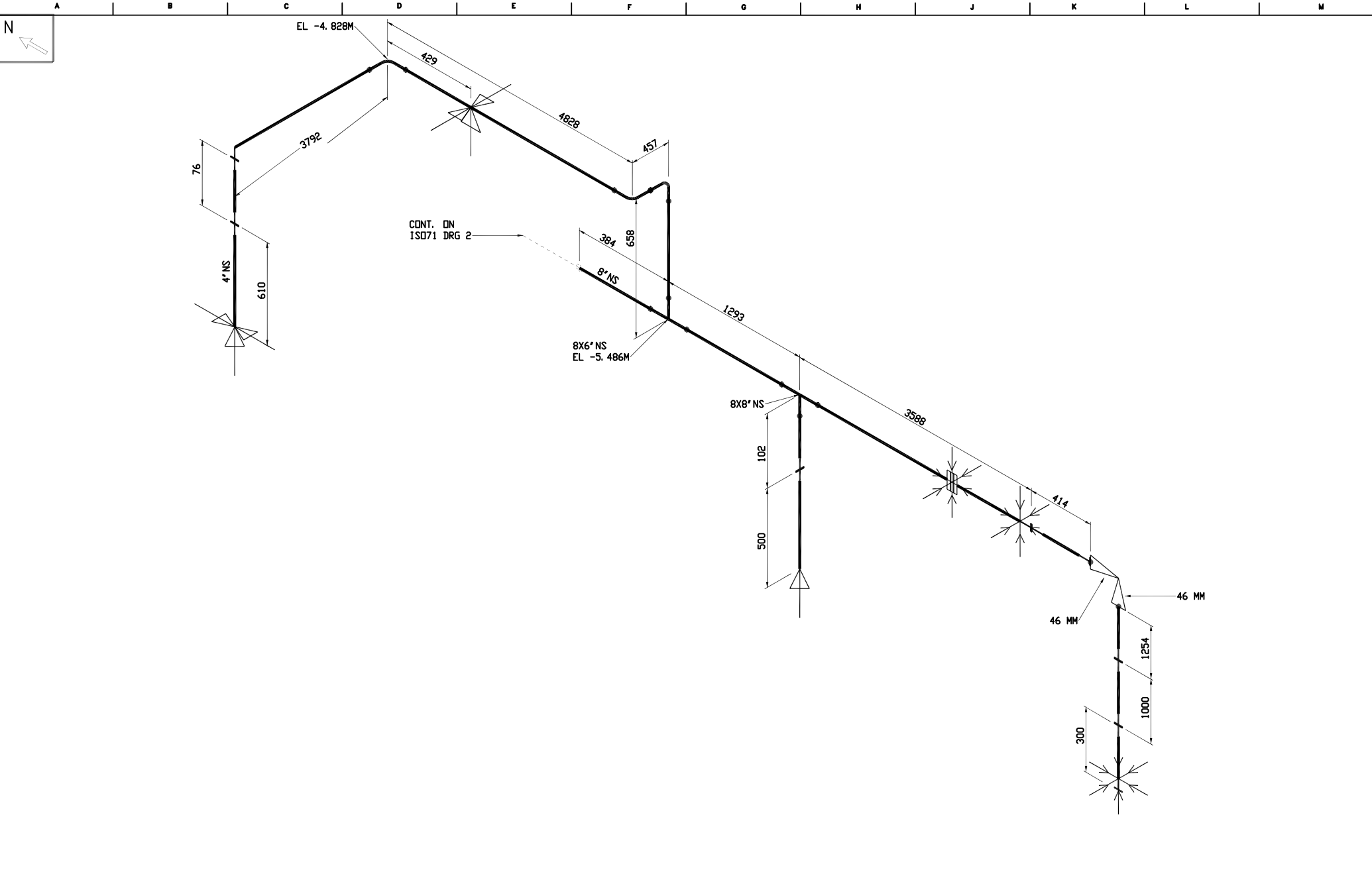
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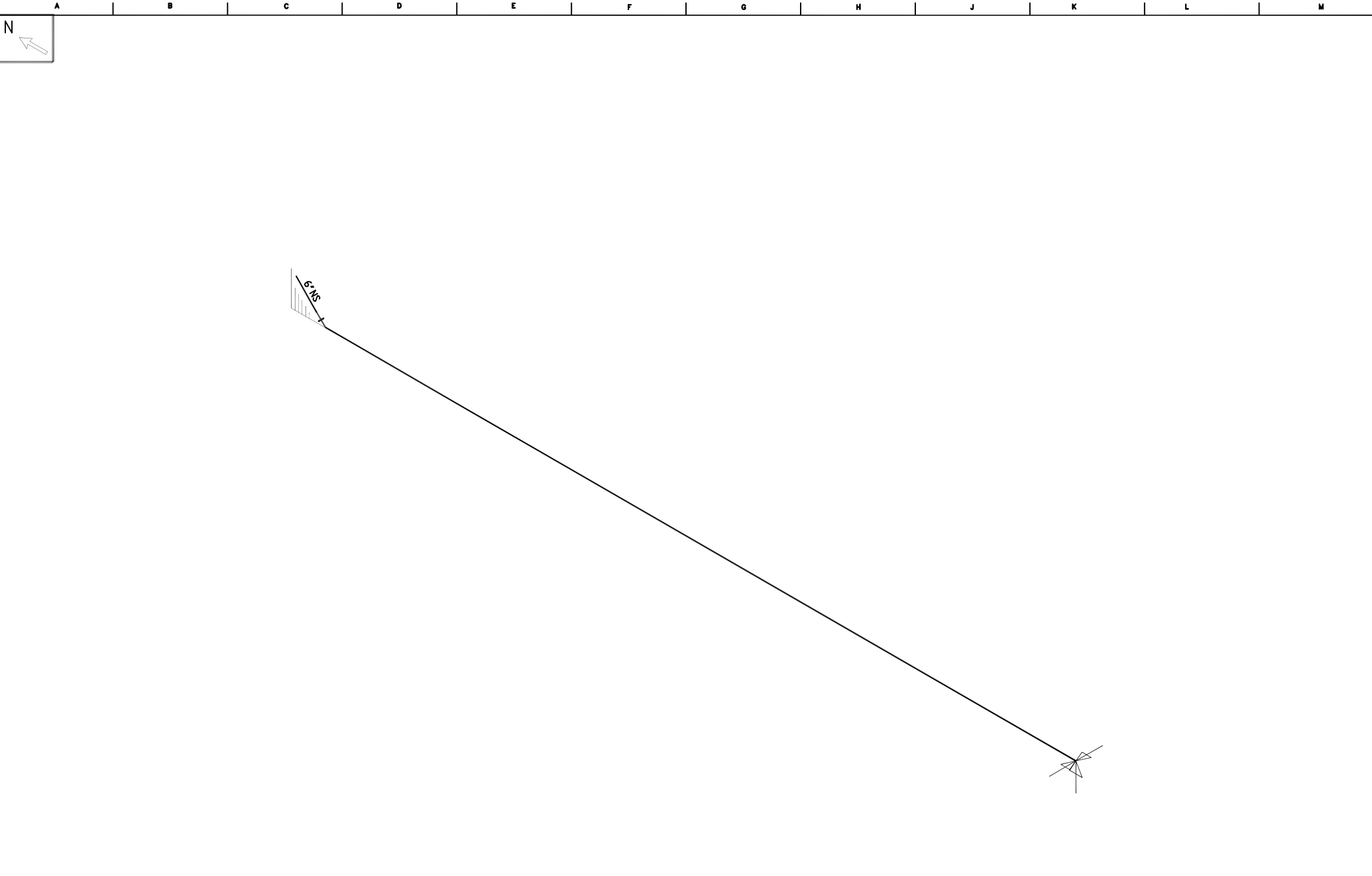
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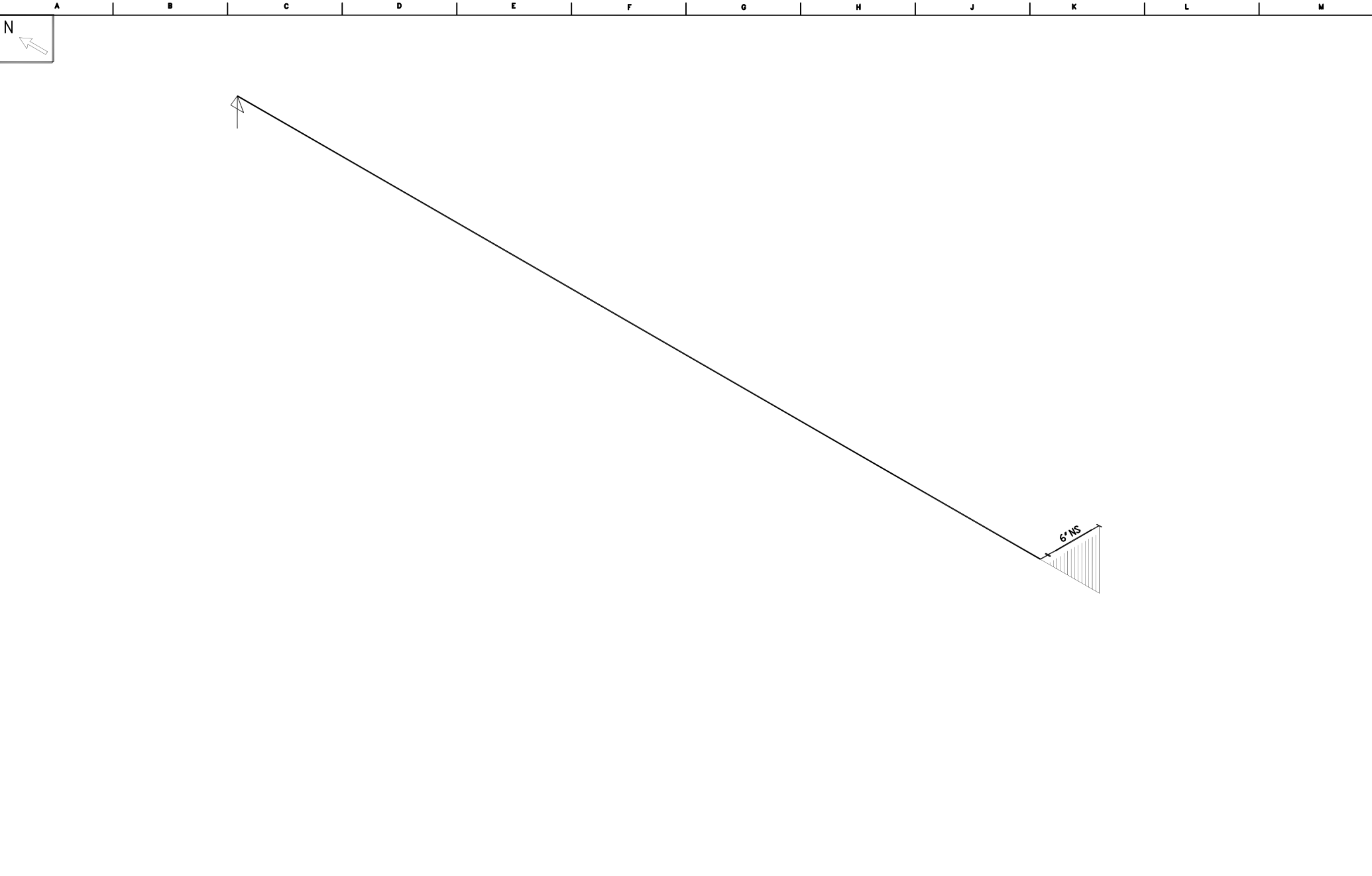


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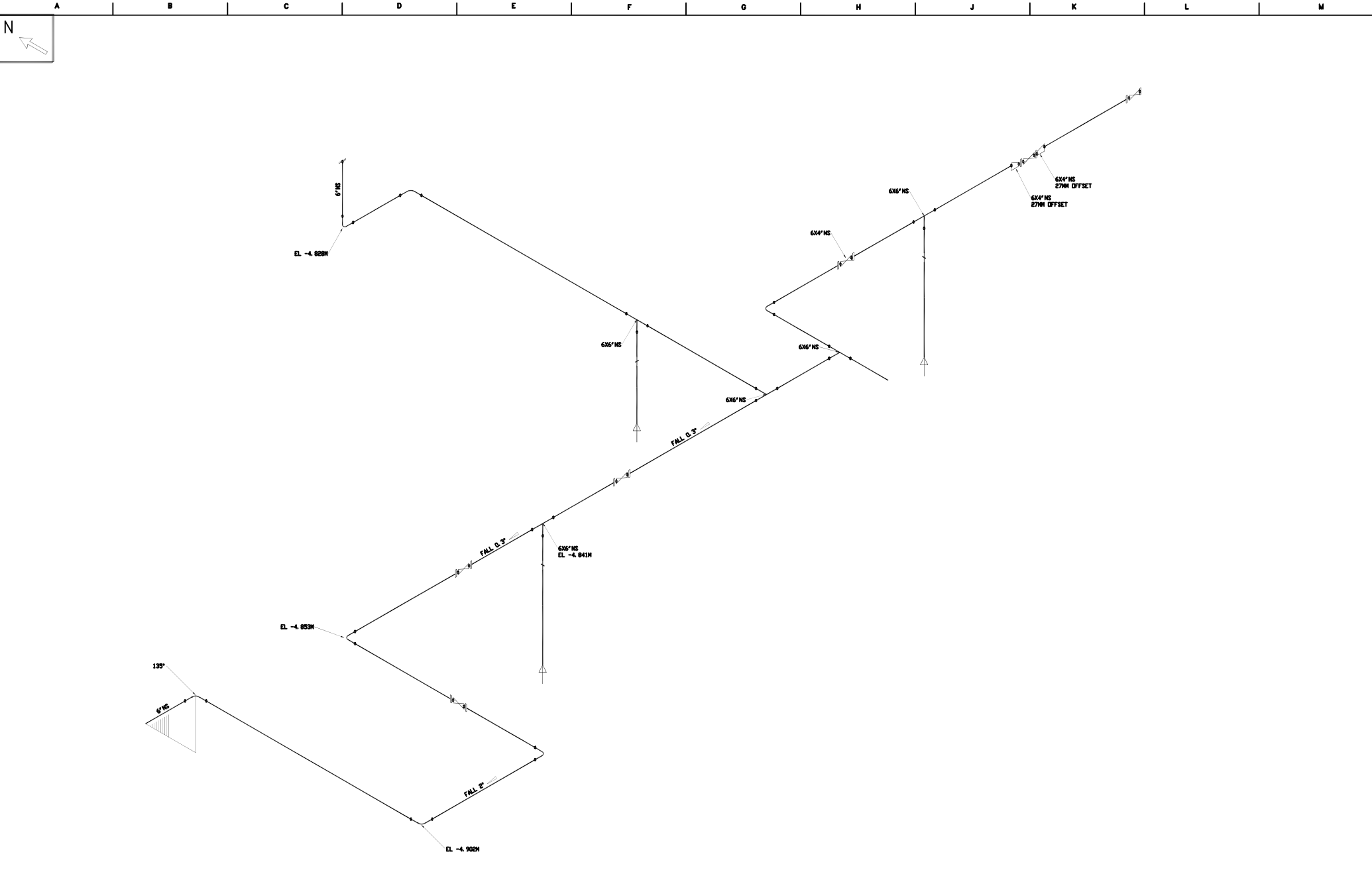
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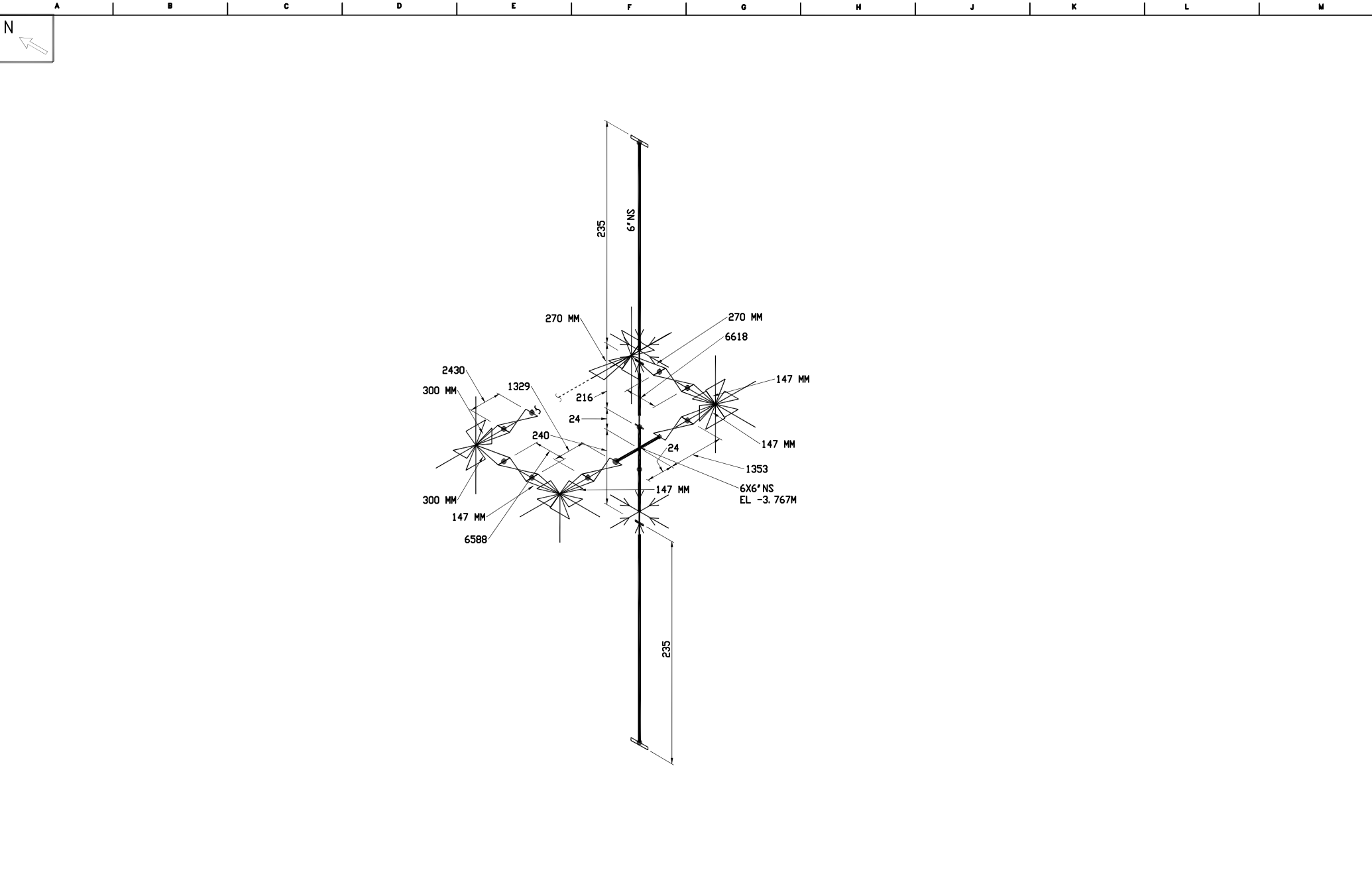


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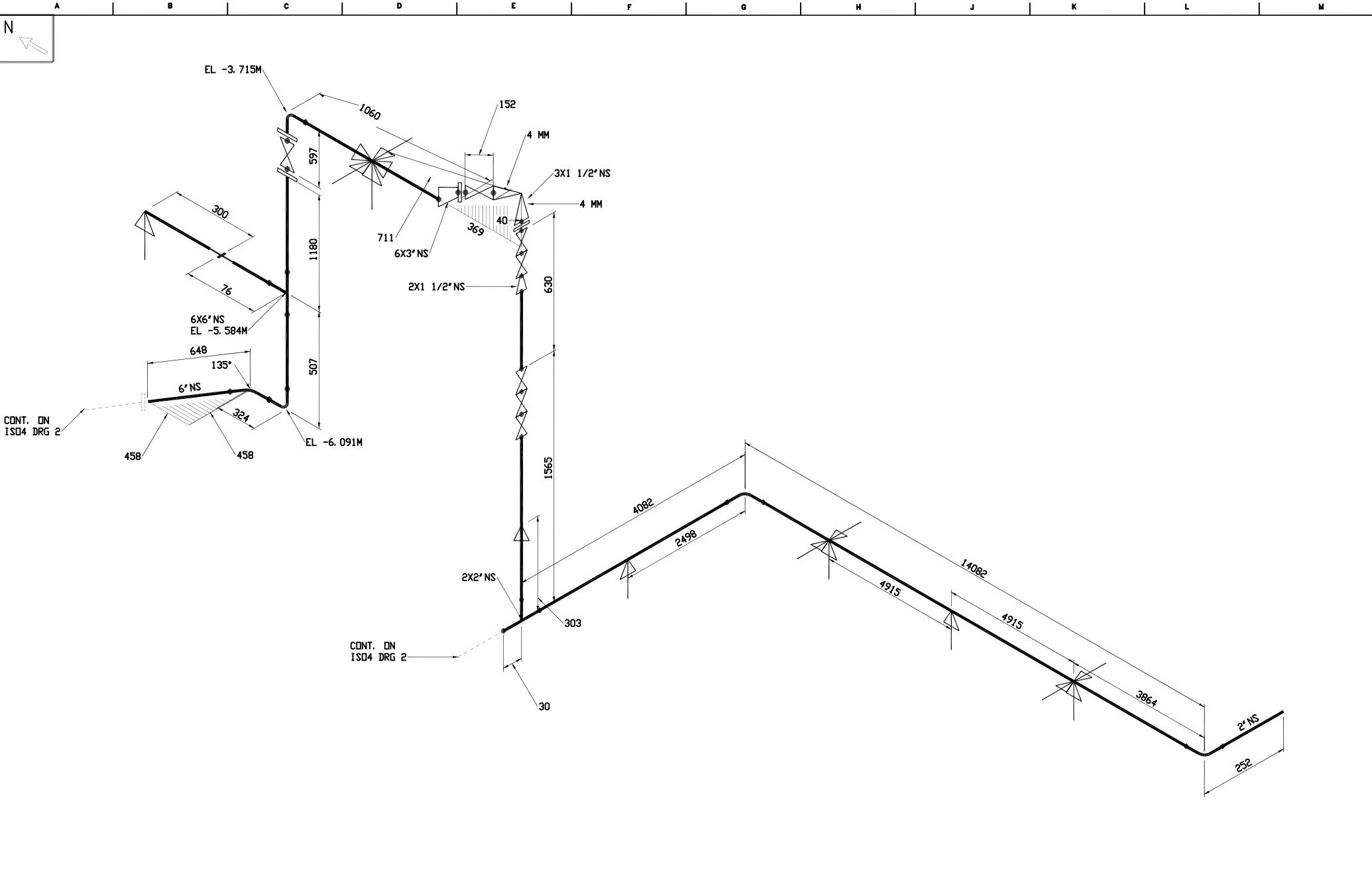


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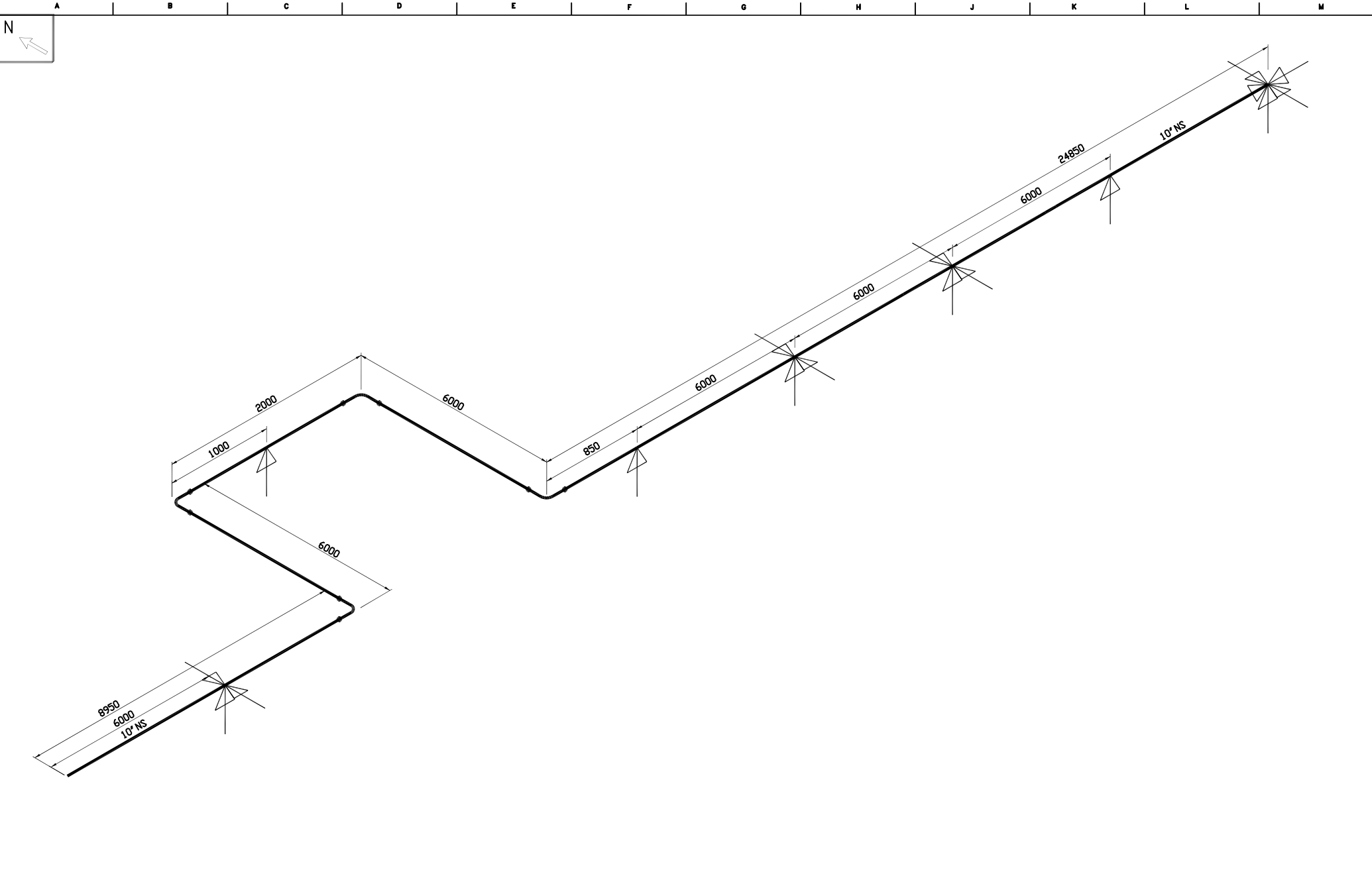
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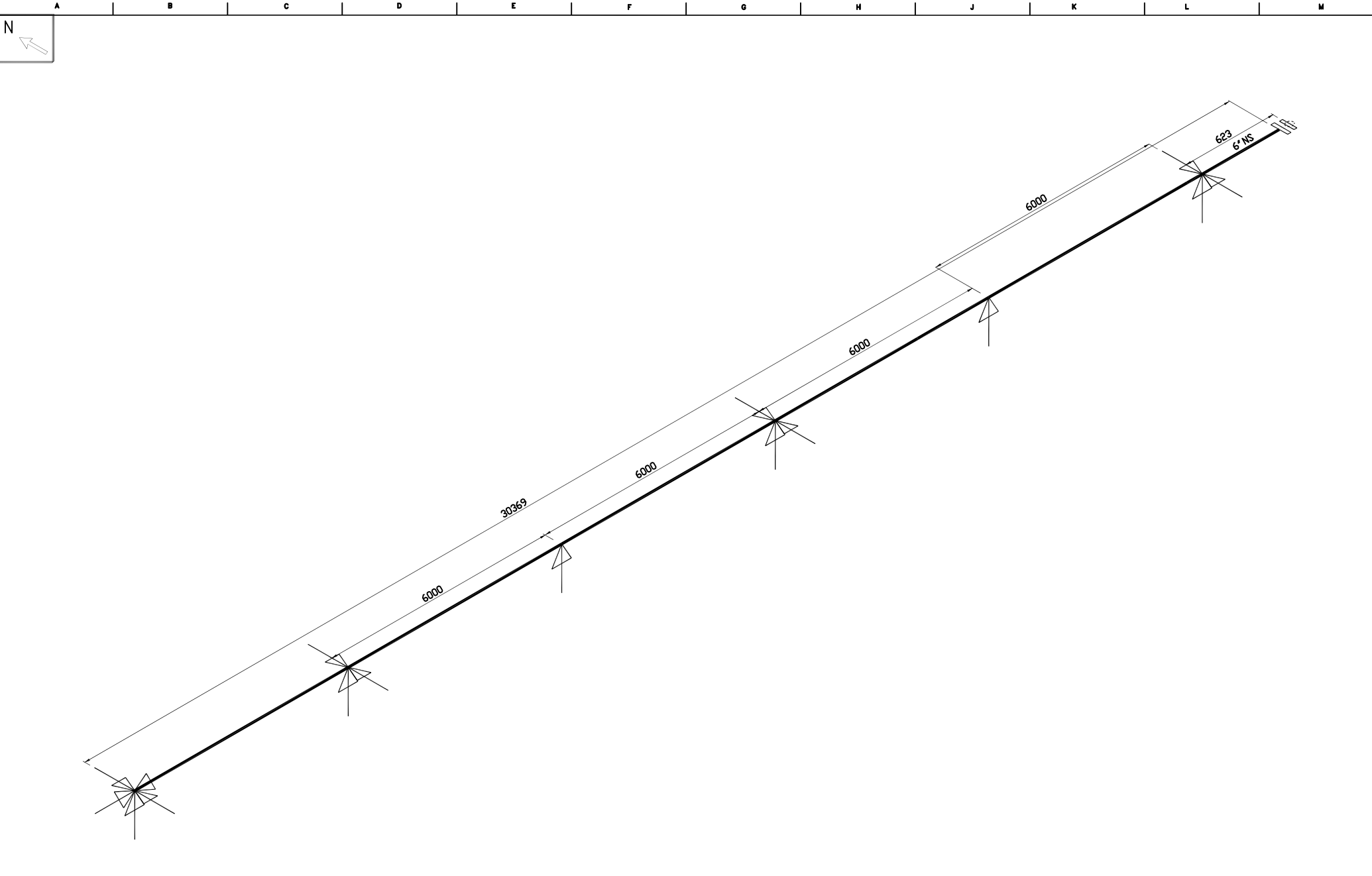
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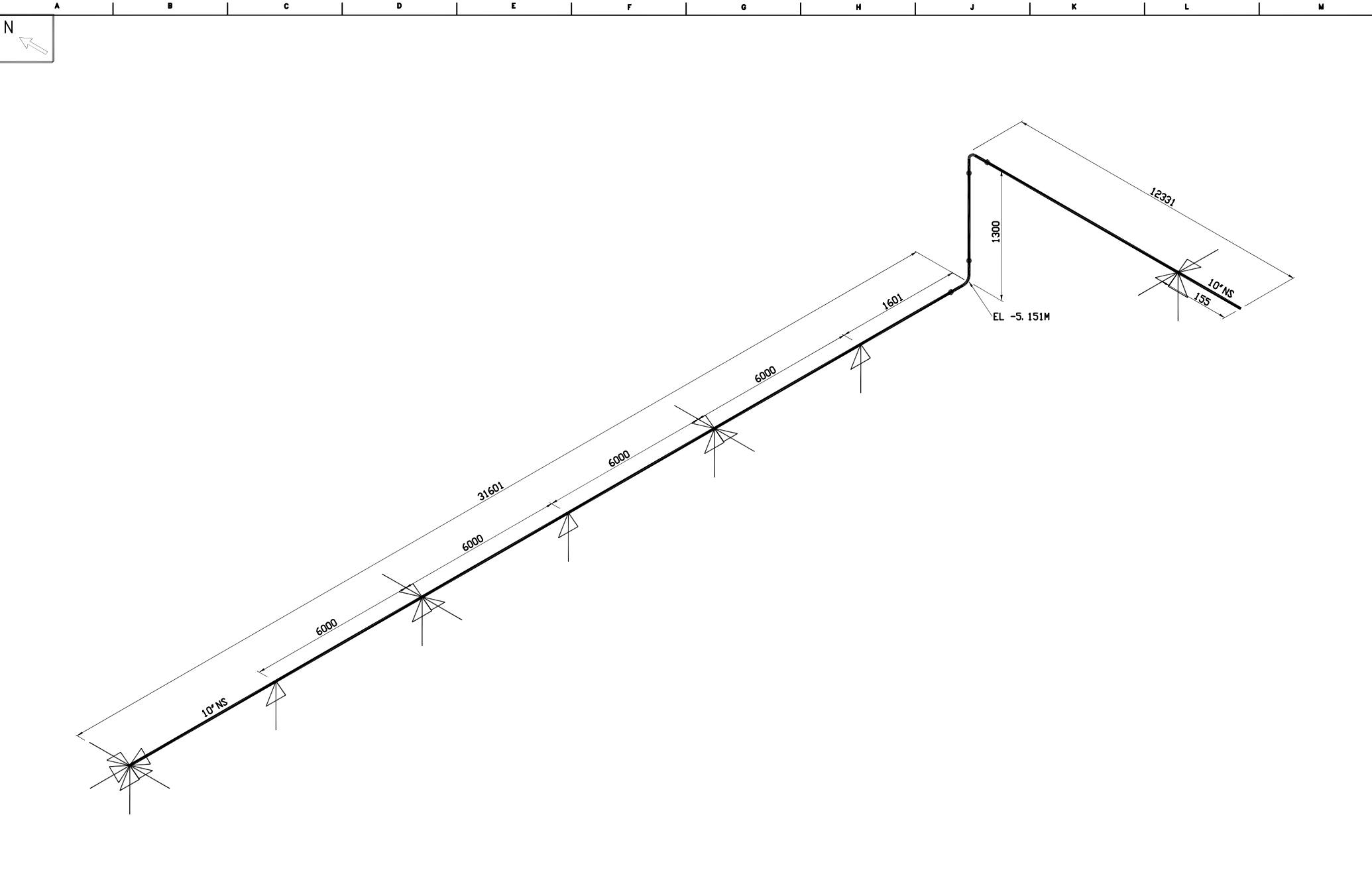
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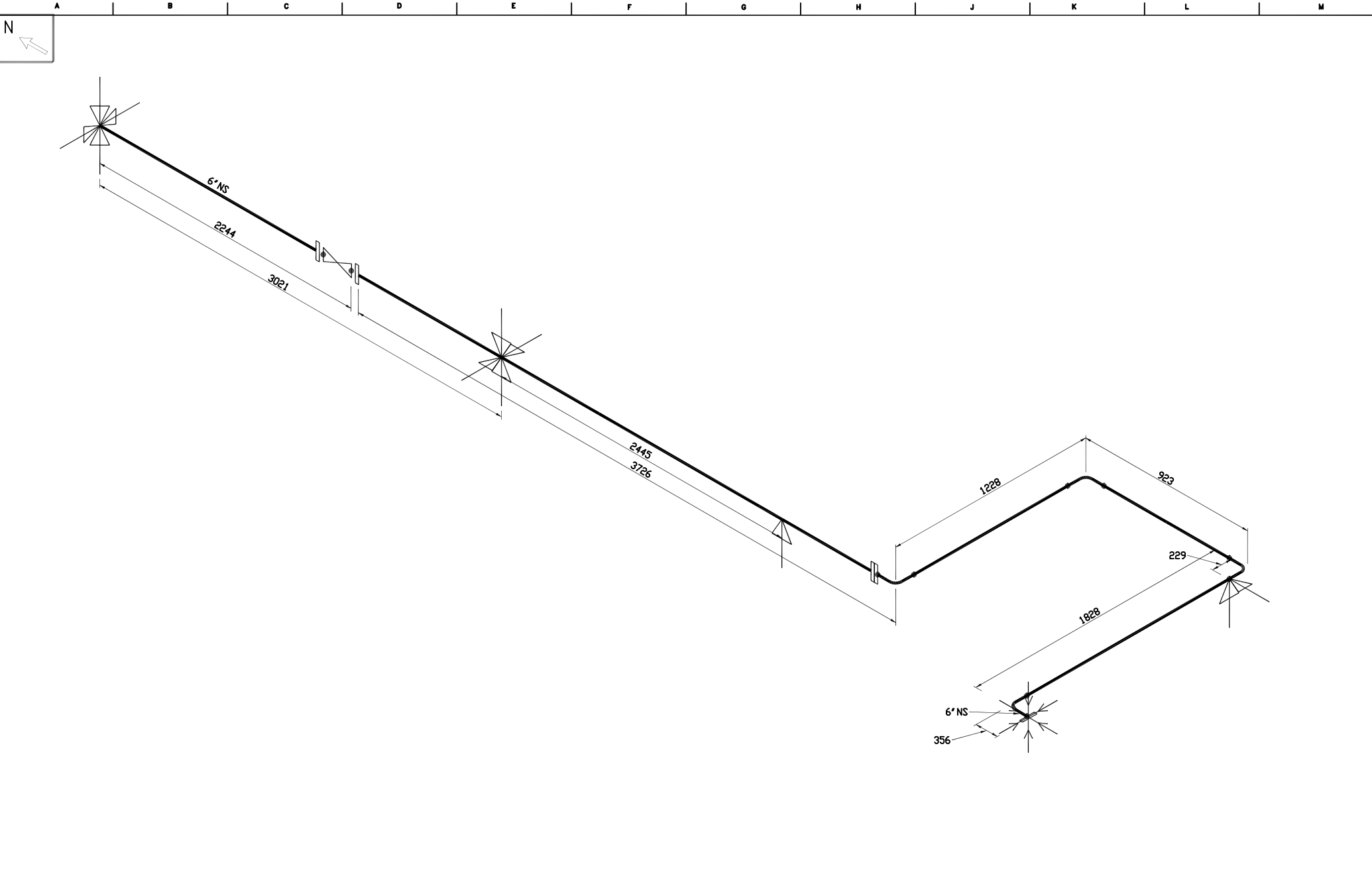
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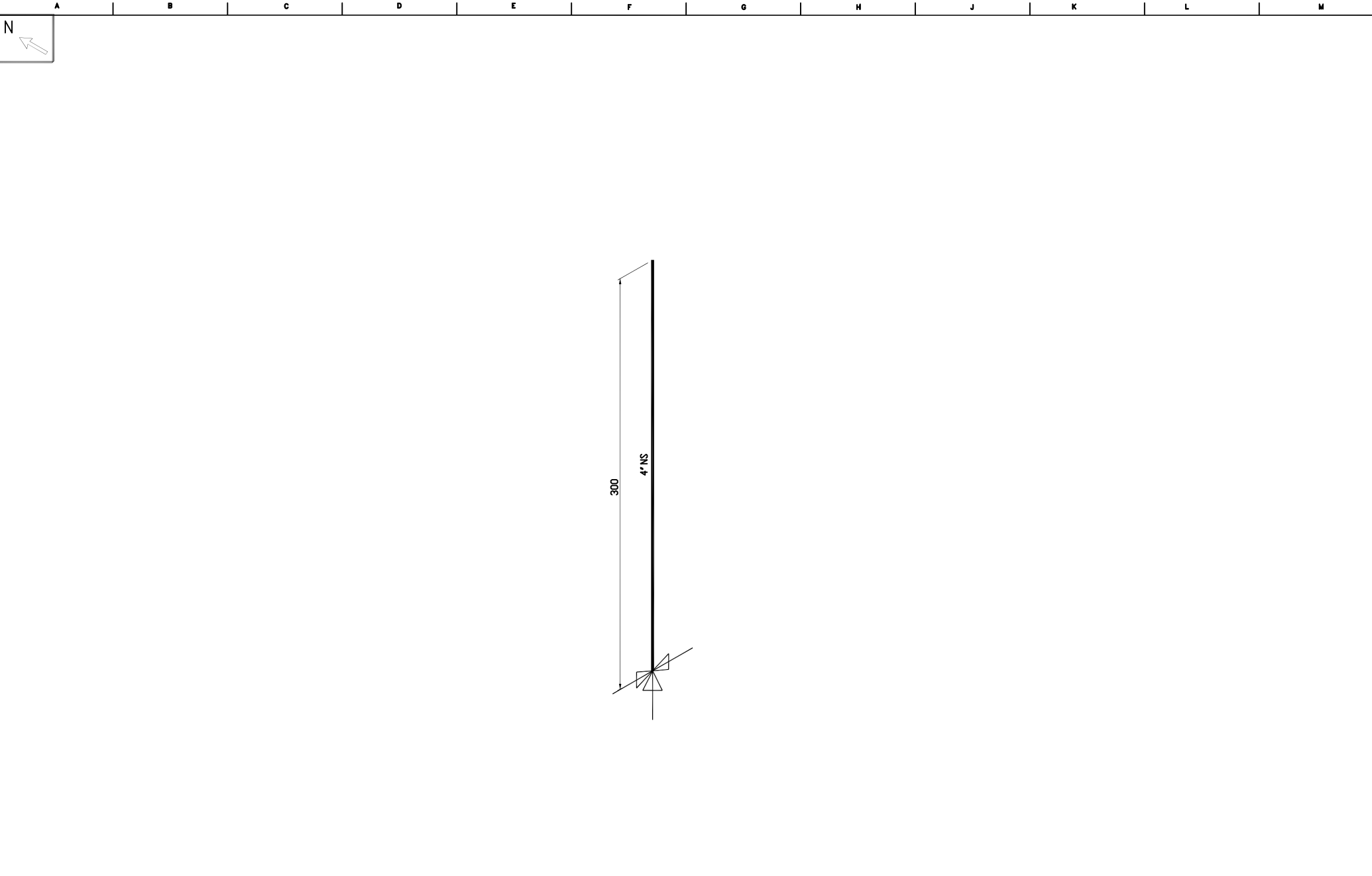


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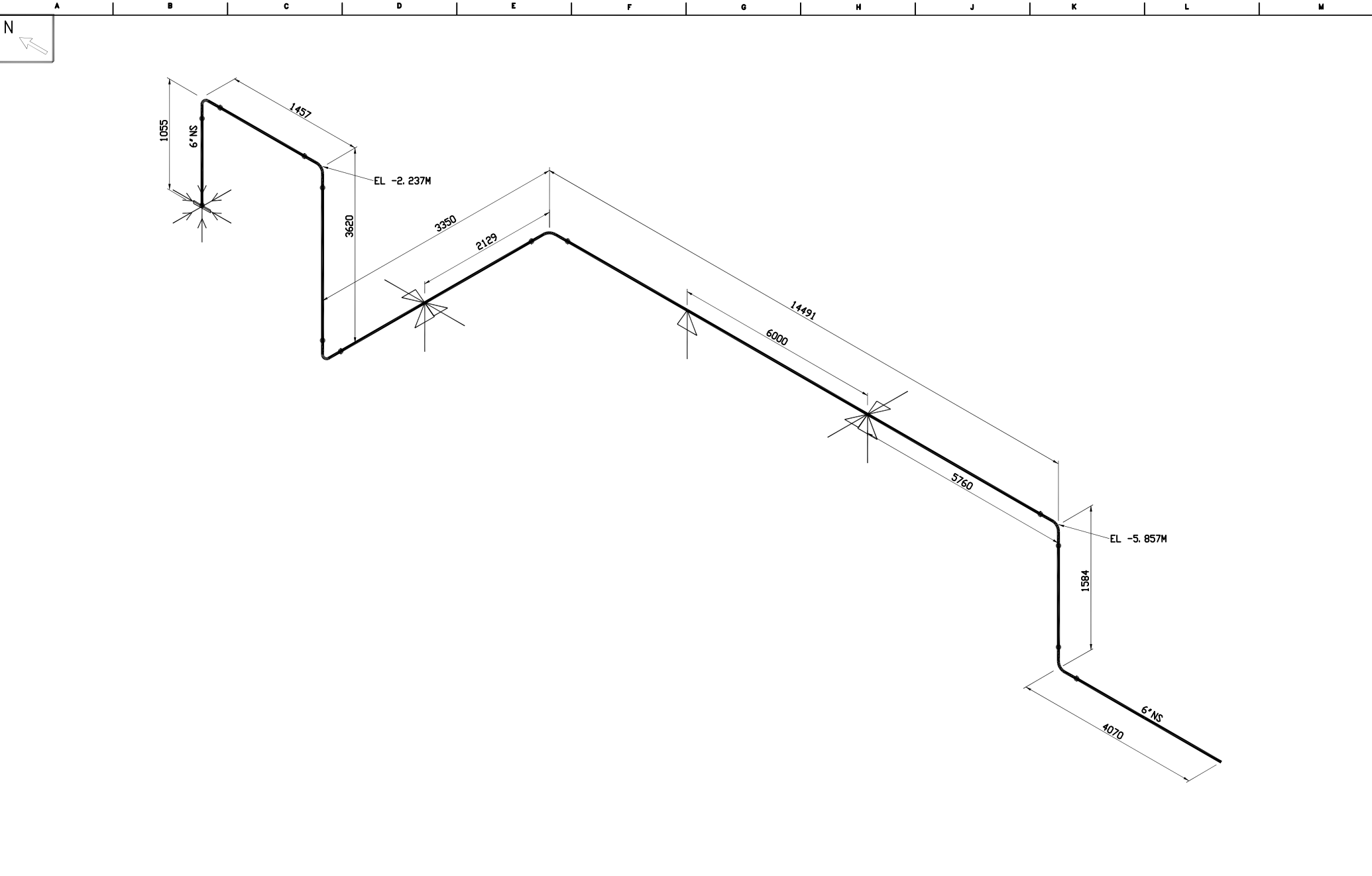
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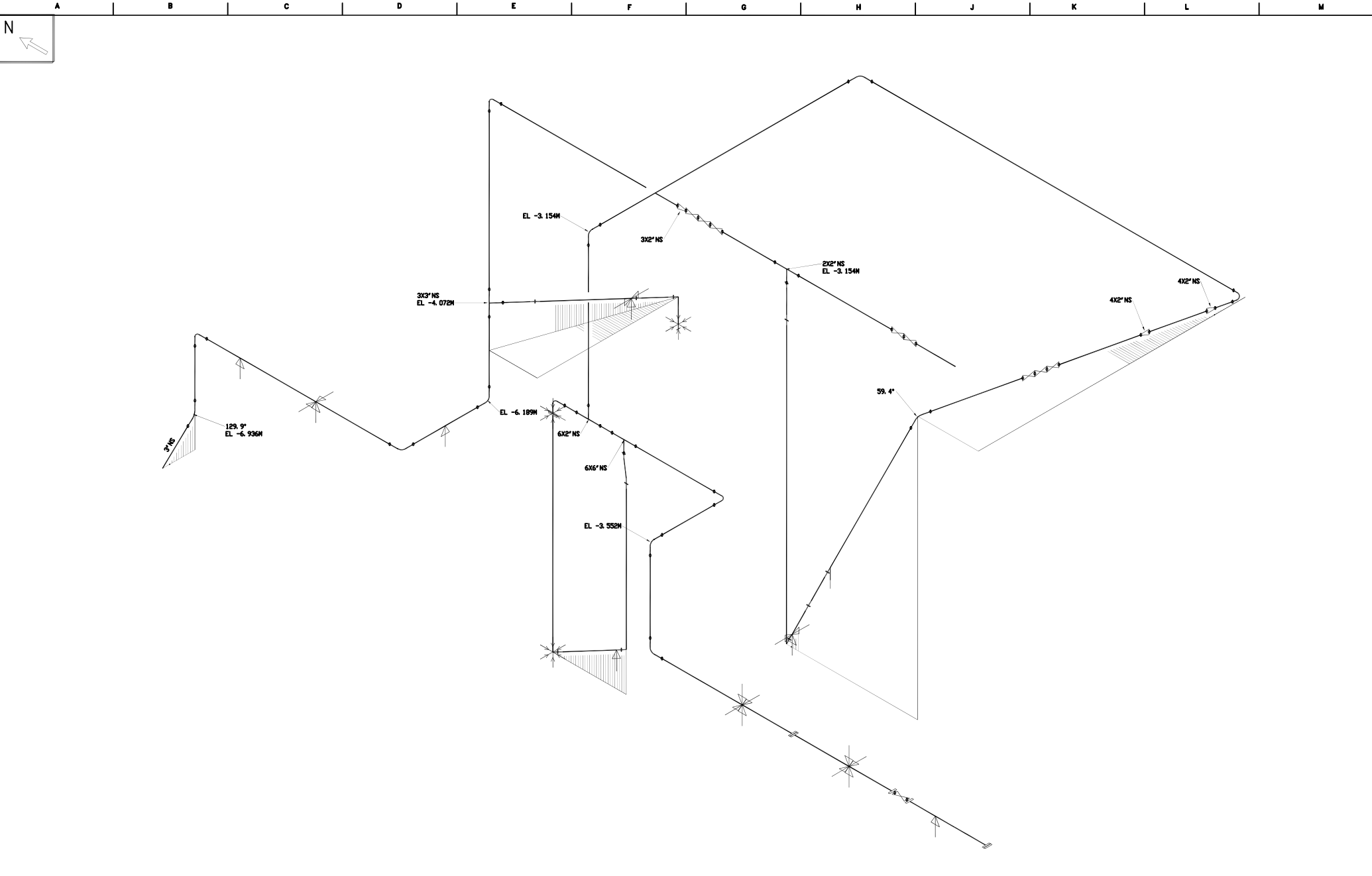
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INSULATION THKS.		SYSTEM	
PAINTING SPEC.		AREA	
MATERIAL		DRAWN BY	
OP. PRESSURE		E.I.DIAGRAM	



PIPELINE REFERENCE

REV.	
DRG.	1 OF 1



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REV.	CHANGE	DATE
		28 FEB 2024

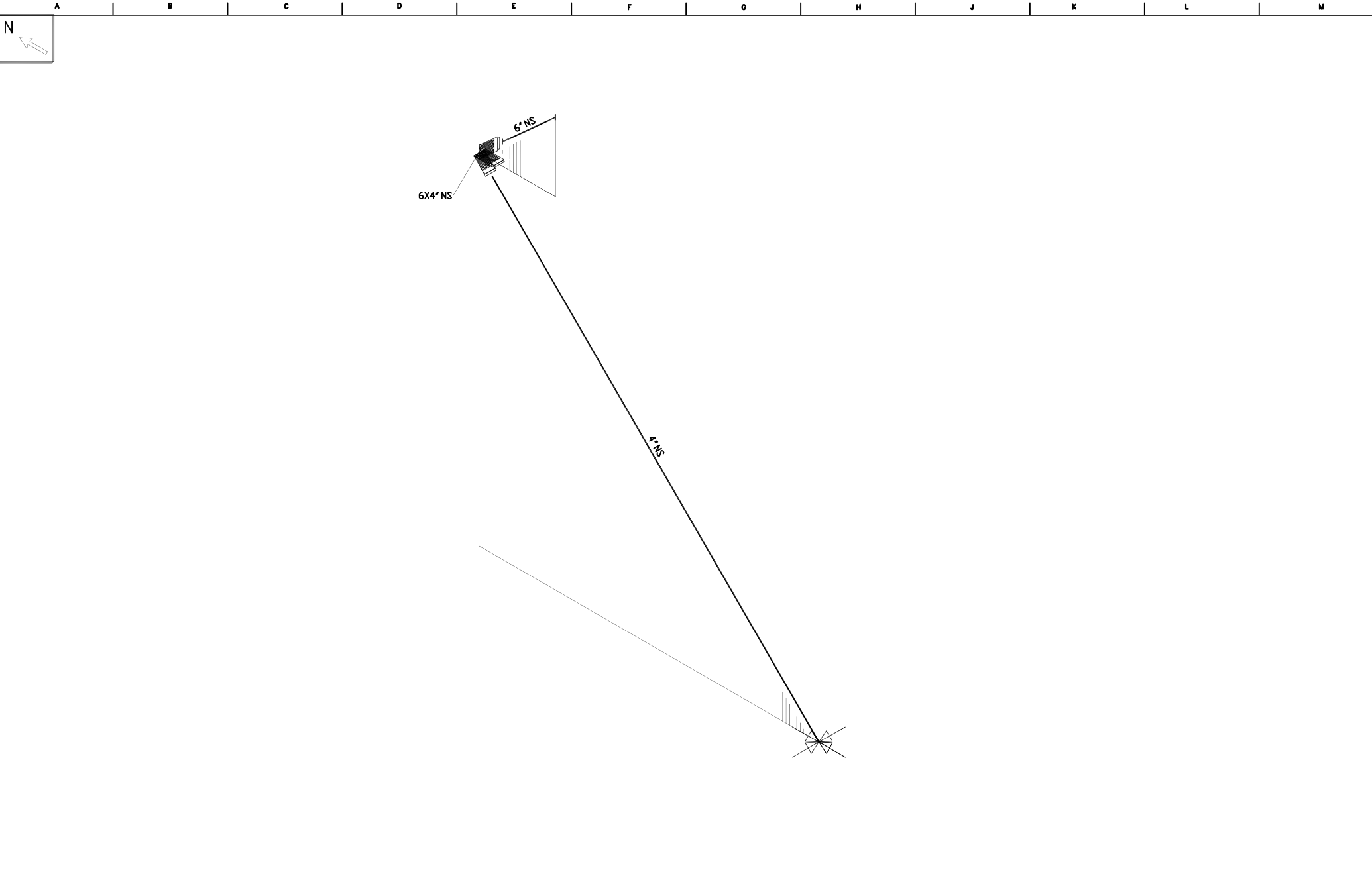
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PIPING SPEC.		OP. TEMP.	
INSULATION SPEC.		PROJECT NO.	
INSULATION THKS.		SYSTEM	
PAINTING SPEC.		AREA	
MATERIAL		DRAWN BY	
OP. PRESSURE		E.I.DIAGRAM	



PIPELINE REFERENCE

REV.	
DRG.	
1 OF 1	



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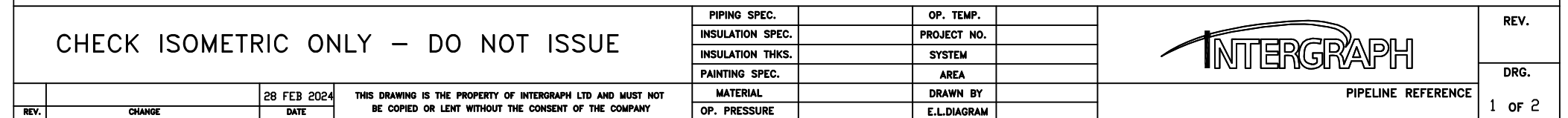
REV.	CHANGE	28 FEB 2024	THIS DRAWING IS THE PROPERTY OF INTERGRAPH LTD AND MUST NOT BE COPIED OR LENT WITHOUT THE CONSENT OF THE COMPANY
		DATE	

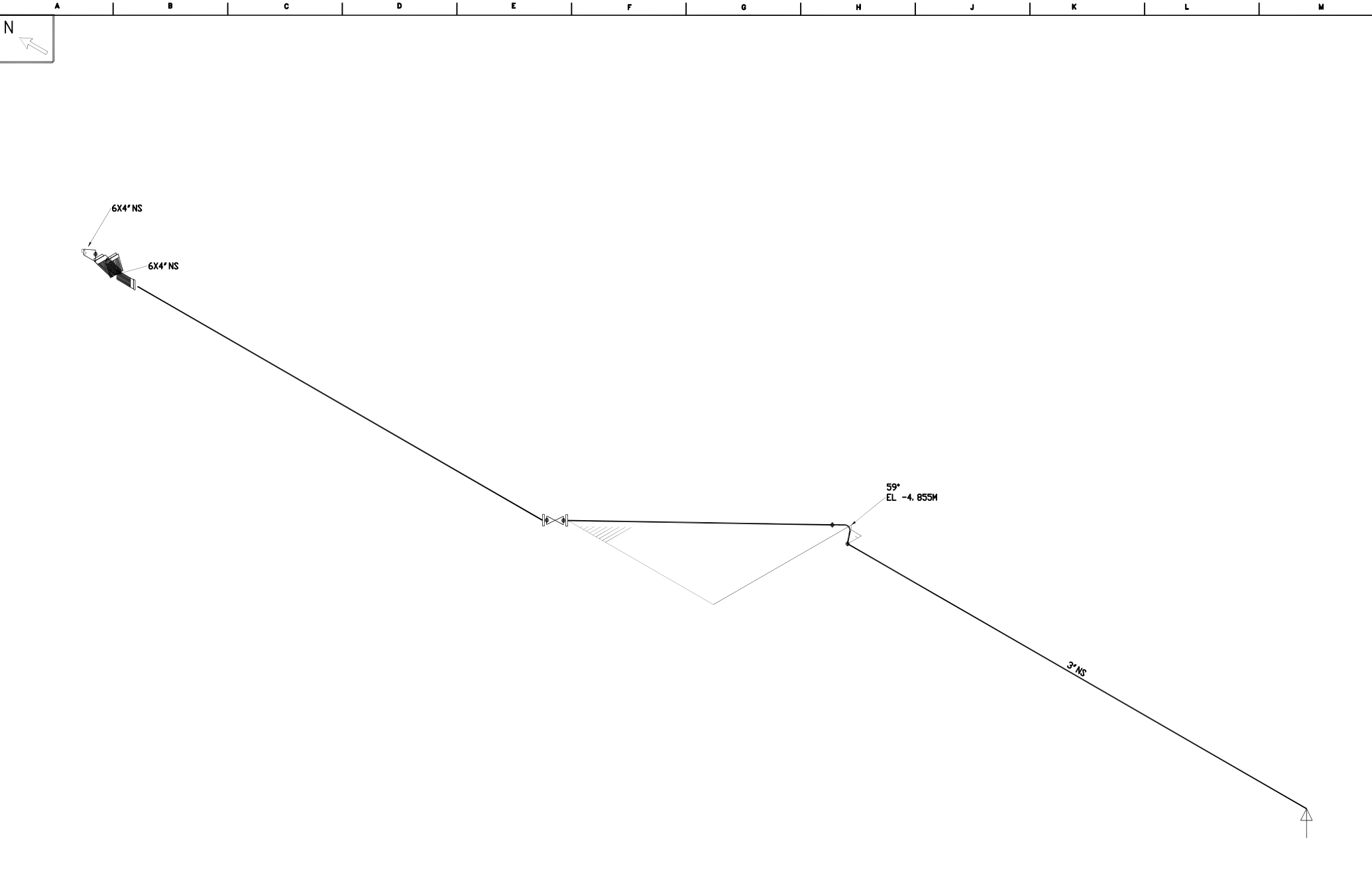
PIPING SPEC.		OP. TEMP.	
INSULATION SPEC.		PROJECT NO.	
INSULATION THKS.		SYSTEM	
PAINTING SPEC.		AREA	
MATERIAL		DRAWN BY	
OP. PRESSURE		E.I.DIAGRAM	



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DRG.	1 OF 1





CHECK ISOMETRIC ONLY – DO NOT ISSUE				PIPING SPEC.		OP. TEMP.		INTERGRAPH	REV.
				INSULATION SPEC.		PROJECT NO.			DRG.
				INSULATION THKS.		SYSTEM			
				PAINTING SPEC.		AREA			
		28 FEB 2024	THIS DRAWING IS THE PROPERTY OF INTERGRAPH LTD AND MUST NOT BE COPIED OR LENT WITHOUT THE CONSENT OF THE COMPANY	MATERIAL		DRAWN BY		PIPELINE REFERENCE	1 OF 2
REV.	CHANGE	DATE		OP. PRESSURE		E.I.DIAGRAM			

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

1 (HGR) CASE NOT ACTIVE
2 (HGR) CASE NOT ACTIVE
3 (HYD) WW+HP+H
4 (OPE) W+T1+P1+H
5 (Alt-SUS) W+P1+H
6 (OPE) W+T2+P1+H
7 (Alt-SUS) W+P1+H
8 (OPE) W+T3+P1+H
9 (Alt-SUS) W+P1+H
10 (SUS) W+P1+H
11 (SUS) WNC
12 (OPE) W+T1+P1+H+U1
13 (OPE) W+T1+P1+H-U1
14 (OPE) W+T1+P1+H+U2
15 (OPE) W+T1+P1+H-U2
16 (OPE) W+T1+P1+H+U3
17 (OPE) W+T1+P1+H+F1
18 (OPE) W+T1+P1+H+F2
19 (OCC) L19=L12-L4
20 (OCC) L20=L13-L4
21 (OCC) L21=L14-L4
22 (OCC) L22=L15-L4
23 (OCC) L23=L16-L4
24 (OCC) L24=L17-L4
25 (OCC) L25=L18-L4
26 (OCC) L26=L19+L10
27 (OCC) L27=L20+L10
28 (OCC) L28=L21+L10
29 (OCC) L29=L22+L10
30 (OCC) L30=L23+L10
31 (OCC) L31=L24+L10
32 (OCC) L32=L25+L10
33 (EXP) L33=L4-L10
34 (EXP) L34=L6-L10
35 (EXP) L35=L4-L6
36 (EXP) L36=L8-L10
37 (EXP) L37=L4-L8
38 (EXP) L38=L6-L8

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INPUT LISTING

Job Description:

PROJECT:

CLIENT :

ANALYST:

NOTES :

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INPUT LISTING

File created by FEATools

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PIPE DATA

 From 20 To 40 DX= -.102 m.

PIPE

Dia= 16.827 cm. Wall= .711 cm. Cor= .3000 cm.

Element Name= FLANGE_FLG_150

GENERAL

T1= 60 C T2= 115 C T3= 60 C P1= 2,200.0500 KPa PHyd= 3,300.0752 KPa

Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 200,644,016 KPa

EH2= 197,200,352 KPa EH3= 200,644,016 KPa EH4= 203,401,232 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000181 kg./cu.cm.

Insul Thk= 4.000 cm. Insul Den= .0001362 kg./cu.cm.

RIGID Weight= 191.27 N.

RESTRAINTS

Node 20 ANC

UNIFORM LOAD

Vector1 in G-s X1 Dir = .26 g's Y1 Dir = .00 g's Z1 Dir = .00 g's

Vector2 in G-s X2 Dir = .00 g's Y2 Dir = .12 g's Z2 Dir = .00 g's

Vector3 in G-s X3 Dir = .00 g's Y3 Dir = .00 g's Z3 Dir = .26 g's

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

EQUIPMENT LIMITS

Nozzle Node = 20 Limiting Loads: A=pipe; B=ref; C=AxB; FA= 2,160.11 N.

FB= 2,160.11 N. FC= 2,160.11 N. MA= 1,155.05 N.m. MB= 1,155.05 N.m.

MC= 1,155.05 N.m. Equipment Major Direction Vector= .0000 1.0000 .0000

Interact. Mtd= Absolute

 From 40 To 60 DX= -1.177 m.

BEND at "T0" end

Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 59

Angle/Node @2= .00 58

 From 60 To 80 DY= -.607 m.

BEND at "T0" end

Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 79

Angle/Node @2= .00 78

 From 80 To 100 DX= .600 m.

BEND at "T0" end

Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 99

Angle/Node @2= .00 98

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INPUT LISTING

From 100 To 120 DY= -1.392 m.

From 120 To 140 DY= -.229 m.
RIGID Weight= .00 N.

From 140 To 160 DY= -.200 m.
PIPE

Dia= 11.430 cm. Wall= .602 cm.

GENERAL

T1= 21 C T2= 21 C T3= 21 C P1= .0000 KPa PHyd= .0000 KPa

Fluid Den= .0000000 kg./cu.cm. Insul Thk= 4.000 cm.

RESTRAINTS

Node 160 -X Mu = .30

Node 160 Z Cnode 121

Node 121 +Y Mu = .10

Node 160 X Cnode 121

HANGERS

Hanger Node = 160 Hanger Connecting Node = 121

Available Space = -100.0000 cm. Allowed Load Variation = 25.0000

No. Hangers = 0.0 Short Range Flag = -1 User Operating Load = .00 N.

Free Node = 0 Free Node = 0 Free Code = 0.0 Spring Rate = .00 N./cm.

Theoretical Cold Load = .00 N.

SIF's & TEE's

Node 140 Unreinforced Tee

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 120 To 180 DY= -.229 m.

PIPE

Dia= 16.827 cm. Wall= .711 cm.

GENERAL

T1= 60 C T2= 115 C T3= 60 C P1= 2,200.0500 KPa PHyd= 3,300.0752 KPa

Fluid Den= .0000181 kg./cu.cm. Insul Thk= 4.000 cm.

DOUBLE FLANGED BEND at "TO" end

Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 179

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 180 To 200 DX= -.428 m.

From 200 To 220 DX= -.102 m.

Element Name= FLANGE_FLG_300

RIGID Weight= 191.27 N.

From 220 To 240 DX= -.102 m.

Element Name= FLANGE_FLG_300

RIGID Weight= 191.27 N.

From 240 To 260 DX= -.500 m.

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INPUT LISTING

From 260 To 280 DX= -.295 m.

SIF's & TEE's

Node 280 Weldolet

From 280 To 300 DX= -.500 m.

PIPE

Dia= 16.827 cm. Wall= .711 cm. Cor= .3000 cm.

GENERAL

T1= 60 C T2= 115 C T3= 60 C P1= 2,200.0500 KPa PHyd= 3,300.0752 KPa

Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 200,644,016 KPa

EH2= 197,200,352 KPa EH3= 200,644,016 KPa EH4= 203,401,232 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000181 kg./cu.cm.

Insul Thk= .000 cm. Insul Den= .0000000 kg./cu.cm.

RESTRAINTS

Node 300 +Y Mu = .30

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 300 To 320 DX= -.203 m.

From 320 To 340 DX= -.102 m.

Element Name= FLANGE_FLG_300

RIGID Weight= 191.27 N.

From 340 To 360 DX= -.489 m.

Element Name= GATE_NOFLG_300

RIGID Weight= 1,023.41 N.

From 360 To 380 DX= -.102 m.

Element Name= FLANGE_FLG_300

RIGID Weight= 191.27 N.

From 380 To 400 DX= -.861 m.

RESTRAINTS

Node 400 Y Mu = .30

Node 400 Z Gap= .300 cm. Mu = .30

From 400 To 420 DX= -1.557 m.

From 420 To 440 DX= -.102 m.

Element Name= FLANGE_FLG_300

RIGID Weight= 191.27 N.

From 440 To 460 DX= -.102 m.

Element Name= FLANGE_FLG_300

RIGID Weight= 191.27 N.

From 460 To 480 DX= -1.243 m.

RESTRAINTS

Node 480 Y Mu = .30

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INPUT LISTING

Node 480 Z Gap= .300 cm. Mu = .30

From 480 To 490 DX= -2.035 m.

From 500 To 6210 DY= -.076 m.

RIGID Weight= .00 N.

From 490 To 500 DX= -2.035 m.

SINGLE FLANGED BEND at "T0" end

Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 499

Angle/Node @2= .00 498

From 500 To 580 DY= 4.005 m.

PIPE

Dia= 16.827 cm. Wall= .711 cm. Cor= .0000 cm.

GENERAL

T1= 60 C T2= 115 C T3= 60 C P1= 2,200.0500 KPa PHyd= 3,300.0752 KPa

Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 200,644,016 KPa

EH2= 197,200,352 KPa EH3= 200,644,016 KPa EH4= 203,401,232 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000058 kg./cu.cm.

Insul Thk= .000 cm.

BEND at "T0" end

Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 579

Angle/Node @2= .00 578

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 580 To 600 DZ= -2.750 m.

PIPE

Dia= 16.827 cm. Wall= .711 cm. Cor= .3000 cm.

GENERAL

T1= 60 C T2= 115 C P1= 2,200.0500 KPa PHyd= 3,300.0752 KPa

Fluid Den= .0000181 kg./cu.cm. Insul Thk= 4.000 cm.

Insul Den= .0001500 kg./cu.cm.

BEND at "T0" end

Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 599

Angle/Node @2= .00 598

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 600 To 610 DX= -.385 m.

From 610 To 620 DX= -.345 m.

GENERAL

Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 200,644,016 KPa

EH2= 197,200,352 KPa EH3= 200,644,016 KPa EH4= 203,401,232 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

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INPUT LISTING

Pipe Den= .0078334 kg./cu.cm.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 620 To 5190 DY= .398 m.

PIPE

Dia= 6.032 cm. Wall= .554 cm.

GENERAL

Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 200,644,016 KPa
 EH2= 197,200,352 KPa EH3= 200,644,016 KPa EH4= 203,401,232 KPa
 EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa
 EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm. Insul Thk= 4.000 cm.

BEND at "T0" end

Radius= 7.620 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 5189
 Angle/Node @2= .00 5188

SIF's & TEE's

Node 620 Weldolet

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 5190 To 8160 DZ= -.552 m.

BEND at "T0" end

Radius= 7.620 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 8159
 Angle/Node @2= .00 8158

 From 8160 To 8170 DX= .502 m.

BEND at "T0" end

Radius= 7.620 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 8169
 Angle/Node @2= .00 8168

 From 8170 To 8180 DZ= .077 m.

 From 8180 To 8190 DZ= .102 m.

REDUCER

Diam2= 11.430 cm. Wall2= .602 cm.

 From 8190 To 8200 DZ= .210 m.

PIPE

Dia= 11.430 cm. Wall= .602 cm.
 Insul Thk= 4.000 cm.

 From 8200 To 8210 DZ= .102 m.

REDUCER

Diam2= 6.032 cm. Wall2= .554 cm.

 From 8210 To 5200 DZ= .290 m.

PIPE

Dia= 6.032 cm. Wall= .554 cm.
 Insul Thk= 4.000 cm.

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INPUT LISTING

From 5200 To 5210 DZ= .073 m.

RIGID Weight= 44.48 N.

From 5210 To 5220 DZ= .301 m.

RIGID Weight= 93.41 N.

From 5220 To 5230 DZ= .073 m.

RIGID Weight= 44.48 N.

From 5230 To 5240 DZ= .077 m.

BEND at "TO" end

Radius= 7.620 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 5239

Angle/Node @2= .00 5238

From 5240 To 5245 DX= -.539 m.

From 5240 To 6230 DY= -.018 m. DZ= .018 m.

RIGID Weight= .00 N.

SIF's & TEE's

Node 6230 Unreinforced Tee

From 5245 To 5250 DX= -.539 m.

From 5250 To 5260 DX= -.073 m.

RIGID Weight= 44.48 N.

From 5260 To 5270 DX= -.073 m.

RIGID Weight= 44.48 N.

From 5270 To 5275 DX= -.150 m.

From 5275 To 6260 DY= -.025 m.

RIGID Weight= .00 N.

SIF's & TEE's

Node 6260 Unreinforced Tee

From 5275 To 5280 DX= -.150 m.

From 5280 To 5290 DX= -.073 m.

RIGID Weight= 44.48 N.

From 5290 To 5300 DX= -.200 m.

RIGID Weight= 258.00 N.

From 5300 To 5310 DX= -.067 m.

PIPE

Dia= 6.032 cm. Wall= .874 cm. Cor= .6000 cm.

GENERAL

T1= 30 C T2= 85 C T3= 30 C P1= 550.0125 KPa PHyd= 825.0188 KPa

Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 202,660,192 KPa

EH2= 199,086,608 KPa EH3= 202,660,192 KPa EH4= 203,401,232 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000015 kg./cu.cm.

Insul Thk= 4.000 cm.

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INPUT LISTING

RIGID Weight= 31.14 N.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 5310 To 5320 DX= -.089 m.

REDUCER

Diam2= 8.890 cm. Wall2= .762 cm.

 From 5320 To 5330 DX= -.287 m.

PIPE

Dia= 8.890 cm. Wall= .762 cm.

Insul Thk= 4.000 cm.

BEND at "T0" end

Radius= 11.430 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 5329
 Angle/Node @2= .00 5328

 From 5330 To 5340 DY= -.918 m.

 From 5340 To 6280 DX= .038 m.

RIGID Weight= .00 N.

SIF's & TEE's

Node 6280 Unreinforced Tee

 From 5340 To 5350 DY= -2.117 m.

BEND at "T0" end

Radius= 11.430 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 5349
 Angle/Node @2= .00 5348

 From 5350 To 5355 DZ= .516 m.

RESTRAINTS

Node 5355 +Y

 From 5355 To 5360 DZ= .516 m.

BEND at "T0" end

Radius= 11.430 cm. (LONG) Bend Angle= 90.000

 From 5360 To 5370 DX= -3.280 m.

RESTRAINTS

Node 5370 +Y Mu = .30

Node 5370 Z Gap= .300 cm. Mu = .30

 From 5370 To 5375 DX= -4.502 m.

RESTRAINTS

Node 5375 +Y Mu = .30

 From 5375 To 5380 DX= -.561 m.

BEND at "T0" end

Radius= 11.430 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 5379
 Angle/Node @2= .00 5378

 From 5380 To 5390 DY= -.747 m.

BEND at "T0" end

Radius= 11.430 cm. (LONG) Bend Angle= 50.075 Angle/Node @1= 25.04 5389

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INPUT LISTING

Angle/Node @2= .00 5388

From 5390 To 6130 DX= .000 m. DY= -.585 m. DZ= .699 m.

From 610 To 640 DY= -.084 m.

PIPE

Dia= 16.827 cm. Wall= .711 cm.

GENERAL

T1= 60 C T2= 115 C T3= 60 C P1= 2,200.0500 KPa PHyd= 3,300.0752 KPa

Insul Thk= 4.000 cm.

RIGID Weight= .00 N.

SIF's & TEE's

Node 640 Unreinforced Tee

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 640 To 660 DY= -.300 m.

PIPE

Dia= 11.430 cm. Wall= .602 cm. Cor= .0000 cm.

GENERAL

T1= 21 C T2= 21 C T3= 21 C P1= .0000 KPa PHyd= .0000 KPa

Mat= (102)A53 Grade B E= 203,401,232 KPa EH1= 203,401,232 KPa

EH2= 203,401,232 KPa EH3= 203,401,232 KPa EH4= 203,401,232 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000000 kg./cu.cm.

Insul Thk= .000 cm. Insul Den= .0000000 kg./cu.cm.

RESTRAINTS

Node 660 +Y Cnode 800 Mu = .30

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 620 To 680 DX= -.578 m.

PIPE

Dia= 16.827 cm. Wall= .711 cm. Cor= .3000 cm.

GENERAL

T1= 60 C T2= 115 C T3= 60 C P1= 2,200.0500 KPa PHyd= 3,300.0752 KPa

Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 200,644,016 KPa

EH2= 197,200,352 KPa EH3= 200,644,016 KPa EH4= 203,401,232 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000181 kg./cu.cm.

Insul Thk= 4.000 cm. Insul Den= .0001500 kg./cu.cm.

BEND at "T0" end

Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 679

Angle/Node @2= .00 678

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

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INPUT LISTING

Sh9= 137,895 KPa Sy= 241,316 KPa

From 680 To 700 DY= -.229 m.

From 700 To 720 DY= -.126 m.

Element Name= FLANGE_FLG_300

RIGID Weight= 286.91 N.

RESTRAINTS

Node 720 ANC Cnode 721

From 721 To 760 DY= -.105 m.

Element Name= FLANGE_FLG_300

RIGID Weight= 177.93 N.

From 760 To 780 DY= -.196 m.

RESTRAINTS

Node 780 ANC Cnode 820

EQUIPMENT LIMITS

Nozzle Node = 780 Limiting Loads: A=pipe; B=ref; C=AxB; FA= 9,600.48 N.

FB= 9,600.48 N. FC= 7,200.36 N. MA= 5,760.24 N.m. MB= 3,840.16 N.m.

MC= 4,990.21 N.m. Equipment Major Direction Vector= .0000 .0000 1.0000

Interact. Mtd= Absolute

From 780 To 800 DX= .923 m. DY= .274 m. DZ= .000 m.

RIGID Weight= .00 N.

From 780 To 6241 DX= 1.080 m. DY= 1.036 m. DZ= 1.071 m.

RIGID Weight= .00 N.

From 780 To 6271 DX= -.294 m. DY= .678 m. DZ= .753 m.

RIGID Weight= .00 N.

From 780 To 6291 DX= -.822 m. DY= .136 m. DZ= .753 m.

RIGID Weight= .00 N.

From 820 To 840 DY= -3.570 m.

PIPE

Dia= 91.440 cm. Wall= 1.500 cm.

GENERAL

Mat= (383)A516 70 E= 203,401,232 KPa EH1= 200,644,016 KPa

EH2= 197,200,352 KPa EH3= 200,644,016 KPa EH4= 203,401,232 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm. Insul Thk= 4.000 cm.

RIGID Weight= .00 N.

RESTRAINTS

Node 840 ANC

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 160,648 KPa

Sh1= 160,373 KPa Sh2= 157,769 KPa Sh3= 160,373 KPa Sh4= 160,648 KPa

Sh5= 160,648 KPa Sh6= 160,648 KPa Sh7= 160,648 KPa Sh8= 160,648 KPa

Sh9= 160,648 KPa Sy= 262,001 KPa

From 280 To 4350 DZ= .122 m.

PIPE

Dia= 6.032 cm. Wall= .554 cm. Cor= .3000 cm.

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INPUT LISTING

GENERAL

T1= 60 C T2= 115 C T3= 60 C P1= 2,200.0500 KPa PHyd= 3,300.0752 KPa
 Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 200,644,016 KPa
 EH2= 197,200,352 KPa EH3= 200,644,016 KPa EH4= 203,401,232 KPa
 EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa
 EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292
 Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000181 kg./cu.cm.
 Insul Thk= 4.000 cm. Insul Den= .0001500 kg./cu.cm.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 4350 To 4360 DZ= .073 m.

RIGID Weight= 44.48 N.

 From 4360 To 4370 DZ= .301 m.

PIPE

Dia= 6.032 cm. Wall= .874 cm.

GENERAL

T1= 142 C T2= 175 C T3= 142 C P1= 6,200.1411 KPa
 PHyd= 9,300.2119 KPa Fluid Den= .0000430 kg./cu.cm. Insul Thk= 6.000 cm.

RIGID Weight= 311.38 N.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,571 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 4370 To 4380 DZ= .083 m.

GENERAL

T1= 142 C T2= 175 C

RIGID Weight= 57.83 N.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,571 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 4380 To 4390 DZ= .576 m.

BEND at "TO" end

Radius= 7.620 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 4389
 Angle/Node @2= .00 4388

 From 4390 To 4395 DY= .257 m.

 From 4390 To 6300 DY= -.025 m.

RIGID Weight= .00 N.

SIF's & TEE's

Node 6300 Unreinforced Tee

 From 4395 To 880 DY= .257 m.

BEND at "TO" end

Radius= 7.620 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 879
 Angle/Node @2= .00 878

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INPUT LISTING

 From 880 To 900 DZ= -.077 m.

From 900 To 920 DZ= -.083 m.

Element Name= BALL_FLG_600

GENERAL

T1= 142 C T2= 175 C P1= 6,200.1411 KPa PHyd= 9,300.2119 KPa

Fluid Den= .0000430 kg./cu.cm.

RIGID Weight= 57.83 N.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,571 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 920 To 940 DZ= -.301 m.

Element Name= CHECK_FLG_150

RIGID Weight= 427.03 N.

From 940 To 960 DZ= -.083 m.

RIGID Weight= 57.83 N.

From 960 To 980 DZ= -1.222 m.

BEND at "T0" end

Radius= 7.620 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 979

Angle/Node @2= .00 978

From 980 To 1000 DY= -.100 m.

From 1000 To 1020 DY= -.298 m.

Element Name= CHECK_FLG_600

SIF's & TEE's

Node 1020 Weldolet

From 1020 To 1040 DX= .195 m.

PIPE

Dia= 16.827 cm. Wall= 1.097 cm. Cor= .3000 cm.

GENERAL

T1= 142 C T2= 175 C P1= 6,200.1411 KPa PHyd= 9,300.2119 KPa

Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 195,531,264 KPa

EH2= 193,178,448 KPa EH3= 195,531,264 KPa EH4= 203,401,232 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000430 kg./cu.cm.

Insul Thk= 4.000 cm. Insul Den= .0001362 kg./cu.cm.

RESTRAINTS

Node 1040 +Y Mu = .30

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,571 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 1040 To 1060 DX= .150 m.

From 1060 To 1080 DX= .126 m.

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INPUT LISTING

Element Name= FLG.PR_FLG_150

RIGID Weight= 364.75 N.

From 1080 To 1100 DX= .126 m.

Element Name= FLG.PR_FLG_150

RIGID Weight= 364.75 N.

From 1100 To 1120 DX= .229 m.

BEND at "TO" end

Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1119

From 1120 To 1140 DZ= -1.228 m.

BEND at "TO" end

Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1139

Angle/Node @2= .00 1138

From 1140 To 1160 DX= .462 m.

From 1160 To 1180 DX= .462 m.

BEND at "TO" end

Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1179

Angle/Node @2= .00 1178

RESTRAINTS

Node 1180 -X Mu = .30

Node 1180 +Y Mu = .30

From 1180 To 1200 DZ= 1.828 m.

BEND at "TO" end

Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1199

Angle/Node @2= .00 1198

From 1200 To 1220 DX= .229 m.

From 1220 To 1240 DX= .127 m.

Element Name= FLANGE_FLG_600

RIGID Weight= 364.75 N.

RESTRAINTS

Node 1240 ANC

EQUIPMENT LIMITS

Nozzle Node = 1240

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 2,160.11 N. FB= 2,160.11 N.

FC= 2,160.11 N. MA= 1,155.05 N.m. MB= 1,155.05 N.m. MC= 1,155.05 N.m.

Equipment Major Direction Vector= .0000 1.0000 .0000

Interact. Mtd= Absolute

From 1020 To 1260 DX= -1.400 m.

PIPE

Dia= 16.827 cm. Wall= 1.097 cm. Cor= .3000 cm.

GENERAL

T1= 142 C T2= 175 C P1= 6,200.1411 KPa PHyd= 9,300.2119 KPa

Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 195,531,264 KPa

EH2= 193,178,448 KPa EH3= 195,531,264 KPa EH4= 203,401,232 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000430 kg./cu.cm.

Insul Thk= 6.000 cm. Insul Den= .0001500 kg./cu.cm.

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INPUT LISTING

SIF's & TEE's

Node 1260 Weldolet

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,571 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 1260 To 1280 DX= -.850 m.

RESTRAINTS

Node 1280 Y Mu = .30

Node 1280 Z Gap= .300 cm. Mu = .30

From 1280 To 1300 DX= -.650 m.

From 1300 To 1320 DX= -.127 m.

Element Name= FLANGE_FLG_600

RIGID Weight= 364.75 N.

From 1320 To 1340 DX= -.568 m.

Element Name= CHECK_NOFLG_600

RIGID Weight= 3,087.07 N.

From 1340 To 1360 DX= -.127 m.

Element Name= FLANGE_NOFLG_600

RIGID Weight= 364.75 N.

From 1360 To 1380 DX= -1.549 m.

RESTRAINTS

Node 1380 Y Mu = .30

Node 1380 Z Gap= .300 cm. Mu = .30

From 1380 To 1390 DX= -2.035 m.

From 1390 To 1400 DX= -2.035 m.

SINGLE FLANGED BEND at "T0" end

Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1399

Angle/Node @2= .00 1398

From 1400 To 1480 DY= 1.584 m.

PIPE

Dia= 16.827 cm. Wall= 1.097 cm.

GENERAL

T1= 142 C T2= 175 C P1= 6,200.1411 KPa PHyd= 9,300.2119 KPa

Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 195,531,264 KPa

EH2= 193,178,448 KPa EH3= 195,531,264 KPa EH4= 203,401,232 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000154 kg./cu.cm.

Insul Thk= 4.000 cm.

BEND at "T0" end

Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1479

Angle/Node @2= .00 1478

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,571 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

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INPUT LISTING

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 1480 To 1500 DX= -5.760 m.

RESTRAINTS

Node 1500 +Y Mu = .30
 Node 1500 Z Gap= .300 cm.

 From 1500 To 1520 DX= -6.000 m.

RESTRAINTS

Node 1520 +Y Mu = .30

 From 1520 To 1540 DX= -2.731 m.

BEND at "T0" end

Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1539
 Angle/Node @2= .00 1538

 From 1540 To 1560 DZ= 2.129 m.

RESTRAINTS

Node 1560 +Y Mu = .30
 Node 1560 X Gap= .300 cm. Mu = .30

 From 1560 To 1580 DZ= 1.221 m.

BEND at "T0" end

Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1579
 Angle/Node @2= .00 1578

 From 1580 To 1600 DY= 3.620 m.

BEND at "T0" end

Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1599
 Angle/Node @2= .00 1598

 From 1600 To 1620 DX= -1.457 m.

BEND at "T0" end

Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1619
 Angle/Node @2= .00 1618

 From 1620 To 1640 DY= -.928 m.

 From 1640 To 1660 DY= -.127 m.

Element Name= FLANGE_NOFLG_600

RIGID Weight= 364.75 N.

RESTRAINTS

Node 1660 ANC Cnode 1661

 From 1660 To 1680 DY= -.035 m.

PIPE

Dia= 16.827 cm. Wall= 1.097 cm. Cor= .3000 cm.
 Element Name= FLANGE_NOFLG_600

GENERAL

T1= 142 C T2= 175 C P1= 6,200.1411 KPa PHyd= 9,300.2119 KPa
 Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 195,531,264 KPa
 EH2= 193,178,448 KPa EH3= 195,531,264 KPa EH4= 203,401,232 KPa
 EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa
 EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292
 Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000430 kg./cu.cm.

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INPUT LISTING

Insul Thk= 4.000 cm. Insul Den= .0001362 kg./cu.cm.

RIGID Weight= 111.21 N.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,571 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

 From 1680 To 1700 DY= -.200 m.

RESTRAINTS

Node 1700 ANC Cnode 1720

EQUIPMENT LIMITS

Nozzle Node = 1700

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 15,090.75 N. FB= 15,090.75 N.

FC= 12,000.60 N. MA= 9,150.39 N.m. MB= 4,890.21 N.m. MC= 6,420.27 N.m.

Equipment Major Direction Vector= .0000 .0000 1.0000

Interact. Mtd= Absolute

 From 1720 To 1740 DY= -.240 m.

RIGID Weight= .00 N.

 From 1740 To 1760 DY= -.240 m.

RIGID Weight= .00 N.

 From 1780 To 1800 DY= -.200 m.

RESTRAINTS

Node 1780 ANC Cnode 1760

EQUIPMENT LIMITS

Nozzle Node = 1780

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 16,200.81 N. FB= 15,090.75 N.

FC= 12,000.60 N. MA= 9,150.39 N.m. MB= 4,890.21 N.m. MC= 6,420.27 N.m.

Equipment Major Direction Vector= .0000 .0000 1.0000

Interact. Mtd= Absolute

 From 1800 To 1820 DY= -.035 m.

Element Name= FLANGE_NOFLG_150

RIGID Weight= 111.21 N.

 From 1740 To 1840 DZ= 1.500 m.

RIGID Weight= 2,250.11 N.

RESTRAINTS

Node 1840 +Y

Node 1840 X Mu = .30

Node 1840 Z Gap= .600 cm. Mu = .30

 From 1840 To 1860 DX= -7.035 m.

RIGID Weight=10,500.52 N.

RESTRAINTS

Node 1860 Y Mu = .10

Node 1860 Z Gap= .600 cm. Mu = .30

 From 1860 To 1880 DZ= -3.000 m.

RIGID Weight= 4,500.22 N.

RESTRAINTS

Node 1880 Y Mu = .10

Node 1880 Z Gap= .600 cm. Mu = .30

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INPUT LISTING

 From 1880 To 1900 DX= 7.035 m.

RIGID Weight=10,500.52 N.

RESTRAINTS

Node 1900 Y Mu = .10

Node 1900 X Mu = .30

Node 1900 Z Gap= .600 cm. Mu = .30

From 1900 To 1740 DZ= 1.500 m.

RIGID Weight= 2,250.11 N.

From 1820 To 1920 DY= -.159 m.

PIPE

Dia= 16.827 cm. Wall= .711 cm. Cor= .0000 cm.

Element Name= FLANGE_NOFLG_150

GENERAL

T1= 60 C T2= 175 C T3= 60 C P1= 6,200.1411 KPa PHyd= 9,300.2119 KPa

Mat= (165)A312 TP316L E= 195,127,520 KPa EH1= 192,364,096 KPa

EH2= 184,539,120 KPa EH3= 192,364,096 KPa EH4= 195,127,520 KPa

EH5= 195,127,520 KPa EH6= 195,127,520 KPa EH7= 195,127,520 KPa

EH8= 195,127,520 KPa EH9= 195,127,520 KPa v = .292

Pipe Den= .0080272 kg./cu.cm. Fluid Den= .0000596 kg./cu.cm.

Insul Thk= 4.000 cm. Insul Den= .0001500 kg./cu.cm.

RIGID Weight= 191.27 N.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 115,142 KPa

Sh1= 115,142 KPa Sh2= 111,904 KPa Sh3= 115,142 KPa Sh4= 115,142 KPa

Sh5= 115,142 KPa Sh6= 115,142 KPa Sh7= 115,142 KPa Sh8= 115,142 KPa

Sh9= 115,142 KPa Sy= 172,369 KPa

From 1920 To 1940 DY= -.429 m.

GENERAL

P1= 2,200.0500 KPa Fluid Den= .0000183 kg./cu.cm.

SINGLE FLANGED BEND at "T0" end

Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1939

From 1940 To 1960 DY= .000 m. DZ= -.328 m.

From 1960 To 1980 DY= .000 m. DZ= -.328 m.

BEND at "T0" end

Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1979

Angle/Node @2= .00 1978

From 1980 To 2000 DX= 3.991 m.

From 2000 To 6420 DY= -.076 m.

PIPE

Dia= 16.827 cm. Wall= .711 cm. Cor= .0000 cm.

GENERAL

T1= 60 C T2= 175 C T3= 60 C P1= 2,200.0500 KPa PHyd= 9,300.2119 KPa

Mat= (165)A312 TP316L E= 195,127,520 KPa EH1= 192,370,304 KPa

EH2= 184,539,120 KPa EH3= 192,370,304 KPa EH4= 195,127,520 KPa

EH5= 195,127,520 KPa EH6= 195,127,520 KPa EH7= 195,127,520 KPa

EH8= 195,127,520 KPa EH9= 195,127,520 KPa v = .292

Pipe Den= .0080272 kg./cu.cm. Fluid Den= .0000183 kg./cu.cm.

Insul Thk= .000 cm. Insul Den= .0000000 kg./cu.cm.

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INPUT LISTING

RIGID Weight= .00 N.

SIF's & TEE's

Node 6420 Unreinforced Tee

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 115,142 KPa

Sh1= 115,142 KPa Sh2= 111,904 KPa Sh3= 115,142 KPa Sh4= 115,142 KPa

Sh5= 115,142 KPa Sh6= 115,142 KPa Sh7= 115,142 KPa Sh8= 115,142 KPa

Sh9= 115,142 KPa Sy= 172,369 KPa

 From 2000 To 4100 DX= .550 m.

PIPE

Dia= 16.827 cm. Wall= .711 cm. Cor= .0000 cm.

GENERAL

T1= 60 C T2= 175 C T3= 60 C P1= 6,200.1411 KPa PHyd= 9,300.2119 KPa

Mat= (165)A312 TP316L E= 195,127,520 KPa EH1= 192,370,304 KPa

EH2= 184,539,120 KPa EH3= 192,370,304 KPa EH4= 195,127,520 KPa

EH5= 195,127,520 KPa EH6= 195,127,520 KPa EH7= 195,127,520 KPa

EH8= 195,127,520 KPa EH9= 195,127,520 KPa v = .292

Pipe Den= .0080272 kg./cu.cm. Fluid Den= .0000600 kg./cu.cm.

Insul Thk= .000 cm.

SIF's & TEE's

Node 4100 Welding Tee

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 115,142 KPa

Sh1= 115,142 KPa Sh2= 111,904 KPa Sh3= 115,142 KPa Sh4= 115,142 KPa

Sh5= 115,142 KPa Sh6= 115,142 KPa Sh7= 115,142 KPa Sh8= 115,142 KPa

Sh9= 115,142 KPa Sy= 172,369 KPa

 From 4100 To 4400 DY= -.007 m. DZ= 1.448 m.

 From 4400 To 4410 DY= -.001 m. DZ= .127 m.

RIGID Weight= 364.75 N.

 From 4410 To 4420 DY= -.003 m. DZ= .568 m.

RIGID Weight= 3,087.07 N.

 From 4420 To 4430 DY= -.001 m. DZ= .127 m.

RIGID Weight= 364.75 N.

 From 4430 To 4440 DY= -.002 m. DZ= .333 m.

 From 4440 To 6480 DY= -.076 m.

RIGID Weight= .00 N.

SIF's & TEE's

Node 6480 Unreinforced Tee Pad= .711 cm.

 From 4440 To 4450 DY= -.002 m. DZ= .333 m.

 From 4450 To 4460 DY= -.001 m. DZ= .127 m.

RIGID Weight= 364.75 N.

 From 4460 To 4470 DY= -.003 m. DZ= .568 m.

RIGID Weight= 733.96 N.

 From 4470 To 4480 DY= -.001 m. DZ= .127 m.

RIGID Weight= 364.75 N.

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From 4480 To 4482 DY= -.003 m. DZ= .565 m.

From 4485 To 6760 DX= -.054 m. DY= -.054 m.

RIGID Weight= .00 N.

SIF's & TEE's

Node 6760 Unreinforced Tee Pad= .711 cm.

From 4482 To 4485 DY= -.003 m. DZ= .565 m.

BEND at "TO" end

Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 4484

Angle/Node @2= .00 4483

From 4485 To 4490 DX= 1.042 m. DY= .000 m. DZ= .000 m.

From 4490 To 4500 DX= .127 m. DY= .000 m. DZ= .000 m.

RIGID Weight= 364.75 N.

From 4500 To 4505 DX= .598 m. DY= .000 m. DZ= .000 m.

RIGID Weight= 1,005.30 N.

From 4505 To 6790 DX= .127 m. DY= .000 m. DZ= .000 m.

PIPE

Dia= 16.827 cm. Wall= .711 cm. Cor= .0000 cm.

GENERAL

T1= 60 C T2= 175 C T3= 60 C P1= 6,200.1411 KPa PHyd= 9,300.2119 KPa

Mat= (165)A312 TP316L E= 195,127,520 KPa EH1= 192,370,304 KPa

EH2= 184,539,120 KPa EH3= 192,370,304 KPa EH4= 195,127,520 KPa

EH5= 195,127,520 KPa EH6= 195,127,520 KPa EH7= 195,127,520 KPa

EH8= 195,127,520 KPa EH9= 195,127,520 KPa v = .292

Pipe Den= .0080272 kg./cu.cm. Fluid Den= .0000600 kg./cu.cm.

Insul Thk= .000 cm. Insul Den= .0000000 kg./cu.cm.

RIGID Weight= 364.75 N.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 115,142 KPa

Sh1= 115,142 KPa Sh2= 111,904 KPa Sh3= 115,142 KPa Sh4= 115,142 KPa

Sh5= 115,142 KPa Sh6= 115,142 KPa Sh7= 115,142 KPa Sh8= 115,142 KPa

Sh9= 115,142 KPa Sy= 172,369 KPa

From 6790 To 6780 DX= .324 m.

From 6795 To 7000 DX= .054 m. DY= -.054 m.

RIGID Weight= .00 N.

SIF's & TEE's

Node 7000 Unreinforced Tee Pad= .711 cm.

From 6780 To 6795 DX= .324 m.

BEND at "TO" end

Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 6794

Angle/Node @2= .00 6793

From 6795 To 6800 DY= -.049 m. DZ= 1.406 m.

BEND at "TO" end

Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 6799

Angle/Node @2= .00 6798

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From 6800 To 6810 DX= -2.068 m. DY= .000 m. DZ= .000 m.

From 6810 To 6820 DX= -2.000 m. DY= .000 m.

BEND at "T0" end

Radius= 22.860 cm. (LONG) Bend Angle= 45.000 Angle/Node @1= 22.50 6819
Angle/Node @2= .00 6818

From 6820 To 6830 DX= -.166 m. DY= -.166 m.

From 6840 To 6850 DX= .000 m. DZ= .127 m.

PIPE

Dia= 16.827 cm. Wall= .711 cm. Cor= .3000 cm.

GENERAL

T1= 60 C T2= 175 C T3= 60 C P1= 6,200.1411 KPa PHyd= 9,300.2119 KPa
Mat= (165)A312 TP316L E= 195,127,520 KPa EH1= 192,364,096 KPa
EH2= 184,539,120 KPa EH3= 192,364,096 KPa EH4= 195,127,520 KPa
EH5= 195,127,520 KPa EH6= 195,127,520 KPa EH7= 195,127,520 KPa
EH8= 195,127,520 KPa EH9= 195,127,520 KPa v = .292
Pipe Den= .0080272 kg./cu.cm. Fluid Den= .0000181 kg./cu.cm.
Insul Thk= 4.000 cm. Insul Den= .0001362 kg./cu.cm.

RIGID Weight= 364.75 N.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 115,142 KPa
Sh1= 115,142 KPa Sh2= 111,904 KPa Sh3= 115,142 KPa Sh4= 115,142 KPa
Sh5= 115,142 KPa Sh6= 115,142 KPa Sh7= 115,142 KPa Sh8= 115,142 KPa
Sh9= 115,142 KPa Sy= 172,369 KPa

From 6850 To 6860 DZ= .127 m.

PIPE

Cor= .0000 cm.

GENERAL

T1= 60 C T2= 175 C T3= 60 C P1= 6,200.1411 KPa PHyd= 9,300.2119 KPa
Fluid Den= .0000600 kg./cu.cm.

RIGID Weight= 364.75 N.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 115,142 KPa
Sh1= 115,142 KPa Sh2= 111,904 KPa Sh3= 115,142 KPa Sh4= 115,142 KPa
Sh5= 115,142 KPa Sh6= 115,142 KPa Sh7= 115,142 KPa Sh8= 115,142 KPa
Sh9= 115,142 KPa Sy= 172,369 KPa

From 6860 To 6845 DZ= .369 m.

PIPE

Dia= 16.827 cm. Wall= .711 cm. Cor= .0000 cm.

GENERAL

T1= 60 C T2= 175 C T3= 60 C P1= 6,200.1411 KPa PHyd= 9,300.2119 KPa
Mat= (165)A312 TP316L E= 195,127,520 KPa EH1= 192,370,304 KPa
EH2= 184,539,120 KPa EH3= 192,370,304 KPa EH4= 195,127,520 KPa
EH5= 195,127,520 KPa EH6= 195,127,520 KPa EH7= 195,127,520 KPa
EH8= 195,127,520 KPa EH9= 195,127,520 KPa v = .292
Pipe Den= .0080272 kg./cu.cm. Fluid Den= .0000596 kg./cu.cm.
Insul Thk= .000 cm. Insul Den= .0001362 kg./cu.cm.

RESTRAINTS

Node 6845 +Y Mu = .30

Node 6845 X Gap= 1.500 cm. Mu = .30

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 115,142 KPa

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INPUT LISTING

Sh1= 115,142 KPa Sh2= 111,904 KPa Sh3= 115,142 KPa Sh4= 115,142 KPa
Sh5= 115,142 KPa Sh6= 115,142 KPa Sh7= 115,142 KPa Sh8= 115,142 KPa
Sh9= 115,142 KPa Sy= 172,369 KPa

From 6845 To 6830 DZ= .424 m.

SIF's & TEE's

Node 6830 Welding Tee

From 6830 To 6870 DZ= 5.576 m.

RESTRAINTS

Node 6870 +Y Mu = .30

From 6870 To 6880 DZ= 2.000 m.

From 6880 To 6890 DZ= 4.000 m.

RESTRAINTS

Node 6890 +Y Mu = .30

Node 6890 X Gap= .300 cm. Mu = .30

From 6890 To 6900 DZ= 6.000 m.

RESTRAINTS

Node 6900 +Y Mu = .30

From 6900 To 6910 DZ= 6.000 m.

RESTRAINTS

Node 6910 +Y Mu = .30

Node 6910 X Gap= .300 cm. Mu = .30

From 6910 To 6920 DZ= 6.000 m.

RESTRAINTS

Node 6920 +Y Mu = .30

Node 6920 X Gap= .300 cm. Mu = .30

Node 6920 Z Gap= .300 cm. Mu = .30

From 4100 To 4560 DZ= -.285 m.

PIPE

Dia= 16.827 cm. Wall= .711 cm. Cor= .0000 cm.

GENERAL

T1= 60 C T2= 175 C T3= 60 C P1= 6,200.1411 KPa PHyd= 9,300.2119 KPa

Mat= (165)A312 TP316L E= 195,127,520 KPa EH1= 192,364,096 KPa

EH2= 184,539,120 KPa EH3= 192,364,096 KPa EH4= 195,127,520 KPa

EH5= 195,127,520 KPa EH6= 195,127,520 KPa EH7= 195,127,520 KPa

EH8= 195,127,520 KPa EH9= 195,127,520 KPa v = .292

Pipe Den= .0080272 kg./cu.cm. Fluid Den= .0000600 kg./cu.cm.

Insul Thk= 4.000 cm. Insul Den= .0001500 kg./cu.cm.

SIF's & TEE's

Node 4560 Welding Tee

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 115,142 KPa

Sh1= 115,142 KPa Sh2= 111,904 KPa Sh3= 115,142 KPa Sh4= 115,142 KPa

Sh5= 115,142 KPa Sh6= 115,142 KPa Sh7= 115,142 KPa Sh8= 115,142 KPa

Sh9= 115,142 KPa Sy= 172,369 KPa

From 4560 To 4570 DX= .143 m.

From 4570 To 8140 DX= .140 m. DY= -.027 m.

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INPUT LISTING

REDUCER

Diam2= 11.430 cm. Wall2= .602 cm.

From 4560 To 4580 DX= -.143 m.

From 4580 To 4590 DX= -.372 m.

PIPE

Dia= 16.827 cm. Wall= .711 cm.

GENERAL

Insul Thk= .000 cm. Insul Den= .0000000 kg./cu.cm.

BEND at "TO" end

Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 4589

Angle/Node @2= .00 4588

From 4590 To 4600 DZ= -.229 m.

From 4600 To 4610 DZ= -.127 m.

RIGID Weight= 364.75 N.

From 4610 To 4620 DZ= -.568 m.

RIGID Weight= 2,708.97 N.

From 4620 To 4630 DZ= -.127 m.

RIGID Weight= 364.75 N.

From 4630 To 4640 DZ= -.200 m.

From 4640 To 6510 DY= -.076 m.

RIGID Weight= .00 N.

SIF's & TEE's

Node 6510 Unreinforced Tee Pad= .711 cm.

From 4640 To 4650 DZ= -.533 m.

From 4650 To 4660 DY= -.027 m. DZ= -.140 m.

REDUCER

Diam2= 11.430 cm. Wall2= .602 cm.

From 4660 To 4670 DZ= -.111 m.

PIPE

Dia= 11.430 cm. Wall= .602 cm.

Insul Thk= .000 cm.

RIGID Weight= 191.27 N.

From 4670 To 4680 DZ= -.441 m.

RIGID Weight= 387.00 N.

From 4680 To 4690 DZ= -.111 m.

RIGID Weight= 191.27 N.

From 4690 To 4700 DY= .027 m. DZ= -.140 m.

REDUCER

Diam2= 16.827 cm. Wall2= .711 cm.

From 4700 To 4710 DZ= -.300 m.

PIPE

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INPUT LISTING

Dia= 16.827 cm. Wall= .711 cm.
 Insul Thk= .000 cm.

 From 4710 To 6530 DY= -.076 m.

RIGID Weight= .00 N.

SIF's & TEE's

Node 6530 Unreinforced Tee Pad= .711 cm.

 From 4710 To 4720 DZ= -.300 m.

 From 4720 To 4730 DZ= -.127 m.

RIGID Weight= 364.75 N.

 From 4730 To 4740 DZ= -.560 m.

RIGID Weight= 2,708.97 N.

 From 4740 To 4750 DZ= -.102 m.

PIPE

Dia= 16.827 cm. Wall= 1.097 cm. Cor= .6000 cm.

GENERAL

T1= 40 C T2= 85 C T3= 40 C P1= 900.0205 KPa PHyd= 1,350.0308 KPa

Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 201,878,768 KPa

EH2= 199,086,608 KPa EH3= 201,878,768 KPa EH4= 203,401,232 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000060 kg./cu.cm.

Insul Thk= .000 cm.

RIGID Weight= 191.27 N.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

 From 8150 To 4140 DZ= -3.792 m.

BEND at "T0" end

Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 4139

Angle/Node @2= .00 4138

 From 4140 To 6560 DX= .429 m.

RESTRAINTS

Node 6560 +Y Mu = .30

Node 6560 Z Gap= .300 cm. Mu = .30

 From 6560 To 4760 DX= 4.399 m.

BEND at "T0" end

Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 4759

Angle/Node @2= .00 4758

 From 4760 To 4770 DZ= -.457 m.

BEND at "T0" end

Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 4769

 From 4770 To 4780 DY= -.658 m.

SIF's & TEE's

Node 4780 Welding Tee

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INPUT LISTING

From 4780 To 4160 DX= 1.293 m.

PIPE

Dia= 21.907 cm. Wall= 1.270 cm. Cor= .6000 cm.

GENERAL

T1= 40 C T2= 85 C P1= 900.0205 KPa PHyd= 1,350.0308 KPa

Fluid Den= .0000060 kg./cu.cm. Insul Thk= .000 cm.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 4160 To 6600 DY= -.102 m.

RIGID Weight= .00 N.

SIF's & TEE's

Node 6600 Unreinforced Tee

From 4160 To 4180 DX= 3.194 m.

From 4180 To 4200 DX= .114 m.

Element Name= FLANGE_FLG_300

RIGID Weight= 302.48 N.

From 4200 To 4220 DX= .020 m.

Element Name= FLANGE_FLG_300

RIGID Weight= 30.00 N.

RESTRAINTS

Node 4220 ANC Cnode 4221

From 4220 To 4240 DX= .105 m.

Element Name= FLANGE_FLG_300

RIGID Weight= 177.93 N.

From 4240 To 4260 DX= .155 m.

RESTRAINTS

Node 4260 ANC Cnode 4261

EQUIPMENT LIMITS

Nozzle Node = 4260

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 8,400.42 N. FB= 8,400.42 N.

FC= 6,300.31 N. MA= 3,780.16 N.m. MB= 2,520.11 N.m. MC= 3,280.14 N.m.

Equipment Major Direction Vector= .0000 1.0000 .0000

Interact. Mtd= Absolute

From 4261 To 4280 DX= .460 m.

PIPE

Dia= 92.000 cm. Wall= 1.200 cm.

Insul Thk= .000 cm.

RIGID Weight= .00 N.

From 4280 To 4300 DY= -1.300 m.

RIGID Weight= .00 N.

From 4300 To 4310 DY= -1.000 m.

RIGID Weight= .00 N.

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INPUT LISTING

From 4310 To 4320 DY= -.300 m.

GENERAL

T1= 21 C T2= 21 C T3= 21 C

RIGID Weight= .00 N.

RESTRAINTS

Node 4320 ANC

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

 From 4780 To 6620 DX= -.394 m.

PIPE

Dia= 21.907 cm. Wall= 1.270 cm.

GENERAL

T1= 40 C T2= 85 C T3= 40 C Insul Thk= .000 cm.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

 From 6620 To 6630 DY= -.102 m.

RIGID Weight= .00 N.

SIF's & TEE's

Node 6630 Unreinforced Tee

 From 6620 To 4800 DX= -.394 m.

 From 4800 To 4810 DX= -.114 m.

RIGID Weight= 302.48 N.

 From 4810 To 4820 DX= -.542 m.

RIGID Weight= 3,362.86 N.

 From 4820 To 4830 DX= -.114 m.

RIGID Weight= 302.48 N.

 From 4830 To 4840 DX= -.267 m.

 From 4840 To 4850 DX= -.114 m.

RIGID Weight= 302.48 N.

 From 4850 To 4860 DX= -.606 m.

RIGID Weight= 360.31 N.

 From 4860 To 4870 DX= -.105 m.

RIGID Weight= 177.93 N.

 From 4870 To 4880 DX= -.200 m.

 From 4880 To 6650 DX= -.287 m.

 From 6650 To 6660 DY= -.102 m.

RIGID Weight= .00 N.

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INPUT LISTING

SIF's & TEE's

Node 6660 Unreinforced Tee

From 6650 To 4890 DX= -.487 m.

From 4890 To 4900 DX= -.105 m.

RIGID Weight= 177.93 N.

From 4900 To 4910 DX= -.487 m.

RIGID Weight= 2,259.70 N.

From 4910 To 4920 DX= -.105 m.

RIGID Weight= 177.93 N.

From 4920 To 4930 DX= -.542 m.

From 4930 To 6680 DY= -.102 m.

RIGID Weight= .00 N.

SIF's & TEE's

Node 6680 Unreinforced Tee

From 4930 To 4940 DX= -.605 m.

BEND at "T0" end

Radius= 30.480 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 4939

Angle/Node @2= .00 4938

From 4940 To 4950 DZ= 1.500 m.

BEND at "T0" end

Radius= 30.480 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 4949

Angle/Node @2= .00 4948

From 4950 To 4960 DX= -.872 m. DY= .000 m.

BEND at "T0" end

Radius= 30.480 cm. (LONG) Bend Angle= 45.000 Angle/Node @1= 22.50 4959

Angle/Node @2= .00 4958

From 4960 To 4970 DX= -.337 m. DY= .337 m.

From 8140 To 4980 DX= .390 m.

PIPE

Dia= 11.430 cm. Wall= .602 cm. Cor= .0000 cm.

GENERAL

T1= 60 C T2= 175 C T3= 60 C P1= 6,200.1411 KPa PHyd= 9,300.2119 KPa

Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 200,637,808 KPa

EH2= 193,178,448 KPa EH3= 200,637,808 KPa EH4= 203,401,232 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000060 kg./cu.cm.

Insul Thk= 4.000 cm. Insul Den= .0001500 kg./cu.cm.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,571 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 4570 To 8140 DX= .140 m. DY= -.027 m.

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INPUT LISTING

PIPE

Dia= 16.827 cm. Wall= .711 cm.

Insul Thk= 4.000 cm.

REDUCER

Diam2= 11.430 cm. Wall2= .602 cm.

 From 4980 To 4990 DX= .111 m.

PIPE

Dia= 11.430 cm. Wall= .602 cm.

E= 203,401,232 KPa EH1= 200,637,808 KPa EH2= 193,178,448 KPa

EH3= 200,637,808 KPa EH4= 203,401,232 KPa EH5= 203,401,232 KPa

EH6= 203,401,232 KPa EH7= 203,401,232 KPa EH8= 203,401,232 KPa

EH9= 203,401,232 KPa v = .292 Pipe Den= .0078334 kg./cu.cm.

Insul Thk= 4.000 cm.

RIGID Weight= 191.27 N.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,571 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

 From 4990 To 5000 DX= .441 m.

RIGID Weight= 1,116.50 N.

 From 5000 To 5010 DX= .111 m.

RIGID Weight= 191.27 N.

 From 5010 To 5020 DX= .153 m.

BEND at "T0" end

Radius= 15.240 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 5019

 From 5020 To 5025 DZ= -.483 m.

 From 5020 To 6700 DX= .035 m. DY= -.035 m.

RIGID Weight= .00 N.

SIF's & TEE's

Node 6700 Unreinforced Tee Pad= .711 cm.

 From 5025 To 5030 DZ= -.483 m.

 From 5030 To 5040 DY= -.013 m. DZ= -.102 m.

REDUCER

Diam2= 8.890 cm. Wall2= .549 cm.

 From 5040 To 5060 DZ= -.092 m.

PIPE

Dia= 8.890 cm. Wall= .549 cm.

Insul Thk= 4.000 cm.

RIGID Weight= 106.76 N.

 From 5060 To 5070 DZ= -.360 m.

RIGID Weight= 217.96 N.

 From 5070 To 5080 DZ= -.092 m.

RIGID Weight= 106.76 N.

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From 5080 To 5090 DY= .013 m. DZ= -.102 m.

REDUCER

Diam2= 11.430 cm. Wall2= .602 cm.

From 5090 To 5095 DZ= -.249 m.

PIPE

Dia= 11.430 cm. Wall= .602 cm.

Insul Thk= 4.000 cm.

From 5095 To 6720 DY= -.051 m.

RIGID Weight= .00 N.

SIF's & TEE's

Node 6720 Reinforced Tee Pad= .602 cm.

From 5095 To 5100 DZ= -.249 m.

From 5100 To 5110 DZ= -.111 m.

RIGID Weight= 191.27 N.

From 5110 To 5120 DZ= -.441 m.

RIGID Weight= 1,116.50 N.

From 5120 To 5130 DZ= -.079 m.

PIPE

Dia= 11.430 cm. Wall= .856 cm. Cor= .6000 cm.

GENERAL

T1= 272 C T2= 270 C T3= -28 C P1= 600.0137 KPa PHyd= 900.0205 KPa

Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 187,335,024 KPa

EH2= 187,483,936 KPa EH3= 205,934,864 KPa EH4= 203,401,232 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000015 kg./cu.cm.

Insul Thk= .000 cm. Insul Den= .0000000 kg./cu.cm.

RIGID Weight= 71.17 N.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 129,365 KPa Sh2= 129,638 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 5130 To 5140 DZ= -.153 m.

BEND at "TO" end

Radius= 15.240 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 5139

From 5140 To 5145 DY= -.651 m.

From 5145 To 6740 DZ= -.051 m.

RIGID Weight= .00 N.

SIF's & TEE's

Node 6740 Unreinforced Tee

From 5145 To 5150 DY= -.412 m.

BEND at "TO" end

Radius= 15.240 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 5149

Angle/Node @2= .00 5148

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From 5150 To 5160 DX= -.882 m.

BEND at "TO" end

Radius= 15.240 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 5159

Angle/Node @2= .00 5158

From 5160 To 5170 DY= -1.073 m.

BEND at "TO" end

Radius= 15.240 cm. (LONG) Bend Angle= 44.939 Angle/Node @1= 22.47 5169

Angle/Node @2= .00 5168

From 5170 To 3965 DX= .000 m. DY= -.530 m. DZ= .529 m.

From 4710 To 6530 DY= -.076 m.

PIPE

Dia= 16.827 cm. Wall= .711 cm. Cor= .0000 cm.

GENERAL

T1= 38 C T2= 85 C T3= 38 C P1= 6,200.1411 KPa PHyd= 9,300.2119 KPa

Mat= (165)A312 TP316L E= 195,127,520 KPa EH1= 193,729,152 KPa

EH2= 190,812,912 KPa EH3= 193,729,152 KPa EH4= 195,127,520 KPa

EH5= 195,127,520 KPa EH6= 195,127,520 KPa EH7= 195,127,520 KPa

EH8= 195,127,520 KPa EH9= 195,127,520 KPa v = .292

Pipe Den= .0080272 kg./cu.cm. Fluid Den= .0000600 kg./cu.cm.

Insul Thk= .000 cm. Insul Den= .0000000 kg./cu.cm.

RIGID Weight= .00 N.

SIF's & TEE's

Node 6530 Unreinforced Tee Pad= .711 cm.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 115,142 KPa

Sh1= 115,142 KPa Sh2= 115,142 KPa Sh3= 115,142 KPa Sh4= 115,142 KPa

Sh5= 115,142 KPa Sh6= 115,142 KPa Sh7= 115,142 KPa Sh8= 115,142 KPa

Sh9= 115,142 KPa Sy= 172,369 KPa

From 6010 To 6020 DX= -.155 m.

PIPE

Dia= 27.305 cm. Wall= .927 cm. Cor= .6000 cm.

GENERAL

T1= 38 C T2= 85 C T3= 38 C P1= 900.0205 KPa PHyd= 1,350.0308 KPa

Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 202,002,864 KPa

EH2= 199,086,608 KPa EH3= 202,002,864 KPa EH4= 203,401,232 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000015 kg./cu.cm.

Insul Thk= .000 cm. Insul Den= .0000000 kg./cu.cm.

RESTRAINTS

Node 6020 +Y Mu = .30

Node 6020 Z Gap= .300 cm.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 6020 To 6030 DX= -12.176 m.

BEND at "TO" end

Radius= 38.100 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 6029

Angle/Node @2= .00 6028

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 From 6030 To 6040 DY= -1.300 m.
 BEND at "TO" end
 Radius= 38.100 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 6039
 Angle/Node @2= .00 6038

From 6040 To 6050 DZ= 1.601 m.

RESTRAINTS

Node 6050 +Y Mu = .30

From 6050 To 6060 DZ= 6.000 m.

RESTRAINTS

Node 6060 +Y Mu = .30
 Node 6060 X Gap= .300 cm. Mu = .30

From 6060 To 6070 DZ= 6.000 m.

RESTRAINTS

Node 6070 +Y Mu = .30

From 6070 To 6080 DZ= 6.000 m.

RESTRAINTS

Node 6080 +Y Mu = .30
 Node 6080 X Gap= .300 cm. Mu = .30

From 6080 To 6090 DZ= 6.000 m.

RESTRAINTS

Node 6090 +Y Mu = .30

From 6090 To 4970 DZ= 4.700 m.

From 4970 To 6110 DZ= 1.300 m.

RESTRAINTS

Node 6110 +Y
 Node 6110 Z Gap= .300 cm.
 Node 6110 X Gap= .300 cm.

From 1260 To 2140 DY= 1.530 m.

PIPE

Dia= 6.032 cm. Wall= .874 cm. Cor= .3000 cm.

GENERAL

T1= 142 C T2= 175 C T3= 142 C P1= 6,200.1411 KPa
 PHyd= 9,300.2119 KPa Mat= (106)A106 Grade B E= 203,401,232 KPa
 EH1= 195,549,872 KPa EH2= 193,178,448 KPa EH3= 195,549,872 KPa
 EH4= 203,401,232 KPa EH5= 203,401,232 KPa EH6= 203,401,232 KPa
 EH7= 203,401,232 KPa EH8= 203,401,232 KPa EH9= 203,401,232 KPa
 v = .292 Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000430 kg./cu.cm.
 Insul Thk= .000 cm. Insul Den= .0000000 kg./cu.cm.

BEND at "TO" end

Radius= 7.620 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 2139
 Angle/Node @2= .00 2138

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,571 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

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INPUT LISTING

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From 2140 To 2160 DX= .000 m. DZ= .252 m.
BEND at "TO" end
  Radius= 7.620 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 2159
  Angle/Node @2= .00 2158
-----
From 2160 To 2180 DX= -3.864 m.
RESTRAINTS
  Node 2180 +Y Mu = .30
  Node 2180 Z Gap= .300 cm. Mu = .30
-----
From 2180 To 2200 DX= -4.915 m.
RESTRAINTS
  Node 2200 +Y Mu = .30
-----
From 2200 To 2220 DX= -4.915 m.
RESTRAINTS
  Node 2220 +Y Mu = .30
  Node 2220 Z Gap= .300 cm. Mu = .30
-----
From 2220 To 2260 DX= -.388 m.
BEND at "TO" end
  Radius= 7.620 cm. (LONG) Bend Angle= 90.000
-----
From 2260 To 2270 DZ= 2.498 m.
RESTRAINTS
  Node 2270 +Y
-----
From 2270 To 2280 DZ= 1.584 m.
SIF's & TEE's
  Node 2280 Welding Tee
-----
From 2280 To 2320 DY= .303 m.
RESTRAINTS
  Node 2320 +Y
-----
From 2320 To 2330 DY= .583 m.
-----
From 2330 To 2340 DY= .213 m.
-----
From 2340 To 2360 DY= .083 m.
  Element Name= GATE_FLG_600
RIGID Weight= 57.83 N.
-----
From 2360 To 5650 DY= .301 m.
RIGID Weight= 311.38 N.
-----
From 5650 To 5660 DY= .083 m.
RIGID Weight= 57.83 N.
-----
From 5660 To 2400 DY= .365 m.
-----
From 2400 To 5670 DY= .106 m.
REDUCER
  Diam2= 4.826 cm. Wall2= .714 cm.
-----
From 5670 To 5680 DY= .079 m.

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PIPE

Dia= 4.826 cm. Wall= .714 cm.

Insul Thk= .000 cm.

RIGID Weight= 35.59 N.

 From 5680 To 5690 DY= .079 m.

RIGID Weight= 35.59 N.

 From 5690 To 2420 DY= .042 m.

RIGID Weight= 25.00 N.

FORCES & MOMENTS

Node 2420 FX1= 2,000.10 N. FY1= 1,000.05 N. FZ1= .00 N.

 From 2420 To 2440 DX= -.156 m.

PIPE

Dia= 8.890 cm. Wall= .762 cm.

Insul Thk= .000 cm.

RIGID Weight= 100.00 N.

 From 2440 To 2460 DX= -.073 m. DZ= .000 m.

PIPE

Cor= .6000 cm. Element Name= FLANGE_FLG_150

GENERAL

T1= 272 C T2= 270 C T3= -28 C P1= 600.0137 KPa PHyd= 900.0205 KPa

Fluid Den= .0000015 kg./cu.cm.

RIGID Weight= 54.49 N.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 129,365 KPa Sh2= 129,638 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

 From 2460 To 2480 DX= -.140 m. DY= -.040 m. DZ= .000 m.

PIPE

Dia= 8.890 cm. Wall= .762 cm.

Insul Thk= .000 cm.

REDUCER

Diam2= 16.827 cm. Wall2= 1.097 cm.

 From 2480 To 2500 DX= -.345 m.

PIPE

Dia= 16.827 cm. Wall= 1.097 cm.

Insul Thk= .000 cm.

RESTRAINTS

Node 2500 +Y Mu = .30

Node 2500 Z Gap= .300 cm.

Node 2500 X Gap= .300 cm. Mu = .30

 From 2500 To 2520 DX= -.574 m. DZ= .000 m.

SINGLE FLANGED BEND at "TO" end

Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 2519

Angle/Node @2= .00 2518

 From 2520 To 2540 DY= -.229 m.

 From 2540 To 5700 DY= -.092 m.

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INPUT LISTING

Element Name= BALL_FLG_150

RIGID Weight= 111.21 N.

From 5700 To 2560 DY= -.276 m.

RIGID Weight= 1,005.30 N.

From 2560 To 2570 DY= -.092 m.

RIGID Weight= 111.21 N.

From 2570 To 5710 DY= -1.180 m.

From 5710 To 6440 DX= -.076 m.

RIGID Weight= .00 N.

SIF's & TEE's

Node 6440 Unreinforced Tee

From 5710 To 2580 DY= -.507 m.

BEND at "T0" end

Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 2579

Angle/Node @2= .00 2578

From 2580 To 5840 DX= -.324 m.

BEND at "T0" end

Radius= 22.860 cm. (LONG) Bend Angle= 45.000 Angle/Node @1= 22.50 5839

From 5840 To 5800 DX= -.500 m. DZ= .500 m.

From 2280 To 2300 DZ= .500 m.

PIPE

Dia= 6.032 cm. Wall= .874 cm. Cor= .3000 cm.

GENERAL

T1= 142 C T2= 175 C T3= 142 C P1= 6,200.1411 KPa

PHyd= 9,300.2119 KPa Fluid Den= .0000430 kg./cu.cm. Insul Thk= .000 cm.

BEND at "T0" end

Radius= 7.620 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 2299

Angle/Node @2= .00 2298

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,571 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 2300 To 2620 DY= .303 m.

PIPE

Dia= 6.032 cm. Wall= .874 cm. Cor= .3000 cm.

GENERAL

T1= 142 C T2= 175 C P1= 2,200.0500 KPa PHyd= 3,300.0752 KPa

Fluid Den= .0000154 kg./cu.cm. Insul Thk= .000 cm.

RESTRAINTS

Node 2620 +Y Mu = .30

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,571 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

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INPUT LISTING

From 2620 To 2640 DY= .797 m.

From 2640 To 5720 DY= .083 m.

RIGID Weight= 57.83 N.

From 5720 To 2660 DY= .301 m.

Element Name= GATE_FLG_600

RIGID Weight= 311.38 N.

From 2660 To 5730 DY= .083 m.

RIGID Weight= 57.83 N.

From 5730 To 2700 DY= .365 m.

From 2700 To 5740 DY= .106 m.

REDUCER

Diam2= 4.826 cm. Wall2= .714 cm.

From 5740 To 5750 DY= .079 m.

PIPE

Dia= 4.826 cm. Wall= .714 cm.

Insul Thk= .000 cm.

RIGID Weight= 35.59 N.

From 5750 To 5760 DY= .079 m.

RIGID Weight= 35.59 N.

From 5760 To 2720 DY= .041 m.

RIGID Weight= 35.59 N.

FORCES & MOMENTS

Node 2720 FX2= 2,000.10 N. FY2= 1,000.05 N. FZ2= .00 N.

From 2720 To 2740 DX= -.156 m. DZ= .000 m.

PIPE

Dia= 8.890 cm. Wall= .762 cm.

Insul Thk= .000 cm.

RIGID Weight= 100.00 N.

From 2740 To 2760 DX= -.073 m. DZ= .000 m.

PIPE

Dia= 8.890 cm. Wall= .762 cm. Cor= .6000 cm.

Element Name= FLANGE_FLG_150

GENERAL

T1= 270 C T2= 272 C T3= -28 C P1= 550.0125 KPa PHyd= 825.0188 KPa

Fluid Den= .0000015 kg./cu.cm. Insul Thk= .000 cm.

RIGID Weight= 54.49 N.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 129,638 KPa Sh2= 129,365 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 2760 To 2780 DX= -.140 m. DY= -.040 m. DZ= .000 m.

REDUCER

Diam2= 16.827 cm. Wall2= 1.097 cm.

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INPUT LISTING

From 2780 To 2800 DX= -.345 m.

PIPE

Dia= 16.827 cm. Wall= 1.097 cm.

Insul Thk= .000 cm.

RESTRAINTS

Node 2800 +Y

Node 2800 Z Gap= .300 cm.

Node 2800 X Gap= .300 cm.

 From 2800 To 2820 DX= -.574 m. DZ= .000 m.

SINGLE FLANGED BEND at "TO" end

Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 2819

Angle/Node @2= .00 2818

From 2820 To 2840 DY= -.229 m.

 From 2840 To 2846 DY= -.092 m.

Element Name= BALL_FLG_150

RIGID Weight= 111.21 N.

From 2846 To 2852 DY= -.276 m.

RIGID Weight= 1,005.30 N.

From 2852 To 2860 DY= -.092 m.

RIGID Weight= 111.21 N.

From 2860 To 2870 DY= -1.180 m.

 From 2870 To 6460 DX= -.076 m.

RIGID Weight= .00 N.

From 2870 To 2880 DY= -.507 m.

BEND at "TO" end

Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 2879

Angle/Node @2= .00 2878

From 2880 To 5800 DX= -.824 m.

SIF's & TEE's

Node 5800 Welding Tee

From 5800 To 5805 DX= -1.404 m.

RESTRAINTS

Node 5805 +Y Mu = .30

From 5805 To 5810 DX= -1.118 m.

BEND at "TO" end

Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 5809

Angle/Node @2= .00 5808

From 5810 To 5820 DY= -.523 m.

BEND at "TO" end

Radius= 22.860 cm. (LONG) Bend Angle= 44.991 Angle/Node @1= 22.50 5819

Angle/Node @2= .00 5818

From 5820 To 6120 DX= .000 m. DY= -.910 m. DZ= .910 m.

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INPUT LISTING

From 4750 To 8150 DZ= -.178 m.

PIPE

Dia= 16.827 cm. Wall= 1.097 cm. Cor= .6000 cm.

GENERAL

T1= 40 C T2= 85 C T3= 40 C P1= 900.0205 KPa PHyd= 1,350.0308 KPa

Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 201,878,768 KPa

EH2= 199,086,608 KPa EH3= 201,878,768 KPa EH4= 203,401,232 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000060 kg./cu.cm.

Insul Thk= .000 cm. Insul Den= .0000000 kg./cu.cm.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 8150 To 6550 DY= -.076 m.

RIGID Weight= .00 N.

From 6210 To 6220 DY= -.300 m.

PIPE

Dia= 11.430 cm. Wall= .602 cm. Cor= .0000 cm.

GENERAL

T1= 21 C T2= 21 C T3= 21 C P1= .0000 KPa PHyd= .0000 KPa

Mat= (102)A53 Grade B E= 203,401,232 KPa EH1= 203,401,232 KPa

EH2= 203,401,232 KPa EH3= 203,401,232 KPa EH4= 203,401,232 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000000 kg./cu.cm.

Insul Thk= .000 cm. Insul Den= .0000000 kg./cu.cm.

RESTRAINTS

Node 6220 +Y Mu = .30

Node 6220 Z Gap= .300 cm. Mu = .30

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 6230 To 6240 DZ= .300 m.

PIPE

Dia= 4.826 cm. Wall= .368 cm.

Insul Thk= .000 cm.

RESTRAINTS

Node 6240 +Y Cnode 6241

From 6260 To 6270 DY= -.350 m.

RESTRAINTS

Node 6270 +Y Cnode 6271 Mu = .30

Node 6270 Z Cnode 6271 Gap= .300 cm. Mu = .30

From 6280 To 6290 DX= .300 m.

PIPE

Dia= 6.032 cm. Wall= .391 cm.

Insul Thk= .000 cm.

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INPUT LISTING

RESTRAINTS

Node 6290 +Y Cnode 6291 Mu = .30
 Node 6290 Z Cnode 6291 Gap= .300 cm.

 From 6300 To 6310 DY= -.900 m.

RESTRAINTS

Node 6310 +Y Mu = .30

 From 6400 To 6410 DY= -.300 m.

PIPE

Dia= 11.430 cm. Wall= .602 cm.
 Insul Thk= .000 cm.

RESTRAINTS

Node 6410 +Y Mu = .30
 Node 6410 Z Gap= .300 cm. Mu = .30

 From 6420 To 6425 DY= -.230 m.

GENERAL

Mat= (165)A312 TP316L E= 195,127,520 KPa EH1= 195,127,520 KPa
 EH2= 195,127,520 KPa EH3= 195,127,520 KPa EH4= 195,127,520 KPa
 EH5= 195,127,520 KPa EH6= 195,127,520 KPa EH7= 195,127,520 KPa
 EH8= 195,127,520 KPa EH9= 195,127,520 KPa v = .292
 Pipe Den= .0080272 kg./cu.cm.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 115,142 KPa
 Sh1= 115,142 KPa Sh2= 115,142 KPa Sh3= 115,142 KPa Sh4= 115,142 KPa
 Sh5= 115,142 KPa Sh6= 115,142 KPa Sh7= 115,142 KPa Sh8= 115,142 KPa
 Sh9= 115,142 KPa Sy= 172,369 KPa

 From 6425 To 6430 DY= -.380 m.

GENERAL

Mat= (102)A53 Grade B E= 203,401,232 KPa EH1= 203,401,232 KPa
 EH2= 203,401,232 KPa EH3= 203,401,232 KPa EH4= 203,401,232 KPa
 EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa
 EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292
 Pipe Den= .0078334 kg./cu.cm.

RESTRAINTS

Node 6430 +Y Mu = .30

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 6440 To 6450 DX= -.300 m.

RESTRAINTS

Node 6450 +Y

 From 6460 To 6470 DX= -.300 m.

RESTRAINTS

Node 6470 +Y Mu = .30

 From 6480 To 6485 DY= -.230 m.

GENERAL

Mat= (165)A312 TP316L E= 195,127,520 KPa EH1= 195,127,520 KPa
 EH2= 195,127,520 KPa EH3= 195,127,520 KPa EH4= 195,127,520 KPa

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INPUT LISTING

EH5= 195,127,520 KPa EH6= 195,127,520 KPa EH7= 195,127,520 KPa

EH8= 195,127,520 KPa EH9= 195,127,520 KPa v = .292

Pipe Den= .0080272 kg./cu.cm.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 115,142 KPa

Sh1= 115,142 KPa Sh2= 115,142 KPa Sh3= 115,142 KPa Sh4= 115,142 KPa

Sh5= 115,142 KPa Sh6= 115,142 KPa Sh7= 115,142 KPa Sh8= 115,142 KPa

Sh9= 115,142 KPa Sy= 172,369 KPa

From 6485 To 6490 DY= -.380 m.

GENERAL

Mat= (102)A53 Grade B E= 203,401,232 KPa EH1= 203,401,232 KPa

EH2= 203,401,232 KPa EH3= 203,401,232 KPa EH4= 203,401,232 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm.

RESTRAINTS

Node 6490 +Y Mu = .30

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 6510 To 6515 DY= -.230 m.

GENERAL

Mat= (165)A312 TP316L E= 195,127,520 KPa EH1= 195,127,520 KPa

EH2= 195,127,520 KPa EH3= 195,127,520 KPa EH4= 195,127,520 KPa

EH5= 195,127,520 KPa EH6= 195,127,520 KPa EH7= 195,127,520 KPa

EH8= 195,127,520 KPa EH9= 195,127,520 KPa v = .292

Pipe Den= .0080272 kg./cu.cm.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 115,142 KPa

Sh1= 115,142 KPa Sh2= 115,142 KPa Sh3= 115,142 KPa Sh4= 115,142 KPa

Sh5= 115,142 KPa Sh6= 115,142 KPa Sh7= 115,142 KPa Sh8= 115,142 KPa

Sh9= 115,142 KPa Sy= 172,369 KPa

From 6515 To 6520 DY= -.380 m.

GENERAL

Mat= (102)A53 Grade B E= 203,401,232 KPa EH1= 203,401,232 KPa

EH2= 203,401,232 KPa EH3= 203,401,232 KPa EH4= 203,401,232 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm.

RESTRAINTS

Node 6520 +Y Mu = .30

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 6530 To 6535 DY= -.230 m.

GENERAL

Mat= (165)A312 TP316L E= 195,127,520 KPa EH1= 195,127,520 KPa

EH2= 195,127,520 KPa EH3= 195,127,520 KPa EH4= 195,127,520 KPa

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INPUT LISTING

EH5= 195,127,520 KPa EH6= 195,127,520 KPa EH7= 195,127,520 KPa

EH8= 195,127,520 KPa EH9= 195,127,520 KPa v = .292

Pipe Den= .0080272 kg./cu.cm.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 115,142 KPa

Sh1= 115,142 KPa Sh2= 115,142 KPa Sh3= 115,142 KPa Sh4= 115,142 KPa

Sh5= 115,142 KPa Sh6= 115,142 KPa Sh7= 115,142 KPa Sh8= 115,142 KPa

Sh9= 115,142 KPa Sy= 172,369 KPa

From 6535 To 6540 DY= -.380 m.

GENERAL

Mat= (102)A53 Grade B E= 203,401,232 KPa EH1= 203,401,232 KPa

EH2= 203,401,232 KPa EH3= 203,401,232 KPa EH4= 203,401,232 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm.

RESTRAINTS

Node 6540 +Y Mu = .30

Node 6540 X Gap= .300 cm. Mu = .30

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 6550 To 6590 DY= -.610 m.

RESTRAINTS

Node 6590 +Y Mu = .30

Node 6590 X Gap= .300 cm. Mu = .30

From 6600 To 6610 DY= -.500 m.

PIPE

Dia= 16.827 cm. Wall= .711 cm.

Insul Thk= .000 cm.

RESTRAINTS

Node 6610 +Y

From 6630 To 6640 DY= -.500 m.

RESTRAINTS

Node 6640 Y

From 6660 To 6670 DY= -.500 m.

RESTRAINTS

Node 6670 +Y

Node 6670 Z Gap= .300 cm.

From 6680 To 6690 DY= -.500 m.

RESTRAINTS

Node 6690 +Y Mu = .30

From 6700 To 6705 DX= .100 m.

PIPE

Dia= 8.890 cm. Wall= .549 cm.

GENERAL

Mat= (165)A312 TP316L E= 195,127,520 KPa EH1= 195,127,520 KPa

EH2= 195,127,520 KPa EH3= 195,127,520 KPa EH4= 195,127,520 KPa

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INPUT LISTING

EH5= 195,127,520 KPa EH6= 195,127,520 KPa EH7= 195,127,520 KPa
 EH8= 195,127,520 KPa EH9= 195,127,520 KPa v = .292
 Pipe Den= .0080272 kg./cu.cm. Insul Thk= .000 cm.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 115,142 KPa
 Sh1= 115,142 KPa Sh2= 115,142 KPa Sh3= 115,142 KPa Sh4= 115,142 KPa
 Sh5= 115,142 KPa Sh6= 115,142 KPa Sh7= 115,142 KPa Sh8= 115,142 KPa
 Sh9= 115,142 KPa Sy= 172,369 KPa

 From 6705 To 6710 DX= .400 m.

GENERAL

Mat= (102)A53 Grade B E= 203,401,232 KPa EH1= 203,401,232 KPa
 EH2= 203,401,232 KPa EH3= 203,401,232 KPa EH4= 203,401,232 KPa
 EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa
 EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292
 Pipe Den= .0078334 kg./cu.cm.

RESTRAINTS

Node 6710 +Y Mu = .30

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 6720 To 6730 DY= -.700 m.

PIPE

Dia= 8.890 cm. Wall= .549 cm.
 Insul Thk= .000 cm.

RESTRAINTS

Node 6730 +Y Mu = .30
 Node 6730 X Gap= .300 cm.

 From 6740 To 6750 DZ= -.300 m.

RESTRAINTS

Node 6750 +Y

 From 6760 To 6765 DX= -.100 m.

PIPE

Dia= 11.430 cm. Wall= .602 cm.

GENERAL

Mat= (165)A312 TP316L E= 195,127,520 KPa EH1= 195,127,520 KPa
 EH2= 195,127,520 KPa EH3= 195,127,520 KPa EH4= 195,127,520 KPa
 EH5= 195,127,520 KPa EH6= 195,127,520 KPa EH7= 195,127,520 KPa
 EH8= 195,127,520 KPa EH9= 195,127,520 KPa v = .292
 Pipe Den= .0080272 kg./cu.cm. Insul Thk= .000 cm.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 115,142 KPa
 Sh1= 115,142 KPa Sh2= 115,142 KPa Sh3= 115,142 KPa Sh4= 115,142 KPa
 Sh5= 115,142 KPa Sh6= 115,142 KPa Sh7= 115,142 KPa Sh8= 115,142 KPa
 Sh9= 115,142 KPa Sy= 172,369 KPa

 From 6765 To 6770 DX= -.450 m.

GENERAL

Mat= (102)A53 Grade B E= 203,401,232 KPa EH1= 203,401,232 KPa
 EH2= 203,401,232 KPa EH3= 203,401,232 KPa EH4= 203,401,232 KPa
 EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

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INPUT LISTING

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm.

RESTRAINTS

Node 6770 +Y Mu = .30

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

 From 7000 To 7005 DX= .100 m.

GENERAL

Mat= (165)A312 TP316L E= 195,127,520 KPa EH1= 195,127,520 KPa

EH2= 195,127,520 KPa EH3= 195,127,520 KPa EH4= 195,127,520 KPa

EH5= 195,127,520 KPa EH6= 195,127,520 KPa EH7= 195,127,520 KPa

EH8= 195,127,520 KPa EH9= 195,127,520 KPa v = .292

Pipe Den= .0080272 kg./cu.cm.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 115,142 KPa

Sh1= 115,142 KPa Sh2= 115,142 KPa Sh3= 115,142 KPa Sh4= 115,142 KPa

Sh5= 115,142 KPa Sh6= 115,142 KPa Sh7= 115,142 KPa Sh8= 115,142 KPa

Sh9= 115,142 KPa Sy= 172,369 KPa

 From 7005 To 7010 DX= .400 m.

GENERAL

Mat= (102)A53 Grade B E= 203,401,232 KPa EH1= 203,401,232 KPa

EH2= 203,401,232 KPa EH3= 203,401,232 KPa EH4= 203,401,232 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm.

RESTRAINTS

Node 7010 +Y Mu = .30

Node 7010 Z Gap= .300 cm. Mu = .30

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

 From 8000 To 8010 DZ= -6.000 m.

PIPE

Dia= 27.305 cm. Wall= .927 cm. Cor= .6000 cm.

GENERAL

T1= 272 C T2= 270 C T3= -28 C P1= 600.0137 KPa PHyd= 900.0205 KPa

Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 187,335,024 KPa

EH2= 187,483,936 KPa EH3= 205,934,864 KPa EH4= 203,401,232 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000015 kg./cu.cm.

Insul Thk= .000 cm. Insul Den= .0000000 kg./cu.cm.

RESTRAINTS

Node 8010 +Y Mu = .30

Node 8000 +Y Mu = .30

Node 8000 X Gap= .300 cm. Mu = .30

Node 8000 Z Gap= .300 cm. Mu = .30

UNIFORM LOAD

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INPUT LISTING

Vector1 in G-s X1 Dir = .26 g's Y1 Dir = .00 g's Z1 Dir = .00 g's
 Vector2 in G-s X2 Dir = .00 g's Y2 Dir = .12 g's Z2 Dir = .00 g's
 Vector3 in G-s X3 Dir = .00 g's Y3 Dir = .00 g's Z3 Dir = .26 g's

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 129,365 KPa Sh2= 129,638 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 8010 To 8020 DZ= -6.000 m.

RESTRAINTS

Node 8020 +Y Mu = .30
 Node 8020 X Gap= .300 cm. Mu = .30

 From 8020 To 8030 DZ= -2.950 m.

BEND at "T0" end

Radius= 38.100 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 8029
 Angle/Node @2= .00 8028

 From 8030 To 8040 DX= -6.000 m. DZ= .000 m.

BEND at "T0" end

Radius= 38.100 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 8039
 Angle/Node @2= .00 8038

 From 8040 To 8050 DZ= -1.000 m.

RESTRAINTS

Node 8050 +Y Mu = .30

 From 8050 To 8060 DZ= -1.000 m.

BEND at "T0" end

Radius= 38.100 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 8059
 Angle/Node @2= .00 8058

 From 8060 To 8070 DX= 6.000 m. DZ= .000 m.

BEND at "T0" end

Radius= 38.100 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 8069
 Angle/Node @2= .00 8068

 From 8070 To 8080 DZ= -.850 m.

RESTRAINTS

Node 8080 +Y Mu = .30

 From 8080 To 8090 DX= .000 m. DZ= -6.000 m.

RESTRAINTS

Node 8090 +Y Mu = .30
 Node 8090 X Gap= .300 cm.

 From 8090 To 6120 DZ= -4.135 m.

SIF's & TEE's

Node 6120 Welding Tee

 From 6120 To 8100 DZ= -1.865 m.

RESTRAINTS

Node 8100 +Y
 Node 8100 X Gap= .300 cm. Mu = .30

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INPUT LISTING

From 8100 To 6130 DZ= -3.536 m.

PIPE

Dia= 27.305 cm. Wall= .927 cm. Cor= .6000 cm.

GENERAL

P1= 750.0171 KPa PHyd= 1,125.0256 KPa Mat= (106)A106 Grade B
 E= 203,401,232 KPa EH1= 187,335,024 KPa EH2= 187,483,936 KPa
 EH3= 205,934,864 KPa EH4= 203,401,232 KPa EH5= 203,401,232 KPa
 EH6= 203,401,232 KPa EH7= 203,401,232 KPa EH8= 203,401,232 KPa
 EH9= 203,401,232 KPa v = .292 Pipe Den= .0078334 kg./cu.cm.
 Fluid Den= .0000015 kg./cu.cm. Insul Thk= .000 cm.
 Insul Den= .0001362 kg./cu.cm.

SIF's & TEE's

Node 6130 Welding Tee

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 129,365 KPa Sh2= 129,638 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

From 6130 To 3965 DZ= -.398 m.

SIF's & TEE's

Node 3965 Welding Tee

From 3965 To 8120 DZ= -2.066 m.

RESTRAINTS

Node 8120 +Y Mu = .30

From 8120 To 8130 DZ= -6.000 m.

GENERAL

T1= 272 C T2= 270 C T3= -28 C P1= 600.0137 KPa

RESTRAINTS

Node 8130 +Y Mu = .30
 Node 8130 X Gap= .300 cm. Mu = .30
 Node 8130 Z Gap= .300 cm. Mu = .30

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 129,365 KPa Sh2= 129,638 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

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MATERIAL Changes:

20	40	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
280	300	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
500	580	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
610	620	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
620	5190	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
5300	5310	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.

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INPUT LISTING

640	660	Mat= (102)A53 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
620	680	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
820	840	Mat= (383)A516 70 E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
280	4350	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
1020	1040	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
1020	1260	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
1400	1480	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
1660	1680	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
1820	1920	Mat= (165)A312 TP316L E= 195,127,520 KPa v = .292 Density= .0080 kg./cu.cm.
2000	6420	Mat= (165)A312 TP316L E= 195,127,520 KPa v = .292 Density= .0080 kg./cu.cm.
2000	4100	Mat= (165)A312 TP316L E= 195,127,520 KPa v = .292 Density= .0080 kg./cu.cm.
4505	6790	Mat= (165)A312 TP316L E= 195,127,520 KPa v = .292 Density= .0080 kg./cu.cm.
6840	6850	Mat= (165)A312 TP316L E= 195,127,520 KPa v = .292 Density= .0080 kg./cu.cm.
6860	6845	Mat= (165)A312 TP316L E= 195,127,520 KPa v = .292 Density= .0080 kg./cu.cm.
4100	4560	Mat= (165)A312 TP316L E= 195,127,520 KPa v = .292 Density= .0080 kg./cu.cm.
4740	4750	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
8140	4980	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
4980	4990	E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
5120	5130	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
4710	6530	Mat= (165)A312 TP316L E= 195,127,520 KPa v = .292 Density= .0080 kg./cu.cm.
6010	6020	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
1260	2140	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
4750	8150	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
6210	6220	Mat= (102)A53 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
6420	6425	Mat= (165)A312 TP316L E= 195,127,520 KPa v = .292 Density= .0080 kg./cu.cm.
6425	6430	Mat= (102)A53 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
6480	6485	Mat= (165)A312 TP316L E= 195,127,520 KPa v = .292 Density= .0080 kg./cu.cm.
6485	6490	Mat= (102)A53 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.

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INPUT LISTING

6510	6515	Mat= (165)A312 TP316L E= 195,127,520 KPa v = .292 Density= .0080 kg./cu.cm.
6515	6520	Mat= (102)A53 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
6530	6535	Mat= (165)A312 TP316L E= 195,127,520 KPa v = .292 Density= .0080 kg./cu.cm.
6535	6540	Mat= (102)A53 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
6700	6705	Mat= (165)A312 TP316L E= 195,127,520 KPa v = .292 Density= .0080 kg./cu.cm.
6705	6710	Mat= (102)A53 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
6760	6765	Mat= (165)A312 TP316L E= 195,127,520 KPa v = .292 Density= .0080 kg./cu.cm.
6765	6770	Mat= (102)A53 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
7000	7005	Mat= (165)A312 TP316L E= 195,127,520 KPa v = .292 Density= .0080 kg./cu.cm.
7005	7010	Mat= (102)A53 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
8000	8010	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
8100	6130	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.

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ALLOWABLE STRESS Changes

20	40	B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa Sh9= 137,895 KPa Sy= 241,316 KPa
140	160	B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa Sh9= 137,895 KPa Sy= 241,316 KPa
120	180	B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa Sh9= 137,895 KPa Sy= 241,316 KPa
280	300	B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa Sh9= 137,895 KPa Sy= 241,316 KPa

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INPUT LISTING

500	580	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
580	600	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
610	620	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
620	5190	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
5300	5310	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
610	640	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
640	660	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
620	680	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	

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INPUT LISTING

820	840	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 160,648 KPa	Sh1= 160,373 KPa
		Sh2= 157,769 KPa	Sh3= 160,373 KPa
		Sh4= 160,648 KPa	Sh5= 160,648 KPa
		Sh6= 160,648 KPa	Sh7= 160,648 KPa
		Sh8= 160,648 KPa	Sh9= 160,648 KPa
		Sy= 262,001 KPa	
280	4350	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
4360	4370	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,571 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
4370	4380	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,571 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
900	920	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,571 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
1020	1040	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,571 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
1020	1260	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,571 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
1400	1480	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,571 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	

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INPUT LISTING

1660	1680	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,571 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
1820	1920	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 115,142 KPa	Sh1= 115,142 KPa
		Sh2= 111,904 KPa	Sh3= 115,142 KPa
		Sh4= 115,142 KPa	Sh5= 115,142 KPa
		Sh6= 115,142 KPa	Sh7= 115,142 KPa
		Sh8= 115,142 KPa	Sh9= 115,142 KPa
		Sy= 172,369 KPa	
2000	6420	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 115,142 KPa	Sh1= 115,142 KPa
		Sh2= 111,904 KPa	Sh3= 115,142 KPa
		Sh4= 115,142 KPa	Sh5= 115,142 KPa
		Sh6= 115,142 KPa	Sh7= 115,142 KPa
		Sh8= 115,142 KPa	Sh9= 115,142 KPa
		Sy= 172,369 KPa	
2000	4100	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 115,142 KPa	Sh1= 115,142 KPa
		Sh2= 111,904 KPa	Sh3= 115,142 KPa
		Sh4= 115,142 KPa	Sh5= 115,142 KPa
		Sh6= 115,142 KPa	Sh7= 115,142 KPa
		Sh8= 115,142 KPa	Sh9= 115,142 KPa
		Sy= 172,369 KPa	
4505	6790	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 115,142 KPa	Sh1= 115,142 KPa
		Sh2= 111,904 KPa	Sh3= 115,142 KPa
		Sh4= 115,142 KPa	Sh5= 115,142 KPa
		Sh6= 115,142 KPa	Sh7= 115,142 KPa
		Sh8= 115,142 KPa	Sh9= 115,142 KPa
		Sy= 172,369 KPa	
6840	6850	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 115,142 KPa	Sh1= 115,142 KPa
		Sh2= 111,904 KPa	Sh3= 115,142 KPa
		Sh4= 115,142 KPa	Sh5= 115,142 KPa
		Sh6= 115,142 KPa	Sh7= 115,142 KPa
		Sh8= 115,142 KPa	Sh9= 115,142 KPa
		Sy= 172,369 KPa	
6850	6860	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 115,142 KPa	Sh1= 115,142 KPa
		Sh2= 111,904 KPa	Sh3= 115,142 KPa
		Sh4= 115,142 KPa	Sh5= 115,142 KPa
		Sh6= 115,142 KPa	Sh7= 115,142 KPa
		Sh8= 115,142 KPa	Sh9= 115,142 KPa
		Sy= 172,369 KPa	
6860	6845	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 115,142 KPa	Sh1= 115,142 KPa
		Sh2= 111,904 KPa	Sh3= 115,142 KPa
		Sh4= 115,142 KPa	Sh5= 115,142 KPa
		Sh6= 115,142 KPa	Sh7= 115,142 KPa
		Sh8= 115,142 KPa	Sh9= 115,142 KPa
		Sy= 172,369 KPa	

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4100	4560	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 115,142 KPa	Sh1= 115,142 KPa
		Sh2= 111,904 KPa	Sh3= 115,142 KPa
		Sh4= 115,142 KPa	Sh5= 115,142 KPa
		Sh6= 115,142 KPa	Sh7= 115,142 KPa
		Sh8= 115,142 KPa	Sh9= 115,142 KPa
		Sy= 172,369 KPa	
4740	4750	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
4780	4160	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
4310	4320	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
4780	6620	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
8140	4980	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,571 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
4980	4990	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,571 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
5120	5130	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 129,365 KPa
		Sh2= 129,638 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	

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4710	6530	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 115,142 KPa	Sh1= 115,142 KPa
		Sh2= 115,142 KPa	Sh3= 115,142 KPa
		Sh4= 115,142 KPa	Sh5= 115,142 KPa
		Sh6= 115,142 KPa	Sh7= 115,142 KPa
		Sh8= 115,142 KPa	Sh9= 115,142 KPa
		Sy= 172,369 KPa	
6010	6020	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
1260	2140	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,571 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
2440	2460	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 129,365 KPa
		Sh2= 129,638 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
2280	2300	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,571 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
2300	2620	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,571 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
2740	2760	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 129,638 KPa
		Sh2= 129,365 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
4750	8150	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	

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6210	6220	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
6420	6425	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 115,142 KPa	Sh1= 115,142 KPa
		Sh2= 115,142 KPa	Sh3= 115,142 KPa
		Sh4= 115,142 KPa	Sh5= 115,142 KPa
		Sh6= 115,142 KPa	Sh7= 115,142 KPa
		Sh8= 115,142 KPa	Sh9= 115,142 KPa
		Sy= 172,369 KPa	
6425	6430	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
6480	6485	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 115,142 KPa	Sh1= 115,142 KPa
		Sh2= 115,142 KPa	Sh3= 115,142 KPa
		Sh4= 115,142 KPa	Sh5= 115,142 KPa
		Sh6= 115,142 KPa	Sh7= 115,142 KPa
		Sh8= 115,142 KPa	Sh9= 115,142 KPa
		Sy= 172,369 KPa	
6485	6490	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
6510	6515	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 115,142 KPa	Sh1= 115,142 KPa
		Sh2= 115,142 KPa	Sh3= 115,142 KPa
		Sh4= 115,142 KPa	Sh5= 115,142 KPa
		Sh6= 115,142 KPa	Sh7= 115,142 KPa
		Sh8= 115,142 KPa	Sh9= 115,142 KPa
		Sy= 172,369 KPa	
6515	6520	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
6530	6535	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 115,142 KPa	Sh1= 115,142 KPa
		Sh2= 115,142 KPa	Sh3= 115,142 KPa
		Sh4= 115,142 KPa	Sh5= 115,142 KPa
		Sh6= 115,142 KPa	Sh7= 115,142 KPa
		Sh8= 115,142 KPa	Sh9= 115,142 KPa
		Sy= 172,369 KPa	

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6535	6540	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
6700	6705	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 115,142 KPa	Sh1= 115,142 KPa
		Sh2= 115,142 KPa	Sh3= 115,142 KPa
		Sh4= 115,142 KPa	Sh5= 115,142 KPa
		Sh6= 115,142 KPa	Sh7= 115,142 KPa
		Sh8= 115,142 KPa	Sh9= 115,142 KPa
		Sy= 172,369 KPa	
6705	6710	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
6760	6765	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 115,142 KPa	Sh1= 115,142 KPa
		Sh2= 115,142 KPa	Sh3= 115,142 KPa
		Sh4= 115,142 KPa	Sh5= 115,142 KPa
		Sh6= 115,142 KPa	Sh7= 115,142 KPa
		Sh8= 115,142 KPa	Sh9= 115,142 KPa
		Sy= 172,369 KPa	
6765	6770	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
7000	7005	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 115,142 KPa	Sh1= 115,142 KPa
		Sh2= 115,142 KPa	Sh3= 115,142 KPa
		Sh4= 115,142 KPa	Sh5= 115,142 KPa
		Sh6= 115,142 KPa	Sh7= 115,142 KPa
		Sh8= 115,142 KPa	Sh9= 115,142 KPa
		Sy= 172,369 KPa	
7005	7010	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
8000	8010	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 129,365 KPa
		Sh2= 129,638 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	

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8100	6130	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 129,365 KPa
		Sh2= 129,638 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
8120	8130	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 129,365 KPa
		Sh2= 129,638 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	

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BEND ELEMENTS

40	60	Radius= 22.860 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00 59
		Angle/Node @2= .00 58
60	80	Radius= 22.860 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00 79
		Angle/Node @2= .00 78
80	100	Radius= 22.860 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00 99
		Angle/Node @2= .00 98
120	180	Radius= 22.860 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		179
490	500	Radius= 22.860 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		499 Angle/Node @2= .00 498
500	580	Radius= 22.860 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		579 Angle/Node @2= .00 578
580	600	Radius= 22.860 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		599 Angle/Node @2= .00 598
620	5190	Radius= 7.620 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		5189 Angle/Node @2= .00 5188
5190	8160	Radius= 7.620 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		8159 Angle/Node @2= .00 8158
8160	8170	Radius= 7.620 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		8169 Angle/Node @2= .00 8168
5230	5240	Radius= 7.620 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		5239 Angle/Node @2= .00 5238
5320	5330	Radius= 11.430 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		5329 Angle/Node @2= .00 5328
5340	5350	Radius= 11.430 cm. (LONG)

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		Bend Angle= 90.000 Angle/Node @1= 45.00
		5349 Angle/Node @2= .00 5348
5355	5360	Radius= 11.430 cm. (LONG)
		Bend Angle= 90.000
5375	5380	Radius= 11.430 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		5379 Angle/Node @2= .00 5378
5380	5390	Radius= 11.430 cm. (LONG)
		Bend Angle= 50.075 Angle/Node @1= 25.04
		5389 Angle/Node @2= .00 5388
620	680	Radius= 22.860 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		679 Angle/Node @2= .00 678
4380	4390	Radius= 7.620 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		4389 Angle/Node @2= .00 4388
4395	880	Radius= 7.620 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		879 Angle/Node @2= .00 878
960	980	Radius= 7.620 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		979 Angle/Node @2= .00 978
1100	1120	Radius= 22.860 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1119
1120	1140	Radius= 22.860 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1139 Angle/Node @2= .00 1138
1160	1180	Radius= 22.860 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1179 Angle/Node @2= .00 1178
1180	1200	Radius= 22.860 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1199 Angle/Node @2= .00 1198
1390	1400	Radius= 22.860 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1399 Angle/Node @2= .00 1398
1400	1480	Radius= 22.860 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1479 Angle/Node @2= .00 1478
1520	1540	Radius= 22.860 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1539 Angle/Node @2= .00 1538
1560	1580	Radius= 22.860 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1579 Angle/Node @2= .00 1578
1580	1600	Radius= 22.860 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1599 Angle/Node @2= .00 1598
1600	1620	Radius= 22.860 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1619 Angle/Node @2= .00 1618
1920	1940	Radius= 22.860 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1939
1960	1980	Radius= 22.860 cm. (LONG)

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		Bend Angle= 90.000 Angle/Node @1= 45.00
		1979 Angle/Node @2= .00 1978
4482	4485	Radius= 22.860 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		4484 Angle/Node @2= .00 4483
6780	6795	Radius= 22.860 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		6794 Angle/Node @2= .00 6793
6795	6800	Radius= 22.860 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		6799 Angle/Node @2= .00 6798
6810	6820	Radius= 22.860 cm. (LONG)
		Bend Angle= 45.000 Angle/Node @1= 22.50
		6819 Angle/Node @2= .00 6818
4580	4590	Radius= 22.860 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		4589 Angle/Node @2= .00 4588
8150	4140	Radius= 22.860 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		4139 Angle/Node @2= .00 4138
6560	4760	Radius= 22.860 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		4759 Angle/Node @2= .00 4758
4760	4770	Radius= 22.860 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		4769
4930	4940	Radius= 30.480 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		4939 Angle/Node @2= .00 4938
4940	4950	Radius= 30.480 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		4949 Angle/Node @2= .00 4948
4950	4960	Radius= 30.480 cm. (LONG)
		Bend Angle= 45.000 Angle/Node @1= 22.50
		4959 Angle/Node @2= .00 4958
5010	5020	Radius= 15.240 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		5019
5130	5140	Radius= 15.240 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		5139
5145	5150	Radius= 15.240 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		5149 Angle/Node @2= .00 5148
5150	5160	Radius= 15.240 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		5159 Angle/Node @2= .00 5158
5160	5170	Radius= 15.240 cm. (LONG)
		Bend Angle= 44.939 Angle/Node @1= 22.47
		5169 Angle/Node @2= .00 5168
6020	6030	Radius= 38.100 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		6029 Angle/Node @2= .00 6028
6030	6040	Radius= 38.100 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		6039 Angle/Node @2= .00 6038

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1260	2140	Radius= 7.620 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 2139 Angle/Node @2= .00 2138
2140	2160	Radius= 7.620 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 2159 Angle/Node @2= .00 2158
2220	2260	Radius= 7.620 cm. (LONG) Bend Angle= 90.000
2500	2520	Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 2519 Angle/Node @2= .00 2518
5710	2580	Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 2579 Angle/Node @2= .00 2578
2580	5840	Radius= 22.860 cm. (LONG) Bend Angle= 45.000 Angle/Node @1= 22.50 5839
2280	2300	Radius= 7.620 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 2299 Angle/Node @2= .00 2298
2800	2820	Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 2819 Angle/Node @2= .00 2818
2870	2880	Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 2879 Angle/Node @2= .00 2878
5805	5810	Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 5809 Angle/Node @2= .00 5808
5810	5820	Radius= 22.860 cm. (LONG) Bend Angle= 44.991 Angle/Node @1= 22.50 5819 Angle/Node @2= .00 5818
8020	8030	Radius= 38.100 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 8029 Angle/Node @2= .00 8028
8030	8040	Radius= 38.100 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 8039 Angle/Node @2= .00 8038
8050	8060	Radius= 38.100 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 8059 Angle/Node @2= .00 8058
8060	8070	Radius= 38.100 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 8069 Angle/Node @2= .00 8068

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RIGIDS

20	40	RIGID Weight= 191.27 N.
120	140	RIGID Weight= .00 N.
200	220	RIGID Weight= 191.27 N.
220	240	RIGID Weight= 191.27 N.
320	340	RIGID Weight= 191.27 N.
340	360	RIGID Weight= 1,023.41 N.
360	380	RIGID Weight= 191.27 N.

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420	440	RIGID	Weight= 191.27 N.
440	460	RIGID	Weight= 191.27 N.
500	6210	RIGID	Weight= .00 N.
5200	5210	RIGID	Weight= 44.48 N.
5210	5220	RIGID	Weight= 93.41 N.
5220	5230	RIGID	Weight= 44.48 N.
5240	6230	RIGID	Weight= .00 N.
5250	5260	RIGID	Weight= 44.48 N.
5260	5270	RIGID	Weight= 44.48 N.
5275	6260	RIGID	Weight= .00 N.
5280	5290	RIGID	Weight= 44.48 N.
5290	5300	RIGID	Weight= 258.00 N.
5300	5310	RIGID	Weight= 31.14 N.
5340	6280	RIGID	Weight= .00 N.
610	640	RIGID	Weight= .00 N.
700	720	RIGID	Weight= 286.91 N.
721	760	RIGID	Weight= 177.93 N.
780	800	RIGID	Weight= .00 N.
780	6241	RIGID	Weight= .00 N.
780	6271	RIGID	Weight= .00 N.
780	6291	RIGID	Weight= .00 N.
820	840	RIGID	Weight= .00 N.
4350	4360	RIGID	Weight= 44.48 N.
4360	4370	RIGID	Weight= 311.38 N.
4370	4380	RIGID	Weight= 57.83 N.
4390	6300	RIGID	Weight= .00 N.
900	920	RIGID	Weight= 57.83 N.
920	940	RIGID	Weight= 427.03 N.
940	960	RIGID	Weight= 57.83 N.
1060	1080	RIGID	Weight= 364.75 N.
1080	1100	RIGID	Weight= 364.75 N.
1220	1240	RIGID	Weight= 364.75 N.
1300	1320	RIGID	Weight= 364.75 N.
1320	1340	RIGID	Weight= 3,087.07 N.
1340	1360	RIGID	Weight= 364.75 N.
1640	1660	RIGID	Weight= 364.75 N.
1660	1680	RIGID	Weight= 111.21 N.
1720	1740	RIGID	Weight= .00 N.
1740	1760	RIGID	Weight= .00 N.
1800	1820	RIGID	Weight= 111.21 N.
1740	1840	RIGID	Weight= 2,250.11 N.
1840	1860	RIGID	Weight=10,500.52 N.
1860	1880	RIGID	Weight= 4,500.22 N.
1880	1900	RIGID	Weight=10,500.52 N.
1900	1740	RIGID	Weight= 2,250.11 N.
1820	1920	RIGID	Weight= 191.27 N.
2000	6420	RIGID	Weight= .00 N.
4400	4410	RIGID	Weight= 364.75 N.
4410	4420	RIGID	Weight= 3,087.07 N.
4420	4430	RIGID	Weight= 364.75 N.
4440	6480	RIGID	Weight= .00 N.
4450	4460	RIGID	Weight= 364.75 N.
4460	4470	RIGID	Weight= 733.96 N.
4470	4480	RIGID	Weight= 364.75 N.
4485	6760	RIGID	Weight= .00 N.
4490	4500	RIGID	Weight= 364.75 N.

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4500	4505	RIGID	Weight= 1,005.30 N.
4505	6790	RIGID	Weight= 364.75 N.
6795	7000	RIGID	Weight= .00 N.
6840	6850	RIGID	Weight= 364.75 N.
6850	6860	RIGID	Weight= 364.75 N.
4600	4610	RIGID	Weight= 364.75 N.
4610	4620	RIGID	Weight= 2,708.97 N.
4620	4630	RIGID	Weight= 364.75 N.
4640	6510	RIGID	Weight= .00 N.
4660	4670	RIGID	Weight= 191.27 N.
4670	4680	RIGID	Weight= 387.00 N.
4680	4690	RIGID	Weight= 191.27 N.
4710	6530	RIGID	Weight= .00 N.
4720	4730	RIGID	Weight= 364.75 N.
4730	4740	RIGID	Weight= 2,708.97 N.
4740	4750	RIGID	Weight= 191.27 N.
4160	6600	RIGID	Weight= .00 N.
4180	4200	RIGID	Weight= 302.48 N.
4200	4220	RIGID	Weight= 30.00 N.
4220	4240	RIGID	Weight= 177.93 N.
4261	4280	RIGID	Weight= .00 N.
4280	4300	RIGID	Weight= .00 N.
4300	4310	RIGID	Weight= .00 N.
4310	4320	RIGID	Weight= .00 N.
6620	6630	RIGID	Weight= .00 N.
4800	4810	RIGID	Weight= 302.48 N.
4810	4820	RIGID	Weight= 3,362.86 N.
4820	4830	RIGID	Weight= 302.48 N.
4840	4850	RIGID	Weight= 302.48 N.
4850	4860	RIGID	Weight= 360.31 N.
4860	4870	RIGID	Weight= 177.93 N.
6650	6660	RIGID	Weight= .00 N.
4890	4900	RIGID	Weight= 177.93 N.
4900	4910	RIGID	Weight= 2,259.70 N.
4910	4920	RIGID	Weight= 177.93 N.
4930	6680	RIGID	Weight= .00 N.
4980	4990	RIGID	Weight= 191.27 N.
4990	5000	RIGID	Weight= 1,116.50 N.
5000	5010	RIGID	Weight= 191.27 N.
5020	6700	RIGID	Weight= .00 N.
5040	5060	RIGID	Weight= 106.76 N.
5060	5070	RIGID	Weight= 217.96 N.
5070	5080	RIGID	Weight= 106.76 N.
5095	6720	RIGID	Weight= .00 N.
5100	5110	RIGID	Weight= 191.27 N.
5110	5120	RIGID	Weight= 1,116.50 N.
5120	5130	RIGID	Weight= 71.17 N.
5145	6740	RIGID	Weight= .00 N.
4710	6530	RIGID	Weight= .00 N.
2340	2360	RIGID	Weight= 57.83 N.
2360	5650	RIGID	Weight= 311.38 N.
5650	5660	RIGID	Weight= 57.83 N.
5670	5680	RIGID	Weight= 35.59 N.
5680	5690	RIGID	Weight= 35.59 N.
5690	2420	RIGID	Weight= 25.00 N.
2420	2440	RIGID	Weight= 100.00 N.

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INPUT LISTING

2440	2460	RIGID	Weight= 54.49 N.
2540	5700	RIGID	Weight= 111.21 N.
5700	2560	RIGID	Weight= 1,005.30 N.
2560	2570	RIGID	Weight= 111.21 N.
5710	6440	RIGID	Weight= .00 N.
2640	5720	RIGID	Weight= 57.83 N.
5720	2660	RIGID	Weight= 311.38 N.
2660	5730	RIGID	Weight= 57.83 N.
5740	5750	RIGID	Weight= 35.59 N.
5750	5760	RIGID	Weight= 35.59 N.
5760	2720	RIGID	Weight= 35.59 N.
2720	2740	RIGID	Weight= 100.00 N.
2740	2760	RIGID	Weight= 54.49 N.
2840	2846	RIGID	Weight= 111.21 N.
2846	2852	RIGID	Weight= 1,005.30 N.
2852	2860	RIGID	Weight= 111.21 N.
2870	6460	RIGID	Weight= .00 N.
8150	6550	RIGID	Weight= .00 N.

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SIF's & TEE's

140	160	Node 140	Unreinforced Tee
260	280	Node 280	Weldolet
620	5190	Node 620	Weldolet
5240	6230	Node 6230	Unreinforced Tee
5275	6260	Node 6260	Unreinforced Tee
5340	6280	Node 6280	Unreinforced Tee
610	640	Node 640	Unreinforced Tee
4390	6300	Node 6300	Unreinforced Tee
1000	1020	Node 1020	Weldolet
1020	1260	Node 1260	Weldolet
2000	6420	Node 6420	Unreinforced Tee
2000	4100	Node 4100	Welding Tee
4440	6480	Node 6480	Unreinforced Tee
		Pad= .711 cm.	
4485	6760	Node 6760	Unreinforced Tee
		Pad= .711 cm.	
6795	7000	Node 7000	Unreinforced Tee
		Pad= .711 cm.	
6845	6830	Node 6830	Welding Tee
4100	4560	Node 4560	Welding Tee
4640	6510	Node 6510	Unreinforced Tee
		Pad= .711 cm.	
4710	6530	Node 6530	Unreinforced Tee
		Pad= .711 cm.	
4770	4780	Node 4780	Welding Tee
4160	6600	Node 6600	Unreinforced Tee
6620	6630	Node 6630	Unreinforced Tee
6650	6660	Node 6660	Unreinforced Tee
4930	6680	Node 6680	Unreinforced Tee
5020	6700	Node 6700	Unreinforced Tee
		Pad= .711 cm.	
5095	6720	Node 6720	Reinforced Tee Pad= .602 cm.
5145	6740	Node 6740	Unreinforced Tee

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INPUT LISTING

4710	6530	Node 6530	Unreinforced Tee
		Pad= .711 cm.	
2270	2280	Node 2280	Welding Tee
5710	6440	Node 6440	Unreinforced Tee
2880	5800	Node 5800	Welding Tee
8090	6120	Node 6120	Welding Tee
8100	6130	Node 6130	Welding Tee
6130	3965	Node 3965	Welding Tee

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REDUCERS

8180	8190	Diam2= 11.430 cm.	Wall2= .602 cm.
8200	8210	Diam2= 6.032 cm.	Wall2= .554 cm.
5310	5320	Diam2= 8.890 cm.	Wall2= .762 cm.
4570	8140	Diam2= 11.430 cm.	Wall2= .602 cm.
4650	4660	Diam2= 11.430 cm.	Wall2= .602 cm.
4690	4700	Diam2= 16.827 cm.	Wall2= .711 cm.
4570	8140	Diam2= 11.430 cm.	Wall2= .602 cm.
5030	5040	Diam2= 8.890 cm.	Wall2= .549 cm.
5080	5090	Diam2= 11.430 cm.	Wall2= .602 cm.
2400	5670	Diam2= 4.826 cm.	Wall2= .714 cm.
2460	2480	Diam2= 16.827 cm.	Wall2= 1.097 cm.
2700	5740	Diam2= 4.826 cm.	Wall2= .714 cm.
2760	2780	Diam2= 16.827 cm.	Wall2= 1.097 cm.

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RESTRAINTS

NODE	TYPE	CNODE	STIF1	Len GAP STIF2	MU YIELD FORCE	Dir Vectors
20	ANC					.000 .000 .000
160	-X				.30	1.000 .000 .000
160	Z	121				.000 .000 1.000
121	+Y				.10	.000 1.000 .000
160	X	121				1.000 .000 .000
300	+Y				.30	.000 1.000 .000
400	Y				.30	.000 1.000 .000
400	Z			.30	.30	.000 .000 1.000
480	Y				.30	.000 1.000 .000
480	Z			.30	.30	.000 .000 1.000
5355	+Y					.000 1.000 .000
5370	+Y				.30	.000 1.000 .000
5370	Z			.30	.30	.000 .000 1.000
5375	+Y				.30	.000 1.000 .000
660	+Y	800			.30	.000 1.000 .000
720	ANC	721				.000 .000 .000
780	ANC	820				.000 .000 .000
840	ANC					.000 .000 .000
1040	+Y				.30	.000 1.000 .000
1180	-X				.30	1.000 .000 .000
1180	+Y				.30	.000 1.000 .000
1240	ANC					.000 .000 .000
1280	Y				.30	.000 1.000 .000
1280	Z			.30	.30	.000 .000 1.000

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INPUT LISTING

1380	Y			.30	.000	1.000	.000
1380	Z			.30	.30	.000	1.000
1500	+Y				.30	.000	1.000
1500	Z			.30		.000	1.000
1520	+Y				.30	.000	1.000
1560	+Y				.30	.000	1.000
1560	X			.30	.30	1.000	.000
1660	ANC	1661				.000	.000
1700	ANC	1720				.000	.000
1780	ANC	1760				.000	.000
1840	+Y					.000	1.000
1840	X				.30	1.000	.000
1840	Z			.60	.30	.000	1.000
1860	Y				.10	.000	1.000
1860	Z			.60	.30	.000	1.000
1880	Y				.10	.000	1.000
1880	Z			.60	.30	.000	1.000
1900	Y				.10	.000	1.000
1900	X				.30	1.000	.000
1900	Z			.60	.30	.000	1.000
6845	+Y				.30	.000	1.000
6845	X			1.50	.30	1.000	.000
6870	+Y				.30	.000	1.000
6890	+Y				.30	.000	1.000
6890	X			.30	.30	1.000	.000
6900	+Y				.30	.000	1.000
6910	+Y				.30	.000	1.000
6910	X			.30	.30	1.000	.000
6920	+Y				.30	.000	1.000
6920	X			.30	.30	1.000	.000
6920	Z			.30	.30	.000	1.000
6560	+Y				.30	.000	1.000
6560	Z			.30	.30	.000	1.000
4220	ANC	4221				.000	.000
4260	ANC	4261				.000	.000
4320	ANC					.000	.000
6020	+Y				.30	.000	1.000
6020	Z			.30		.000	1.000
6050	+Y				.30	.000	1.000
6060	+Y				.30	.000	1.000
6060	X			.30	.30	1.000	.000
6070	+Y				.30	.000	1.000
6080	+Y				.30	.000	1.000
6080	X			.30	.30	1.000	.000
6090	+Y				.30	.000	1.000
6110	+Y					.000	1.000
6110	Z			.30		.000	1.000
6110	X			.30		1.000	.000
2180	+Y				.30	.000	1.000
2180	Z			.30	.30	.000	1.000
2200	+Y				.30	.000	1.000
2220	+Y				.30	.000	1.000
2220	Z			.30	.30	.000	1.000
2270	+Y					.000	1.000
2320	+Y					.000	1.000
2500	+Y				.30	.000	1.000

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INPUT LISTING

2500	Z		.30		.000	.000	1.000
2500	X		.30	.30	1.000	.000	.000
2620	+Y			.30	.000	1.000	.000
2800	+Y				.000	1.000	.000
2800	Z		.30		.000	.000	1.000
2800	X		.30		1.000	.000	.000
5805	+Y			.30	.000	1.000	.000
6220	+Y			.30	.000	1.000	.000
6220	Z		.30	.30	.000	.000	1.000
6240	+Y	6241			.000	1.000	.000
6270	+Y	6271		.30	.000	1.000	.000
6270	Z	6271	.30	.30	.000	.000	1.000
6290	+Y	6291		.30	.000	1.000	.000
6290	Z	6291	.30		.000	.000	1.000
6310	+Y			.30	.000	1.000	.000
6410	+Y			.30	.000	1.000	.000
6410	Z		.30	.30	.000	.000	1.000
6430	+Y			.30	.000	1.000	.000
6450	+Y				.000	1.000	.000
6470	+Y			.30	.000	1.000	.000
6490	+Y			.30	.000	1.000	.000
6520	+Y			.30	.000	1.000	.000
6540	+Y			.30	.000	1.000	.000
6540	X		.30	.30	1.000	.000	.000
6590	+Y			.30	.000	1.000	.000
6590	X		.30	.30	1.000	.000	.000
6610	+Y				.000	1.000	.000
6640	Y				.000	1.000	.000
6670	+Y				.000	1.000	.000
6670	Z		.30		.000	.000	1.000
6690	+Y			.30	.000	1.000	.000
6710	+Y			.30	.000	1.000	.000
6730	+Y			.30	.000	1.000	.000
6730	X		.30		1.000	.000	.000
6750	+Y				.000	1.000	.000
6770	+Y			.30	.000	1.000	.000
7010	+Y			.30	.000	1.000	.000
7010	Z		.30	.30	.000	.000	1.000
8010	+Y			.30	.000	1.000	.000
8000	+Y			.30	.000	1.000	.000
8000	X		.30	.30	1.000	.000	.000
8000	Z		.30	.30	.000	.000	1.000
8020	+Y			.30	.000	1.000	.000
8020	X		.30	.30	1.000	.000	.000
8050	+Y			.30	.000	1.000	.000
8080	+Y			.30	.000	1.000	.000
8090	+Y			.30	.000	1.000	.000
8090	X		.30		1.000	.000	.000
8100	+Y				.000	1.000	.000
8100	X		.30	.30	1.000	.000	.000
8120	+Y			.30	.000	1.000	.000
8130	+Y			.30	.000	1.000	.000
8130	X		.30	.30	1.000	.000	.000
8130	Z		.30	.30	.000	.000	1.000

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INPUT LISTING

HANGER CONTROL AND LOCATION DATA

No. of Hanger Design Load Cases = 1
 Actual Cold Load Flag = 0.0
 Short Range Spring Flag = 1
 Allowed Load Variation (%) = 25.0000
 Default Hanger Table = 5

140 160 Hanger Node = 160
 Hanger Connecting Node = 121
 Available Space = -100.0000 cm.
 Allowed Load Variation = 25.0000
 No. Hangers = 0.0 Short Range Flag = -1
 User Operating Load = .00 N. Free Node = 0
 Free Node = 0 Free Code = 0.0
 Spring Rate = .00 N./cm.
 Theoretical Cold Load = .00 N.

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EQUIPMENT LIMITS

20 40 Nozzle Node = 20

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 2,160.11 N. FB= 2,160.11 N.
 FC= 2,160.11 N. MA= 1,155.05 N.m. MB= 1,155.05 N.m. MC= 1,155.05 N.m.
 Equipment Major Direction Vector= .0000 1.0000 .0000
 Interact. Mtd= Absolute

760 780 Nozzle Node = 780

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 9,600.48 N. FB= 9,600.48 N.
 FC= 7,200.36 N. MA= 5,760.24 N.m. MB= 3,840.16 N.m. MC= 4,990.21 N.m.
 Equipment Major Direction Vector= .0000 .0000 1.0000
 Interact. Mtd= Absolute

1220 1240 Nozzle Node = 1240

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 2,160.11 N. FB= 2,160.11 N.
 FC= 2,160.11 N. MA= 1,155.05 N.m. MB= 1,155.05 N.m. MC= 1,155.05 N.m.
 Equipment Major Direction Vector= .0000 1.0000 .0000
 Interact. Mtd= Absolute

1680 1700 Nozzle Node = 1700

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 15,090.75 N. FB= 15,090.75 N.
 FC= 12,000.60 N. MA= 9,150.39 N.m. MB= 4,890.21 N.m. MC= 6,420.27 N.m.
 Equipment Major Direction Vector= .0000 .0000 1.0000
 Interact. Mtd= Absolute

1780 1800 Nozzle Node = 1780

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 16,200.81 N. FB= 15,090.75 N.
 FC= 12,000.60 N. MA= 9,150.39 N.m. MB= 4,890.21 N.m. MC= 6,420.27 N.m.

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INPUT LISTING

Equipment Major Direction Vector= .0000 .0000 1.0000
 Interact. Mtd= Absolute
 4240 4260 Nozzle Node = 4260

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 8,400.42 N. FB= 8,400.42 N.
 FC= 6,300.31 N. MA= 3,780.16 N.m. MB= 2,520.11 N.m. MC= 3,280.14 N.m.
 Equipment Major Direction Vector= .0000 1.0000 .0000
 Interact. Mtd= Absolute

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FORCES AND MOMENTS

5690 2420 Node 2420 FX1= 2,000.10 N.
 FY1= 1,000.05 N. FZ1= .00 N.
 5760 2720 Node 2720 FX2= 2,000.10 N.
 FY2= 1,000.05 N. FZ2= .00 N.

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UNIFORM LOAD Changes

20 40 Vector1 in G-s
 X1 Dir = .26 g's Y1 Dir = .00 g's
 Z1 Dir = .00 g's
 Vector2 in G-s
 X2 Dir = .00 g's Y2 Dir = .12 g's
 Z2 Dir = .00 g's
 Vector3 in G-s
 X3 Dir = .00 g's Y3 Dir = .00 g's
 Z3 Dir = .26 g's
 8000 8010 Vector1 in G-s
 X1 Dir = .26 g's Y1 Dir = .00 g's
 Z1 Dir = .00 g's
 Vector2 in G-s
 X2 Dir = .00 g's Y2 Dir = .12 g's
 Z2 Dir = .00 g's
 Vector3 in G-s
 X3 Dir = .00 g's Y3 Dir = .00 g's
 Z3 Dir = .26 g's

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INPUT UNITS USED...

UNITS=	SI	NOM/SCH	INPUT= ON			
LENGTH		inches	x	2.540	=	cm.
FORCE		pounds	x	4.448	=	N.
MASS(dynamics)		pounds	x	0.454	=	Kg.
MOMENTS(INPUT)		inch-pounds	x	0.113	=	N.m.
MOMENTS(OUTPUT)		inch-pounds	x	0.113	=	N.m.
STRESS		lbs./sq.in.	x	6.895	=	KPa
TEMP. SCALE		degrees F.	x	0.556	=	C
PRESSURE		psig	x	6.895	=	KPa
ELASTIC MODULUS		lbs./sq.in.	x	6.895	=	KPa
PIPE DENSITY		lbs./cu.in.	x	0.028	=	kg./cu.cm.

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INSULATION DENS.	lbs./cu.in.	x	0.028	=	kg./cu.cm.
FLUID DENSITY	lbs./cu.in.	x	0.028	=	kg./cu.cm.
TRANSL. STIF	lbs./in.	x	1.751	=	N./cm.
ROTATIONAL STIF	in.lb./deg.	x	0.113	=	N.m./deg
UNIFORM LOAD	lb./in.	x	1.751	=	N./cm.
G LOAD	g's	x	1.000	=	g's
WIND LOAD	lbs./sq.in.	x	6.895	=	KPa
ELEVATION	inches	x	0.025	=	m.
COMPOUND LENGTH	inches	x	0.025	=	m.
DIAMETER	inches	x	2.540	=	cm.
WALL THICKNESS	inches	x	2.540	=	cm.

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SETUP FILE PARAMETERS

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CONNECT GEOMETRY THRU CNODES = YES
MIN ALLOWED BEND ANGLE = 5.00000
MAX ALLOWED BEND ANGLE = 95.0000
BEND LENGTH ATTACHMENT PERCENT = 1.00000
MIN ANGLE TO ADJACENT BEND PT = 5.00000
LOOP CLOSURE TOLERANCE = 2.54000 cm.
THERMAL BOWING HORZ TOLERANCE = 0.100000E-03
AUTO NODE NUMBER INCREMENT= 10.0000
Z AXIS UP= NO
USE PRESSURE STIFFENING = DEFAULT
ALPHA TOLERANCE = 0.500000E-01
RESLD-FORCE = NO
HGR DEF RESWGT STIF = 0.175127E+13 N./cm.
DECOMP SNG TOL = 0.100000E+11
BEND AXIAL SHAPE = YES
FRICT STIF = 0.175127E+07 N./cm.
FRICT NORM FORCE VAR = 0.150000
FRICT ANGLE VAR = 15.0000
FRICT SLIDE MULT = 1.00000
ROD TOLERANCE = 1.00000
ROD INC = 2.00000
INCORE NUMERICAL CHECK = NO
OUTCORE NUMERICAL CHECK = NO
DEFAULT TRANS RESTRAINT STIFF= 0.175127E+13 N./cm.
DEFAULT ROT RESTRAINT STIFF= 0.112985E+12 N.m./deg
IGNORE SPRING HANGER STIFFNESS = NO
MISSING MASS ZPA = EXTRACTED
MIN WALL MILL TOLERANCE = 12.5000
WRC-107 VERSION = MAR 79 1B1/2B1
WRC-107 INTERPOLATION = LAST VALUE
DEFAULT AMBIENT TEMPERATURE= 21.1111 C
BOURDON PRESSURE= NONE
COEFFICIENT OF FRICTION (MU) = 0.000000
INCLUDE SPRG STIF IN HGR OPE = NO
INCLUDE INSULATION IN HYDROTEST = NO
REDUCED INTERSECTION = B31.1(POST1980)
USE WRC329 NO
NO REDUCED SIF FOR RFT AND WLT NO
B31.1 REDUCED Z FIX = YES
CLASS 1 BRANCH FLEX NO
ALL STRESS CASES CORRODED = NO

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INPUT LISTING

ADD TORSION IN SL STRESS =	DEFAULT	
ADD F/A IN STRESS =	DEFAULT	
OCCASIONAL LOAD FACTOR =	0.000000	
DEFAULT CODE =	B31.3	
B31.3 SUS CASE SIF FACTOR =	0.000000	
ALLOW USERS BEND SIF =	NO	
USE SCHNEIDER	NO	
YIELD CRITERION STRESS =	MAX 3D SHEAR	
USE PD/4T	NO	
BASE HOOP STRESS ON ? =	ID	
EN13480 USE IN OUTPLANE SIFS=	NO	
LIBERAL EXPANSION ALLOWABLE=	YES	
B31.3 SEC 319.2.3C SAXIAL=	Default	
B31.3 WELDING/CONTOUR TEE ISB16.9	FALSE	
PRESSURE VARIATION IN EXP CASE=	DEFAULT	
IMPLEMENT B313 APP-P	NO	
IMPLEMENT B313 CODE CASE 178	YES	
IGNORE B31.1/B31.3 Wc FACTOR=	YES	
USE FRP SIF =	YES	
USE FRP FLEX =	YES	
BS 7159 Pressure Stiffening=	Design Strain	
FRP Property Data File=	CAESAR.FRP	
FRP Emod (axial) =	0.220632E+08	KPa
FRP Ratio Gmod/Emod (axial) =	0.250000	
FRP Ea/Eh*Vh/a =	0.152730	
FRP Laminate Type =	THREE	
FRP Alpha =	21.6000	C
FRP Density =	0.166079E-02	kg./cu.cm.
EXCLUDE f2 FROM UK00A BENDING =	NO	

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EXECUTION CONTROL PARAMETERS

Rigid/ExpJt Print Flag	1.000
Bourdon Option	.000
Loop Closure Flag	2.000
Thermal Bowing Delta Temp ..	.000 C
Liberal Allowable Flag	1.000
Uniform Load Option	1.000
Ambient Temperature	20.997 C
Plastic (FRP) Alpha	21.600
Plastic (FRP) GMOD/EMODa ...	.250
Plastic (FRP) Laminate Type.	3.000
Eqn Optimizer	.000
Node Selection	.000
Eqn Ordering	.000
Collins	.000
Degree Determination	.000
User Eqn Control	.000
North Direction	-X

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COORDINATE REPORT

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 Job:: BNK-GCS-CN-006-D02
 Licensed To:: SPLM: Edit company name in <system>\company.txt

INPUT LISTING

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/----- (cm.) -----/
NODE      X      Y      Z
  20      655.300    -532.935    706.010
  40      645.140    -532.935    706.010
  60      527.440    -532.935    706.010
  80      527.440    -593.635    706.010
 100      587.440    -593.635    706.010
 120      587.440    -732.835    706.010
 140      587.440    -755.735    706.010
 160      587.440    -775.735    706.010
 120      587.440    -732.835    706.010
 180      587.440    -755.735    706.010
 200      544.640    -755.735    706.010
 220      534.480    -755.735    706.010
 240      524.320    -755.735    706.010
 260      474.320    -755.735    706.010
 280      444.770    -755.735    706.010
 300      394.770    -755.735    706.010
 320      374.470    -755.735    706.010
 340      364.310    -755.735    706.010
 360      315.410    -755.735    706.010
 380      305.250    -755.735    706.010
 400      219.150    -755.735    706.010
 420       63.450    -755.735    706.010
 440       53.290    -755.735    706.010
 460       43.130    -755.735    706.010
 480      -81.170    -755.735    706.010
 490     -284.670    -755.735    706.010
 500     -488.170    -755.735    706.010
6210     -488.170    -763.355    706.010
 490     -284.670    -755.735    706.010
 500     -488.170    -755.735    706.010
 580     -488.170    -355.235    706.010
 600     -488.170    -355.235    431.010
 610     -526.670    -355.235    431.010
 620     -561.170    -355.235    431.010
5190     -561.170    -315.435    431.010
8160     -561.170    -315.435    375.810
8170     -510.970    -315.435    375.810
8180     -510.970    -315.435    383.510
8190     -510.970    -315.435    393.670
8200     -510.970    -315.435    414.670
8210     -510.970    -315.435    424.870
5200     -510.970    -315.435    453.870
5210     -510.970    -315.435    461.173
5220     -510.970    -315.435    491.273
5230     -510.970    -315.435    498.575
5240     -510.970    -315.435    506.275
5245     -564.870    -315.435    506.275
5240     -510.970    -315.435    506.275
6230     -510.970    -317.231    508.071
5245     -564.870    -315.435    506.275
5250     -618.770    -315.435    506.275
5260     -626.072    -315.435    506.275
5270     -633.375    -315.435    506.275
5275     -648.375    -315.435    506.275

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 Job:: BNK-GCS-CN-006-D02
 Licensed To:: SPLM: Edit company name in <system>\company.txt

INPUT LISTING

6260	-648.375	-317.975	506.275
5275	-648.375	-315.435	506.275
5280	-663.375	-315.435	506.275
5290	-670.677	-315.435	506.275
5300	-690.677	-315.435	506.275
5310	-697.345	-315.435	506.275
5320	-706.245	-315.435	506.275
5330	-734.945	-315.435	506.275
5340	-734.945	-407.235	506.275
6280	-731.135	-407.235	506.275
5340	-734.945	-407.235	506.275
5350	-734.945	-618.935	506.275
5355	-734.945	-618.935	557.925
5360	-734.945	-618.935	609.575
5370	-1062.945	-618.935	609.575
5375	-1513.145	-618.935	609.575
5380	-1569.245	-618.935	609.575
5390	-1569.245	-693.635	609.575
6130	-1569.220	-752.145	679.490
610	-526.670	-355.235	431.010
640	-526.670	-363.635	431.010
660	-526.670	-393.635	431.010
620	-561.170	-355.235	431.010
680	-618.970	-355.235	431.010
700	-618.970	-378.135	431.010
720	-618.970	-390.735	431.010
760	-618.970	-401.213	431.010
780	-618.970	-420.813	431.010
780	-618.970	-421.063	431.010
660	-526.670	-393.635	431.010
780	-618.970	-420.813	431.010
6240	-510.970	-317.231	538.071
780	-618.970	-420.813	431.010
6270	-648.375	-352.975	506.275
780	-618.970	-420.813	431.010
6290	-701.135	-407.235	506.275
780	-618.970	-420.813	431.010
840	-618.970	-777.813	431.010
280	444.770	-755.735	706.010
4350	444.770	-755.735	718.210
4360	444.770	-755.735	725.513
4370	444.770	-755.735	755.612
4380	444.770	-755.735	763.867
4390	444.770	-755.735	821.467
4395	444.770	-730.035	821.467
4390	444.770	-755.735	821.467
6300	444.770	-758.275	821.467
4395	444.770	-730.035	821.467
880	444.770	-704.335	821.467
900	444.770	-704.335	813.767
920	444.770	-704.335	805.512
940	444.770	-704.335	775.412
960	444.770	-704.335	767.157
980	444.770	-704.335	644.957
1000	444.770	-714.335	644.957
1020	444.770	-744.135	644.957

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 Licensed To:: SPLM: Edit company name in <system>\company.txt

INPUT LISTING

1040	464.270	-744.135	644.957
1060	479.270	-744.135	644.957
1080	491.870	-744.135	644.957
1100	504.470	-744.135	644.957
1120	527.370	-744.135	644.957
1140	527.370	-744.135	522.157
1160	573.520	-744.135	522.157
1180	619.670	-744.135	522.157
1200	619.670	-744.135	704.957
1220	642.570	-744.135	704.957
1240	655.270	-744.135	704.957
1020	444.770	-744.135	644.957
1260	304.770	-744.135	644.957
1280	219.770	-744.135	644.957
1300	154.770	-744.135	644.957
1320	142.070	-744.135	644.957
1340	85.270	-744.135	644.957
1360	72.570	-744.135	644.957
1380	-82.330	-744.135	644.957
1390	-285.830	-744.135	644.957
1400	-489.330	-744.135	644.957
1480	-489.330	-585.735	644.957
1500	-1065.330	-585.735	644.957
1520	-1665.330	-585.735	644.957
1540	-1938.430	-585.735	644.957
1560	-1938.430	-585.735	857.857
1580	-1938.430	-585.735	979.957
1600	-1938.430	-223.735	979.957
1620	-2084.130	-223.735	979.957
1640	-2084.130	-316.535	979.957
1660	-2084.130	-329.235	979.957
1680	-2084.130	-332.735	979.957
1700	-2084.130	-352.735	979.957
1740	-2084.130	-376.735	979.957
1780	-2084.130	-400.735	979.957
1800	-2084.130	-420.735	979.957
1820	-2084.130	-424.235	979.957
1740	-2084.130	-376.735	979.957
1840	-2084.130	-376.735	1129.957
1860	-2787.630	-376.735	1129.957
1880	-2787.630	-376.735	829.957
1900	-2084.130	-376.735	829.957
1740	-2084.130	-376.735	979.957
1820	-2084.130	-424.235	979.957
1920	-2084.130	-440.135	979.957
1940	-2084.130	-483.035	979.957
1960	-2084.130	-483.035	947.107
1980	-2084.130	-483.035	914.257
2000	-1685.030	-483.035	914.257
6420	-1685.030	-490.655	914.257
2000	-1685.030	-483.035	914.257
4100	-1630.030	-483.035	914.257
4400	-1630.030	-483.756	1059.056
4410	-1630.030	-483.819	1071.755
4420	-1630.030	-484.102	1128.555
4430	-1630.030	-484.165	1141.255

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INPUT LISTING

4440	-1630.030	-484.331	1174.604
6480	-1630.030	-491.951	1174.604
4440	-1630.030	-484.331	1174.604
4450	-1630.030	-484.497	1207.954
4460	-1630.030	-484.561	1220.654
4470	-1630.030	-484.843	1277.453
4480	-1630.030	-484.907	1290.153
4482	-1630.030	-485.214	1346.603
4485	-1630.030	-485.521	1403.053
6760	-1635.418	-490.909	1403.053
4482	-1630.030	-485.214	1346.603
4485	-1630.030	-485.521	1403.053
4490	-1525.830	-485.521	1403.053
4500	-1513.130	-485.521	1403.053
4505	-1453.330	-485.521	1403.053
6790	-1440.630	-485.521	1403.053
6780	-1408.230	-485.521	1403.053
6795	-1375.830	-485.521	1403.053
7000	-1370.442	-490.909	1403.053
6780	-1408.230	-485.521	1403.053
6795	-1375.830	-485.521	1403.053
6800	-1375.830	-490.421	1543.653
6810	-1582.630	-490.421	1543.653
6820	-1782.630	-490.421	1543.653
6830	-1799.230	-507.021	1543.653
6840	-1799.230	-507.021	1438.953
6850	-1799.230	-507.021	1451.653
6860	-1799.230	-507.021	1464.353
6845	-1799.230	-507.021	1501.253
6830	-1799.230	-507.021	1543.653
6870	-1799.230	-507.021	2101.253
6880	-1799.230	-507.021	2301.253
6890	-1799.230	-507.021	2701.253
6900	-1799.230	-507.021	3301.253
6910	-1799.230	-507.021	3901.253
6920	-1799.230	-507.021	4501.253
4100	-1630.030	-483.035	914.257
4560	-1630.030	-483.035	885.757
4570	-1615.730	-483.035	885.757
8140	-1601.730	-485.735	885.757
4560	-1630.030	-483.035	885.757
4580	-1644.330	-483.035	885.757
4590	-1681.530	-483.035	885.757
4600	-1681.530	-483.035	862.857
4610	-1681.530	-483.035	850.157
4620	-1681.530	-483.035	793.357
4630	-1681.530	-483.035	780.657
4640	-1681.530	-483.035	760.657
6510	-1681.530	-490.655	760.657
4640	-1681.530	-483.035	760.657
4650	-1681.530	-483.035	707.407
4660	-1681.530	-485.735	693.407
4670	-1681.530	-485.735	682.295
4680	-1681.530	-485.735	638.195
4690	-1681.530	-485.735	627.082
4700	-1681.530	-483.035	613.082

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INPUT LISTING

4710	-1681.530	-483.035	583.082
6530	-1681.530	-490.655	583.082
4710	-1681.530	-483.035	583.082
4720	-1681.530	-483.035	553.082
4730	-1681.530	-483.035	540.382
4740	-1681.530	-483.035	484.382
4750	-1681.530	-483.035	474.222
8150	-1681.530	-483.035	456.422
4140	-1681.530	-483.035	77.222
6560	-1638.630	-483.035	77.222
4760	-1198.730	-483.035	77.222
4770	-1198.730	-483.035	31.522
4780	-1198.730	-548.835	31.522
4160	-1069.430	-548.835	31.522
6600	-1069.430	-558.995	31.522
4160	-1069.430	-548.835	31.522
4180	-750.030	-548.835	31.522
4200	-738.600	-548.835	31.522
4220	-736.600	-548.835	31.522
4240	-726.122	-548.835	31.522
4260	-710.622	-548.835	31.522
4280	-664.622	-548.835	31.522
4300	-664.622	-678.835	31.522
4310	-664.622	-778.835	31.522
4320	-664.622	-808.835	31.522
4780	-1198.730	-548.835	31.522
6620	-1238.080	-548.835	31.522
6630	-1238.080	-558.995	31.522
6620	-1238.080	-548.835	31.522
4800	-1277.430	-548.835	31.522
4810	-1288.860	-548.835	31.522
4820	-1343.060	-548.835	31.522
4830	-1354.490	-548.835	31.522
4840	-1381.190	-548.835	31.522
4850	-1392.620	-548.835	31.522
4860	-1453.220	-548.835	31.522
4870	-1463.697	-548.835	31.522
4880	-1483.697	-548.835	31.522
6650	-1512.397	-548.835	31.522
6660	-1512.397	-558.995	31.522
6650	-1512.397	-548.835	31.522
4890	-1561.097	-548.835	31.522
4900	-1571.575	-548.835	31.522
4910	-1620.225	-548.835	31.522
4920	-1630.702	-548.835	31.522
4930	-1684.902	-548.835	31.522
6680	-1684.902	-558.995	31.522
4930	-1684.902	-548.835	31.522
4940	-1745.402	-548.835	31.522
4950	-1745.402	-548.835	181.522
4960	-1832.552	-548.835	181.522
4970	-1866.252	-515.135	181.522
8140	-1601.730	-485.735	885.757
4980	-1562.730	-485.735	885.757
4570	-1615.730	-483.035	885.757
8140	-1601.730	-485.735	885.757

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INPUT LISTING

4980	-1562.730	-485.735	885.757
4990	-1551.617	-485.735	885.757
5000	-1507.517	-485.735	885.757
5010	-1496.405	-485.735	885.757
5020	-1481.105	-485.735	885.757
5025	-1481.105	-485.735	837.407
5020	-1481.105	-485.735	885.757
6700	-1477.569	-489.271	885.757
5025	-1481.105	-485.735	837.407
5030	-1481.105	-485.735	789.057
5040	-1481.105	-487.035	778.857
5060	-1481.105	-487.035	769.650
5070	-1481.105	-487.035	733.650
5080	-1481.105	-487.035	724.442
5090	-1481.105	-485.785	714.242
5095	-1481.105	-485.785	689.392
6720	-1481.105	-490.865	689.392
5095	-1481.105	-485.785	689.392
5100	-1481.105	-485.785	664.542
5110	-1481.105	-485.785	653.430
5120	-1481.105	-485.785	609.330
5130	-1481.105	-485.785	601.393
5140	-1481.105	-485.785	586.093
5145	-1481.105	-550.885	586.093
6740	-1481.105	-550.885	581.013
5145	-1481.105	-550.885	586.093
5150	-1481.105	-592.085	586.093
5160	-1569.305	-592.085	586.093
5170	-1569.305	-699.385	586.093
3965	-1569.305	-752.385	638.980
4710	-1681.530	-483.035	583.082
6530	-1681.530	-490.655	583.082
6010	-633.152	-385.135	-2848.578
6020	-648.652	-385.135	-2848.578
6030	-1866.252	-385.135	-2848.578
6040	-1866.252	-515.135	-2848.578
6050	-1866.252	-515.135	-2688.478
6060	-1866.252	-515.135	-2088.478
6070	-1866.252	-515.135	-1488.478
6080	-1866.252	-515.135	-888.478
6090	-1866.252	-515.135	-288.478
4970	-1866.252	-515.135	181.522
6110	-1866.252	-515.135	311.522
1260	304.770	-744.135	644.957
2140	304.770	-591.135	644.957
2160	304.770	-591.135	670.157
2180	-81.630	-591.135	670.157
2200	-573.130	-591.135	670.157
2220	-1064.630	-591.135	670.157
2260	-1103.430	-591.135	670.157
2270	-1103.430	-591.135	919.957
2280	-1103.430	-591.135	1078.357
2320	-1103.430	-560.835	1078.357
2330	-1103.430	-502.535	1078.357
2340	-1103.430	-481.235	1078.357
2360	-1103.430	-472.980	1078.357

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INPUT LISTING

5650	-1103.430	-442.880	1078.357
5660	-1103.430	-434.625	1078.357
2400	-1103.430	-398.125	1078.357
5670	-1103.430	-387.525	1078.357
5680	-1103.430	-379.588	1078.357
5690	-1103.430	-371.650	1078.357
2420	-1103.430	-367.500	1078.357
2440	-1119.030	-367.500	1078.357
2460	-1126.332	-367.500	1078.357
2480	-1140.332	-371.470	1078.357
2500	-1174.832	-371.470	1078.357
2520	-1232.232	-371.470	1078.357
2540	-1232.232	-394.370	1078.357
5700	-1232.232	-403.578	1078.357
2560	-1232.232	-431.178	1078.357
2570	-1232.232	-440.385	1078.357
5710	-1232.232	-558.385	1078.357
6440	-1239.852	-558.385	1078.357
5710	-1232.232	-558.385	1078.357
2580	-1232.232	-609.085	1078.357
5840	-1264.632	-609.085	1078.357
5800	-1314.632	-609.085	1128.357
2280	-1103.430	-591.135	1078.357
2300	-1103.430	-591.135	1128.357
2620	-1103.430	-560.835	1128.357
2640	-1103.430	-481.135	1128.357
5720	-1103.430	-472.880	1128.357
2660	-1103.430	-442.780	1128.357
5730	-1103.430	-434.525	1128.357
2700	-1103.430	-398.025	1128.357
5740	-1103.430	-387.425	1128.357
5750	-1103.430	-379.487	1128.357
5760	-1103.430	-371.550	1128.357
2720	-1103.430	-367.450	1128.357
2740	-1119.030	-367.450	1128.357
2760	-1126.332	-367.450	1128.357
2780	-1140.332	-371.420	1128.357
2800	-1174.832	-371.420	1128.357
2820	-1232.232	-371.420	1128.357
2840	-1232.232	-394.320	1128.357
2846	-1232.232	-403.527	1128.357
2852	-1232.232	-431.127	1128.357
2860	-1232.232	-440.335	1128.357
2870	-1232.232	-558.335	1128.357
6460	-1239.852	-558.335	1128.357
2870	-1232.232	-558.335	1128.357
2880	-1232.232	-609.035	1128.357
2880	-1232.232	-609.085	1128.357
5800	-1314.632	-609.085	1128.357
5805	-1455.032	-609.085	1128.357
5810	-1566.833	-609.085	1128.357
5820	-1566.833	-661.385	1128.357
6120	-1566.820	-752.385	1219.330
4750	-1681.530	-483.035	474.222
8150	-1681.530	-483.035	456.422
6550	-1681.530	-490.655	456.422

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INPUT LISTING

6210	-488.170	-763.355	706.010
6220	-488.170	-793.355	706.010
6230	-510.970	-317.231	508.071
6240	-510.970	-317.231	538.071
6260	-648.375	-317.975	506.275
6270	-648.375	-352.975	506.275
6280	-731.135	-407.235	506.275
6290	-701.135	-407.235	506.275
6300	444.770	-758.275	821.467
6310	444.770	-848.275	821.467
6400	-489.180	-740.535	644.958
6410	-489.180	-770.535	644.958
6420	-1685.030	-490.655	914.257
6425	-1685.030	-513.655	914.257
6430	-1685.030	-551.655	914.257
6440	-1239.852	-558.385	1078.357
6450	-1269.852	-558.385	1078.357
6460	-1239.852	-558.335	1128.357
6470	-1269.852	-558.335	1128.357
6480	-1630.030	-491.951	1174.604
6485	-1630.030	-514.951	1174.604
6490	-1630.030	-552.951	1174.604
6510	-1681.530	-490.655	760.657
6515	-1681.530	-513.655	760.657
6520	-1681.530	-551.655	760.657
6530	-1681.530	-490.655	583.082
6535	-1681.530	-513.655	583.082
6540	-1681.530	-551.655	583.082
6550	-1681.530	-490.655	456.422
6590	-1681.530	-551.655	456.422
6600	-1069.430	-558.995	31.522
6610	-1069.430	-608.995	31.522
6630	-1238.080	-558.995	31.522
6640	-1238.080	-608.995	31.522
6660	-1512.397	-558.995	31.522
6670	-1512.397	-608.995	31.522
6680	-1684.902	-558.995	31.522
6690	-1684.902	-608.995	31.522
6700	-1477.569	-489.271	885.757
6705	-1467.569	-489.271	885.757
6710	-1427.569	-489.271	885.757
6720	-1481.105	-490.865	689.392
6730	-1481.105	-560.865	689.392
6740	-1481.105	-550.885	581.013
6750	-1481.105	-550.885	551.013
6760	-1635.418	-490.909	1403.053
6765	-1645.418	-490.909	1403.053
6770	-1690.418	-490.909	1403.053
7000	-1370.442	-490.909	1403.053
7005	-1360.442	-490.909	1403.053
7010	-1320.442	-490.909	1403.053
8000	-1566.820	-752.385	4012.830
8010	-1566.820	-752.385	3412.830
8020	-1566.820	-752.385	2812.830
8030	-1566.820	-752.385	2517.830
8040	-2166.820	-752.385	2517.830

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INPUT LISTING

8050	-2166.820	-752.385	2417.830
8060	-2166.820	-752.385	2317.830
8070	-1566.820	-752.385	2317.830
8080	-1566.820	-752.385	2232.830
8090	-1566.820	-752.385	1632.830
6120	-1566.820	-752.385	1219.330
8100	-1566.820	-752.385	1032.830
8100	-1569.220	-752.145	1033.090
6130	-1569.220	-752.145	679.490
3965	-1569.220	-752.145	639.690
3965	-1569.305	-752.385	638.980
8120	-1569.305	-752.385	432.380
8130	-1569.305	-752.385	-167.620

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

1 (HGR) CASE NOT ACTIVE
2 (HGR) CASE NOT ACTIVE
3 (HYD) WW+HP+H
4 (OPE) W+T1+P1+H
5 (Alt-SUS) W+P1+H
6 (OPE) W+T2+P1+H
7 (Alt-SUS) W+P1+H
8 (OPE) W+T3+P1+H
9 (Alt-SUS) W+P1+H
10 (SUS) W+P1+H
11 (SUS) WNC
12 (OPE) W+T1+P1+H+U1
13 (OPE) W+T1+P1+H-U1
14 (OPE) W+T1+P1+H+U2
15 (OPE) W+T1+P1+H-U2
16 (OPE) W+T1+P1+H+U3
17 (OPE) W+T1+P1+H+F1
18 (OPE) W+T1+P1+H+F2
19 (OCC) L19=L12-L4
20 (OCC) L20=L13-L4
21 (OCC) L21=L14-L4
22 (OCC) L22=L15-L4
23 (OCC) L23=L16-L4
24 (OCC) L24=L17-L4
25 (OCC) L25=L18-L4
26 (OCC) L26=L19+L10
27 (OCC) L27=L20+L10
28 (OCC) L28=L21+L10
29 (OCC) L29=L22+L10
30 (OCC) L30=L23+L10
31 (OCC) L31=L24+L10
32 (OCC) L32=L25+L10
33 (EXP) L33=L4-L10
34 (EXP) L34=L6-L10
35 (EXP) L35=L4-L6
36 (EXP) L36=L8-L10
37 (EXP) L37=L4-L8
38 (EXP) L38=L6-L8

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

LOAD CASE DEFINITION KEY

CASE 3 (HYD) WW+HP+H
 CASE 4 (OPE) W+T1+P1+H
 CASE 6 (OPE) W+T2+P1+H
 CASE 8 (OPE) W+T3+P1+H
 CASE 10 (SUS) W+P1+H
 CASE 11 (SUS) WNC
 CASE 12 (OPE) W+T1+P1+H+U1
 CASE 13 (OPE) W+T1+P1+H-U1
 CASE 14 (OPE) W+T1+P1+H+U2
 CASE 15 (OPE) W+T1+P1+H-U2
 CASE 16 (OPE) W+T1+P1+H+U3
 CASE 17 (OPE) W+T1+P1+H+F1
 CASE 18 (OPE) W+T1+P1+H+F2
 CASE 19 (OCC) L19=L12-L4
 CASE 20 (OCC) L20=L13-L4
 CASE 21 (OCC) L21=L14-L4
 CASE 22 (OCC) L22=L15-L4
 CASE 23 (OCC) L23=L16-L4
 CASE 24 (OCC) L24=L17-L4
 CASE 25 (OCC) L25=L18-L4

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
20		TYPE=Rigid ANC;					
	3(HYD)	-182	-730	15	-6	15	324
	4(OPE)	244	772	188	-240	344	-886
	6(OPE)	627	2683	179	-243	372	-2545
	8(OPE)	245	746	192	-249	345	-860
	10(SUS)	-127	-565	16	-6	16	234
	11(SUS)	183	-1530	11	-7	8	1309
	12(OPE)	627	963	178	-220	435	-987
	13(OPE)	-134	555	184	-245	202	-756
	14(OPE)	208	925	185	-239	342	-1019
	15(OPE)	294	553	205	-265	344	-682
	16(OPE)	256	635	552	-409	664	-746
	17(OPE)	244	772	188	-240	344	-886
	18(OPE)	244	772	188	-240	344	-886
	19(OCC)	383	190	-10	20	91	-101
	20(OCC)	-378	-218	-4	-5	-142	130
	21(OCC)	-36	153	-3	1	-2	-133
	22(OCC)	50	-219	17	-25	-0	204
	23(OCC)	12	-138	364	-169	320	140
	24(OCC)	0	0	-0	0	-0	-0
	25(OCC)	0	0	0	-0	0	-0
	MAX	627/L12	2683/L6	552/L16	-409/L16	664/L16	-2545/L6
121		TYPE=Rigid					

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
		+Y;					
	3(HYD)	-156	-1865	4	0	0	0
	4(OPE)	0	-1372	137	0	0	0
	6(OPE)	0	-1402	140	0	0	0
	8(OPE)	0	-1372	137	0	0	0
	10(SUS)	-104	-1352	10	0	0	0
	11(SUS)	-0	-9	1	0	0	0
	12(OPE)	0	-1369	137	0	0	0
	13(OPE)	0	-1374	137	0	0	0
	14(OPE)	0	-1371	137	0	0	0
	15(OPE)	0	-1373	137	0	0	0
	16(OPE)	0	-1373	137	0	0	0
	17(OPE)	0	-1372	137	0	0	0
	18(OPE)	0	-1372	137	0	0	0
	19(OCC)	0	2	-0	0	0	0
	20(OCC)	-0	-2	0	0	0	0
	21(OCC)	-0	1	-0	0	0	0
	22(OCC)	-0	-1	0	0	0	0
	23(OCC)	-0	-1	0	0	0	0
	24(OCC)	0	0	-0	0	0	0
	25(OCC)	-0	0	-0	0	0	0
	MAX	-156/L3	-1865/L3	140/L6			
160		TYPE=Rigid Z; Rigid -X; Rigid X; Prog Design VSH;					
	3(HYD)	-156	-1865	4	0	0	0
	4(OPE)	1833	-1707	573	0	0	0
	6(OPE)	3029	-2213	545	0	0	0
	8(OPE)	1772	-1688	563	0	0	0
	10(SUS)	-104	-1352	10	0	0	0
	11(SUS)	-0	-9	1	0	0	0
	12(OPE)	3463	-2070	903	0	0	0
	13(OPE)	189	-1407	172	0	0	0
	14(OPE)	1629	-1662	529	0	0	0
	15(OPE)	1980	-1718	619	0	0	0
	16(OPE)	1607	-1585	568	0	0	0
	17(OPE)	1835	-1708	573	0	0	0
	18(OPE)	1834	-1707	573	0	0	0
	19(OCC)	1630	-362	330	0	0	0
	20(OCC)	-1644	301	-401	0	0	0
	21(OCC)	-205	45	-43	0	0	0
	22(OCC)	147	-10	46	0	0	0
	23(OCC)	-226	123	-4	0	0	0
	24(OCC)	2	-1	0	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	25(OCC)	0	-0	0	0	0	0
	MAX	3463/L12	-2213/L6	903/L12			
300		TYPE=Rigid +Y;					
	3(HYD)	195	-2099	97	0	0	0
	4(OPE)	-409	-2800	734	0	0	0
	6(OPE)	-1176	-5060	960	0	0	0
	8(OPE)	-410	-2828	743	0	0	0
	10(SUS)	130	-1809	142	0	0	0
	11(SUS)	-62	-2421	176	0	0	0
	12(OPE)	-292	-2538	703	0	0	0
	13(OPE)	-665	-3172	681	0	0	0
	14(OPE)	-371	-2553	670	0	0	0
	15(OPE)	-454	-3114	817	0	0	0
	16(OPE)	-310	-3046	860	0	0	0
	17(OPE)	-410	-2800	733	0	0	0
	18(OPE)	-409	-2800	734	0	0	0
	19(OCC)	118	263	-30	0	0	0
	20(OCC)	-255	-371	-53	0	0	0
	21(OCC)	39	248	-63	0	0	0
	22(OCC)	-44	-314	83	0	0	0
	23(OCC)	100	-245	126	0	0	0
	24(OCC)	-0	0	-0	0	0	0
	25(OCC)	0	0	0	0	0	0
	MAX	-1176/L6	-5060/L6	960/L6			
400		TYPE=Rigid Z w/gap; Rigid Y;					
	3(HYD)	157	-1473	-8	0	0	0
	4(OPE)	-74	-347	73	0	0	0
	6(OPE)	-245	921	128	0	0	0
	8(OPE)	-71	-337	72	0	0	0
	10(SUS)	104	-1100	-16	0	0	0
	11(SUS)	-30	-800	-30	0	0	0
	12(OPE)	-64	-371	91	0	0	0
	13(OPE)	-83	-308	40	0	0	0
	14(OPE)	-49	-236	51	0	0	0
	15(OPE)	-94	-434	90	0	0	0
	16(OPE)	-80	-300	198	0	0	0
	17(OPE)	-74	-347	73	0	0	0
	18(OPE)	-74	-347	73	0	0	0
	19(OCC)	9	-24	18	0	0	0
	20(OCC)	-9	39	-33	0	0	0
	21(OCC)	25	111	-22	0	0	0
	22(OCC)	-20	-87	16	0	0	0
	23(OCC)	-6	47	125	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	24(OCC)	-0	-0	-0	0	0	0
	25(OCC)	0	-0	0	0	0	0
	MAX	-245/L6	-1473/L3	198/L16			
480		TYPE=Rigid Z w/gap; Rigid Y;					
	3(HYD)	168	-2080	-15	0	0	0
	4(OPE)	-469	-1684	188	0	0	0
	6(OPE)	-640	-2227	192	0	0	0
	8(OPE)	-468	-1685	192	0	0	0
	10(SUS)	106	-1332	-9	0	0	0
	11(SUS)	29	-1339	-8	0	0	0
	12(OPE)	-475	-1804	259	0	0	0
	13(OPE)	-454	-1554	105	0	0	0
	14(OPE)	-418	-1522	183	0	0	0
	15(OPE)	-521	-1848	189	0	0	0
	16(OPE)	-412	-1636	552	0	0	0
	17(OPE)	-469	-1684	188	0	0	0
	18(OPE)	-469	-1684	188	0	0	0
	19(OCC)	-6	-120	71	0	0	0
	20(OCC)	15	130	-83	0	0	0
	21(OCC)	51	162	-4	0	0	0
	22(OCC)	-52	-164	1	0	0	0
	23(OCC)	57	48	364	0	0	0
	24(OCC)	-0	0	-0	0	0	0
	25(OCC)	0	0	0	0	0	0
	MAX	-640/L6	-2227/L6	552/L16			
660		TYPE=Rigid +Y;					
	3(HYD)	-138	-1543	-130	0	0	0
	4(OPE)	-212	-1046	231	0	0	0
	6(OPE)	-139	-1033	277	0	0	0
	8(OPE)	-214	-1044	229	0	0	0
	10(SUS)	-90	-1142	-77	0	0	0
	11(SUS)	-89	-1132	-76	0	0	0
	12(OPE)	-369	-1243	55	0	0	0
	13(OPE)	-76	-758	214	0	0	0
	14(OPE)	-175	-920	214	0	0	0
	15(OPE)	-251	-1180	250	0	0	0
	16(OPE)	-67	-1106	325	0	0	0
	17(OPE)	-212	-1045	231	0	0	0
	18(OPE)	-212	-1046	231	0	0	0
	19(OCC)	-157	-196	-176	0	0	0
	20(OCC)	136	288	-17	0	0	0
	21(OCC)	37	126	-17	0	0	0
	22(OCC)	-39	-134	18	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	23(OCC)	145	-60	94	0	0	0
	24(OCC)	0	1	-0	0	0	0
	25(OCC)	0	1	-0	0	0	0
	MAX	-369/L12	-1543/L3	325/L16			
720		TYPE=Rigid ANC;					
	3(HYD)	175	-423	125	46	-20	-51
	4(OPE)	-75	-311	-325	-136	-93	-119
	6(OPE)	-543	-125	-462	-311	-529	-196
	8(OPE)	-75	-319	-335	-137	-89	-120
	10(SUS)	110	-391	80	19	-15	-35
	11(SUS)	108	-390	79	18	-15	-35
	12(OPE)	608	-141	-123	-94	-1	-250
	13(OPE)	-840	-560	-273	-137	-367	24
	14(OPE)	-108	-258	-309	-136	-110	-110
	15(OPE)	-55	-359	-330	-136	-82	-125
	16(OPE)	-147	-298	359	69	-611	-101
	17(OPE)	-75	-312	-325	-135	-92	-120
	18(OPE)	-76	-311	-325	-136	-93	-119
	19(OCC)	683	170	202	41	92	-131
	20(OCC)	-765	-248	52	-1	-274	144
	21(OCC)	-33	54	17	0	-17	10
	22(OCC)	20	-48	-5	-0	10	-6
	23(OCC)	-72	14	684	205	-518	18
	24(OCC)	1	-0	-0	0	0	-0
	25(OCC)	-1	-0	0	0	-0	0
	MAX	-840/L13	-560/L13	684/L23	-311/L6	-611/L16	-250/L12
780		TYPE=Rigid ANC;					
	3(HYD)	10	-3399	-22	940	88	-1061
	4(OPE)	-471	-3222	-120	1204	-530	-476
	6(OPE)	-617	-3021	-286	992	-926	-360
	8(OPE)	-261	-3252	-61	1167	-288	-210
	10(SUS)	-3	-2883	-15	882	45	-710
	11(SUS)	-4	-2871	-15	880	45	-700
	12(OPE)	565	-3144	-134	1155	12	-1184
	13(OPE)	-1401	-3193	-128	1143	-929	287
	14(OPE)	-463	-2896	-105	1108	-512	-372
	15(OPE)	-482	-3569	-128	1314	-535	-566
	16(OPE)	-418	-3402	1057	1808	-889	-375
	17(OPE)	-469	-3220	-121	1202	-527	-474
	18(OPE)	-467	-3214	-120	1196	-523	-478
	19(OCC)	1036	78	-14	-50	541	-708
	20(OCC)	-929	29	-7	-61	-400	764
	21(OCC)	8	326	15	-97	17	105
	22(OCC)	-11	-347	-8	110	-6	-90

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	23(OCC)	53	-180	1177	604	-360	101
	24(OCC)	3	2	-0	-3	3	3
	25(OCC)	5	8	0	-8	7	-2
	MAX	-1401/L13	-3569/L15	1177/L23	1808/L16	-929/L13	-1184/L12
840		TYPE=Rigid ANC;					
	3(HYD)	10	-3399	-22	861	88	-1097
	4(OPE)	-471	-3222	-120	775	-530	1207
	6(OPE)	-617	-3021	-286	-28	-926	1842
	8(OPE)	-261	-3252	-61	951	-288	724
	10(SUS)	-3	-2883	-15	830	45	-698
	11(SUS)	-4	-2871	-15	825	45	-684
	12(OPE)	565	-3144	-134	675	12	-3201
	13(OPE)	-1401	-3193	-128	687	-929	5288
	14(OPE)	-463	-2896	-105	731	-512	1283
	15(OPE)	-482	-3569	-128	856	-535	1155
	16(OPE)	-418	-3402	1057	5582	-889	1119
	17(OPE)	-469	-3220	-121	771	-527	1200
	18(OPE)	-467	-3214	-120	768	-523	1188
	19(OCC)	1036	78	-14	-100	541	-4408
	20(OCC)	-929	29	-7	-87	-400	4081
	21(OCC)	8	326	15	-44	17	76
	22(OCC)	-11	-347	-8	81	-6	-52
	23(OCC)	53	-180	1177	4808	-360	-88
	24(OCC)	3	2	-0	-3	3	-6
	25(OCC)	5	8	0	-7	7	-19
	MAX	-1401/L13	-3569/L15	1177/L23	5582/L16	-929/L13	5288/L13
1040		TYPE=Rigid +Y;					
	3(HYD)	546	-2886	-101	0	0	0
	4(OPE)	539	-2180	371	0	0	0
	6(OPE)	553	-2206	363	0	0	0
	8(OPE)	583	-2350	397	0	0	0
	10(SUS)	360	-2471	-144	0	0	0
	11(SUS)	358	-2446	-154	0	0	0
	12(OPE)	578	-2252	350	0	0	0
	13(OPE)	490	-2202	443	0	0	0
	14(OPE)	470	-1919	333	0	0	0
	15(OPE)	618	-2482	415	0	0	0
	16(OPE)	628	-2557	441	0	0	0
	17(OPE)	541	-2188	372	0	0	0
	18(OPE)	541	-2190	372	0	0	0
	19(OCC)	39	-71	-20	0	0	0
	20(OCC)	-49	-21	72	0	0	0
	21(OCC)	-69	261	-38	0	0	0
	22(OCC)	80	-302	44	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	23(OCC)	89	-376	70	0	0	0
	24(OCC)	2	-8	1	0	0	0
	25(OCC)	3	-10	1	0	0	0
	MAX	628/L16	-2886/L3	443/L13			
1180		TYPE=Rigid +Y; Rigid - X;					
	3(HYD)	18	-1413	-3	0	0	0
	4(OPE)	9542	-1463	-3302	0	0	0
	6(OPE)	12086	-1412	-4049	0	0	0
	8(OPE)	9717	-1472	-3357	0	0	0
	10(SUS)	14	-1121	-1	0	0	0
	11(SUS)	14	-1107	-1	0	0	0
	12(OPE)	13235	-1548	-4435	0	0	0
	13(OPE)	5805	-1235	-2112	0	0	0
	14(OPE)	9076	-1270	-3104	0	0	0
	15(OPE)	10022	-1609	-3489	0	0	0
	16(OPE)	9839	-1100	-3282	0	0	0
	17(OPE)	9545	-1463	-3302	0	0	0
	18(OPE)	9556	-1464	-3306	0	0	0
	19(OCC)	3692	-85	-1133	0	0	0
	20(OCC)	-3737	228	1190	0	0	0
	21(OCC)	-467	193	198	0	0	0
	22(OCC)	480	-146	-188	0	0	0
	23(OCC)	296	363	20	0	0	0
	24(OCC)	2	0	-1	0	0	0
	25(OCC)	13	-0	-4	0	0	0
	MAX	13235/L12	-1609/L15	-4435/L12			
1240		TYPE=Rigid ANC;					
	3(HYD)	-2	-709	-5	34	-1	316
	4(OPE)	1280	-475	286	106	-834	340
	6(OPE)	1481	-490	144	97	-1100	327
	8(OPE)	1263	-458	121	113	-878	342
	10(SUS)	-1	-633	-3	25	-0	256
	11(SUS)	-1	-627	-3	25	-0	253
	12(OPE)	1501	-433	-195	127	-995	361
	13(OPE)	810	-577	-82	53	-862	284
	14(OPE)	1287	-424	239	90	-850	295
	15(OPE)	1281	-545	292	112	-832	373
	16(OPE)	1610	-612	1080	32	-707	250
	17(OPE)	1277	-474	277	106	-836	340
	18(OPE)	1279	-474	283	107	-834	340
	19(OCC)	221	42	-481	21	-161	21
	20(OCC)	-469	-103	-368	-53	-28	-56
	21(OCC)	7	51	-47	-16	-16	-45

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	22(OCC)	1	-70	6	6	1	33
	23(OCC)	331	-138	794	-74	127	-90
	24(OCC)	-3	0	-9	0	-2	-0
	25(OCC)	-1	1	-3	0	-1	0
	MAX	1610/L16	-709/L3	1080/L16	127/L12	-1100/L6	373/L15
1280		TYPE=Rigid Z w/gap; Rigid Y;					
	3(HYD)	446	-1493	-39	0	0	0
	4(OPE)	-167	-1482	415	0	0	0
	6(OPE)	-524	-1369	1338	0	0	0
	8(OPE)	-187	-1377	511	0	0	0
	10(SUS)	497	-1822	-36	0	0	0
	11(SUS)	494	-1823	-36	0	0	0
	12(OPE)	294	-1362	1380	0	0	0
	13(OPE)	-397	-1600	269	0	0	0
	14(OPE)	-191	-1263	457	0	0	0
	15(OPE)	-169	-1693	479	0	0	0
	16(OPE)	-761	-1335	2546	0	0	0
	17(OPE)	-173	-1477	434	0	0	0
	18(OPE)	-169	-1475	423	0	0	0
	19(OCC)	461	120	965	0	0	0
	20(OCC)	-230	-118	-146	0	0	0
	21(OCC)	-24	219	42	0	0	0
	22(OCC)	-2	-212	64	0	0	0
	23(OCC)	-594	147	2131	0	0	0
	24(OCC)	-6	5	19	0	0	0
	25(OCC)	-2	7	8	0	0	0
	MAX	-761/L16	-1823/L11	2546/L16			
1380		TYPE=Rigid Z w/gap; Rigid Y;					
	3(HYD)	1084	-8323	32	0	0	0
	4(OPE)	-2437	-8623	868	0	0	0
	6(OPE)	-2621	-9178	845	0	0	0
	8(OPE)	-2427	-8617	890	0	0	0
	10(SUS)	786	-7001	27	0	0	0
	11(SUS)	781	-6938	27	0	0	0
	12(OPE)	-2523	-8826	804	0	0	0
	13(OPE)	-2433	-8436	698	0	0	0
	14(OPE)	-2170	-7775	856	0	0	0
	15(OPE)	-2693	-9449	886	0	0	0
	16(OPE)	-2428	-8633	1809	0	0	0
	17(OPE)	-2436	-8622	869	0	0	0
	18(OPE)	-2437	-8622	868	0	0	0
	19(OCC)	-86	-204	-64	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	20(OCC)	4	187	-170	0	0	0
	21(OCC)	267	847	-13	0	0	0
	22(OCC)	-256	-827	18	0	0	0
	23(OCC)	9	-11	941	0	0	0
	24(OCC)	0	1	1	0	0	0
	25(OCC)	0	1	0	0	0	0
	MAX	-2693/L15	-9449/L15	1809/L16			
1500		TYPE=Rigid Z w/gap; Rigid +Y;					
	3(HYD)	-1302	-4920	-20	0	0	0
	4(OPE)	-601	-2043	-1611	0	0	0
	6(OPE)	-423	-1427	-2283	0	0	0
	8(OPE)	-599	-2036	-1591	0	0	0
	10(SUS)	-1037	-3882	-16	0	0	0
	11(SUS)	-1030	-3856	-16	0	0	0
	12(OPE)	-527	-1807	-1502	0	0	0
	13(OPE)	-678	-2292	-1822	0	0	0
	14(OPE)	-474	-1611	-1711	0	0	0
	15(OPE)	-742	-2523	-1614	0	0	0
	16(OPE)	-609	-2075	-219	0	0	0
	17(OPE)	-601	-2043	-1611	0	0	0
	18(OPE)	-601	-2043	-1611	0	0	0
	19(OCC)	73	237	109	0	0	0
	20(OCC)	-77	-249	-210	0	0	0
	21(OCC)	127	432	-100	0	0	0
	22(OCC)	-141	-480	-3	0	0	0
	23(OCC)	-9	-32	1392	0	0	0
	24(OCC)	-0	-0	-0	0	0	0
	25(OCC)	-0	-0	0	0	0	0
	MAX	-1302/L3	-4920/L3	-2283/L6			
1520		TYPE=Rigid +Y;					
	3(HYD)	-632	-2311	7	0	0	0
	4(OPE)	-533	-2064	-315	0	0	0
	6(OPE)	-517	-2065	-341	0	0	0
	8(OPE)	-533	-2066	-316	0	0	0
	10(SUS)	-504	-1817	5	0	0	0
	11(SUS)	-500	-1809	5	0	0	0
	12(OPE)	-547	-2129	-330	0	0	0
	13(OPE)	-480	-1905	-310	0	0	0
	14(OPE)	-433	-1738	-290	0	0	0
	15(OPE)	-587	-2275	-347	0	0	0
	16(OPE)	-508	-1958	-295	0	0	0
	17(OPE)	-533	-2064	-315	0	0	0
	18(OPE)	-533	-2064	-315	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	19(OCC)	-14	-65	-15	0	0	0
	20(OCC)	53	159	5	0	0	0
	21(OCC)	100	326	25	0	0	0
	22(OCC)	-55	-211	-32	0	0	0
	23(OCC)	25	106	20	0	0	0
	24(OCC)	-0	-0	0	0	0	0
	25(OCC)	0	0	-0	0	0	0
	MAX	-632/L3	-2311/L3	-347/L15			
1560		TYPE=Rigid X w/gap; Rigid +Y;					
	3(HYD)	-136	-4185	-162	0	0	0
	4(OPE)	-7486	-5223	741	0	0	0
	6(OPE)	-10561	-5349	-3777	0	0	0
	8(OPE)	-7397	-5233	736	0	0	0
	10(SUS)	-107	-3281	-124	0	0	0
	11(SUS)	-107	-3262	-123	0	0	0
	12(OPE)	-6270	-5233	605	0	0	0
	13(OPE)	-9150	-4910	-3256	0	0	0
	14(OPE)	-7831	-4512	-2865	0	0	0
	15(OPE)	-7639	-5625	729	0	0	0
	16(OPE)	-7756	-4972	1894	0	0	0
	17(OPE)	-7486	-5223	741	0	0	0
	18(OPE)	-7484	-5223	741	0	0	0
	19(OCC)	1216	-10	-136	0	0	0
	20(OCC)	-1665	313	-3997	0	0	0
	21(OCC)	-345	711	-3605	0	0	0
	22(OCC)	-153	-402	-11	0	0	0
	23(OCC)	-270	251	1153	0	0	0
	24(OCC)	-1	0	0	0	0	0
	25(OCC)	1	-0	-0	0	0	0
	MAX	-10561/L6	-5625/L15	-3997/L20			
1660		TYPE=Rigid ANC;					
	3(HYD)	0	0	0	0	0	0
	4(OPE)	0	0	0	0	-0	-0
	6(OPE)	0	0	0	-0	-0	-0
	8(OPE)	0	0	0	0	-0	-0
	10(SUS)	0	0	0	-0	0	0
	11(SUS)	0	0	0	-0	0	-0
	12(OPE)	0	0	0	-0	-0	-0
	13(OPE)	0	0	0	-0	0	-0
	14(OPE)	0	0	0	-0	-0	-0
	15(OPE)	0	0	0	0	-0	-0
	16(OPE)	0	0	0	-0	-0	-0
	17(OPE)	0	0	0	0	-0	-0

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	18(OPE)	0	0	0	0	-0	0
	19(OCC)	0	0	0	-0	0	0
	20(OCC)	0	0	0	-0	0	0
	21(OCC)	0	0	0	-0	-0	0
	22(OCC)	0	0	0	0	-0	0
	23(OCC)	0	0	0	-0	0	0
	24(OCC)	0	0	0	0	0	0
	25(OCC)	0	0	0	0	0	0
	MAX				-0/L16	-0/L6	-0/L4
1700		TYPE=Rigid ANC;					
	3(HYD)	65	-2106	165	143	-189	-624
	4(OPE)	442	-26	916	72	2970	1894
	6(OPE)	806	-46	773	146	4415	2179
	8(OPE)	437	-15	917	76	2957	1903
	10(SUS)	51	-1762	126	109	-145	-509
	11(SUS)	51	-1754	125	109	-144	-507
	12(OPE)	994	10	919	135	2663	1290
	13(OPE)	6	-440	604	123	3665	2124
	14(OPE)	549	-213	566	186	3371	1549
	15(OPE)	442	-232	931	89	2935	1832
	16(OPE)	513	-352	1309	684	2843	1532
	17(OPE)	442	-26	916	72	2971	1894
	18(OPE)	441	-26	916	72	2970	1894
	19(OCC)	553	36	3	62	-307	-603
	20(OCC)	-435	-414	-312	50	694	230
	21(OCC)	108	-187	-350	114	400	-344
	22(OCC)	1	-206	15	17	-36	-61
	23(OCC)	71	-327	393	612	-128	-361
	24(OCC)	0	-0	-0	-0	0	0
	25(OCC)	-0	0	-0	0	-1	-0
	MAX	994/L12	-2106/L3	1309/L16	684/L16	4415/L6	2179/L6
1780		TYPE=Rigid ANC;					
	3(HYD)	159	-1497	-16	-347	-72	-39
	4(OPE)	-2140	-823	-222	128	1078	-1382
	6(OPE)	-4768	-600	1347	-999	688	-3118
	8(OPE)	-3179	-680	77	-119	1578	-2036
	10(SUS)	155	-1099	-12	-223	-70	11
	11(SUS)	154	-1088	-12	-221	-69	11
	12(OPE)	1028	-887	-175	80	-386	808
	13(OPE)	-5281	-741	-150	108	2447	-3551
	14(OPE)	-1878	-725	-207	136	913	-1202
	15(OPE)	-2301	-929	-221	110	1167	-1495
	16(OPE)	-1806	-896	299	-215	503	-1222
	17(OPE)	-2137	-824	-221	126	1077	-1380

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	18(OPE)	-2137	-824	-221	126	1076	-1381
	19(OCC)	3168	-64	46	-48	-1465	2190
	20(OCC)	-3141	82	72	-20	1369	-2169
	21(OCC)	262	98	14	8	-165	181
	22(OCC)	-161	-106	1	-18	88	-113
	23(OCC)	334	-73	521	-343	-576	161
	24(OCC)	4	-1	1	-2	-2	2
	25(OCC)	3	-1	1	-2	-2	2
	MAX	-5281/L13	-1497/L3	1347/L6	-999/L6	2447/L13	-3551/L13
1840		TYPE=Rigid X; Rigid Z w/gap; Rigid +Y;					
	3(HYD)	6	-10120	2	0	0	0
	4(OPE)	517	-8436	155	0	0	0
	6(OPE)	-285	-7990	85	0	0	0
	8(OPE)	154	-8316	46	0	0	0
	10(SUS)	17	-9279	5	0	0	0
	11(SUS)	17	-9234	5	0	0	0
	12(OPE)	5867	-8294	1760	0	0	0
	13(OPE)	-4662	-8765	1399	0	0	0
	14(OPE)	1345	-7560	403	0	0	0
	15(OPE)	455	-9549	136	0	0	0
	16(OPE)	2428	-8727	4514	0	0	0
	17(OPE)	518	-8436	155	0	0	0
	18(OPE)	517	-8436	155	0	0	0
	19(OCC)	5350	142	1605	0	0	0
	20(OCC)	-5179	-329	1244	0	0	0
	21(OCC)	828	876	248	0	0	0
	22(OCC)	-62	-1113	-19	0	0	0
	23(OCC)	1911	-291	4359	0	0	0
	24(OCC)	1	0	0	0	0	0
	25(OCC)	1	0	0	0	0	0
	MAX	5867/L12	-10120/L3	4514/L16			
1860		TYPE=Rigid Z w/gap; Rigid Y;					
	3(HYD)	-0	-8283	4	0	0	0
	4(OPE)	-722	-7832	304	0	0	0
	6(OPE)	-707	-7688	302	0	0	0
	8(OPE)	-716	-7771	302	0	0	0
	10(SUS)	-0	-7810	3	0	0	0
	11(SUS)	-0	-7774	3	0	0	0
	12(OPE)	-736	-7989	310	0	0	0
	13(OPE)	-705	-7648	297	0	0	0
	14(OPE)	-633	-6881	269	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints
Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	15(OPE)	-807	-8758	340	0	0	0
	16(OPE)	-1720	-7820	3852	0	0	0
	17(OPE)	-722	-7832	304	0	0	0
	18(OPE)	-722	-7832	304	0	0	0
	19(OCC)	-15	-157	6	0	0	0
	20(OCC)	17	184	-7	0	0	0
	21(OCC)	88	950	-35	0	0	0
	22(OCC)	-85	-926	36	0	0	0
	23(OCC)	-998	11	3548	0	0	0
	24(OCC)	-0	-0	0	0	0	0
	25(OCC)	-0	-0	0	0	0	0
	MAX	-1720/L16	-8758/L15	3852/L16			
1880		TYPE=Rigid Z w/gap; Rigid Y;					
	3(HYD)	0	-8281	4	0	0	0
	4(OPE)	-784	-7839	-4	0	0	0
	6(OPE)	-767	-7674	1	0	0	0
	8(OPE)	-777	-7773	-3	0	0	0
	10(SUS)	0	-7809	3	0	0	0
	11(SUS)	0	-7773	3	0	0	0
	12(OPE)	-800	-7996	-4	0	0	0
	13(OPE)	-765	-7654	-4	0	0	0
	14(OPE)	-689	-6889	-1	0	0	0
	15(OPE)	-876	-8765	-4	0	0	0
	16(OPE)	-775	-7831	110	0	0	0
	17(OPE)	-784	-7839	-4	0	0	0
	18(OPE)	-784	-7839	-4	0	0	0
	19(OCC)	-16	-157	-0	0	0	0
	20(OCC)	18	184	-0	0	0	0
	21(OCC)	95	950	3	0	0	0
	22(OCC)	-93	-926	-0	0	0	0
	23(OCC)	9	8	114	0	0	0
	24(OCC)	-0	-0	0	0	0	0
	25(OCC)	-0	-0	-0	0	0	0
	MAX	-876/L15	-8765/L15	114/L23			
1900		TYPE=Rigid X; Rigid Z w/gap; Rigid Y;					
	3(HYD)	218	-10229	144	0	0	0
	4(OPE)	-687	-8114	215	0	0	0
	6(OPE)	-2192	-8665	1524	0	0	0
	8(OPE)	-1520	-8208	662	0	0	0
	10(SUS)	189	-9334	105	0	0	0
	11(SUS)	188	-9288	105	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	12(OPE)	5940	-7969	-1356	0	0	0
	13(OPE)	-7348	-8485	-1229	0	0	0
	14(OPE)	-1503	-7214	-96	0	0	0
	15(OPE)	-673	-9225	257	0	0	0
	16(OPE)	-1125	-8242	1162	0	0	0
	17(OPE)	-685	-8115	215	0	0	0
	18(OPE)	-685	-8115	216	0	0	0
	19(OCC)	6627	145	-1571	0	0	0
	20(OCC)	-6660	-371	-1444	0	0	0
	21(OCC)	-815	900	-312	0	0	0
	22(OCC)	14	-1112	42	0	0	0
	23(OCC)	-438	-128	947	0	0	0
	24(OCC)	2	-1	0	0	0	0
	25(OCC)	2	-1	1	0	0	0
	MAX	-7348/L13	-10229/L3	-1571/L19			
2180		TYPE=Rigid Z w/gap; Rigid +Y;					
	3(HYD)	-51	-558	6	0	0	0
	4(OPE)	-117	-413	39	0	0	0
	6(OPE)	-117	-404	33	0	0	0
	8(OPE)	-19	-363	75	0	0	0
	10(SUS)	-47	-497	6	0	0	0
	11(SUS)	-47	-494	6	0	0	0
	12(OPE)	89	-372	67	0	0	0
	13(OPE)	-142	-474	11	0	0	0
	14(OPE)	-103	-360	34	0	0	0
	15(OPE)	-132	-466	46	0	0	0
	16(OPE)	-85	-404	193	0	0	0
	17(OPE)	-118	-412	38	0	0	0
	18(OPE)	-118	-411	36	0	0	0
	19(OCC)	207	41	27	0	0	0
	20(OCC)	-25	-62	-28	0	0	0
	21(OCC)	15	53	-6	0	0	0
	22(OCC)	-15	-53	6	0	0	0
	23(OCC)	33	8	154	0	0	0
	24(OCC)	-0	1	-2	0	0	0
	25(OCC)	-0	2	-3	0	0	0
	MAX	207/L19	-558/L3	193/L16			
2200		TYPE=Rigid +Y;					
	3(HYD)	-11	-662	-1	0	0	0
	4(OPE)	-179	-607	-34	0	0	0
	6(OPE)	-178	-613	-45	0	0	0
	8(OPE)	-184	-618	-21	0	0	0
	10(SUS)	-10	-589	-2	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	11(SUS)	-10	-586	-2	0	0	0
	12(OPE)	-176	-605	-44	0	0	0
	13(OPE)	-179	-604	-26	0	0	0
	14(OPE)	-157	-534	-31	0	0	0
	15(OPE)	-201	-680	-36	0	0	0
	16(OPE)	-172	-609	61	0	0	0
	17(OPE)	-177	-604	-37	0	0	0
	18(OPE)	-178	-604	-34	0	0	0
	19(OCC)	3	2	-10	0	0	0
	20(OCC)	-0	3	7	0	0	0
	21(OCC)	22	73	3	0	0	0
	22(OCC)	-22	-73	-3	0	0	0
	23(OCC)	7	-2	94	0	0	0
	24(OCC)	2	3	-3	0	0	0
	25(OCC)	1	3	-0	0	0	0
	MAX	-201/L15	-680/L15	94/L23			
2220		TYPE=Rigid Z w/gap; Rigid +Y;					
	3(HYD)	-4	-439	2	0	0	0
	4(OPE)	-127	-424	3	0	0	0
	6(OPE)	-119	-398	-10	0	0	0
	8(OPE)	-400	-374	-988	0	0	0
	10(SUS)	-4	-391	7	0	0	0
	11(SUS)	-4	-389	7	0	0	0
	12(OPE)	-136	-454	8	0	0	0
	13(OPE)	-120	-401	1	0	0	0
	14(OPE)	-115	-384	7	0	0	0
	15(OPE)	-139	-464	-1	0	0	0
	16(OPE)	-224	-420	356	0	0	0
	17(OPE)	-133	-444	4	0	0	0
	18(OPE)	-130	-436	14	0	0	0
	19(OCC)	-9	-30	4	0	0	0
	20(OCC)	7	24	-2	0	0	0
	21(OCC)	12	40	3	0	0	0
	22(OCC)	-12	-40	-4	0	0	0
	23(OCC)	-96	4	352	0	0	0
	24(OCC)	-6	-20	1	0	0	0
	25(OCC)	-3	-12	11	0	0	0
	MAX	-400/L8	-464/L15	-988/L8			
2270		TYPE=Rigid +Y;					
	3(HYD)	0	-292	0	0	0	0
	4(OPE)	0	-425	0	0	0	0
	6(OPE)	0	-538	0	0	0	0
	8(OPE)	0	-326	0	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	10(SUS)	0	-260	0	0	0	0
	11(SUS)	0	-259	0	0	0	0
	12(OPE)	0	-320	0	0	0	0
	13(OPE)	0	-510	0	0	0	0
	14(OPE)	0	-379	0	0	0	0
	15(OPE)	0	-472	0	0	0	0
	16(OPE)	0	-467	0	0	0	0
	17(OPE)	0	-324	0	0	0	0
	18(OPE)	0	-433	0	0	0	0
	19(OCC)	0	105	0	0	0	0
	20(OCC)	0	-85	0	0	0	0
	21(OCC)	0	46	0	0	0	0
	22(OCC)	0	-47	0	0	0	0
	23(OCC)	0	-41	0	0	0	0
	24(OCC)	0	101	0	0	0	0
	25(OCC)	0	-7	0	0	0	0
	MAX		-538/L6				
2320		TYPE=Rigid +Y;					
	3(HYD)	0	-115	0	0	0	0
	4(OPE)	0	0	0	0	0	0
	6(OPE)	0	0	0	0	0	0
	8(OPE)	0	-3786	0	0	0	0
	10(SUS)	0	-194	0	0	0	0
	11(SUS)	0	-192	0	0	0	0
	12(OPE)	0	0	0	0	0	0
	13(OPE)	0	0	0	0	0	0
	14(OPE)	0	0	0	0	0	0
	15(OPE)	0	0	0	0	0	0
	16(OPE)	0	0	0	0	0	0
	17(OPE)	0	0	0	0	0	0
	18(OPE)	0	0	0	0	0	0
	19(OCC)	0	0	0	0	0	0
	20(OCC)	0	0	0	0	0	0
	21(OCC)	0	0	0	0	0	0
	22(OCC)	0	0	0	0	0	0
	23(OCC)	0	0	0	0	0	0
	24(OCC)	0	0	0	0	0	0
	25(OCC)	0	0	0	0	0	0
	MAX		-3786/L8				
2500		TYPE=Rigid Z w/gap; Rigid X w/gap; Rigid +Y;					
	3(HYD)	31	-3014	-0	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	4(OPE)	1080	294	291	0	0	0
	6(OPE)	924	251	297	0	0	0
	8(OPE)	-709	154	147	0	0	0
	10(SUS)	32	-2464	1	0	0	0
	11(SUS)	32	-2463	1	0	0	0
	12(OPE)	2026	559	293	0	0	0
	13(OPE)	178	48	299	0	0	0
	14(OPE)	929	254	278	0	0	0
	15(OPE)	1230	333	306	0	0	0
	16(OPE)	1054	287	1076	0	0	0
	17(OPE)	2824	782	326	0	0	0
	18(OPE)	915	252	260	0	0	0
	19(OCC)	945	265	2	0	0	0
	20(OCC)	-902	-246	8	0	0	0
	21(OCC)	-151	-40	-13	0	0	0
	22(OCC)	150	39	14	0	0	0
	23(OCC)	-26	-6	785	0	0	0
	24(OCC)	1743	488	35	0	0	0
	25(OCC)	-165	-42	-31	0	0	0
	MAX	2824/L17	-3014/L3	1076/L16			
2620		TYPE=Rigid +Y;					
	3(HYD)	-13	-43	-1	0	0	0
	4(OPE)	0	0	0	0	0	0
	6(OPE)	0	0	0	0	0	0
	8(OPE)	68	-2696	806	0	0	0
	10(SUS)	-27	-123	-8	0	0	0
	11(SUS)	-27	-122	-8	0	0	0
	12(OPE)	0	0	0	0	0	0
	13(OPE)	0	0	0	0	0	0
	14(OPE)	0	0	0	0	0	0
	15(OPE)	0	0	0	0	0	0
	16(OPE)	0	0	0	0	0	0
	17(OPE)	0	0	0	0	0	0
	18(OPE)	0	0	0	0	0	0
	19(OCC)	0	0	0	0	0	0
	20(OCC)	0	0	0	0	0	0
	21(OCC)	0	0	0	0	0	0
	22(OCC)	0	0	0	0	0	0
	23(OCC)	0	0	0	0	0	0
	24(OCC)	0	0	0	0	0	0
	25(OCC)	0	0	0	0	0	0
	MAX	68/L8	-2696/L8	806/L8			
2800		TYPE=Rigid Z w/gap; Rigid X					

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
		w/gap; Rigid +Y;					
	3(HYD)	0	-2951	0	0	0	0
	4(OPE)	3076	0	582	0	0	0
	6(OPE)	3214	0	573	0	0	0
	8(OPE)	-1071	0	0	0	0	0
	10(SUS)	0	-2426	0	0	0	0
	11(SUS)	0	-2425	0	0	0	0
	12(OPE)	3797	0	574	0	0	0
	13(OPE)	2404	0	583	0	0	0
	14(OPE)	2967	0	581	0	0	0
	15(OPE)	3182	0	585	0	0	0
	16(OPE)	2947	0	1374	0	0	0
	17(OPE)	2949	0	577	0	0	0
	18(OPE)	4602	0	563	0	0	0
	19(OCC)	721	0	-9	0	0	0
	20(OCC)	-672	0	0	0	0	0
	21(OCC)	-108	0	-2	0	0	0
	22(OCC)	106	0	3	0	0	0
	23(OCC)	-129	0	792	0	0	0
	24(OCC)	-127	0	-5	0	0	0
	25(OCC)	1526	0	-19	0	0	0
	MAX	4602/L18	-2951/L3	1374/L16			
4220		TYPE=Rigid ANC;					
	3(HYD)	0	0	0	-0	0	-0
	4(OPE)	0	0	0	0	0	-0
	6(OPE)	0	0	0	-0	0	0
	8(OPE)	0	0	0	-0	0	0
	10(SUS)	0	0	0	0	-0	-0
	11(SUS)	0	0	0	0	-0	0
	12(OPE)	0	0	0	-0	0	-0
	13(OPE)	0	0	0	-0	-0	-0
	14(OPE)	0	0	0	0	0	-0
	15(OPE)	0	0	0	-0	0	0
	16(OPE)	0	0	0	-0	-0	0
	17(OPE)	0	0	0	-0	0	-0
	18(OPE)	0	0	0	-0	0	-0
	19(OCC)	0	0	0	-0	0	0
	20(OCC)	0	0	0	-0	-0	0
	21(OCC)	0	0	0	0	-0	0
	22(OCC)	0	0	0	-0	0	0
	23(OCC)	0	0	0	-0	-0	0
	24(OCC)	0	0	0	-0	0	0
	25(OCC)	0	0	0	-0	-0	0
	MAX		0/L15	0/L15	-0/L6	-0/L23	-0/L4

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
4260		TYPE=Rigid ANC;					
	3(HYD)	89	-2186	13	556	128	1392
	4(OPE)	2009	-2535	-199	508	-130	2949
	6(OPE)	12417	-3546	-1160	736	-3658	5695
	8(OPE)	2023	-2535	-226	486	-245	2948
	10(SUS)	181	-1622	4	370	72	996
	11(SUS)	181	-1619	4	370	72	993
	12(OPE)	7848	-2539	-382	653	-670	2972
	13(OPE)	-3774	-2465	2	467	401	2811
	14(OPE)	1872	-2274	-182	447	-72	2717
	15(OPE)	2202	-2745	-215	571	-179	3094
	16(OPE)	2428	-2522	1877	666	4691	2925
	17(OPE)	2008	-2535	-199	508	-129	2949
	18(OPE)	2008	-2535	-199	508	-129	2949
	19(OCC)	5839	-4	-183	145	-541	23
	20(OCC)	-5783	70	201	-40	530	-138
	21(OCC)	-137	261	17	-60	58	-232
	22(OCC)	193	-210	-16	63	-49	145
	23(OCC)	420	13	2076	158	4821	-24
	24(OCC)	-0	0	0	0	0	-0
	25(OCC)	-1	0	0	0	0	-0
	MAX	12417/L6	-3546/L6	2076/L23	736/L6	4821/L23	5695/L6
4320		TYPE=Rigid ANC;					
	3(HYD)	89	-2186	13	591	134	2166
	4(OPE)	2009	-2535	-199	-10	-221	-1108
	6(OPE)	12417	-3546	-1160	-2280	-4192	-24959
	8(OPE)	2023	-2535	-226	-102	-349	-1145
	10(SUS)	181	-1622	4	381	74	1272
	11(SUS)	181	-1619	4	380	74	1267
	12(OPE)	7848	-2539	-382	-340	-846	-16264
	13(OPE)	-3774	-2465	2	474	402	13758
	14(OPE)	1872	-2274	-182	-25	-155	-1105
	15(OPE)	2202	-2745	-215	12	-278	-1369
	16(OPE)	2428	-2522	1877	5546	5554	-2229
	17(OPE)	2008	-2535	-199	-9	-221	-1107
	18(OPE)	2008	-2535	-199	-9	-221	-1106
	19(OCC)	5839	-4	-183	-330	-625	-15156
	20(OCC)	-5783	70	201	484	623	14865
	21(OCC)	-137	261	17	-15	66	3
	22(OCC)	193	-210	-16	21	-56	-262
	23(OCC)	420	13	2076	5555	5775	-1121
	24(OCC)	-0	0	0	0	0	1
	25(OCC)	-1	0	0	0	0	2
	MAX	12417/L6	-3546/L6	2076/L23	5555/L23	5775/L23	-24959/L6

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
5355		TYPE=Rigid +Y;					
	3(HYD)	0	-633	0	0	0	0
	4(OPE)	0	-139	0	0	0	0
	6(OPE)	0	-61	0	0	0	0
	8(OPE)	0	-33	0	0	0	0
	10(SUS)	0	-573	0	0	0	0
	11(SUS)	0	-573	0	0	0	0
	12(OPE)	0	-216	0	0	0	0
	13(OPE)	0	-143	0	0	0	0
	14(OPE)	0	-55	0	0	0	0
	15(OPE)	0	-205	0	0	0	0
	16(OPE)	0	-4	0	0	0	0
	17(OPE)	0	-140	0	0	0	0
	18(OPE)	0	-145	0	0	0	0
	19(OCC)	0	-77	0	0	0	0
	20(OCC)	0	-4	0	0	0	0
	21(OCC)	0	84	0	0	0	0
	22(OCC)	0	-66	0	0	0	0
	23(OCC)	0	136	0	0	0	0
	24(OCC)	0	-1	0	0	0	0
	25(OCC)	0	-6	0	0	0	0
	MAX		-633/L3				
5370		TYPE=Rigid +Y; Rigid Z w/gap;					
	3(HYD)	-9	-811	-8	0	0	0
	4(OPE)	-165	-710	135	0	0	0
	6(OPE)	-141	-919	237	0	0	0
	8(OPE)	236	-832	-82	0	0	0
	10(SUS)	2	-742	-4	0	0	0
	11(SUS)	2	-742	-4	0	0	0
	12(OPE)	-114	-744	192	0	0	0
	13(OPE)	-182	-686	95	0	0	0
	14(OPE)	-136	-623	132	0	0	0
	15(OPE)	-190	-796	144	0	0	0
	16(OPE)	-216	-722	428	0	0	0
	17(OPE)	-166	-711	134	0	0	0
	18(OPE)	-162	-716	141	0	0	0
	19(OCC)	51	-34	57	0	0	0
	20(OCC)	-18	24	-40	0	0	0
	21(OCC)	29	87	-4	0	0	0
	22(OCC)	-25	-85	9	0	0	0
	23(OCC)	-51	-11	293	0	0	0
	24(OCC)	-1	-1	-1	0	0	0
	25(OCC)	3	-6	6	0	0	0
	MAX	236/L8	-919/L6	428/L16			

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
5375		TYPE=Rigid +Y;					
	3(HYD)	-94	-1221	131	0	0	0
	4(OPE)	-72	-1474	436	0	0	0
	6(OPE)	-13	-220	65	0	0	0
	8(OPE)	38	-384	-109	0	0	0
	10(SUS)	-56	-1037	94	0	0	0
	11(SUS)	-56	-1037	93	0	0	0
	12(OPE)	-40	-1834	549	0	0	0
	13(OPE)	-77	-968	280	0	0	0
	14(OPE)	-63	-1303	386	0	0	0
	15(OPE)	-81	-1633	483	0	0	0
	16(OPE)	-57	-1469	437	0	0	0
	17(OPE)	-74	-1506	446	0	0	0
	18(OPE)	-70	-1468	435	0	0	0
	19(OCC)	33	-360	112	0	0	0
	20(OCC)	-5	506	-156	0	0	0
	21(OCC)	9	171	-51	0	0	0
	22(OCC)	-9	-159	47	0	0	0
	23(OCC)	15	5	1	0	0	0
	24(OCC)	-1	-32	9	0	0	0
	25(OCC)	2	6	-2	0	0	0
	MAX	-94/L3	-1834/L12	549/L12			
5805		TYPE=Rigid +Y;					
	3(HYD)	-583	-2244	337	0	0	0
	4(OPE)	0	0	0	0	0	0
	6(OPE)	0	0	0	0	0	0
	8(OPE)	547	-3588	-927	0	0	0
	10(SUS)	-421	-1523	178	0	0	0
	11(SUS)	-421	-1522	178	0	0	0
	12(OPE)	0	0	0	0	0	0
	13(OPE)	0	0	0	0	0	0
	14(OPE)	0	0	0	0	0	0
	15(OPE)	0	0	0	0	0	0
	16(OPE)	0	0	0	0	0	0
	17(OPE)	0	0	0	0	0	0
	18(OPE)	0	0	0	0	0	0
	19(OCC)	0	0	0	0	0	0
	20(OCC)	0	0	0	0	0	0
	21(OCC)	0	0	0	0	0	0
	22(OCC)	0	0	0	0	0	0
	23(OCC)	0	0	0	0	0	0
	24(OCC)	0	0	0	0	0	0
	25(OCC)	0	0	0	0	0	0
	MAX	-583/L3	-3588/L8	-927/L8			

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
6020		TYPE=Rigid +Y; Rigid Z w/gap;					
	3(HYD)	1945	-6486	-67	0	0	0
	4(OPE)	1059	-3541	-83	0	0	0
	6(OPE)	1041	-3557	-233	0	0	0
	8(OPE)	1059	-3541	-83	0	0	0
	10(SUS)	1056	-3522	-37	0	0	0
	11(SUS)	1055	-3518	-37	0	0	0
	12(OPE)	1113	-3711	30	0	0	0
	13(OPE)	-1055	-3533	-102	0	0	0
	14(OPE)	931	-3113	-76	0	0	0
	15(OPE)	1186	-3963	-88	0	0	0
	16(OPE)	897	-3555	834	0	0	0
	17(OPE)	1059	-3541	-83	0	0	0
	18(OPE)	1059	-3541	-83	0	0	0
	19(OCC)	54	-170	113	0	0	0
	20(OCC)	-2114	8	-19	0	0	0
	21(OCC)	-128	428	7	0	0	0
	22(OCC)	126	-421	-5	0	0	0
	23(OCC)	-162	-14	917	0	0	0
	24(OCC)	0	-0	-0	0	0	0
	25(OCC)	0	-0	-0	0	0	0
	MAX	-2114/L20	-6486/L3	917/L23			
6050		TYPE=Rigid +Y;					
	3(HYD)	-2663	-15294	59	0	0	0
	4(OPE)	-997	-8262	-2269	0	0	0
	6(OPE)	-671	-8201	-2367	0	0	0
	8(OPE)	-998	-8262	-2269	0	0	0
	10(SUS)	-1423	-8297	34	0	0	0
	11(SUS)	-1422	-8287	33	0	0	0
	12(OPE)	2097	-8062	-1206	0	0	0
	13(OPE)	-2151	-8269	-1236	0	0	0
	14(OPE)	-902	-7273	-1987	0	0	0
	15(OPE)	-1177	-9258	-2516	0	0	0
	16(OPE)	-722	-7946	-2272	0	0	0
	17(OPE)	-997	-8262	-2269	0	0	0
	18(OPE)	-997	-8262	-2269	0	0	0
	19(OCC)	3094	199	1064	0	0	0
	20(OCC)	-1154	-7	1033	0	0	0
	21(OCC)	95	988	283	0	0	0
	22(OCC)	-180	-997	-246	0	0	0
	23(OCC)	275	316	-3	0	0	0
	24(OCC)	-0	0	0	0	0	0
	25(OCC)	-0	0	0	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	MAX	3094/L19	-15294/L3	-2516/L15			
6060		TYPE=Rigid +Y; Rigid X w/gap;					
	3(HYD)	663	-3638	48	0	0	0
	4(OPE)	-39	-1997	-598	0	0	0
	6(OPE)	-131	-2059	-610	0	0	0
	8(OPE)	-40	-1997	-598	0	0	0
	10(SUS)	354	-1975	29	0	0	0
	11(SUS)	354	-1972	29	0	0	0
	12(OPE)	582	-2036	-343	0	0	0
	13(OPE)	-629	-1997	-332	0	0	0
	14(OPE)	-47	-1758	-525	0	0	0
	15(OPE)	-33	-2235	-670	0	0	0
	16(OPE)	-144	-2379	-699	0	0	0
	17(OPE)	-39	-1997	-598	0	0	0
	18(OPE)	-39	-1997	-598	0	0	0
	19(OCC)	622	-38	255	0	0	0
	20(OCC)	-590	-0	266	0	0	0
	21(OCC)	-7	239	72	0	0	0
	22(OCC)	6	-237	-72	0	0	0
	23(OCC)	-105	-381	-101	0	0	0
	24(OCC)	-0	0	0	0	0	0
	25(OCC)	-0	0	0	0	0	0
	MAX	663/L3	-3638/L3	-699/L16			
6070		TYPE=Rigid +Y;					
	3(HYD)	-167	-7333	70	0	0	0
	4(OPE)	132	-3969	-1183	0	0	0
	6(OPE)	-153	-3926	-1168	0	0	0
	8(OPE)	133	-3969	-1183	0	0	0
	10(SUS)	-88	-3982	45	0	0	0
	11(SUS)	-88	-3977	45	0	0	0
	12(OPE)	1068	-3951	-514	0	0	0
	13(OPE)	-1100	-3972	-459	0	0	0
	14(OPE)	125	-3492	-1040	0	0	0
	15(OPE)	145	-4447	-1326	0	0	0
	16(OPE)	60	-3871	-1160	0	0	0
	17(OPE)	132	-3969	-1183	0	0	0
	18(OPE)	132	-3969	-1183	0	0	0
	19(OCC)	936	18	669	0	0	0
	20(OCC)	-1232	-3	724	0	0	0
	21(OCC)	-7	477	143	0	0	0
	22(OCC)	13	-477	-143	0	0	0
	23(OCC)	-72	98	24	0	0	0
	24(OCC)	0	0	0	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	25(OCC)	0	-0	0	0	0	0
	MAX	-1232/L20	-7333/L3	-1326/L15			
6080		TYPE=Rigid +Y; Rigid X w/gap;					
	3(HYD)	24	-6191	140	0	0	0
	4(OPE)	-18	-3381	1014	0	0	0
	6(OPE)	-484	-3491	-950	0	0	0
	8(OPE)	-24	-3382	1014	0	0	0
	10(SUS)	11	-3351	91	0	0	0
	11(SUS)	11	-3347	91	0	0	0
	12(OPE)	942	-3417	404	0	0	0
	13(OPE)	-929	-3368	397	0	0	0
	14(OPE)	-29	-2977	893	0	0	0
	15(OPE)	-7	-3784	1135	0	0	0
	16(OPE)	68	-3397	1017	0	0	0
	17(OPE)	-18	-3381	1014	0	0	0
	18(OPE)	-18	-3381	1014	0	0	0
	19(OCC)	960	-36	-610	0	0	0
	20(OCC)	-912	13	-618	0	0	0
	21(OCC)	-11	404	-122	0	0	0
	22(OCC)	10	-403	121	0	0	0
	23(OCC)	85	-16	3	0	0	0
	24(OCC)	-0	-0	0	0	0	0
	25(OCC)	0	0	-0	0	0	0
	MAX	960/L19	-6191/L3	1135/L15			
6090		TYPE=Rigid +Y;					
	3(HYD)	157	-7078	304	0	0	0
	4(OPE)	-480	-3754	1019	0	0	0
	6(OPE)	-974	-3339	-233	0	0	0
	8(OPE)	-482	-3751	1017	0	0	0
	10(SUS)	104	-3872	198	0	0	0
	11(SUS)	103	-3867	198	0	0	0
	12(OPE)	76	-3620	1083	0	0	0
	13(OPE)	-895	-3804	709	0	0	0
	14(OPE)	-442	-3298	885	0	0	0
	15(OPE)	-515	-4214	1154	0	0	0
	16(OPE)	-477	-3796	1034	0	0	0
	17(OPE)	-480	-3754	1019	0	0	0
	18(OPE)	-480	-3754	1019	0	0	0
	19(OCC)	556	134	65	0	0	0
	20(OCC)	-415	-50	-310	0	0	0
	21(OCC)	37	456	-134	0	0	0
	22(OCC)	-35	-460	136	0	0	0
	23(OCC)	3	-42	15	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	24(OCC)	-0	0	-0	0	0	0
	25(OCC)	-0	-0	0	0	0	0
	MAX	-974/L6	-7078/L3	1154/L15			
6110		TYPE=Rigid Z w/gap; Rigid X w/gap; Rigid +Y;					
	3(HYD)	0	-3042	0	0	0	0
	4(OPE)	0	-1938	1336	0	0	0
	6(OPE)	-5789	-1077	7416	0	0	0
	8(OPE)	0	-1939	1264	0	0	0
	10(SUS)	0	-1789	0	0	0	0
	11(SUS)	0	-1786	0	0	0	0
	12(OPE)	0	-1818	0	0	0	0
	13(OPE)	0	-2027	81	0	0	0
	14(OPE)	0	-1709	1144	0	0	0
	15(OPE)	0	-2175	1483	0	0	0
	16(OPE)	-709	-1791	9509	0	0	0
	17(OPE)	0	-1938	1336	0	0	0
	18(OPE)	0	-1938	1336	0	0	0
	19(OCC)	0	120	-1336	0	0	0
	20(OCC)	0	-88	-1255	0	0	0
	21(OCC)	0	229	-192	0	0	0
	22(OCC)	0	-237	147	0	0	0
	23(OCC)	-709	147	8173	0	0	0
	24(OCC)	0	-0	-0	0	0	0
	25(OCC)	0	-0	-0	0	0	0
	MAX	-5789/L6	-3042/L3	9509/L16			
6220		TYPE=Rigid Z w/gap; Rigid +Y;					
	3(HYD)	-229	-3244	37	0	0	0
	4(OPE)	-573	-1915	42	0	0	0
	6(OPE)	-522	-1750	58	0	0	0
	8(OPE)	-572	-1914	45	0	0	0
	10(SUS)	-138	-2007	24	0	0	0
	11(SUS)	-142	-1990	24	0	0	0
	12(OPE)	-537	-1800	56	0	0	0
	13(OPE)	-614	-2049	30	0	0	0
	14(OPE)	-499	-1670	45	0	0	0
	15(OPE)	-646	-2158	42	0	0	0
	16(OPE)	-522	-1898	227	0	0	0
	17(OPE)	-573	-1915	42	0	0	0
	18(OPE)	-573	-1915	42	0	0	0
	19(OCC)	36	115	14	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	20(OCC)	-41	-134	-12	0	0	0
	21(OCC)	74	245	2	0	0	0
	22(OCC)	-73	-243	-1	0	0	0
	23(OCC)	51	17	184	0	0	0
	24(OCC)	-0	-0	-0	0	0	0
	25(OCC)	-0	-0	-0	0	0	0
	MAX	-646/L15	-3244/L3	227/L16			
6240		TYPE=Rigid +Y;					
	3(HYD)	0	-176	0	0	0	0
	4(OPE)	0	-259	0	0	0	0
	6(OPE)	0	-288	0	0	0	0
	8(OPE)	0	-174	0	0	0	0
	10(SUS)	0	-176	0	0	0	0
	11(SUS)	0	-176	0	0	0	0
	12(OPE)	0	-253	0	0	0	0
	13(OPE)	0	-260	0	0	0	0
	14(OPE)	0	-237	0	0	0	0
	15(OPE)	0	-279	0	0	0	0
	16(OPE)	0	-245	0	0	0	0
	17(OPE)	0	-258	0	0	0	0
	18(OPE)	0	-259	0	0	0	0
	19(OCC)	0	6	0	0	0	0
	20(OCC)	0	-1	0	0	0	0
	21(OCC)	0	22	0	0	0	0
	22(OCC)	0	-21	0	0	0	0
	23(OCC)	0	13	0	0	0	0
	24(OCC)	0	0	0	0	0	0
	25(OCC)	0	-0	0	0	0	0
	MAX		-288/L6				
6270		TYPE=Rigid Z w/gap; Rigid +Y;					
	3(HYD)	-131	-490	-66	0	0	0
	4(OPE)	4	-625	150	0	0	0
	6(OPE)	-31	-391	113	0	0	0
	8(OPE)	-169	-615	74	0	0	0
	10(SUS)	-131	-487	-43	0	0	0
	11(SUS)	-130	-486	-43	0	0	0
	12(OPE)	145	-651	131	0	0	0
	13(OPE)	-190	-633	10	0	0	0
	14(OPE)	-11	-575	142	0	0	0
	15(OPE)	12	-679	155	0	0	0
	16(OPE)	-25	-619	184	0	0	0
	17(OPE)	-3	-626	146	0	0	0
	18(OPE)	-5	-626	145	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	19(OCC)	142	-26	-19	0	0	0
	20(OCC)	-193	-8	-139	0	0	0
	21(OCC)	-15	50	-8	0	0	0
	22(OCC)	9	-54	6	0	0	0
	23(OCC)	-28	6	34	0	0	0
	24(OCC)	-7	-1	-4	0	0	0
	25(OCC)	-8	-1	-5	0	0	0
	MAX	-193/L20	-679/L15	184/L16			
6290		TYPE=Rigid Z w/gap; Rigid +Y;					
	3(HYD)	113	-480	27	0	0	0
	4(OPE)	-172	-733	-137	0	0	0
	6(OPE)	115	-938	-257	0	0	0
	8(OPE)	252	-852	-45	0	0	0
	10(SUS)	107	-440	24	0	0	0
	11(SUS)	107	-440	24	0	0	0
	12(OPE)	89	-608	-159	0	0	0
	13(OPE)	-210	-735	-66	0	0	0
	14(OPE)	-163	-688	-126	0	0	0
	15(OPE)	-188	-794	-146	0	0	0
	16(OPE)	-208	-886	166	0	0	0
	17(OPE)	-169	-731	-139	0	0	0
	18(OPE)	-167	-724	-138	0	0	0
	19(OCC)	260	125	-22	0	0	0
	20(OCC)	-39	-3	71	0	0	0
	21(OCC)	9	45	11	0	0	0
	22(OCC)	-17	-61	-9	0	0	0
	23(OCC)	-36	-153	303	0	0	0
	24(OCC)	3	2	-2	0	0	0
	25(OCC)	4	8	-1	0	0	0
	MAX	260/L19	-938/L6	303/L23			
6310		TYPE=Rigid +Y;					
	3(HYD)	1	-797	14	0	0	0
	4(OPE)	-82	-1695	220	0	0	0
	6(OPE)	-192	-1932	327	0	0	0
	8(OPE)	-83	-1681	228	0	0	0
	10(SUS)	0	-839	11	0	0	0
	11(SUS)	-6	-857	14	0	0	0
	12(OPE)	-60	-1826	224	0	0	0
	13(OPE)	-102	-1436	243	0	0	0
	14(OPE)	-78	-1564	235	0	0	0
	15(OPE)	-90	-1804	218	0	0	0
	16(OPE)	-72	-1514	448	0	0	0
	17(OPE)	-82	-1695	220	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	18(OPE)	-82	-1695	220	0	0	0
	19(OCC)	22	-131	4	0	0	0
	20(OCC)	-20	259	23	0	0	0
	21(OCC)	4	131	15	0	0	0
	22(OCC)	-8	-109	-2	0	0	0
	23(OCC)	9	181	229	0	0	0
	24(OCC)	0	0	-0	0	0	0
	25(OCC)	-0	-0	-0	0	0	0
	MAX	-192/L6	-1932/L6	448/L16			
6410		TYPE=Rigid Z w/gap; Rigid +Y;					
	3(HYD)	0	-71	0	0	0	0
	4(OPE)	0	-47	0	0	0	0
	6(OPE)	0	-47	0	0	0	0
	8(OPE)	0	-47	0	0	0	0
	10(SUS)	0	-47	0	0	0	0
	11(SUS)	0	-47	0	0	0	0
	12(OPE)	12	-47	0	0	0	0
	13(OPE)	-12	-47	0	0	0	0
	14(OPE)	0	-42	0	0	0	0
	15(OPE)	0	-53	0	0	0	0
	16(OPE)	0	-47	12	0	0	0
	17(OPE)	0	-47	0	0	0	0
	18(OPE)	0	-47	0	0	0	0
	19(OCC)	12	0	0	0	0	0
	20(OCC)	-12	0	0	0	0	0
	21(OCC)	0	6	0	0	0	0
	22(OCC)	0	-6	0	0	0	0
	23(OCC)	0	0	12	0	0	0
	24(OCC)	0	0	0	0	0	0
	25(OCC)	0	0	0	0	0	0
	MAX	12/L12	-71/L3	12/L16			
6430		TYPE=Rigid +Y;					
	3(HYD)	-319	-5486	170	0	0	0
	4(OPE)	977	-4437	904	0	0	0
	6(OPE)	1017	-4691	973	0	0	0
	8(OPE)	1308	-4473	299	0	0	0
	10(SUS)	-331	-4534	128	0	0	0
	11(SUS)	-329	-4494	127	0	0	0
	12(OPE)	887	-4110	856	0	0	0
	13(OPE)	1019	-4822	1027	0	0	0
	14(OPE)	801	-3885	846	0	0	0
	15(OPE)	1121	-4983	989	0	0	0
	16(OPE)	473	-4589	1293	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	17(OPE)	977	-4438	904	0	0	0
	18(OPE)	977	-4438	905	0	0	0
	19(OCC)	-89	327	-48	0	0	0
	20(OCC)	42	-385	123	0	0	0
	21(OCC)	-176	552	-58	0	0	0
	22(OCC)	144	-546	85	0	0	0
	23(OCC)	-504	-152	389	0	0	0
	24(OCC)	0	-1	0	0	0	0
	25(OCC)	-0	-1	1	0	0	0
	MAX	1308/L8	-5486/L3	1293/L16			
6450		TYPE=Rigid +Y;					
	3(HYD)	0	-1214	0	0	0	0
	4(OPE)	0	-4916	0	0	0	0
	6(OPE)	0	-4624	0	0	0	0
	8(OPE)	0	0	0	0	0	0
	10(SUS)	0	-994	0	0	0	0
	11(SUS)	0	-994	0	0	0	0
	12(OPE)	0	-5157	0	0	0	0
	13(OPE)	0	-4501	0	0	0	0
	14(OPE)	0	-4023	0	0	0	0
	15(OPE)	0	-5809	0	0	0	0
	16(OPE)	0	-5038	0	0	0	0
	17(OPE)	0	-4544	0	0	0	0
	18(OPE)	0	-4021	0	0	0	0
	19(OCC)	0	-241	0	0	0	0
	20(OCC)	0	415	0	0	0	0
	21(OCC)	0	893	0	0	0	0
	22(OCC)	0	-893	0	0	0	0
	23(OCC)	0	-122	0	0	0	0
	24(OCC)	0	372	0	0	0	0
	25(OCC)	0	896	0	0	0	0
	MAX		-5809/L15				
6470		TYPE=Rigid +Y;					
	3(HYD)	219	-1295	-62	0	0	0
	4(OPE)	0	0	0	0	0	0
	6(OPE)	0	0	0	0	0	0
	8(OPE)	0	0	0	0	0	0
	10(SUS)	203	-1057	-31	0	0	0
	11(SUS)	203	-1057	-31	0	0	0
	12(OPE)	0	0	0	0	0	0
	13(OPE)	0	0	0	0	0	0
	14(OPE)	0	0	0	0	0	0
	15(OPE)	0	0	0	0	0	0
	16(OPE)	0	0	0	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	17(OPE)	0	0	0	0	0	0
	18(OPE)	0	0	0	0	0	0
	19(OCC)	0	0	0	0	0	0
	20(OCC)	0	0	0	0	0	0
	21(OCC)	0	0	0	0	0	0
	22(OCC)	0	0	0	0	0	0
	23(OCC)	0	0	0	0	0	0
	24(OCC)	0	0	0	0	0	0
	25(OCC)	0	0	0	0	0	0
	MAX	219/L3	-1295/L3	-62/L3			
6490		TYPE=Rigid +Y;					
	3(HYD)	-195	-5287	240	0	0	0
	4(OPE)	77	-5203	1559	0	0	0
	6(OPE)	850	-4959	1221	0	0	0
	8(OPE)	508	-5032	1421	0	0	0
	10(SUS)	-187	-4919	215	0	0	0
	11(SUS)	-187	-4897	212	0	0	0
	12(OPE)	1090	-5341	1174	0	0	0
	13(OPE)	-747	-5158	1355	0	0	0
	14(OPE)	115	-4606	1377	0	0	0
	15(OPE)	59	-5813	1743	0	0	0
	16(OPE)	5	-5163	1549	0	0	0
	17(OPE)	78	-5200	1558	0	0	0
	18(OPE)	78	-5199	1558	0	0	0
	19(OCC)	1013	-138	-385	0	0	0
	20(OCC)	-825	45	-204	0	0	0
	21(OCC)	38	598	-182	0	0	0
	22(OCC)	-18	-609	184	0	0	0
	23(OCC)	-72	41	-10	0	0	0
	24(OCC)	1	3	-1	0	0	0
	25(OCC)	1	5	-1	0	0	0
	MAX	1090/L12	-5813/L15	1743/L15			
6520		TYPE=Rigid +Y;					
	3(HYD)	-4	-3619	-326	0	0	0
	4(OPE)	629	-2493	404	0	0	0
	6(OPE)	524	-2429	506	0	0	0
	8(OPE)	815	-3178	-495	0	0	0
	10(SUS)	1	-3292	-311	0	0	0
	11(SUS)	1	-3272	-310	0	0	0
	12(OPE)	578	-2339	398	0	0	0
	13(OPE)	599	-2544	473	0	0	0
	14(OPE)	506	-2117	384	0	0	0
	15(OPE)	743	-2889	446	0	0	0
	16(OPE)	302	-2445	668	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	17(OPE)	629	-2493	404	0	0	0
	18(OPE)	629	-2493	404	0	0	0
	19(OCC)	-51	154	-6	0	0	0
	20(OCC)	-30	-52	69	0	0	0
	21(OCC)	-123	376	-20	0	0	0
	22(OCC)	114	-396	42	0	0	0
	23(OCC)	-327	48	264	0	0	0
	24(OCC)	0	-0	-0	0	0	0
	25(OCC)	0	-0	-0	0	0	0
	MAX	815/L8	-3619/L3	668/L16			
6540		TYPE=Rigid X w/gap; Rigid +Y;					
	3(HYD)	28	-1719	36	0	0	0
	4(OPE)	329	-1114	58	0	0	0
	6(OPE)	370	-1729	364	0	0	0
	8(OPE)	-61	-990	-291	0	0	0
	10(SUS)	23	-1643	54	0	0	0
	11(SUS)	23	-1630	53	0	0	0
	12(OPE)	420	-1567	211	0	0	0
	13(OPE)	-238	-1140	-245	0	0	0
	14(OPE)	283	-1083	159	0	0	0
	15(OPE)	355	-1183	-12	0	0	0
	16(OPE)	176	-2059	592	0	0	0
	17(OPE)	330	-1117	57	0	0	0
	18(OPE)	331	-1119	58	0	0	0
	19(OCC)	91	-453	153	0	0	0
	20(OCC)	-568	-26	-303	0	0	0
	21(OCC)	-46	32	101	0	0	0
	22(OCC)	25	-69	-69	0	0	0
	23(OCC)	-153	-945	534	0	0	0
	24(OCC)	1	-3	-0	0	0	0
	25(OCC)	1	-5	0	0	0	0
	MAX	-568/L20	-2059/L16	592/L16			
6560		TYPE=Rigid +Y; Rigid Z w/gap;					
	3(HYD)	-546	-2269	407	0	0	0
	4(OPE)	-420	-1644	-259	0	0	0
	6(OPE)	-2732	-1554	-7841	0	0	0
	8(OPE)	-317	-1667	-387	0	0	0
	10(SUS)	-427	-1627	237	0	0	0
	11(SUS)	-426	-1623	235	0	0	0
	12(OPE)	-410	-1500	-186	0	0	0
	13(OPE)	-436	-1741	-288	0	0	0
	14(OPE)	-393	-1446	-183	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	15(OPE)	-458	-1842	-309	0	0	0
	16(OPE)	-516	-1565	1236	0	0	0
	17(OPE)	-420	-1644	-259	0	0	0
	18(OPE)	-420	-1644	-259	0	0	0
	19(OCC)	10	144	73	0	0	0
	20(OCC)	-16	-97	-29	0	0	0
	21(OCC)	26	198	76	0	0	0
	22(OCC)	-39	-198	-49	0	0	0
	23(OCC)	-96	80	1495	0	0	0
	24(OCC)	0	0	-0	0	0	0
	25(OCC)	0	0	0	0	0	0
	MAX	-2732/L6	-2269/L3	-7841/L6			
6590		TYPE=Rigid X w/gap; Rigid +Y;					
	3(HYD)	-112	-4066	153	0	0	0
	4(OPE)	-446	-3848	-1065	0	0	0
	6(OPE)	-950	-3277	-255	0	0	0
	8(OPE)	-512	-4055	-1104	0	0	0
	10(SUS)	-86	-3339	105	0	0	0
	11(SUS)	-86	-3333	104	0	0	0
	12(OPE)	636	-3429	-338	0	0	0
	13(OPE)	-893	-3852	-734	0	0	0
	14(OPE)	-372	-3288	-913	0	0	0
	15(OPE)	-510	-4367	-1207	0	0	0
	16(OPE)	75	-2862	855	0	0	0
	17(OPE)	-447	-3846	-1063	0	0	0
	18(OPE)	-445	-3844	-1064	0	0	0
	19(OCC)	1082	419	727	0	0	0
	20(OCC)	-447	-5	331	0	0	0
	21(OCC)	73	559	151	0	0	0
	22(OCC)	-64	-519	-142	0	0	0
	23(OCC)	521	986	1920	0	0	0
	24(OCC)	-2	2	1	0	0	0
	25(OCC)	0	4	1	0	0	0
	MAX	1082/L19	-4367/L15	1920/L23			
6610		TYPE=Rigid +Y;					
	3(HYD)	0	-2777	0	0	0	0
	4(OPE)	0	0	0	0	0	0
	6(OPE)	0	0	0	0	0	0
	8(OPE)	0	0	0	0	0	0
	10(SUS)	0	-1815	0	0	0	0
	11(SUS)	0	-1810	0	0	0	0
	12(OPE)	0	-156	0	0	0	0
	13(OPE)	0	0	0	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	14(OPE)	0	0	0	0	0	0
	15(OPE)	0	-174	0	0	0	0
	16(OPE)	0	0	0	0	0	0
	17(OPE)	0	0	0	0	0	0
	18(OPE)	0	0	0	0	0	0
	19(OCC)	0	-156	0	0	0	0
	20(OCC)	0	0	0	0	0	0
	21(OCC)	0	0	0	0	0	0
	22(OCC)	0	-174	0	0	0	0
	23(OCC)	0	0	0	0	0	0
	24(OCC)	0	0	0	0	0	0
	25(OCC)	0	0	0	0	0	0
	MAX		-2777/L3				
6640		TYPE=Rigid Y;					
	3(HYD)	0	-6451	0	0	0	0
	4(OPE)	0	-6420	0	0	0	0
	6(OPE)	0	-5046	0	0	0	0
	8(OPE)	0	-6404	0	0	0	0
	10(SUS)	0	-5350	0	0	0	0
	11(SUS)	0	-5343	0	0	0	0
	12(OPE)	0	-6437	0	0	0	0
	13(OPE)	0	-6271	0	0	0	0
	14(OPE)	0	-5576	0	0	0	0
	15(OPE)	0	-7106	0	0	0	0
	16(OPE)	0	-6434	0	0	0	0
	17(OPE)	0	-6420	0	0	0	0
	18(OPE)	0	-6420	0	0	0	0
	19(OCC)	0	-17	0	0	0	0
	20(OCC)	0	150	0	0	0	0
	21(OCC)	0	844	0	0	0	0
	22(OCC)	0	-685	0	0	0	0
	23(OCC)	0	-14	0	0	0	0
	24(OCC)	0	0	0	0	0	0
	25(OCC)	0	0	0	0	0	0
	MAX		-7106/L15				
6670		TYPE=Rigid Z w/gap; Rigid +Y;					
	3(HYD)	0	-4501	0	0	0	0
	4(OPE)	0	-3531	0	0	0	0
	6(OPE)	0	-3751	-242	0	0	0
	8(OPE)	0	-3513	0	0	0	0
	10(SUS)	0	-3931	0	0	0	0
	11(SUS)	0	-3927	0	0	0	0
	12(OPE)	0	-3468	0	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	13(OPE)	0	-3595	0	0	0	0
	14(OPE)	0	-3134	0	0	0	0
	15(OPE)	0	-3962	0	0	0	0
	16(OPE)	0	-3560	0	0	0	0
	17(OPE)	0	-3531	0	0	0	0
	18(OPE)	0	-3531	0	0	0	0
	19(OCC)	0	62	0	0	0	0
	20(OCC)	0	-64	0	0	0	0
	21(OCC)	0	397	0	0	0	0
	22(OCC)	0	-431	0	0	0	0
	23(OCC)	0	-29	0	0	0	0
	24(OCC)	0	-0	0	0	0	0
	25(OCC)	0	-0	0	0	0	0
	MAX		-4501/L3	-242/L6			
6690		TYPE=Rigid +Y;					
	3(HYD)	435	-4902	-664	0	0	0
	4(OPE)	-873	-3610	641	0	0	0
	6(OPE)	-1425	-4993	-463	0	0	0
	8(OPE)	-886	-3629	632	0	0	0
	10(SUS)	205	-3428	-434	0	0	0
	11(SUS)	204	-3422	-433	0	0	0
	12(OPE)	-1007	-3855	569	0	0	0
	13(OPE)	-839	-3522	642	0	0	0
	14(OPE)	-761	-3181	576	0	0	0
	15(OPE)	-985	-4030	701	0	0	0
	16(OPE)	-747	-3713	826	0	0	0
	17(OPE)	-873	-3610	641	0	0	0
	18(OPE)	-873	-3610	641	0	0	0
	19(OCC)	-134	-245	-72	0	0	0
	20(OCC)	34	88	2	0	0	0
	21(OCC)	112	429	-65	0	0	0
	22(OCC)	-112	-420	60	0	0	0
	23(OCC)	127	-102	186	0	0	0
	24(OCC)	0	0	-0	0	0	0
	25(OCC)	0	0	0	0	0	0
	MAX	-1425/L6	-4993/L6	826/L16			
6710		TYPE=Rigid +Y;					
	3(HYD)	275	-953	-78	0	0	0
	4(OPE)	79	-546	144	0	0	0
	6(OPE)	214	-831	127	0	0	0
	8(OPE)	211	-731	-61	0	0	0
	10(SUS)	262	-904	-71	0	0	0
	11(SUS)	261	-902	-71	0	0	0
	12(OPE)	143	-890	225	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

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	13(OPE)	35	-268	73	0	0	0
	14(OPE)	54	-389	103	0	0	0
	15(OPE)	105	-717	188	0	0	0
	16(OPE)	83	-846	240	0	0	0
	17(OPE)	79	-546	144	0	0	0
	18(OPE)	79	-546	144	0	0	0
	19(OCC)	64	-344	82	0	0	0
	20(OCC)	-44	278	-71	0	0	0
	21(OCC)	-25	158	-40	0	0	0
	22(OCC)	26	-171	44	0	0	0
	23(OCC)	5	-300	96	0	0	0
	24(OCC)	0	-0	-0	0	0	0
	25(OCC)	0	-0	0	0	0	0
	MAX	275/L3	-953/L3	240/L16			
6730		TYPE=Rigid X w/gap; Rigid +Y;					
	3(HYD)	33	-2037	-9	0	0	0
	4(OPE)	563	0	0	0	0	0
	6(OPE)	2231	0	0	0	0	0
	8(OPE)	267	-2669	-755	0	0	0
	10(SUS)	62	-1879	-22	0	0	0
	11(SUS)	61	-1878	-22	0	0	0
	12(OPE)	1496	0	0	0	0	0
	13(OPE)	0	0	0	0	0	0
	14(OPE)	605	0	0	0	0	0
	15(OPE)	544	0	0	0	0	0
	16(OPE)	946	0	0	0	0	0
	17(OPE)	572	0	0	0	0	0
	18(OPE)	590	0	0	0	0	0
	19(OCC)	933	0	0	0	0	0
	20(OCC)	-563	0	0	0	0	0
	21(OCC)	43	0	0	0	0	0
	22(OCC)	-18	0	0	0	0	0
	23(OCC)	384	0	0	0	0	0
	24(OCC)	10	0	0	0	0	0
	25(OCC)	27	0	0	0	0	0
	MAX	2231/L6	-2669/L8	-755/L8			
6750		TYPE=Rigid +Y;					
	3(HYD)	0	-586	0	0	0	0
	4(OPE)	0	-585	0	0	0	0
	6(OPE)	0	-102	0	0	0	0
	8(OPE)	0	-884	0	0	0	0
	10(SUS)	0	-504	0	0	0	0
	11(SUS)	0	-504	0	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	12(OPE)	0	-731	0	0	0	0
	13(OPE)	0	-157	0	0	0	0
	14(OPE)	0	-364	0	0	0	0
	15(OPE)	0	-763	0	0	0	0
	16(OPE)	0	0	0	0	0	0
	17(OPE)	0	-615	0	0	0	0
	18(OPE)	0	-628	0	0	0	0
	19(OCC)	0	-146	0	0	0	0
	20(OCC)	0	428	0	0	0	0
	21(OCC)	0	220	0	0	0	0
	22(OCC)	0	-178	0	0	0	0
	23(OCC)	0	585	0	0	0	0
	24(OCC)	0	-30	0	0	0	0
	25(OCC)	0	-44	0	0	0	0
	MAX		-884/L8				
6770		TYPE=Rigid +Y;					
	3(HYD)	-540	-2134	-345	0	0	0
	4(OPE)	25	-1718	515	0	0	0
	6(OPE)	302	-1761	433	0	0	0
	8(OPE)	76	-1622	481	0	0	0
	10(SUS)	-396	-1541	-239	0	0	0
	11(SUS)	-388	-1506	-231	0	0	0
	12(OPE)	353	-1488	274	0	0	0
	13(OPE)	-326	-1791	427	0	0	0
	14(OPE)	42	-1502	449	0	0	0
	15(OPE)	19	-1916	574	0	0	0
	16(OPE)	18	-1745	523	0	0	0
	17(OPE)	25	-1719	515	0	0	0
	18(OPE)	25	-1720	515	0	0	0
	19(OCC)	328	230	-241	0	0	0
	20(OCC)	-351	-73	-88	0	0	0
	21(OCC)	18	216	-66	0	0	0
	22(OCC)	-6	-197	59	0	0	0
	23(OCC)	-6	-26	8	0	0	0
	24(OCC)	0	-1	0	0	0	0
	25(OCC)	0	-1	0	0	0	0
	MAX	-540/L3	-2134/L3	574/L15			
6845		TYPE=Rigid +Y; Rigid X w/gap;					
	3(HYD)	-267	-3126	2	0	0	0
	4(OPE)	-28	-2263	-678	0	0	0
	6(OPE)	130	-2192	-645	0	0	0
	8(OPE)	-37	-2271	-680	0	0	0
	10(SUS)	-161	-2276	1	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	11(SUS)	-155	-2223	1	0	0	0
	12(OPE)	349	-2275	-586	0	0	0
	13(OPE)	-261	-2244	-620	0	0	0
	14(OPE)	-13	-1988	-596	0	0	0
	15(OPE)	-36	-2537	-760	0	0	0
	16(OPE)	26	-2247	-674	0	0	0
	17(OPE)	-28	-2263	-678	0	0	0
	18(OPE)	-28	-2263	-678	0	0	0
	19(OCC)	377	-12	92	0	0	0
	20(OCC)	-233	19	58	0	0	0
	21(OCC)	15	274	82	0	0	0
	22(OCC)	-9	-274	-82	0	0	0
	23(OCC)	53	16	5	0	0	0
	24(OCC)	0	-0	-0	0	0	0
	25(OCC)	0	-0	-0	0	0	0
	MAX	377/L19	-3126/L3	-760/L15			
6870		TYPE=Rigid +Y;					
	3(HYD)	-15	-3231	1	0	0	0
	4(OPE)	-261	-2043	-555	0	0	0
	6(OPE)	-215	-2172	-615	0	0	0
	8(OPE)	-252	-2035	-556	0	0	0
	10(SUS)	-9	-2003	0	0	0	0
	11(SUS)	-9	-1925	0	0	0	0
	12(OPE)	137	-2035	-595	0	0	0
	13(OPE)	-420	-2045	-447	0	0	0
	14(OPE)	-240	-1803	-485	0	0	0
	15(OPE)	-280	-2283	-625	0	0	0
	16(OPE)	-276	-2062	-554	0	0	0
	17(OPE)	-261	-2043	-555	0	0	0
	18(OPE)	-261	-2043	-555	0	0	0
	19(OCC)	398	8	-40	0	0	0
	20(OCC)	-160	-2	108	0	0	0
	21(OCC)	21	240	70	0	0	0
	22(OCC)	-19	-240	-71	0	0	0
	23(OCC)	-15	-19	1	0	0	0
	24(OCC)	0	0	-0	0	0	0
	25(OCC)	0	0	-0	0	0	0
	MAX	-420/L13	-3231/L3	-625/L15			
6890		TYPE=Rigid +Y; Rigid X w/gap;					
	3(HYD)	4	-2706	0	0	0	0
	4(OPE)	-106	-1708	-501	0	0	0
	6(OPE)	-988	-1674	-787	0	0	0
	8(OPE)	-101	-1710	-503	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	10(SUS)	3	-1719	0	0	0	0
	11(SUS)	2	-1656	0	0	0	0
	12(OPE)	505	-1710	-576	0	0	0
	13(OPE)	-932	-1708	-704	0	0	0
	14(OPE)	-108	-1502	-437	0	0	0
	15(OPE)	-103	-1914	-565	0	0	0
	16(OPE)	-112	-1703	-499	0	0	0
	17(OPE)	-106	-1708	-501	0	0	0
	18(OPE)	-106	-1708	-501	0	0	0
	19(OCC)	611	-2	-75	0	0	0
	20(OCC)	-826	1	-203	0	0	0
	21(OCC)	-3	206	64	0	0	0
	22(OCC)	3	-206	-64	0	0	0
	23(OCC)	-6	5	3	0	0	0
	24(OCC)	0	-0	-0	0	0	0
	25(OCC)	-0	-0	0	0	0	0
	MAX	-988/L6	-2706/L3	-787/L6			
6900		TYPE=Rigid +Y;					
	3(HYD)	-1	-2728	0	0	0	0
	4(OPE)	2	-1723	-517	0	0	0
	6(OPE)	82	-1732	-513	0	0	0
	8(OPE)	2	-1722	-517	0	0	0
	10(SUS)	-1	-1720	0	0	0	0
	11(SUS)	-1	-1656	0	0	0	0
	12(OPE)	349	-1722	-381	0	0	0
	13(OPE)	-249	-1723	-453	0	0	0
	14(OPE)	-5	-1517	-455	0	0	0
	15(OPE)	7	-1929	-579	0	0	0
	16(OPE)	3	-1724	-517	0	0	0
	17(OPE)	2	-1723	-517	0	0	0
	18(OPE)	2	-1723	-517	0	0	0
	19(OCC)	348	1	136	0	0	0
	20(OCC)	-251	-0	64	0	0	0
	21(OCC)	-7	206	62	0	0	0
	22(OCC)	6	-206	-62	0	0	0
	23(OCC)	2	-1	-0	0	0	0
	24(OCC)	-0	0	0	0	0	0
	25(OCC)	-0	0	0	0	0	0
	MAX	349/L12	-2728/L3	-579/L15			
6910		TYPE=Rigid +Y; Rigid X w/gap;					
	3(HYD)	0	-3163	0	0	0	0
	4(OPE)	24	-1997	-599	0	0	0
	6(OPE)	114	-1995	-587	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	8(OPE)	23	-1997	-599	0	0	0
	10(SUS)	0	-1998	0	0	0	0
	11(SUS)	0	-1924	0	0	0	0
	12(OPE)	585	-1997	-131	0	0	0
	13(OPE)	-578	-1997	-159	0	0	0
	14(OPE)	26	-1758	-527	0	0	0
	15(OPE)	22	-2237	-671	0	0	0
	16(OPE)	25	-1997	-599	0	0	0
	17(OPE)	24	-1997	-599	0	0	0
	18(OPE)	24	-1997	-599	0	0	0
	19(OCC)	561	-0	467	0	0	0
	20(OCC)	-602	0	440	0	0	0
	21(OCC)	2	240	72	0	0	0
	22(OCC)	-2	-240	-72	0	0	0
	23(OCC)	1	0	0	0	0	0
	24(OCC)	-0	-0	-0	0	0	0
	25(OCC)	-0	-0	-0	0	0	0
	MAX	-602/L20	-3163/L3	-671/L15			
6920		TYPE=Rigid Z w/gap; Rigid +Y; Rigid X w/gap;					
	3(HYD)	-0	-1105	0	0	0	0
	4(OPE)	137	-697	4063	0	0	0
	6(OPE)	-19	-698	7960	0	0	0
	8(OPE)	137	-697	3964	0	0	0
	10(SUS)	-0	-697	0	0	0	0
	11(SUS)	-0	-672	0	0	0	0
	12(OPE)	1044	-697	3461	0	0	0
	13(OPE)	-1039	-697	3440	0	0	0
	14(OPE)	848	-614	3704	0	0	0
	15(OPE)	-313	-781	4428	0	0	0
	16(OPE)	2080	-698	7136	0	0	0
	17(OPE)	136	-697	4063	0	0	0
	18(OPE)	135	-697	4063	0	0	0
	19(OCC)	907	0	-602	0	0	0
	20(OCC)	-1177	-0	-623	0	0	0
	21(OCC)	711	84	-359	0	0	0
	22(OCC)	-450	-84	365	0	0	0
	23(OCC)	1942	-0	3073	0	0	0
	24(OCC)	-2	0	-0	0	0	0
	25(OCC)	-2	0	0	0	0	0
	MAX	2080/L16	-1105/L3	7960/L6			
7010		TYPE=Rigid Z w/gap;					

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
		Rigid +Y;					
	3(HYD)	861	-2880	-76	0	0	0
	4(OPE)	549	-2154	341	0	0	0
	6(OPE)	997	-2229	1187	0	0	0
	8(OPE)	627	-2208	213	0	0	0
	10(SUS)	633	-2113	-34	0	0	0
	11(SUS)	619	-2066	-31	0	0	0
	12(OPE)	674	-2255	-59	0	0	0
	13(OPE)	-479	-2070	614	0	0	0
	14(OPE)	460	-1892	332	0	0	0
	15(OPE)	630	-2413	357	0	0	0
	16(OPE)	528	-2146	974	0	0	0
	17(OPE)	549	-2154	341	0	0	0
	18(OPE)	549	-2154	341	0	0	0
	19(OCC)	125	-101	-400	0	0	0
	20(OCC)	-1028	84	273	0	0	0
	21(OCC)	-89	262	-8	0	0	0
	22(OCC)	80	-259	17	0	0	0
	23(OCC)	-22	8	633	0	0	0
	24(OCC)	0	-0	-0	0	0	0
	25(OCC)	-0	-0	0	0	0	0
	MAX	-1028/L20	-2880/L3	1187/L6			
8000		TYPE=Rigid X w/gap; Rigid Z w/gap; Rigid +Y;					
	3(HYD)	-1	-2919	0	0	0	0
	4(OPE)	1597	-1589	9226	0	0	0
	6(OPE)	1575	-1590	9158	0	0	0
	8(OPE)	922	-1584	-3522	0	0	0
	10(SUS)	-0	-1584	0	0	0	0
	11(SUS)	-0	-1582	0	0	0	0
	12(OPE)	2951	-1587	9904	0	0	0
	13(OPE)	2885	-1592	10004	0	0	0
	14(OPE)	1636	-1398	8979	0	0	0
	15(OPE)	1559	-1779	9531	0	0	0
	16(OPE)	1663	-1589	12279	0	0	0
	17(OPE)	1600	-1588	9220	0	0	0
	18(OPE)	1599	-1588	9210	0	0	0
	19(OCC)	1354	2	678	0	0	0
	20(OCC)	1288	-3	779	0	0	0
	21(OCC)	39	191	-247	0	0	0
	22(OCC)	-38	-191	305	0	0	0
	23(OCC)	66	0	3053	0	0	0
	24(OCC)	3	1	-6	0	0	0
	25(OCC)	2	1	-16	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	MAX	2951/L12	-2919/L3	12279/L16			
8010		TYPE=Rigid +Y;					
	3(HYD)	4	-5342	1	0	0	0
	4(OPE)	319	-2871	-800	0	0	0
	6(OPE)	314	-2865	-800	0	0	0
	8(OPE)	-291	-2900	820	0	0	0
	10(SUS)	2	-2899	0	0	0	0
	11(SUS)	2	-2896	0	0	0	0
	12(OPE)	451	-2882	-738	0	0	0
	13(OPE)	344	-2854	-784	0	0	0
	14(OPE)	290	-2526	-700	0	0	0
	15(OPE)	345	-3216	-901	0	0	0
	16(OPE)	342	-2871	-790	0	0	0
	17(OPE)	321	-2876	-801	0	0	0
	18(OPE)	321	-2879	-802	0	0	0
	19(OCC)	131	-11	62	0	0	0
	20(OCC)	25	17	16	0	0	0
	21(OCC)	-29	345	100	0	0	0
	22(OCC)	26	-345	-101	0	0	0
	23(OCC)	23	-0	10	0	0	0
	24(OCC)	1	-5	-1	0	0	0
	25(OCC)	2	-8	-2	0	0	0
	MAX	451/L12	-5342/L3	-901/L15			
8020		TYPE=Rigid X w/gap; Rigid +Y;					
	3(HYD)	-11	-10821	2	0	0	0
	4(OPE)	-1151	-5902	-2067	0	0	0
	6(OPE)	-1073	-5908	-2044	0	0	0
	8(OPE)	-405	-5872	1714	0	0	0
	10(SUS)	-6	-5873	1	0	0	0
	11(SUS)	-6	-5865	1	0	0	0
	12(OPE)	2045	-5891	-2331	0	0	0
	13(OPE)	-5054	-5918	-3242	0	0	0
	14(OPE)	-1269	-5194	-1896	0	0	0
	15(OPE)	-1031	-6609	-2237	0	0	0
	16(OPE)	-842	-5901	-1974	0	0	0
	17(OPE)	-1164	-5897	-2069	0	0	0
	18(OPE)	-1158	-5894	-2066	0	0	0
	19(OCC)	3196	11	-265	0	0	0
	20(OCC)	-3903	-16	-1176	0	0	0
	21(OCC)	-117	707	171	0	0	0
	22(OCC)	120	-708	-170	0	0	0
	23(OCC)	309	1	93	0	0	0
	24(OCC)	-13	5	-2	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	25(OCC)	-7	8	0	0	0	0
	MAX	-5054/L13	-10821/L3	-3242/L13			
8050		TYPE=Rigid +Y;					
	3(HYD)	66	-8254	-3	0	0	0
	4(OPE)	-1287	-4618	513	0	0	0
	6(OPE)	-1299	-4647	505	0	0	0
	8(OPE)	1322	-4477	-235	0	0	0
	10(SUS)	37	-4480	-2	0	0	0
	11(SUS)	37	-4475	-2	0	0	0
	12(OPE)	-1261	-4565	533	0	0	0
	13(OPE)	-1266	-4699	619	0	0	0
	14(OPE)	-1128	-4068	466	0	0	0
	15(OPE)	-1447	-5168	556	0	0	0
	16(OPE)	-1209	-4616	675	0	0	0
	17(OPE)	-1280	-4594	511	0	0	0
	18(OPE)	-1277	-4581	509	0	0	0
	19(OCC)	26	53	20	0	0	0
	20(OCC)	21	-81	107	0	0	0
	21(OCC)	159	550	-47	0	0	0
	22(OCC)	-160	-551	43	0	0	0
	23(OCC)	78	2	163	0	0	0
	24(OCC)	7	24	-2	0	0	0
	25(OCC)	10	37	-4	0	0	0
	MAX	-1447/L15	-8254/L3	675/L16			
8080		TYPE=Rigid +Y;					
	3(HYD)	-145	-7449	-71	0	0	0
	4(OPE)	-219	-3804	1120	0	0	0
	6(OPE)	-212	-3789	1117	0	0	0
	8(OPE)	-213	-4051	-1196	0	0	0
	10(SUS)	-81	-4037	-40	0	0	0
	11(SUS)	-81	-4032	-40	0	0	0
	12(OPE)	-73	-3860	1156	0	0	0
	13(OPE)	-300	-3714	1073	0	0	0
	14(OPE)	-201	-3348	984	0	0	0
	15(OPE)	-234	-4261	1257	0	0	0
	16(OPE)	-278	-3824	1113	0	0	0
	17(OPE)	-221	-3839	1130	0	0	0
	18(OPE)	-222	-3861	1137	0	0	0
	19(OCC)	146	-56	36	0	0	0
	20(OCC)	-81	90	-47	0	0	0
	21(OCC)	17	456	-136	0	0	0
	22(OCC)	-15	-457	137	0	0	0
	23(OCC)	-59	-20	-7	0	0	0
	24(OCC)	-3	-35	10	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	25(OCC)	-3	-57	17	0	0	0
	MAX	-300/L13	-7449/L3	1257/L15			
8090		TYPE=Rigid X w/gap; Rigid +Y;					
	3(HYD)	304	-6890	-118	0	0	0
	4(OPE)	-9	-3966	1190	0	0	0
	6(OPE)	4	-3855	1157	0	0	0
	8(OPE)	-66	-3767	-1128	0	0	0
	10(SUS)	170	-3765	-67	0	0	0
	11(SUS)	170	-3760	-67	0	0	0
	12(OPE)	1908	-4012	1202	0	0	0
	13(OPE)	-1282	-3915	1173	0	0	0
	14(OPE)	-14	-3435	1030	0	0	0
	15(OPE)	-2	-4491	1347	0	0	0
	16(OPE)	-241	-3872	1160	0	0	0
	17(OPE)	-7	-3928	1178	0	0	0
	18(OPE)	-6	-3889	1167	0	0	0
	19(OCC)	1917	-46	12	0	0	0
	20(OCC)	-1273	51	-17	0	0	0
	21(OCC)	-5	531	-159	0	0	0
	22(OCC)	6	-525	157	0	0	0
	23(OCC)	-232	94	-30	0	0	0
	24(OCC)	2	39	-12	0	0	0
	25(OCC)	2	77	-23	0	0	0
	MAX	1917/L19	-6890/L3	1347/L15			
8100		TYPE=Rigid X w/gap; Rigid +Y;					
	3(HYD)	0	-6810	0	0	0	0
	4(OPE)	-2332	-7554	700	0	0	0
	6(OPE)	-2892	-8411	868	0	0	0
	8(OPE)	0	-2651	0	0	0	0
	10(SUS)	0	-3849	0	0	0	0
	11(SUS)	0	-3845	0	0	0	0
	12(OPE)	0	-7365	0	0	0	0
	13(OPE)	-5437	-8036	1631	0	0	0
	14(OPE)	-2178	-6994	653	0	0	0
	15(OPE)	-2487	-8140	746	0	0	0
	16(OPE)	-2562	-7799	769	0	0	0
	17(OPE)	-1971	-7472	591	0	0	0
	18(OPE)	-1700	-7440	510	0	0	0
	19(OCC)	2332	188	-700	0	0	0
	20(OCC)	-3105	-483	931	0	0	0
	21(OCC)	155	560	-46	0	0	0
	22(OCC)	-154	-586	46	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	23(OCC)	-230	-245	69	0	0	0
	24(OCC)	361	81	-108	0	0	0
	25(OCC)	632	114	-190	0	0	0
	MAX	-5437/L13	-8411/L6	1631/L13			
8120		TYPE=Rigid +Y;					
	3(HYD)	295	-7714	-119	0	0	0
	4(OPE)	-349	-6881	2035	0	0	0
	6(OPE)	-543	-7861	2295	0	0	0
	8(OPE)	737	-4106	-987	0	0	0
	10(SUS)	154	-4274	-73	0	0	0
	11(SUS)	154	-4268	-73	0	0	0
	12(OPE)	-160	-6565	1963	0	0	0
	13(OPE)	-563	-7555	2195	0	0	0
	14(OPE)	-324	-6379	1886	0	0	0
	15(OPE)	-369	-7400	2189	0	0	0
	16(OPE)	-274	-6800	2021	0	0	0
	17(OPE)	-360	-6844	2021	0	0	0
	18(OPE)	-361	-6861	2026	0	0	0
	19(OCC)	188	316	-72	0	0	0
	20(OCC)	-214	-673	161	0	0	0
	21(OCC)	25	502	-149	0	0	0
	22(OCC)	-20	-519	154	0	0	0
	23(OCC)	75	81	-13	0	0	0
	24(OCC)	-12	37	-13	0	0	0
	25(OCC)	-13	20	-8	0	0	0
	MAX	737/L8	-7861/L6	2295/L6			
8130		TYPE=Rigid X w/gap; Rigid Z w/gap; Rigid +Y;					
	3(HYD)	-66	-2556	-71	0	0	0
	4(OPE)	-54	-1294	-16808	0	0	0
	6(OPE)	-200	-1176	-15932	0	0	0
	8(OPE)	-1599	-1374	5603	0	0	0
	10(SUS)	-36	-1381	-44	0	0	0
	11(SUS)	-36	-1379	-44	0	0	0
	12(OPE)	668	-1333	-16675	0	0	0
	13(OPE)	-812	-1222	-17007	0	0	0
	14(OPE)	-53	-1121	-16005	0	0	0
	15(OPE)	-44	-1463	-17512	0	0	0
	16(OPE)	27	-1265	-9906	0	0	0
	17(OPE)	-69	-1297	-16299	0	0	0
	18(OPE)	-62	-1294	-16348	0	0	0
	19(OCC)	722	-39	132	0	0	0

CAESAR II 2018 Ver.10.00.00.7700, (Build 170726) Date: FEB 21, 2024 Time: 14:2

Job:: BNK-GCS-CN-006-D02

Licensed To:: SPLM: Edit company name in <system>\company.txt

RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	20(OCC)	-758	71	-199	0	0	0
	21(OCC)	1	173	803	0	0	0
	22(OCC)	10	-169	-704	0	0	0
	23(OCC)	81	28	6901	0	0	0
	24(OCC)	-15	-3	509	0	0	0
	25(OCC)	-8	-0	459	0	0	0
	MAX	-1599/L8	-2556/L3	-17512/L15			

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS 2
Stress Summary : Multiple 3

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

1 (HGR) CASE NOT ACTIVE
2 (HGR) CASE NOT ACTIVE
3 (HYD) WW+HP+H
4 (OPE) W+T1+P1+H
5 (Alt-SUS) W+P1+H
6 (OPE) W+T2+P1+H
7 (Alt-SUS) W+P1+H
8 (OPE) W+T3+P1+H
9 (Alt-SUS) W+P1+H
10 (SUS) W+P1+H
11 (SUS) WNC
12 (OPE) W+T1+P1+H+U1
13 (OPE) W+T1+P1+H-U1
14 (OPE) W+T1+P1+H+U2
15 (OPE) W+T1+P1+H-U2
16 (OPE) W+T1+P1+H+U3
17 (OPE) W+T1+P1+H+F1
18 (OPE) W+T1+P1+H+F2
19 (OCC) L19=L12-L4
20 (OCC) L20=L13-L4
21 (OCC) L21=L14-L4
22 (OCC) L22=L15-L4
23 (OCC) L23=L16-L4
24 (OCC) L24=L17-L4
25 (OCC) L25=L18-L4
26 (OCC) L26=L19+L10
27 (OCC) L27=L20+L10
28 (OCC) L28=L21+L10
29 (OCC) L29=L22+L10
30 (OCC) L30=L23+L10
31 (OCC) L31=L24+L10
32 (OCC) L32=L25+L10
33 (EXP) L33=L4-L10
34 (EXP) L34=L6-L10
35 (EXP) L35=L4-L6
36 (EXP) L36=L8-L10
37 (EXP) L37=L4-L8
38 (EXP) L38=L6-L8

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement Various Load Cases

LOAD CASE DEFINITION KEY

CASE 3 (HYD) WW+HP+H
CASE 5 (Alt-SUS) W+P1+H
CASE 7 (Alt-SUS) W+P1+H
CASE 9 (Alt-SUS) W+P1+H
CASE 10 (SUS) W+P1+H
CASE 11 (SUS) WNC
CASE 26 (OCC) L26=L19+L10
CASE 27 (OCC) L27=L20+L10
CASE 28 (OCC) L28=L21+L10
CASE 29 (OCC) L29=L22+L10
CASE 30 (OCC) L30=L23+L10
CASE 31 (OCC) L31=L24+L10
CASE 32 (OCC) L32=L25+L10
CASE 33 (EXP) L33=L4-L10
CASE 34 (EXP) L34=L6-L10
CASE 35 (EXP) L35=L4-L6
CASE 36 (EXP) L36=L8-L10
CASE 37 (EXP) L37=L4-L8
CASE 38 (EXP) L38=L6-L8

Piping Code: B31.3 = B31.3 -2016, Jan 31, 2017

CODE STRESS CHECK PASSED : LOADCASE 3 (HYD) WW+HP+H

Highest Stresses: (KPa)	LOADCASE 3 (HYD) WW+HP+H	
Ratio (%):	53.1	@Node 7000
Code Stress:	91614.1	Allowable Stress: 172368.9
Axial Stress:	48432.0	@Node 1920
Bending Stress:	121598.7	@Node 7000
Torsion Stress:	5243.2	@Node 6794
Hoop Stress:	100724.6	@Node 1939
Max Stress Intensity:	122013.8	@Node 7000

CODE STRESS CHECK PASSED : LOADCASE 5 (Alt-SUS) W+P1+H

Highest Stresses: (KPa)	LOADCASE 5 (Alt-SUS) W+P1+H	
Ratio (%):	74.1	@Node 6440
Code Stress:	102138.7	Allowable Stress: 137895.1
Axial Stress:	32158.0	@Node 4650
Bending Stress:	136184.9	@Node 6440
Torsion Stress:	11443.0	@Node 6120
Hoop Stress:	67149.7	@Node 4100
Max Stress Intensity:	136184.9	@Node 6440

CODE STRESS CHECK PASSED : LOADCASE 7 (Alt-SUS) W+P1+H

Highest Stresses: (KPa)	LOADCASE 7 (Alt-SUS) W+P1+H	
Ratio (%):	74.2	@Node 6440

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
Various Load Cases

Code Stress:	102340.5	Allowable Stress:	137895.1
Axial Stress:	32183.5	@Node	4650
Bending Stress:	136454.1	@Node	6440
Torsion Stress:	11515.1	@Node	6120
Hoop Stress:	67149.7	@Node	4100
Max Stress Intensity:	136454.1	@Node	6440

CODE STRESS CHECK PASSED : LOADCASE 9 (Alt-SUS) W+P1+H

Highest Stresses: (KPa)	LOADCASE 9 (Alt-SUS) W+P1+H	
Ratio (%):	58.6	@Node 7000
Code Stress:	67495.0	Allowable Stress: 115142.4
Axial Stress:	32129.5	@Node 4650
Bending Stress:	89972.7	@Node 7000
Torsion Stress:	5470.6	@Node 8159
Hoop Stress:	67149.7	@Node 4100
Max Stress Intensity:	89988.2	@Node 7000

CODE STRESS CHECK PASSED : LOADCASE 10 (SUS) W+P1+H

Highest Stresses: (KPa)	LOADCASE 10 (SUS) W+P1+H	
Ratio (%):	58.5	@Node 7000
Code Stress:	67319.0	Allowable Stress: 115142.4
Axial Stress:	32207.6	@Node 4650
Bending Stress:	89359.5	@Node 7000
Torsion Stress:	5452.3	@Node 8159
Hoop Stress:	67149.7	@Node 4100
Max Stress Intensity:	89658.8	@Node 7000

CODE STRESS CHECK PASSED : LOADCASE 11 (SUS) WNC

Highest Stresses: (KPa)	LOADCASE 11 (SUS) WNC	
Ratio (%):	57.2	@Node 7000
Code Stress:	65807.4	Allowable Stress: 115142.4
Axial Stress:	2391.6	@Node 6490
Bending Stress:	87352.2	@Node 7000
Torsion Stress:	5435.3	@Node 8159
Hoop Stress:	0.0	@Node 40
Max Stress Intensity:	87645.5	@Node 7000

CODE STRESS CHECK PASSED : LOADCASE 26 (OCC) L26=L19+L10

Highest Stresses: (KPa)	LOADCASE 26 (OCC) L26=L19+L10	
Ratio (%):	52.6	@Node 7000
Code Stress:	80502.1	Allowable Stress: 153139.4
Axial Stress:	32784.1	@Node 2000
Bending Stress:	106837.9	@Node 7000
Torsion Stress:	7440.3	@Node 5130
Hoop Stress:	67149.7	@Node 4100
Max Stress Intensity:	109448.7	@Node 4100

CODE STRESS CHECK PASSED : LOADCASE 27 (OCC) L27=L20+L10

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
Various Load Cases

Highest Stresses: (KPa) LOADCASE 27 (OCC) L27=L20+L10
Ratio (%): 49.8 @Node 7000
Code Stress: 76318.0 Allowable Stress: 153139.4
Axial Stress: 32408.0 @Node 4560
Bending Stress: 100733.7 @Node 7000
Torsion Stress: 7274.0 @Node 4350
Hoop Stress: 67149.7 @Node 4100
Max Stress Intensity: 101501.4 @Node 7000

CODE STRESS CHECK PASSED : LOADCASE 28 (OCC) L28=L21+L10

Highest Stresses: (KPa) LOADCASE 28 (OCC) L28=L21+L10
Ratio (%): 49.4 @Node 7000
Code Stress: 75723.7 Allowable Stress: 153139.4
Axial Stress: 32321.4 @Node 4650
Bending Stress: 100494.5 @Node 7000
Torsion Stress: 4796.6 @Node 8159
Hoop Stress: 67149.7 @Node 4100
Max Stress Intensity: 100847.3 @Node 7000

CODE STRESS CHECK PASSED : LOADCASE 29 (OCC) L29=L22+L10

Highest Stresses: (KPa) LOADCASE 29 (OCC) L29=L22+L10
Ratio (%): 49.3 @Node 7000
Code Stress: 75566.4 Allowable Stress: 153139.4
Axial Stress: 32143.5 @Node 4440
Bending Stress: 100320.3 @Node 7000
Torsion Stress: 6127.5 @Node 8159
Hoop Stress: 67149.7 @Node 4100
Max Stress Intensity: 100646.5 @Node 7000

CODE STRESS CHECK PASSED : LOADCASE 30 (OCC) L30=L23+L10

Highest Stresses: (KPa) LOADCASE 30 (OCC) L30=L23+L10
Ratio (%): 58.9 @Node 7000
Code Stress: 90229.3 Allowable Stress: 153139.4
Axial Stress: 32812.6 @Node 4710
Bending Stress: 120984.7 @Node 3965
Torsion Stress: 9551.8 @Node 5160
Hoop Stress: 67149.7 @Node 4100
Max Stress Intensity: 129289.5 @Node 3965

CODE STRESS CHECK PASSED : LOADCASE 31 (OCC) L31=L24+L10

Highest Stresses: (KPa) LOADCASE 31 (OCC) L31=L24+L10
Ratio (%): 44.0 @Node 7000
Code Stress: 67324.2 Allowable Stress: 153139.4
Axial Stress: 32208.8 @Node 4650
Bending Stress: 89366.3 @Node 7000
Torsion Stress: 5444.3 @Node 8159
Hoop Stress: 67149.7 @Node 4100

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
 Various Load Cases

Max Stress Intensity: 89665.8 @Node 7000

CODE STRESS CHECK PASSED : LOADCASE 32 (OCC) L32=L25+L10

Highest Stresses: (KPa) LOADCASE 32 (OCC) L32=L25+L10
 Ratio (%): 44.0 @Node 7000
 Code Stress: 67323.6 Allowable Stress: 153139.4
 Axial Stress: 32210.0 @Node 4650
 Bending Stress: 89365.4 @Node 7000
 Torsion Stress: 5443.0 @Node 8159
 Hoop Stress: 67149.7 @Node 4100
 Max Stress Intensity: 89665.0 @Node 7000

CODE STRESS CHECK PASSED : LOADCASE 33 (EXP) L33=L4-L10

Highest Stresses: (KPa) LOADCASE 33 (EXP) L33=L4-L10
 Ratio (%): 55.4 @Node 3965
 Code Stress: 165228.7 Allowable Stress: 298088.8
 Axial Stress: 19935.0 @Node 8140
 Bending Stress: 162935.7 @Node 3965
 Torsion Stress: 12702.9 @Node 5170
 Hoop Stress: 0.0 @Node 40
 Max Stress Intensity: 466354.0 @Node 3965

CODE STRESS CHECK PASSED : LOADCASE 34 (EXP) L34=L6-L10

Highest Stresses: (KPa) LOADCASE 34 (EXP) L34=L6-L10
 Ratio (%): 66.1 @Node 6798
 Code Stress: 166112.3 Allowable Stress: 251338.7
 Axial Stress: 85973.1 @Node 8140
 Bending Stress: 164777.6 @Node 6798
 Torsion Stress: 21158.8 @Node 6820
 Hoop Stress: 0.0 @Node 40
 Max Stress Intensity: 442379.9 @Node 3965

CODE STRESS CHECK PASSED : LOADCASE 35 (EXP) L35=L4-L6

Highest Stresses: (KPa) LOADCASE 35 (EXP) L35=L4-L6
 Ratio (%): 51.3 @Node 6798
 Code Stress: 128812.2 Allowable Stress: 251338.7
 Axial Stress: 66078.6 @Node 8140
 Bending Stress: 127795.9 @Node 6798
 Torsion Stress: 15659.6 @Node 6820
 Hoop Stress: 0.0 @Node 40
 Max Stress Intensity: 128812.2 @Node 6798

CODE STRESS CHECK PASSED : LOADCASE 36 (EXP) L36=L8-L10

Highest Stresses: (KPa) LOADCASE 36 (EXP) L36=L8-L10
 Ratio (%): 30.7 @Node 6420
 Code Stress: 83331.7 Allowable Stress: 271680.3
 Axial Stress: 19991.4 @Node 8140

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
 Various Load Cases

Bending Stress:	83196.3	@Node	6420
Torsion Stress:	10619.0	@Node	1580
Hoop Stress:	0.0	@Node	40
Max Stress Intensity:	105655.6	@Node	1538

CODE STRESS CHECK PASSED : LOADCASE 37 (EXP) L37=L4-L8

Highest Stresses: (KPa)	LOADCASE 37 (EXP) L37=L4-L8		
Ratio (%):	60.0	@Node	3965
Code Stress:	178764.3	Allowable Stress:	298088.8
Axial Stress:	4668.3	@Node	5740
Bending Stress:	176681.2	@Node	3965
Torsion Stress:	14375.0	@Node	6120
Hoop Stress:	0.0	@Node	40
Max Stress Intensity:	505065.3	@Node	3965

CODE STRESS CHECK PASSED : LOADCASE 38 (EXP) L38=L6-L8

Highest Stresses: (KPa)	LOADCASE 38 (EXP) L38=L6-L8		
Ratio (%):	57.4	@Node	6120
Code Stress:	147423.6	Allowable Stress:	256950.6
Axial Stress:	65981.7	@Node	8140
Bending Stress:	166954.5	@Node	3965
Torsion Stress:	20280.5	@Node	5080
Hoop Stress:	0.0	@Node	40
Max Stress Intensity:	478992.1	@Node	3965

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS 2
Nozzle Check : Multiple 3

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Job:: BNK-GCS-CN-006-D02
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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

1 (HGR) CASE NOT ACTIVE
2 (HGR) CASE NOT ACTIVE
3 (HYD) WW+HP+H
4 (OPE) W+T1+P1+H
5 (Alt-SUS) W+P1+H
6 (OPE) W+T2+P1+H
7 (Alt-SUS) W+P1+H
8 (OPE) W+T3+P1+H
9 (Alt-SUS) W+P1+H
10 (SUS) W+P1+H
11 (SUS) WNC
12 (OPE) W+T1+P1+H+U1
13 (OPE) W+T1+P1+H-U1
14 (OPE) W+T1+P1+H+U2
15 (OPE) W+T1+P1+H-U2
16 (OPE) W+T1+P1+H+U3
17 (OPE) W+T1+P1+H+F1
18 (OPE) W+T1+P1+H+F2
19 (OCC) L19=L12-L4
20 (OCC) L20=L13-L4
21 (OCC) L21=L14-L4
22 (OCC) L22=L15-L4
23 (OCC) L23=L16-L4
24 (OCC) L24=L17-L4
25 (OCC) L25=L18-L4
26 (OCC) L26=L19+L10
27 (OCC) L27=L20+L10
28 (OCC) L28=L21+L10
29 (OCC) L29=L22+L10
30 (OCC) L30=L23+L10
31 (OCC) L31=L24+L10
32 (OCC) L32=L25+L10
33 (EXP) L33=L4-L10
34 (EXP) L34=L6-L10
35 (EXP) L35=L4-L6
36 (EXP) L36=L8-L10
37 (EXP) L37=L4-L8
38 (EXP) L38=L6-L8

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Job:: BNK-GCS-CN-006-D02

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NOZZLE CHECK REPORT: Nozzle Loads Screening

Various Load Cases

LOAD CASE DEFINITION KEY

CASE 4 (OPE) W+T1+P1+H

CASE 6 (OPE) W+T2+P1+H

CASE 8 (OPE) W+T3+P1+H

CASE 10 (SUS) W+P1+H

CASE 11 (SUS) WNC

Node		fa N.	fb N.	fc N.	Forces Check	ma N.m.	mb N.m.	mc N.m.	Moments Check	
20		Absolute Method								
	Limits	2160	2160	2160		1155	1155	1155		
	4(OPE)	-244	772	-188	0.358	240	344	886	0.767	
	6(OPE)	-627	2683	-179	1.242	243	372	2545	2.203	*
	8(OPE)	-245	746	-192	0.345	249	345	860	0.744	
	10(SUS)	127	-565	-16	0.261	6	16	-234	0.203	
	11(SUS)	-183	-1530	-11	0.708	7	8	-1309	1.133	*
780		Absolute Method								
	Limits	9600	9600	7200		5760	3840	4990		
	4(OPE)	3222	-120	471	0.336	530	-476	-1204	0.241	
	6(OPE)	3021	-286	617	0.315	926	-360	-992	0.199	
	8(OPE)	3252	-61	261	0.339	288	-210	-1167	0.234	
	10(SUS)	2883	-15	3	0.300	-45	-710	-882	0.185	
	11(SUS)	2871	-15	4	0.299	-45	-700	-880	0.182	
1240		Absolute Method								
	Limits	2160	2160	2160		1155	1155	1155		
	4(OPE)	1280	-475	286	0.592	106	-834	340	0.722	
	6(OPE)	1481	-490	144	0.686	97	-1100	327	0.952	
	8(OPE)	1263	-458	121	0.585	113	-878	342	0.760	

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NOZZLE CHECK REPORT: Nozzle Loads Screening

Various Load Cases

Node		fa N.	fb N.	fc N.	Forces Check	ma N.m.	mb N.m.	mc N.m.	Moments Check	
	10(SUS)	-1	-633	-3	0.293	25	-0	256	0.221	
	11(SUS)	-1	-627	-3	0.290	25	-0	253	0.219	
1700		Absolute Method								
	Limits	15091	15091	12001		9150	4890	6420		
	4(OPE)	26	916	-442	0.061	-2970	1894	-72	0.387	
	6(OPE)	46	773	-806	0.067	-4415	2179	-146	0.482	
	8(OPE)	15	917	-437	0.061	-2957	1903	-76	0.389	
	10(SUS)	1762	126	-51	0.117	145	-509	-109	0.104	
	11(SUS)	1754	125	-51	0.116	144	-507	-109	0.104	
1780		Absolute Method								
	Limits	16201	15091	12001		9150	4890	6420		
	4(OPE)	823	-222	2140	0.178	-1078	-1382	-128	0.283	
	6(OPE)	600	1347	4768	0.397	-688	-3118	999	0.638	
	8(OPE)	680	77	3179	0.265	-1578	-2036	119	0.416	
	10(SUS)	1099	-12	-155	0.068	70	11	223	0.035	
	11(SUS)	1088	-12	-154	0.067	69	11	221	0.034	
4260		Absolute Method								
	Limits	8400	8400	6300		3780	2520	3280		
	4(OPE)	2009	-2535	-199	0.302	508	-130	2949	0.899	
	6(OPE)	12417	-3546	-1160	1.478	736	-3658	5695	1.736	*
	8(OPE)	2023	-2535	-226	0.302	486	-245	2948	0.899	
	10(SUS)	181	-1622	4	0.193	370	72	996	0.304	
		181	-1619	4	0.193	370	72	993	0.303	

BNK-GCS-CN-••7

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Line no.

Stress sketch

Input echo

Restraint summary

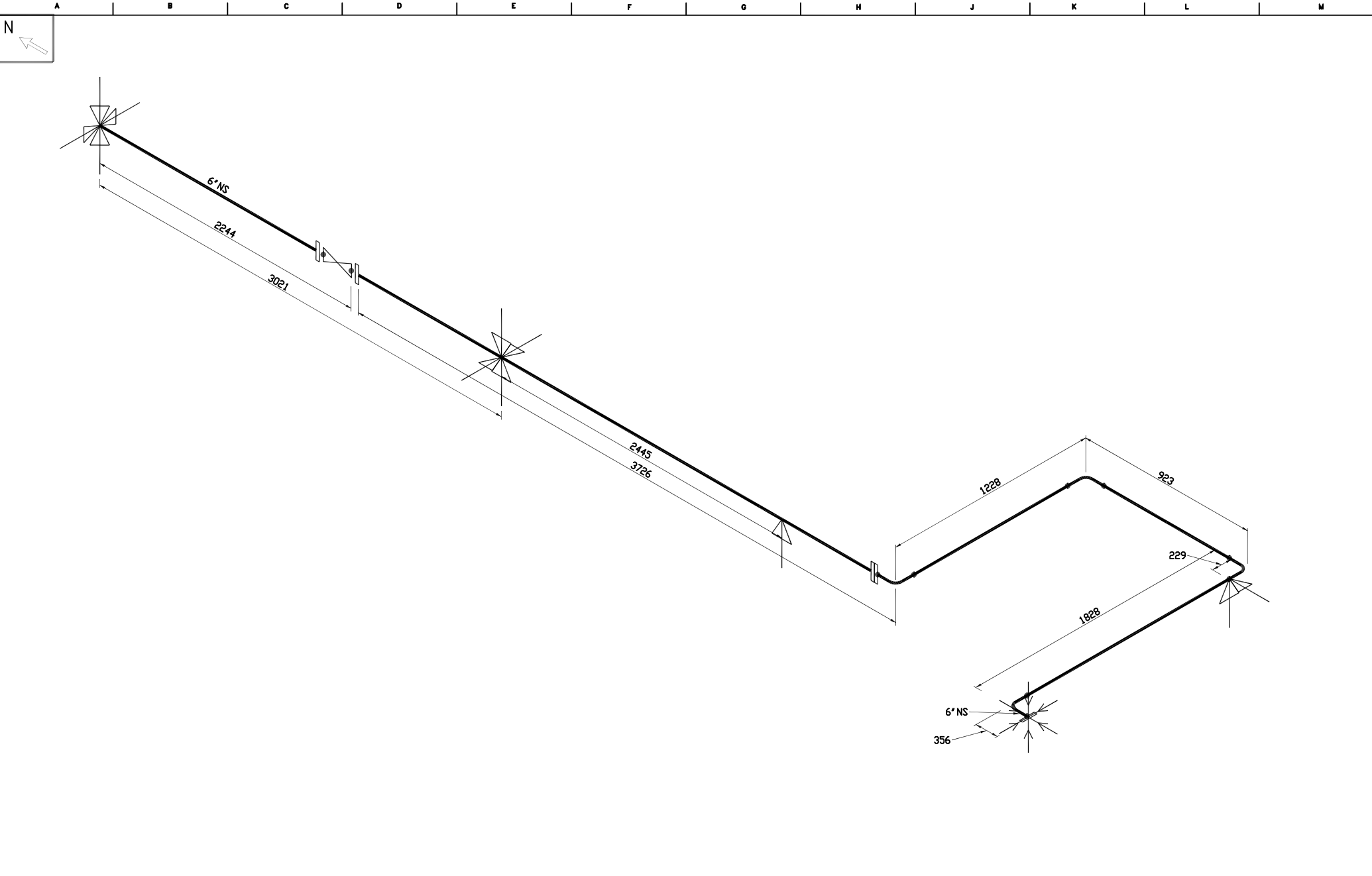
Stress summary

Nozzle load Table

BNK-GCS-CN-007

LINE Nos.

1. GAS-111-0058B-FS00-6"-IS
2. GAS-111-0051B-FN05-6"-IS
3. GAS-111-0055B-FS00-6"-IS
4. GAS-111-0045B-FS00-6"-NP
5. GAS-111-0046B-CN07-6"-PT
6. GAS-111-0026B-AN07-8"-PT
7. GAS-111-0026B-CN07-8"-PT
8. GAS-111-0057B-FS00-4"-IS
9. FL-112-0024B-AN07-4"-PT
10. GAS-111-0044B-CN05-6"-ET
11. GAS-111-0160B-CN05-2"-PT
12. FL-112-0119B-AN07-3"-PT
13. GAS-111-0047B-FN05-2"-PT
14. GAS-111-0048B-FN05-2"-PT
15. FL-112-0021B-AN07-2"-PT
16. FL-112-0020B-AN07-6"-PT
17. FL-112-0022B-AN07-6"-PT



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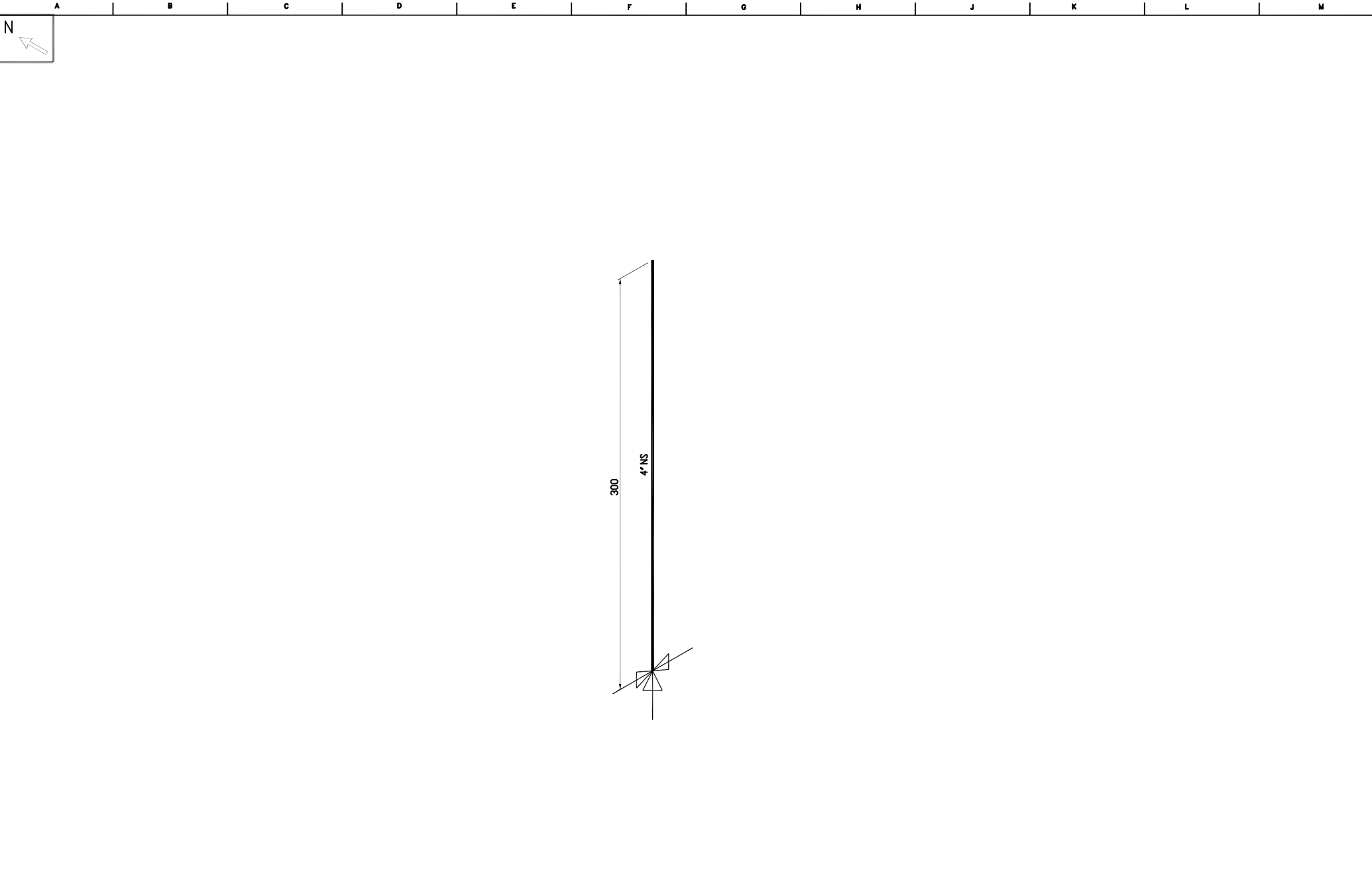
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INSULATION SPEC.		PROJECT NO.	
INSULATION THKS.		SYSTEM	
PAINTING SPEC.		AREA	
MATERIAL		DRAWN BY	
OP. PRESSURE		E.I.DIAGRAM	



PIPELINE REFERENCE

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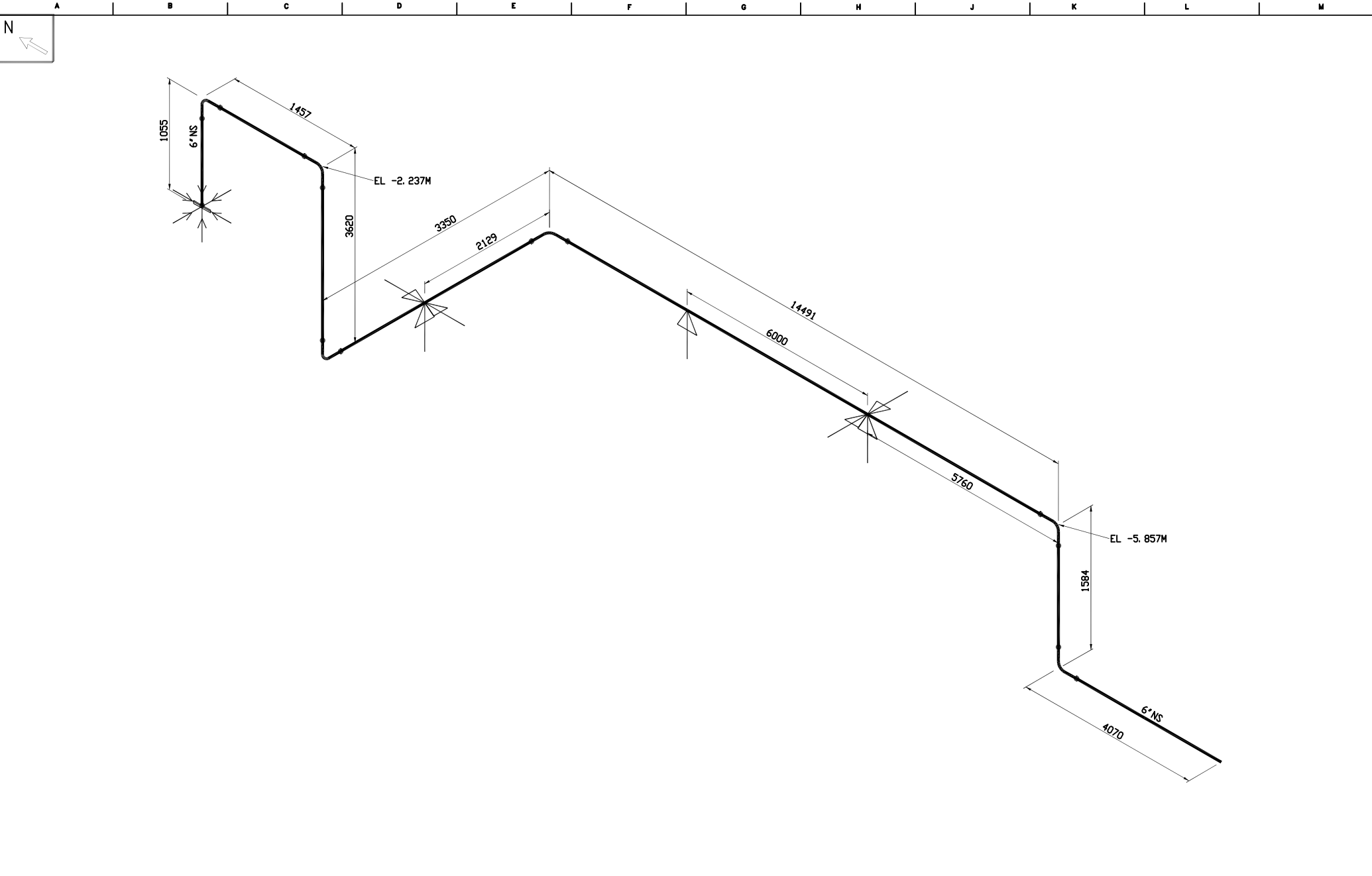
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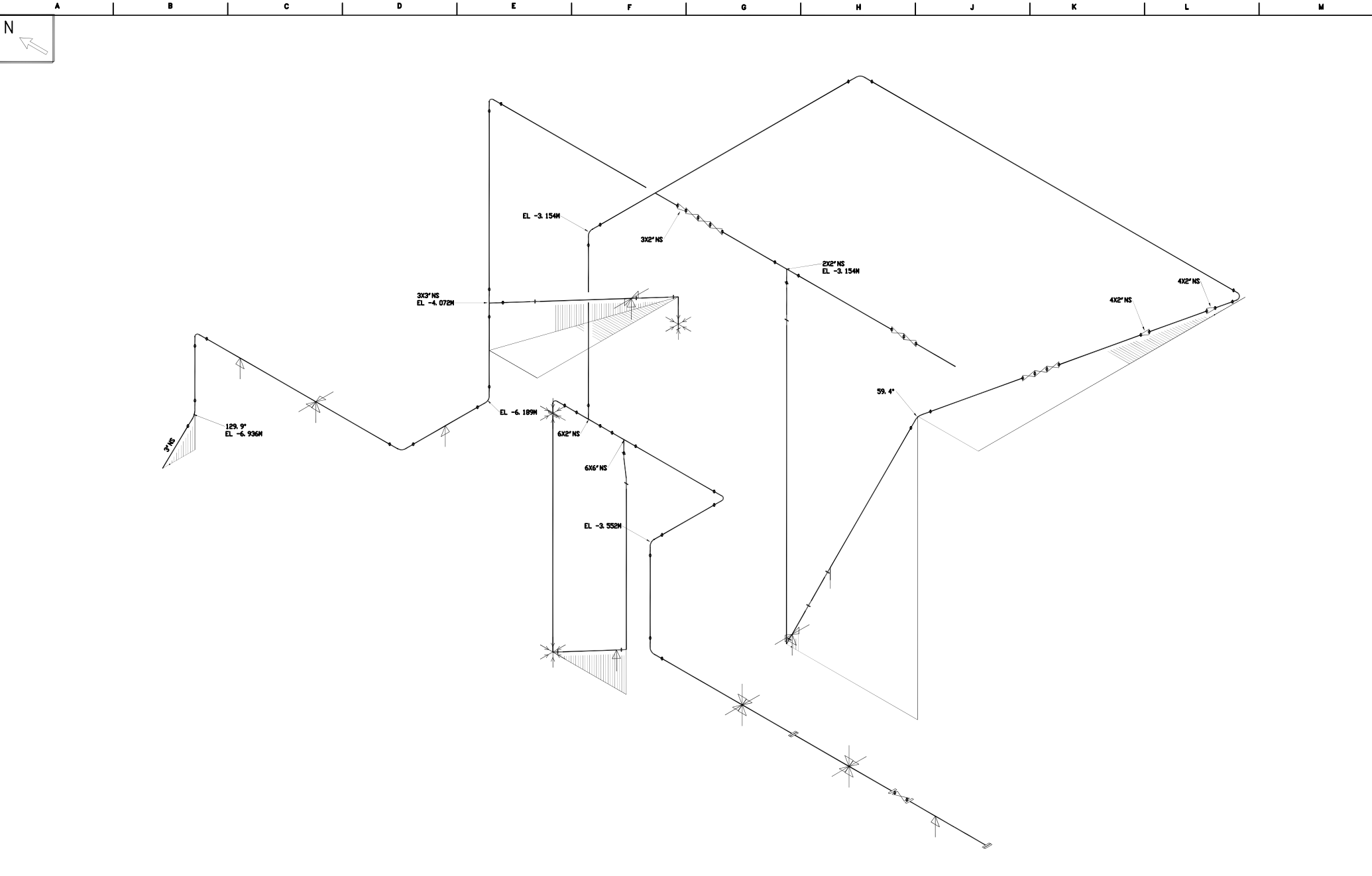
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INSULATION SPEC.		PROJECT NO.	
INSULATION THKS.		SYSTEM	
PAINTING SPEC.		AREA	
MATERIAL		DRAWN BY	
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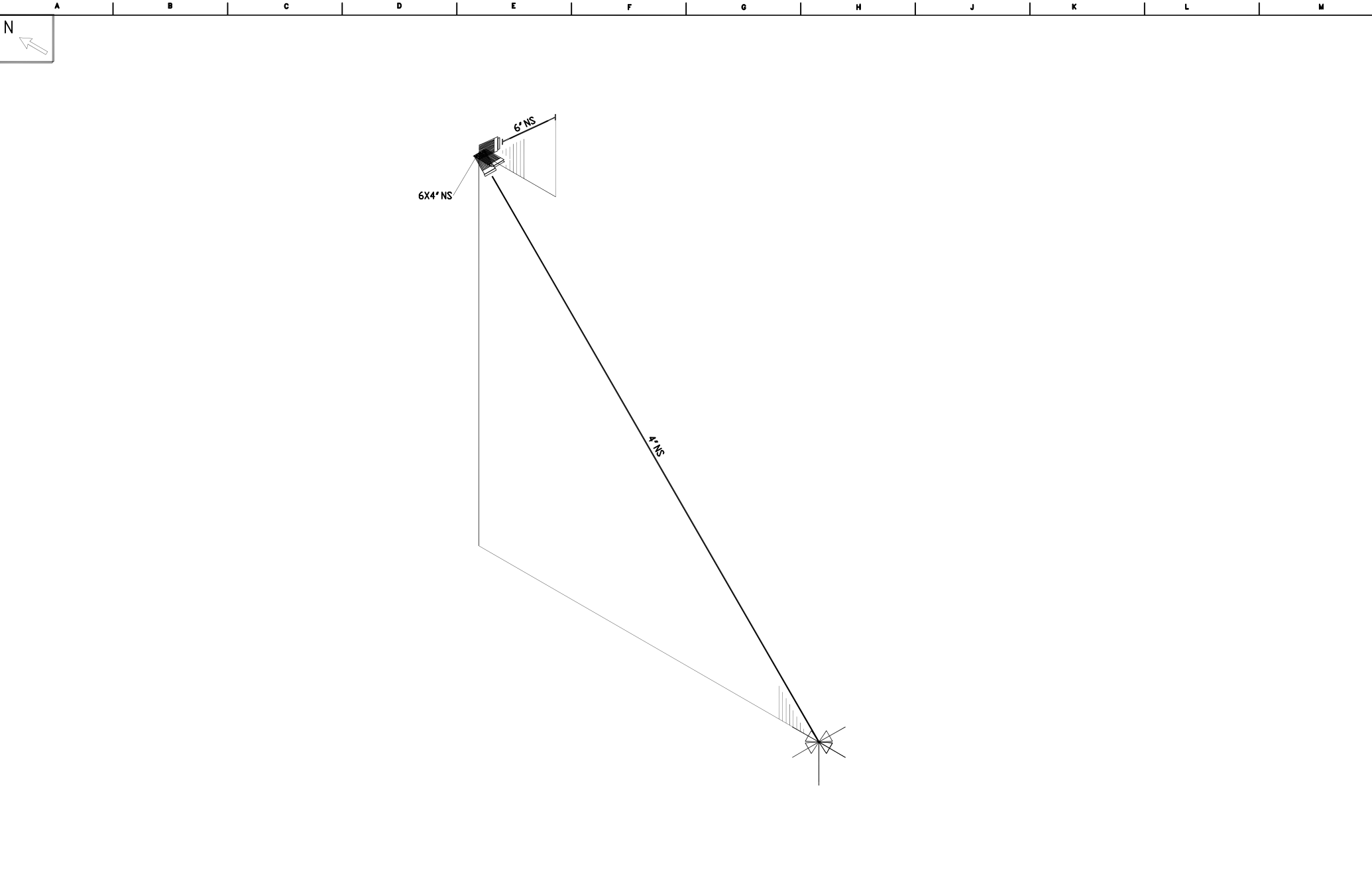
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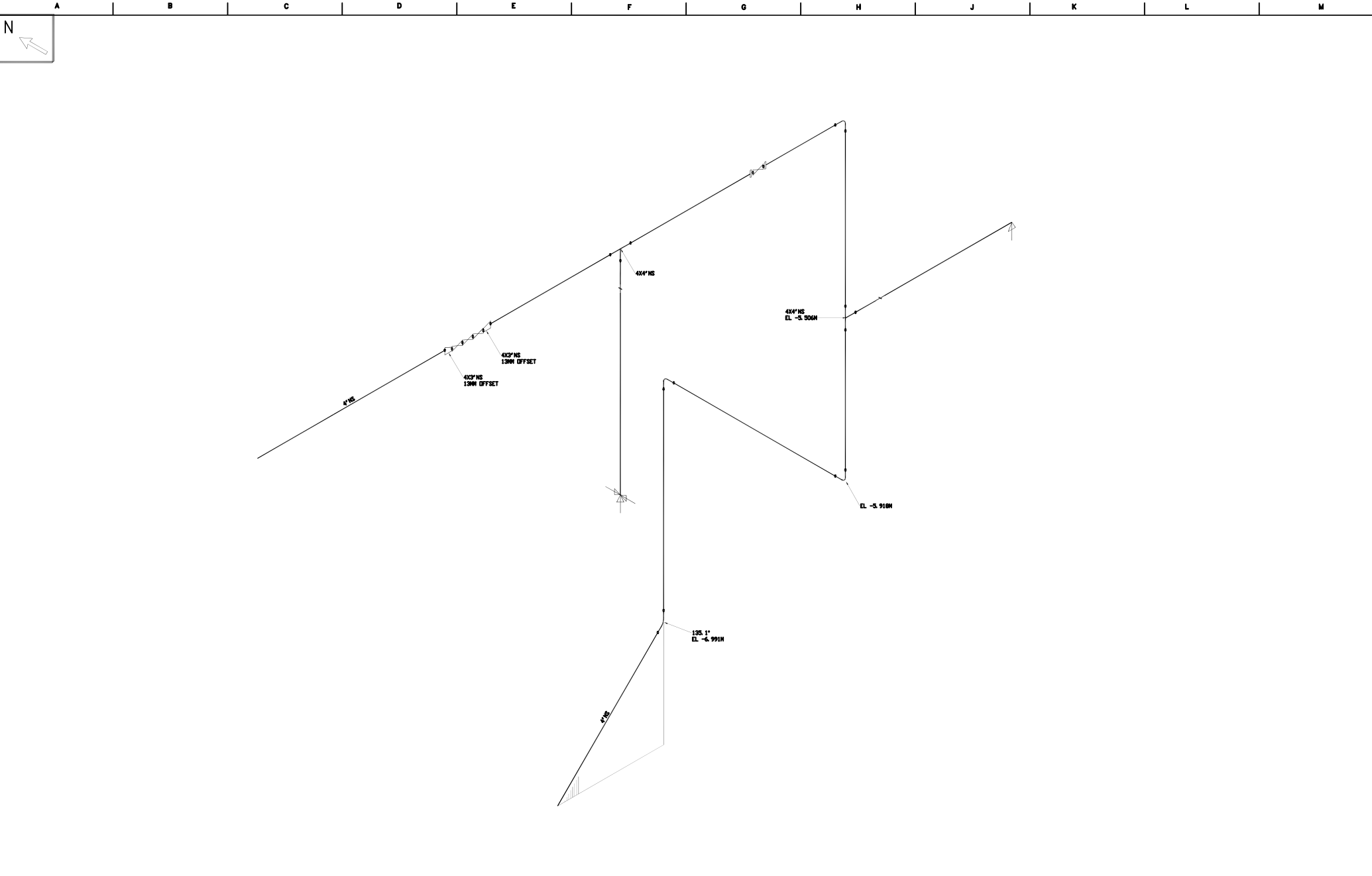
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PAINTING SPEC.		AREA	
MATERIAL		DRAWN BY	
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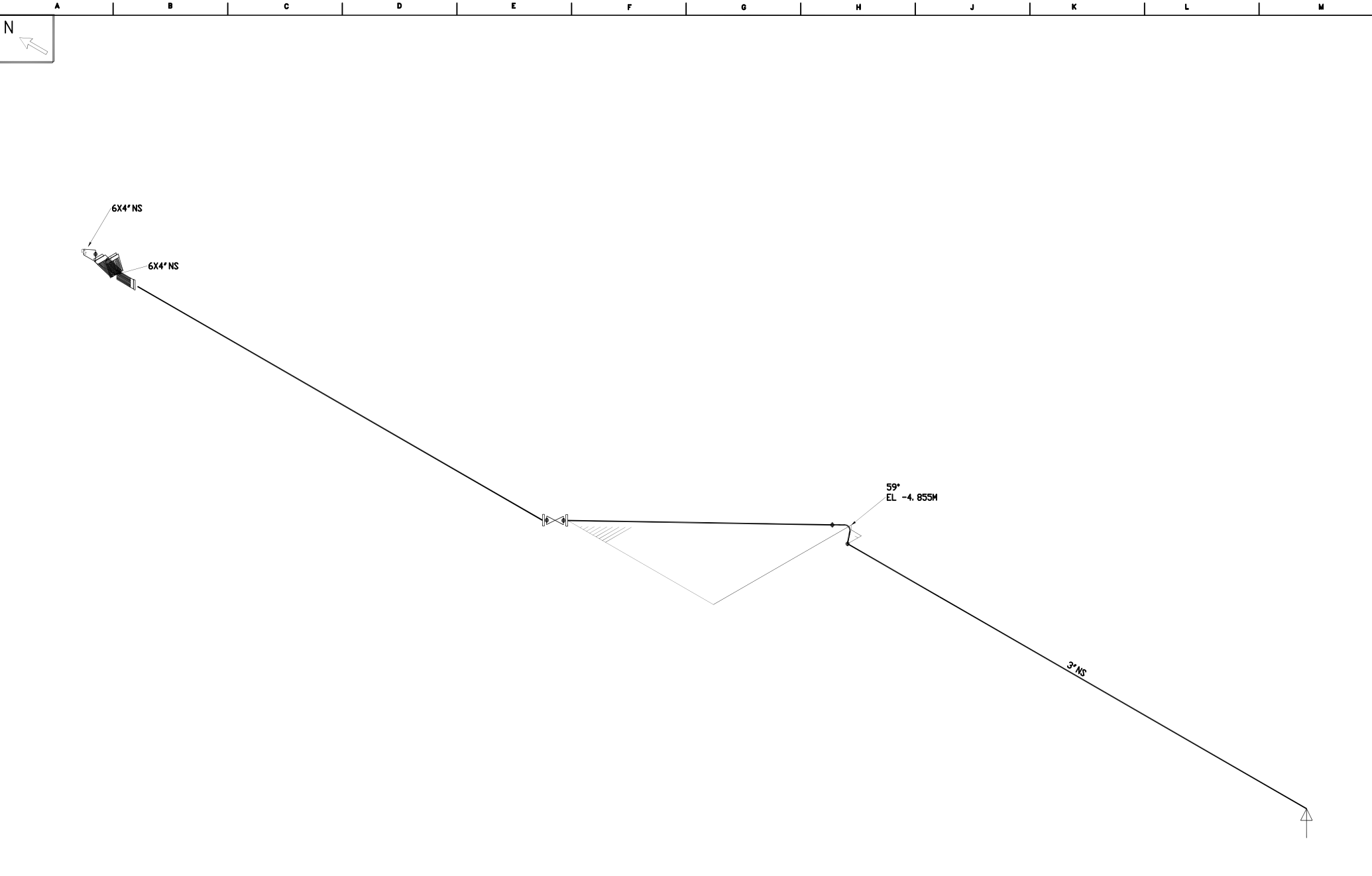
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INSULATION THKS.		SYSTEM	
PAINTING SPEC.		AREA	
MATERIAL		DRAWN BY	
OP. PRESSURE		E.I.DIAGRAM	

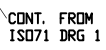


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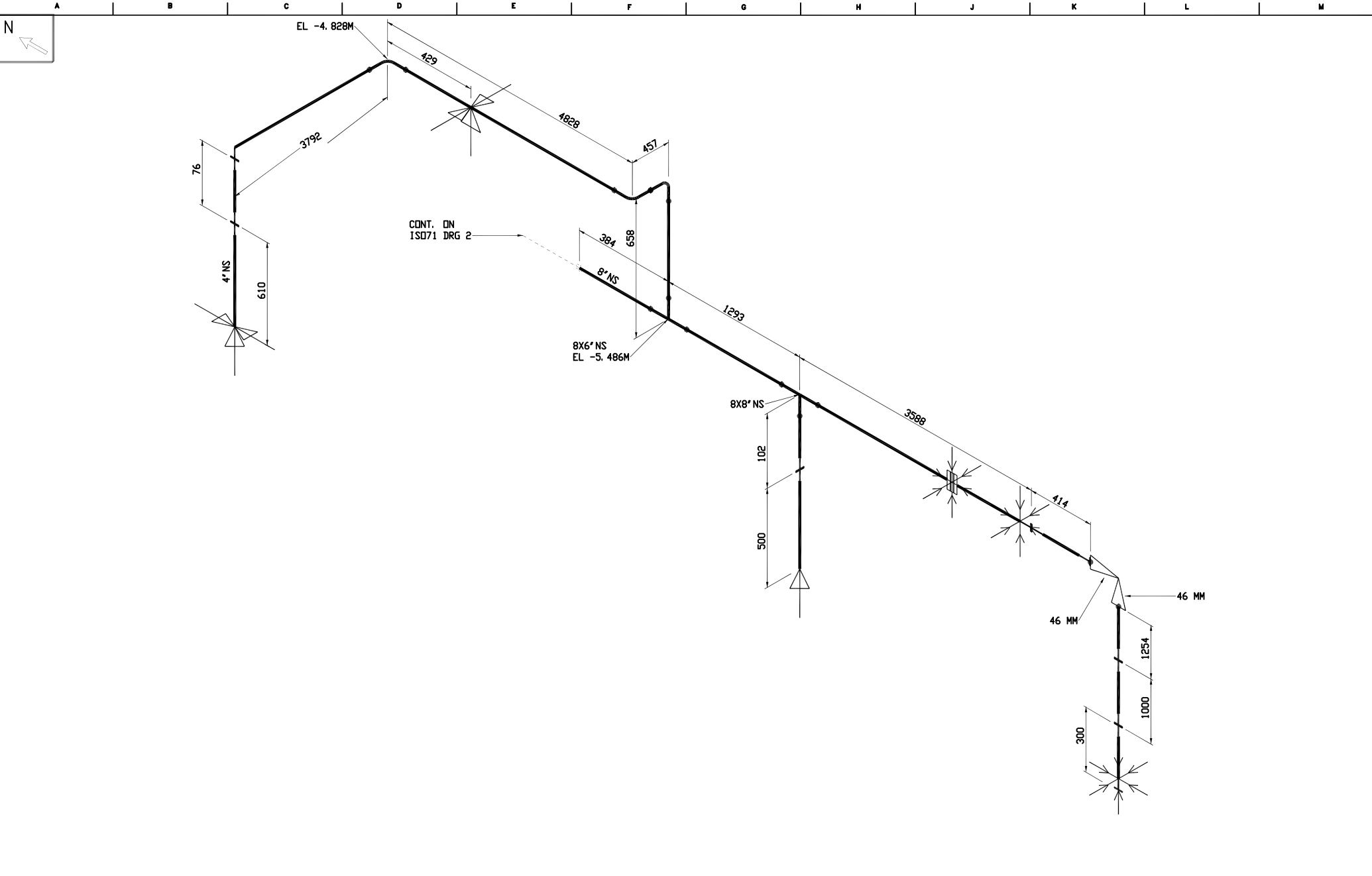
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		28 FEB 2024	THIS DRAWING IS THE PROPERTY OF INTERGRAPH LTD AND MUST NOT BE COPIED OR LENT WITHOUT THE CONSENT OF THE COMPANY	MATERIAL		DRAWN BY		PIPELINE REFERENCE	1 OF 2
REV.	CHANGE	DATE		OP. PRESSURE		E.I.DIAGRAM			



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INSULATION SPEC.		PROJECT NO.	
INSULATION THKS.		SYSTEM	
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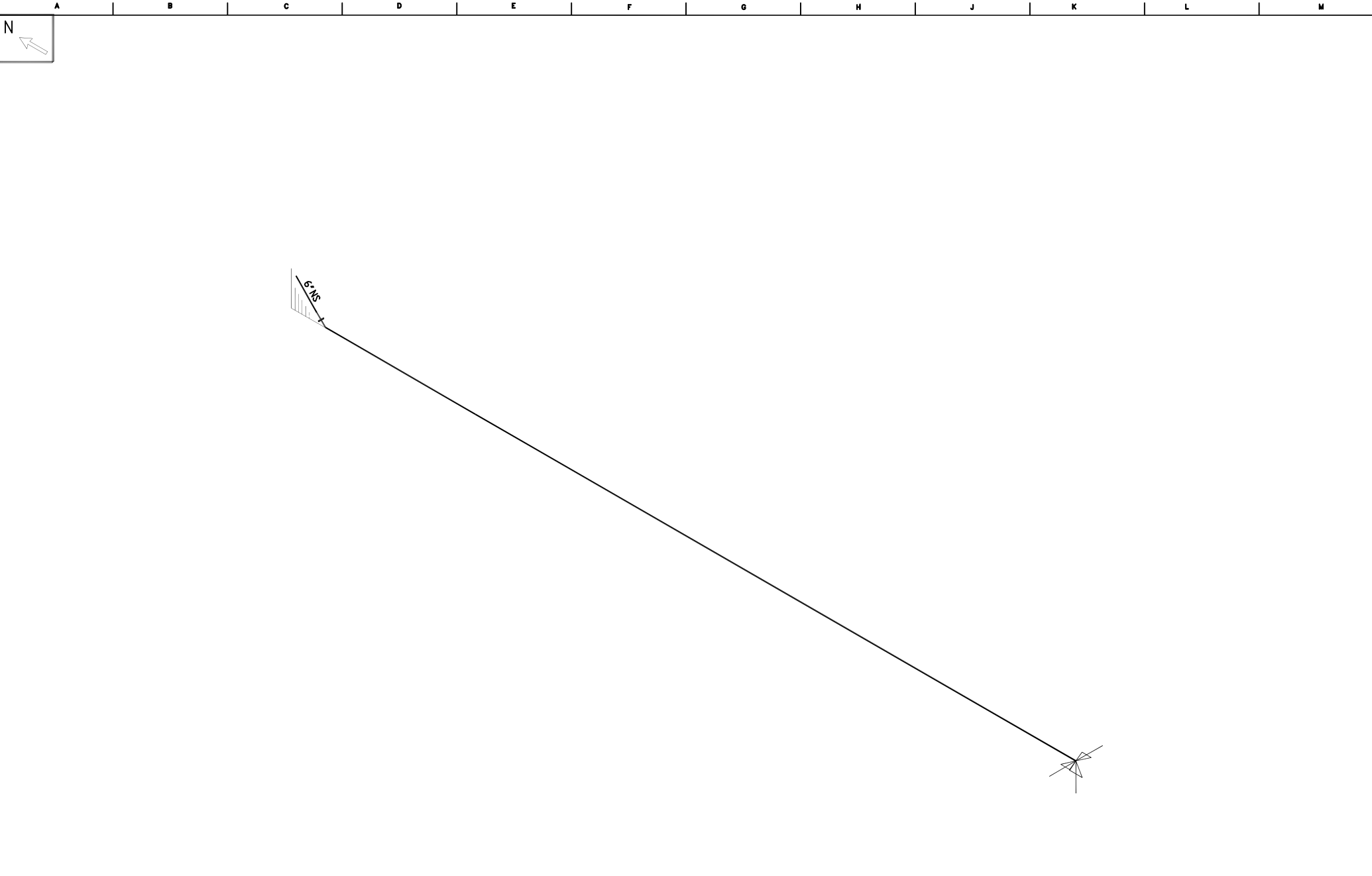
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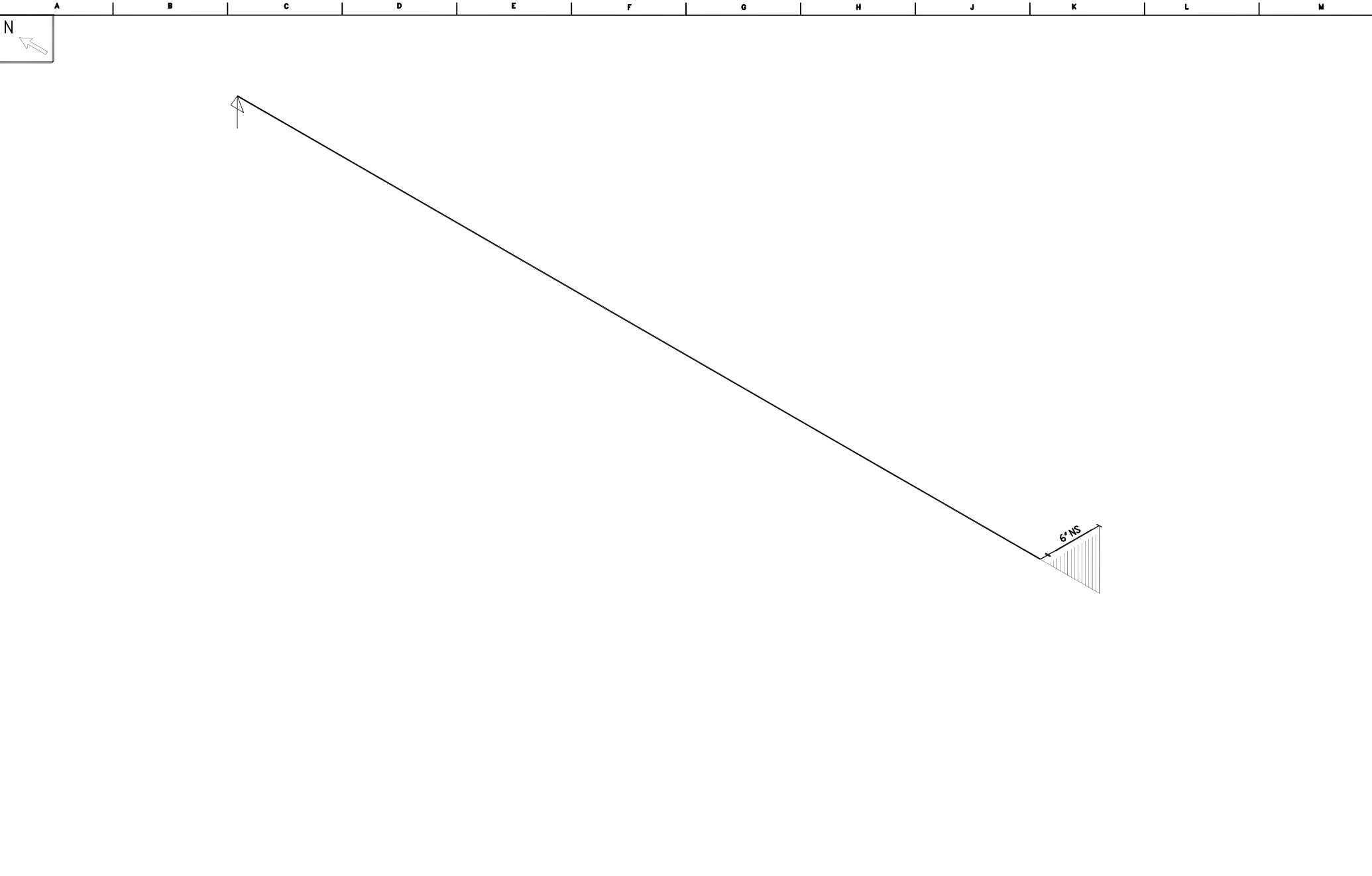


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				INSULATION SPEC.		PROJECT NO.			DRG.
				INSULATION THKS.		SYSTEM			
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		28 FEB 2024	THIS DRAWING IS THE PROPERTY OF INTERGRAPH LTD AND MUST NOT BE COPIED OR LENT WITHOUT THE CONSENT OF THE COMPANY	MATERIAL		DRAWN BY		PIPELINE REFERENCE	1 OF 2
REV.	CHANGE	DATE		OP. PRESSURE		E.I.DIAGRAM			



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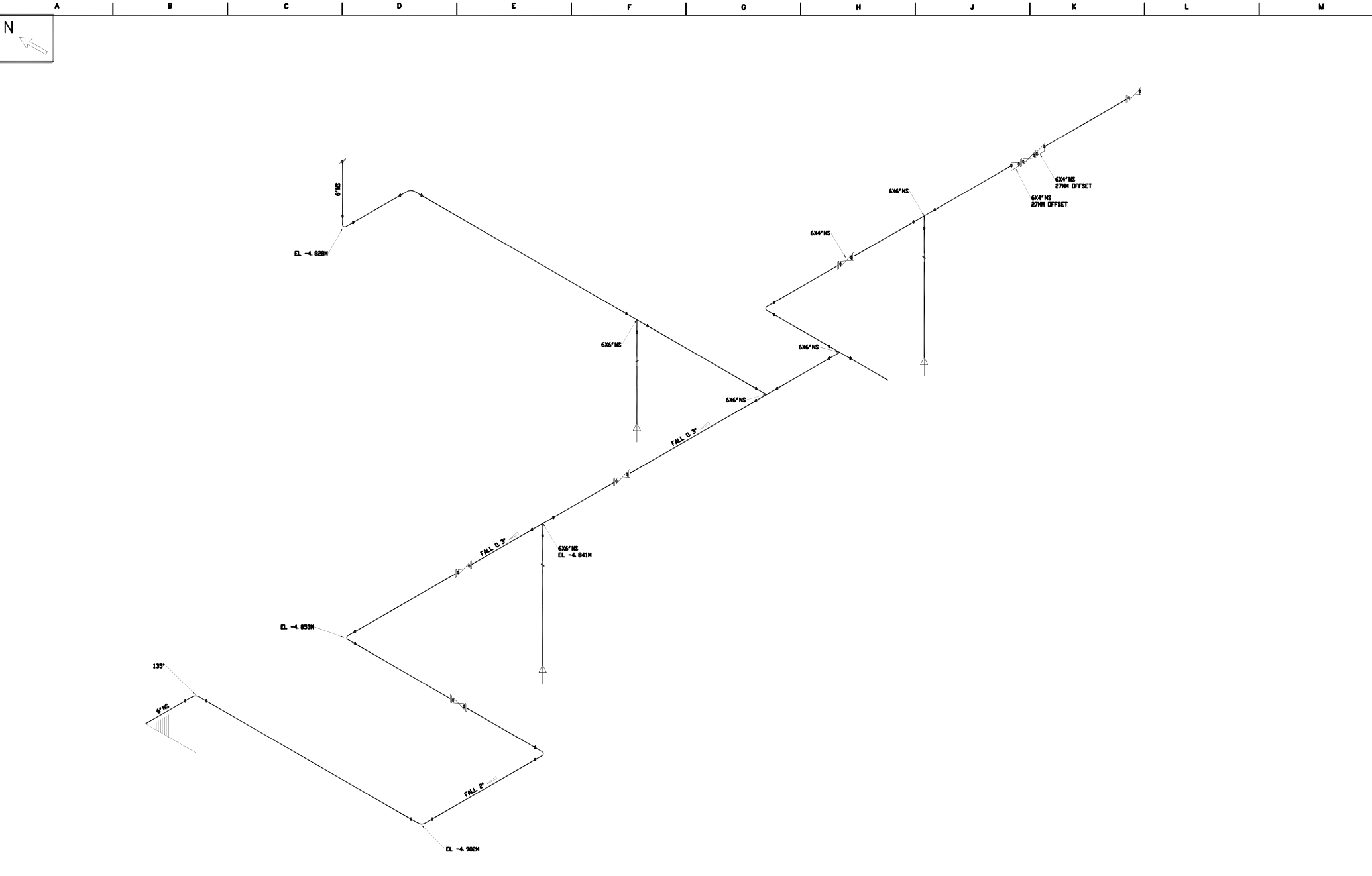
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OP. PRESSURE		E.I.DIAGRAM	



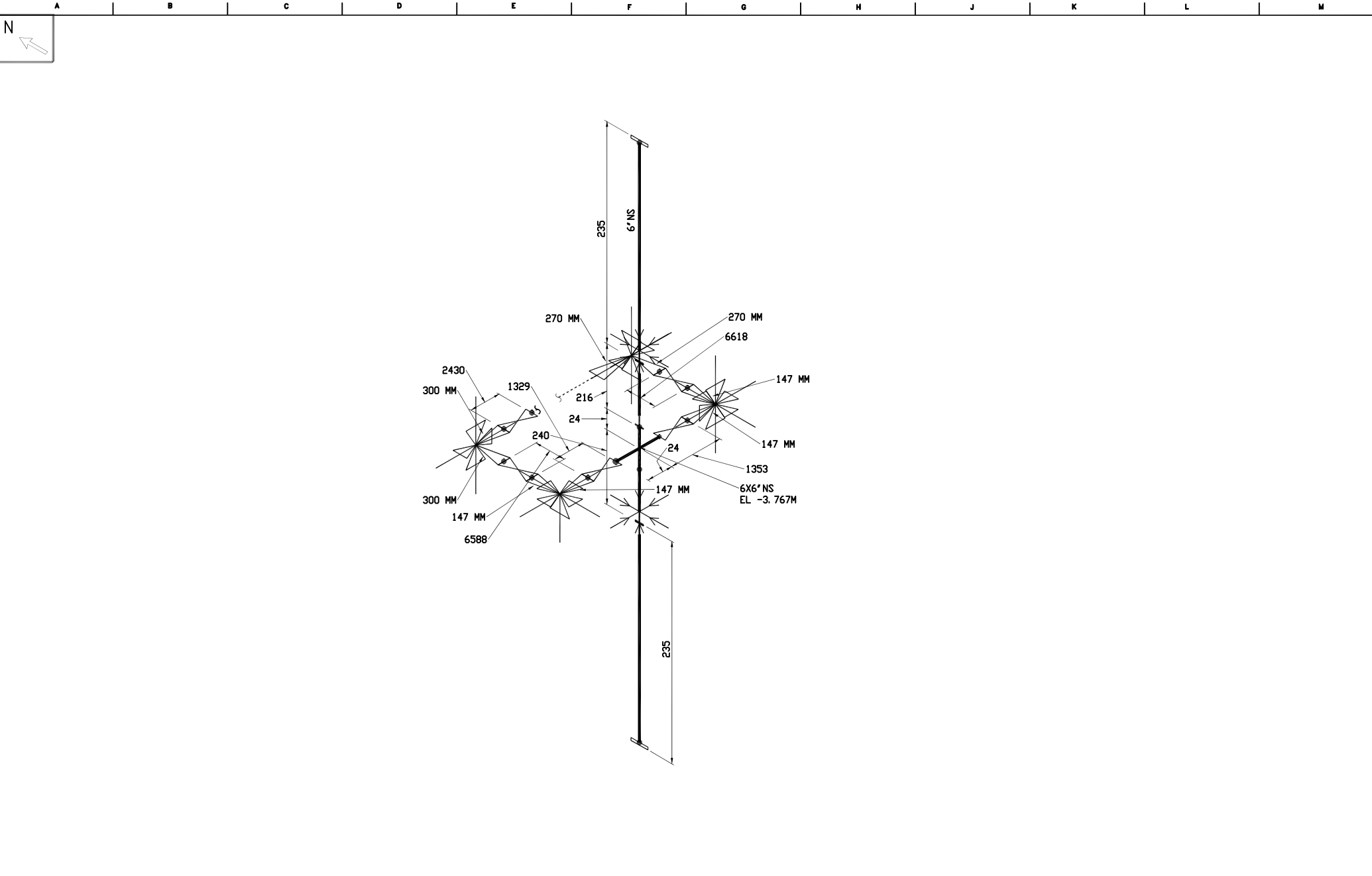
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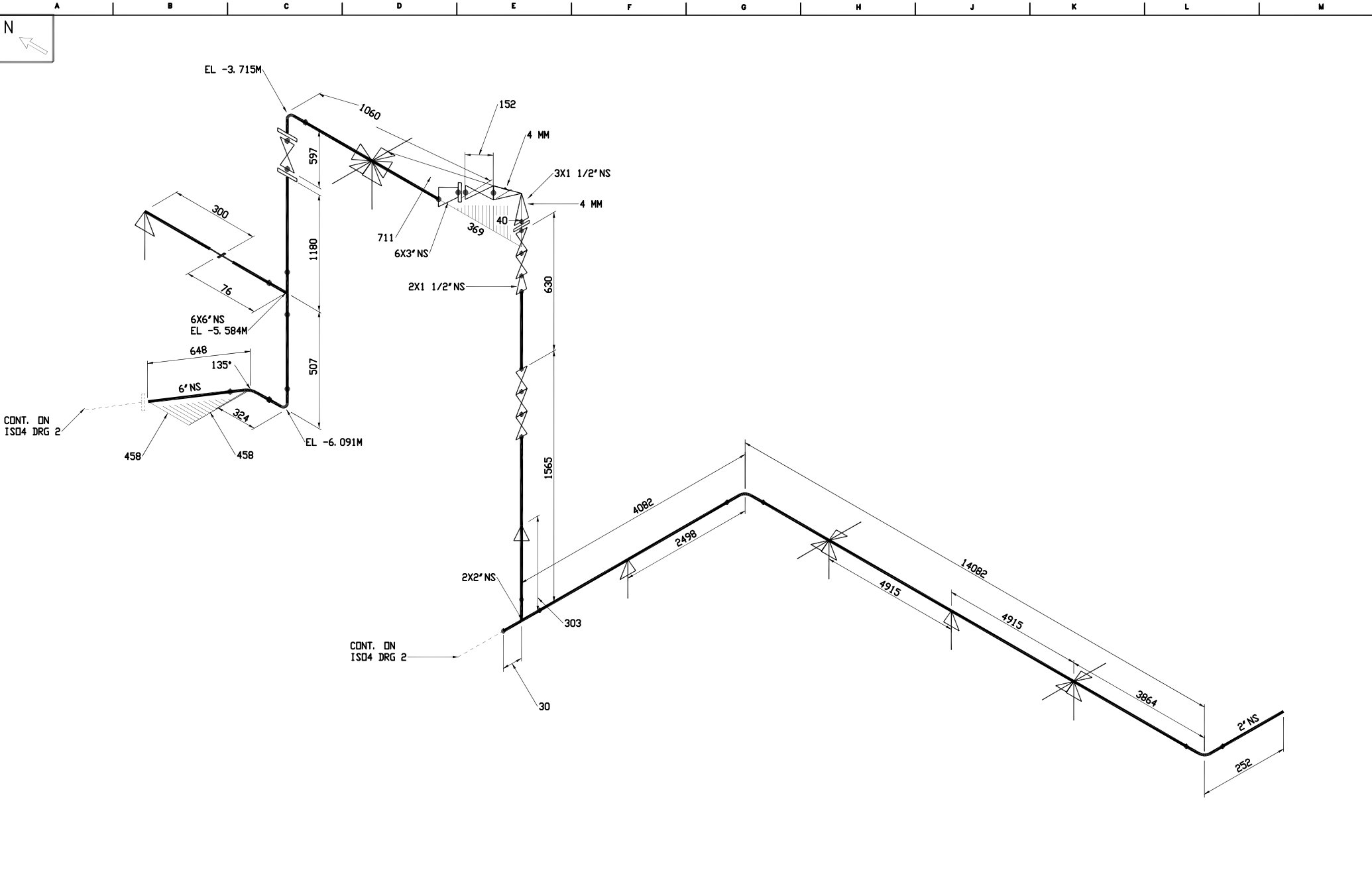
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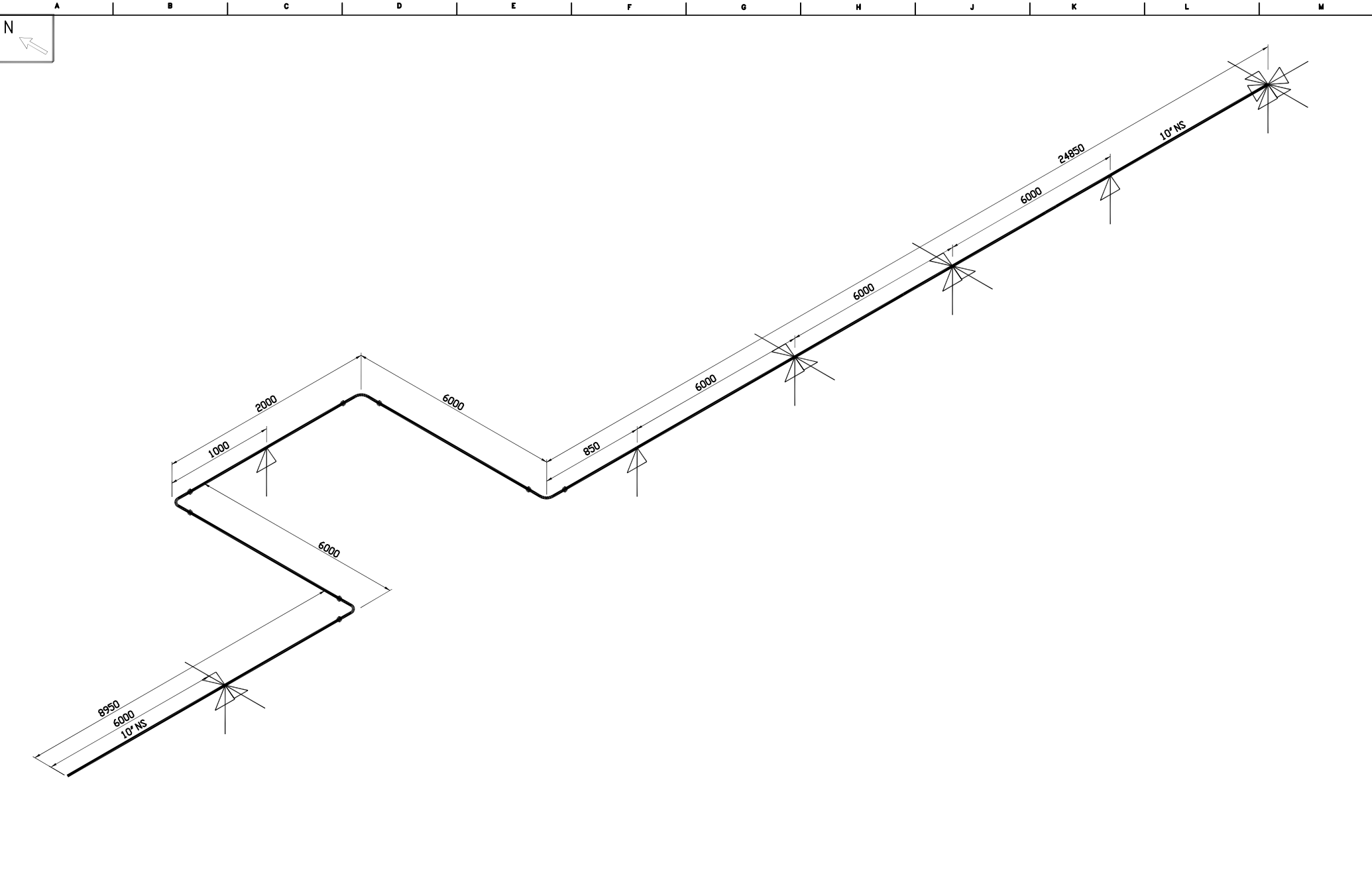
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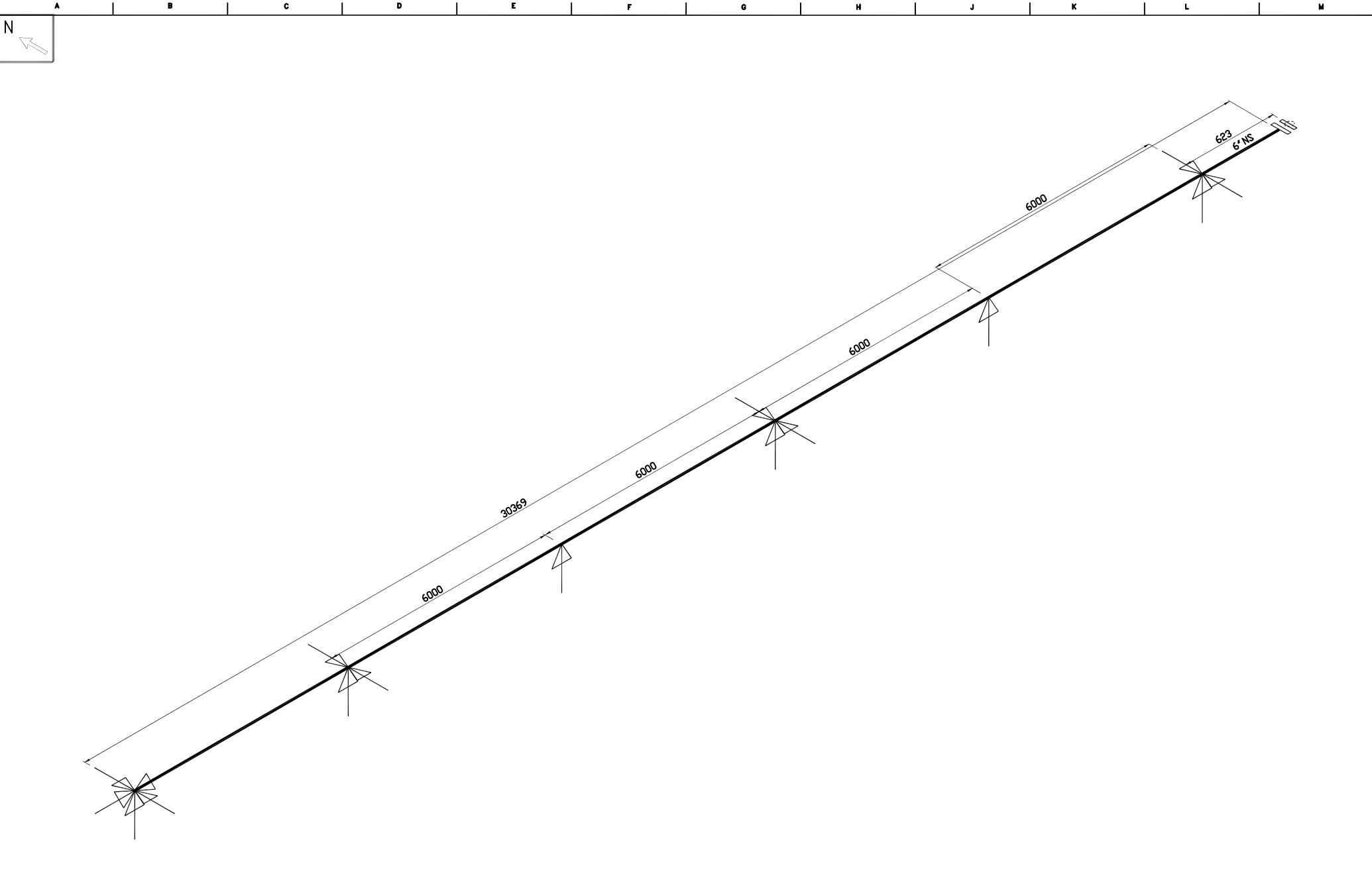
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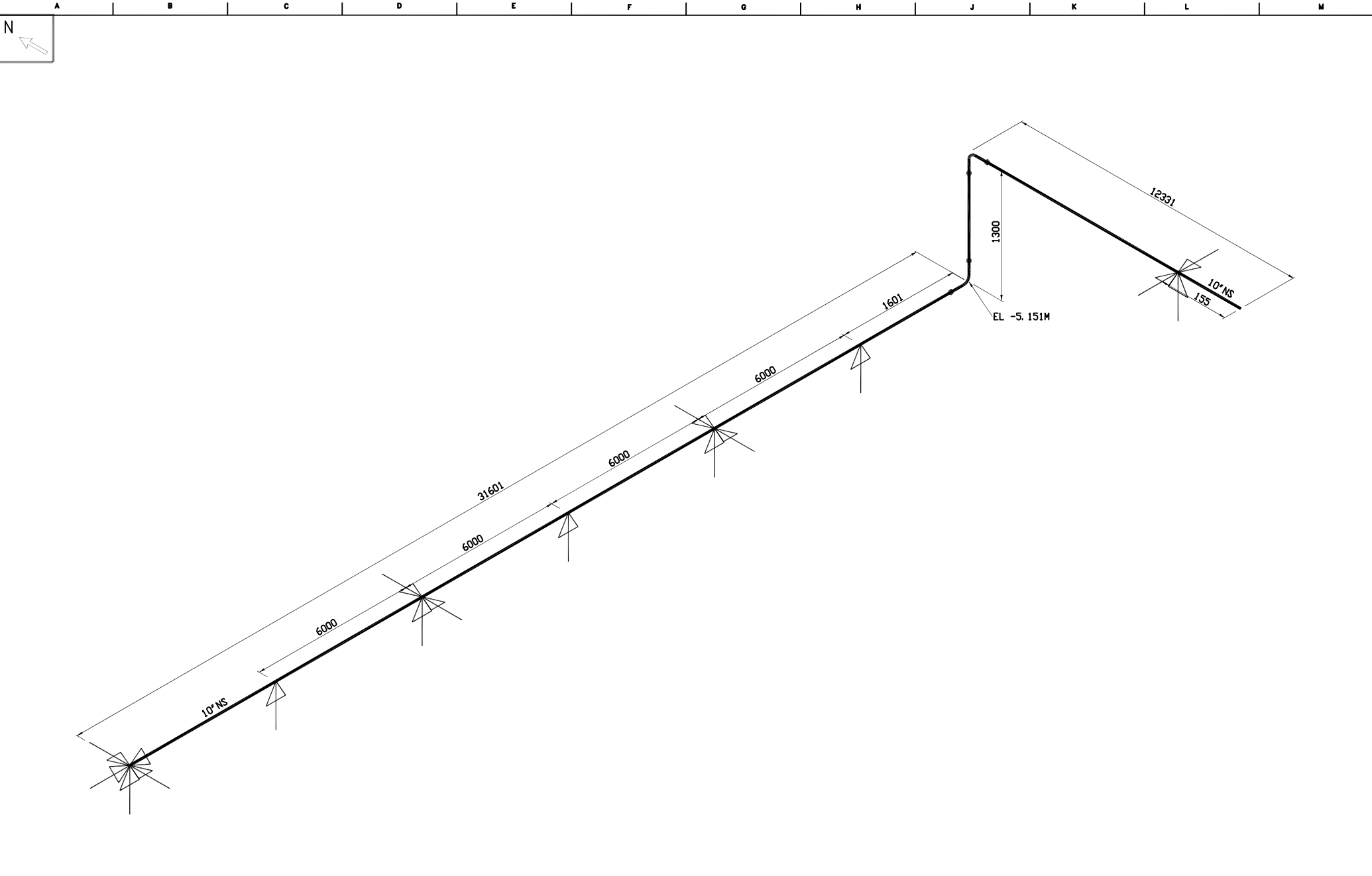
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CAESAR II 2018 Ver.10.00.00.7700, (Build 170726) Date: FEB 21, 2024 Time: 13:31
Job:: BNK-GCS-CN-007-D02
Licensed To:: SPLM: Edit company name in <system>\company.txt

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

1 (HGR) CASE NOT ACTIVE
2 (HGR) CASE NOT ACTIVE
3 (HYD) WW+HP+H
4 (OPE) W+T1+P1+H
5 (Alt-SUS) W+P1+H
6 (OPE) W+T2+P1+H
7 (Alt-SUS) W+P1+H
8 (OPE) W+T3+P1+H
9 (Alt-SUS) W+P1+H
10 (SUS) W+P1+H
11 (SUS) WNC
12 (OPE) W+T1+P1+H+U1
13 (OPE) W+T1+P1+H-U1
14 (OPE) W+T1+P1+H+U2
15 (OPE) W+T1+P1+H-U2
16 (OPE) W+T1+P1+H+U3
17 (OPE) W+T1+P1+H+F1
18 (OPE) W+T1+P1+H+F2
19 (OCC) L19=L12-L4
20 (OCC) L20=L13-L4
21 (OCC) L21=L14-L4
22 (OCC) L22=L15-L4
23 (OCC) L23=L16-L4
24 (OCC) L24=L17-L4
25 (OCC) L25=L18-L4
26 (OCC) L26=L19+L10
27 (OCC) L27=L20+L10
28 (OCC) L28=L21+L10
29 (OCC) L29=L22+L10
30 (OCC) L30=L23+L10
31 (OCC) L31=L24+L10
32 (OCC) L32=L25+L10
33 (EXP) L33=L4-L10
34 (EXP) L34=L6-L10
35 (EXP) L35=L4-L6
36 (EXP) L36=L8-L10
37 (EXP) L37=L4-L8
38 (EXP) L38=L6-L8

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INPUT LISTING

Job Description:

PROJECT:

CLIENT :

ANALYST:

NOTES :

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INPUT LISTING

File created by FEATools

CAESAR II 2018 Ver.10.00.00.7700, (Build 170726) FEB 21, 2024 13:31:44

PIPE DATA

 From 20 To 40 DX= -101.000 mm.

PIPE

Dia= 168.275 mm. Wall= 7.112 mm. Cor= 3.0000 mm.

Element Name= FLANGE_FLG_150

GENERAL

T1= 60 C T2= 115 C T3= 60 C P1= 2,200.0500 KPa PHyd= 3,300.0752 KPa

Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 200,644,016 KPa

EH2= 197,200,352 KPa EH3= 200,644,016 KPa EH4= 203,401,232 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000181 kg./cu.cm.

Insul Thk= 40.000 mm. Insul Den= .0001362 kg./cu.cm.

RIGID Weight= 191.27 N.

RESTRAINTS

Node 20 ANC

UNIFORM LOAD

Vector1 in G-s X1 Dir = .26 g's Y1 Dir = .00 g's Z1 Dir = .00 g's

Vector2 in G-s X2 Dir = .00 g's Y2 Dir = .12 g's Z2 Dir = .00 g's

Vector3 in G-s X3 Dir = .00 g's Y3 Dir = .00 g's Z3 Dir = .26 g's

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

EQUIPMENT LIMITS

Nozzle Node = 20 Limiting Loads: A=pipe; B=ref; C=AxB; FA= 2,160.11 N.

FB= 2,160.11 N. FC= 2,160.11 N. MA= 1,155.05 N.m. MB= 1,155.05 N.m.

MC= 1,155.05 N.m. Equipment Major Direction Vector= .0000 1.0000 .0000

Interact. Mtd= Absolute

 From 40 To 60 DX= -1,177.000 mm.

BEND at "T0" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 59

Angle/Node @2= .00 58

 From 60 To 80 DY= -607.000 mm.

BEND at "T0" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 79

Angle/Node @2= .00 78

 From 80 To 100 DX= 600.000 mm.

BEND at "T0" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 99

Angle/Node @2= .00 98

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INPUT LISTING

From 100 To 120 DY= -1,162.270 mm.

From 120 To 140 DY= -229.000 mm.
RIGID Weight= .00 N.

From 140 To 160 DY= -200.000 mm.
PIPE

Dia= 114.300 mm. Wall= 6.020 mm.

GENERAL

T1= 21 C T2= 21 C T3= 21 C P1= .0000 KPa PHyd= .0000 KPa

Fluid Den= .0000000 kg./cu.cm. Insul Thk= 40.000 mm.

RESTRAINTS

Node 160 -X Mu = .30

Node 160 Z Cnode 121

Node 121 +Y Mu = .10

Node 160 X Cnode 121

HANGERS

Hanger Node = 160 Hanger Connecting Node = 121

Available Space = -1,000.0000 mm. Allowed Load Variation = 25.0000

No. Hangers = 0.0 Short Range Flag = -1 User Operating Load = .00 N.

Free Node = 0 Free Node = 0 Free Code = 0.0 Spring Rate = .00 N./cm.

Theoretical Cold Load = .00 N.

SIF's & TEE's

Node 140 Unreinforced Tee

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 120 To 180 DY= -229.000 mm.

PIPE

Dia= 168.275 mm. Wall= 7.112 mm.

GENERAL

T1= 60 C T2= 115 C T3= 60 C P1= 2,200.0500 KPa PHyd= 3,300.0752 KPa

Fluid Den= .0000181 kg./cu.cm. Insul Thk= 40.000 mm.

DOUBLE FLANGED BEND at "T0" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 179

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 180 To 200 DX= -429.000 mm.

From 200 To 220 DX= -101.600 mm.

Element Name= FLANGE_FLG_300

RIGID Weight= 191.27 N.

From 220 To 240 DX= -101.600 mm.

Element Name= FLANGE_FLG_300

RIGID Weight= 191.27 N.

From 240 To 260 DX= -500.000 mm.

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INPUT LISTING

From 260 To 280 DX= -295.500 mm.

SIF's & TEE's

Node 280 Weldolet

From 280 To 300 DX= -500.000 mm.

PIPE

Dia= 168.275 mm. Wall= 7.112 mm. Cor= 3.0000 mm.

GENERAL

T1= 60 C T2= 115 C T3= 60 C P1= 2,200.0500 KPa PHyd= 3,300.0752 KPa

Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 200,644,016 KPa

EH2= 197,200,352 KPa EH3= 200,644,016 KPa EH4= 203,401,232 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000181 kg./cu.cm.

Insul Thk= 40.000 mm. Insul Den= .0001500 kg./cu.cm.

RESTRAINTS

Node 300 +Y Mu = .30

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 300 To 320 DX= -203.000 mm.

From 320 To 340 DX= -101.600 mm.

Element Name= FLANGE_FLG_300

RIGID Weight= 191.27 N.

From 340 To 360 DX= -573.000 mm.

Element Name= GATE_NOFLG_300

RIGID Weight= 1,023.41 N.

From 360 To 380 DX= -101.600 mm.

Element Name= FLANGE_FLG_300

RIGID Weight= 191.27 N.

From 380 To 400 DX= -861.000 mm.

RESTRAINTS

Node 400 Y Mu = .30

Node 400 Z Gap= 3.000 mm. Mu = .30

From 400 To 420 DX= -1,557.000 mm.

From 420 To 440 DX= -101.600 mm.

Element Name= FLANGE_FLG_300

RIGID Weight= 191.27 N.

From 440 To 460 DX= -101.600 mm.

Element Name= FLANGE_FLG_300

RIGID Weight= 191.27 N.

From 460 To 480 DX= -1,243.000 mm.

RESTRAINTS

Node 480 Y Mu = .30

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INPUT LISTING

Node 480 Z Gap= 3.000 mm.

From 480 To 490 DX= -2,035.000 mm.

From 500 To 6210 DY= -76.200 mm.

RIGID Weight= .00 N.

From 490 To 500 DX= -2,035.000 mm.

SINGLE FLANGED BEND at "T0" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 499

Angle/Node @2= .00 498

From 500 To 580 DY= 4,121.000 mm.

PIPE

Dia= 168.275 mm. Wall= 7.112 mm. Cor= .0000 mm.

GENERAL

T1= 60 C T2= 115 C P1= 2,200.0500 KPa PHyd= 3,300.0752 KPa

Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 200,644,016 KPa

EH2= 197,200,352 KPa EH3= 200,644,016 KPa EH4= 203,401,232 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000058 kg./cu.cm.

Insul Thk= 40.000 mm.

BEND at "T0" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 579

Angle/Node @2= .00 578

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 580 To 600 DZ= -2,750.000 mm.

PIPE

Dia= 168.275 mm. Wall= 7.112 mm. Cor= 3.0000 mm.

GENERAL

T1= 60 C T2= 115 C P1= 2,200.0500 KPa PHyd= 3,300.0752 KPa

Fluid Den= .0000181 kg./cu.cm. Insul Thk= 40.000 mm.

Insul Den= .0001500 kg./cu.cm.

BEND at "T0" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 599

Angle/Node @2= .00 598

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 600 To 610 DX= -314.000 mm.

From 610 To 620 DX= -316.000 mm.

GENERAL

Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 200,644,016 KPa

EH2= 197,200,352 KPa EH3= 200,644,016 KPa EH4= 203,401,232 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

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INPUT LISTING

Pipe Den= .0078334 kg./cu.cm.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 620 To 5190 DY= 199.000 mm.

PIPE

Dia= 60.325 mm. Wall= 5.537 mm.

GENERAL

Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 200,644,016 KPa
 EH2= 197,200,352 KPa EH3= 200,644,016 KPa EH4= 203,401,232 KPa
 EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa
 EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm. Insul Thk= 40.000 mm.

BEND at "T0" end

Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 5189
 Angle/Node @2= .00 5188

SIF's & TEE's

Node 620 Weldolet

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 5190 To 9000 DZ= -352.000 mm.

BEND at "T0" end

Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 8999
 Angle/Node @2= .00 8998

 From 9000 To 9010 DX= 303.000 mm.

BEND at "T0" end

Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 9009
 Angle/Node @2= .00 9008

 From 9010 To 9020 DZ= 77.000 mm.

 From 9020 To 9030 DZ= 102.000 mm.

REDUCER

Diam2= 114.300 mm. Wall2= 6.020 mm.

 From 9030 To 9040 DZ= 210.000 mm.

PIPE

Dia= 114.300 mm. Wall= 6.020 mm.
 Insul Thk= 40.000 mm.

 From 9040 To 9050 DZ= 102.000 mm.

REDUCER

Diam2= 60.325 mm. Wall2= 5.537 mm.

 From 9050 To 5200 DZ= 140.000 mm.

PIPE

Dia= 60.325 mm. Wall= 3.912 mm.
 Insul Thk= 40.000 mm.

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INPUT LISTING

From 5200 To 5210 DZ= 73.025 mm.

RIGID Weight= 44.48 N.

From 5210 To 5220 DZ= 301.000 mm.

RIGID Weight= 93.41 N.

From 5220 To 5230 DZ= 73.025 mm.

RIGID Weight= 44.48 N.

From 5230 To 5240 DZ= 77.000 mm.

BEND at "T0" end

Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 5239

Angle/Node @2= .00 5238

From 5240 To 5245 DX= -488.500 mm.

From 5240 To 6230 DY= -17.961 mm. DZ= 17.961 mm.

RIGID Weight= .00 N.

SIF's & TEE's

Node 6230 Unreinforced Tee

From 5245 To 5250 DX= -488.500 mm. DY= .000 mm. DZ= .000 mm.

From 5250 To 5260 DX= -73.025 mm.

RIGID Weight= 44.48 N.

From 5260 To 5270 DX= -73.025 mm.

RIGID Weight= 44.48 N.

From 5270 To 5275 DX= -150.000 mm.

From 5275 To 6260 DY= -25.400 mm.

RIGID Weight= .00 N.

SIF's & TEE's

Node 6260 Unreinforced Tee

From 5275 To 5280 DX= -150.000 mm.

From 5280 To 5290 DX= -73.025 mm.

RIGID Weight= 44.48 N.

From 5290 To 5300 DX= -200.000 mm.

RIGID Weight= 258.00 N.

From 5300 To 5310 DX= -66.675 mm.

PIPE

Dia= 60.325 mm. Wall= 8.738 mm. Cor= 6.0000 mm.

GENERAL

T1= 272 C T2= 270 C T3= -28 C P1= 600.0137 KPa PHyd= 900.0205 KPa

Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 187,335,024 KPa

EH2= 187,483,936 KPa EH3= 205,934,864 KPa EH4= 203,401,232 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000015 kg./cu.cm.

Insul Thk= .000 mm. Insul Den= .0000000 kg./cu.cm.

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INPUT LISTING

RIGID Weight= 31.14 N.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 129,365 KPa Sh2= 129,638 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 5310 To 5320 DX= -89.000 mm.

REDUCER

Diam2= 88.900 mm. Wall2= 7.620 mm.

 From 5320 To 5330 DX= -287.000 mm.

PIPE

Dia= 88.900 mm. Wall= 7.620 mm.

Insul Thk= .000 mm.

BEND at "T0" end

Radius= 114.300 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 5329
 Angle/Node @2= .00 5328

 From 5330 To 5340 DY= -718.000 mm.

 From 5340 To 6280 DX= 38.100 mm.

RIGID Weight= .00 N.

SIF's & TEE's

Node 6280 Unreinforced Tee

 From 5340 To 5350 DY= -2,140.000 mm.

BEND at "T0" end

Radius= 114.300 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 5349
 Angle/Node @2= .00 5348

 From 5350 To 5355 DZ= 466.500 mm.

RESTRAINTS

Node 5355 +Y Mu = .30

 From 5355 To 5360 DZ= 516.500 mm.

BEND at "T0" end

Radius= 114.300 mm. (LONG) Bend Angle= 90.000

 From 5360 To 5370 DX= -3,280.000 mm.

RESTRAINTS

Node 5370 +Y

Node 5370 Z

 From 5370 To 5375 DX= -4,502.000 mm.

RESTRAINTS

Node 5375 +Y

 From 5375 To 5380 DX= -475.000 mm.

BEND at "T0" end

Radius= 114.300 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 5379
 Angle/Node @2= .00 5378

 From 5380 To 5390 DY= -712.000 mm.

BEND at "T0" end

Radius= 114.300 mm. (LONG) Bend Angle= 50.075 Angle/Node @1= 25.04 5389

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INPUT LISTING

Angle/Node @2= .00 5388

From 5390 To 5485 DX= .251 mm. DY= -585.100 mm. DZ= 699.151 mm.

From 610 To 640 DY= -84.000 mm.

PIPE

Dia= 168.275 mm. Wall= 7.110 mm.

GENERAL

T1= 60 C T2= 115 C T3= 60 C P1= 2,200.0500 KPa PHyd= 3,300.0752 KPa

Insul Thk= .000 mm.

RIGID Weight= .00 N.

SIF's & TEE's

Node 640 Unreinforced Tee

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 640 To 660 DY= -300.000 mm.

PIPE

Dia= 114.300 mm. Wall= 6.020 mm. Cor= .0000 mm.

GENERAL

T1= 21 C T2= 21 C T3= 21 C P1= .0000 KPa PHyd= .0000 KPa

Mat= (102)A53 Grade B E= 203,401,232 KPa EH1= 203,401,232 KPa

EH2= 203,401,232 KPa EH3= 203,401,232 KPa EH4= 203,401,232 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000000 kg./cu.cm.

Insul Thk= .000 mm. Insul Den= .0000000 kg./cu.cm.

RESTRAINTS

Node 660 +Y Cnode 800 Mu = .30

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 620 To 680 DX= -678.000 mm.

PIPE

Dia= 168.275 mm. Wall= 7.112 mm. Cor= 3.0000 mm.

GENERAL

T1= 60 C T2= 115 C T3= 60 C P1= 2,200.0500 KPa PHyd= 3,300.0752 KPa

Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 200,644,016 KPa

EH2= 197,200,352 KPa EH3= 200,644,016 KPa EH4= 203,401,232 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000181 kg./cu.cm.

Insul Thk= 40.000 mm. Insul Den= .0001500 kg./cu.cm.

BEND at "T0" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 679

Angle/Node @2= .00 678

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

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INPUT LISTING

Sh9= 137,895 KPa Sy= 241,316 KPa

From 680 To 700 DY= -229.000 mm.

From 700 To 720 DY= -126.000 mm.

Element Name= FLANGE_FLG_300

RIGID Weight= 286.91 N.

RESTRAINTS

Node 720 ANC Cnode 721

From 721 To 760 DY= -104.775 mm.

Element Name= FLANGE_FLG_300

RIGID Weight= 177.93 N.

From 760 To 780 DY= -198.500 mm.

RESTRAINTS

Node 780 ANC Cnode 820

EQUIPMENT LIMITS

Nozzle Node = 780 Limiting Loads: A=pipe; B=ref; C=AxB; FA= 9,600.48 N.

FB= 9,600.48 N. FC= 7,200.36 N. MA= 5,760.24 N.m. MB= 3,840.16 N.m.

MC= 4,990.21 N.m. Equipment Major Direction Vector= .0000 .0000 1.0000

Interact. Mtd= Absolute

From 780 To 800 DX= 994.000 mm. DY= 274.275 mm. DZ= .000 mm.

RIGID Weight= .00 N.

From 780 To 6241 DX= 981.000 mm. DY= 839.314 mm. DZ= 1,120.010 mm.

RIGID Weight= .00 N.

From 780 To 6271 DX= -292.050 mm. DY= 481.875 mm. DZ= 802.050 mm.

RIGID Weight= .00 N.

From 780 To 6291 DX= -819.649 mm. DY= 139.275 mm. DZ= 802.050 mm.

RIGID Weight= .00 N.

From 820 To 840 DY= -3,570.000 mm.

PIPE

Dia= 914.400 mm. Wall= 15.000 mm.

GENERAL

Mat= (383)A516 70 E= 203,401,232 KPa EH1= 200,644,016 KPa

EH2= 197,200,352 KPa EH3= 200,644,016 KPa EH4= 203,401,232 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm. Insul Thk= 40.000 mm.

RIGID Weight= .00 N.

RESTRAINTS

Node 840 ANC

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 160,648 KPa

Sh1= 160,373 KPa Sh2= 157,769 KPa Sh3= 160,373 KPa Sh4= 160,648 KPa

Sh5= 160,648 KPa Sh6= 160,648 KPa Sh7= 160,648 KPa Sh8= 160,648 KPa

Sh9= 160,648 KPa Sy= 262,001 KPa

From 280 To 4350 DZ= 122.000 mm.

PIPE

Dia= 60.325 mm. Wall= 5.537 mm. Cor= 3.0000 mm.

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INPUT LISTING

GENERAL

T1= 142 C T2= 175 C T3= 142 C P1= 6,200.1411 KPa
 PHyd= 9,300.2119 KPa Mat= (106)A106 Grade B E= 203,401,232 KPa
 EH1= 195,531,264 KPa EH2= 193,178,448 KPa EH3= 195,531,264 KPa
 EH4= 203,401,232 KPa EH5= 203,401,232 KPa EH6= 203,401,232 KPa
 EH7= 203,401,232 KPa EH8= 203,401,232 KPa EH9= 203,401,232 KPa
 v = .292 Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000181 kg./cu.cm.
 Insul Thk= 40.000 mm. Insul Den= .0001500 kg./cu.cm.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,571 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 4350 To 4360 DZ= 73.025 mm.

RIGID Weight= 44.48 N.

 From 4360 To 4370 DZ= 301.000 mm.

PIPE

Dia= 60.325 mm. Wall= 8.738 mm.

GENERAL

T1= 142 C T2= 175 C P1= 6,200.1411 KPa PHyd= 9,300.2119 KPa
 Fluid Den= .0000430 kg./cu.cm. Insul Thk= 40.000 mm.

RIGID Weight= 311.38 N.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,571 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 4370 To 4380 DZ= 82.550 mm.

PIPE

Dia= 60.325 mm. Wall= 8.738 mm.

GENERAL

T1= 142 C T2= 175 C Insul Thk= 40.000 mm.

RIGID Weight= 57.83 N.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,571 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 4380 To 4390 DZ= 576.000 mm.

BEND at "T0" end

Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 4389
 Angle/Node @2= .00 4388

 From 4390 To 4395 DY= 257.000 mm.

 From 4390 To 6300 DY= -25.400 mm.

RIGID Weight= .00 N.

SIF's & TEE's

Node 6300 Unreinforced Tee

 From 4395 To 880 DY= 257.000 mm.

BEND at "T0" end

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INPUT LISTING

Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 879
Angle/Node @2= .00 878

From 880 To 900 DZ= -77.000 mm.

From 900 To 920 DZ= -82.550 mm.

Element Name= BALL_FLG_600

GENERAL

T1= 142 C T2= 175 C P1= 6,200.1411 KPa PHyd= 9,300.2119 KPa

Fluid Den= .0000430 kg./cu.cm.

RIGID Weight= 57.83 N.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,571 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 920 To 940 DZ= -301.000 mm.

Element Name= CHECK_FLG_150

RIGID Weight= 427.03 N.

From 940 To 960 DZ= -82.550 mm.

RIGID Weight= 57.83 N.

From 960 To 980 DZ= -1,222.000 mm.

BEND at "T0" end

Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 979

Angle/Node @2= .00 978

From 980 To 1000 DY= -100.000 mm.

From 1000 To 1020 DY= -298.000 mm.

Element Name= CHECK_FLG_600

SIF's & TEE's

Node 1020 Weldolet

From 1020 To 1040 DX= 177.000 mm.

PIPE

Dia= 168.275 mm. Wall= 10.973 mm. Cor= 3.0000 mm.

GENERAL

T1= 142 C T2= 175 C T3= 142 C P1= 6,200.1411 KPa

PHyd= 9,300.2119 KPa Mat= (106)A106 Grade B E= 203,401,232 KPa

EH1= 195,531,264 KPa EH2= 193,178,448 KPa EH3= 195,531,264 KPa

EH4= 203,401,232 KPa EH5= 203,401,232 KPa EH6= 203,401,232 KPa

EH7= 203,401,232 KPa EH8= 203,401,232 KPa EH9= 203,401,232 KPa

v = .292 Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000430 kg./cu.cm.

Insul Thk= 40.000 mm. Insul Den= .0001362 kg./cu.cm.

RESTRAINTS

Node 1040 +Y Mu = .30

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,571 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 1040 To 1060 DX= 168.010 mm.

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INPUT LISTING

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-----
From 1060 To 1080 DX= 126.000 mm.
  Element Name= FLG.PR_FLG_150
RIGID Weight= 364.75 N.
-----
From 1080 To 1100 DX= 126.000 mm.
  Element Name= FLG.PR_FLG_150
RIGID Weight= 364.75 N.
-----
From 1100 To 1120 DX= 229.000 mm.
BEND at "TO" end
  Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1119
-----
From 1120 To 1140 DZ= -1,228.000 mm.
BEND at "TO" end
  Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1139
  Angle/Node @2= .00 1138
-----
From 1140 To 1160 DX= 461.500 mm.
-----
From 1160 To 1180 DX= 232.867 mm.
BEND at "TO" end
  Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1179
  Angle/Node @2= .00 1178
RESTRAINTS
  Node 1180 -X Mu = .30
  Node 1180 +Y Mu = .30
-----
From 1180 To 1200 DZ= 1,828.000 mm.
BEND at "TO" end
  Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1199
  Angle/Node @2= .00 1198
-----
From 1200 To 1220 DX= 229.000 mm.
-----
From 1220 To 1240 DX= 127.000 mm.
  Element Name= FLANGE_FLG_600
RIGID Weight= 364.75 N.
RESTRAINTS
  Node 1240 ANC
EQUIPMENT LIMITS
  Nozzle Node = 1240
  Limiting Loads: A=pipe; B=ref; C=AxB; FA= 2,160.11 N. FB= 2,160.11 N.
  FC= 2,160.11 N. MA= 1,155.05 N.m. MB= 1,155.05 N.m. MC= 1,155.05 N.m.
  Equipment Major Direction Vector= .0000 1.0000 .0000
  Interact. Mtd= Absolute
-----
From 1020 To 1260 DX= -1,400.000 mm.
PIPE
  Dia= 168.275 mm. Wall= 10.973 mm. Cor= 3.0000 mm.
GENERAL
  T1= 142 C T2= 175 C T3= 142 C P1= 6,200.1411 KPa
  PHyd= 9,300.2119 KPa Mat= (106)A106 Grade B E= 203,401,232 KPa
  EH1= 195,531,264 KPa EH2= 193,178,448 KPa EH3= 195,531,264 KPa
  EH4= 203,401,232 KPa EH5= 203,401,232 KPa EH6= 203,401,232 KPa
  EH7= 203,401,232 KPa EH8= 203,401,232 KPa EH9= 203,401,232 KPa

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INPUT LISTING

v = .292 Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000430 kg./cu.cm.

Insul Thk= 40.000 mm. Insul Den= .0001500 kg./cu.cm.

SIF's & TEE's

Node 1260 Weldolet

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,571 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 1260 To 1280 DX= -850.000 mm.

RESTRAINTS

Node 1280 Y Mu = .30

Node 1280 Z Gap= 3.000 mm. Mu = .30

From 1280 To 1300 DX= -650.000 mm.

From 1300 To 1320 DX= -127.000 mm.

Element Name= FLANGE_FLG_600

RIGID Weight= 364.75 N.

From 1320 To 1340 DX= -568.000 mm.

Element Name= CHECK_NOFLG_600

RIGID Weight= 3,087.07 N.

From 1340 To 1360 DX= -127.000 mm.

Element Name= FLANGE_NOFLG_600

RIGID Weight= 364.75 N.

From 1360 To 1380 DX= -1,549.000 mm.

RESTRAINTS

Node 1380 Y Mu = .30

Node 1380 Z Gap= 3.000 mm. Mu = .30

From 1380 To 1390 DX= -2,035.000 mm.

From 1400 To 6400 DY= -76.200 mm.

RIGID Weight= .00 N.

From 1390 To 1400 DX= -2,035.000 mm.

SINGLE FLANGED BEND at "TO" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1399

Angle/Node @2= .00 1398

From 1400 To 1480 DY= 1,584.000 mm.

PIPE

Dia= 168.275 mm. Wall= 10.973 mm.

GENERAL

T1= 142 C T2= 175 C P1= 6,200.1411 KPa PHyd= 9,300.2119 KPa

Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 195,531,264 KPa

EH2= 193,178,448 KPa EH3= 195,531,264 KPa EH4= 203,401,232 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000154 kg./cu.cm.

Insul Thk= 40.000 mm.

BEND at "TO" end

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INPUT LISTING

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1479
Angle/Node @2= .00 1478

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
Sh1= 137,895 KPa Sh2= 137,571 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
Sh9= 137,895 KPa Sy= 241,316 KPa

From 1480 To 1500 DX= -5,816.000 mm.

RESTRAINTS

Node 1500 +Y Mu = .30
Node 1500 Z Gap= 3.000 mm.

From 1500 To 1520 DX= -6,000.000 mm.

RESTRAINTS

Node 1520 +Y Mu = .30

From 1520 To 1540 DX= -2,674.000 mm.

BEND at "TO" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1539
Angle/Node @2= .00 1538

From 1540 To 1560 DZ= 2,129.000 mm.

RESTRAINTS

Node 1560 +Y Mu = .30
Node 1560 X Gap= 3.000 mm. Mu = .30

From 1560 To 1580 DZ= 1,221.000 mm.

BEND at "TO" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1579
Angle/Node @2= .00 1578

From 1580 To 1600 DY= 3,619.000 mm.

BEND at "TO" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1599
Angle/Node @2= .00 1598

From 1600 To 1620 DX= -1,457.000 mm.

BEND at "TO" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1619
Angle/Node @2= .00 1618

From 1620 To 1640 DY= -928.000 mm.

From 1640 To 1660 DY= -127.000 mm.

Element Name= FLANGE_NOFLG_600

RIGID Weight= 364.75 N.

RESTRAINTS

Node 1660 ANC Cnode 1661

From 1660 To 1680 DY= -35.000 mm.

PIPE

Dia= 168.275 mm. Wall= 10.973 mm. Cor= 3.0000 mm.

Element Name= FLANGE_NOFLG_600

GENERAL

T1= 142 C T2= 175 C T3= 142 C P1= 6,200.1411 KPa

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INPUT LISTING

PHyd= 9,300.2119 KPa Mat= (106)A106 Grade B E= 203,401,232 KPa
 EH1= 195,531,264 KPa EH2= 193,178,448 KPa EH3= 195,531,264 KPa
 EH4= 203,401,232 KPa EH5= 203,401,232 KPa EH6= 203,401,232 KPa
 EH7= 203,401,232 KPa EH8= 203,401,232 KPa EH9= 203,401,232 KPa
 v = .292 Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000430 kg./cu.cm.
 Insul Thk= 40.000 mm. Insul Den= .0001362 kg./cu.cm.

RIGID Weight= 111.21 N.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,571 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 1680 To 1700 DY= -200.000 mm.

RESTRAINTS

Node 1700 ANC Cnode 1720

EQUIPMENT LIMITS

Nozzle Node = 1700
 Limiting Loads: A=pipe; B=ref; C=AxB; FA= 15,090.75 N. FB= 15,090.75 N.
 FC= 12,000.60 N. MA= 9,150.39 N.m. MB= 4,890.21 N.m. MC= 6,420.27 N.m.
 Equipment Major Direction Vector= .0000 .0000 1.0000
 Interact. Mtd= Absolute

 From 1720 To 1740 DY= -240.000 mm.

RIGID Weight= .00 N.

 From 1740 To 1760 DY= -240.000 mm.

RIGID Weight= .00 N.

 From 1780 To 1800 DY= -200.000 mm.

GENERAL

T1= 60 C T3= 60 C Fluid Den= .0000596 kg./cu.cm.

RESTRAINTS

Node 1780 ANC Cnode 1760

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,571 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

EQUIPMENT LIMITS

Nozzle Node = 1780
 Limiting Loads: A=pipe; B=ref; C=AxB; FA= 16,200.81 N. FB= 15,090.75 N.
 FC= 12,000.60 N. MA= 9,150.39 N.m. MB= 4,890.21 N.m. MC= 6,420.27 N.m.
 Equipment Major Direction Vector= .0000 .0000 1.0000
 Interact. Mtd= Absolute

 From 1800 To 1820 DY= -35.000 mm.

Element Name= FLANGE_NOFLG_150

RIGID Weight= 111.21 N.

 From 1740 To 1840 DZ= 1,500.000 mm.

RIGID Weight= 2,250.11 N.

RESTRAINTS

Node 1840 Y Mu = .10
 Node 1840 X Mu = .30
 Node 1840 Z Gap= 6.000 mm.

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INPUT LISTING

 From 1840 To 1860 DX= -7,035.000 mm.

RIGID Weight=10,500.52 N.

RESTRAINTS

Node 1860 Y Mu = .10

Node 1860 Z Gap= 6.000 mm. Mu = .30

 From 1860 To 1880 DZ= -3,000.000 mm.

RIGID Weight= 4,500.22 N.

RESTRAINTS

Node 1880 Y Mu = .10

Node 1880 Z Gap= 6.000 mm.

 From 1880 To 1900 DX= 7,035.000 mm.

RIGID Weight=10,500.52 N.

RESTRAINTS

Node 1900 Y Mu = .10

Node 1900 X Mu = .30

Node 1900 Z Gap= 6.000 mm. Mu = .30

 From 1900 To 1740 DZ= 1,500.000 mm.

RIGID Weight= 2,250.11 N.

 From 1820 To 1920 DY= -101.600 mm.

PIPE

Dia= 168.275 mm. Wall= 7.112 mm. Cor= .0000 mm.

Element Name= FLANGE_NOFLG_150

GENERAL

T1= 60 C T2= 175 C T3= 60 C P1= 6,200.1411 KPa PHyd= 9,300.2119 KPa

Mat= (165)A312 TP316L E= 195,127,520 KPa EH1= 192,364,096 KPa

EH2= 184,539,120 KPa EH3= 192,364,096 KPa EH4= 195,127,520 KPa

EH5= 195,127,520 KPa EH6= 195,127,520 KPa EH7= 195,127,520 KPa

EH8= 195,127,520 KPa EH9= 195,127,520 KPa v = .292

Pipe Den= .0080272 kg./cu.cm. Fluid Den= .0000596 kg./cu.cm.

Insul Thk= 40.000 mm. Insul Den= .0001500 kg./cu.cm.

RIGID Weight= 191.27 N.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 115,142 KPa

Sh1= 115,142 KPa Sh2= 111,904 KPa Sh3= 115,142 KPa Sh4= 115,142 KPa

Sh5= 115,142 KPa Sh6= 115,142 KPa Sh7= 115,142 KPa Sh8= 115,142 KPa

Sh9= 115,142 KPa Sy= 172,369 KPa

 From 1920 To 1940 DY= -428.000 mm.

GENERAL

P1= 6,200.1411 KPa Fluid Den= .0000183 kg./cu.cm.

SINGLE FLANGED BEND at "TO" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1939

 From 1940 To 1960 DY= .000 mm. DZ= -328.500 mm.

 From 1960 To 1980 DY= .000 mm. DZ= -328.500 mm.

BEND at "TO" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1979

Angle/Node @2= .00 1978

 From 1980 To 2000 DX= 3,796.000 mm.

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INPUT LISTING

 From 2000 To 6420 DY= -76.200 mm.
 RIGID Weight= .00 N.
 SIF's & TEE's
 Node 6420 Unreinforced Tee Pad= 7.110 mm.

From 2000 To 6420 DY= -76.200 mm.
 PIPE
 Dia= 168.275 mm. Wall= 7.112 mm. Cor= .0000 mm.
 GENERAL
 T1= 60 C T2= 175 C T3= 60 C PHyd= 9,300.2119 KPa
 Mat= (165)A312 TP316L E= 195,127,520 KPa EH1= 192,370,304 KPa
 EH2= 184,539,120 KPa EH3= 192,370,304 KPa EH4= 195,127,520 KPa
 EH5= 195,127,520 KPa EH6= 195,127,520 KPa EH7= 195,127,520 KPa
 EH8= 195,127,520 KPa EH9= 195,127,520 KPa v = .292
 Pipe Den= .0080272 kg./cu.cm. Fluid Den= .0000183 kg./cu.cm.
 Insul Thk= .000 mm. Insul Den= .0000000 kg./cu.cm.

RIGID Weight= .00 N.
 SIF's & TEE's
 Node 6420 Unreinforced Tee

ALLOWABLE STRESSES
 B31.3 (2016) Cycle Max Switch = --- Sc= 115,142 KPa
 Sh1= 115,142 KPa Sh2= 111,904 KPa Sh3= 115,142 KPa Sh4= 115,142 KPa
 Sh5= 115,142 KPa Sh6= 115,142 KPa Sh7= 115,142 KPa Sh8= 115,142 KPa
 Sh9= 115,142 KPa Sy= 172,369 KPa

From 2000 To 4100 DX= 745.000 mm.
 PIPE
 Dia= 168.275 mm. Wall= 7.112 mm. Cor= .0000 mm.
 GENERAL
 T1= 60 C T2= 175 C T3= 60 C P1= 6,200.1411 KPa PHyd= 9,300.2119 KPa
 Mat= (165)A312 TP316L E= 195,127,520 KPa EH1= 192,364,096 KPa
 EH2= 184,539,120 KPa EH3= 192,364,096 KPa EH4= 195,127,520 KPa
 EH5= 195,127,520 KPa EH6= 195,127,520 KPa EH7= 195,127,520 KPa
 EH8= 195,127,520 KPa EH9= 195,127,520 KPa v = .292
 Pipe Den= .0080272 kg./cu.cm. Fluid Den= .0000600 kg./cu.cm.
 Insul Thk= 40.000 mm. Insul Den= .0001500 kg./cu.cm.

SIF's & TEE's
 Node 4100 Welding Tee

ALLOWABLE STRESSES
 B31.3 (2016) Cycle Max Switch = --- Sc= 115,142 KPa
 Sh1= 115,142 KPa Sh2= 111,904 KPa Sh3= 115,142 KPa Sh4= 115,142 KPa
 Sh5= 115,142 KPa Sh6= 115,142 KPa Sh7= 115,142 KPa Sh8= 115,142 KPa
 Sh9= 115,142 KPa Sy= 172,369 KPa

From 4100 To 4400 DY= -7.210 mm. DZ= 1,447.982 mm.

From 4400 To 4410 DY= -.632 mm. DZ= 126.998 mm.
 RIGID Weight= 364.75 N.

From 4410 To 4420 DY= -2.828 mm. DZ= 567.993 mm.
 RIGID Weight= 3,087.07 N.

From 4420 To 4430 DY= -.632 mm. DZ= 126.998 mm.
 RIGID Weight= 364.75 N.

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INPUT LISTING

From 4430 To 4440 DY= -1.661 mm. DZ= 333.496 mm.

From 4440 To 6480 DY= -76.200 mm.

RIGID Weight= .00 N.

SIF's & TEE's

Node 6480 Unreinforced Tee Pad= 7.110 mm.

From 4440 To 4450 DY= -1.661 mm. DZ= 333.496 mm.

From 4450 To 4460 DY= -.632 mm. DZ= 126.998 mm.

RIGID Weight= 364.75 N.

From 4460 To 4470 DY= -2.828 mm. DZ= 567.993 mm.

RIGID Weight= 733.96 N.

From 4470 To 4480 DY= -.632 mm. DZ= 126.998 mm.

RIGID Weight= 364.75 N.

From 4480 To 4482 DY= -3.070 mm. DZ= 564.500 mm.

From 4485 To 6760 DX= -53.882 mm. DY= -53.882 mm.

RIGID Weight= .00 N.

SIF's & TEE's

Node 6760 Unreinforced Tee Pad= 7.110 mm.

From 4482 To 4485 DY= -3.070 mm. DZ= 564.500 mm.

BEND at "T0" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 4484

Angle/Node @2= .00 4483

From 4485 To 4490 DX= 1,042.000 mm. DY= .000 mm. DZ= .000 mm.

From 4490 To 4500 DX= 127.000 mm. DY= .000 mm. DZ= .000 mm.

RIGID Weight= 364.75 N.

From 4500 To 4505 DX= 598.000 mm. DY= .000 mm. DZ= .000 mm.

RIGID Weight= 1,005.30 N.

From 4505 To 6790 DX= 127.000 mm. DY= .000 mm. DZ= .000 mm.

PIPE

Dia= 168.275 mm. Wall= 7.112 mm. Cor= .0000 mm.

GENERAL

T1= 60 C T2= 175 C T3= 60 C P1= 6,200.1411 KPa PHyd= 9,300.2119 KPa

Mat= (165)A312 TP316L E= 195,127,520 KPa EH1= 192,364,096 KPa

EH2= 184,539,120 KPa EH3= 192,364,096 KPa EH4= 195,127,520 KPa

EH5= 195,127,520 KPa EH6= 195,127,520 KPa EH7= 195,127,520 KPa

EH8= 195,127,520 KPa EH9= 195,127,520 KPa v = .292

Pipe Den= .0080272 kg./cu.cm. Fluid Den= .0000600 kg./cu.cm.

Insul Thk= 40.000 mm. Insul Den= .0001500 kg./cu.cm.

RIGID Weight= 364.75 N.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 115,142 KPa

Sh1= 115,142 KPa Sh2= 111,904 KPa Sh3= 115,142 KPa Sh4= 115,142 KPa

Sh5= 115,142 KPa Sh6= 115,142 KPa Sh7= 115,142 KPa Sh8= 115,142 KPa

Sh9= 115,142 KPa Sy= 172,369 KPa

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INPUT LISTING

From 6790 To 6780 DX= 324.000 mm.

From 6795 To 7000 DX= 53.882 mm. DY= -53.882 mm.

RIGID Weight= .00 N.

SIF's & TEE's

Node 7000 Unreinforced Tee Pad= 7.110 mm.

From 6780 To 6795 DX= 324.000 mm.

BEND at "T0" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 6794

Angle/Node @2= .00 6793

From 6795 To 6800 DY= -49.000 mm. DZ= 1,406.000 mm.

BEND at "T0" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 6799

Angle/Node @2= .00 6798

From 6800 To 6810 DX= -2,068.000 mm. DY= .000 mm. DZ= .000 mm.

From 6810 To 6820 DX= -2,000.000 mm. DY= .000 mm.

BEND at "T0" end

Radius= 228.600 mm. (LONG) Bend Angle= 45.000 Angle/Node @1= 22.50 6819

Angle/Node @2= .00 6818

From 6820 To 6830 DX= -166.000 mm. DY= -166.000 mm.

From 6845 To 6830 DZ= 341.000 mm.

PIPE

Dia= 168.275 mm. Wall= 7.112 mm. Cor= .0000 mm.

GENERAL

T1= 60 C T2= 175 C T3= 60 C P1= 6,200.1411 KPa PHyd= 9,300.2119 KPa

Mat= (165)A312 TP316L E= 195,127,520 KPa EH1= 192,364,096 KPa

EH2= 184,539,120 KPa EH3= 192,364,096 KPa EH4= 195,127,520 KPa

EH5= 195,127,520 KPa EH6= 195,127,520 KPa EH7= 195,127,520 KPa

EH8= 195,127,520 KPa EH9= 195,127,520 KPa v = .292

Pipe Den= .0080272 kg./cu.cm. Fluid Den= .0000596 kg./cu.cm.

Insul Thk= 40.000 mm. Insul Den= .0001362 kg./cu.cm.

RESTRAINTS

Node 6845 +Y Mu = .30

Node 6845 X Gap= 3.000 mm. Mu = .30

Node 6845 Z Gap= 3.000 mm. Mu = .30

SIF's & TEE's

Node 6830 Welding Tee

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 115,142 KPa

Sh1= 115,142 KPa Sh2= 111,904 KPa Sh3= 115,142 KPa Sh4= 115,142 KPa

Sh5= 115,142 KPa Sh6= 115,142 KPa Sh7= 115,142 KPa Sh8= 115,142 KPa

Sh9= 115,142 KPa Sy= 172,369 KPa

From 6830 To 6870 DZ= 5,576.000 mm.

RESTRAINTS

Node 6870 +Y Mu = .30

From 6870 To 6880 DZ= 2,000.000 mm.

From 6880 To 6890 DZ= 4,000.000 mm.

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INPUT LISTING

RESTRAINTS

Node 6890 +Y Mu = .30
Node 6890 X Gap= 3.000 mm. Mu = .30

From 6890 To 6900 DZ= 6,000.000 mm.

RESTRAINTS

Node 6900 +Y Mu = .30

From 6900 To 6905 DZ= 6,000.000 mm.

RESTRAINTS

Node 6905 +Y Mu = .30
Node 6905 X Gap= 3.000 mm. Mu = .30

From 6905 To 6910 DZ= 6,000.000 mm.

RESTRAINTS

Node 6910 +Y Mu = .30

From 6910 To 6915 DZ= 1,200.000 mm.

BEND at "T0" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 6914
Angle/Node @2= .00 6913

From 6915 To 6920 DX= 6,000.000 mm. DZ= .000 mm.

RESTRAINTS

Node 6920 +Y Mu = .30

From 4100 To 4560 DZ= -285.000 mm.

PIPE

Dia= 168.275 mm. Wall= 7.112 mm. Cor= .0000 mm.

GENERAL

T1= 60 C T2= 175 C T3= 60 C P1= 6,200.1411 KPa PHyd= 9,300.2119 KPa
Mat= (165)A312 TP316L E= 195,127,520 KPa EH1= 192,364,096 KPa
EH2= 184,539,120 KPa EH3= 192,364,096 KPa EH4= 195,127,520 KPa
EH5= 195,127,520 KPa EH6= 195,127,520 KPa EH7= 195,127,520 KPa
EH8= 195,127,520 KPa EH9= 195,127,520 KPa v = .292
Pipe Den= .0080272 kg./cu.cm. Fluid Den= .0000600 kg./cu.cm.
Insul Thk= 40.000 mm. Insul Den= .0001500 kg./cu.cm.

SIF's & TEE's

Node 4560 Welding Tee

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 115,142 KPa
Sh1= 115,142 KPa Sh2= 111,904 KPa Sh3= 115,142 KPa Sh4= 115,142 KPa
Sh5= 115,142 KPa Sh6= 115,142 KPa Sh7= 115,142 KPa Sh8= 115,142 KPa
Sh9= 115,142 KPa Sy= 172,369 KPa

From 4560 To 4570 DX= 143.000 mm.

From 4560 To 4580 DX= -143.000 mm.

From 4580 To 4590 DX= -372.000 mm.

PIPE

Dia= 168.275 mm. Wall= 7.112 mm.

GENERAL

Insul Thk= .000 mm. Insul Den= .0000000 kg./cu.cm.

BEND at "T0" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 4589

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INPUT LISTING

Angle/Node @2= .00 4588

 From 4590 To 4600 DZ= -229.000 mm.

From 4600 To 4610 DZ= -127.000 mm.
 RIGID Weight= 364.75 N.

From 4610 To 4620 DZ= -568.000 mm.
 RIGID Weight= 2,708.97 N.

From 4620 To 4630 DZ= -127.000 mm.
 RIGID Weight= 364.75 N.

From 4630 To 4640 DZ= -200.000 mm.

From 4640 To 6510 DY= -76.200 mm.
 RIGID Weight= .00 N.

SIF's & TEE's

Node 6510 Unreinforced Tee Pad= 7.110 mm.

From 4640 To 4650 DZ= -532.500 mm.

From 4650 To 4660 DY= -27.000 mm. DZ= -140.000 mm.
 REDUCER

Diam2= 114.300 mm. Wall2= 6.020 mm.

From 4660 To 4670 DZ= -111.125 mm.
 PIPE

Dia= 114.300 mm. Wall= 6.020 mm.
 Insul Thk= .000 mm.

RIGID Weight= 191.27 N.

From 4670 To 4680 DZ= -441.000 mm.
 RIGID Weight= 387.00 N.

From 4680 To 4690 DZ= -111.125 mm.
 RIGID Weight= 191.27 N.

From 4690 To 4700 DY= 27.000 mm. DZ= -140.000 mm.
 REDUCER

Diam2= 168.275 mm. Wall2= 7.112 mm.

From 4700 To 4710 DZ= -300.000 mm.
 PIPE

Dia= 168.275 mm. Wall= 7.112 mm.
 Insul Thk= .000 mm.

From 4710 To 6530 DY= -76.200 mm.
 RIGID Weight= .00 N.

SIF's & TEE's

Node 6530 Unreinforced Tee Pad= 7.112 mm.

From 4710 To 4720 DZ= -300.000 mm.

From 4720 To 4730 DZ= -127.000 mm.
 RIGID Weight= 364.75 N.

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INPUT LISTING

 From 4730 To 4740 DZ= -560.000 mm.
 RIGID Weight= 2,708.97 N.

From 4740 To 4750 DZ= -92.075 mm.
 PIPE

Dia= 168.275 mm. Wall= 10.973 mm. Cor= 6.0000 mm.

GENERAL

T1= 37 C T2= 85 C T3= 37 C P1= 900.0205 KPa PHyd= 1,350.0308 KPa
 Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 202,081,088 KPa
 EH2= 199,086,608 KPa EH3= 202,081,088 KPa EH4= 203,401,232 KPa
 EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa
 EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292
 Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000060 kg./cu.cm.
 Insul Thk= .000 mm.

RIGID Weight= 111.21 N.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

From 6550 To 4140 DZ= -3,792.000 mm.

BEND at "T0" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 4139
 Angle/Node @2= .00 4138

From 4140 To 6560 DX= 429.000 mm.

RESTRAINTS

Node 6560 +Y Mu = .30
 Node 6560 Z Gap= 3.000 mm. Mu = .30

From 6560 To 4760 DX= 4,399.000 mm.

BEND at "T0" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 4759
 Angle/Node @2= .00 4758

From 4760 To 4770 DZ= -457.000 mm.

BEND at "T0" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 4769

From 4770 To 4780 DY= -658.000 mm.

SIF's & TEE's

Node 4780 Welding Tee

From 4780 To 4160 DX= 393.000 mm.

PIPE

Dia= 219.075 mm. Wall= 12.700 mm. Cor= 6.0000 mm.

GENERAL

T1= 37 C T2= 85 C P1= 900.0205 KPa PHyd= 1,350.0308 KPa
 Fluid Den= .0000060 kg./cu.cm. Insul Thk= .000 mm.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

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INPUT LISTING

 From 4160 To 6600 DY= -101.600 mm.

RIGID Weight= .00 N.

SIF's & TEE's

Node 6600 Unreinforced Tee

 From 4160 To 4180 DX= 4,194.000 mm.

 From 4180 To 4200 DX= 114.300 mm.

Element Name= FLANGE_FLG_300

RIGID Weight= 302.48 N.

 From 4200 To 4220 DX= 20.000 mm.

Element Name= FLANGE_FLG_300

RIGID Weight= 30.00 N.

RESTRAINTS

Node 4220 ANC Cnode 4221

 From 4220 To 4240 DX= 114.300 mm.

Element Name= FLANGE_FLG_300

RIGID Weight= 302.48 N.

 From 4240 To 4260 DX= 155.000 mm.

RESTRAINTS

Node 4260 ANC Cnode 4261

EQUIPMENT LIMITS

Nozzle Node = 4260

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 11,200.56 N. FB= 11,200.56 N.

FC= 8,400.42 N. MA= 3,780.16 N.m. MB= 2,520.11 N.m. MC= 3,280.14 N.m.

Equipment Major Direction Vector= .0000 1.0000 .0000

Interact. Mtd= Absolute

 From 4261 To 4280 DX= 460.000 mm.

PIPE

Dia= 920.000 mm. Wall= 12.000 mm.

Insul Thk= .000 mm.

RIGID Weight= .00 N.

 From 4280 To 4300 DY= -1,300.000 mm.

RIGID Weight= .00 N.

 From 4300 To 4310 DY= -1,000.000 mm.

RIGID Weight= .00 N.

 From 4310 To 4320 DY= -300.000 mm.

GENERAL

T1= 21 C T2= 21 C T3= 21 C P1= .0000 KPa PHyd= .0000 KPa

RIGID Weight= .00 N.

RESTRAINTS

Node 4320 ANC

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

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INPUT LISTING

From 4780 To 6620 DX= -389.000 mm.

PIPE

Dia= 219.075 mm. Wall= 12.700 mm.

GENERAL

T1= 37 C T2= 85 C T3= 37 C P1= 900.0205 KPa PHyd= 1,350.0308 KPa
 Insul Thk= .000 mm.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 6620 To 6630 DY= -101.600 mm.

PHyd= 1,350.0308 KPa

RIGID Weight= .00 N.

SIF's & TEE's

Node 6630 Unreinforced Tee

 From 6620 To 4800 DX= -389.000 mm.

 From 4800 To 4810 DX= -114.300 mm.

RIGID Weight= 302.48 N.

 From 4810 To 4820 DX= -504.000 mm.

RIGID Weight= 2,090.66 N.

 From 4820 To 4830 DX= -114.300 mm.

RIGID Weight= 302.48 N.

 From 4830 To 4840 DX= -315.000 mm.

 From 4840 To 4850 DX= -114.300 mm.

RIGID Weight= 302.48 N.

 From 4850 To 4860 DX= -606.000 mm.

PIPE

Dia= 219.075 mm. Wall= 10.312 mm.

Insul Thk= .000 mm.

RIGID Weight= 360.31 N.

 From 4860 To 4870 DX= -104.775 mm.

RIGID Weight= 177.93 N.

 From 4870 To 4880 DX= -200.000 mm.

 From 4880 To 6650 DX= -287.000 mm.

 From 6650 To 6660 DY= -101.600 mm.

RIGID Weight= .00 N.

SIF's & TEE's

Node 6660 Unreinforced Tee

 From 6650 To 4890 DX= -487.000 mm.

 From 4890 To 4900 DX= -104.775 mm.

RIGID Weight= 177.93 N.

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INPUT LISTING

From 4900 To 4910 DX= -486.500 mm.

RIGID Weight= 2,259.70 N.

From 4910 To 4920 DX= -104.775 mm.

RIGID Weight= 177.93 N.

From 4920 To 4930 DX= -542.000 mm.

From 4930 To 6680 DY= -101.600 mm.

RIGID Weight= .00 N.

SIF's & TEE's

Node 6680 Unreinforced Tee

From 4930 To 4940 DX= -605.000 mm.

BEND at "TO" end

Radius= 304.800 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 4939

Angle/Node @2= .00 4938

From 4940 To 4950 DZ= 1,500.000 mm.

BEND at "TO" end

Radius= 304.800 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 4949

Angle/Node @2= .00 4948

From 4950 To 4960 DX= -871.500 mm. DY= .000 mm.

BEND at "TO" end

Radius= 304.800 mm. (LONG) Bend Angle= 45.000 Angle/Node @1= 22.50 4959

Angle/Node @2= .00 4958

From 4960 To 6065 DX= -337.000 mm. DY= 337.000 mm.

From 4570 To 4775 DX= 140.000 mm. DY= -27.000 mm.

PIPE

Dia= 168.275 mm. Wall= 7.112 mm. Cor= .0000 mm.

GENERAL

T1= 60 C T2= 175 C T3= 60 C P1= 6,200.1411 KPa PHyd= 9,300.2119 KPa

Mat= (165)A312 TP316L E= 195,127,520 KPa EH1= 192,364,096 KPa

EH2= 184,539,120 KPa EH3= 192,364,096 KPa EH4= 195,127,520 KPa

EH5= 195,127,520 KPa EH6= 195,127,520 KPa EH7= 195,127,520 KPa

EH8= 195,127,520 KPa EH9= 195,127,520 KPa v = .292

Pipe Den= .0080272 kg./cu.cm. Fluid Den= .0000060 kg./cu.cm.

Insul Thk= 40.000 mm. Insul Den= .0001500 kg./cu.cm.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 115,142 KPa

Sh1= 115,142 KPa Sh2= 111,904 KPa Sh3= 115,142 KPa Sh4= 115,142 KPa

Sh5= 115,142 KPa Sh6= 115,142 KPa Sh7= 115,142 KPa Sh8= 115,142 KPa

Sh9= 115,142 KPa Sy= 172,369 KPa

REDUCER

Diam2= 114.300 mm. Wall2= 6.020 mm.

From 4775 To 4980 DX= 498.000 mm.

PIPE

Dia= 114.300 mm. Wall= 6.020 mm.

Insul Thk= 40.000 mm.

From 4980 To 4990 DX= 111.125 mm.

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INPUT LISTING

E= 195,127,520 KPa EH1= 192,364,096 KPa EH2= 184,539,120 KPa
 EH3= 192,364,096 KPa EH4= 195,127,520 KPa EH5= 195,127,520 KPa
 EH6= 195,127,520 KPa EH7= 195,127,520 KPa EH8= 195,127,520 KPa
 EH9= 195,127,520 KPa v = .292 Pipe Den= .0080272 kg./cu.cm.

RIGID Weight= 191.27 N.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 115,142 KPa
 Sh1= 115,142 KPa Sh2= 111,904 KPa Sh3= 115,142 KPa Sh4= 115,142 KPa
 Sh5= 115,142 KPa Sh6= 115,142 KPa Sh7= 115,142 KPa Sh8= 115,142 KPa
 Sh9= 115,142 KPa Sy= 172,369 KPa

 From 4990 To 5000 DX= 441.000 mm.

RIGID Weight= 1,116.50 N.

 From 5000 To 5010 DX= 111.125 mm.

RIGID Weight= 191.27 N.

 From 5010 To 5020 DX= 153.000 mm.

BEND at "TO" end

Radius= 152.400 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 5019

 From 5020 To 5025 DZ= -464.000 mm.

 From 5020 To 6700 DX= 53.882 mm. DY= -53.882 mm.

RIGID Weight= .00 N.

SIF's & TEE's

Node 6700 Unreinforced Tee Pad= 7.112 mm.

 From 5025 To 5030 DZ= -464.500 mm.

 From 5030 To 5040 DY= -13.000 mm. DZ= -102.000 mm.

REDUCER

Diam2= 88.900 mm. Wall2= 5.486 mm.

 From 5040 To 5060 DZ= -92.075 mm.

PIPE

Dia= 88.900 mm. Wall= 5.486 mm.

Insul Thk= 40.000 mm.

RIGID Weight= 106.76 N.

 From 5060 To 5070 DZ= -365.000 mm.

RIGID Weight= 217.96 N.

 From 5070 To 5080 DZ= -92.075 mm.

RIGID Weight= 106.76 N.

 From 5080 To 5090 DY= 12.500 mm. DZ= -102.000 mm.

REDUCER

Diam2= 114.300 mm. Wall2= 6.020 mm.

 From 5090 To 5095 DZ= -267.500 mm.

PIPE

Dia= 114.300 mm. Wall= 6.020 mm.

Insul Thk= 40.000 mm.

 From 5095 To 6720 DY= -50.800 mm.

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INPUT LISTING

RIGID Weight= .00 N.

SIF's & TEE's

Node 6720 Reinforced Tee Pad= 6.020 mm.

 From 5095 To 5100 DZ= -267.500 mm.

From 5100 To 5110 DZ= -111.125 mm.

RIGID Weight= 191.27 N.

 From 5110 To 5120 DZ= -441.000 mm.

RIGID Weight= 1,116.50 N.

 From 5120 To 5130 DZ= -79.375 mm.

PIPE

Dia= 114.300 mm. Wall= 8.560 mm. Cor= 6.0000 mm.

GENERAL

T1= 272 C T2= 270 C T3= -28 C P1= 600.0137 KPa PHyd= 900.0205 KPa

Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 187,335,024 KPa

EH2= 187,483,936 KPa EH3= 205,934,864 KPa EH4= 203,401,232 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000015 kg./cu.cm.

Insul Thk= .000 mm. Insul Den= .0000000 kg./cu.cm.

RIGID Weight= 71.17 N.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 129,365 KPa Sh2= 129,638 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

 From 5130 To 5140 DZ= -153.000 mm.

BEND at "T0" end

Radius= 152.400 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 5139

 From 5140 To 5145 DY= -578.000 mm.

 From 5145 To 6740 DZ= -50.800 mm.

RIGID Weight= .00 N.

SIF's & TEE's

Node 6740 Unreinforced Tee

 From 5145 To 5150 DY= -412.000 mm.

BEND at "T0" end

Radius= 152.400 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 5149

Angle/Node @2= .00 5148

 From 5150 To 5160 DX= -986.000 mm.

BEND at "T0" end

Radius= 152.400 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 5159

Angle/Node @2= .00 5158

 From 5160 To 5170 DY= -1,073.000 mm.

BEND at "T0" end

Radius= 152.400 mm. (LONG) Bend Angle= 44.939 Angle/Node @1= 22.47 5169

Angle/Node @2= .00 5168

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INPUT LISTING

From 5170 To 5490 DX= .000 mm. DY= -530.000 mm. DZ= 528.876 mm.

 From 4710 To 6530 DY= -76.200 mm.

PIPE

Dia= 168.275 mm. Wall= 7.112 mm. Cor= .0000 mm.

GENERAL

T1= 60 C T2= 175 C T3= 60 C P1= 6,200.1411 KPa P2= .0000 KPa
 PHyd= 9,300.2119 KPa Mat= (165)A312 TP316L E= 195,127,520 KPa
 EH1= 192,364,096 KPa EH2= 184,539,120 KPa EH3= 192,364,096 KPa
 EH4= 195,127,520 KPa EH5= 195,127,520 KPa EH6= 195,127,520 KPa
 EH7= 195,127,520 KPa EH8= 195,127,520 KPa EH9= 195,127,520 KPa
 v = .292 Pipe Den= .0080272 kg./cu.cm. Fluid Den= .0000600 kg./cu.cm.
 Insul Thk= .000 mm. Insul Den= .0000000 kg./cu.cm.

RIGID Weight= .00 N.

SIF's & TEE's

Node 6530 Unreinforced Tee Pad= 7.112 mm.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 115,142 KPa
 Sh1= 115,142 KPa Sh2= 111,904 KPa Sh3= 115,142 KPa Sh4= 115,142 KPa
 Sh5= 115,142 KPa Sh6= 115,142 KPa Sh7= 115,142 KPa Sh8= 115,142 KPa
 Sh9= 115,142 KPa Sy= 172,369 KPa

 From 6010 To 6020 DX= .000 mm. DZ= 6,000.000 mm.

PIPE

Dia= 273.050 mm. Wall= 9.271 mm. Cor= 6.0000 mm.

GENERAL

T1= 38 C T2= 85 C T3= 38 C P1= 900.0205 KPa PHyd= 1,350.0308 KPa
 Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 202,002,864 KPa
 EH2= 199,086,608 KPa EH3= 202,002,864 KPa EH4= 203,401,232 KPa
 EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa
 EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292
 Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000059 kg./cu.cm.
 Insul Thk= .000 mm. Insul Den= .0000000 kg./cu.cm.

RESTRAINTS

Node 6010 +Y Cnode 0 Mu = .30
 Node 6010 Z Gap= 3.000 mm. Mu = .30
 Node 6010 X Gap= 3.000 mm. Mu = .30
 Node 6020 +Y Mu = .30

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 6020 To 6025 DX= .000 mm. DZ= 6,000.000 mm.

RESTRAINTS

Node 6025 +Y Mu = .30
 Node 6025 X Gap= 3.000 mm. Mu = .30

 From 6025 To 6030 DX= .000 mm. DZ= 6,000.000 mm.

RESTRAINTS

Node 6030 +Y Mu = .30
 Node 6030 X Gap= 3.000 mm. Mu = .30

 From 6030 To 6035 DY= .000 mm. DZ= 1,100.000 mm.

BEND at "TO" end

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INPUT LISTING

Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 6034
Angle/Node @2= .00 6033

From 6035 To 6040 DX= -6,000.000 mm. DY= .000 mm.

BEND at "T0" end

Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 6039
Angle/Node @2= .00 6038

From 6040 To 6045 DZ= 1,900.000 mm.

RESTRAINTS

Node 6045 +Y Mu = .30

From 6045 To 6050 DZ= 1,900.000 mm.

BEND at "T0" end

Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 6049
Angle/Node @2= .00 6048

From 6050 To 6055 DX= 6,000.000 mm. DZ= .000 mm.

BEND at "T0" end

Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 6054
Angle/Node @2= .00 6053

From 6055 To 6060 DZ= 1,100.000 mm.

RESTRAINTS

Node 6060 +Y Mu = .30

Node 6060 X Gap= 3.000 mm. Mu = .30

From 6060 To 6065 DZ= 4,970.000 mm.

From 6065 To 6070 DZ= 1,300.000 mm.

RESTRAINTS

Node 6070 +Y Mu = .30

From 6070 To 6080 DZ= 6,000.000 mm.

RESTRAINTS

Node 6080 +Y Mu = .30

Node 6080 X Gap= 3.000 mm. Mu = .30

From 6080 To 6090 DZ= 6,000.000 mm.

RESTRAINTS

Node 6090 +Y Mu = .30

Node 6090 LIM Gap= 3.000 mm. Mu = .30

From 6090 To 4970 DZ= 4,700.000 mm.

RESTRAINTS

Node 4970 +Y Mu = .30

Node 4970 X Gap= 3.000 mm. Mu = .30

From 1260 To 2140 DY= 1,530.000 mm.

PIPE

Dia= 60.325 mm. Wall= 8.738 mm. Cor= 3.0000 mm.

GENERAL

T1= 142 C T2= 175 C T3= 142 C P1= 6,200.1411 KPa

Phyd= 9,300.2119 KPa Mat= (106)A106 Grade B E= 203,401,232 KPa

EH1= 195,549,872 KPa EH2= 193,178,448 KPa EH3= 195,549,872 KPa

EH4= 203,401,232 KPa EH5= 203,401,232 KPa EH6= 203,401,232 KPa

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INPUT LISTING

EH7= 203,401,232 KPa EH8= 203,401,232 KPa EH9= 203,401,232 KPa
v = .292 Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000430 kg./cu.cm.
Insul Thk= .000 mm. Insul Den= .0000000 kg./cu.cm.

BEND at "T0" end

Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 2139
Angle/Node @2= .00 2138

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
Sh1= 137,895 KPa Sh2= 137,571 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
Sh9= 137,895 KPa Sy= 241,316 KPa

From 2140 To 2160 DX= .000 mm. DZ= 252.000 mm.

BEND at "T0" end

Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 2159
Angle/Node @2= .00 2158

From 2160 To 2180 DX= -3,864.000 mm.

RESTRAINTS

Node 2180 +Y Mu = .30
Node 2180 Z Gap= 3.000 mm. Mu = .30

From 2180 To 2200 DX= -4,914.500 mm.

RESTRAINTS

Node 2200 +Y Mu = .30

From 2200 To 2220 DX= -4,914.500 mm.

RESTRAINTS

Node 2220 +Y Mu = .30
Node 2220 Z Gap= 3.000 mm. Mu = .30

From 2220 To 2260 DX= -388.000 mm.

BEND at "T0" end

Radius= 76.200 mm. (LONG) Bend Angle= 90.000

From 2260 To 2270 DZ= 2,498.000 mm.

RESTRAINTS

Node 2270 +Y Mu = .30

From 2270 To 2280 DZ= 1,584.000 mm.

SIF's & TEE's

Node 2280 Welding Tee

From 2280 To 2320 DY= 440.000 mm.

RESTRAINTS

Node 2320 Y

From 2320 To 2330 DY= 446.000 mm.

From 2330 To 2340 DY= 213.000 mm.

From 2340 To 2360 DY= 82.550 mm.

Element Name= GATE_FLG_600

RIGID Weight= 57.83 N.

From 2360 To 5650 DY= 301.000 mm.

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INPUT LISTING

RIGID Weight= 311.38 N.

 From 5650 To 5660 DY= 82.550 mm.

RIGID Weight= 57.83 N.

 From 5660 To 2400 DY= 400.000 mm.

 From 2400 To 5670 DY= 106.000 mm.

REDUCER

Diam2= 48.260 mm. Wall2= 7.137 mm.

 From 5670 To 5680 DY= 79.375 mm.

PIPE

Dia= 48.260 mm. Wall= 7.137 mm.

Insul Thk= .000 mm.

RIGID Weight= 35.59 N.

 From 5680 To 5690 DY= 79.375 mm.

RIGID Weight= 35.59 N.

 From 5690 To 2420 DY= 41.500 mm.

RIGID Weight= 25.00 N.

FORCES & MOMENTS

Node 2420 FX1= 2,000.10 N. FY1= 1,000.05 N. FZ1= .00 N.

 From 2420 To 2440 DX= -156.000 mm.

PIPE

Dia= 88.900 mm. Wall= 7.620 mm.

GENERAL

T1= 142 C T2= 175 C T3= 142 C P1= 6,200.1411 KPa

PHyd= 9,300.2119 KPa Insul Thk= .000 mm.

RIGID Weight= 100.00 N.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,571 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

 From 2440 To 2460 DX= -73.025 mm. DZ= .000 mm.

PIPE

Cor= 6.0000 mm. Element Name= FLANGE_FLG_150

GENERAL

T1= 272 C T2= 270 C T3= -28 C P1= 600.0137 KPa PHyd= 900.0205 KPa

Fluid Den= .0000015 kg./cu.cm.

RIGID Weight= 54.49 N.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 129,365 KPa Sh2= 129,638 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

 From 2460 To 2480 DX= -140.000 mm. DY= -39.700 mm. DZ= .000 mm.

REDUCER

Diam2= 168.275 mm. Wall2= 10.973 mm.

 From 2480 To 2500 DX= -350.000 mm.

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INPUT LISTING

PIPE

Dia= 168.275 mm. Wall= 10.973 mm.

Insul Thk= .000 mm.

RESTRAINTS

Node 2500 +Y Mu = .30

Node 2500 Z

Node 2500 X Gap= 3.000 mm.

From 2500 To 2520 DX= -579.000 mm. DZ= .000 mm.

SINGLE FLANGED BEND at "TO" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 2519

Angle/Node @2= .00 2518

From 2520 To 2540 DY= -229.000 mm.

From 2540 To 5700 DY= -92.075 mm.

Element Name= BALL_FLG_150

RIGID Weight= 111.21 N.

From 5700 To 2560 DY= -276.000 mm.

RIGID Weight= 1,005.30 N.

From 2560 To 2570 DY= -92.075 mm.

RIGID Weight= 111.21 N.

From 2570 To 5710 DY= -654.000 mm.

From 5710 To 6440 DX= -76.200 mm.

RIGID Weight= .00 N.

SIF's & TEE's

Node 6440 Unreinforced Tee

From 5710 To 2580 DY= -587.000 mm.

BEND at "TO" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 2579

Angle/Node @2= .00 2578

From 2580 To 5840 DX= -324.000 mm.

BEND at "TO" end

Radius= 228.600 mm. (LONG) Bend Angle= 45.000 Angle/Node @1= 22.50 5839

From 5840 To 5800 DX= -500.000 mm. DZ= 500.000 mm.

From 2280 To 2300 DZ= 500.000 mm.

PIPE

Dia= 60.325 mm. Wall= 8.738 mm. Cor= 3.0000 mm.

GENERAL

T1= 142 C T2= 175 C T3= 142 C P1= 6,200.1411 KPa

PHyd= 9,300.2119 KPa Fluid Den= .0000430 kg./cu.cm. Insul Thk= .000 mm.

BEND at "TO" end

Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 2299

Angle/Node @2= .00 2298

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,571 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

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INPUT LISTING

Sh9= 137,895 KPa Sy= 241,316 KPa

 From 2300 To 2620 DY= 440.000 mm.

PIPE

Dia= 60.325 mm. Wall= 8.738 mm. Cor= 3.0000 mm.

GENERAL

T1= 142 C T2= 175 C P1= 6,200.1411 KPa PHyd= 9,300.2119 KPa

Fluid Den= .0000154 kg./cu.cm. Insul Thk= .000 mm.

RESTRAINTS

Node 2620 +Y

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,571 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

 From 2620 To 2640 DY= 660.000 mm.

 From 2640 To 5720 DY= 82.550 mm.

RIGID Weight= 57.83 N.

 From 5720 To 2660 DY= 301.000 mm.

Element Name= GATE_FLG_600

RIGID Weight= 311.38 N.

 From 2660 To 5730 DY= 82.550 mm.

RIGID Weight= 57.83 N.

 From 5730 To 2700 DY= 400.000 mm.

 From 2700 To 5740 DY= 106.000 mm.

REDUCER

Diam2= 48.260 mm. Wall2= 7.137 mm.

 From 5740 To 5750 DY= 79.375 mm.

PIPE

Dia= 48.260 mm. Wall= 7.137 mm.

Insul Thk= .000 mm.

RIGID Weight= 35.59 N.

 From 5750 To 5760 DY= 79.375 mm.

RIGID Weight= 35.59 N.

 From 5760 To 2720 DY= 41.000 mm.

RIGID Weight= 35.59 N.

FORCES & MOMENTS

Node 2720 FX2= 2,000.10 N. FY2= 1,000.05 N. FZ2= .00 N.

 From 2720 To 2740 DX= -156.000 mm. DZ= .000 mm.

PIPE

Dia= 88.900 mm. Wall= 7.620 mm.

Insul Thk= .000 mm.

RIGID Weight= 100.00 N.

 From 2740 To 2760 DX= -73.025 mm. DZ= .000 mm.

PIPE

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INPUT LISTING

Dia= 88.900 mm. Wall= 7.620 mm. Cor= 6.0000 mm.

Element Name= FLANGE_FLG_150

GENERAL

T1= 272 C T2= 270 C T3= -28 C P1= 600.0137 KPa PHyd= 900.0205 KPa

Fluid Den= .0000015 kg./cu.cm. Insul Thk= .000 mm.

RIGID Weight= 54.49 N.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 129,365 KPa Sh2= 129,638 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 2760 To 2780 DX= -140.000 mm. DY= -39.700 mm. DZ= .000 mm.

REDUCER

Diam2= 168.275 mm. Wall2= 10.973 mm.

From 2780 To 2800 DX= -350.000 mm.

PIPE

Dia= 168.275 mm. Wall= 10.973 mm.

Insul Thk= .000 mm.

RESTRAINTS

Node 2800 +Y Mu = .30

Node 2800 Z Gap= 3.000 mm.

Node 2800 X Gap= 3.000 mm. Mu = .30

From 2800 To 2820 DX= -579.000 mm. DZ= .000 mm.

SINGLE FLANGED BEND at "T0" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 2819

Angle/Node @2= .00 2818

From 2820 To 2840 DY= -229.000 mm.

From 2840 To 2846 DY= -92.075 mm.

Element Name= BALL_FLG_150

RIGID Weight= 111.21 N.

From 2846 To 2852 DY= -276.000 mm.

RIGID Weight= 1,005.30 N.

From 2852 To 2860 DY= -92.075 mm.

RIGID Weight= 111.21 N.

From 2860 To 2870 DY= -654.000 mm.

From 2870 To 6460 DX= -76.200 mm.

RIGID Weight= .00 N.

From 2870 To 2880 DY= -587.000 mm.

BEND at "T0" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 2879

Angle/Node @2= .00 2878

From 2880 To 5800 DX= -824.000 mm.

SIF's & TEE's

Node 5800 Welding Tee

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INPUT LISTING

From 5800 To 5805 DX= -1,582.000 mm.

RESTRAINTS

Node 5805 +Y Mu = .30

From 5805 To 5810 DX= -950.000 mm.

BEND at "T0" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 5809
 Angle/Node @2= .00 5808

From 5810 To 5820 DY= -673.500 mm.

BEND at "T0" end

Radius= 228.600 mm. (LONG) Bend Angle= 39.950 Angle/Node @1= 19.97 5819
 Angle/Node @2= .00 5818

From 5820 To 5475 DX= .126 mm. DY= -1,086.100 mm. DZ= 909.726 mm.

From 4750 To 6550 DZ= -178.000 mm.

PIPE

Dia= 168.275 mm. Wall= 10.973 mm. Cor= 6.0000 mm.

GENERAL

T1= 37 C T2= 85 C T3= 37 C P1= 900.0205 KPa PHyd= 1,350.0308 KPa
 Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 202,081,088 KPa
 EH2= 199,086,608 KPa EH3= 202,081,088 KPa EH4= 203,401,232 KPa
 EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa
 EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292
 Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000060 kg./cu.cm.
 Insul Thk= .000 mm. Insul Den= .0000000 kg./cu.cm.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

From 6210 To 6220 DY= -300.000 mm.

PIPE

Dia= 114.300 mm. Wall= 6.020 mm. Cor= .0000 mm.

GENERAL

T1= 21 C T2= 21 C T3= 21 C P1= .0000 KPa PHyd= .0000 KPa
 Mat= (102)A53 Grade B E= 203,401,232 KPa EH1= 203,401,232 KPa
 EH2= 203,401,232 KPa EH3= 203,401,232 KPa EH4= 203,401,232 KPa
 EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa
 EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292
 Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000000 kg./cu.cm.
 Insul Thk= .000 mm. Insul Den= .0000000 kg./cu.cm.

RESTRAINTS

Node 6220 +Y Mu = .30
 Node 6220 Z Gap= 3.000 mm. Mu = .30

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

From 6230 To 6240 DZ= 300.000 mm.

PIPE

Dia= 48.260 mm. Wall= 3.683 mm.

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INPUT LISTING

Insul Thk= .000 mm.

RESTRAINTS

Node 6240 +Y Cnode 6241 Mu = .30

 From 6260 To 6270 DY= -350.000 mm.

RESTRAINTS

Node 6270 +Y Cnode 6271 Mu = .30
 Node 6270 Z Cnode 6271 Gap= 3.000 mm.

 From 6280 To 6290 DX= 300.000 mm.

PIPE

Dia= 60.325 mm. Wall= 3.912 mm.
 Insul Thk= .000 mm.

RESTRAINTS

Node 6290 +Y Cnode 6291 Mu = .30
 Node 6290 Z Cnode 6291 Gap= 3.000 mm.

 From 6300 To 6310 DY= -900.000 mm.

RESTRAINTS

Node 6310 +Y Mu = .30

 From 6400 To 6410 DY= -300.000 mm.

PIPE

Dia= 114.300 mm. Wall= 6.020 mm.
 Insul Thk= .000 mm.

RESTRAINTS

Node 6410 +Y Mu = .30
 Node 6410 Z Gap= 3.000 mm.

 From 6420 To 6425 DY= -230.000 mm.

GENERAL

Mat= (165)A312 TP316L E= 195,127,520 KPa EH1= 195,127,520 KPa
 EH2= 195,127,520 KPa EH3= 195,127,520 KPa EH4= 195,127,520 KPa
 EH5= 195,127,520 KPa EH6= 195,127,520 KPa EH7= 195,127,520 KPa
 EH8= 195,127,520 KPa EH9= 195,127,520 KPa v = .292
 Pipe Den= .0080272 kg./cu.cm.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 115,142 KPa
 Sh1= 115,142 KPa Sh2= 115,142 KPa Sh3= 115,142 KPa Sh4= 115,142 KPa
 Sh5= 115,142 KPa Sh6= 115,142 KPa Sh7= 115,142 KPa Sh8= 115,142 KPa
 Sh9= 115,142 KPa Sy= 172,369 KPa

 From 6425 To 6430 DY= -380.000 mm.

GENERAL

Mat= (102)A53 Grade B E= 203,401,232 KPa EH1= 203,401,232 KPa
 EH2= 203,401,232 KPa EH3= 203,401,232 KPa EH4= 203,401,232 KPa
 EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa
 EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292
 Pipe Den= .0078334 kg./cu.cm.

RESTRAINTS

Node 6430 +Y Mu = .30

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

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INPUT LISTING

 From 6440 To 6450 DX= -300.000 mm.

RESTRAINTS

Node 6450 +Y

 From 6460 To 6470 DX= -300.000 mm.

RESTRAINTS

Node 6470 +Y Mu = .30

 From 6480 To 6485 DY= -230.000 mm.

GENERAL

Mat= (165)A312 TP316L E= 195,127,520 KPa EH1= 195,127,520 KPa
 EH2= 195,127,520 KPa EH3= 195,127,520 KPa EH4= 195,127,520 KPa
 EH5= 195,127,520 KPa EH6= 195,127,520 KPa EH7= 195,127,520 KPa
 EH8= 195,127,520 KPa EH9= 195,127,520 KPa v = .292
 Pipe Den= .0080272 kg./cu.cm.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 115,142 KPa
 Sh1= 115,142 KPa Sh2= 115,142 KPa Sh3= 115,142 KPa Sh4= 115,142 KPa
 Sh5= 115,142 KPa Sh6= 115,142 KPa Sh7= 115,142 KPa Sh8= 115,142 KPa
 Sh9= 115,142 KPa Sy= 172,369 KPa

 From 6485 To 6490 DY= -380.000 mm.

GENERAL

Mat= (102)A53 Grade B E= 203,401,232 KPa EH1= 203,401,232 KPa
 EH2= 203,401,232 KPa EH3= 203,401,232 KPa EH4= 203,401,232 KPa
 EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa
 EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292
 Pipe Den= .0078334 kg./cu.cm.

RESTRAINTS

Node 6490 +Y Mu = .30

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 6510 To 6515 DY= -230.000 mm.

GENERAL

Mat= (165)A312 TP316L E= 195,127,520 KPa EH1= 195,127,520 KPa
 EH2= 195,127,520 KPa EH3= 195,127,520 KPa EH4= 195,127,520 KPa
 EH5= 195,127,520 KPa EH6= 195,127,520 KPa EH7= 195,127,520 KPa
 EH8= 195,127,520 KPa EH9= 195,127,520 KPa v = .292
 Pipe Den= .0080272 kg./cu.cm.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 115,142 KPa
 Sh1= 115,142 KPa Sh2= 115,142 KPa Sh3= 115,142 KPa Sh4= 115,142 KPa
 Sh5= 115,142 KPa Sh6= 115,142 KPa Sh7= 115,142 KPa Sh8= 115,142 KPa
 Sh9= 115,142 KPa Sy= 172,369 KPa

 From 6515 To 6520 DY= -380.000 mm.

GENERAL

Mat= (102)A53 Grade B E= 203,401,232 KPa EH1= 203,401,232 KPa
 EH2= 203,401,232 KPa EH3= 203,401,232 KPa EH4= 203,401,232 KPa
 EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa
 EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

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INPUT LISTING

Pipe Den= .0078334 kg./cu.cm.

RESTRAINTS

Node 6520 +Y Mu = .30

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 6530 To 6535 DY= -230.000 mm.

GENERAL

Mat= (165)A312 TP316L E= 195,127,520 KPa EH1= 195,127,520 KPa
 EH2= 195,127,520 KPa EH3= 195,127,520 KPa EH4= 195,127,520 KPa
 EH5= 195,127,520 KPa EH6= 195,127,520 KPa EH7= 195,127,520 KPa
 EH8= 195,127,520 KPa EH9= 195,127,520 KPa v = .292
 Pipe Den= .0080272 kg./cu.cm.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 115,142 KPa
 Sh1= 115,142 KPa Sh2= 115,142 KPa Sh3= 115,142 KPa Sh4= 115,142 KPa
 Sh5= 115,142 KPa Sh6= 115,142 KPa Sh7= 115,142 KPa Sh8= 115,142 KPa
 Sh9= 115,142 KPa Sy= 172,369 KPa

 From 6535 To 6540 DY= -380.000 mm.

GENERAL

Mat= (102)A53 Grade B E= 203,401,232 KPa EH1= 203,401,232 KPa
 EH2= 203,401,232 KPa EH3= 203,401,232 KPa EH4= 203,401,232 KPa
 EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa
 EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292
 Pipe Den= .0078334 kg./cu.cm.

RESTRAINTS

Node 6540 +Y Mu = .30
 Node 6540 X Gap= 3.000 mm. Mu = .30

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 6550 To 6590 DY= -610.000 mm.

RESTRAINTS

Node 6590 +Y Mu = .30
 Node 6590 X Gap= 3.000 mm. Mu = .30

 From 6600 To 6610 DY= -500.000 mm.

PIPE

Dia= 168.275 mm. Wall= 7.112 mm.
 Insul Thk= .000 mm.

RESTRAINTS

Node 6610 +Y
 Node 6610 Z Gap= 3.000 mm. Mu = .30

 From 6630 To 6640 DY= -500.000 mm.

RESTRAINTS

Node 6640 +Y Mu = .30
 Node 6640 Z Gap= 3.000 mm. Mu = .30

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INPUT LISTING

From 6660 To 6670 DY= -500.000 mm.

RESTRAINTS

Node 6670 +Y Mu = .30
 Node 6670 Z Gap= 3.000 mm. Mu = 3.00

From 6680 To 6690 DY= -500.000 mm.

RESTRAINTS

Node 6690 +Y Mu = .30

From 6700 To 6705 DX= 100.000 mm.

PIPE

Dia= 114.300 mm. Wall= 6.020 mm.

GENERAL

Mat= (165)A312 TP316L E= 195,127,520 KPa EH1= 195,127,520 KPa
 EH2= 195,127,520 KPa EH3= 195,127,520 KPa EH4= 195,127,520 KPa
 EH5= 195,127,520 KPa EH6= 195,127,520 KPa EH7= 195,127,520 KPa
 EH8= 195,127,520 KPa EH9= 195,127,520 KPa v = .292
 Pipe Den= .0080272 kg./cu.cm. Insul Thk= .000 mm.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 115,142 KPa
 Sh1= 115,142 KPa Sh2= 115,142 KPa Sh3= 115,142 KPa Sh4= 115,142 KPa
 Sh5= 115,142 KPa Sh6= 115,142 KPa Sh7= 115,142 KPa Sh8= 115,142 KPa
 Sh9= 115,142 KPa Sy= 172,369 KPa

From 6705 To 6710 DX= 400.000 mm.

GENERAL

Mat= (102)A53 Grade B E= 203,401,232 KPa EH1= 203,401,232 KPa
 EH2= 203,401,232 KPa EH3= 203,401,232 KPa EH4= 203,401,232 KPa
 EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa
 EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292
 Pipe Den= .0078334 kg./cu.cm.

RESTRAINTS

Node 6710 +Y Mu = .30

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

From 6720 To 6730 DY= -700.000 mm.

PIPE

Dia= 88.900 mm. Wall= 5.486 mm.
 Insul Thk= .000 mm.

RESTRAINTS

Node 6730 +Y Mu = .30
 Node 6730 X Gap= 3.000 mm. Mu = .30

From 6740 To 6750 DZ= -300.000 mm.

RESTRAINTS

Node 6750 +Y Mu = .30

From 6760 To 6765 DX= -100.000 mm.

PIPE

Dia= 114.300 mm. Wall= 6.020 mm.

GENERAL

Mat= (165)A312 TP316L E= 195,127,520 KPa EH1= 195,127,520 KPa

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INPUT LISTING

EH2= 195,127,520 KPa EH3= 195,127,520 KPa EH4= 195,127,520 KPa
 EH5= 195,127,520 KPa EH6= 195,127,520 KPa EH7= 195,127,520 KPa
 EH8= 195,127,520 KPa EH9= 195,127,520 KPa v = .292
 Pipe Den= .0080272 kg./cu.cm. Insul Thk= .000 mm.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 115,142 KPa
 Sh1= 115,142 KPa Sh2= 115,142 KPa Sh3= 115,142 KPa Sh4= 115,142 KPa
 Sh5= 115,142 KPa Sh6= 115,142 KPa Sh7= 115,142 KPa Sh8= 115,142 KPa
 Sh9= 115,142 KPa Sy= 172,369 KPa

 From 6765 To 6770 DX= -450.000 mm.

GENERAL

Mat= (102)A53 Grade B E= 203,401,232 KPa EH1= 203,401,232 KPa
 EH2= 203,401,232 KPa EH3= 203,401,232 KPa EH4= 203,401,232 KPa
 EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa
 EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292
 Pipe Den= .0078334 kg./cu.cm.

RESTRAINTS

Node 6770 +Y Mu = .30

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 7000 To 7005 DX= 100.000 mm.

GENERAL

Mat= (165)A312 TP316L E= 195,127,520 KPa EH1= 195,127,520 KPa
 EH2= 195,127,520 KPa EH3= 195,127,520 KPa EH4= 195,127,520 KPa
 EH5= 195,127,520 KPa EH6= 195,127,520 KPa EH7= 195,127,520 KPa
 EH8= 195,127,520 KPa EH9= 195,127,520 KPa v = .292
 Pipe Den= .0080272 kg./cu.cm.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 115,142 KPa
 Sh1= 115,142 KPa Sh2= 115,142 KPa Sh3= 115,142 KPa Sh4= 115,142 KPa
 Sh5= 115,142 KPa Sh6= 115,142 KPa Sh7= 115,142 KPa Sh8= 115,142 KPa
 Sh9= 115,142 KPa Sy= 172,369 KPa

 From 7005 To 7010 DX= 400.000 mm.

GENERAL

Mat= (102)A53 Grade B E= 203,401,232 KPa EH1= 203,401,232 KPa
 EH2= 203,401,232 KPa EH3= 203,401,232 KPa EH4= 203,401,232 KPa
 EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa
 EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292
 Pipe Den= .0078334 kg./cu.cm.

RESTRAINTS

Node 7010 +Y Mu = .30
 Node 7010 Z Gap= 3.000 mm. Mu = .30

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 8000 To 8010 DZ= -3,000.000 mm.

PIPE

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INPUT LISTING

Dia= 273.050 mm. Wall= 9.271 mm. Cor= 6.0000 mm.

GENERAL

T1= 270 C T2= 272 C T3= -28 C P1= 600.0137 KPa PHyd= 900.0205 KPa
 Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 187,483,936 KPa
 EH2= 187,335,024 KPa EH3= 205,934,864 KPa EH4= 203,401,232 KPa
 EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa
 EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292
 Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000015 kg./cu.cm.
 Insul Thk= .000 mm. Insul Den= .0000000 kg./cu.cm.

RESTRAINTS

Node 8000 +Y Mu = .30
 Node 8000 X Gap= 3.000 mm.
 Node 8000 Z Gap= 3.000 mm.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 129,638 KPa Sh2= 129,365 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 8010 To 8020 DZ= -400.000 mm.

From 8020 To 8030 DZ= -3,000.000 mm.

RESTRAINTS

Node 8030 +Y Mu = .30

From 8030 To 8040 DZ= -6,000.000 mm.

RESTRAINTS

Node 8040 +Y Mu = .30
 Node 8040 X Gap= 3.000 mm. Mu = .30

From 8040 To 8050 DZ= -2,750.000 mm.

BEND at "TO" end

Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 8049
 Angle/Node @2= .00 8048

From 8050 To 8060 DX= -6,000.000 mm. DZ= .000 mm.

BEND at "TO" end

Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 8059
 Angle/Node @2= .00 8058

From 8060 To 8070 DZ= -1,000.000 mm.

RESTRAINTS

Node 8070 +Y Mu = .30

From 8070 To 8080 DZ= -1,000.000 mm.

BEND at "TO" end

Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 8079
 Angle/Node @2= .00 8078

From 8080 To 8090 DX= 6,000.000 mm. DZ= .000 mm.

BEND at "TO" end

Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 8089
 Angle/Node @2= .00 8088

From 8090 To 8100 DZ= -1,250.000 mm.

RESTRAINTS

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INPUT LISTING

Node 8100 +Y Mu = .30

 From 8100 To 8110 DZ= -3,000.000 mm.

From 8110 To 5475 DZ= -1,135.000 mm.

SIF's & TEE's

Node 5475 Welding Tee

 From 5475 To 8120 DZ= -1,865.000 mm.

RESTRAINTS

Node 8120 +Y Mu = .30

Node 8120 X

Node 8120 Z Gap= 3.000 mm.

 From 8120 To 5485 DZ= -3,536.000 mm.

PIPE

Dia= 273.050 mm. Wall= 9.271 mm. Cor= 6.0000 mm.

GENERAL

T1= 272 C T2= 270 C T3= -28 C P1= 600.0137 KPa PHyd= 900.0205 KPa

Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 187,335,024 KPa

EH2= 187,483,936 KPa EH3= 205,934,864 KPa EH4= 203,401,232 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000015 kg./cu.cm.

Insul Thk= .000 mm. Insul Den= .0000000 kg./cu.cm.

SIF's & TEE's

Node 5485 Welding Tee

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 129,365 KPa Sh2= 129,638 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

 From 5485 To 5490 DZ= -398.000 mm.

SIF's & TEE's

Node 5490 Welding Tee

 From 5490 To 8140 DZ= -2,066.000 mm.

RESTRAINTS

Node 8140 +Y Mu = .30

 From 8140 To 8150 DZ= -6,000.000 mm.

RESTRAINTS

Node 8150 +Y Mu = .30

Node 8150 X Gap= 3.000 mm. Mu = .30

 From 8150 To 8160 DZ= -2,950.000 mm.

BEND at "TO" end

Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 8159

Angle/Node @2= .00 8158

 From 8160 To 8170 DX= -6,000.000 mm. DZ= .000 mm.

BEND at "TO" end

Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 8169

Angle/Node @2= .00 8168

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INPUT LISTING

From 8170 To 8180 DZ= -1,000.000 mm.

RESTRAINTS

Node 8180 +Y Mu = .30

From 8180 To 8190 DZ= -1,000.000 mm.

BEND at "T0" end

Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 8189
 Angle/Node @2= .00 8188

From 8190 To 8200 DX= 6,000.000 mm. DZ= .000 mm.

BEND at "T0" end

Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 8199
 Angle/Node @2= .00 8198

From 8200 To 8210 DZ= -850.000 mm.

RESTRAINTS

Node 8210 +Y Mu = .30

From 8210 To 8220 DX= .000 mm. DZ= -6,000.000 mm.

RESTRAINTS

Node 8220 +Y Mu = .30

Node 8220 X Gap= 3.000 mm. Mu = .30

From 8220 To 8230 DX= .000 mm. DZ= -6,000.000 mm.

RESTRAINTS

Node 8230 +Y Mu = .30

Node 8230 X Gap= 3.000 mm. Mu = .30

From 8230 To 8240 DZ= -6,000.000 mm.

PIPE

Dia= 273.050 mm. Wall= 9.271 mm. Cor= 6.0000 mm.

GENERAL

T1= 272 C T2= 270 C T3= -28 C PHyd= 900.0205 KPa

Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 187,335,024 KPa

EH2= 187,483,936 KPa EH3= 205,934,864 KPa EH4= 203,401,232 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000015 kg./cu.cm.

Insul Thk= .000 mm. Insul Den= .0001362 kg./cu.cm.

RESTRAINTS

Node 8240 +Y Mu = .30

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 129,365 KPa Sh2= 129,638 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 8240 To 8250 DZ= -6,000.000 mm.

RESTRAINTS

Node 8250 +Y Mu = .30

Node 8250 X Gap= 3.000 mm.

Node 8250 Z Gap= 3.000 mm. Mu = .30

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Job:: BNK-GCS-CN-007-D02

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INPUT LISTING

MATERIAL Changes:

20	40	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
280	300	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
500	580	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
610	620	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
620	5190	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
5300	5310	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
640	660	Mat= (102)A53 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
620	680	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
820	840	Mat= (383)A516 70 E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
280	4350	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
1020	1040	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
1020	1260	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
1400	1480	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
1660	1680	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
1820	1920	Mat= (165)A312 TP316L E= 195,127,520 KPa v = .292 Density= .0080 kg./cu.cm.
2000	6420	Mat= (165)A312 TP316L E= 195,127,520 KPa v = .292 Density= .0080 kg./cu.cm.
2000	4100	Mat= (165)A312 TP316L E= 195,127,520 KPa v = .292 Density= .0080 kg./cu.cm.
4505	6790	Mat= (165)A312 TP316L E= 195,127,520 KPa v = .292 Density= .0080 kg./cu.cm.
6845	6830	Mat= (165)A312 TP316L E= 195,127,520 KPa v = .292 Density= .0080 kg./cu.cm.
4100	4560	Mat= (165)A312 TP316L E= 195,127,520 KPa v = .292 Density= .0080 kg./cu.cm.
4740	4750	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
4570	4775	Mat= (165)A312 TP316L E= 195,127,520 KPa v = .292 Density= .0080 kg./cu.cm.
4980	4990	E= 195,127,520 KPa v = .292 Density= .0080 kg./cu.cm.
5120	5130	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
4710	6530	Mat= (165)A312 TP316L E= 195,127,520 KPa v = .292 Density= .0080 kg./cu.cm.
6010	6020	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
1260	2140	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
4750	6550	Mat= (106)A106 Grade B E= 203,401,232 KPa

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INPUT LISTING

6210	6220	v = .292 Density= .0078 kg./cu.cm. Mat= (102)A53 Grade B E= 203,401,232 KPa
6420	6425	v = .292 Density= .0078 kg./cu.cm. Mat= (165)A312 TP316L E= 195,127,520 KPa
6425	6430	v = .292 Density= .0080 kg./cu.cm. Mat= (102)A53 Grade B E= 203,401,232 KPa
6480	6485	v = .292 Density= .0078 kg./cu.cm. Mat= (165)A312 TP316L E= 195,127,520 KPa
6485	6490	v = .292 Density= .0080 kg./cu.cm. Mat= (102)A53 Grade B E= 203,401,232 KPa
6510	6515	v = .292 Density= .0078 kg./cu.cm. Mat= (165)A312 TP316L E= 195,127,520 KPa
6515	6520	v = .292 Density= .0080 kg./cu.cm. Mat= (102)A53 Grade B E= 203,401,232 KPa
6530	6535	v = .292 Density= .0078 kg./cu.cm. Mat= (165)A312 TP316L E= 195,127,520 KPa
6535	6540	v = .292 Density= .0080 kg./cu.cm. Mat= (102)A53 Grade B E= 203,401,232 KPa
6700	6705	v = .292 Density= .0078 kg./cu.cm. Mat= (165)A312 TP316L E= 195,127,520 KPa
6705	6710	v = .292 Density= .0080 kg./cu.cm. Mat= (102)A53 Grade B E= 203,401,232 KPa
6760	6765	v = .292 Density= .0078 kg./cu.cm. Mat= (165)A312 TP316L E= 195,127,520 KPa
6765	6770	v = .292 Density= .0080 kg./cu.cm. Mat= (102)A53 Grade B E= 203,401,232 KPa
7000	7005	v = .292 Density= .0078 kg./cu.cm. Mat= (165)A312 TP316L E= 195,127,520 KPa
7005	7010	v = .292 Density= .0080 kg./cu.cm. Mat= (102)A53 Grade B E= 203,401,232 KPa
8000	8010	v = .292 Density= .0078 kg./cu.cm. Mat= (106)A106 Grade B E= 203,401,232 KPa
8120	5485	v = .292 Density= .0078 kg./cu.cm. Mat= (106)A106 Grade B E= 203,401,232 KPa
8230	8240	v = .292 Density= .0078 kg./cu.cm. Mat= (106)A106 Grade B E= 203,401,232 KPa

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ALLOWABLE STRESS Changes

20	40	B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa Sh9= 137,895 KPa Sy= 241,316 KPa
140	160	B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa Sh9= 137,895 KPa Sy= 241,316 KPa
120	180	B31.3 (2016) Cycle Max Switch = ---

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INPUT LISTING

		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
280	300	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
500	580	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
580	600	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
610	620	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
620	5190	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
5300	5310	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 129,365 KPa
		Sh2= 129,638 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
610	640	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
640	660	B31.3 (2016)	Cycle Max Switch = ---

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INPUT LISTING

		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
620	680	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
820	840	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 160,648 KPa	Sh1= 160,373 KPa
		Sh2= 157,769 KPa	Sh3= 160,373 KPa
		Sh4= 160,648 KPa	Sh5= 160,648 KPa
		Sh6= 160,648 KPa	Sh7= 160,648 KPa
		Sh8= 160,648 KPa	Sh9= 160,648 KPa
		Sy= 262,001 KPa	
280	4350	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,571 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
4360	4370	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,571 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
4370	4380	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,571 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
900	920	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,571 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
1020	1040	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,571 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
1020	1260	B31.3 (2016)	Cycle Max Switch = ---

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INPUT LISTING

		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,571 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
1400	1480	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,571 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
1660	1680	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,571 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
1780	1800	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,571 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
1820	1920	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 115,142 KPa	Sh1= 115,142 KPa
		Sh2= 111,904 KPa	Sh3= 115,142 KPa
		Sh4= 115,142 KPa	Sh5= 115,142 KPa
		Sh6= 115,142 KPa	Sh7= 115,142 KPa
		Sh8= 115,142 KPa	Sh9= 115,142 KPa
		Sy= 172,369 KPa	
2000	6420	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 115,142 KPa	Sh1= 115,142 KPa
		Sh2= 111,904 KPa	Sh3= 115,142 KPa
		Sh4= 115,142 KPa	Sh5= 115,142 KPa
		Sh6= 115,142 KPa	Sh7= 115,142 KPa
		Sh8= 115,142 KPa	Sh9= 115,142 KPa
		Sy= 172,369 KPa	
2000	4100	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 115,142 KPa	Sh1= 115,142 KPa
		Sh2= 111,904 KPa	Sh3= 115,142 KPa
		Sh4= 115,142 KPa	Sh5= 115,142 KPa
		Sh6= 115,142 KPa	Sh7= 115,142 KPa
		Sh8= 115,142 KPa	Sh9= 115,142 KPa
		Sy= 172,369 KPa	
4505	6790	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 115,142 KPa	Sh1= 115,142 KPa
		Sh2= 111,904 KPa	Sh3= 115,142 KPa
		Sh4= 115,142 KPa	Sh5= 115,142 KPa
		Sh6= 115,142 KPa	Sh7= 115,142 KPa
		Sh8= 115,142 KPa	Sh9= 115,142 KPa
		Sy= 172,369 KPa	
6845	6830	B31.3 (2016)	Cycle Max Switch = ---

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INPUT LISTING

		Sc= 115,142 KPa	Sh1= 115,142 KPa
		Sh2= 111,904 KPa	Sh3= 115,142 KPa
		Sh4= 115,142 KPa	Sh5= 115,142 KPa
		Sh6= 115,142 KPa	Sh7= 115,142 KPa
		Sh8= 115,142 KPa	Sh9= 115,142 KPa
		Sy= 172,369 KPa	
4100	4560	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 115,142 KPa	Sh1= 115,142 KPa
		Sh2= 111,904 KPa	Sh3= 115,142 KPa
		Sh4= 115,142 KPa	Sh5= 115,142 KPa
		Sh6= 115,142 KPa	Sh7= 115,142 KPa
		Sh8= 115,142 KPa	Sh9= 115,142 KPa
		Sy= 172,369 KPa	
4740	4750	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
4780	4160	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
4310	4320	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
4780	6620	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
4570	4775	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 115,142 KPa	Sh1= 115,142 KPa
		Sh2= 111,904 KPa	Sh3= 115,142 KPa
		Sh4= 115,142 KPa	Sh5= 115,142 KPa
		Sh6= 115,142 KPa	Sh7= 115,142 KPa
		Sh8= 115,142 KPa	Sh9= 115,142 KPa
		Sy= 172,369 KPa	
4980	4990	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 115,142 KPa	Sh1= 115,142 KPa
		Sh2= 111,904 KPa	Sh3= 115,142 KPa
		Sh4= 115,142 KPa	Sh5= 115,142 KPa
		Sh6= 115,142 KPa	Sh7= 115,142 KPa
		Sh8= 115,142 KPa	Sh9= 115,142 KPa
		Sy= 172,369 KPa	
5120	5130	B31.3 (2016)	Cycle Max Switch = ---

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INPUT LISTING

		Sc= 137,895 KPa	Sh1= 129,365 KPa
		Sh2= 129,638 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
4710	6530	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 115,142 KPa	Sh1= 115,142 KPa
		Sh2= 111,904 KPa	Sh3= 115,142 KPa
		Sh4= 115,142 KPa	Sh5= 115,142 KPa
		Sh6= 115,142 KPa	Sh7= 115,142 KPa
		Sh8= 115,142 KPa	Sh9= 115,142 KPa
		Sy= 172,369 KPa	
6010	6020	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
1260	2140	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,571 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
2420	2440	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,571 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
2440	2460	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 129,365 KPa
		Sh2= 129,638 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
2280	2300	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,571 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
2300	2620	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,571 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
2740	2760	B31.3 (2016)	Cycle Max Switch = ---

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INPUT LISTING

		Sc= 137,895 KPa	Sh1= 129,365 KPa
		Sh2= 129,638 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
4750	6550	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
6210	6220	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
6420	6425	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 115,142 KPa	Sh1= 115,142 KPa
		Sh2= 115,142 KPa	Sh3= 115,142 KPa
		Sh4= 115,142 KPa	Sh5= 115,142 KPa
		Sh6= 115,142 KPa	Sh7= 115,142 KPa
		Sh8= 115,142 KPa	Sh9= 115,142 KPa
		Sy= 172,369 KPa	
6425	6430	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
6480	6485	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 115,142 KPa	Sh1= 115,142 KPa
		Sh2= 115,142 KPa	Sh3= 115,142 KPa
		Sh4= 115,142 KPa	Sh5= 115,142 KPa
		Sh6= 115,142 KPa	Sh7= 115,142 KPa
		Sh8= 115,142 KPa	Sh9= 115,142 KPa
		Sy= 172,369 KPa	
6485	6490	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
6510	6515	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 115,142 KPa	Sh1= 115,142 KPa
		Sh2= 115,142 KPa	Sh3= 115,142 KPa
		Sh4= 115,142 KPa	Sh5= 115,142 KPa
		Sh6= 115,142 KPa	Sh7= 115,142 KPa
		Sh8= 115,142 KPa	Sh9= 115,142 KPa
		Sy= 172,369 KPa	
6515	6520	B31.3 (2016)	Cycle Max Switch = ---

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INPUT LISTING

		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
6530	6535	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 115,142 KPa	Sh1= 115,142 KPa
		Sh2= 115,142 KPa	Sh3= 115,142 KPa
		Sh4= 115,142 KPa	Sh5= 115,142 KPa
		Sh6= 115,142 KPa	Sh7= 115,142 KPa
		Sh8= 115,142 KPa	Sh9= 115,142 KPa
		Sy= 172,369 KPa	
6535	6540	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
6700	6705	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 115,142 KPa	Sh1= 115,142 KPa
		Sh2= 115,142 KPa	Sh3= 115,142 KPa
		Sh4= 115,142 KPa	Sh5= 115,142 KPa
		Sh6= 115,142 KPa	Sh7= 115,142 KPa
		Sh8= 115,142 KPa	Sh9= 115,142 KPa
		Sy= 172,369 KPa	
6705	6710	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
6760	6765	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 115,142 KPa	Sh1= 115,142 KPa
		Sh2= 115,142 KPa	Sh3= 115,142 KPa
		Sh4= 115,142 KPa	Sh5= 115,142 KPa
		Sh6= 115,142 KPa	Sh7= 115,142 KPa
		Sh8= 115,142 KPa	Sh9= 115,142 KPa
		Sy= 172,369 KPa	
6765	6770	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
7000	7005	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 115,142 KPa	Sh1= 115,142 KPa
		Sh2= 115,142 KPa	Sh3= 115,142 KPa
		Sh4= 115,142 KPa	Sh5= 115,142 KPa
		Sh6= 115,142 KPa	Sh7= 115,142 KPa
		Sh8= 115,142 KPa	Sh9= 115,142 KPa
		Sy= 172,369 KPa	
7005	7010	B31.3 (2016)	Cycle Max Switch = ---

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INPUT LISTING

		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
8000	8010	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 129,638 KPa
		Sh2= 129,365 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
8120	5485	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 129,365 KPa
		Sh2= 129,638 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
8230	8240	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 129,365 KPa
		Sh2= 129,638 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	

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BEND ELEMENTS

40	60	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00 59
		Angle/Node @2= .00 58
60	80	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00 79
		Angle/Node @2= .00 78
80	100	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00 99
		Angle/Node @2= .00 98
120	180	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		179
490	500	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		499 Angle/Node @2= .00 498
500	580	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		579 Angle/Node @2= .00 578
580	600	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		599 Angle/Node @2= .00 598
620	5190	Radius= 76.200 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		5189 Angle/Node @2= .00 5188

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INPUT LISTING

5190	9000	Radius= 76.200 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		8999 Angle/Node @2= .00 8998
9000	9010	Radius= 76.200 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		9009 Angle/Node @2= .00 9008
5230	5240	Radius= 76.200 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		5239 Angle/Node @2= .00 5238
5320	5330	Radius= 114.300 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		5329 Angle/Node @2= .00 5328
5340	5350	Radius= 114.300 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		5349 Angle/Node @2= .00 5348
5355	5360	Radius= 114.300 mm. (LONG)
		Bend Angle= 90.000
5375	5380	Radius= 114.300 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		5379 Angle/Node @2= .00 5378
5380	5390	Radius= 114.300 mm. (LONG)
		Bend Angle= 50.075 Angle/Node @1= 25.04
		5389 Angle/Node @2= .00 5388
620	680	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		679 Angle/Node @2= .00 678
4380	4390	Radius= 76.200 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		4389 Angle/Node @2= .00 4388
4395	880	Radius= 76.200 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		879 Angle/Node @2= .00 878
960	980	Radius= 76.200 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		979 Angle/Node @2= .00 978
1100	1120	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1119
1120	1140	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1139 Angle/Node @2= .00 1138
1160	1180	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1179 Angle/Node @2= .00 1178
1180	1200	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1199 Angle/Node @2= .00 1198
1390	1400	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1399 Angle/Node @2= .00 1398
1400	1480	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1479 Angle/Node @2= .00 1478
1520	1540	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1539 Angle/Node @2= .00 1538

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1560	1580	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1579 Angle/Node @2= .00 1578
1580	1600	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1599 Angle/Node @2= .00 1598
1600	1620	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1619 Angle/Node @2= .00 1618
1920	1940	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1939
1960	1980	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1979 Angle/Node @2= .00 1978
4482	4485	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		4484 Angle/Node @2= .00 4483
6780	6795	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		6794 Angle/Node @2= .00 6793
6795	6800	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		6799 Angle/Node @2= .00 6798
6810	6820	Radius= 228.600 mm. (LONG)
		Bend Angle= 45.000 Angle/Node @1= 22.50
		6819 Angle/Node @2= .00 6818
6910	6915	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		6914 Angle/Node @2= .00 6913
4580	4590	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		4589 Angle/Node @2= .00 4588
6550	4140	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		4139 Angle/Node @2= .00 4138
6560	4760	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		4759 Angle/Node @2= .00 4758
4760	4770	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		4769
4930	4940	Radius= 304.800 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		4939 Angle/Node @2= .00 4938
4940	4950	Radius= 304.800 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		4949 Angle/Node @2= .00 4948
4950	4960	Radius= 304.800 mm. (LONG)
		Bend Angle= 45.000 Angle/Node @1= 22.50
		4959 Angle/Node @2= .00 4958
5010	5020	Radius= 152.400 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		5019
5130	5140	Radius= 152.400 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00

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INPUT LISTING

5145	5150	5139 Radius= 152.400 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
		5149 Angle/Node @2= .00 5148
5150	5160	Radius= 152.400 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
		5159 Angle/Node @2= .00 5158
5160	5170	Radius= 152.400 mm. (LONG) Bend Angle= 44.939 Angle/Node @1= 22.47
		5169 Angle/Node @2= .00 5168
6030	6035	Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
		6034 Angle/Node @2= .00 6033
6035	6040	Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
		6039 Angle/Node @2= .00 6038
6045	6050	Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
		6049 Angle/Node @2= .00 6048
6050	6055	Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
		6054 Angle/Node @2= .00 6053
1260	2140	Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
		2139 Angle/Node @2= .00 2138
2140	2160	Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
		2159 Angle/Node @2= .00 2158
2220	2260	Radius= 76.200 mm. (LONG) Bend Angle= 90.000
2500	2520	Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
		2519 Angle/Node @2= .00 2518
5710	2580	Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
		2579 Angle/Node @2= .00 2578
2580	5840	Radius= 228.600 mm. (LONG) Bend Angle= 45.000 Angle/Node @1= 22.50
		5839
2280	2300	Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
		2299 Angle/Node @2= .00 2298
2800	2820	Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
		2819 Angle/Node @2= .00 2818
2870	2880	Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
		2879 Angle/Node @2= .00 2878
5805	5810	Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
		5809 Angle/Node @2= .00 5808
5810	5820	Radius= 228.600 mm. (LONG) Bend Angle= 39.950 Angle/Node @1= 19.97
		5819 Angle/Node @2= .00 5818
8040	8050	Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00

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INPUT LISTING

8050	8060	8049 Angle/Node @2= .00 8048 Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
8070	8080	8059 Angle/Node @2= .00 8058 Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
8080	8090	8079 Angle/Node @2= .00 8078 Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
8150	8160	8089 Angle/Node @2= .00 8088 Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
8160	8170	8159 Angle/Node @2= .00 8158 Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
8180	8190	8169 Angle/Node @2= .00 8168 Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
8190	8200	8189 Angle/Node @2= .00 8188 Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
		8199 Angle/Node @2= .00 8198

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RIGIDS

20	40	RIGID Weight= 191.27 N.
120	140	RIGID Weight= .00 N.
200	220	RIGID Weight= 191.27 N.
220	240	RIGID Weight= 191.27 N.
320	340	RIGID Weight= 191.27 N.
340	360	RIGID Weight= 1,023.41 N.
360	380	RIGID Weight= 191.27 N.
420	440	RIGID Weight= 191.27 N.
440	460	RIGID Weight= 191.27 N.
500	6210	RIGID Weight= .00 N.
5200	5210	RIGID Weight= 44.48 N.
5210	5220	RIGID Weight= 93.41 N.
5220	5230	RIGID Weight= 44.48 N.
5240	6230	RIGID Weight= .00 N.
5250	5260	RIGID Weight= 44.48 N.
5260	5270	RIGID Weight= 44.48 N.
5275	6260	RIGID Weight= .00 N.
5280	5290	RIGID Weight= 44.48 N.
5290	5300	RIGID Weight= 258.00 N.
5300	5310	RIGID Weight= 31.14 N.
5340	6280	RIGID Weight= .00 N.
610	640	RIGID Weight= .00 N.
700	720	RIGID Weight= 286.91 N.
721	760	RIGID Weight= 177.93 N.
780	800	RIGID Weight= .00 N.
780	6241	RIGID Weight= .00 N.
780	6271	RIGID Weight= .00 N.
780	6291	RIGID Weight= .00 N.
820	840	RIGID Weight= .00 N.

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INPUT LISTING

4350	4360	RIGID	Weight= 44.48 N.
4360	4370	RIGID	Weight= 311.38 N.
4370	4380	RIGID	Weight= 57.83 N.
4390	6300	RIGID	Weight= .00 N.
900	920	RIGID	Weight= 57.83 N.
920	940	RIGID	Weight= 427.03 N.
940	960	RIGID	Weight= 57.83 N.
1060	1080	RIGID	Weight= 364.75 N.
1080	1100	RIGID	Weight= 364.75 N.
1220	1240	RIGID	Weight= 364.75 N.
1300	1320	RIGID	Weight= 364.75 N.
1320	1340	RIGID	Weight= 3,087.07 N.
1340	1360	RIGID	Weight= 364.75 N.
1400	6400	RIGID	Weight= .00 N.
1640	1660	RIGID	Weight= 364.75 N.
1660	1680	RIGID	Weight= 111.21 N.
1720	1740	RIGID	Weight= .00 N.
1740	1760	RIGID	Weight= .00 N.
1800	1820	RIGID	Weight= 111.21 N.
1740	1840	RIGID	Weight= 2,250.11 N.
1840	1860	RIGID	Weight=10,500.52 N.
1860	1880	RIGID	Weight= 4,500.22 N.
1880	1900	RIGID	Weight=10,500.52 N.
1900	1740	RIGID	Weight= 2,250.11 N.
1820	1920	RIGID	Weight= 191.27 N.
2000	6420	RIGID	Weight= .00 N.
2000	6420	RIGID	Weight= .00 N.
4400	4410	RIGID	Weight= 364.75 N.
4410	4420	RIGID	Weight= 3,087.07 N.
4420	4430	RIGID	Weight= 364.75 N.
4440	6480	RIGID	Weight= .00 N.
4450	4460	RIGID	Weight= 364.75 N.
4460	4470	RIGID	Weight= 733.96 N.
4470	4480	RIGID	Weight= 364.75 N.
4485	6760	RIGID	Weight= .00 N.
4490	4500	RIGID	Weight= 364.75 N.
4500	4505	RIGID	Weight= 1,005.30 N.
4505	6790	RIGID	Weight= 364.75 N.
6795	7000	RIGID	Weight= .00 N.
4600	4610	RIGID	Weight= 364.75 N.
4610	4620	RIGID	Weight= 2,708.97 N.
4620	4630	RIGID	Weight= 364.75 N.
4640	6510	RIGID	Weight= .00 N.
4660	4670	RIGID	Weight= 191.27 N.
4670	4680	RIGID	Weight= 387.00 N.
4680	4690	RIGID	Weight= 191.27 N.
4710	6530	RIGID	Weight= .00 N.
4720	4730	RIGID	Weight= 364.75 N.
4730	4740	RIGID	Weight= 2,708.97 N.
4740	4750	RIGID	Weight= 111.21 N.
4160	6600	RIGID	Weight= .00 N.
4180	4200	RIGID	Weight= 302.48 N.
4200	4220	RIGID	Weight= 30.00 N.
4220	4240	RIGID	Weight= 302.48 N.
4261	4280	RIGID	Weight= .00 N.
4280	4300	RIGID	Weight= .00 N.

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INPUT LISTING

4300	4310	RIGID Weight= .00 N.
4310	4320	RIGID Weight= .00 N.
6620	6630	RIGID Weight= .00 N.
4800	4810	RIGID Weight= 302.48 N.
4810	4820	RIGID Weight= 2,090.66 N.
4820	4830	RIGID Weight= 302.48 N.
4840	4850	RIGID Weight= 302.48 N.
4850	4860	RIGID Weight= 360.31 N.
4860	4870	RIGID Weight= 177.93 N.
6650	6660	RIGID Weight= .00 N.
4890	4900	RIGID Weight= 177.93 N.
4900	4910	RIGID Weight= 2,259.70 N.
4910	4920	RIGID Weight= 177.93 N.
4930	6680	RIGID Weight= .00 N.
4980	4990	RIGID Weight= 191.27 N.
4990	5000	RIGID Weight= 1,116.50 N.
5000	5010	RIGID Weight= 191.27 N.
5020	6700	RIGID Weight= .00 N.
5040	5060	RIGID Weight= 106.76 N.
5060	5070	RIGID Weight= 217.96 N.
5070	5080	RIGID Weight= 106.76 N.
5095	6720	RIGID Weight= .00 N.
5100	5110	RIGID Weight= 191.27 N.
5110	5120	RIGID Weight= 1,116.50 N.
5120	5130	RIGID Weight= 71.17 N.
5145	6740	RIGID Weight= .00 N.
4710	6530	RIGID Weight= .00 N.
2340	2360	RIGID Weight= 57.83 N.
2360	5650	RIGID Weight= 311.38 N.
5650	5660	RIGID Weight= 57.83 N.
5670	5680	RIGID Weight= 35.59 N.
5680	5690	RIGID Weight= 35.59 N.
5690	2420	RIGID Weight= 25.00 N.
2420	2440	RIGID Weight= 100.00 N.
2440	2460	RIGID Weight= 54.49 N.
2540	5700	RIGID Weight= 111.21 N.
5700	2560	RIGID Weight= 1,005.30 N.
2560	2570	RIGID Weight= 111.21 N.
5710	6440	RIGID Weight= .00 N.
2640	5720	RIGID Weight= 57.83 N.
5720	2660	RIGID Weight= 311.38 N.
2660	5730	RIGID Weight= 57.83 N.
5740	5750	RIGID Weight= 35.59 N.
5750	5760	RIGID Weight= 35.59 N.
5760	2720	RIGID Weight= 35.59 N.
2720	2740	RIGID Weight= 100.00 N.
2740	2760	RIGID Weight= 54.49 N.
2840	2846	RIGID Weight= 111.21 N.
2846	2852	RIGID Weight= 1,005.30 N.
2852	2860	RIGID Weight= 111.21 N.
2870	6460	RIGID Weight= .00 N.

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INPUT LISTING

140	160	Node 140	Unreinforced Tee
260	280	Node 280	Weldolet
620	5190	Node 620	Weldolet
5240	6230	Node 6230	Unreinforced Tee
5275	6260	Node 6260	Unreinforced Tee
5340	6280	Node 6280	Unreinforced Tee
610	640	Node 640	Unreinforced Tee
4390	6300	Node 6300	Unreinforced Tee
1000	1020	Node 1020	Weldolet
1020	1260	Node 1260	Weldolet
2000	6420	Node 6420	Unreinforced Tee
		Pad= 7.110 mm.	
2000	6420	Node 6420	Unreinforced Tee
2000	4100	Node 4100	Welding Tee
4440	6480	Node 6480	Unreinforced Tee
		Pad= 7.110 mm.	
4485	6760	Node 6760	Unreinforced Tee
		Pad= 7.110 mm.	
6795	7000	Node 7000	Unreinforced Tee
		Pad= 7.110 mm.	
6845	6830	Node 6830	Welding Tee
4100	4560	Node 4560	Welding Tee
4640	6510	Node 6510	Unreinforced Tee
		Pad= 7.110 mm.	
4710	6530	Node 6530	Unreinforced Tee
		Pad= 7.112 mm.	
4770	4780	Node 4780	Welding Tee
4160	6600	Node 6600	Unreinforced Tee
6620	6630	Node 6630	Unreinforced Tee
6650	6660	Node 6660	Unreinforced Tee
4930	6680	Node 6680	Unreinforced Tee
5020	6700	Node 6700	Unreinforced Tee
		Pad= 7.112 mm.	
5095	6720	Node 6720	Reinforced Tee Pad= 6.020 mm.
5145	6740	Node 6740	Unreinforced Tee
4710	6530	Node 6530	Unreinforced Tee
		Pad= 7.112 mm.	
2270	2280	Node 2280	Welding Tee
5710	6440	Node 6440	Unreinforced Tee
2880	5800	Node 5800	Welding Tee
8110	5475	Node 5475	Welding Tee
8120	5485	Node 5485	Welding Tee
5485	5490	Node 5490	Welding Tee

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REDUCERS

9020	9030	Diam2= 114.300 mm.	Wall2= 6.020 mm.
9040	9050	Diam2= 60.325 mm.	Wall2= 5.537 mm.
5310	5320	Diam2= 88.900 mm.	Wall2= 7.620 mm.
4650	4660	Diam2= 114.300 mm.	Wall2= 6.020 mm.
4690	4700	Diam2= 168.275 mm.	Wall2= 7.112 mm.
4570	4775	Diam2= 114.300 mm.	Wall2= 6.020 mm.
5030	5040	Diam2= 88.900 mm.	Wall2= 5.486 mm.
5080	5090	Diam2= 114.300 mm.	Wall2= 6.020 mm.

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INPUT LISTING

2400	5670	Diam2= 48.260 mm.	Wall2= 7.137 mm.
2460	2480	Diam2= 168.275 mm.	Wall2= 10.973 mm.
2700	5740	Diam2= 48.260 mm.	Wall2= 7.137 mm.
2760	2780	Diam2= 168.275 mm.	Wall2= 10.973 mm.

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RESTRAINTS

NODE	TYPE	CNODE	STIF1	Len GAP STIF2	MU YIELD FORCE	Dir Vectors
20	ANC					.000 .000 .000
160	-X				.30	1.000 .000 .000
160	Z	121				.000 .000 1.000
121	+Y				.10	.000 1.000 .000
160	X	121				1.000 .000 .000
300	+Y				.30	.000 1.000 .000
400	Y				.30	.000 1.000 .000
400	Z			3.00	.30	.000 .000 1.000
480	Y				.30	.000 1.000 .000
480	Z			3.00		.000 .000 1.000
5355	+Y				.30	.000 1.000 .000
5370	+Y					.000 1.000 .000
5370	Z					.000 .000 1.000
5375	+Y					.000 1.000 .000
660	+Y	800			.30	.000 1.000 .000
720	ANC	721				.000 .000 .000
780	ANC	820				.000 .000 .000
840	ANC					.000 .000 .000
1040	+Y				.30	.000 1.000 .000
1180	-X				.30	1.000 .000 .000
1180	+Y				.30	.000 1.000 .000
1240	ANC					.000 .000 .000
1280	Y				.30	.000 1.000 .000
1280	Z			3.00	.30	.000 .000 1.000
1380	Y				.30	.000 1.000 .000
1380	Z			3.00	.30	.000 .000 1.000
1500	+Y				.30	.000 1.000 .000
1500	Z			3.00		.000 .000 1.000
1520	+Y				.30	.000 1.000 .000
1560	+Y				.30	.000 1.000 .000
1560	X			3.00	.30	1.000 .000 .000
1660	ANC	1661				.000 .000 .000
1700	ANC	1720				.000 .000 .000
1780	ANC	1760				.000 .000 .000
1840	Y				.10	.000 1.000 .000
1840	X				.30	1.000 .000 .000
1840	Z			6.00		.000 .000 1.000
1860	Y				.10	.000 1.000 .000
1860	Z			6.00	.30	.000 .000 1.000
1880	Y				.10	.000 1.000 .000
1880	Z			6.00		.000 .000 1.000
1900	Y				.10	.000 1.000 .000
1900	X				.30	1.000 .000 .000
1900	Z			6.00	.30	.000 .000 1.000
6845	+Y				.30	.000 1.000 .000
6845	X			3.00	.30	1.000 .000 .000

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INPUT LISTING

6845	Z		3.00	.30	.000	.000	1.000
6870	+Y			.30	.000	1.000	.000
6890	+Y			.30	.000	1.000	.000
6890	X		3.00	.30	1.000	.000	.000
6900	+Y			.30	.000	1.000	.000
6905	+Y			.30	.000	1.000	.000
6905	X		3.00	.30	1.000	.000	.000
6910	+Y			.30	.000	1.000	.000
6920	+Y			.30	.000	1.000	.000
6560	+Y			.30	.000	1.000	.000
6560	Z		3.00	.30	.000	.000	1.000
4220	ANC	4221			.000	.000	.000
4260	ANC	4261			.000	.000	.000
4320	ANC				.000	.000	.000
6010	+Y	0		.30	.000	1.000	.000
6010	Z		3.00	.30	.000	.000	1.000
6010	X		3.00	.30	1.000	.000	.000
6020	+Y			.30	.000	1.000	.000
6025	+Y			.30	.000	1.000	.000
6025	X		3.00	.30	1.000	.000	.000
6030	+Y			.30	.000	1.000	.000
6030	X		3.00	.30	1.000	.000	.000
6045	+Y			.30	.000	1.000	.000
6060	+Y			.30	.000	1.000	.000
6060	X		3.00	.30	1.000	.000	.000
6070	+Y			.30	.000	1.000	.000
6080	+Y			.30	.000	1.000	.000
6080	X		3.00	.30	1.000	.000	.000
6090	+Y			.30	.000	1.000	.000
6090	LIM		3.00	.30	.000	.000	.000
4970	+Y			.30	.000	1.000	.000
4970	X		3.00	.30	1.000	.000	.000
2180	+Y			.30	.000	1.000	.000
2180	Z		3.00	.30	.000	.000	1.000
2200	+Y			.30	.000	1.000	.000
2220	+Y			.30	.000	1.000	.000
2220	Z		3.00	.30	.000	.000	1.000
2270	+Y			.30	.000	1.000	.000
2320	Y				.000	1.000	.000
2500	+Y			.30	.000	1.000	.000
2500	Z				.000	.000	1.000
2500	X		3.00		1.000	.000	.000
2620	+Y				.000	1.000	.000
2800	+Y			.30	.000	1.000	.000
2800	Z		3.00		.000	.000	1.000
2800	X		3.00	.30	1.000	.000	.000
5805	+Y			.30	.000	1.000	.000
6220	+Y			.30	.000	1.000	.000
6220	Z		3.00	.30	.000	.000	1.000
6240	+Y	6241		.30	.000	1.000	.000
6270	+Y	6271		.30	.000	1.000	.000
6270	Z	6271	3.00		.000	.000	1.000
6290	+Y	6291		.30	.000	1.000	.000
6290	Z	6291	3.00		.000	.000	1.000
6310	+Y			.30	.000	1.000	.000
6410	+Y			.30	.000	1.000	.000

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INPUT LISTING

6410	Z	3.00		.000	.000	1.000
6430	+Y		.30	.000	1.000	.000
6450	+Y			.000	1.000	.000
6470	+Y		.30	.000	1.000	.000
6490	+Y		.30	.000	1.000	.000
6520	+Y		.30	.000	1.000	.000
6540	+Y		.30	.000	1.000	.000
6540	X	3.00	.30	1.000	.000	.000
6590	+Y		.30	.000	1.000	.000
6590	X	3.00	.30	1.000	.000	.000
6610	+Y			.000	1.000	.000
6610	Z	3.00	.30	.000	.000	1.000
6640	+Y		.30	.000	1.000	.000
6640	Z	3.00	.30	.000	.000	1.000
6670	+Y		.30	.000	1.000	.000
6670	Z	3.00	3.00	.000	.000	1.000
6690	+Y		.30	.000	1.000	.000
6710	+Y		.30	.000	1.000	.000
6730	+Y		.30	.000	1.000	.000
6730	X	3.00	.30	1.000	.000	.000
6750	+Y		.30	.000	1.000	.000
6770	+Y		.30	.000	1.000	.000
7010	+Y		.30	.000	1.000	.000
7010	Z	3.00	.30	.000	.000	1.000
8000	+Y		.30	.000	1.000	.000
8000	X	3.00		1.000	.000	.000
8000	Z	3.00		.000	.000	1.000
8030	+Y		.30	.000	1.000	.000
8040	+Y		.30	.000	1.000	.000
8040	X	3.00	.30	1.000	.000	.000
8070	+Y		.30	.000	1.000	.000
8100	+Y		.30	.000	1.000	.000
8120	+Y		.30	.000	1.000	.000
8120	X			1.000	.000	.000
8120	Z	3.00		.000	.000	1.000
8140	+Y		.30	.000	1.000	.000
8150	+Y		.30	.000	1.000	.000
8150	X	3.00	.30	1.000	.000	.000
8180	+Y		.30	.000	1.000	.000
8210	+Y		.30	.000	1.000	.000
8220	+Y		.30	.000	1.000	.000
8220	X	3.00	.30	1.000	.000	.000
8230	+Y		.30	.000	1.000	.000
8230	X	3.00	.30	1.000	.000	.000
8240	+Y		.30	.000	1.000	.000
8250	+Y		.30	.000	1.000	.000
8250	X	3.00		1.000	.000	.000
8250	Z	3.00	.30	.000	.000	1.000

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HANGER CONTROL AND LOCATION DATA

No. of Hanger Design Load Cases = 1
 Actual Cold Load Flag = 0.0
 Short Range Spring Flag = 1
 Allowed Load Variation (%) = 25.0000

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INPUT LISTING

Default Hanger Table = 5

140 160 Hanger Node = 160
 Hanger Connecting Node = 121
 Available Space = -1,000.0000 mm.
 Allowed Load Variation = 25.0000
 No. Hangers = 0.0 Short Range Flag = -1
 User Operating Load = .00 N. Free Node = 0
 Free Node = 0 Free Code = 0.0
 Spring Rate = .00 N./cm.
 Theoretical Cold Load = .00 N.

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EQUIPMENT LIMITS

20 40 Nozzle Node = 20

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 2,160.11 N. FB= 2,160.11 N.
 FC= 2,160.11 N. MA= 1,155.05 N.m. MB= 1,155.05 N.m. MC= 1,155.05 N.m.
 Equipment Major Direction Vector= .0000 1.0000 .0000
 Interact. Mtd= Absolute

760 780 Nozzle Node = 780

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 9,600.48 N. FB= 9,600.48 N.
 FC= 7,200.36 N. MA= 5,760.24 N.m. MB= 3,840.16 N.m. MC= 4,990.21 N.m.
 Equipment Major Direction Vector= .0000 .0000 1.0000
 Interact. Mtd= Absolute

1220 1240 Nozzle Node = 1240

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 2,160.11 N. FB= 2,160.11 N.
 FC= 2,160.11 N. MA= 1,155.05 N.m. MB= 1,155.05 N.m. MC= 1,155.05 N.m.
 Equipment Major Direction Vector= .0000 1.0000 .0000
 Interact. Mtd= Absolute

1680 1700 Nozzle Node = 1700

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 15,090.75 N. FB= 15,090.75 N.
 FC= 12,000.60 N. MA= 9,150.39 N.m. MB= 4,890.21 N.m. MC= 6,420.27 N.m.
 Equipment Major Direction Vector= .0000 .0000 1.0000
 Interact. Mtd= Absolute

1780 1800 Nozzle Node = 1780

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 16,200.81 N. FB= 15,090.75 N.
 FC= 12,000.60 N. MA= 9,150.39 N.m. MB= 4,890.21 N.m. MC= 6,420.27 N.m.
 Equipment Major Direction Vector= .0000 .0000 1.0000
 Interact. Mtd= Absolute

4240 4260 Nozzle Node = 4260

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 11,200.56 N. FB= 11,200.56 N.

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INPUT LISTING

FC= 8,400.42 N. MA= 3,780.16 N.m. MB= 2,520.11 N.m. MC= 3,280.14 N.m.

Equipment Major Direction Vector= .0000 1.0000 .0000

Interact. Mtd= Absolute

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FORCES AND MOMENTS

5690 2420 Node 2420 FX1= 2,000.10 N.
FY1= 1,000.05 N. FZ1= .00 N.

5760 2720 Node 2720 FX2= 2,000.10 N.
FY2= 1,000.05 N. FZ2= .00 N.

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UNIFORM LOAD Changes

20 40 Vector1 in G-s
X1 Dir = .26 g's Y1 Dir = .00 g's
Z1 Dir = .00 g's
Vector2 in G-s
X2 Dir = .00 g's Y2 Dir = .12 g's
Z2 Dir = .00 g's
Vector3 in G-s
X3 Dir = .00 g's Y3 Dir = .00 g's
Z3 Dir = .26 g's

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INPUT UNITS USED...

UNITS= SI (m NOM/SCH INPUT= ON

LENGTH	inches	x	25.400	=	mm.
FORCE	pounds	x	4.448	=	N.
MASS(dynamics)	pounds	x	0.454	=	Kg.
MOMENTS(INPUT)	inch-pounds	x	0.113	=	N.m.
MOMENTS(OUTPUT)	inch-pounds	x	0.113	=	N.m.
STRESS	lbs./sq.in.	x	6.895	=	KPa
TEMP. SCALE	degrees F.	x	0.556	=	C
PRESSURE	psig	x	6.895	=	KPa
ELASTIC MODULUS	lbs./sq.in.	x	6.895	=	KPa
PIPE DENSITY	lbs./cu.in.	x	0.028	=	kg./cu.cm.
INSULATION DENS.	lbs./cu.in.	x	0.028	=	kg./cu.cm.
FLUID DENSITY	lbs./cu.in.	x	0.028	=	kg./cu.cm.
TRANSL. STIF	lbs./in.	x	1.751	=	N./cm.
ROTATIONAL STIF	in.lb./deg.	x	0.113	=	N.m./deg
UNIFORM LOAD	lb./in.	x	1.751	=	N./cm.
G LOAD	g's	x	1.000	=	g's
WIND LOAD	lbs./sq.in.	x	6.895	=	KPa
ELEVATION	inches	x	0.025	=	m.
COMPOUND LENGTH	inches	x	25.400	=	mm.
DIAMETER	inches	x	25.400	=	mm.
WALL THICKNESS	inches	x	25.400	=	mm.

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SETUP FILE PARAMETERS

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INPUT LISTING

```

CONNECT GEOMETRY THRU CNODES =      YES
MIN ALLOWED BEND ANGLE =              5.00000
MAX ALLOWED BEND ANGLE =              95.0000
BEND LENGTH ATTACHMENT PERCENT =      1.00000
MIN ANGLE TO ADJACENT BEND PT =       5.00000
LOOP CLOSURE TOLERANCE =              25.4000      mm.
THERMAL BOWING HORZ TOLERANCE =       0.100000E-03
AUTO NODE NUMBER INCREMENT=          10.0000
Z AXIS UP=                           NO
USE PRESSURE STIFFENING =              DEFAULT
ALPHA TOLERANCE =                     0.500000E-01
RESLD-FORCE =                         NO
HGR DEF RESWGT STIF =                  0.175127E+13 N./cm.
DECOMP SNG TOL =                      0.100000E+11
BEND AXIAL SHAPE =                     YES
FRICT STIF =                          0.175127E+07 N./cm.
FRICT NORM FORCE VAR =                  0.150000
FRICT ANGLE VAR =                      15.0000
FRICT SLIDE MULT =                     1.00000
ROD TOLERANCE =                       1.00000
ROD INC =                             2.00000
INCORE NUMERICAL CHECK =               NO
OUTCORE NUMERICAL CHECK =              NO
DEFAULT TRANS RESTRAINT STIFF=         0.175127E+13      N./cm.
DEFAULT ROT RESTRAINT STIFF=           0.112985E+12      N.m./deg
IGNORE SPRING HANGER STIFFNESS =       NO
MISSING MASS ZPA =                     EXTRACTED
MIN WALL MILL TOLERANCE =              12.5000
WRC-107 VERSION =                      MAR 79 1B1/2B1
WRC-107 INTERPOLATION =                LAST VALUE
DEFAULT AMBIENT TEMPERATURE=           21.1111      C
BOURDON PRESSURE=                      NONE
COEFFICIENT OF FRICTION (MU) =          0.000000
INCLUDE SPRG STIF IN HGR OPE =          NO
INCLUDE INSULATION IN HYDROTEST =       NO
REDUCED INTERSECTION =                  B31.1(POST1980)
USE WRC329                             NO
NO REDUCED SIF FOR RFT AND WLT          NO
B31.1 REDUCED Z FIX =                   YES
CLASS 1 BRANCH FLEX                     NO
ALL STRESS CASES CORRODED =             NO
ADD TORSION IN SL STRESS =              DEFAULT
ADD F/A IN STRESS =                     DEFAULT
OCCASIONAL LOAD FACTOR =                0.000000
DEFAULT CODE =                          B31.3
B31.3 SUS CASE SIF FACTOR =             0.000000
ALLOW USERS BEND SIF =                  NO
USE SCHNEIDER                           NO
YIELD CRITERION STRESS =                 MAX 3D SHEAR
USE PD/4T                               NO
BASE HOOP STRESS ON ? =                  ID
EN13480 USE IN OUTPLANE SIFS=           NO
LIBERAL EXPANSION ALLOWABLE=            YES
B31.3 SEC 319.2.3C SAXIAL=              Default
B31.3 WELDING/CONTOUR TEE ISB16.9      FALSE
PRESSURE VARIATION IN EXP CASE=         DEFAULT

```

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INPUT LISTING

```

IMPLEMENT B313 APP-P                NO
IMPLEMENT B313 CODE CASE 178        YES
IGNORE B31.1/B31.3 Wc FACTOR=       YES
USE FRP SIF =                        YES
USE FRP FLEX =                       YES
BS 7159 Pressure Stiffening=         Design Strain
FRP Property Data File=              CAESAR.FRP
FRP Emod (axial) =                    0.220632E+08    KPa
FRP Ratio Gmod/Emod (axial) =         0.250000
FRP Ea/Eh*Vh/a =                     0.152730
FRP Laminate Type =                  THREE
FRP Alpha =                           21.6000          C
FRP Density =                         0.166079E-02 kg./cu.cm.
EXCLUDE f2 FROM UK00A BENDING =      NO
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EXECUTION CONTROL PARAMETERS

```

Rigid/ExpJt Print Flag ..... 1.000
Bourdon Option ..... .000
Loop Closure Flag ..... 2.000
Thermal Bowing Delta Temp .. .000 C
Liberal Allowable Flag ..... 1.000
Uniform Load Option ..... 1.000

Ambient Temperature ..... 20.997 C
Plastic (FRP) Alpha ..... 21.600
Plastic (FRP) GMOD/EMODa ... .250
Plastic (FRP) Laminate Type. 3.000
Eqn Optimizer ..... .000
Node Selection ..... .000
Eqn Ordering ..... .000
Collins ..... .000
Degree Determination ..... .000
User Eqn Control ..... .000
North Direction ..... -X
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COORDINATE REPORT

```

/------(mm.)-----/
NODE      X          Y          Z
 20      6553.000    -5329.350    7060.100
 40      6452.000    -5329.350    7060.100
 60      5275.000    -5329.350    7060.100
 80      5275.000    -5936.350    7060.100
100      5875.000    -5936.350    7060.100
120      5875.000    -7098.620    7060.100
140      5875.000    -7327.620    7060.100
160      5875.000    -7527.620    7060.100
120      5875.000    -7098.620    7060.100
180      5875.000    -7327.620    7060.100
200      5446.000    -7327.620    7060.100
220      5344.400    -7327.620    7060.100
240      5242.800    -7327.620    7060.100

```

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INPUT LISTING

260	4742.800	-7327.620	7060.100
280	4447.300	-7327.620	7060.100
300	3947.300	-7327.620	7060.100
320	3744.300	-7327.620	7060.100
340	3642.700	-7327.620	7060.100
360	3069.700	-7327.620	7060.100
380	2968.100	-7327.620	7060.100
400	2107.100	-7327.620	7060.100
420	550.100	-7327.620	7060.100
440	448.500	-7327.620	7060.100
460	346.900	-7327.620	7060.100
480	-896.100	-7327.620	7060.100
490	-2931.100	-7327.620	7060.100
500	-4966.101	-7327.620	7060.100
6210	-4966.101	-7403.820	7060.100
490	-2931.100	-7327.620	7060.100
500	-4966.101	-7327.620	7060.100
580	-4966.101	-3206.620	7060.100
600	-4966.101	-3206.620	4310.100
610	-5280.101	-3206.620	4310.100
620	-5596.101	-3206.620	4310.100
5190	-5596.101	-3007.620	4310.100
9000	-5596.101	-3007.620	3958.100
9010	-5293.101	-3007.620	3958.100
9020	-5293.101	-3007.620	4035.100
9030	-5293.101	-3007.620	4137.100
9040	-5293.101	-3007.620	4347.100
9050	-5293.101	-3007.620	4449.100
5200	-5293.101	-3007.620	4589.100
5210	-5293.101	-3007.620	4662.125
5220	-5293.101	-3007.620	4963.125
5230	-5293.101	-3007.620	5036.150
5240	-5293.101	-3007.620	5113.150
5245	-5781.601	-3007.620	5113.150
5240	-5293.101	-3007.620	5113.150
6230	-5293.101	-3025.581	5131.110
5245	-5781.601	-3007.620	5113.150
5250	-6270.101	-3007.620	5113.150
5260	-6343.125	-3007.620	5113.150
5270	-6416.150	-3007.620	5113.150
5275	-6566.150	-3007.620	5113.150
6260	-6566.150	-3033.020	5113.150
5275	-6566.150	-3007.620	5113.150
5280	-6716.150	-3007.620	5113.150
5290	-6789.175	-3007.620	5113.150
5300	-6989.175	-3007.620	5113.150
5310	-7055.850	-3007.620	5113.150
5320	-7144.850	-3007.620	5113.150
5330	-7431.850	-3007.620	5113.150
5340	-7431.850	-3725.620	5113.150
6280	-7393.750	-3725.620	5113.150
5340	-7431.850	-3725.620	5113.150
5350	-7431.850	-5865.620	5113.150
5355	-7431.850	-5865.620	5579.650
5360	-7431.850	-5865.620	6096.150
5370	-10711.850	-5865.620	6096.150

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INPUT LISTING

5375	-15213.850	-5865.620	6096.150
5380	-15688.850	-5865.620	6096.150
5390	-15688.850	-6577.620	6096.150
5485	-15688.599	-7162.720	6795.301
610	-5280.101	-3206.620	4310.100
640	-5280.101	-3290.620	4310.100
660	-5280.101	-3590.620	4310.100
620	-5596.101	-3206.620	4310.100
680	-6274.101	-3206.620	4310.100
700	-6274.101	-3435.620	4310.100
720	-6274.101	-3561.620	4310.100
760	-6274.101	-3666.395	4310.100
780	-6274.101	-3864.895	4310.100
660	-5280.101	-3590.620	4310.100
780	-6274.101	-3864.895	4310.100
6240	-5293.101	-3025.581	5430.110
780	-6274.101	-3864.895	4310.100
6270	-6566.150	-3383.020	5112.150
780	-6274.101	-3864.895	4310.100
6290	-7093.750	-3725.620	5112.150
780	-6274.101	-3864.895	4310.100
840	-6274.101	-7434.895	4310.100
280	4447.300	-7327.620	7060.100
4350	4447.300	-7327.620	7182.100
4360	4447.300	-7327.620	7255.125
4370	4447.300	-7327.620	7556.125
4380	4447.300	-7327.620	7638.675
4390	4447.300	-7327.620	8214.675
4395	4447.300	-7070.620	8214.675
4390	4447.300	-7327.620	8214.675
6300	4447.300	-7353.020	8214.675
4395	4447.300	-7070.620	8214.675
880	4447.300	-6813.620	8214.675
900	4447.300	-6813.620	8137.675
920	4447.300	-6813.620	8055.125
940	4447.300	-6813.620	7754.125
960	4447.300	-6813.620	7671.575
980	4447.300	-6813.620	6449.575
1000	4447.300	-6913.620	6449.575
1020	4447.300	-7211.620	6449.575
1040	4624.300	-7211.620	6449.575
1060	4792.310	-7211.620	6449.575
1080	4918.310	-7211.620	6449.575
1100	5044.310	-7211.620	6449.575
1120	5273.310	-7211.620	6449.575
1140	5273.310	-7211.620	5221.575
1160	5734.810	-7211.620	5221.575
1180	5967.677	-7211.620	5221.575
1200	5967.677	-7211.620	7049.575
1220	6196.677	-7211.620	7049.575
1240	6323.677	-7211.620	7049.575
1020	4447.300	-7211.620	6449.575
1260	3047.300	-7211.620	6449.575
1280	2197.300	-7211.620	6449.575
1300	1547.300	-7211.620	6449.575
1320	1420.300	-7211.620	6449.575

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INPUT LISTING

1340	852.300	-7211.620	6449.575
1360	725.300	-7211.620	6449.575
1380	-823.700	-7211.620	6449.575
1390	-2858.700	-7211.620	6449.575
1400	-4893.700	-7211.620	6449.575
6400	-4893.700	-7287.820	6449.575
1390	-2858.700	-7211.620	6449.575
1400	-4893.700	-7211.620	6449.575
1480	-4893.700	-5627.620	6449.575
1500	-10709.700	-5627.620	6449.575
1520	-16709.699	-5627.620	6449.575
1540	-19383.699	-5627.620	6449.575
1560	-19383.699	-5627.620	8578.575
1580	-19383.699	-5627.620	9799.575
1600	-19383.699	-2008.620	9799.575
1620	-20840.699	-2008.620	9799.575
1640	-20840.699	-2936.620	9799.575
1660	-20840.699	-3063.620	9799.575
1680	-20840.699	-3098.620	9799.575
1700	-20840.699	-3298.620	9799.575
1740	-20840.699	-3538.620	9799.575
1780	-20840.699	-3778.620	9799.575
1800	-20840.699	-3978.620	9799.575
1820	-20840.699	-4013.620	9799.575
1740	-20840.699	-3538.620	9799.575
1840	-20840.699	-3538.620	11299.575
1860	-27875.699	-3538.620	11299.575
1880	-27875.699	-3538.620	8299.575
1900	-20840.699	-3538.620	8299.575
1740	-20840.699	-3538.620	9799.575
1820	-20840.699	-4013.620	9799.575
1920	-20840.699	-4115.220	9799.575
1940	-20840.699	-4543.220	9799.575
1960	-20840.699	-4543.220	9471.075
1980	-20840.699	-4543.220	9142.575
2000	-17044.699	-4543.220	9142.575
6420	-17044.699	-4619.420	9142.575
2000	-17044.699	-4543.220	9142.575
6420	-17044.699	-4619.420	9142.575
2000	-17044.699	-4543.220	9142.575
4100	-16299.699	-4543.220	9142.575
4400	-16299.699	-4550.430	10590.557
4410	-16299.699	-4551.063	10717.555
4420	-16299.699	-4553.891	11285.548
4430	-16299.699	-4554.523	11412.546
4440	-16299.699	-4556.184	11746.042
6480	-16299.699	-4632.384	11746.042
4440	-16299.699	-4556.184	11746.042
4450	-16299.699	-4557.844	12079.538
4460	-16299.699	-4558.477	12206.536
4470	-16299.699	-4561.305	12774.529
4480	-16299.699	-4561.937	12901.527
4482	-16299.699	-4565.007	13466.027
4485	-16299.699	-4568.077	14030.527
6760	-16353.581	-4621.958	14030.527
4482	-16299.699	-4565.007	13466.027

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INPUT LISTING

4485	-16299.699	-4568.077	14030.527
4490	-15257.699	-4568.077	14030.527
4500	-15130.699	-4568.077	14030.527
4505	-14532.699	-4568.077	14030.527
6790	-14405.699	-4568.077	14030.527
6780	-14081.699	-4568.077	14030.527
6795	-13757.699	-4568.077	14030.527
7000	-13703.817	-4621.958	14030.527
6780	-14081.699	-4568.077	14030.527
6795	-13757.699	-4568.077	14030.527
6800	-13757.699	-4617.077	15436.527
6810	-15825.699	-4617.077	15436.527
6820	-17825.699	-4617.077	15436.527
6830	-17991.699	-4783.077	15436.527
6845	-17991.699	-4783.077	15095.527
6830	-17991.699	-4783.077	15436.527
6870	-17991.699	-4783.077	21012.527
6880	-17991.699	-4783.077	23012.527
6890	-17991.699	-4783.077	27012.527
6900	-17991.699	-4783.077	33012.527
6905	-17991.699	-4783.077	39012.527
6910	-17991.699	-4783.077	45012.527
6915	-17991.699	-4783.077	46212.527
6920	-11991.699	-4783.077	46212.527
4100	-16299.699	-4543.220	9142.575
4560	-16299.699	-4543.220	8857.575
4570	-16156.699	-4543.220	8857.575
4560	-16299.699	-4543.220	8857.575
4580	-16442.699	-4543.220	8857.575
4590	-16814.699	-4543.220	8857.575
4600	-16814.699	-4543.220	8628.575
4610	-16814.699	-4543.220	8501.575
4620	-16814.699	-4543.220	7933.575
4630	-16814.699	-4543.220	7806.575
4640	-16814.699	-4543.220	7606.575
6510	-16814.699	-4619.420	7606.575
4640	-16814.699	-4543.220	7606.575
4650	-16814.699	-4543.220	7074.075
4660	-16814.699	-4570.220	6934.075
4670	-16814.699	-4570.220	6822.950
4680	-16814.699	-4570.220	6381.950
4690	-16814.699	-4570.220	6270.825
4700	-16814.699	-4543.220	6130.825
4710	-16814.699	-4543.220	5830.825
6530	-16814.699	-4619.420	5830.825
4710	-16814.699	-4543.220	5830.825
4720	-16814.699	-4543.220	5530.825
4730	-16814.699	-4543.220	5403.825
4740	-16814.699	-4543.220	4843.825
4750	-16814.699	-4543.220	4751.750
6550	-16814.699	-4543.220	4573.750
4140	-16814.699	-4543.220	781.750
6560	-16385.699	-4543.220	781.750
4760	-11986.699	-4543.220	781.750
4770	-11986.699	-4543.220	324.750
4780	-11986.699	-5201.220	324.750

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INPUT LISTING

4160	-11593.699	-5201.220	324.750
6600	-11593.699	-5302.820	324.750
4160	-11593.699	-5201.220	324.750
4180	-7399.699	-5201.220	324.750
4200	-7285.399	-5201.220	324.750
4220	-7265.399	-5201.220	324.750
4240	-7151.100	-5201.220	324.750
4260	-6996.100	-5201.220	324.750
4280	-6536.100	-5201.220	324.750
4300	-6536.100	-6501.220	324.750
4310	-6536.100	-7501.220	324.750
4320	-6536.100	-7801.220	324.750
4780	-11986.699	-5201.220	324.750
6620	-12375.699	-5201.220	324.750
6630	-12375.699	-5302.820	324.750
6620	-12375.699	-5201.220	324.750
4800	-12764.699	-5201.220	324.750
4810	-12878.999	-5201.220	324.750
4820	-13382.999	-5201.220	324.750
4830	-13497.299	-5201.220	324.750
4840	-13812.299	-5201.220	324.750
4850	-13926.599	-5201.220	324.750
4860	-14532.599	-5201.220	324.750
4870	-14637.374	-5201.220	324.750
4880	-14837.374	-5201.220	324.750
6650	-15124.374	-5201.220	324.750
6660	-15124.374	-5302.820	324.750
6650	-15124.374	-5201.220	324.750
4890	-15611.374	-5201.220	324.750
4900	-15716.149	-5201.220	324.750
4910	-16202.649	-5201.220	324.750
4920	-16307.425	-5201.220	324.750
4930	-16849.426	-5201.220	324.750
6680	-16849.426	-5302.820	324.750
4930	-16849.426	-5201.220	324.750
4940	-17454.426	-5201.220	324.750
4950	-17454.426	-5201.220	1824.750
4960	-18325.926	-5201.220	1824.750
6065	-18662.926	-4864.220	1824.750
4570	-16156.699	-4543.220	8857.575
4775	-16016.699	-4570.220	8857.575
4980	-15518.699	-4570.220	8857.575
4990	-15407.574	-4570.220	8857.575
5000	-14966.574	-4570.220	8857.575
5010	-14855.449	-4570.220	8857.575
5020	-14702.449	-4570.220	8857.575
5025	-14702.449	-4570.220	8393.575
5020	-14702.449	-4570.220	8857.575
6700	-14648.567	-4624.102	8857.575
5025	-14702.449	-4570.220	8393.575
5030	-14702.449	-4570.220	7929.075
5040	-14702.449	-4583.220	7827.075
5060	-14702.449	-4583.220	7735.000
5070	-14702.449	-4583.220	7370.000
5080	-14702.449	-4583.220	7277.925
5090	-14702.449	-4570.720	7175.925

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INPUT LISTING

5095	-14702.449	-4570.720	6908.425
6720	-14702.449	-4621.520	6908.425
5095	-14702.449	-4570.720	6908.425
5100	-14702.449	-4570.720	6640.925
5110	-14702.449	-4570.720	6529.800
5120	-14702.449	-4570.720	6088.800
5130	-14702.449	-4570.720	6009.425
5140	-14702.449	-4570.720	5856.425
5145	-14702.449	-5148.720	5856.425
6740	-14702.449	-5148.720	5805.625
5145	-14702.449	-5148.720	5856.425
5150	-14702.449	-5560.720	5856.425
5160	-15688.449	-5560.720	5856.425
5170	-15688.449	-6633.720	5856.425
5490	-15688.449	-7163.720	6385.301
4710	-16814.699	-4543.220	5830.825
6530	-16814.699	-4619.420	5830.825
6010	-18662.926	-4864.220	-27145.250
6020	-18662.926	-4864.220	-21145.250
6025	-18662.926	-4864.220	-15145.250
6030	-18662.926	-4864.220	-9145.250
6035	-18662.926	-4864.220	-8045.250
6040	-24662.926	-4864.220	-8045.250
6045	-24662.926	-4864.220	-6145.250
6050	-24662.926	-4864.220	-4245.250
6055	-18662.926	-4864.220	-4245.250
6060	-18662.926	-4864.220	-3145.250
6065	-18662.926	-4864.220	1824.750
6070	-18662.926	-4864.220	3124.750
6080	-18662.926	-4864.220	9124.750
6090	-18662.926	-4864.220	15124.750
4970	-18662.926	-4864.220	19824.750
1260	3047.300	-7211.620	6449.575
2140	3047.300	-5681.620	6449.575
2160	3047.300	-5681.620	6701.575
2180	-816.700	-5681.620	6701.575
2200	-5731.200	-5681.620	6701.575
2220	-10645.700	-5681.620	6701.575
2260	-11033.700	-5681.620	6701.575
2270	-11033.700	-5681.620	9199.575
2280	-11033.700	-5681.620	10783.575
2320	-11033.700	-5241.620	10783.575
2330	-11033.700	-4795.620	10783.575
2340	-11033.700	-4582.620	10783.575
2360	-11033.700	-4500.070	10783.575
5650	-11033.700	-4199.070	10783.575
5660	-11033.700	-4116.521	10783.575
2400	-11033.700	-3716.521	10783.575
5670	-11033.700	-3610.521	10783.575
5680	-11033.700	-3531.146	10783.575
5690	-11033.700	-3451.771	10783.575
2420	-11033.700	-3410.271	10783.575
2440	-11189.700	-3410.271	10783.575
2460	-11262.726	-3410.271	10783.575
2480	-11402.726	-3449.970	10783.575
2500	-11752.726	-3449.970	10783.575

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INPUT LISTING

2520	-12331.726	-3449.970	10783.575
2540	-12331.726	-3678.970	10783.575
5700	-12331.726	-3771.045	10783.575
2560	-12331.726	-4047.045	10783.575
2570	-12331.726	-4139.121	10783.575
5710	-12331.726	-4793.121	10783.575
6440	-12407.926	-4793.121	10783.575
5710	-12331.726	-4793.121	10783.575
2580	-12331.726	-5380.121	10783.575
5840	-12655.726	-5380.121	10783.575
5800	-13155.726	-5380.121	11283.575
2280	-11033.700	-5681.620	10783.575
2300	-11033.700	-5681.620	11283.575
2620	-11033.700	-5241.620	11283.575
2640	-11033.700	-4581.620	11283.575
5720	-11033.700	-4499.070	11283.575
2660	-11033.700	-4198.070	11283.575
5730	-11033.700	-4115.521	11283.575
2700	-11033.700	-3715.521	11283.575
5740	-11033.700	-3609.521	11283.575
5750	-11033.700	-3530.146	11283.575
5760	-11033.700	-3450.771	11283.575
2720	-11033.700	-3409.771	11283.575
2740	-11189.700	-3409.771	11283.575
2760	-11262.726	-3409.771	11283.575
2780	-11402.726	-3449.470	11283.575
2800	-11752.726	-3449.470	11283.575
2820	-12331.726	-3449.470	11283.575
2840	-12331.726	-3678.470	11283.575
2846	-12331.726	-3770.545	11283.575
2852	-12331.726	-4046.545	11283.575
2860	-12331.726	-4138.621	11283.575
2870	-12331.726	-4792.621	11283.575
6460	-12407.926	-4792.621	11283.575
2870	-12331.726	-4792.621	11283.575
2880	-12331.726	-5379.621	11283.575
2880	-12331.726	-5380.121	11283.575
5800	-13155.726	-5380.121	11283.575
5805	-14737.726	-5380.121	11283.575
5810	-15687.726	-5380.121	11283.575
5820	-15687.726	-6053.621	11283.575
5475	-15687.600	-7139.720	12193.301
4750	-16814.699	-4543.220	4751.750
6550	-16814.699	-4543.220	4573.750
6210	-4966.101	-7403.820	7060.100
6220	-4966.101	-7703.820	7060.100
6230	-5293.101	-3025.581	5131.110
6240	-5293.101	-3025.581	5431.110
6260	-6566.150	-3033.020	5113.150
6270	-6566.150	-3383.020	5113.150
6280	-7393.750	-3725.620	5113.150
6290	-7093.750	-3725.620	5113.150
6300	4447.300	-7353.020	8214.675
6310	4447.300	-8253.020	8214.675
6400	-4893.700	-7287.820	6449.575
6410	-4893.700	-7587.820	6449.575

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INPUT LISTING

6420	-17044.699	-4619.420	9142.575
6425	-17044.699	-4849.420	9142.575
6430	-17044.699	-5229.420	9142.575
6440	-12407.926	-4793.121	10783.575
6450	-12707.926	-4793.121	10783.575
6460	-12407.926	-4792.621	11283.575
6470	-12707.926	-4792.621	11283.575
6480	-16299.699	-4632.384	11746.042
6485	-16299.699	-4862.384	11746.042
6490	-16299.699	-5242.384	11746.042
6510	-16814.699	-4619.420	7606.575
6515	-16814.699	-4849.420	7606.575
6520	-16814.699	-5229.420	7606.575
6530	-16814.699	-4619.420	5830.825
6535	-16814.699	-4849.420	5830.825
6540	-16814.699	-5229.420	5830.825
6550	-16814.699	-4543.220	4573.750
6590	-16814.699	-5153.220	4573.750
6600	-11593.699	-5302.820	324.750
6610	-11593.699	-5802.820	324.750
6630	-12375.699	-5302.820	324.750
6640	-12375.699	-5802.820	324.750
6660	-15124.374	-5302.820	324.750
6670	-15124.374	-5802.820	324.750
6680	-16849.426	-5302.820	324.750
6690	-16849.426	-5802.820	324.750
6700	-14648.567	-4624.102	8857.575
6705	-14548.567	-4624.102	8857.575
6710	-14148.567	-4624.102	8857.575
6720	-14702.449	-4621.520	6908.425
6730	-14702.449	-5321.520	6908.425
6740	-14702.449	-5148.720	5805.625
6750	-14702.449	-5148.720	5505.625
6760	-16353.581	-4621.958	14030.527
6765	-16453.582	-4621.958	14030.527
6770	-16903.582	-4621.958	14030.527
7000	-13703.817	-4621.958	14030.527
7005	-13603.817	-4621.958	14030.527
7010	-13203.817	-4621.958	14030.527
8000	-15687.600	-7139.720	34728.301
8010	-15687.600	-7139.720	31728.301
8020	-15687.600	-7139.720	31328.301
8030	-15687.600	-7139.720	28328.301
8040	-15687.600	-7139.720	22328.301
8050	-15687.600	-7139.720	19578.301
8060	-21687.600	-7139.720	19578.301
8070	-21687.600	-7139.720	18578.301
8080	-21687.600	-7139.720	17578.301
8090	-15687.600	-7139.720	17578.301
8100	-15687.600	-7139.720	16328.301
8110	-15687.600	-7139.720	13328.301
5475	-15687.600	-7139.720	12193.301
8120	-15687.600	-7139.720	10328.301
8120	-15688.599	-7162.720	10331.301
5485	-15688.599	-7162.720	6795.301
5490	-15688.599	-7162.720	6397.301

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INPUT LISTING

5490	-15688.449	-7163.720	6385.301
8140	-15688.449	-7163.720	4319.301
8150	-15688.449	-7163.720	-1680.699
8160	-15688.449	-7163.720	-4630.699
8170	-21688.449	-7163.720	-4630.699
8180	-21688.449	-7163.720	-5630.699
8190	-21688.449	-7163.720	-6630.699
8200	-15688.449	-7163.720	-6630.699
8210	-15688.449	-7163.720	-7480.699
8220	-15688.449	-7163.720	-13480.699
8230	-15688.449	-7163.720	-19480.699
8240	-15688.449	-7163.720	-25480.699
8250	-15688.449	-7163.720	-31480.699

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

1 (HGR) CASE NOT ACTIVE
2 (HGR) CASE NOT ACTIVE
3 (HYD) WW+HP+H
4 (OPE) W+T1+P1+H
5 (Alt-SUS) W+P1+H
6 (OPE) W+T2+P1+H
7 (Alt-SUS) W+P1+H
8 (OPE) W+T3+P1+H
9 (Alt-SUS) W+P1+H
10 (SUS) W+P1+H
11 (SUS) WNC
12 (OPE) W+T1+P1+H+U1
13 (OPE) W+T1+P1+H-U1
14 (OPE) W+T1+P1+H+U2
15 (OPE) W+T1+P1+H-U2
16 (OPE) W+T1+P1+H+U3
17 (OPE) W+T1+P1+H+F1
18 (OPE) W+T1+P1+H+F2
19 (OCC) L19=L12-L4
20 (OCC) L20=L13-L4
21 (OCC) L21=L14-L4
22 (OCC) L22=L15-L4
23 (OCC) L23=L16-L4
24 (OCC) L24=L17-L4
25 (OCC) L25=L18-L4
26 (OCC) L26=L19+L10
27 (OCC) L27=L20+L10
28 (OCC) L28=L21+L10
29 (OCC) L29=L22+L10
30 (OCC) L30=L23+L10
31 (OCC) L31=L24+L10
32 (OCC) L32=L25+L10
33 (EXP) L33=L4-L10
34 (EXP) L34=L6-L10
35 (EXP) L35=L4-L6
36 (EXP) L36=L8-L10
37 (EXP) L37=L4-L8
38 (EXP) L38=L6-L8

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

LOAD CASE DEFINITION KEY

CASE 3 (HYD) WW+HP+H
CASE 4 (OPE) W+T1+P1+H
CASE 6 (OPE) W+T2+P1+H
CASE 8 (OPE) W+T3+P1+H
CASE 10 (SUS) W+P1+H
CASE 11 (SUS) WNC
CASE 12 (OPE) W+T1+P1+H+U1
CASE 13 (OPE) W+T1+P1+H-U1
CASE 14 (OPE) W+T1+P1+H+U2
CASE 15 (OPE) W+T1+P1+H-U2
CASE 16 (OPE) W+T1+P1+H+U3
CASE 17 (OPE) W+T1+P1+H+F1
CASE 18 (OPE) W+T1+P1+H+F2
CASE 19 (OCC) L19=L12-L4
CASE 20 (OCC) L20=L13-L4
CASE 21 (OCC) L21=L14-L4
CASE 22 (OCC) L22=L15-L4
CASE 23 (OCC) L23=L16-L4
CASE 24 (OCC) L24=L17-L4
CASE 25 (OCC) L25=L18-L4

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
20		TYPE=Rigid ANC;					
	3(HYD)	-207	-726	17	-6	17	310
	4(OPE)	285	750	168	-194	317	-856
	6(OPE)	727	2455	184	-233	380	-2296
	8(OPE)	284	750	166	-190	313	-856
	10(SUS)	-146	-557	17	-6	17	220
	11(SUS)	187	-1478	12	-9	9	1257
	12(OPE)	690	965	175	-196	423	-976
	13(OPE)	-96	518	158	-190	192	-709
	14(OPE)	247	913	164	-192	318	-998
	15(OPE)	336	569	169	-196	304	-690
	16(OPE)	279	619	512	-336	659	-729
	17(OPE)	285	750	168	-194	317	-855
	18(OPE)	296	705	180	-211	324	-806
	19(OCC)	406	215	7	-2	106	-121
	20(OCC)	-381	-232	-10	5	-126	147
	21(OCC)	-38	163	-4	2	1	-142
	22(OCC)	51	-181	1	-2	-13	166
	23(OCC)	-5	-131	344	-142	342	126
	24(OCC)	0	-0	-0	0	-0	0
	25(OCC)	12	-45	12	-16	6	49
	MAX	727/L6	2455/L6	512/L16	-336/L16	659/L16	-2296/L6
121		TYPE=Rigid					

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
		+Y;					
	3(HYD)	-143	-1762	14	0	0	0
	4(OPE)	0	-1303	130	0	0	0
	6(OPE)	0	-1330	133	0	0	0
	8(OPE)	0	-1303	130	0	0	0
	10(SUS)	-96	-1287	17	0	0	0
	11(SUS)	-0	-8	1	0	0	0
	12(OPE)	0	-1300	130	0	0	0
	13(OPE)	0	-1305	131	0	0	0
	14(OPE)	0	-1302	130	0	0	0
	15(OPE)	0	-1304	130	0	0	0
	16(OPE)	0	-1304	130	0	0	0
	17(OPE)	0	-1303	130	0	0	0
	18(OPE)	0	-1303	130	0	0	0
	19(OCC)	0	2	-0	0	0	0
	20(OCC)	-0	-2	0	0	0	0
	21(OCC)	-0	1	-0	0	0	0
	22(OCC)	0	-1	0	0	0	0
	23(OCC)	-0	-1	0	0	0	0
	24(OCC)	0	0	-0	0	0	0
	25(OCC)	-0	-0	0	0	0	0
	MAX	-143/L3	-1762/L3	133/L6			
160		TYPE=Rigid Z; Rigid -X; Rigid X; Prog Design VSH;					
	3(HYD)	-143	-1762	14	0	0	0
	4(OPE)	2007	-1725	558	0	0	0
	6(OPE)	3008	-2148	510	0	0	0
	8(OPE)	2003	-1731	551	0	0	0
	10(SUS)	-96	-1287	17	0	0	0
	11(SUS)	-0	-8	1	0	0	0
	12(OPE)	3782	-2124	909	0	0	0
	13(OPE)	379	-1383	212	0	0	0
	14(OPE)	1849	-1684	531	0	0	0
	15(OPE)	2215	-1774	598	0	0	0
	16(OPE)	1664	-1572	558	0	0	0
	17(OPE)	2009	-1726	558	0	0	0
	18(OPE)	1977	-1699	570	0	0	0
	19(OCC)	1775	-400	351	0	0	0
	20(OCC)	-1627	342	-346	0	0	0
	21(OCC)	-157	40	-27	0	0	0
	22(OCC)	208	-49	40	0	0	0
	23(OCC)	-342	152	0	0	0	0
	24(OCC)	3	-1	0	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	25(OCC)	-30	26	13	0	0	0
	MAX	3782/L12	-2148/L6	909/L12			
300		TYPE=Rigid +Y;					
	3(HYD)	201	-2077	177	0	0	0
	4(OPE)	-459	-2673	657	0	0	0
	6(OPE)	-1139	-4738	850	0	0	0
	8(OPE)	-466	-2673	653	0	0	0
	10(SUS)	139	-1834	195	0	0	0
	11(SUS)	-59	-2403	236	0	0	0
	12(OPE)	-313	-2406	651	0	0	0
	13(OPE)	-707	-2987	551	0	0	0
	14(OPE)	-408	-2397	592	0	0	0
	15(OPE)	-526	-2961	716	0	0	0
	16(OPE)	-325	-2887	803	0	0	0
	17(OPE)	-459	-2673	657	0	0	0
	18(OPE)	-458	-2711	672	0	0	0
	19(OCC)	146	267	-7	0	0	0
	20(OCC)	-247	-314	-106	0	0	0
	21(OCC)	51	276	-66	0	0	0
	22(OCC)	-67	-288	58	0	0	0
	23(OCC)	134	-214	145	0	0	0
	24(OCC)	-0	-0	-0	0	0	0
	25(OCC)	1	-39	15	0	0	0
	MAX	-1139/L6	-4738/L6	850/L6			
400		TYPE=Rigid Z w/gap; Rigid Y;					
	3(HYD)	161	-1501	-18	0	0	0
	4(OPE)	-134	-570	106	0	0	0
	6(OPE)	-152	565	75	0	0	0
	8(OPE)	-137	-576	106	0	0	0
	10(SUS)	111	-1218	-22	0	0	0
	11(SUS)	-27	-944	-40	0	0	0
	12(OPE)	-114	-588	135	0	0	0
	13(OPE)	-153	-544	57	0	0	0
	14(OPE)	-104	-449	86	0	0	0
	15(OPE)	-167	-684	120	0	0	0
	16(OPE)	-79	-525	136	0	0	0
	17(OPE)	-134	-570	106	0	0	0
	18(OPE)	-130	-555	104	0	0	0
	19(OCC)	20	-19	29	0	0	0
	20(OCC)	-19	25	-49	0	0	0
	21(OCC)	30	120	-20	0	0	0
	22(OCC)	-33	-115	13	0	0	0
	23(OCC)	55	45	30	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	24(OCC)	-0	-0	-0	0	0	0
	25(OCC)	4	15	-2	0	0	0
	MAX	-167/L15	-1501/L3	136/L16			
480		TYPE=Rigid Z w/gap; Rigid Y;					
	3(HYD)	167	-2077	-14	0	0	0
	4(OPE)	-530	-1852	167	0	0	0
	6(OPE)	-689	-2391	198	0	0	0
	8(OPE)	-525	-1836	167	0	0	0
	10(SUS)	116	-1492	-9	0	0	0
	11(SUS)	35	-1498	-7	0	0	0
	12(OPE)	-548	-1985	234	0	0	0
	13(OPE)	-506	-1715	94	0	0	0
	14(OPE)	-475	-1672	162	0	0	0
	15(OPE)	-588	-2033	161	0	0	0
	16(OPE)	-390	-1815	617	0	0	0
	17(OPE)	-530	-1852	167	0	0	0
	18(OPE)	-530	-1853	168	0	0	0
	19(OCC)	-18	-134	67	0	0	0
	20(OCC)	24	137	-73	0	0	0
	21(OCC)	55	180	-5	0	0	0
	22(OCC)	-59	-182	-6	0	0	0
	23(OCC)	140	37	450	0	0	0
	24(OCC)	-0	0	-0	0	0	0
	25(OCC)	0	-1	1	0	0	0
	MAX	-689/L6	-2391/L6	617/L16			
660		TYPE=Rigid +Y;					
	3(HYD)	-100	-1404	-151	0	0	0
	4(OPE)	-348	-1167	-37	0	0	0
	6(OPE)	-234	-1282	305	0	0	0
	8(OPE)	-185	-979	228	0	0	0
	10(SUS)	-65	-1031	-111	0	0	0
	11(SUS)	-65	-1022	-111	0	0	0
	12(OPE)	-216	-1509	-398	0	0	0
	13(OPE)	-152	-897	222	0	0	0
	14(OPE)	-307	-1027	-23	0	0	0
	15(OPE)	-389	-1309	-54	0	0	0
	16(OPE)	-110	-1266	363	0	0	0
	17(OPE)	-348	-1167	-37	0	0	0
	18(OPE)	-348	-1167	-37	0	0	0
	19(OCC)	133	-342	-361	0	0	0
	20(OCC)	196	270	259	0	0	0
	21(OCC)	41	140	14	0	0	0
	22(OCC)	-41	-142	-17	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	23(OCC)	238	-99	400	0	0	0
	24(OCC)	-0	0	0	0	0	0
	25(OCC)	0	0	-0	0	0	0
	MAX	-389/L15	-1509/L12	400/L23			
720		TYPE=Rigid ANC;					
	3(HYD)	131	-495	106	64	-15	-47
	4(OPE)	799	133	-330	-236	52	-274
	6(OPE)	280	340	-700	-427	-209	-317
	8(OPE)	-91	-316	-311	-116	-86	-104
	10(SUS)	82	-437	70	36	-10	-32
	11(SUS)	81	-435	69	35	-10	-32
	12(OPE)	1470	436	31	-179	121	-389
	13(OPE)	-139	-85	-597	-293	-85	-86
	14(OPE)	763	194	-331	-246	50	-262
	15(OPE)	834	73	-327	-225	54	-285
	16(OPE)	623	186	183	-21	-297	-227
	17(OPE)	798	133	-331	-235	52	-274
	18(OPE)	798	133	-331	-236	52	-274
	19(OCC)	671	303	362	57	68	-115
	20(OCC)	-937	-218	-266	-57	-137	187
	21(OCC)	-36	61	-1	-10	-2	11
	22(OCC)	35	-60	4	11	2	-11
	23(OCC)	-175	53	513	215	-349	47
	24(OCC)	-1	-0	-0	0	-0	0
	25(OCC)	-1	-0	-0	-0	0	0
	MAX	1470/L12	-495/L3	-700/L6	-427/L6	-349/L23	-389/L12
780		TYPE=Rigid ANC;					
	3(HYD)	9	-3050	-59	820	42	-1242
	4(OPE)	474	-1282	-365	-345	86	-1587
	6(OPE)	72	-1191	-429	-565	-479	-1620
	8(OPE)	-531	-3148	10	1228	-474	-353
	10(SUS)	3	-2532	-45	756	21	-883
	11(SUS)	2	-2520	-45	753	20	-873
	12(OPE)	1322	-1321	-360	-277	510	-2290
	13(OPE)	-353	-1231	-378	-414	-302	-882
	14(OPE)	470	-1052	-353	-352	72	-1435
	15(OPE)	476	-1514	-376	-338	103	-1741
	16(OPE)	520	-1328	708	162	-543	-1646
	17(OPE)	473	-1282	-365	-345	86	-1587
	18(OPE)	473	-1283	-365	-345	87	-1587
	19(OCC)	848	-39	4	68	424	-703
	20(OCC)	-826	52	-13	-68	-388	706
	21(OCC)	-3	231	12	-7	-15	152
	22(OCC)	3	-232	-11	8	16	-154

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	23(OCC)	47	-46	1072	508	-629	-59
	24(OCC)	-1	-0	-0	0	-0	0
	25(OCC)	-1	-0	-1	-0	0	1
	MAX	1322/L12	-3148/L8	1072/L23	1228/L8	-629/L23	-2290/L12
840		TYPE=Rigid ANC;					
	3(HYD)	9	-3050	-59	610	42	-1275
	4(OPE)	474	-1282	-365	-1647	86	-3278
	6(OPE)	72	-1191	-429	-2095	-479	-1876
	8(OPE)	-531	-3148	10	1262	-474	1543
	10(SUS)	3	-2532	-45	596	21	-892
	11(SUS)	2	-2520	-45	591	20	-879
	12(OPE)	1322	-1321	-360	-1563	510	-7010
	13(OPE)	-353	-1231	-378	-1763	-302	378
	14(OPE)	470	-1052	-353	-1611	72	-3114
	15(OPE)	476	-1514	-376	-1680	103	-3442
	16(OPE)	520	-1328	708	2689	-543	-3503
	17(OPE)	473	-1282	-365	-1647	86	-3276
	18(OPE)	473	-1283	-365	-1650	87	-3274
	19(OCC)	848	-39	4	83	424	-3732
	20(OCC)	-826	52	-13	-116	-388	3656
	21(OCC)	-3	231	12	36	-15	164
	22(OCC)	3	-232	-11	-33	16	-163
	23(OCC)	47	-46	1072	4336	-629	-225
	24(OCC)	-1	-0	-0	0	-0	3
	25(OCC)	-1	-0	-1	-3	0	5
	MAX	1322/L12	-3148/L8	1072/L23	4336/L23	-629/L23	-7010/L12
1040		TYPE=Rigid +Y;					
	3(HYD)	120	-2176	-188	0	0	0
	4(OPE)	502	-1916	279	0	0	0
	6(OPE)	545	-2065	295	0	0	0
	8(OPE)	505	-1918	277	0	0	0
	10(SUS)	101	-1865	-203	0	0	0
	11(SUS)	102	-1846	-210	0	0	0
	12(OPE)	528	-1991	279	0	0	0
	13(OPE)	482	-1858	281	0	0	0
	14(OPE)	434	-1668	250	0	0	0
	15(OPE)	568	-2150	305	0	0	0
	16(OPE)	602	-2326	353	0	0	0
	17(OPE)	501	-1911	279	0	0	0
	18(OPE)	501	-1912	279	0	0	0
	19(OCC)	26	-75	-0	0	0	0
	20(OCC)	-21	58	1	0	0	0
	21(OCC)	-69	247	-29	0	0	0
	22(OCC)	66	-234	25	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	23(OCC)	99	-410	74	0	0	0
	24(OCC)	-1	4	-1	0	0	0
	25(OCC)	-1	4	-1	0	0	0
	MAX	602/L16	-2326/L16	353/L16			
1180		TYPE=Rigid +Y; Rigid - X;					
	3(HYD)	6	-1302	1	0	0	0
	4(OPE)	8842	-1329	-3051	0	0	0
	6(OPE)	11126	-1249	-3713	0	0	0
	8(OPE)	8874	-1317	-3057	0	0	0
	10(SUS)	6	-1035	2	0	0	0
	11(SUS)	6	-1021	2	0	0	0
	12(OPE)	12233	-1431	-4099	0	0	0
	13(OPE)	5578	-1143	-2016	0	0	0
	14(OPE)	8370	-1198	-2870	0	0	0
	15(OPE)	9262	-1463	-3217	0	0	0
	16(OPE)	8781	-837	-2885	0	0	0
	17(OPE)	8839	-1328	-3050	0	0	0
	18(OPE)	8917	-1315	-3070	0	0	0
	19(OCC)	3392	-103	-1048	0	0	0
	20(OCC)	-3264	185	1035	0	0	0
	21(OCC)	-471	131	181	0	0	0
	22(OCC)	420	-134	-166	0	0	0
	23(OCC)	-61	492	166	0	0	0
	24(OCC)	-3	1	1	0	0	0
	25(OCC)	76	14	-18	0	0	0
	MAX	12233/L12	-1463/L15	-4099/L12			
1240		TYPE=Rigid ANC;					
	3(HYD)	1	-846	3	-24	1	294
	4(OPE)	1763	-590	12	54	-1038	309
	6(OPE)	2175	-599	-426	47	-1446	291
	8(OPE)	1734	-595	-1	52	-1035	306
	10(SUS)	1	-744	3	-22	1	238
	11(SUS)	1	-737	3	-21	1	235
	12(OPE)	2241	-544	-188	78	-1180	334
	13(OPE)	1173	-670	-295	13	-1017	265
	14(OPE)	1781	-506	31	55	-1037	279
	15(OPE)	1721	-675	-55	54	-1047	340
	16(OPE)	2101	-753	596	-36	-976	194
	17(OPE)	1762	-591	14	54	-1037	309
	18(OPE)	1773	-596	-199	51	-1103	306
	19(OCC)	478	47	-199	24	-142	24
	20(OCC)	-590	-79	-307	-41	21	-44
	21(OCC)	18	84	20	0	1	-30

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	22(OCC)	-42	-84	-66	-0	-9	31
	23(OCC)	338	-163	584	-90	62	-115
	24(OCC)	-1	-1	3	-0	1	-0
	25(OCC)	10	-6	-211	-3	-65	-3
	MAX	2241/L12	-846/L3	596/L16	-90/L23	-1446/L6	340/L15
1280		TYPE=Rigid Z w/gap; Rigid Y;					
	3(HYD)	160	-4240	-15	0	0	0
	4(OPE)	-289	-2748	772	0	0	0
	6(OPE)	-551	-2376	1381	0	0	0
	8(OPE)	-312	-2756	766	0	0	0
	10(SUS)	134	-3932	-17	0	0	0
	11(SUS)	135	-3913	-17	0	0	0
	12(OPE)	289	-2502	1417	0	0	0
	13(OPE)	-739	-3011	520	0	0	0
	14(OPE)	-253	-2310	645	0	0	0
	15(OPE)	-336	-3200	899	0	0	0
	16(OPE)	-728	-2611	2597	0	0	0
	17(OPE)	-291	-2750	772	0	0	0
	18(OPE)	-282	-2763	780	0	0	0
	19(OCC)	578	246	645	0	0	0
	20(OCC)	-450	-264	-252	0	0	0
	21(OCC)	37	438	-127	0	0	0
	22(OCC)	-47	-453	127	0	0	0
	23(OCC)	-438	137	1825	0	0	0
	24(OCC)	-1	-3	0	0	0	0
	25(OCC)	8	-15	8	0	0	0
	MAX	-739/L13	-4240/L3	2597/L16			
1380		TYPE=Rigid Z w/gap; Rigid Y;					
	3(HYD)	236	-3628	-7	0	0	0
	4(OPE)	-1737	-6147	619	0	0	0
	6(OPE)	-2000	-7043	681	0	0	0
	8(OPE)	-1742	-6126	585	0	0	0
	10(SUS)	197	-3157	-4	0	0	0
	11(SUS)	198	-3129	-4	0	0	0
	12(OPE)	-1846	-6561	684	0	0	0
	13(OPE)	-1667	-5740	433	0	0	0
	14(OPE)	-1589	-5713	643	0	0	0
	15(OPE)	-1875	-6555	592	0	0	0
	16(OPE)	-1664	-6191	1109	0	0	0
	17(OPE)	-1738	-6148	618	0	0	0
	18(OPE)	-1735	-6119	599	0	0	0
	19(OCC)	-109	-414	65	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	20(OCC)	70	406	-187	0	0	0
	21(OCC)	148	433	23	0	0	0
	22(OCC)	-138	-408	-27	0	0	0
	23(OCC)	73	-44	489	0	0	0
	24(OCC)	-1	-1	-1	0	0	0
	25(OCC)	2	28	-21	0	0	0
	MAX	-2000/L6	-7043/L6	1109/L16			
1500		TYPE=Rigid Z w/gap; Rigid +Y;					
	3(HYD)	-230	-3734	-11	0	0	0
	4(OPE)	-377	-1285	-1558	0	0	0
	6(OPE)	-249	-840	-2290	0	0	0
	8(OPE)	-380	-1295	-1577	0	0	0
	10(SUS)	-192	-2937	-8	0	0	0
	11(SUS)	-193	-2920	-8	0	0	0
	12(OPE)	-326	-1119	-1432	0	0	0
	13(OPE)	-429	-1452	-1716	0	0	0
	14(OPE)	-281	-956	-1584	0	0	0
	15(OPE)	-477	-1625	-1556	0	0	0
	16(OPE)	-404	-1378	-308	0	0	0
	17(OPE)	-377	-1285	-1558	0	0	0
	18(OPE)	-382	-1300	-1579	0	0	0
	19(OCC)	52	166	126	0	0	0
	20(OCC)	-51	-167	-157	0	0	0
	21(OCC)	96	329	-25	0	0	0
	22(OCC)	-100	-340	3	0	0	0
	23(OCC)	-27	-92	1250	0	0	0
	24(OCC)	0	0	0	0	0	0
	25(OCC)	-4	-15	-21	0	0	0
	MAX	-477/L15	-3734/L3	-2290/L6			
1520		TYPE=Rigid +Y;					
	3(HYD)	-63	-2917	-7	0	0	0
	4(OPE)	-641	-2478	-376	0	0	0
	6(OPE)	-582	-2323	-384	0	0	0
	8(OPE)	-640	-2476	-376	0	0	0
	10(SUS)	-55	-2300	-6	0	0	0
	11(SUS)	-56	-2287	-6	0	0	0
	12(OPE)	-645	-2507	-386	0	0	0
	13(OPE)	-636	-2447	-366	0	0	0
	14(OPE)	-569	-2199	-335	0	0	0
	15(OPE)	-713	-2755	-417	0	0	0
	16(OPE)	-583	-2217	-321	0	0	0
	17(OPE)	-641	-2478	-376	0	0	0
	18(OPE)	-639	-2473	-376	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	19(OCC)	-4	-29	-10	0	0	0
	20(OCC)	5	31	10	0	0	0
	21(OCC)	73	279	42	0	0	0
	22(OCC)	-72	-277	-41	0	0	0
	23(OCC)	59	262	56	0	0	0
	24(OCC)	-0	-0	0	0	0	0
	25(OCC)	2	6	0	0	0	0
	MAX	-713/L15	-2917/L3	-417/L15			
1560		TYPE=Rigid X w/gap; Rigid +Y;					
	3(HYD)	-238	-3789	-193	0	0	0
	4(OPE)	-7344	-5220	504	0	0	0
	6(OPE)	-10381	-5180	-3761	0	0	0
	8(OPE)	-7359	-5219	484	0	0	0
	10(SUS)	-188	-2965	-148	0	0	0
	11(SUS)	-187	-2949	-147	0	0	0
	12(OPE)	-6042	-5259	385	0	0	0
	13(OPE)	-8777	-5175	631	0	0	0
	14(OPE)	-7370	-4859	501	0	0	0
	15(OPE)	-7406	-5579	505	0	0	0
	16(OPE)	-7603	-4654	2186	0	0	0
	17(OPE)	-7342	-5220	504	0	0	0
	18(OPE)	-7337	-5222	482	0	0	0
	19(OCC)	1302	-39	-119	0	0	0
	20(OCC)	-1433	45	127	0	0	0
	21(OCC)	-26	361	-3	0	0	0
	22(OCC)	-62	-359	1	0	0	0
	23(OCC)	-259	566	1682	0	0	0
	24(OCC)	2	-0	0	0	0	0
	25(OCC)	6	-1	-22	0	0	0
	MAX	-10381/L6	-5579/L15	-3761/L6			
1660		TYPE=Rigid ANC;					
	3(HYD)	0	0	0	0	0	-0
	4(OPE)	0	0	0	0	-0	-0
	6(OPE)	0	0	0	-0	-0	0
	8(OPE)	0	0	0	0	-0	-0
	10(SUS)	0	0	0	-0	0	0
	11(SUS)	0	0	0	-0	0	0
	12(OPE)	0	0	0	0	-0	0
	13(OPE)	0	0	0	0	-0	-0
	14(OPE)	-0	0	0	0	0	-0
	15(OPE)	0	-0	0	0	-0	-0
	16(OPE)	0	0	0	-0	-0	0
	17(OPE)	0	0	0	0	-0	-0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	18(OPE)	0	0	0	0	-0	-0
	19(OCC)	0	0	0	0	0	0
	20(OCC)	0	0	0	0	0	-0
	21(OCC)	-0	0	0	0	0	0
	22(OCC)	0	-0	0	0	0	-0
	23(OCC)	0	0	0	-0	-0	0
	24(OCC)	0	0	0	0	0	0
	25(OCC)	0	0	0	0	0	0
	MAX	-0/L14	-0/L15		-0/L16	-0/L6	-0/L13
1700		TYPE=Rigid ANC;					
	3(HYD)	125	-2314	204	179	-243	-851
	4(OPE)	379	132	1162	27	2596	2017
	6(OPE)	810	-141	778	196	4283	2039
	8(OPE)	383	130	1163	25	2608	2019
	10(SUS)	100	-1928	157	138	-188	-690
	11(SUS)	99	-1918	156	137	-187	-686
	12(OPE)	924	186	1164	91	2278	1431
	13(OPE)	-157	69	1162	-41	2936	2601
	14(OPE)	377	357	1143	4	2654	2105
	15(OPE)	386	-97	1181	48	2554	1931
	16(OPE)	570	-623	1207	779	2837	1207
	17(OPE)	379	132	1162	27	2596	2018
	18(OPE)	381	130	1162	27	2599	2017
	19(OCC)	545	54	2	63	-318	-586
	20(OCC)	-537	-63	-0	-68	340	584
	21(OCC)	-2	225	-19	-23	57	87
	22(OCC)	7	-228	19	21	-43	-86
	23(OCC)	191	-755	45	752	241	-810
	24(OCC)	0	0	0	-0	0	0
	25(OCC)	1	-1	-0	-1	3	-1
	MAX	924/L12	-2314/L3	1207/L16	779/L16	4283/L6	2601/L13
1780		TYPE=Rigid ANC;					
	3(HYD)	287	-1405	-29	-298	-123	74
	4(OPE)	-3418	-592	277	-226	1470	-2034
	6(OPE)	-7124	-308	1370	-817	1788	-4272
	8(OPE)	-3440	-594	226	-177	1456	-2055
	10(SUS)	267	-1030	-22	-183	-115	104
	11(SUS)	265	-1019	-22	-181	-114	104
	12(OPE)	-552	-676	107	-124	292	-216
	13(OPE)	-5964	-542	418	-316	2504	-3659
	14(OPE)	-3230	-489	265	-196	1385	-1912
	15(OPE)	-3476	-711	291	-260	1484	-2081
	16(OPE)	-2592	-653	240	-63	1426	-1503
	17(OPE)	-3434	-588	290	-229	1462	-2045

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	18(OPE)	-3365	-593	273	-223	1447	-2000
	19(OCC)	2866	-84	-169	102	-1178	1818
	20(OCC)	-2546	50	141	-90	1035	-1624
	21(OCC)	188	103	-11	30	-85	122
	22(OCC)	-58	-119	14	-34	15	-46
	23(OCC)	826	-61	-37	163	-44	531
	24(OCC)	-16	4	14	-3	-8	-11
	25(OCC)	53	-1	-4	3	-23	35
	MAX	-7124/L6	-1405/L3	1370/L6	-817/L6	2504/L13	-4272/L6
1840		TYPE=Rigid X; Rigid Z w/gap; Rigid Y;					
	3(HYD)	64	-10218	69	0	0	0
	4(OPE)	-113	-8157	850	0	0	0
	6(OPE)	-1122	-8115	1148	0	0	0
	8(OPE)	-123	-8182	855	0	0	0
	10(SUS)	66	-9373	56	0	0	0
	11(SUS)	66	-9314	56	0	0	0
	12(OPE)	5177	-8115	2365	0	0	0
	13(OPE)	-5281	-8207	2405	0	0	0
	14(OPE)	-40	-7034	715	0	0	0
	15(OPE)	-147	-9280	972	0	0	0
	16(OPE)	1808	-8893	4212	0	0	0
	17(OPE)	-124	-8154	853	0	0	0
	18(OPE)	-93	-8156	843	0	0	0
	19(OCC)	5290	42	1515	0	0	0
	20(OCC)	-5168	-49	1555	0	0	0
	21(OCC)	73	1124	-134	0	0	0
	22(OCC)	-34	-1123	123	0	0	0
	23(OCC)	1921	-735	3362	0	0	0
	24(OCC)	-11	3	3	0	0	0
	25(OCC)	20	1	-6	0	0	0
	MAX	5290/L19	-10218/L3	4212/L16			
1860		TYPE=Rigid Z w/gap; Rigid Y;					
	3(HYD)	-0	-8275	4	0	0	0
	4(OPE)	-720	-7790	297	0	0	0
	6(OPE)	-697	-7568	295	0	0	0
	8(OPE)	-720	-7788	297	0	0	0
	10(SUS)	-0	-7818	3	0	0	0
	11(SUS)	-0	-7769	3	0	0	0
	12(OPE)	-732	-7916	301	0	0	0
	13(OPE)	-711	-7684	292	0	0	0
	14(OPE)	-634	-6866	262	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints
Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	15(OPE)	-806	-8723	333	0	0	0
	16(OPE)	-1188	-7775	3414	0	0	0
	17(OPE)	-720	-7789	297	0	0	0
	18(OPE)	-721	-7794	297	0	0	0
	19(OCC)	-12	-126	5	0	0	0
	20(OCC)	10	107	-5	0	0	0
	21(OCC)	86	925	-34	0	0	0
	22(OCC)	-86	-932	36	0	0	0
	23(OCC)	-468	16	3117	0	0	0
	24(OCC)	0	1	-0	0	0	0
	25(OCC)	-0	-3	0	0	0	0
	MAX	-1188/L16	-8723/L15	3414/L16			
1880		TYPE=Rigid Z w/gap; Rigid Y;					
	3(HYD)	0	-8275	5	0	0	0
	4(OPE)	-779	-7791	-11	0	0	0
	6(OPE)	-756	-7557	-2	0	0	0
	8(OPE)	-779	-7789	-11	0	0	0
	10(SUS)	0	-7818	4	0	0	0
	11(SUS)	0	-7769	4	0	0	0
	12(OPE)	-792	-7919	-12	0	0	0
	13(OPE)	-768	-7681	-12	0	0	0
	14(OPE)	-687	-6866	-9	0	0	0
	15(OPE)	-872	-8723	-12	0	0	0
	16(OPE)	-447	-7788	638	0	0	0
	17(OPE)	-779	-7790	-11	0	0	0
	18(OPE)	-779	-7794	-11	0	0	0
	19(OCC)	-13	-129	-0	0	0	0
	20(OCC)	11	110	-0	0	0	0
	21(OCC)	92	925	2	0	0	0
	22(OCC)	-93	-932	-1	0	0	0
	23(OCC)	332	2	649	0	0	0
	24(OCC)	0	1	-0	0	0	0
	25(OCC)	-0	-3	-0	0	0	0
	MAX	-872/L15	-8723/L15	649/L23			
1900		TYPE=Rigid X; Rigid Z w/gap; Rigid Y;					
	3(HYD)	348	-10261	98	0	0	0
	4(OPE)	-1408	-8148	236	0	0	0
	6(OPE)	-3787	-8634	619	0	0	0
	8(OPE)	-1416	-8132	176	0	0	0
	10(SUS)	300	-9375	72	0	0	0
	11(SUS)	298	-9315	71	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	12(OPE)	4796	-7965	-1767	0	0	0
	13(OPE)	-7545	-8328	-1020	0	0	0
	14(OPE)	-1484	-7022	354	0	0	0
	15(OPE)	-1337	-9279	236	0	0	0
	16(OPE)	-2193	-8247	1483	0	0	0
	17(OPE)	-1417	-8149	220	0	0	0
	18(OPE)	-1377	-8145	189	0	0	0
	19(OCC)	6204	183	-2003	0	0	0
	20(OCC)	-6137	-180	-1256	0	0	0
	21(OCC)	-76	1127	119	0	0	0
	22(OCC)	70	-1131	0	0	0	0
	23(OCC)	-786	-99	1247	0	0	0
	24(OCC)	-9	-1	-16	0	0	0
	25(OCC)	30	3	-46	0	0	0
	MAX	-7545/L13	-10261/L3	-2003/L19			
2180		TYPE=Rigid Z w/gap; Rigid +Y;					
	3(HYD)	-57	-557	8	0	0	0
	4(OPE)	-86	-374	73	0	0	0
	6(OPE)	-82	-352	66	0	0	0
	8(OPE)	-98	-381	59	0	0	0
	10(SUS)	-52	-495	8	0	0	0
	11(SUS)	-51	-493	8	0	0	0
	12(OPE)	76	-330	64	0	0	0
	13(OPE)	-130	-440	22	0	0	0
	14(OPE)	-75	-322	61	0	0	0
	15(OPE)	-101	-428	79	0	0	0
	16(OPE)	-79	-397	213	0	0	0
	17(OPE)	-89	-376	69	0	0	0
	18(OPE)	-91	-378	67	0	0	0
	19(OCC)	161	44	-9	0	0	0
	20(OCC)	-44	-66	-50	0	0	0
	21(OCC)	11	52	-11	0	0	0
	22(OCC)	-16	-54	6	0	0	0
	23(OCC)	6	-23	141	0	0	0
	24(OCC)	-3	-1	-4	0	0	0
	25(OCC)	-6	-4	-5	0	0	0
	MAX	161/L19	-557/L3	213/L16			
2200		TYPE=Rigid +Y;					
	3(HYD)	-11	-663	-3	0	0	0
	4(OPE)	-182	-627	-47	0	0	0
	6(OPE)	-185	-633	-43	0	0	0
	8(OPE)	-177	-612	-47	0	0	0
	10(SUS)	-10	-590	-3	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	11(SUS)	-10	-587	-3	0	0	0
	12(OPE)	-186	-632	-37	0	0	0
	13(OPE)	-182	-619	-36	0	0	0
	14(OPE)	-161	-555	-43	0	0	0
	15(OPE)	-204	-700	-47	0	0	0
	16(OPE)	-181	-623	48	0	0	0
	17(OPE)	-182	-627	-48	0	0	0
	18(OPE)	-182	-627	-47	0	0	0
	19(OCC)	-4	-5	10	0	0	0
	20(OCC)	0	8	10	0	0	0
	21(OCC)	21	72	3	0	0	0
	22(OCC)	-22	-73	-1	0	0	0
	23(OCC)	2	4	94	0	0	0
	24(OCC)	0	0	-1	0	0	0
	25(OCC)	0	0	-1	0	0	0
	MAX	-204/L15	-700/L15	94/L23			
2220		TYPE=Rigid Z w/gap; Rigid +Y;					
	3(HYD)	2	-439	-8	0	0	0
	4(OPE)	-223	-328	-441	0	0	0
	6(OPE)	-299	-318	-695	0	0	0
	8(OPE)	-228	-366	-420	0	0	0
	10(SUS)	1	-390	-7	0	0	0
	11(SUS)	1	-388	-7	0	0	0
	12(OPE)	-236	-324	-497	0	0	0
	13(OPE)	-215	-333	-401	0	0	0
	14(OPE)	-202	-280	-414	0	0	0
	15(OPE)	-237	-376	-445	0	0	0
	16(OPE)	-97	-328	-13	0	0	0
	17(OPE)	-226	-328	-449	0	0	0
	18(OPE)	-202	-322	-376	0	0	0
	19(OCC)	-13	4	-56	0	0	0
	20(OCC)	8	-5	39	0	0	0
	21(OCC)	21	48	27	0	0	0
	22(OCC)	-14	-48	-4	0	0	0
	23(OCC)	126	0	428	0	0	0
	24(OCC)	-3	-1	-8	0	0	0
	25(OCC)	21	6	65	0	0	0
	MAX	-299/L6	-439/L3	-695/L6			
2270		TYPE=Rigid +Y;					
	3(HYD)	-17	-292	7	0	0	0
	4(OPE)	-194	-705	85	0	0	0
	6(OPE)	-203	-761	105	0	0	0
	8(OPE)	-111	-396	41	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	10(SUS)	-15	-260	6	0	0	0
	11(SUS)	-15	-259	6	0	0	0
	12(OPE)	-158	-747	158	0	0	0
	13(OPE)	-188	-643	43	0	0	0
	14(OPE)	-188	-685	82	0	0	0
	15(OPE)	-201	-714	74	0	0	0
	16(OPE)	-177	-685	105	0	0	0
	17(OPE)	-192	-700	84	0	0	0
	18(OPE)	-210	-765	93	0	0	0
	19(OCC)	35	-42	74	0	0	0
	20(OCC)	6	62	-42	0	0	0
	21(OCC)	5	20	-3	0	0	0
	22(OCC)	-7	-10	-11	0	0	0
	23(OCC)	17	20	20	0	0	0
	24(OCC)	1	5	-0	0	0	0
	25(OCC)	-16	-61	8	0	0	0
	MAX	-210/L18	-765/L18	158/L12			
2320		TYPE=Rigid Y;					
	3(HYD)	0	-269	0	0	0	0
	4(OPE)	0	2935	0	0	0	0
	6(OPE)	0	2194	0	0	0	0
	8(OPE)	0	-3936	0	0	0	0
	10(SUS)	0	-341	0	0	0	0
	11(SUS)	0	-339	0	0	0	0
	12(OPE)	0	3863	0	0	0	0
	13(OPE)	0	1762	0	0	0	0
	14(OPE)	0	3210	0	0	0	0
	15(OPE)	0	2553	0	0	0	0
	16(OPE)	0	2857	0	0	0	0
	17(OPE)	0	3809	0	0	0	0
	18(OPE)	0	3446	0	0	0	0
	19(OCC)	0	928	0	0	0	0
	20(OCC)	0	-1173	0	0	0	0
	21(OCC)	0	274	0	0	0	0
	22(OCC)	0	-382	0	0	0	0
	23(OCC)	0	-78	0	0	0	0
	24(OCC)	0	874	0	0	0	0
	25(OCC)	0	511	0	0	0	0
	MAX		-3936/L8				
2500		TYPE=Rigid Z; Rigid X w/gap; Rigid +Y;					
	3(HYD)	17	-2716	4	0	0	0
	4(OPE)	4383	0	-370	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	6(OPE)	4245	0	-48	0	0	0
	8(OPE)	-1103	0	507	0	0	0
	10(SUS)	29	-2180	4	0	0	0
	11(SUS)	29	-2179	4	0	0	0
	12(OPE)	5545	0	-564	0	0	0
	13(OPE)	3090	0	-146	0	0	0
	14(OPE)	4399	0	-329	0	0	0
	15(OPE)	4327	0	-409	0	0	0
	16(OPE)	4418	0	744	0	0	0
	17(OPE)	6351	0	-361	0	0	0
	18(OPE)	4472	0	-426	0	0	0
	19(OCC)	1162	0	-194	0	0	0
	20(OCC)	-1294	0	224	0	0	0
	21(OCC)	16	0	41	0	0	0
	22(OCC)	-56	0	-39	0	0	0
	23(OCC)	35	0	1114	0	0	0
	24(OCC)	1968	0	9	0	0	0
	25(OCC)	89	0	-56	0	0	0
	MAX	6351/L17	-2716/L3	1114/L23			
2620		TYPE=Rigid +Y;					
	3(HYD)	0	-145	0	0	0	0
	4(OPE)	0	0	0	0	0	0
	6(OPE)	0	0	0	0	0	0
	8(OPE)	0	-2533	0	0	0	0
	10(SUS)	0	-245	0	0	0	0
	11(SUS)	0	-244	0	0	0	0
	12(OPE)	0	0	0	0	0	0
	13(OPE)	0	0	0	0	0	0
	14(OPE)	0	0	0	0	0	0
	15(OPE)	0	0	0	0	0	0
	16(OPE)	0	0	0	0	0	0
	17(OPE)	0	0	0	0	0	0
	18(OPE)	0	0	0	0	0	0
	19(OCC)	0	0	0	0	0	0
	20(OCC)	0	0	0	0	0	0
	21(OCC)	0	0	0	0	0	0
	22(OCC)	0	0	0	0	0	0
	23(OCC)	0	0	0	0	0	0
	24(OCC)	0	0	0	0	0	0
	25(OCC)	0	0	0	0	0	0
	MAX		-2533/L8				
2800		TYPE=Rigid Z w/gap; Rigid X w/gap;					

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
		Rigid +Y;					
	3(HYD)	28	-2754	8	0	0	0
	4(OPE)	4014	1204	25	0	0	0
	6(OPE)	3737	1109	165	0	0	0
	8(OPE)	-1256	313	210	0	0	0
	10(SUS)	6	-2190	7	0	0	0
	11(SUS)	6	-2190	7	0	0	0
	12(OPE)	5070	1519	-81	0	0	0
	13(OPE)	2993	890	123	0	0	0
	14(OPE)	3986	1195	51	0	0	0
	15(OPE)	4116	1235	-1	0	0	0
	16(OPE)	4013	1100	489	0	0	0
	17(OPE)	4066	1219	28	0	0	0
	18(OPE)	5849	1755	-6	0	0	0
	19(OCC)	1056	315	-106	0	0	0
	20(OCC)	-1020	-314	98	0	0	0
	21(OCC)	-28	-9	26	0	0	0
	22(OCC)	102	31	-25	0	0	0
	23(OCC)	-1	-104	464	0	0	0
	24(OCC)	52	15	3	0	0	0
	25(OCC)	1835	551	-31	0	0	0
	MAX	5849/L18	-2754/L3	489/L16			
4220		TYPE=Rigid ANC;					
	3(HYD)	0	0	0	-0	-0	0
	4(OPE)	0	0	0	-0	0	0
	6(OPE)	0	0	0	0	-0	0
	8(OPE)	0	-0	0	-0	0	-0
	10(SUS)	0	0	0	-0	-0	-0
	11(SUS)	0	0	-0	0	-0	-0
	12(OPE)	0	0	0	0	0	0
	13(OPE)	0	0	0	-0	-0	0
	14(OPE)	0	0	0	-0	0	-0
	15(OPE)	0	0	-0	-0	0	-0
	16(OPE)	0	0	0	-0	-0	0
	17(OPE)	0	0	0	-0	0	-0
	18(OPE)	0	0	0	0	0	-0
	19(OCC)	0	0	0	0	0	0
	20(OCC)	0	0	0	0	-0	0
	21(OCC)	0	0	0	0	0	-0
	22(OCC)	0	0	-0	0	-0	-0
	23(OCC)	0	0	0	-0	-0	0
	24(OCC)	0	0	0	0	0	-0
	25(OCC)	0	0	0	0	0	-0
	MAX		-0/L8	-0/L11	-0/L16	-0/L23	-0/L8
4260		TYPE=Rigid					

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
		ANC;					
	3(HYD)	344	-2768	44	268	152	2153
	4(OPE)	5698	-2494	-29	45	-270	2640
	6(OPE)	24691	-3739	577	-710	528	5905
	8(OPE)	5774	-2494	-30	60	-259	2640
	10(SUS)	277	-2053	32	196	111	1518
	11(SUS)	277	-2049	32	196	111	1514
	12(OPE)	10917	-2500	-156	-34	-669	2659
	13(OPE)	-318	-2466	128	76	167	2578
	14(OPE)	5208	-2246	-55	43	-317	2455
	15(OPE)	6195	-2742	-11	55	-230	2825
	16(OPE)	6067	-2495	1146	565	2053	2642
	17(OPE)	5781	-2494	-31	46	-271	2640
	18(OPE)	5778	-2494	-31	43	-273	2640
	19(OCC)	5219	-6	-127	-79	-399	19
	20(OCC)	-6017	28	157	31	437	-62
	21(OCC)	-491	248	-26	-2	-47	-185
	22(OCC)	497	-248	18	10	41	185
	23(OCC)	369	-1	1176	520	2323	2
	24(OCC)	82	-0	-2	1	-0	0
	25(OCC)	79	-0	-2	-2	-3	0
	MAX	24691/L6	-3739/L6	1176/L23	-710/L6	2323/L23	5905/L6
4320		TYPE=Rigid ANC;					
	3(HYD)	344	-2768	44	383	172	2531
	4(OPE)	5698	-2494	-29	-31	-284	-11029
	6(OPE)	24691	-3739	577	789	793	-56572
	8(OPE)	5774	-2494	-30	-18	-273	-11226
	10(SUS)	277	-2053	32	280	126	1742
	11(SUS)	277	-2049	32	279	125	1737
	12(OPE)	10917	-2500	-156	-439	-741	-24576
	13(OPE)	-318	-2466	128	407	225	4539
	14(OPE)	5208	-2246	-55	-100	-342	-10052
	15(OPE)	6195	-2742	-11	25	-235	-12021
	16(OPE)	6067	-2495	1146	3545	2580	-11985
	17(OPE)	5781	-2494	-31	-35	-285	-11242
	18(OPE)	5778	-2494	-31	-39	-287	-11235
	19(OCC)	5219	-6	-127	-408	-457	-13548
	20(OCC)	-6017	28	157	438	509	15568
	21(OCC)	-491	248	-26	-69	-59	977
	22(OCC)	497	-248	18	57	49	-992
	23(OCC)	369	-1	1176	3577	2864	-956
	24(OCC)	82	-0	-2	-4	-1	-214
	25(OCC)	79	-0	-2	-7	-4	-206
	MAX	24691/L6	-3739/L6	1176/L23	3577/L23	2864/L23	-56572/L6
4970		TYPE=Rigid					

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
		X w/gap; Rigid +Y;					
	3(HYD)	1	-1882	16	0	0	0
	4(OPE)	17	-1027	308	0	0	0
	6(OPE)	35	-1032	308	0	0	0
	8(OPE)	17	-1027	308	0	0	0
	10(SUS)	0	-1025	12	0	0	0
	11(SUS)	0	-1020	12	0	0	0
	12(OPE)	366	-1028	288	0	0	0
	13(OPE)	-306	-1025	251	0	0	0
	14(OPE)	18	-904	271	0	0	0
	15(OPE)	15	-1150	345	0	0	0
	16(OPE)	16	-1026	307	0	0	0
	17(OPE)	17	-1027	308	0	0	0
	18(OPE)	17	-1027	308	0	0	0
	19(OCC)	349	-1	-20	0	0	0
	20(OCC)	-322	2	-57	0	0	0
	21(OCC)	1	123	-37	0	0	0
	22(OCC)	-2	-123	37	0	0	0
	23(OCC)	-1	1	-0	0	0	0
	24(OCC)	0	0	-0	0	0	0
	25(OCC)	0	0	-0	0	0	0
	MAX	366/L12	-1882/L3	345/L15			
5355		TYPE=Rigid +Y;					
	3(HYD)	-50	-842	44	0	0	0
	4(OPE)	494	-1657	54	0	0	0
	6(OPE)	469	-1572	52	0	0	0
	8(OPE)	0	0	0	0	0	0
	10(SUS)	-8	-652	33	0	0	0
	11(SUS)	-8	-652	33	0	0	0
	12(OPE)	492	-1650	53	0	0	0
	13(OPE)	499	-1672	48	0	0	0
	14(OPE)	450	-1508	49	0	0	0
	15(OPE)	538	-1805	59	0	0	0
	16(OPE)	492	-1668	91	0	0	0
	17(OPE)	494	-1657	53	0	0	0
	18(OPE)	494	-1657	53	0	0	0
	19(OCC)	-2	7	-0	0	0	0
	20(OCC)	5	-15	-6	0	0	0
	21(OCC)	-44	149	-5	0	0	0
	22(OCC)	44	-148	5	0	0	0
	23(OCC)	-2	-11	37	0	0	0
	24(OCC)	0	-0	-0	0	0	0
	25(OCC)	0	0	-0	0	0	0
	MAX	538/L15	-1805/L15	91/L16			

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
5370		TYPE=Rigid +Y; Rigid Z;					
	3(HYD)	0	-792	-2	0	0	0
	4(OPE)	0	-689	161	0	0	0
	6(OPE)	0	-701	140	0	0	0
	8(OPE)	0	-484	-128	0	0	0
	10(SUS)	0	-629	0	0	0	0
	11(SUS)	0	-629	0	0	0	0
	12(OPE)	0	-740	192	0	0	0
	13(OPE)	0	-638	150	0	0	0
	14(OPE)	0	-612	161	0	0	0
	15(OPE)	0	-767	160	0	0	0
	16(OPE)	0	-695	460	0	0	0
	17(OPE)	0	-689	160	0	0	0
	18(OPE)	0	-689	160	0	0	0
	19(OCC)	0	-51	31	0	0	0
	20(OCC)	0	52	-11	0	0	0
	21(OCC)	0	77	0	0	0	0
	22(OCC)	0	-77	-0	0	0	0
	23(OCC)	0	-6	300	0	0	0
	24(OCC)	0	1	-0	0	0	0
	25(OCC)	0	0	-0	0	0	0
	MAX		-792/L3	460/L16			
5375		TYPE=Rigid +Y;					
	3(HYD)	0	-1500	0	0	0	0
	4(OPE)	0	0	0	0	0	0
	6(OPE)	0	0	0	0	0	0
	8(OPE)	0	-1866	0	0	0	0
	10(SUS)	0	-1045	0	0	0	0
	11(SUS)	0	-1044	0	0	0	0
	12(OPE)	0	0	0	0	0	0
	13(OPE)	0	0	0	0	0	0
	14(OPE)	0	0	0	0	0	0
	15(OPE)	0	0	0	0	0	0
	16(OPE)	0	0	0	0	0	0
	17(OPE)	0	0	0	0	0	0
	18(OPE)	0	0	0	0	0	0
	19(OCC)	0	0	0	0	0	0
	20(OCC)	0	0	0	0	0	0
	21(OCC)	0	0	0	0	0	0
	22(OCC)	0	0	0	0	0	0
	23(OCC)	0	0	0	0	0	0
	24(OCC)	0	0	0	0	0	0
	25(OCC)	0	0	0	0	0	0
	MAX		-1866/L8				

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
5805		TYPE=Rigid +Y;					
	3(HYD)	-645	-2341	277	0	0	0
	4(OPE)	0	0	0	0	0	0
	6(OPE)	0	0	0	0	0	0
	8(OPE)	480	-4842	-1371	0	0	0
	10(SUS)	-462	-1625	154	0	0	0
	11(SUS)	-462	-1624	154	0	0	0
	12(OPE)	0	0	0	0	0	0
	13(OPE)	0	0	0	0	0	0
	14(OPE)	0	0	0	0	0	0
	15(OPE)	0	0	0	0	0	0
	16(OPE)	0	0	0	0	0	0
	17(OPE)	0	0	0	0	0	0
	18(OPE)	0	0	0	0	0	0
	19(OCC)	0	0	0	0	0	0
	20(OCC)	0	0	0	0	0	0
	21(OCC)	0	0	0	0	0	0
	22(OCC)	0	0	0	0	0	0
	23(OCC)	0	0	0	0	0	0
	24(OCC)	0	0	0	0	0	0
	25(OCC)	0	0	0	0	0	0
	MAX	-645/L3	-4842/L8	-1371/L8			
6010		TYPE=Rigid +Y; Rigid Z w/gap; Rigid X w/gap;					
	3(HYD)	0	-2580	0	0	0	0
	4(OPE)	3	-1406	-422	0	0	0
	6(OPE)	-1412	-1405	-4907	0	0	0
	8(OPE)	4	-1406	-422	0	0	0
	10(SUS)	-0	-1405	-0	0	0	0
	11(SUS)	-0	-1398	-0	0	0	0
	12(OPE)	376	-1406	-272	0	0	0
	13(OPE)	-354	-1405	-263	0	0	0
	14(OPE)	2	-1237	-371	0	0	0
	15(OPE)	4	-1574	-472	0	0	0
	16(OPE)	-18	-1406	-289	0	0	0
	17(OPE)	3	-1406	-422	0	0	0
	18(OPE)	3	-1406	-422	0	0	0
	19(OCC)	372	-0	150	0	0	0
	20(OCC)	-357	0	158	0	0	0
	21(OCC)	-1	169	51	0	0	0
	22(OCC)	1	-169	-51	0	0	0
	23(OCC)	-22	-0	133	0	0	0
	24(OCC)	-0	0	0	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	25(OCC)	-0	0	0	0	0	0
	MAX	-1412/L6	-2580/L3	-4907/L6			
6020		TYPE=Rigid +Y;					
	3(HYD)	-0	-7394	0	0	0	0
	4(OPE)	-85	-4026	-1205	0	0	0
	6(OPE)	284	-4028	1174	0	0	0
	8(OPE)	-85	-4026	-1205	0	0	0
	10(SUS)	0	-4027	-0	0	0	0
	11(SUS)	0	-4007	-0	0	0	0
	12(OPE)	1127	-4025	-434	0	0	0
	13(OPE)	-1105	-4028	-489	0	0	0
	14(OPE)	-81	-3543	-1060	0	0	0
	15(OPE)	-81	-4509	-1350	0	0	0
	16(OPE)	12	-4024	1207	0	0	0
	17(OPE)	-85	-4026	-1205	0	0	0
	18(OPE)	-85	-4026	-1205	0	0	0
	19(OCC)	1212	1	770	0	0	0
	20(OCC)	-1020	-2	716	0	0	0
	21(OCC)	4	483	145	0	0	0
	22(OCC)	4	-483	-146	0	0	0
	23(OCC)	97	1	2412	0	0	0
	24(OCC)	0	-0	-0	0	0	0
	25(OCC)	0	-0	-0	0	0	0
	MAX	1212/L19	-7394/L3	2412/L23			
6025		TYPE=Rigid +Y; Rigid X w/gap;					
	3(HYD)	1	-6343	0	0	0	0
	4(OPE)	226	-3462	661	0	0	0
	6(OPE)	302	-3454	991	0	0	0
	8(OPE)	227	-3462	663	0	0	0
	10(SUS)	-0	-3456	-0	0	0	0
	11(SUS)	-0	-3439	-0	0	0	0
	12(OPE)	1040	-3465	13	0	0	0
	13(OPE)	-1036	-3454	27	0	0	0
	14(OPE)	225	-3047	509	0	0	0
	15(OPE)	202	-3877	666	0	0	0
	16(OPE)	121	-3468	1033	0	0	0
	17(OPE)	226	-3462	660	0	0	0
	18(OPE)	226	-3462	660	0	0	0
	19(OCC)	813	-3	-648	0	0	0
	20(OCC)	-1262	8	-634	0	0	0
	21(OCC)	-1	415	-152	0	0	0
	22(OCC)	-25	-415	5	0	0	0
	23(OCC)	-105	-6	372	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	24(OCC)	-0	0	-1	0	0	0
	25(OCC)	-0	0	-1	0	0	0
	MAX	-1262/L20	-6343/L3	1033/L16			
6030		TYPE=Rigid +Y; Rigid X w/gap;					
	3(HYD)	-4	-7571	0	0	0	0
	4(OPE)	738	-4120	991	0	0	0
	6(OPE)	93	-4126	1234	0	0	0
	8(OPE)	740	-4120	990	0	0	0
	10(SUS)	0	-4123	-0	0	0	0
	11(SUS)	0	-4103	-0	0	0	0
	12(OPE)	1047	-4119	656	0	0	0
	13(OPE)	-1120	-4125	527	0	0	0
	14(OPE)	627	-3626	889	0	0	0
	15(OPE)	810	-4615	1123	0	0	0
	16(OPE)	217	-4116	1216	0	0	0
	17(OPE)	738	-4120	992	0	0	0
	18(OPE)	738	-4120	992	0	0	0
	19(OCC)	309	2	-336	0	0	0
	20(OCC)	-1858	-4	-465	0	0	0
	21(OCC)	-112	495	-102	0	0	0
	22(OCC)	72	-495	131	0	0	0
	23(OCC)	-521	4	224	0	0	0
	24(OCC)	-1	-0	0	0	0	0
	25(OCC)	-1	-0	1	0	0	0
	MAX	-1858/L20	-7571/L3	1234/L6			
6045		TYPE=Rigid +Y;					
	3(HYD)	7	-10176	-0	0	0	0
	4(OPE)	-1649	-5519	-151	0	0	0
	6(OPE)	-1573	-5550	-545	0	0	0
	8(OPE)	-1649	-5519	-150	0	0	0
	10(SUS)	0	-5539	0	0	0	0
	11(SUS)	0	-5511	0	0	0	0
	12(OPE)	1025	-5509	-397	0	0	0
	13(OPE)	-1664	-5547	-13	0	0	0
	14(OPE)	-1450	-4855	-136	0	0	0
	15(OPE)	-1849	-6183	-143	0	0	0
	16(OPE)	-914	-5497	1373	0	0	0
	17(OPE)	-1649	-5519	-150	0	0	0
	18(OPE)	-1649	-5519	-150	0	0	0
	19(OCC)	2673	10	-246	0	0	0
	20(OCC)	-15	-28	138	0	0	0
	21(OCC)	198	663	15	0	0	0
	22(OCC)	-200	-664	8	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	23(OCC)	735	22	1524	0	0	0
	24(OCC)	-0	-0	1	0	0	0
	25(OCC)	-0	-0	1	0	0	0
	MAX	2673/L19	-10176/L3	1524/L23			
6060		TYPE=Rigid +Y; Rigid X w/gap;					
	3(HYD)	-8	-7946	93	0	0	0
	4(OPE)	317	-4335	-1261	0	0	0
	6(OPE)	-1626	-4281	-1624	0	0	0
	8(OPE)	320	-4336	-1261	0	0	0
	10(SUS)	3	-4342	71	0	0	0
	11(SUS)	3	-4321	71	0	0	0
	12(OPE)	732	-4342	-1078	0	0	0
	13(OPE)	-1146	-4321	-605	0	0	0
	14(OPE)	223	-3813	-1122	0	0	0
	15(OPE)	400	-4858	-1401	0	0	0
	16(OPE)	-277	-4386	-1287	0	0	0
	17(OPE)	317	-4336	-1262	0	0	0
	18(OPE)	317	-4336	-1261	0	0	0
	19(OCC)	415	-6	184	0	0	0
	20(OCC)	-1463	14	656	0	0	0
	21(OCC)	-94	522	139	0	0	0
	22(OCC)	83	-522	-140	0	0	0
	23(OCC)	-594	-51	-25	0	0	0
	24(OCC)	0	-1	-0	0	0	0
	25(OCC)	-0	-1	-0	0	0	0
	MAX	-1626/L6	-7946/L3	-1624/L6			
6070		TYPE=Rigid +Y;					
	3(HYD)	-224	-7854	114	0	0	0
	4(OPE)	-1181	-4059	295	0	0	0
	6(OPE)	-679	-2667	-423	0	0	0
	8(OPE)	-1181	-4064	304	0	0	0
	10(SUS)	-150	-4369	88	0	0	0
	11(SUS)	-149	-4348	88	0	0	0
	12(OPE)	-958	-3896	669	0	0	0
	13(OPE)	-1275	-4259	-79	0	0	0
	14(OPE)	-1019	-3573	333	0	0	0
	15(OPE)	-1334	-4556	297	0	0	0
	16(OPE)	-1169	-4190	463	0	0	0
	17(OPE)	-1180	-4059	302	0	0	0
	18(OPE)	-1180	-4059	301	0	0	0
	19(OCC)	223	163	374	0	0	0
	20(OCC)	-94	-200	-375	0	0	0
	21(OCC)	162	486	38	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	22(OCC)	-153	-497	2	0	0	0
	23(OCC)	12	-131	167	0	0	0
	24(OCC)	1	-1	6	0	0	0
	25(OCC)	1	0	6	0	0	0
	MAX	-1334/L15	-7854/L3	669/L12			
6080		TYPE=Rigid +Y; Rigid X w/gap;					
	3(HYD)	14	-6404	52	0	0	0
	4(OPE)	-213	-3517	1033	0	0	0
	6(OPE)	-2670	-3607	-1014	0	0	0
	8(OPE)	-214	-3516	1033	0	0	0
	10(SUS)	7	-3479	40	0	0	0
	11(SUS)	7	-3462	40	0	0	0
	12(OPE)	743	-3531	756	0	0	0
	13(OPE)	-977	-3491	377	0	0	0
	14(OPE)	-219	-3097	903	0	0	0
	15(OPE)	-207	-3936	1163	0	0	0
	16(OPE)	-326	-3499	998	0	0	0
	17(OPE)	-214	-3516	1033	0	0	0
	18(OPE)	-214	-3516	1033	0	0	0
	19(OCC)	955	-15	-278	0	0	0
	20(OCC)	-764	26	-657	0	0	0
	21(OCC)	-6	420	-131	0	0	0
	22(OCC)	6	-419	129	0	0	0
	23(OCC)	-113	18	-36	0	0	0
	24(OCC)	-1	1	-0	0	0	0
	25(OCC)	-1	1	-0	0	0	0
	MAX	-2670/L6	-6404/L3	1163/L15			
6090		TYPE=Rigid +Y; Rigid LIM w/gap;					
	3(HYD)	-4	-6509	25	0	0	0
	4(OPE)	42	-3538	1061	0	0	0
	6(OPE)	628	-3513	10326	0	0	0
	8(OPE)	41	-3538	1061	0	0	0
	10(SUS)	-2	-3548	19	0	0	0
	11(SUS)	-2	-3530	19	0	0	0
	12(OPE)	758	-3534	741	0	0	0
	13(OPE)	-857	-3545	630	0	0	0
	14(OPE)	32	-3113	933	0	0	0
	15(OPE)	45	-3963	1188	0	0	0
	16(OPE)	54	-3543	5948	0	0	0
	17(OPE)	41	-3538	1061	0	0	0
	18(OPE)	41	-3538	1061	0	0	0
	19(OCC)	716	4	-319	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	20(OCC)	-898	-7	-430	0	0	0
	21(OCC)	-10	425	-127	0	0	0
	22(OCC)	3	-425	128	0	0	0
	23(OCC)	13	-5	4888	0	0	0
	24(OCC)	-0	-0	0	0	0	0
	25(OCC)	-0	-0	0	0	0	0
	MAX	-898/L20	-6509/L3	10326/L6			
6220		TYPE=Rigid Z w/gap; Rigid +Y;					
	3(HYD)	-221	-3302	36	0	0	0
	4(OPE)	-632	-2109	33	0	0	0
	6(OPE)	-583	-1953	57	0	0	0
	8(OPE)	-656	-2190	40	0	0	0
	10(SUS)	-152	-2270	24	0	0	0
	11(SUS)	-157	-2253	25	0	0	0
	12(OPE)	-591	-1977	43	0	0	0
	13(OPE)	-673	-2244	20	0	0	0
	14(OPE)	-548	-1831	33	0	0	0
	15(OPE)	-715	-2387	33	0	0	0
	16(OPE)	-570	-2076	251	0	0	0
	17(OPE)	-632	-2110	33	0	0	0
	18(OPE)	-632	-2110	33	0	0	0
	19(OCC)	41	133	10	0	0	0
	20(OCC)	-41	-135	-13	0	0	0
	21(OCC)	84	278	0	0	0	0
	22(OCC)	-83	-277	-0	0	0	0
	23(OCC)	62	33	218	0	0	0
	24(OCC)	-0	-0	-0	0	0	0
	25(OCC)	-0	-0	0	0	0	0
	MAX	-715/L15	-3302/L3	251/L16			
6240		TYPE=Rigid +Y;					
	3(HYD)	-42	-167	28	0	0	0
	4(OPE)	0	0	0	0	0	0
	6(OPE)	0	0	0	0	0	0
	8(OPE)	-47	-158	-9	0	0	0
	10(SUS)	-47	-165	17	0	0	0
	11(SUS)	-47	-165	16	0	0	0
	12(OPE)	0	0	0	0	0	0
	13(OPE)	0	0	0	0	0	0
	14(OPE)	0	0	0	0	0	0
	15(OPE)	0	0	0	0	0	0
	16(OPE)	0	0	0	0	0	0
	17(OPE)	0	0	0	0	0	0
	18(OPE)	0	0	0	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	19(OCC)	0	0	0	0	0	0
	20(OCC)	0	0	0	0	0	0
	21(OCC)	0	0	0	0	0	0
	22(OCC)	0	0	0	0	0	0
	23(OCC)	0	0	0	0	0	0
	24(OCC)	0	0	0	0	0	0
	25(OCC)	0	0	0	0	0	0
	MAX	-47/L11	-167/L3	28/L3			
6270		TYPE=Rigid Z w/gap; Rigid +Y;					
	3(HYD)	-25	-436	15	0	0	0
	4(OPE)	0	0	0	0	0	0
	6(OPE)	0	0	0	0	0	0
	8(OPE)	-84	-911	97	0	0	0
	10(SUS)	-17	-431	15	0	0	0
	11(SUS)	-17	-431	15	0	0	0
	12(OPE)	0	0	0	0	0	0
	13(OPE)	0	0	0	0	0	0
	14(OPE)	0	0	0	0	0	0
	15(OPE)	0	0	0	0	0	0
	16(OPE)	0	0	11	0	0	0
	17(OPE)	0	0	0	0	0	0
	18(OPE)	0	0	0	0	0	0
	19(OCC)	0	0	0	0	0	0
	20(OCC)	0	0	0	0	0	0
	21(OCC)	0	0	0	0	0	0
	22(OCC)	0	0	0	0	0	0
	23(OCC)	0	0	11	0	0	0
	24(OCC)	0	0	0	0	0	0
	25(OCC)	0	0	0	0	0	0
	MAX	-84/L8	-911/L8	97/L8			
6290		TYPE=Rigid Z w/gap; Rigid +Y;					
	3(HYD)	48	-259	-61	0	0	0
	4(OPE)	0	0	0	0	0	0
	6(OPE)	0	0	0	0	0	0
	8(OPE)	-159	-536	21	0	0	0
	10(SUS)	45	-219	-43	0	0	0
	11(SUS)	45	-219	-43	0	0	0
	12(OPE)	0	0	0	0	0	0
	13(OPE)	0	0	0	0	0	0
	14(OPE)	0	0	0	0	0	0
	15(OPE)	0	0	0	0	0	0
	16(OPE)	0	0	109	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	17(OPE)	0	0	0	0	0	0
	18(OPE)	0	0	0	0	0	0
	19(OCC)	0	0	0	0	0	0
	20(OCC)	0	0	0	0	0	0
	21(OCC)	0	0	0	0	0	0
	22(OCC)	0	0	0	0	0	0
	23(OCC)	0	0	109	0	0	0
	24(OCC)	0	0	0	0	0	0
	25(OCC)	0	0	0	0	0	0
	MAX	-159/L8	-536/L8	109/L16			
6310		TYPE=Rigid +Y;					
	3(HYD)	-2	-828	5	0	0	0
	4(OPE)	-87	-1626	229	0	0	0
	6(OPE)	-197	-1863	343	0	0	0
	8(OPE)	-86	-1621	229	0	0	0
	10(SUS)	-2	-829	3	0	0	0
	11(SUS)	-8	-843	7	0	0	0
	12(OPE)	-70	-1779	230	0	0	0
	13(OPE)	-103	-1424	240	0	0	0
	14(OPE)	-83	-1520	234	0	0	0
	15(OPE)	-92	-1733	217	0	0	0
	16(OPE)	-66	-1476	438	0	0	0
	17(OPE)	-87	-1626	229	0	0	0
	18(OPE)	-89	-1616	238	0	0	0
	19(OCC)	17	-152	1	0	0	0
	20(OCC)	-17	202	11	0	0	0
	21(OCC)	3	106	4	0	0	0
	22(OCC)	-5	-107	-13	0	0	0
	23(OCC)	20	150	208	0	0	0
	24(OCC)	0	0	0	0	0	0
	25(OCC)	-2	10	8	0	0	0
	MAX	-197/L6	-1863/L6	438/L16			
6410		TYPE=Rigid Z w/gap; Rigid +Y;					
	3(HYD)	-44	-3321	13	0	0	0
	4(OPE)	-507	-1709	76	0	0	0
	6(OPE)	-424	-1439	147	0	0	0
	8(OPE)	-510	-1717	75	0	0	0
	10(SUS)	-40	-2587	10	0	0	0
	11(SUS)	-40	-2563	10	0	0	0
	12(OPE)	-465	-1555	41	0	0	0
	13(OPE)	-551	-1864	94	0	0	0
	14(OPE)	-419	-1419	72	0	0	0
	15(OPE)	-598	-2009	77	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	16(OPE)	-490	-1683	467	0	0	0
	17(OPE)	-507	-1709	75	0	0	0
	18(OPE)	-511	-1719	72	0	0	0
	19(OCC)	43	154	-34	0	0	0
	20(OCC)	-44	-155	18	0	0	0
	21(OCC)	88	291	-3	0	0	0
	22(OCC)	-90	-299	2	0	0	0
	23(OCC)	17	26	392	0	0	0
	24(OCC)	0	0	-0	0	0	0
	25(OCC)	-4	-10	-4	0	0	0
	MAX	-598/L15	-3321/L3	467/L16			
6430		TYPE=Rigid +Y;					
	3(HYD)	-458	-4831	171	0	0	0
	4(OPE)	1163	-3878	25	0	0	0
	6(OPE)	1082	-5008	1042	0	0	0
	8(OPE)	1158	-4009	325	0	0	0
	10(SUS)	-455	-3994	126	0	0	0
	11(SUS)	-452	-3958	125	0	0	0
	12(OPE)	1100	-3694	131	0	0	0
	13(OPE)	1237	-4141	-116	0	0	0
	14(OPE)	1052	-3510	39	0	0	0
	15(OPE)	1284	-4287	72	0	0	0
	16(OPE)	700	-4536	1167	0	0	0
	17(OPE)	1166	-3897	79	0	0	0
	18(OPE)	1164	-3880	28	0	0	0
	19(OCC)	-63	184	106	0	0	0
	20(OCC)	74	-263	-141	0	0	0
	21(OCC)	-111	368	14	0	0	0
	22(OCC)	121	-409	47	0	0	0
	23(OCC)	-463	-658	1142	0	0	0
	24(OCC)	3	-19	54	0	0	0
	25(OCC)	0	-2	3	0	0	0
	MAX	1284/L15	-5008/L6	1167/L16			
6450		TYPE=Rigid +Y;					
	3(HYD)	0	-1193	0	0	0	0
	4(OPE)	0	-4521	0	0	0	0
	6(OPE)	0	-4890	0	0	0	0
	8(OPE)	0	0	0	0	0	0
	10(SUS)	0	-1002	0	0	0	0
	11(SUS)	0	-1002	0	0	0	0
	12(OPE)	0	-4407	0	0	0	0
	13(OPE)	0	-4386	0	0	0	0
	14(OPE)	0	-4374	0	0	0	0
	15(OPE)	0	-4604	0	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	16(OPE)	0	-5535	0	0	0	0
	17(OPE)	0	-4471	0	0	0	0
	18(OPE)	0	-4497	0	0	0	0
	19(OCC)	0	114	0	0	0	0
	20(OCC)	0	135	0	0	0	0
	21(OCC)	0	147	0	0	0	0
	22(OCC)	0	-84	0	0	0	0
	23(OCC)	0	-1014	0	0	0	0
	24(OCC)	0	49	0	0	0	0
	25(OCC)	0	24	0	0	0	0
	MAX		-5535/L16				
6470		TYPE=Rigid +Y;					
	3(HYD)	-73	-1262	-44	0	0	0
	4(OPE)	220	-1383	352	0	0	0
	6(OPE)	44	-271	68	0	0	0
	8(OPE)	0	0	0	0	0	0
	10(SUS)	54	-1057	-32	0	0	0
	11(SUS)	54	-1057	-32	0	0	0
	12(OPE)	555	-2594	546	0	0	0
	13(OPE)	43	-407	114	0	0	0
	14(OPE)	153	-1004	259	0	0	0
	15(OPE)	322	-1935	483	0	0	0
	16(OPE)	48	-523	149	0	0	0
	17(OPE)	234	-1478	377	0	0	0
	18(OPE)	260	-1548	385	0	0	0
	19(OCC)	335	-1211	194	0	0	0
	20(OCC)	-177	975	-237	0	0	0
	21(OCC)	-67	379	-92	0	0	0
	22(OCC)	102	-552	131	0	0	0
	23(OCC)	-172	860	-202	0	0	0
	24(OCC)	14	-95	25	0	0	0
	25(OCC)	40	-165	33	0	0	0
	MAX	555/L12	-2594/L12	546/L12			
6490		TYPE=Rigid +Y;					
	3(HYD)	-230	-5556	442	0	0	0
	4(OPE)	567	-5545	1564	0	0	0
	6(OPE)	445	-5352	1543	0	0	0
	8(OPE)	349	-5455	1599	0	0	0
	10(SUS)	-215	-5281	401	0	0	0
	11(SUS)	-215	-5257	397	0	0	0
	12(OPE)	1205	-5593	1167	0	0	0
	13(OPE)	-406	-5485	1595	0	0	0
	14(OPE)	636	-4924	1333	0	0	0
	15(OPE)	561	-6165	1762	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	16(OPE)	300	-5681	1678	0	0	0
	17(OPE)	630	-5568	1547	0	0	0
	18(OPE)	571	-5547	1563	0	0	0
	19(OCC)	639	-48	-397	0	0	0
	20(OCC)	-972	60	31	0	0	0
	21(OCC)	69	621	-231	0	0	0
	22(OCC)	-6	-620	198	0	0	0
	23(OCC)	-267	-136	114	0	0	0
	24(OCC)	64	-23	-17	0	0	0
	25(OCC)	4	-2	-1	0	0	0
	MAX	1205/L12	-6165/L15	1762/L15			
6520		TYPE=Rigid +Y;					
	3(HYD)	-104	-4161	-512	0	0	0
	4(OPE)	626	-3527	-853	0	0	0
	6(OPE)	527	-2617	582	0	0	0
	8(OPE)	970	-3502	-404	0	0	0
	10(SUS)	-88	-3790	-484	0	0	0
	11(SUS)	-88	-3767	-483	0	0	0
	12(OPE)	926	-3405	-431	0	0	0
	13(OPE)	-4	-3721	-1116	0	0	0
	14(OPE)	606	-3009	-669	0	0	0
	15(OPE)	684	-4003	-987	0	0	0
	16(OPE)	461	-3280	870	0	0	0
	17(OPE)	663	-3511	-819	0	0	0
	18(OPE)	633	-3529	-849	0	0	0
	19(OCC)	299	122	421	0	0	0
	20(OCC)	-630	-194	-264	0	0	0
	21(OCC)	-21	518	184	0	0	0
	22(OCC)	58	-476	-134	0	0	0
	23(OCC)	-166	247	1722	0	0	0
	24(OCC)	36	16	34	0	0	0
	25(OCC)	7	-2	4	0	0	0
	MAX	970/L8	-4161/L3	1722/L23			
6540		TYPE=Rigid X w/gap; Rigid +Y;					
	3(HYD)	12	-1516	95	0	0	0
	4(OPE)	-78	-1204	-353	0	0	0
	6(OPE)	321	-2623	718	0	0	0
	8(OPE)	-71	-1100	-322	0	0	0
	10(SUS)	11	-1452	109	0	0	0
	11(SUS)	11	-1441	107	0	0	0
	12(OPE)	156	-1119	-297	0	0	0
	13(OPE)	-235	-1270	-300	0	0	0
	14(OPE)	-60	-1053	-310	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	15(OPE)	-95	-1340	-391	0	0	0
	16(OPE)	137	-1660	479	0	0	0
	17(OPE)	-82	-1198	-350	0	0	0
	18(OPE)	-77	-1200	-352	0	0	0
	19(OCC)	234	85	55	0	0	0
	20(OCC)	-158	-66	53	0	0	0
	21(OCC)	18	151	43	0	0	0
	22(OCC)	-17	-136	-38	0	0	0
	23(OCC)	215	-456	831	0	0	0
	24(OCC)	-4	6	3	0	0	0
	25(OCC)	0	4	1	0	0	0
	MAX	321/L6	-2623/L6	831/L23			
6560		TYPE=Rigid +Y; Rigid Z w/gap;					
	3(HYD)	-635	-2279	255	0	0	0
	4(OPE)	-286	-1697	-421	0	0	0
	6(OPE)	-3708	-1658	-11011	0	0	0
	8(OPE)	-312	-1683	-397	0	0	0
	10(SUS)	-447	-1630	199	0	0	0
	11(SUS)	-446	-1626	197	0	0	0
	12(OPE)	-262	-1617	-409	0	0	0
	13(OPE)	-315	-1782	-432	0	0	0
	14(OPE)	-253	-1497	-371	0	0	0
	15(OPE)	-324	-1897	-468	0	0	0
	16(OPE)	-473	-1618	-107	0	0	0
	17(OPE)	-291	-1696	-418	0	0	0
	18(OPE)	-286	-1697	-421	0	0	0
	19(OCC)	24	79	13	0	0	0
	20(OCC)	-29	-85	-11	0	0	0
	21(OCC)	33	200	50	0	0	0
	22(OCC)	-38	-200	-47	0	0	0
	23(OCC)	-188	79	315	0	0	0
	24(OCC)	-5	1	4	0	0	0
	25(OCC)	-0	0	0	0	0	0
	MAX	-3708/L6	-2279/L3	-11011/L6			
6590		TYPE=Rigid X w/gap; Rigid +Y;					
	3(HYD)	-64	-3997	173	0	0	0
	4(OPE)	-422	-3723	-1034	0	0	0
	6(OPE)	-655	-2224	-127	0	0	0
	8(OPE)	-454	-3717	-1018	0	0	0
	10(SUS)	-49	-3281	129	0	0	0
	11(SUS)	-49	-3275	127	0	0	0
	12(OPE)	90	-3675	-1099	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	13(OPE)	-708	-3683	-848	0	0	0
	14(OPE)	-366	-3280	-913	0	0	0
	15(OPE)	-482	-4180	-1158	0	0	0
	16(OPE)	-641	-2923	598	0	0	0
	17(OPE)	-432	-3724	-1030	0	0	0
	18(OPE)	-422	-3724	-1034	0	0	0
	19(OCC)	512	48	-64	0	0	0
	20(OCC)	-286	40	186	0	0	0
	21(OCC)	55	443	121	0	0	0
	22(OCC)	-60	-457	-123	0	0	0
	23(OCC)	-220	800	1632	0	0	0
	24(OCC)	-11	-0	4	0	0	0
	25(OCC)	-0	-0	-0	0	0	0
	MAX	-708/L13	-4180/L15	1632/L23			
6610		TYPE=Rigid Z w/gap; Rigid +Y;					
	3(HYD)	0	-4249	0	0	0	0
	4(OPE)	0	-528	0	0	0	0
	6(OPE)	0	0	0	0	0	0
	8(OPE)	0	-521	0	0	0	0
	10(SUS)	0	-2830	0	0	0	0
	11(SUS)	0	-2823	0	0	0	0
	12(OPE)	0	-1279	0	0	0	0
	13(OPE)	0	0	0	0	0	0
	14(OPE)	0	-273	0	0	0	0
	15(OPE)	0	-790	0	0	0	0
	16(OPE)	0	-757	0	0	0	0
	17(OPE)	0	-531	0	0	0	0
	18(OPE)	0	-531	0	0	0	0
	19(OCC)	0	-751	0	0	0	0
	20(OCC)	0	528	0	0	0	0
	21(OCC)	0	254	0	0	0	0
	22(OCC)	0	-262	0	0	0	0
	23(OCC)	0	-229	0	0	0	0
	24(OCC)	0	-3	0	0	0	0
	25(OCC)	0	-3	0	0	0	0
	MAX		-4249/L3				
6640		TYPE=Rigid Z w/gap; Rigid +Y;					
	3(HYD)	411	-3740	-184	0	0	0
	4(OPE)	-1402	-4893	-436	0	0	0
	6(OPE)	-920	-3089	-111	0	0	0
	8(OPE)	-1412	-4912	-423	0	0	0
	10(SUS)	357	-3233	-134	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	11(SUS)	356	-3231	-133	0	0	0
	12(OPE)	-1143	-4274	-581	0	0	0
	13(OPE)	-1571	-5279	-199	0	0	0
	14(OPE)	-1276	-4448	-391	0	0	0
	15(OPE)	-1529	-5331	-468	0	0	0
	16(OPE)	-1274	-4669	581	0	0	0
	17(OPE)	-1404	-4894	-430	0	0	0
	18(OPE)	-1403	-4893	-432	0	0	0
	19(OCC)	259	619	-145	0	0	0
	20(OCC)	-169	-386	237	0	0	0
	21(OCC)	126	445	45	0	0	0
	22(OCC)	-128	-438	-32	0	0	0
	23(OCC)	127	224	1017	0	0	0
	24(OCC)	-2	-1	6	0	0	0
	25(OCC)	-1	-0	3	0	0	0
	MAX	-1571/L13	-5331/L15	1017/L23			
6670		TYPE=Rigid Z w/gap; Rigid +Y;					
	3(HYD)	-191	-4078	37	0	0	0
	4(OPE)	-877	-3097	-307	0	0	0
	6(OPE)	-12975	-1229	-4376	0	0	0
	8(OPE)	-876	-3084	-297	0	0	0
	10(SUS)	-129	-3409	37	0	0	0
	11(SUS)	-129	-3405	37	0	0	0
	12(OPE)	-795	-3025	-437	0	0	0
	13(OPE)	-925	-3160	-209	0	0	0
	14(OPE)	-772	-2694	-240	0	0	0
	15(OPE)	-981	-3481	-358	0	0	0
	16(OPE)	-926	-3135	163	0	0	0
	17(OPE)	-869	-3060	-297	0	0	0
	18(OPE)	-868	-3060	-298	0	0	0
	19(OCC)	82	72	-130	0	0	0
	20(OCC)	-48	-63	98	0	0	0
	21(OCC)	105	403	67	0	0	0
	22(OCC)	-104	-385	-51	0	0	0
	23(OCC)	-49	-38	470	0	0	0
	24(OCC)	8	36	10	0	0	0
	25(OCC)	9	37	9	0	0	0
	MAX	-12975/L6	-4078/L3	-4376/L6			
6690		TYPE=Rigid +Y;					
	3(HYD)	267	-3532	-271	0	0	0
	4(OPE)	-971	-3388	-302	0	0	0
	6(OPE)	-1847	-7817	-1445	0	0	0
	8(OPE)	-975	-3396	-296	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	10(SUS)	81	-2571	-222	0	0	0
	11(SUS)	80	-2566	-222	0	0	0
	12(OPE)	-968	-3571	-460	0	0	0
	13(OPE)	-921	-3203	-273	0	0	0
	14(OPE)	-876	-3010	-219	0	0	0
	15(OPE)	-1071	-3771	-364	0	0	0
	16(OPE)	-957	-3190	-1	0	0	0
	17(OPE)	-982	-3421	-298	0	0	0
	18(OPE)	-982	-3422	-298	0	0	0
	19(OCC)	3	-183	-158	0	0	0
	20(OCC)	49	185	29	0	0	0
	21(OCC)	94	378	83	0	0	0
	22(OCC)	-100	-383	-63	0	0	0
	23(OCC)	14	198	300	0	0	0
	24(OCC)	-12	-33	4	0	0	0
	25(OCC)	-12	-34	4	0	0	0
	MAX	-1847/L6	-7817/L6	-1445/L6			
6710		TYPE=Rigid +Y;					
	3(HYD)	327	-1128	-88	0	0	0
	4(OPE)	522	-1818	-159	0	0	0
	6(OPE)	670	-2272	125	0	0	0
	8(OPE)	310	-1035	-15	0	0	0
	10(SUS)	312	-1066	-69	0	0	0
	11(SUS)	312	-1064	-69	0	0	0
	12(OPE)	657	-2205	-72	0	0	0
	13(OPE)	375	-1377	-175	0	0	0
	14(OPE)	457	-1586	-133	0	0	0
	15(OPE)	592	-2058	-175	0	0	0
	16(OPE)	499	-1886	267	0	0	0
	17(OPE)	527	-1829	-153	0	0	0
	18(OPE)	522	-1819	-161	0	0	0
	19(OCC)	136	-387	87	0	0	0
	20(OCC)	-147	440	-16	0	0	0
	21(OCC)	-65	232	26	0	0	0
	22(OCC)	70	-240	-16	0	0	0
	23(OCC)	-23	-68	426	0	0	0
	24(OCC)	5	-11	6	0	0	0
	25(OCC)	-0	-2	-2	0	0	0
	MAX	670/L6	-2272/L6	426/L23			
6730		TYPE=Rigid X w/gap; Rigid +Y;					
	3(HYD)	127	-2086	48	0	0	0
	4(OPE)	1179	219	-277	0	0	0
	6(OPE)	3122	841	-412	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	8(OPE)	533	-2347	-461	0	0	0
	10(SUS)	152	-1889	28	0	0	0
	11(SUS)	151	-1887	28	0	0	0
	12(OPE)	2103	402	-486	0	0	0
	13(OPE)	586	113	-134	0	0	0
	14(OPE)	1186	233	-269	0	0	0
	15(OPE)	1165	206	-283	0	0	0
	16(OPE)	1293	348	-171	0	0	0
	17(OPE)	1170	219	-274	0	0	0
	18(OPE)	1172	218	-276	0	0	0
	19(OCC)	925	183	-209	0	0	0
	20(OCC)	-593	-106	143	0	0	0
	21(OCC)	8	13	8	0	0	0
	22(OCC)	-13	-14	-5	0	0	0
	23(OCC)	115	129	106	0	0	0
	24(OCC)	-9	-0	3	0	0	0
	25(OCC)	-6	-2	1	0	0	0
	MAX	3122/L6	-2347/L8	-486/L12			
6750		TYPE=Rigid +Y;					
	3(HYD)	-280	-936	-18	0	0	0
	4(OPE)	0	0	0	0	0	0
	6(OPE)	0	0	0	0	0	0
	8(OPE)	-347	-1387	-230	0	0	0
	10(SUS)	-221	-745	-35	0	0	0
	11(SUS)	-221	-745	-36	0	0	0
	12(OPE)	0	0	0	0	0	0
	13(OPE)	0	0	0	0	0	0
	14(OPE)	0	0	0	0	0	0
	15(OPE)	0	0	0	0	0	0
	16(OPE)	0	0	0	0	0	0
	17(OPE)	0	0	0	0	0	0
	18(OPE)	0	0	0	0	0	0
	19(OCC)	0	0	0	0	0	0
	20(OCC)	0	0	0	0	0	0
	21(OCC)	0	0	0	0	0	0
	22(OCC)	0	0	0	0	0	0
	23(OCC)	0	0	0	0	0	0
	24(OCC)	0	0	0	0	0	0
	25(OCC)	0	0	0	0	0	0
	MAX	-347/L8	-1387/L8	-230/L8			
6770		TYPE=Rigid +Y;					
	3(HYD)	-527	-2072	-329	0	0	0
	4(OPE)	26	-1619	485	0	0	0
	6(OPE)	46	-1792	536	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	8(OPE)	14	-1665	499	0	0	0
	10(SUS)	-415	-1622	-254	0	0	0
	11(SUS)	-408	-1588	-246	0	0	0
	12(OPE)	270	-1496	359	0	0	0
	13(OPE)	-249	-1738	458	0	0	0
	14(OPE)	74	-1389	410	0	0	0
	15(OPE)	16	-1837	551	0	0	0
	16(OPE)	23	-1627	488	0	0	0
	17(OPE)	67	-1595	474	0	0	0
	18(OPE)	26	-1616	484	0	0	0
	19(OCC)	244	123	-126	0	0	0
	20(OCC)	-275	-118	-27	0	0	0
	21(OCC)	48	230	-75	0	0	0
	22(OCC)	-10	-217	66	0	0	0
	23(OCC)	-3	-8	2	0	0	0
	24(OCC)	41	25	-11	0	0	0
	25(OCC)	-0	3	-1	0	0	0
	MAX	-527/L3	-2072/L3	551/L15			
6845		TYPE=Rigid X w/gap; Rigid Z w/gap; Rigid +Y;					
	3(HYD)	-280	-2094	4	0	0	0
	4(OPE)	-818	-1513	-2924	0	0	0
	6(OPE)	831	-1435	-2129	0	0	0
	8(OPE)	-810	-1508	-2895	0	0	0
	10(SUS)	-190	-1505	2	0	0	0
	11(SUS)	-183	-1457	2	0	0	0
	12(OPE)	783	-1483	-2561	0	0	0
	13(OPE)	-851	-1526	-2460	0	0	0
	14(OPE)	-226	-1336	-2441	0	0	0
	15(OPE)	-926	-1695	-3305	0	0	0
	16(OPE)	-4	-1495	149	0	0	0
	17(OPE)	-298	-1519	-2927	0	0	0
	18(OPE)	-819	-1513	-2922	0	0	0
	19(OCC)	1601	30	363	0	0	0
	20(OCC)	-34	-13	464	0	0	0
	21(OCC)	592	177	483	0	0	0
	22(OCC)	-108	-182	-381	0	0	0
	23(OCC)	813	18	3073	0	0	0
	24(OCC)	519	-6	-3	0	0	0
	25(OCC)	-1	0	2	0	0	0
	MAX	1601/L19	-2094/L3	-3305/L15			
6870		TYPE=Rigid +Y;					

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	3(HYD)	-11	-3293	1	0	0	0
	4(OPE)	-232	-2333	661	0	0	0
	6(OPE)	-169	-2386	696	0	0	0
	8(OPE)	-241	-2336	658	0	0	0
	10(SUS)	-8	-2322	1	0	0	0
	11(SUS)	-8	-2245	1	0	0	0
	12(OPE)	532	-2328	452	0	0	0
	13(OPE)	-691	-2337	120	0	0	0
	14(OPE)	-204	-2054	582	0	0	0
	15(OPE)	-239	-2612	746	0	0	0
	16(OPE)	-128	-2344	692	0	0	0
	17(OPE)	-213	-2333	667	0	0	0
	18(OPE)	-232	-2334	660	0	0	0
	19(OCC)	764	5	-209	0	0	0
	20(OCC)	-459	-3	-541	0	0	0
	21(OCC)	28	279	-79	0	0	0
	22(OCC)	-7	-279	86	0	0	0
	23(OCC)	103	-11	31	0	0	0
	24(OCC)	19	0	6	0	0	0
	25(OCC)	-1	-0	-0	0	0	0
	MAX	764/L19	-3293/L3	746/L15			
6890		TYPE=Rigid +Y; Rigid X w/gap;					
	3(HYD)	3	-2657	0	0	0	0
	4(OPE)	39	-1875	561	0	0	0
	6(OPE)	-57	-1861	555	0	0	0
	8(OPE)	39	-1874	561	0	0	0
	10(SUS)	2	-1878	0	0	0	0
	11(SUS)	2	-1816	0	0	0	0
	12(OPE)	446	-1876	496	0	0	0
	13(OPE)	-612	-1874	545	0	0	0
	14(OPE)	27	-1650	494	0	0	0
	15(OPE)	44	-2100	629	0	0	0
	16(OPE)	-0	-1872	562	0	0	0
	17(OPE)	32	-1875	562	0	0	0
	18(OPE)	39	-1875	561	0	0	0
	19(OCC)	408	-1	-65	0	0	0
	20(OCC)	-651	1	-16	0	0	0
	21(OCC)	-12	225	-67	0	0	0
	22(OCC)	5	-225	67	0	0	0
	23(OCC)	-39	3	0	0	0	0
	24(OCC)	-7	-0	0	0	0	0
	25(OCC)	0	0	-0	0	0	0
	MAX	-651/L20	-2657/L3	629/L15			
6900		TYPE=Rigid					

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
		+Y;					
	3(HYD)	-1	-2871	0	0	0	0
	4(OPE)	-24	-2029	608	0	0	0
	6(OPE)	-43	-2032	608	0	0	0
	8(OPE)	-24	-2029	608	0	0	0
	10(SUS)	-1	-2028	0	0	0	0
	11(SUS)	-1	-1961	0	0	0	0
	12(OPE)	247	-2028	556	0	0	0
	13(OPE)	-225	-2029	566	0	0	0
	14(OPE)	-26	-1785	535	0	0	0
	15(OPE)	-22	-2272	681	0	0	0
	16(OPE)	3	-2030	609	0	0	0
	17(OPE)	-25	-2029	608	0	0	0
	18(OPE)	-24	-2029	608	0	0	0
	19(OCC)	271	0	-52	0	0	0
	20(OCC)	-201	-0	-43	0	0	0
	21(OCC)	-2	243	-73	0	0	0
	22(OCC)	2	-243	73	0	0	0
	23(OCC)	27	-1	1	0	0	0
	24(OCC)	-1	-0	-0	0	0	0
	25(OCC)	0	-0	0	0	0	0
	MAX	271/L19	-2871/L3	681/L15			
6905		TYPE=Rigid +Y; Rigid X w/gap;					
	3(HYD)	0	-2638	0	0	0	0
	4(OPE)	-90	-1864	552	0	0	0
	6(OPE)	-150	-1864	595	0	0	0
	8(OPE)	-90	-1864	552	0	0	0
	10(SUS)	0	-1864	0	0	0	0
	11(SUS)	0	-1802	0	0	0	0
	12(OPE)	866	-1864	759	0	0	0
	13(OPE)	-1034	-1863	809	0	0	0
	14(OPE)	-83	-1640	485	0	0	0
	15(OPE)	-101	-2087	618	0	0	0
	16(OPE)	-11	-1864	559	0	0	0
	17(OPE)	-90	-1864	552	0	0	0
	18(OPE)	-90	-1864	552	0	0	0
	19(OCC)	956	-0	207	0	0	0
	20(OCC)	-944	0	257	0	0	0
	21(OCC)	7	224	-67	0	0	0
	22(OCC)	-11	-224	66	0	0	0
	23(OCC)	79	0	7	0	0	0
	24(OCC)	0	0	0	0	0	0
	25(OCC)	0	-0	0	0	0	0
	MAX	-1034/L13	-2638/L3	809/L13			

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
6910		TYPE=Rigid +Y;					
	3(HYD)	-0	-3433	0	0	0	0
	4(OPE)	-96	-2425	721	0	0	0
	6(OPE)	39	-2422	726	0	0	0
	8(OPE)	-95	-2425	721	0	0	0
	10(SUS)	-0	-2425	0	0	0	0
	11(SUS)	-0	-2345	0	0	0	0
	12(OPE)	463	-2423	560	0	0	0
	13(OPE)	-387	-2426	616	0	0	0
	14(OPE)	-81	-2134	635	0	0	0
	15(OPE)	-125	-2716	805	0	0	0
	16(OPE)	-35	-2424	727	0	0	0
	17(OPE)	-95	-2425	721	0	0	0
	18(OPE)	-96	-2425	721	0	0	0
	19(OCC)	559	1	-161	0	0	0
	20(OCC)	-291	-1	-105	0	0	0
	21(OCC)	15	291	-86	0	0	0
	22(OCC)	-29	-291	84	0	0	0
	23(OCC)	61	0	5	0	0	0
	24(OCC)	1	-0	0	0	0	0
	25(OCC)	0	0	0	0	0	0
	MAX	559/L19	-3433/L3	805/L15			
6920		TYPE=Rigid +Y;					
	3(HYD)	0	-1396	0	0	0	0
	4(OPE)	244	-986	168	0	0	0
	6(OPE)	148	-989	257	0	0	0
	8(OPE)	244	-986	168	0	0	0
	10(SUS)	0	-986	0	0	0	0
	11(SUS)	0	-954	0	0	0	0
	12(OPE)	296	-988	17	0	0	0
	13(OPE)	-209	-986	209	0	0	0
	14(OPE)	206	-868	160	0	0	0
	15(OPE)	281	-1105	175	0	0	0
	16(OPE)	49	-987	292	0	0	0
	17(OPE)	244	-986	168	0	0	0
	18(OPE)	244	-986	168	0	0	0
	19(OCC)	52	-1	-151	0	0	0
	20(OCC)	-453	1	41	0	0	0
	21(OCC)	-38	118	-8	0	0	0
	22(OCC)	37	-118	8	0	0	0
	23(OCC)	-195	-0	124	0	0	0
	24(OCC)	-0	0	0	0	0	0
	25(OCC)	-0	-0	0	0	0	0
	MAX	-453/L20	-1396/L3	292/L16			

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
7010		TYPE=Rigid Z w/gap; Rigid +Y;					
	3(HYD)	864	-2890	-74	0	0	0
	4(OPE)	669	-2392	261	0	0	0
	6(OPE)	1495	-2456	2854	0	0	0
	8(OPE)	635	-2378	325	0	0	0
	10(SUS)	688	-2296	-41	0	0	0
	11(SUS)	674	-2249	-38	0	0	0
	12(OPE)	698	-2499	273	0	0	0
	13(OPE)	130	-2277	382	0	0	0
	14(OPE)	600	-2109	201	0	0	0
	15(OPE)	754	-2673	273	0	0	0
	16(OPE)	469	-2370	826	0	0	0
	17(OPE)	689	-2389	199	0	0	0
	18(OPE)	667	-2392	264	0	0	0
	19(OCC)	30	-106	12	0	0	0
	20(OCC)	-538	115	121	0	0	0
	21(OCC)	-69	283	-60	0	0	0
	22(OCC)	85	-281	12	0	0	0
	23(OCC)	-199	23	565	0	0	0
	24(OCC)	20	3	-62	0	0	0
	25(OCC)	-2	0	4	0	0	0
	MAX	1495/L6	-2890/L3	2854/L6			
8000		TYPE=Rigid X w/gap; Rigid Z w/gap; Rigid +Y;					
	3(HYD)	1	-3051	-0	0	0	0
	4(OPE)	537	-1681	7005	0	0	0
	6(OPE)	535	-1680	6797	0	0	0
	8(OPE)	51	-1653	-3339	0	0	0
	10(SUS)	0	-1656	-0	0	0	0
	11(SUS)	0	-1654	-0	0	0	0
	12(OPE)	1238	-1681	7695	0	0	0
	13(OPE)	5	-1681	7529	0	0	0
	14(OPE)	569	-1482	6433	0	0	0
	15(OPE)	515	-1880	7118	0	0	0
	16(OPE)	595	-1680	9832	0	0	0
	17(OPE)	536	-1681	7062	0	0	0
	18(OPE)	533	-1680	6753	0	0	0
	19(OCC)	701	-0	690	0	0	0
	20(OCC)	-532	-1	524	0	0	0
	21(OCC)	32	199	-572	0	0	0
	22(OCC)	-22	-199	113	0	0	0
	23(OCC)	58	0	2827	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	24(OCC)	-1	-0	57	0	0	0
	25(OCC)	-3	0	-252	0	0	0
	MAX	1238/L12	-3051/L3	9832/L16			
8030		TYPE=Rigid +Y;					
	3(HYD)	-4	-5934	-1	0	0	0
	4(OPE)	249	-3060	-884	0	0	0
	6(OPE)	254	-3066	-884	0	0	0
	8(OPE)	-260	-3240	937	0	0	0
	10(SUS)	-2	-3220	-0	0	0	0
	11(SUS)	-2	-3216	-0	0	0	0
	12(OPE)	430	-3059	-811	0	0	0
	13(OPE)	185	-3056	-898	0	0	0
	14(OPE)	226	-2675	-770	0	0	0
	15(OPE)	298	-3443	-989	0	0	0
	16(OPE)	299	-3061	-868	0	0	0
	17(OPE)	249	-3060	-883	0	0	0
	18(OPE)	249	-3061	-884	0	0	0
	19(OCC)	181	1	73	0	0	0
	20(OCC)	-63	4	-14	0	0	0
	21(OCC)	-22	385	114	0	0	0
	22(OCC)	49	-384	-106	0	0	0
	23(OCC)	50	-1	15	0	0	0
	24(OCC)	1	0	0	0	0	0
	25(OCC)	0	-1	-0	0	0	0
	MAX	430/L12	-5934/L3	-989/L15			
8040		TYPE=Rigid X w/gap; Rigid +Y;					
	3(HYD)	12	-10379	-2	0	0	0
	4(OPE)	-135	-5766	-1725	0	0	0
	6(OPE)	-120	-5761	-1724	0	0	0
	8(OPE)	-357	-5616	1647	0	0	0
	10(SUS)	7	-5632	-1	0	0	0
	11(SUS)	7	-5625	-1	0	0	0
	12(OPE)	2600	-5765	-2463	0	0	0
	13(OPE)	-3751	-5771	-2810	0	0	0
	14(OPE)	-333	-5088	-1585	0	0	0
	15(OPE)	-103	-6444	-1931	0	0	0
	16(OPE)	-86	-5763	-1727	0	0	0
	17(OPE)	-133	-5766	-1725	0	0	0
	18(OPE)	-132	-5765	-1724	0	0	0
	19(OCC)	2734	1	-738	0	0	0
	20(OCC)	-3616	-5	-1085	0	0	0
	21(OCC)	-198	678	139	0	0	0
	22(OCC)	32	-678	-206	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	23(OCC)	49	3	-2	0	0	0
	24(OCC)	1	-0	-0	0	0	0
	25(OCC)	3	1	0	0	0	0
	MAX	-3751/L13	-10379/L3	-2810/L13			
8070		TYPE=Rigid +Y;					
	3(HYD)	-69	-8177	6	0	0	0
	4(OPE)	-1539	-5164	-175	0	0	0
	6(OPE)	-1530	-5136	-187	0	0	0
	8(OPE)	1301	-4347	-95	0	0	0
	10(SUS)	-38	-4437	3	0	0	0
	11(SUS)	-38	-4431	3	0	0	0
	12(OPE)	-1539	-5164	-175	0	0	0
	13(OPE)	-1555	-5185	-43	0	0	0
	14(OPE)	-1379	-4622	-145	0	0	0
	15(OPE)	-1702	-5709	-190	0	0	0
	16(OPE)	-1543	-5156	103	0	0	0
	17(OPE)	-1540	-5165	-175	0	0	0
	18(OPE)	-1537	-5159	-179	0	0	0
	19(OCC)	-0	-0	-0	0	0	0
	20(OCC)	-16	-22	133	0	0	0
	21(OCC)	160	541	30	0	0	0
	22(OCC)	-163	-546	-15	0	0	0
	23(OCC)	-4	8	278	0	0	0
	24(OCC)	-0	-1	0	0	0	0
	25(OCC)	2	5	-3	0	0	0
	MAX	-1702/L15	-8177/L3	278/L23			
8100		TYPE=Rigid +Y;					
	3(HYD)	134	-8253	-91	0	0	0
	4(OPE)	-549	-4014	1072	0	0	0
	6(OPE)	-530	-4025	1085	0	0	0
	8(OPE)	-204	-4626	-1373	0	0	0
	10(SUS)	74	-4494	-53	0	0	0
	11(SUS)	74	-4489	-53	0	0	0
	12(OPE)	-297	-4072	1185	0	0	0
	13(OPE)	-647	-3952	993	0	0	0
	14(OPE)	-492	-3486	923	0	0	0
	15(OPE)	-581	-4540	1232	0	0	0
	16(OPE)	-632	-4104	1057	0	0	0
	17(OPE)	-548	-4012	1072	0	0	0
	18(OPE)	-545	-4026	1077	0	0	0
	19(OCC)	253	-58	113	0	0	0
	20(OCC)	-98	62	-78	0	0	0
	21(OCC)	57	528	-149	0	0	0
	22(OCC)	-31	-527	161	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	23(OCC)	-82	-90	-15	0	0	0
	24(OCC)	1	2	-0	0	0	0
	25(OCC)	4	-12	6	0	0	0
	MAX	-647/L13	-8253/L3	-1373/L8			
8120		TYPE=Rigid X; Rigid Z w/gap; Rigid +Y;					
	3(HYD)	686	-7106	-106	0	0	0
	4(OPE)	-7832	-11897	5781	0	0	0
	6(OPE)	-7656	-12093	6225	0	0	0
	8(OPE)	1714	-862	-259	0	0	0
	10(SUS)	384	-3995	-62	0	0	0
	11(SUS)	383	-3990	-62	0	0	0
	12(OPE)	-4995	-12105	5427	0	0	0
	13(OPE)	-10039	-11733	7087	0	0	0
	14(OPE)	-7718	-11158	5434	0	0	0
	15(OPE)	-7914	-12662	5645	0	0	0
	16(OPE)	-8242	-11893	11857	0	0	0
	17(OPE)	-7848	-11903	5723	0	0	0
	18(OPE)	-7767	-11894	5469	0	0	0
	19(OCC)	2837	-209	-355	0	0	0
	20(OCC)	-2207	163	1306	0	0	0
	21(OCC)	114	739	-347	0	0	0
	22(OCC)	-82	-766	-136	0	0	0
	23(OCC)	-410	4	6075	0	0	0
	24(OCC)	-16	-7	-58	0	0	0
	25(OCC)	65	2	-313	0	0	0
	MAX	-10039/L13	-12662/L15	11857/L16			
8140		TYPE=Rigid +Y;					
	3(HYD)	176	-4157	-70	0	0	0
	4(OPE)	415	-4343	-1235	0	0	0
	6(OPE)	357	-4361	-1259	0	0	0
	8(OPE)	56	-1238	367	0	0	0
	10(SUS)	104	-2333	-43	0	0	0
	11(SUS)	104	-2330	-43	0	0	0
	12(OPE)	534	-4373	-1198	0	0	0
	13(OPE)	466	-4417	-1241	0	0	0
	14(OPE)	384	-3826	-1082	0	0	0
	15(OPE)	437	-4866	-1393	0	0	0
	16(OPE)	448	-4109	-1149	0	0	0
	17(OPE)	413	-4341	-1235	0	0	0
	18(OPE)	411	-4343	-1236	0	0	0
	19(OCC)	120	-30	37	0	0	0
	20(OCC)	51	-74	-5	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	21(OCC)	-31	517	153	0	0	0
	22(OCC)	23	-523	-157	0	0	0
	23(OCC)	33	234	87	0	0	0
	24(OCC)	-2	2	0	0	0	0
	25(OCC)	-4	0	-1	0	0	0
	MAX	534/L12	-4866/L15	-1393/L15			
8150		TYPE=Rigid X w/gap; Rigid +Y;					
	3(HYD)	-25	-11003	-42	0	0	0
	4(OPE)	-1555	-5286	-2008	0	0	0
	6(OPE)	-1779	-5242	-2062	0	0	0
	8(OPE)	-450	-6112	1778	0	0	0
	10(SUS)	-15	-5966	-26	0	0	0
	11(SUS)	-15	-5958	-26	0	0	0
	12(OPE)	835	-5316	-1801	0	0	0
	13(OPE)	-5488	-5216	-3168	0	0	0
	14(OPE)	-1616	-4596	-1825	0	0	0
	15(OPE)	-1498	-5974	-2192	0	0	0
	16(OPE)	-1072	-5286	-1863	0	0	0
	17(OPE)	-1533	-5286	-2002	0	0	0
	18(OPE)	-1534	-5289	-2003	0	0	0
	19(OCC)	2389	-29	207	0	0	0
	20(OCC)	-3933	70	-1160	0	0	0
	21(OCC)	-62	690	183	0	0	0
	22(OCC)	57	-688	-184	0	0	0
	23(OCC)	483	0	145	0	0	0
	24(OCC)	21	1	7	0	0	0
	25(OCC)	21	-3	5	0	0	0
	MAX	-5488/L13	-11003/L3	-3168/L13			
8180		TYPE=Rigid +Y;					
	3(HYD)	14	-8383	1	0	0	0
	4(OPE)	-1367	-4881	526	0	0	0
	6(OPE)	-1370	-4894	528	0	0	0
	8(OPE)	1350	-4514	-112	0	0	0
	10(SUS)	8	-4548	0	0	0	0
	11(SUS)	8	-4543	0	0	0	0
	12(OPE)	-1319	-4862	622	0	0	0
	13(OPE)	-1324	-4921	653	0	0	0
	14(OPE)	-1209	-4333	477	0	0	0
	15(OPE)	-1525	-5429	572	0	0	0
	16(OPE)	-1289	-4884	696	0	0	0
	17(OPE)	-1368	-4881	523	0	0	0
	18(OPE)	-1367	-4879	523	0	0	0
	19(OCC)	47	19	96	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	20(OCC)	43	-40	128	0	0	0
	21(OCC)	157	547	-48	0	0	0
	22(OCC)	-158	-548	46	0	0	0
	23(OCC)	77	-3	171	0	0	0
	24(OCC)	-1	-0	-2	0	0	0
	25(OCC)	-1	2	-3	0	0	0
	MAX	-1525/L15	-8383/L3	696/L16			
8210		TYPE=Rigid +Y;					
	3(HYD)	-6	-7328	0	0	0	0
	4(OPE)	-217	-4044	1194	0	0	0
	6(OPE)	-213	-4047	1195	0	0	0
	8(OPE)	-272	-3968	-1159	0	0	0
	10(SUS)	-3	-3977	0	0	0	0
	11(SUS)	-3	-3972	0	0	0	0
	12(OPE)	-88	-4040	1209	0	0	0
	13(OPE)	-321	-4052	1172	0	0	0
	14(OPE)	-198	-3566	1051	0	0	0
	15(OPE)	-234	-4522	1336	0	0	0
	16(OPE)	-275	-4044	1182	0	0	0
	17(OPE)	-216	-4044	1194	0	0	0
	18(OPE)	-216	-4044	1194	0	0	0
	19(OCC)	129	3	15	0	0	0
	20(OCC)	-104	-8	-21	0	0	0
	21(OCC)	19	478	-142	0	0	0
	22(OCC)	-17	-479	143	0	0	0
	23(OCC)	-58	-0	-12	0	0	0
	24(OCC)	1	-0	0	0	0	0
	25(OCC)	2	0	0	0	0	0
	MAX	-321/L13	-7328/L3	1336/L15			
8220		TYPE=Rigid X w/gap; Rigid +Y;					
	3(HYD)	1	-6861	0	0	0	0
	4(OPE)	467	-3639	1213	0	0	0
	6(OPE)	550	-3635	1236	0	0	0
	8(OPE)	-361	-3732	-1060	0	0	0
	10(SUS)	0	-3724	0	0	0	0
	11(SUS)	0	-3719	0	0	0	0
	12(OPE)	3554	-3644	2140	0	0	0
	13(OPE)	-1166	-3628	1420	0	0	0
	14(OPE)	281	-3192	1025	0	0	0
	15(OPE)	652	-4085	1400	0	0	0
	16(OPE)	20	-3638	1091	0	0	0
	17(OPE)	496	-3639	1222	0	0	0
	18(OPE)	505	-3639	1224	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	19(OCC)	3086	-5	927	0	0	0
	20(OCC)	-1634	11	207	0	0	0
	21(OCC)	-186	447	-188	0	0	0
	22(OCC)	185	-447	187	0	0	0
	23(OCC)	-447	1	-122	0	0	0
	24(OCC)	29	0	9	0	0	0
	25(OCC)	37	-1	11	0	0	0
	MAX	3554/L12	-6861/L3	2140/L12			
8230		TYPE=Rigid X w/gap; Rigid +Y;					
	3(HYD)	-0	-6233	0	0	0	0
	4(OPE)	1020	-3405	1299	0	0	0
	6(OPE)	968	-3406	1283	0	0	0
	8(OPE)	-236	-3380	-986	0	0	0
	10(SUS)	-0	-3382	0	0	0	0
	11(SUS)	-0	-3378	0	0	0	0
	12(OPE)	1594	-3404	1471	0	0	0
	13(OPE)	-72	-3408	1020	0	0	0
	14(OPE)	1108	-2999	1207	0	0	0
	15(OPE)	932	-3811	1391	0	0	0
	16(OPE)	901	-3405	1263	0	0	0
	17(OPE)	1008	-3405	1295	0	0	0
	18(OPE)	1004	-3405	1294	0	0	0
	19(OCC)	574	1	172	0	0	0
	20(OCC)	-1092	-3	-279	0	0	0
	21(OCC)	88	406	-92	0	0	0
	22(OCC)	-88	-406	92	0	0	0
	23(OCC)	-119	-0	-36	0	0	0
	24(OCC)	-13	-0	-4	0	0	0
	25(OCC)	-16	0	-5	0	0	0
	MAX	1594/L12	-6233/L3	1471/L12			
8240		TYPE=Rigid +Y;					
	3(HYD)	0	-7421	0	0	0	0
	4(OPE)	79	-4022	1204	0	0	0
	6(OPE)	81	-4022	1204	0	0	0
	8(OPE)	179	-4028	-1195	0	0	0
	10(SUS)	0	-4027	0	0	0	0
	11(SUS)	0	-4022	0	0	0	0
	12(OPE)	224	-4022	1186	0	0	0
	13(OPE)	-251	-4021	1180	0	0	0
	14(OPE)	68	-3539	1059	0	0	0
	15(OPE)	90	-4505	1349	0	0	0
	16(OPE)	107	-4022	1202	0	0	0
	17(OPE)	79	-4022	1204	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	18(OPE)	79	-4022	1204	0	0	0
	19(OCC)	145	-0	-18	0	0	0
	20(OCC)	-330	1	-24	0	0	0
	21(OCC)	-11	483	-145	0	0	0
	22(OCC)	11	-483	145	0	0	0
	23(OCC)	28	0	-2	0	0	0
	24(OCC)	0	0	-0	0	0	0
	25(OCC)	1	-0	-0	0	0	0
	MAX	-330/L20	-7421/L3	1349/L15			
8250		TYPE=Rigid X w/gap; Rigid Z w/gap; Rigid +Y;					
	3(HYD)	-0	-2575	0	0	0	0
	4(OPE)	-42	-1399	-11802	0	0	0
	6(OPE)	-40	-1399	-11773	0	0	0
	8(OPE)	1730	-1398	5594	0	0	0
	10(SUS)	-0	-1398	0	0	0	0
	11(SUS)	-0	-1396	0	0	0	0
	12(OPE)	803	-1398	-13470	0	0	0
	13(OPE)	-782	-1399	-11457	0	0	0
	14(OPE)	-43	-1231	-11143	0	0	0
	15(OPE)	-41	-1566	-12419	0	0	0
	16(OPE)	3	-1399	-6729	0	0	0
	17(OPE)	-41	-1399	-11777	0	0	0
	18(OPE)	-41	-1399	-11810	0	0	0
	19(OCC)	845	0	-1668	0	0	0
	20(OCC)	-740	-0	345	0	0	0
	21(OCC)	-1	168	659	0	0	0
	22(OCC)	1	-168	-617	0	0	0
	23(OCC)	45	-0	5072	0	0	0
	24(OCC)	1	-0	25	0	0	0
	25(OCC)	1	0	-9	0	0	0
	MAX	1730/L8	-2575/L3	-13470/L12			

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS 2
Stress Summary : Multiple 3

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

1 (HGR) CASE NOT ACTIVE
2 (HGR) CASE NOT ACTIVE
3 (HYD) WW+HP+H
4 (OPE) W+T1+P1+H
5 (Alt-SUS) W+P1+H
6 (OPE) W+T2+P1+H
7 (Alt-SUS) W+P1+H
8 (OPE) W+T3+P1+H
9 (Alt-SUS) W+P1+H
10 (SUS) W+P1+H
11 (SUS) WNC
12 (OPE) W+T1+P1+H+U1
13 (OPE) W+T1+P1+H-U1
14 (OPE) W+T1+P1+H+U2
15 (OPE) W+T1+P1+H-U2
16 (OPE) W+T1+P1+H+U3
17 (OPE) W+T1+P1+H+F1
18 (OPE) W+T1+P1+H+F2
19 (OCC) L19=L12-L4
20 (OCC) L20=L13-L4
21 (OCC) L21=L14-L4
22 (OCC) L22=L15-L4
23 (OCC) L23=L16-L4
24 (OCC) L24=L17-L4
25 (OCC) L25=L18-L4
26 (OCC) L26=L19+L10
27 (OCC) L27=L20+L10
28 (OCC) L28=L21+L10
29 (OCC) L29=L22+L10
30 (OCC) L30=L23+L10
31 (OCC) L31=L24+L10
32 (OCC) L32=L25+L10
33 (EXP) L33=L4-L10
34 (EXP) L34=L6-L10
35 (EXP) L35=L4-L6
36 (EXP) L36=L8-L10
37 (EXP) L37=L4-L8
38 (EXP) L38=L6-L8

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
 Various Load Cases

LOAD CASE DEFINITION KEY

CASE 3 (HYD) WW+HP+H
 CASE 5 (Alt-SUS) W+P1+H
 CASE 7 (Alt-SUS) W+P1+H
 CASE 9 (Alt-SUS) W+P1+H
 CASE 10 (SUS) W+P1+H
 CASE 11 (SUS) WNC
 CASE 26 (OCC) L26=L19+L10
 CASE 27 (OCC) L27=L20+L10
 CASE 28 (OCC) L28=L21+L10
 CASE 29 (OCC) L29=L22+L10
 CASE 30 (OCC) L30=L23+L10
 CASE 31 (OCC) L31=L24+L10
 CASE 32 (OCC) L32=L25+L10
 CASE 33 (EXP) L33=L4-L10
 CASE 34 (EXP) L34=L6-L10
 CASE 35 (EXP) L35=L4-L6
 CASE 36 (EXP) L36=L8-L10
 CASE 37 (EXP) L37=L4-L8
 CASE 38 (EXP) L38=L6-L8

Piping Code: B31.3 = B31.3 -2016, Jan 31, 2017

CODE STRESS CHECK PASSED : LOADCASE 3 (HYD) WW+HP+H

Highest Stresses: (KPa)	LOADCASE 3 (HYD) WW+HP+H	
Ratio (%):	53.3	@Node 7000
Code Stress:	91940.8	Allowable Stress: 172368.9
Axial Stress:	48409.4	@Node 1920
Bending Stress:	122020.5	@Node 7000
Torsion Stress:	5289.0	@Node 6794
Hoop Stress:	100724.6	@Node 1939
Max Stress Intensity:	122445.9	@Node 7000

CODE STRESS CHECK PASSED : LOADCASE 5 (Alt-SUS) W+P1+H

Highest Stresses: (KPa)	LOADCASE 5 (Alt-SUS) W+P1+H	
Ratio (%):	67.3	@Node 5238
Code Stress:	92805.9	Allowable Stress: 137895.1
Axial Stress:	34393.7	@Node 5200
Bending Stress:	97815.0	@Node 7000
Torsion Stress:	22231.9	@Node 5245
Hoop Stress:	70594.0	@Node 5200
Max Stress Intensity:	112469.4	@Node 5238

CODE STRESS CHECK PASSED : LOADCASE 7 (Alt-SUS) W+P1+H

Highest Stresses: (KPa)	LOADCASE 7 (Alt-SUS) W+P1+H	
Ratio (%):	67.5	@Node 5238

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
 Various Load Cases

Code Stress:	93016.2	Allowable Stress:	137895.1
Axial Stress:	34393.8	@Node	5200
Bending Stress:	98072.9	@Node	7000
Torsion Stress:	22238.5	@Node	5245
Hoop Stress:	70594.0	@Node	5200
Max Stress Intensity:	112749.6	@Node	5238

CODE STRESS CHECK PASSED : LOADCASE 9 (Alt-SUS) W+P1+H

Highest Stresses: (KPa)	LOADCASE 9 (Alt-SUS) W+P1+H	
Ratio (%):	63.7	@Node 7000
Code Stress:	73396.6	Allowable Stress: 115142.4
Axial Stress:	35396.9	@Node 5280
Bending Stress:	97831.4	@Node 7000
Torsion Stress:	8364.5	@Node 5245
Hoop Stress:	70594.0	@Node 5200
Max Stress Intensity:	97854.5	@Node 7000

CODE STRESS CHECK PASSED : LOADCASE 10 (SUS) W+P1+H

Highest Stresses: (KPa)	LOADCASE 10 (SUS) W+P1+H	
Ratio (%):	63.6	@Node 7000
Code Stress:	73272.7	Allowable Stress: 115142.4
Axial Stress:	35180.2	@Node 5280
Bending Stress:	97259.5	@Node 7000
Torsion Stress:	8942.3	@Node 5239
Hoop Stress:	70594.0	@Node 5200
Max Stress Intensity:	97587.6	@Node 7000

CODE STRESS CHECK PASSED : LOADCASE 11 (SUS) WNC

Highest Stresses: (KPa)	LOADCASE 11 (SUS) WNC	
Ratio (%):	62.3	@Node 7000
Code Stress:	71756.9	Allowable Stress: 115142.4
Axial Stress:	2567.3	@Node 6490
Bending Stress:	95246.6	@Node 7000
Torsion Stress:	8917.2	@Node 5239
Hoop Stress:	0.0	@Node 40
Max Stress Intensity:	95568.5	@Node 7000

CODE STRESS CHECK PASSED : LOADCASE 26 (OCC) L26=L19+L10

Highest Stresses: (KPa)	LOADCASE 26 (OCC) L26=L19+L10	
Ratio (%):	53.3	@Node 5240
Code Stress:	97691.2	Allowable Stress: 183400.5
Axial Stress:	34548.9	@Node 5200
Bending Stress:	101990.8	@Node 7000
Torsion Stress:	9629.2	@Node 5040
Hoop Stress:	70594.0	@Node 5200
Max Stress Intensity:	139818.1	@Node 5240

CODE STRESS CHECK PASSED : LOADCASE 27 (OCC) L27=L20+L10

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
 Various Load Cases

Highest Stresses: (KPa) LOADCASE 27 (OCC) L27=L20+L10
 Ratio (%): 53.7 @Node 5485
 Code Stress: 92358.4 Allowable Stress: 172055.9
 Axial Stress: 36105.1 @Node 5240
 Bending Stress: 109973.8 @Node 5485
 Torsion Stress: 10054.4 @Node 5239
 Hoop Stress: 70594.0 @Node 5200
 Max Stress Intensity: 134515.8 @Node 5240

CODE STRESS CHECK PASSED : LOADCASE 28 (OCC) L28=L21+L10

Highest Stresses: (KPa) LOADCASE 28 (OCC) L28=L21+L10
 Ratio (%): 53.9 @Node 7000
 Code Stress: 82466.5 Allowable Stress: 153139.4
 Axial Stress: 35194.6 @Node 5280
 Bending Stress: 109477.4 @Node 7000
 Torsion Stress: 6857.2 @Node 5239
 Hoop Stress: 70594.0 @Node 5200
 Max Stress Intensity: 109835.8 @Node 7000

CODE STRESS CHECK PASSED : LOADCASE 29 (OCC) L29=L22+L10

Highest Stresses: (KPa) LOADCASE 29 (OCC) L29=L22+L10
 Ratio (%): 53.7 @Node 7000
 Code Stress: 82247.1 Allowable Stress: 153139.4
 Axial Stress: 35169.9 @Node 5280
 Bending Stress: 109174.9 @Node 7000
 Torsion Stress: 11136.5 @Node 5239
 Hoop Stress: 70594.0 @Node 5200
 Max Stress Intensity: 109540.8 @Node 7000

CODE STRESS CHECK PASSED : LOADCASE 30 (OCC) L30=L23+L10

Highest Stresses: (KPa) LOADCASE 30 (OCC) L30=L23+L10
 Ratio (%): 61.8 @Node 6510
 Code Stress: 94684.1 Allowable Stress: 153139.4
 Axial Stress: 35622.3 @Node 9050
 Bending Stress: 124275.6 @Node 7000
 Torsion Stress: 6648.7 @Node 5239
 Hoop Stress: 70594.0 @Node 5200
 Max Stress Intensity: 125604.1 @Node 6510

CODE STRESS CHECK PASSED : LOADCASE 31 (OCC) L31=L24+L10

Highest Stresses: (KPa) LOADCASE 31 (OCC) L31=L24+L10
 Ratio (%): 48.9 @Node 7000
 Code Stress: 74834.0 Allowable Stress: 153139.4
 Axial Stress: 35183.8 @Node 5280
 Bending Stress: 99307.7 @Node 7000
 Torsion Stress: 8923.0 @Node 5239
 Hoop Stress: 70594.0 @Node 5200

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
 Various Load Cases

Max Stress Intensity: 99660.9 @Node 7000

CODE STRESS CHECK PASSED : LOADCASE 32 (OCC) L32=L25+L10

Highest Stresses: (KPa) LOADCASE 32 (OCC) L32=L25+L10
 Ratio (%): 47.9 @Node 7000
 Code Stress: 73352.2 Allowable Stress: 153139.4
 Axial Stress: 35185.8 @Node 5280
 Bending Stress: 97362.9 @Node 7000
 Torsion Stress: 8938.4 @Node 5239
 Hoop Stress: 70594.0 @Node 5200
 Max Stress Intensity: 97692.9 @Node 7000

CODE STRESS CHECK PASSED : LOADCASE 33 (EXP) L33=L4-L10

Highest Stresses: (KPa) LOADCASE 33 (EXP) L33=L4-L10
 Ratio (%): 52.0 @Node 5475
 Code Stress: 152803.4 Allowable Stress: 294104.7
 Axial Stress: 2429.8 @Node 5670
 Bending Stress: 149856.6 @Node 5475
 Torsion Stress: 13375.0 @Node 5239
 Hoop Stress: 0.0 @Node 40
 Max Stress Intensity: 428815.8 @Node 5475

CODE STRESS CHECK PASSED : LOADCASE 34 (EXP) L34=L6-L10

Highest Stresses: (KPa) LOADCASE 34 (EXP) L34=L6-L10
 Ratio (%): 59.9 @Node 7000
 Code Stress: 128353.3 Allowable Stress: 214291.2
 Axial Stress: 5164.9 @Node 4660
 Bending Stress: 186823.1 @Node 6660
 Torsion Stress: 20089.0 @Node 5040
 Hoop Stress: 0.0 @Node 40
 Max Stress Intensity: 393799.1 @Node 5475

CODE STRESS CHECK PASSED : LOADCASE 35 (EXP) L35=L4-L6

Highest Stresses: (KPa) LOADCASE 35 (EXP) L35=L4-L6
 Ratio (%): 54.3 @Node 7000
 Code Stress: 116283.2 Allowable Stress: 214291.2
 Axial Stress: 3889.0 @Node 4660
 Bending Stress: 174492.8 @Node 6660
 Torsion Stress: 10214.7 @Node 5040
 Hoop Stress: 0.0 @Node 40
 Max Stress Intensity: 175011.4 @Node 6660

CODE STRESS CHECK PASSED : LOADCASE 36 (EXP) L36=L8-L10

Highest Stresses: (KPa) LOADCASE 36 (EXP) L36=L8-L10
 Ratio (%): 32.7 @Node 6420
 Code Stress: 87374.1 Allowable Stress: 267328.7
 Axial Stress: 3343.8 @Node 5740

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
 Various Load Cases

Bending Stress:	87340.5	@Node	6420
Torsion Stress:	10636.1	@Node	1580
Hoop Stress:	0.0	@Node	40
Max Stress Intensity:	135152.5	@Node	5475

CODE STRESS CHECK PASSED : LOADCASE 37 (EXP) L37=L4-L8

Highest Stresses: (KPa)	LOADCASE 37 (EXP) L37=L4-L8		
Ratio (%):	66.5	@Node	5475
Code Stress:	195712.7	Allowable Stress:	294104.7
Axial Stress:	5587.4	@Node	5670
Bending Stress:	191927.8	@Node	5475
Torsion Stress:	12945.7	@Node	5350
Hoop Stress:	0.0	@Node	40
Max Stress Intensity:	549614.2	@Node	5475

CODE STRESS CHECK PASSED : LOADCASE 38 (EXP) L38=L6-L8

Highest Stresses: (KPa)	LOADCASE 38 (EXP) L38=L6-L8		
Ratio (%):	62.5	@Node	5475
Code Stress:	184059.7	Allowable Stress:	294445.9
Axial Stress:	5205.7	@Node	5670
Bending Stress:	180281.5	@Node	5475
Torsion Stress:	20126.8	@Node	5040
Hoop Stress:	0.0	@Node	40
Max Stress Intensity:	516512.9	@Node	5475

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS 2
Nozzle Check : Multiple 3

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

1 (HGR) CASE NOT ACTIVE
2 (HGR) CASE NOT ACTIVE
3 (HYD) WW+HP+H
4 (OPE) W+T1+P1+H
5 (Alt-SUS) W+P1+H
6 (OPE) W+T2+P1+H
7 (Alt-SUS) W+P1+H
8 (OPE) W+T3+P1+H
9 (Alt-SUS) W+P1+H
10 (SUS) W+P1+H
11 (SUS) WNC
12 (OPE) W+T1+P1+H+U1
13 (OPE) W+T1+P1+H-U1
14 (OPE) W+T1+P1+H+U2
15 (OPE) W+T1+P1+H-U2
16 (OPE) W+T1+P1+H+U3
17 (OPE) W+T1+P1+H+F1
18 (OPE) W+T1+P1+H+F2
19 (OCC) L19=L12-L4
20 (OCC) L20=L13-L4
21 (OCC) L21=L14-L4
22 (OCC) L22=L15-L4
23 (OCC) L23=L16-L4
24 (OCC) L24=L17-L4
25 (OCC) L25=L18-L4
26 (OCC) L26=L19+L10
27 (OCC) L27=L20+L10
28 (OCC) L28=L21+L10
29 (OCC) L29=L22+L10
30 (OCC) L30=L23+L10
31 (OCC) L31=L24+L10
32 (OCC) L32=L25+L10
33 (EXP) L33=L4-L10
34 (EXP) L34=L6-L10
35 (EXP) L35=L4-L6
36 (EXP) L36=L8-L10
37 (EXP) L37=L4-L8
38 (EXP) L38=L6-L8

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NOZZLE CHECK REPORT: Nozzle Loads Screening

Various Load Cases

LOAD CASE DEFINITION KEY

CASE 4 (OPE) W+T1+P1+H

CASE 6 (OPE) W+T2+P1+H

CASE 8 (OPE) W+T3+P1+H

CASE 10 (SUS) W+P1+H

CASE 11 (SUS) WNC

Node		fa N.	fb N.	fc N.	Forces Check	ma N.m.	mb N.m.	mc N.m.	Moments Check	
20		Absolute Method								
	Limits	2160	2160	2160		1155	1155	1155		
	4(OPE)	-285	750	-168	0.347	194	317	856	0.741	
	6(OPE)	-727	2455	-184	1.137	233	380	2296	1.988	*
	8(OPE)	-284	750	-166	0.347	190	313	856	0.741	
	10(SUS)	146	-557	-17	0.258	6	17	-220	0.190	
	11(SUS)	-187	-1478	-12	0.684	9	9	-1257	1.088	*
780		Absolute Method								
	Limits	9600	9600	7200		5760	3840	4990		
	4(OPE)	1282	-365	-474	0.134	-86	-1587	345	0.413	
	6(OPE)	1191	-429	-72	0.124	479	-1620	565	0.422	
	8(OPE)	3148	10	531	0.328	474	-353	-1228	0.246	
	10(SUS)	2532	-45	-3	0.264	-21	-883	-756	0.230	
	11(SUS)	2520	-45	-2	0.262	-20	-873	-753	0.227	
1240		Absolute Method								
	Limits	2160	2160	2160		1155	1155	1155		
	4(OPE)	1763	-590	12	0.816	54	-1038	309	0.899	
	6(OPE)	2175	-599	-426	1.007	47	-1446	291	1.252	*
	8(OPE)	1734	-595	-1	0.803	52	-1035	306	0.896	

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NOZZLE CHECK REPORT: Nozzle Loads Screening

Various Load Cases

Node		fa N.	fb N.	fc N.	Forces Check	ma N.m.	mb N.m.	mc N.m.	Moments Check	
	10(SUS)	1	-744	3	0.344	-22	1	238	0.206	
	11(SUS)	1	-737	3	0.341	-21	1	235	0.204	
1700		Absolute Method								
	Limits	15091	15091	12001		9150	4890	6420		
	4(OPE)	-132	1162	-379	0.077	-2596	2017	-27	0.413	
	6(OPE)	141	778	-810	0.068	-4283	2039	-196	0.468	
	8(OPE)	-130	1163	-383	0.077	-2608	2019	-25	0.413	
	10(SUS)	1928	157	-100	0.128	188	-690	-138	0.141	
	11(SUS)	1918	156	-99	0.127	187	-686	-137	0.140	
1780		Absolute Method								
	Limits	16201	15091	12001		9150	4890	6420		
	4(OPE)	592	277	3418	0.285	-1470	-2034	226	0.416	
	6(OPE)	308	1370	7124	0.594	-1788	-4272	817	0.874	
	8(OPE)	594	226	3440	0.287	-1456	-2055	177	0.420	
	10(SUS)	1030	-22	-267	0.064	115	104	183	0.028	
	11(SUS)	1019	-22	-265	0.063	114	104	181	0.028	
4260		Absolute Method								
	Limits	11201	11201	8400		3780	2520	3280		
	4(OPE)	5698	-2494	-29	0.509	45	-270	2640	0.805	
	6(OPE)	24691	-3739	577	2.204	-710	528	5905	1.800	*
	8(OPE)	5774	-2494	-30	0.516	60	-259	2640	0.805	
	10(SUS)	277	-2053	32	0.183	196	111	1518	0.463	
		277	-2049	32	0.183	196	111	1514	0.462	

BNK-GCS-CN-008

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Line no.

Stress sketch

Input echo

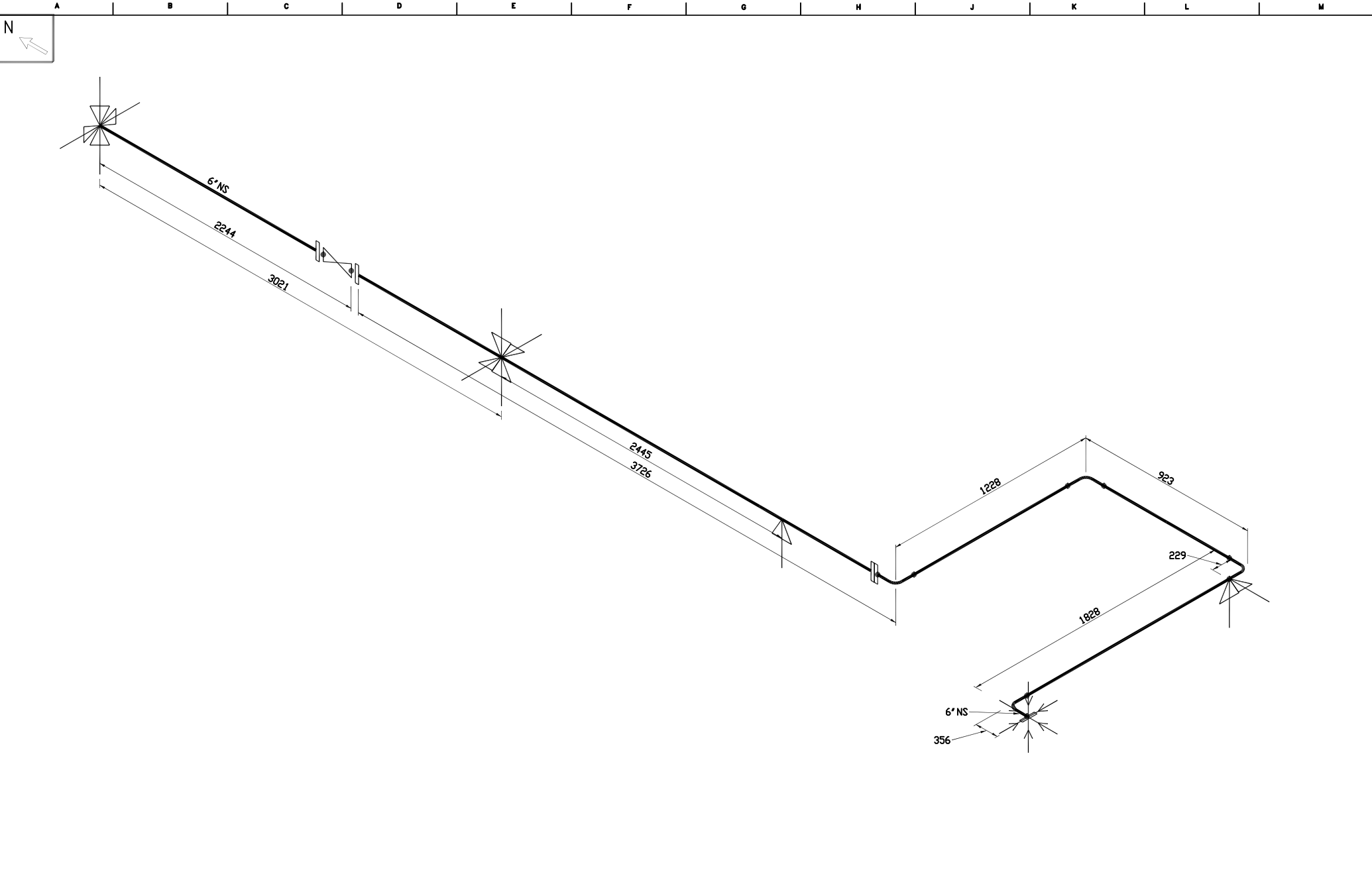
Restraint summary

Stress summary

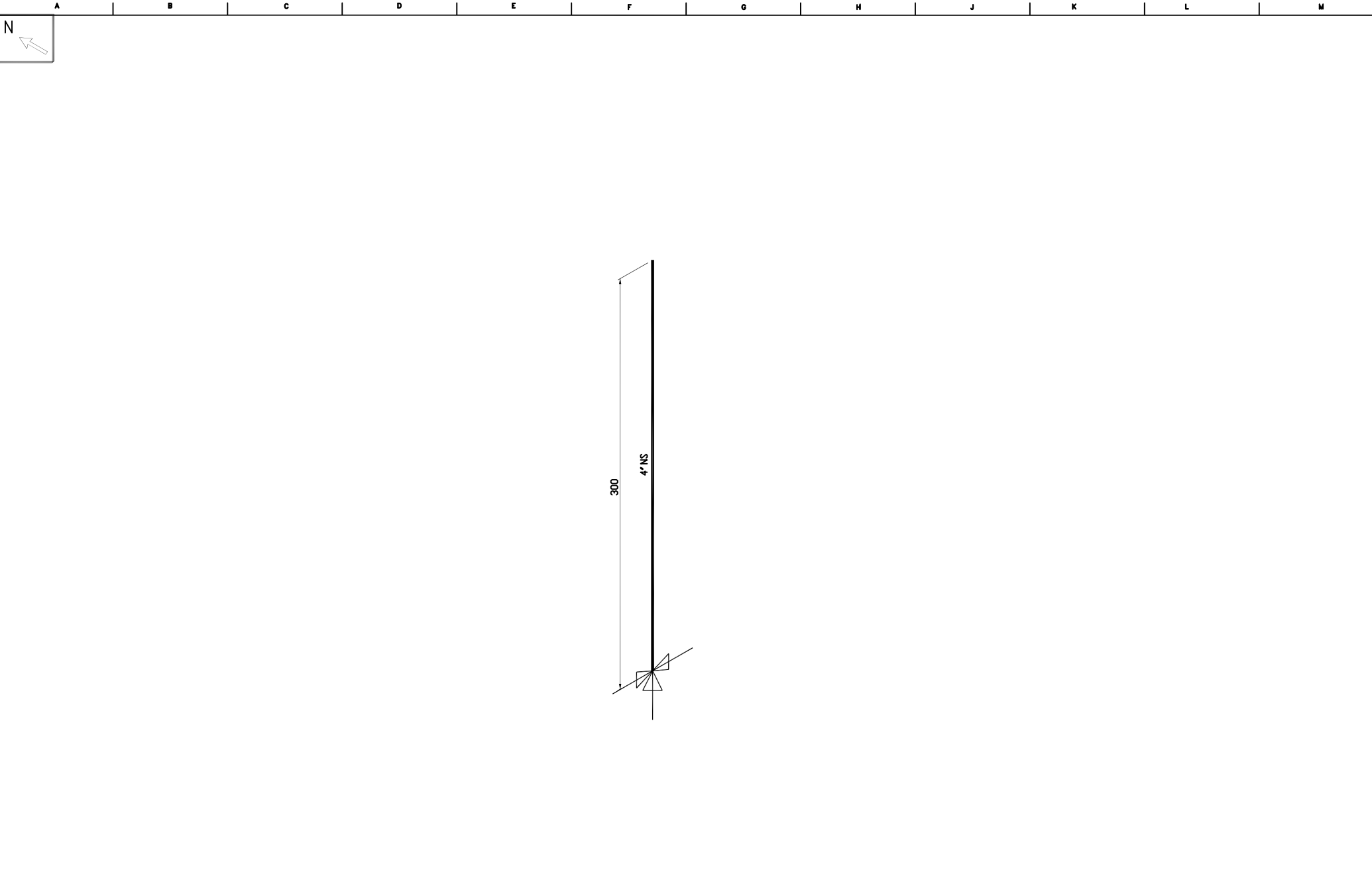
Nozzle load Table

LINE NO.:

1. GAS-111-0044C-CN05-6"-ET
2. GAS-111-0160C-CN05-2"-PT
3. FL-112-0119C-AN07-3"-PT
4. GAS-111-0051C-FN05-6"-IS
5. GAS-111-0058C-FS00-6"-NP
6. GAS-111-0055C-FS00-6"-NP
7. GAS-111-0045C-FS00-6"-NP
8. GAS-111-0046C-AN07-6"-PT
9. GAS-111-0026C-AN07-8"-PT
10. GAS-111-0057C-FS00-4"-NP
11. FL-112-0024C-AN07-4"-PT
12. GAS-111-0047C-FN05-2"-PT
13. GAS-111-0048C-FN05-2"-PT
14. FL-112-0020C-AN07-6"-PT
15. FL-112-0022C-AN07-6"-PT



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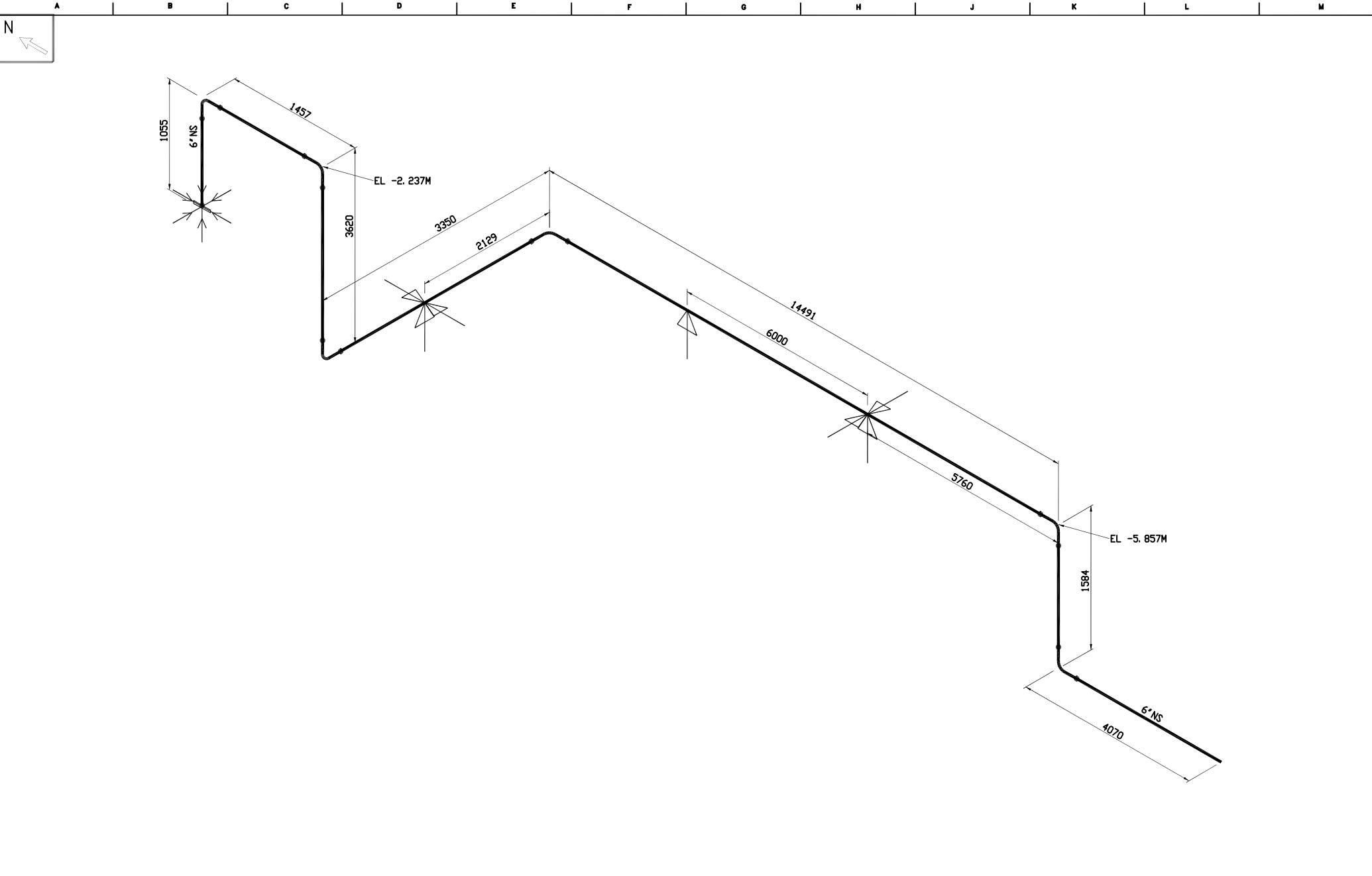
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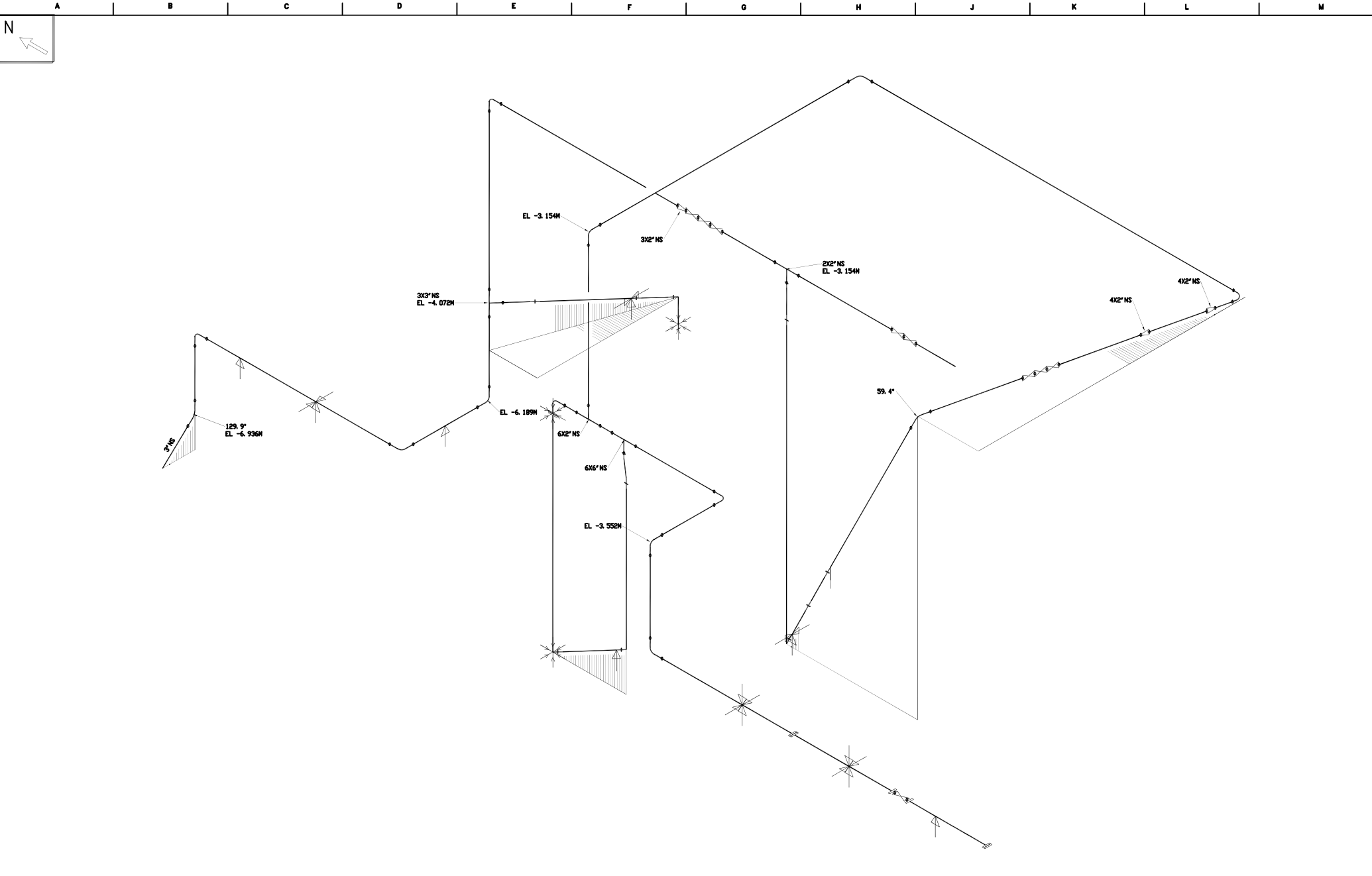
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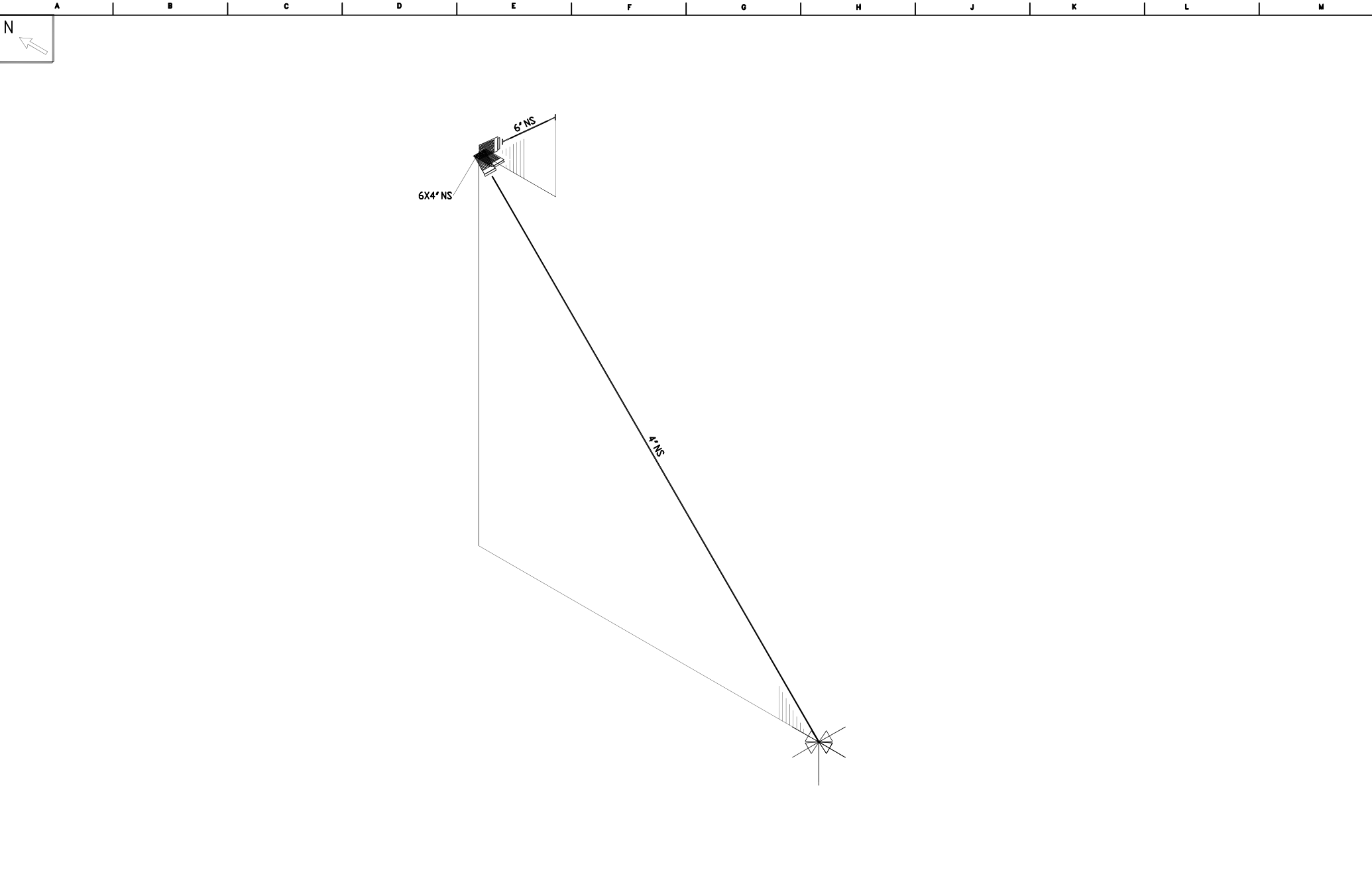
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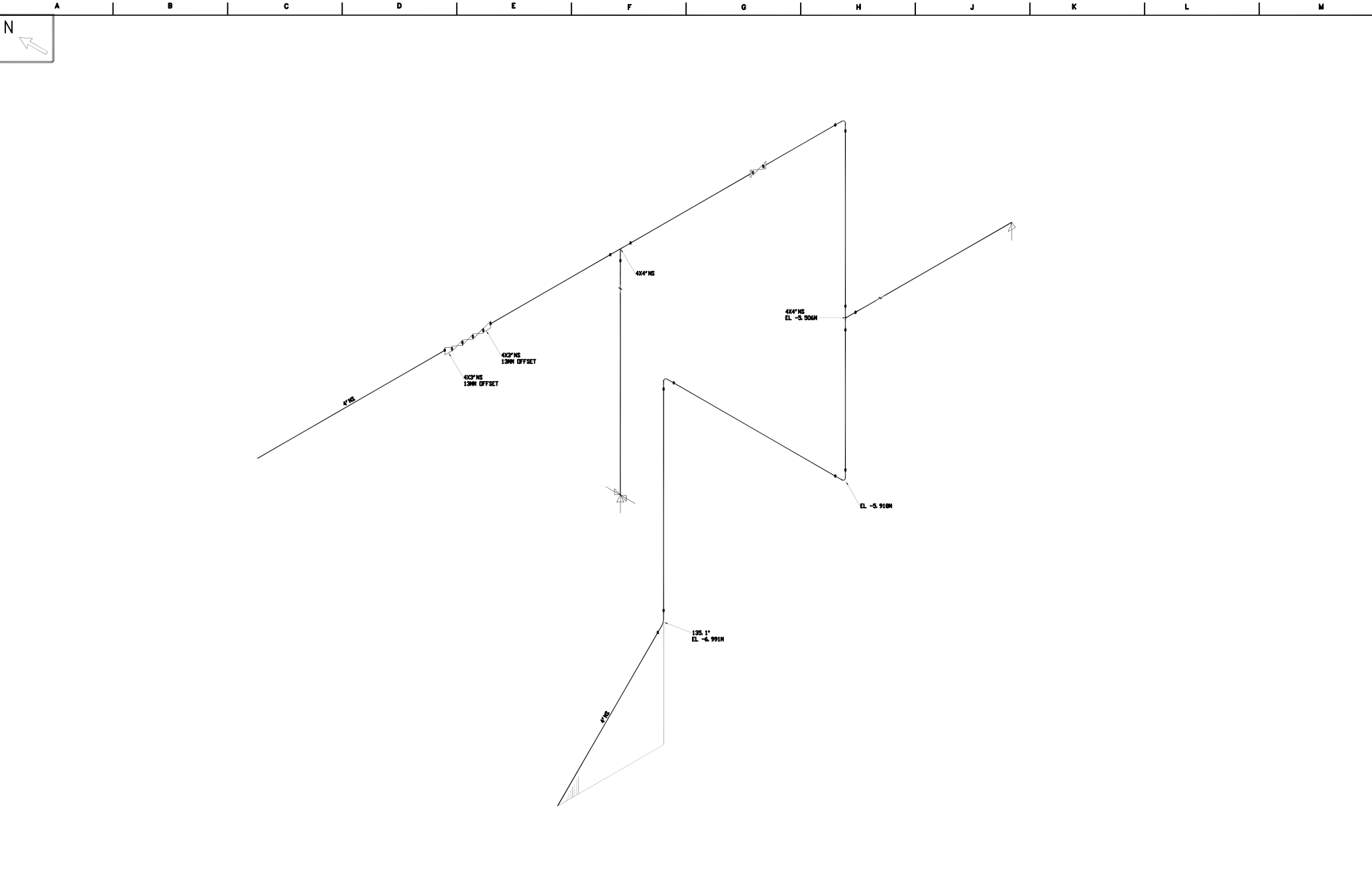
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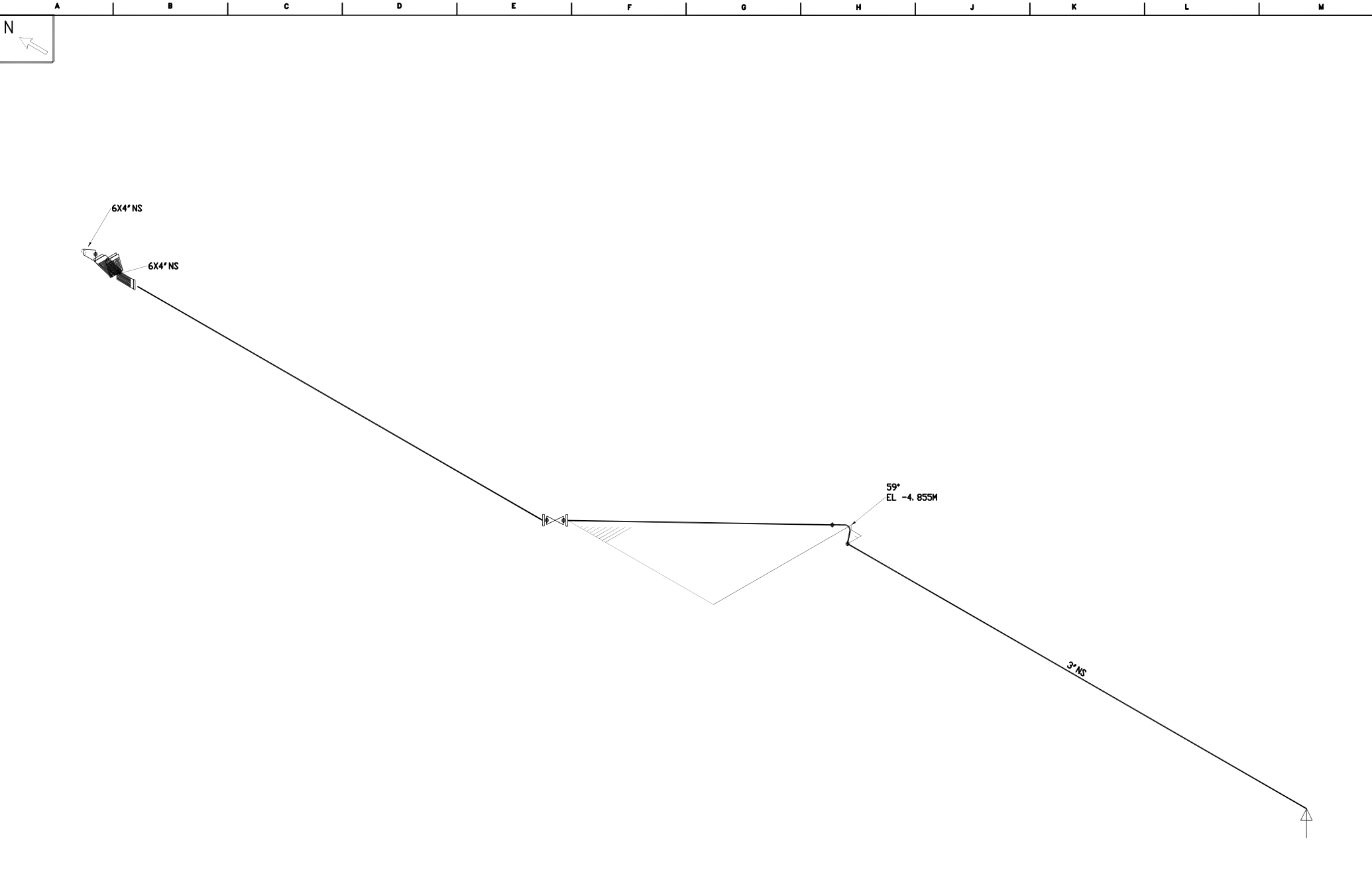
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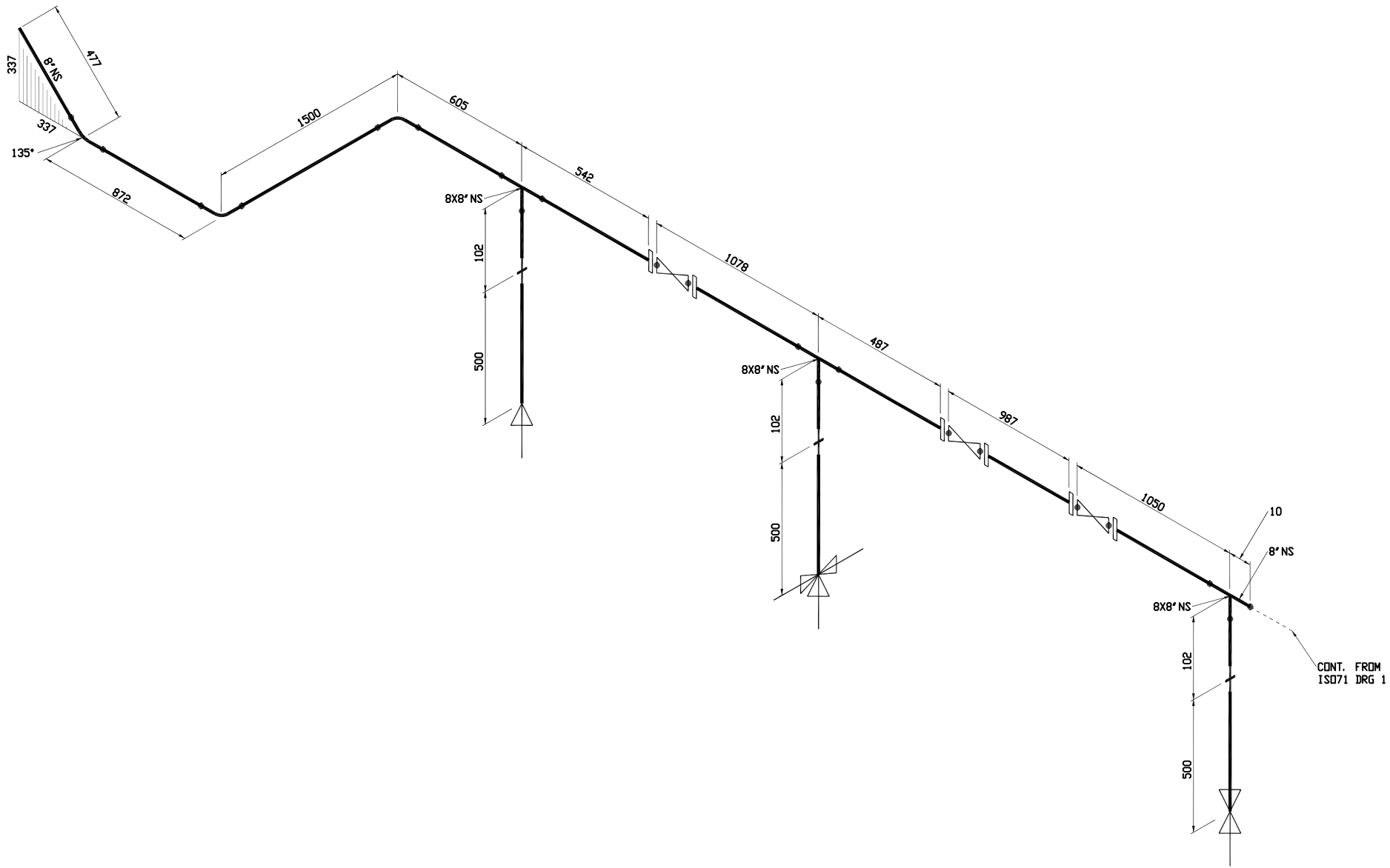


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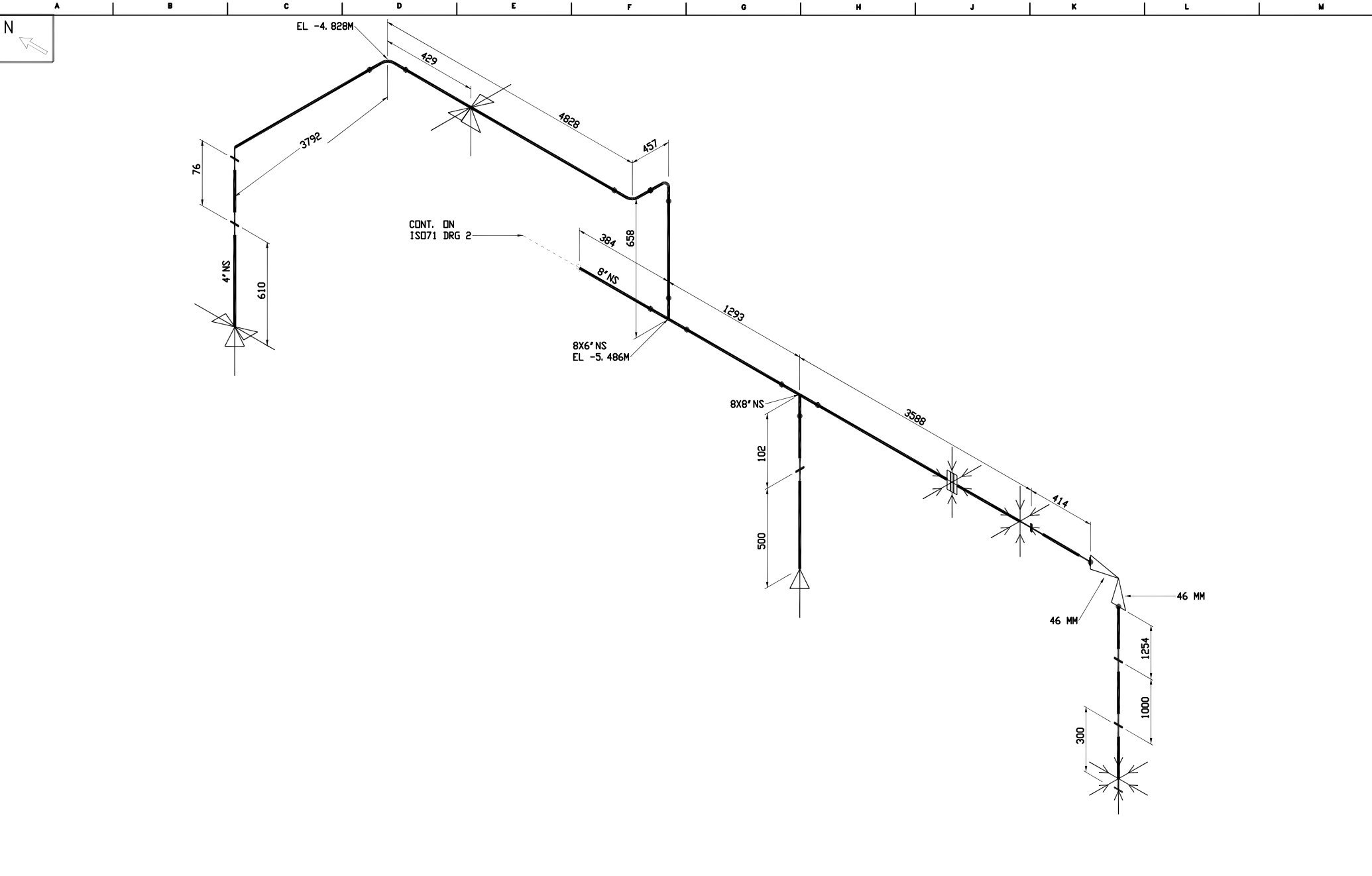
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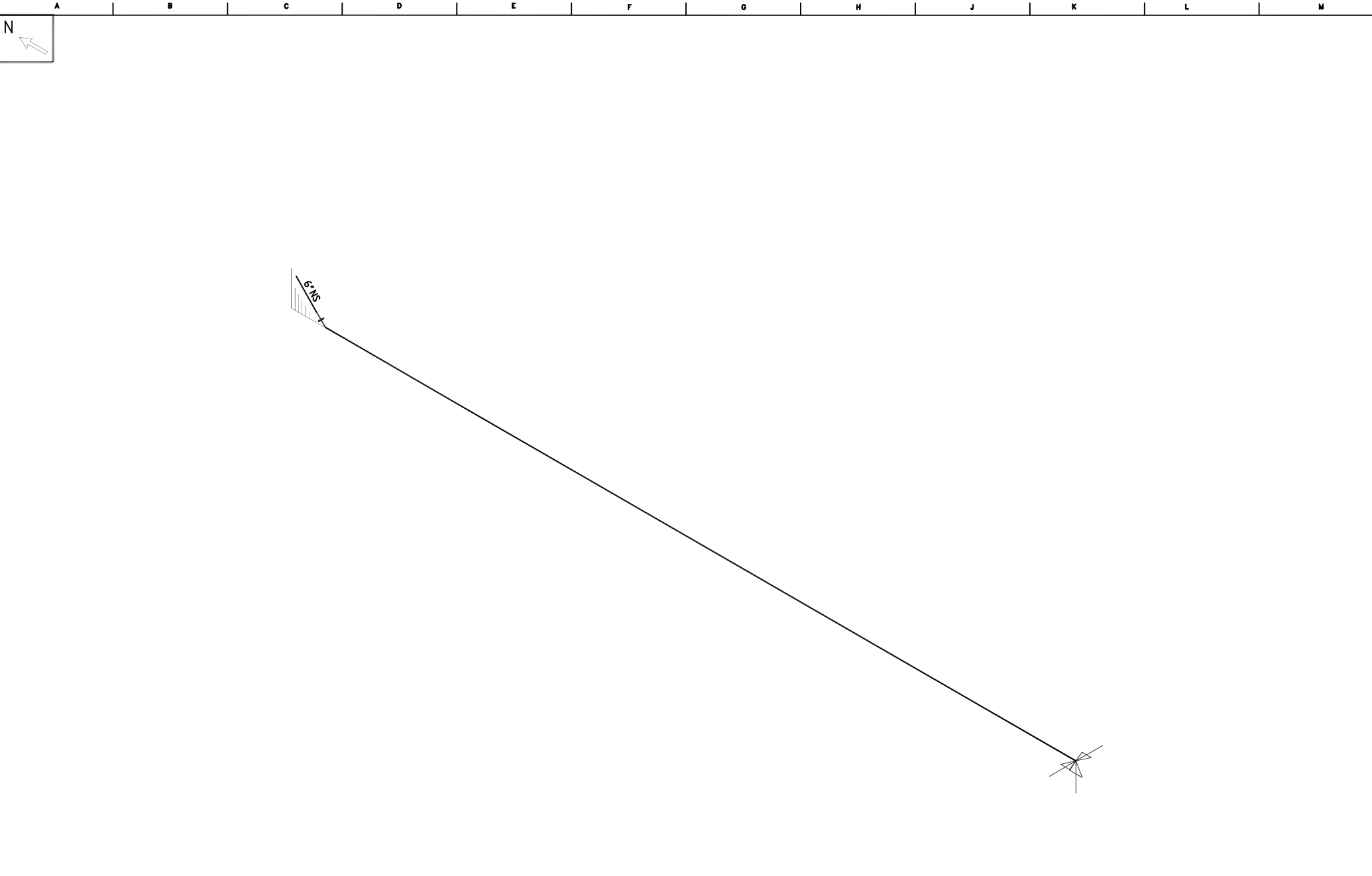
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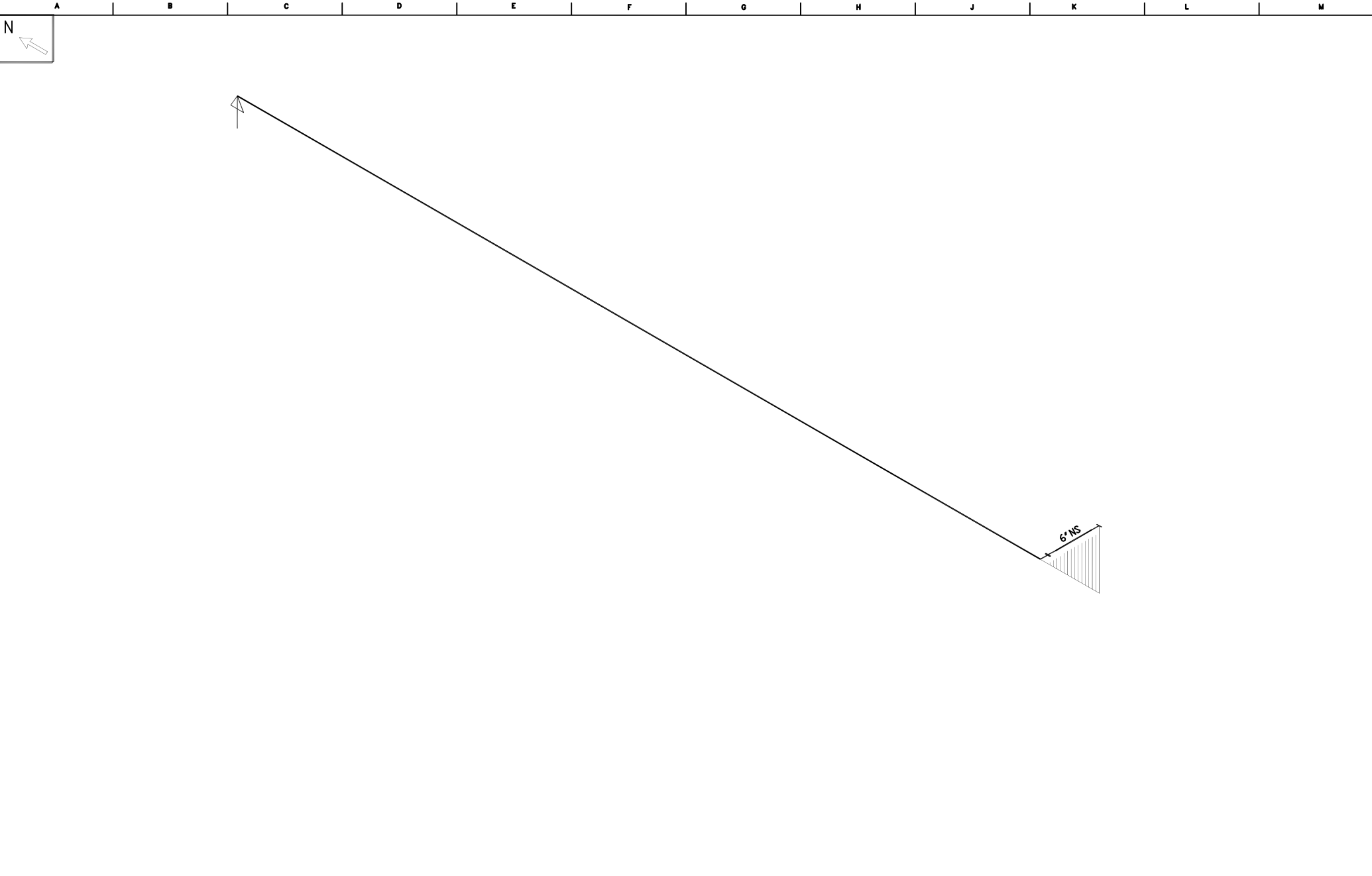
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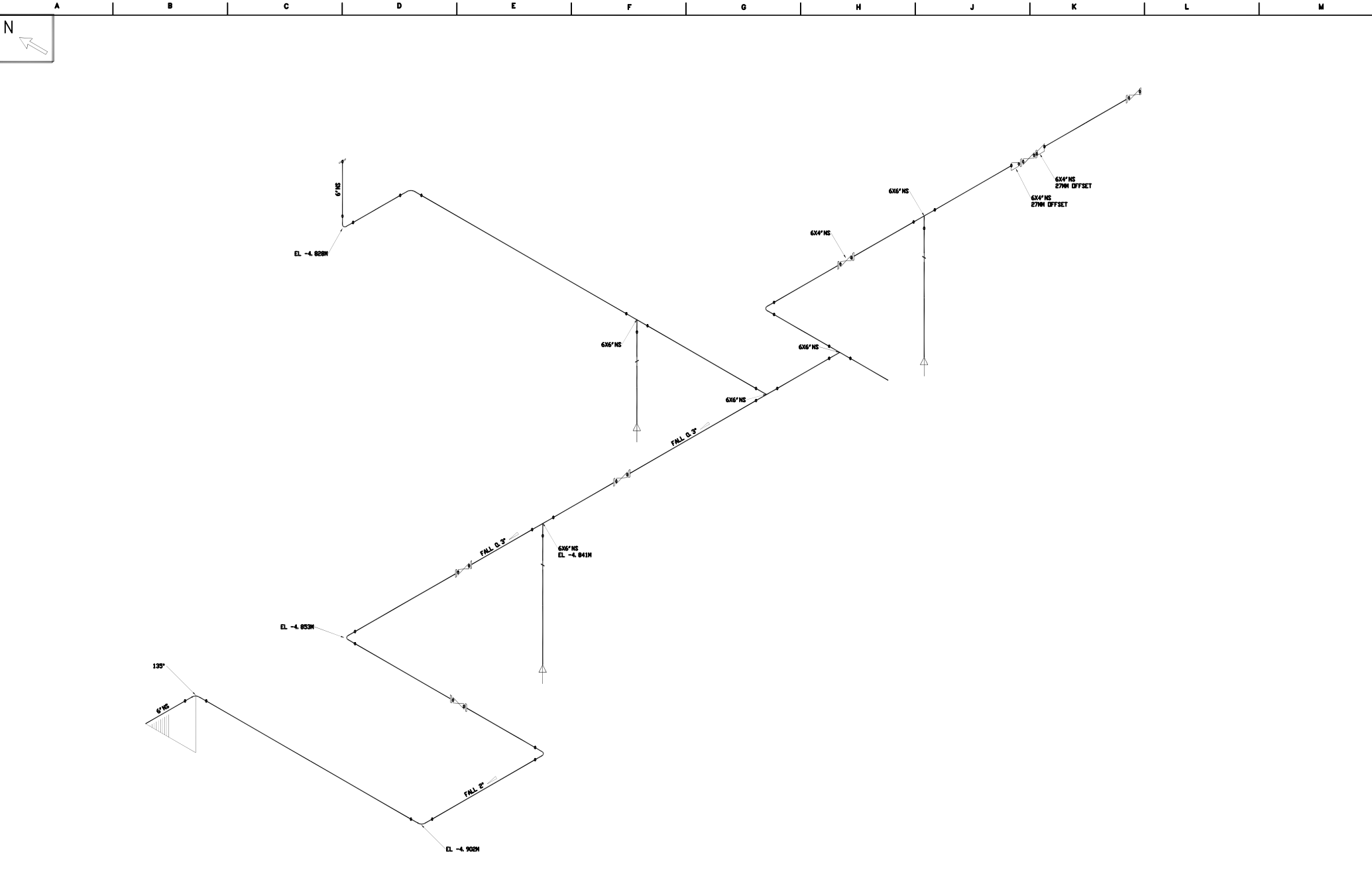
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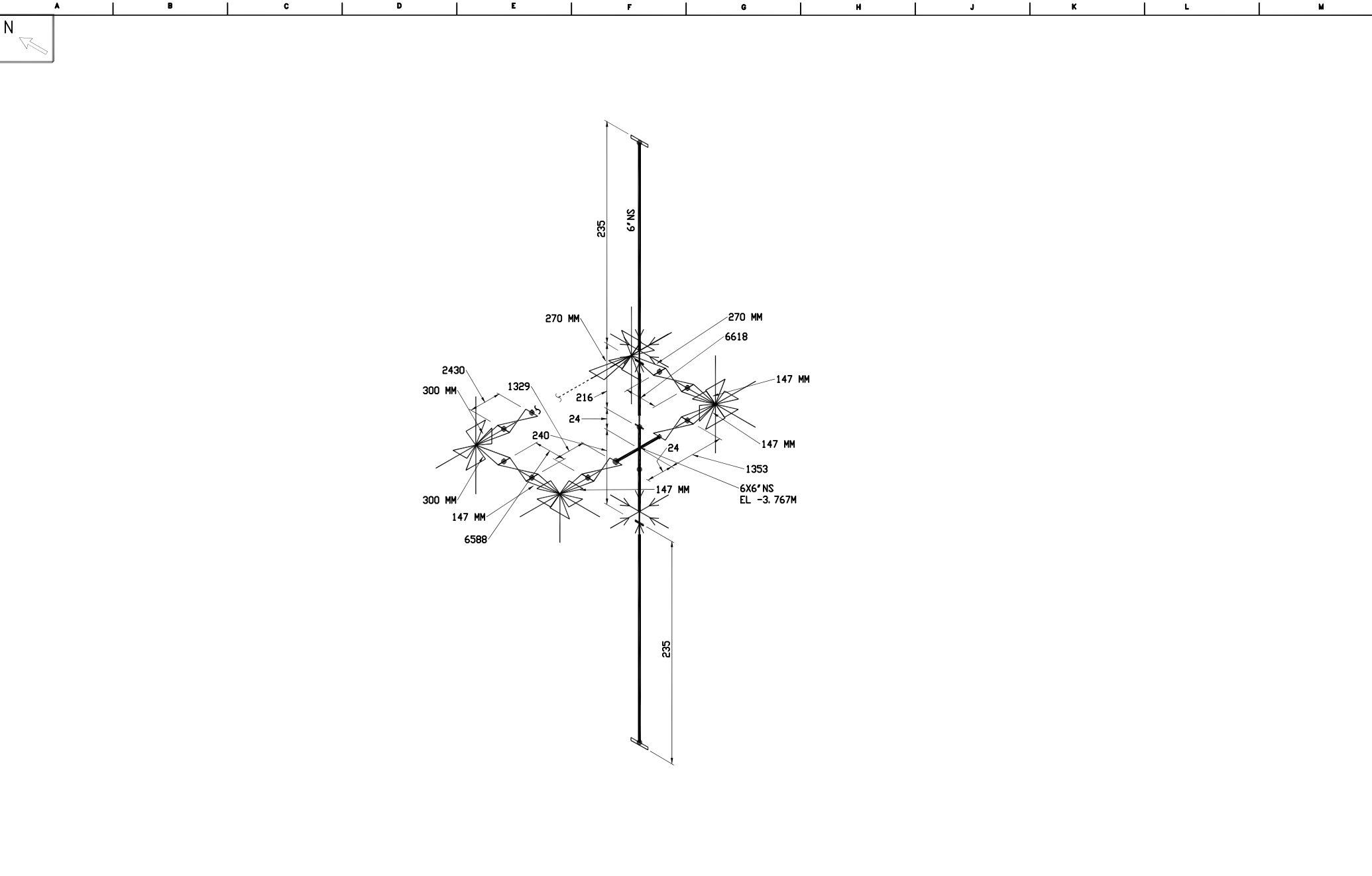
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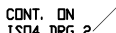
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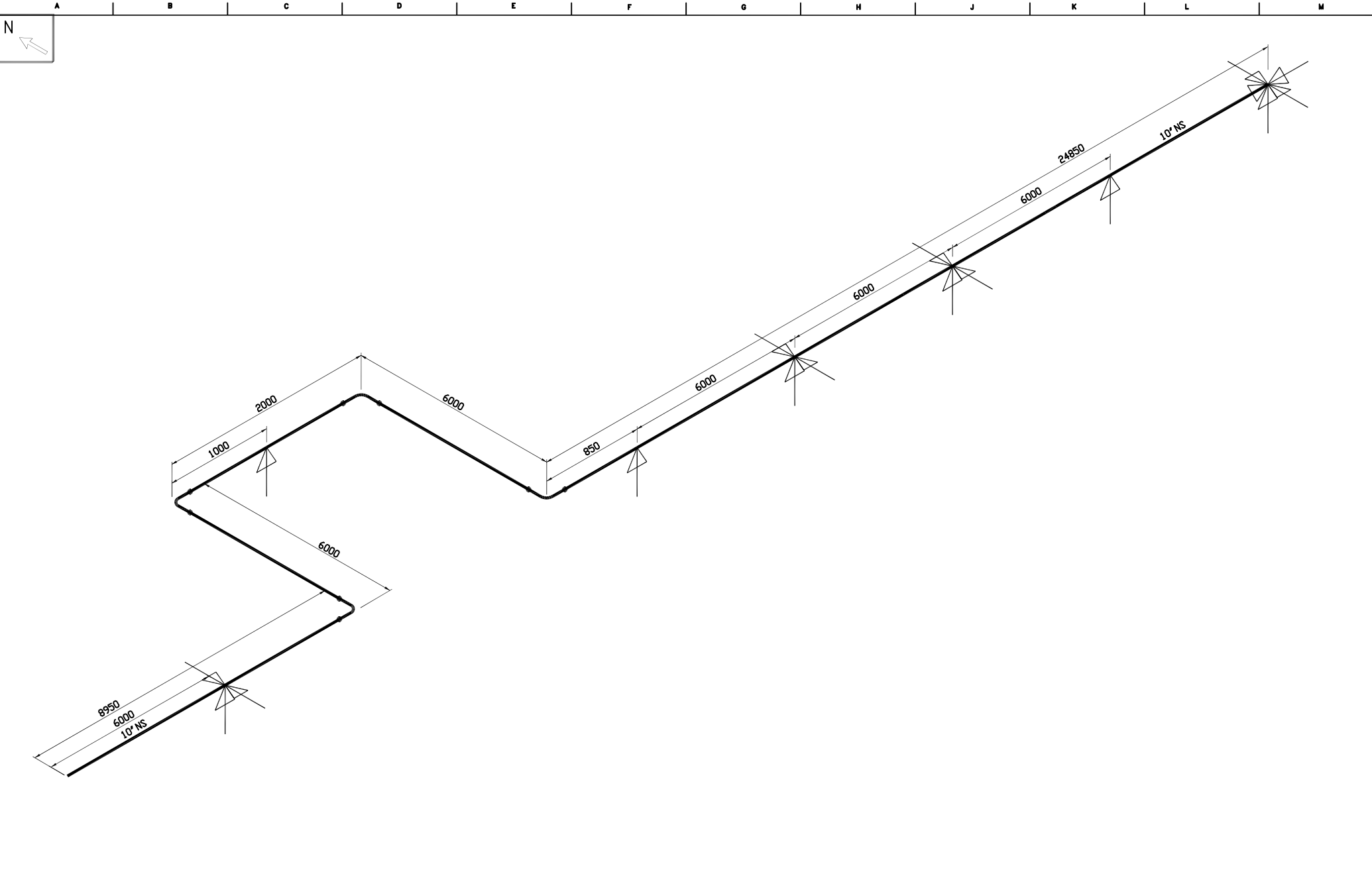
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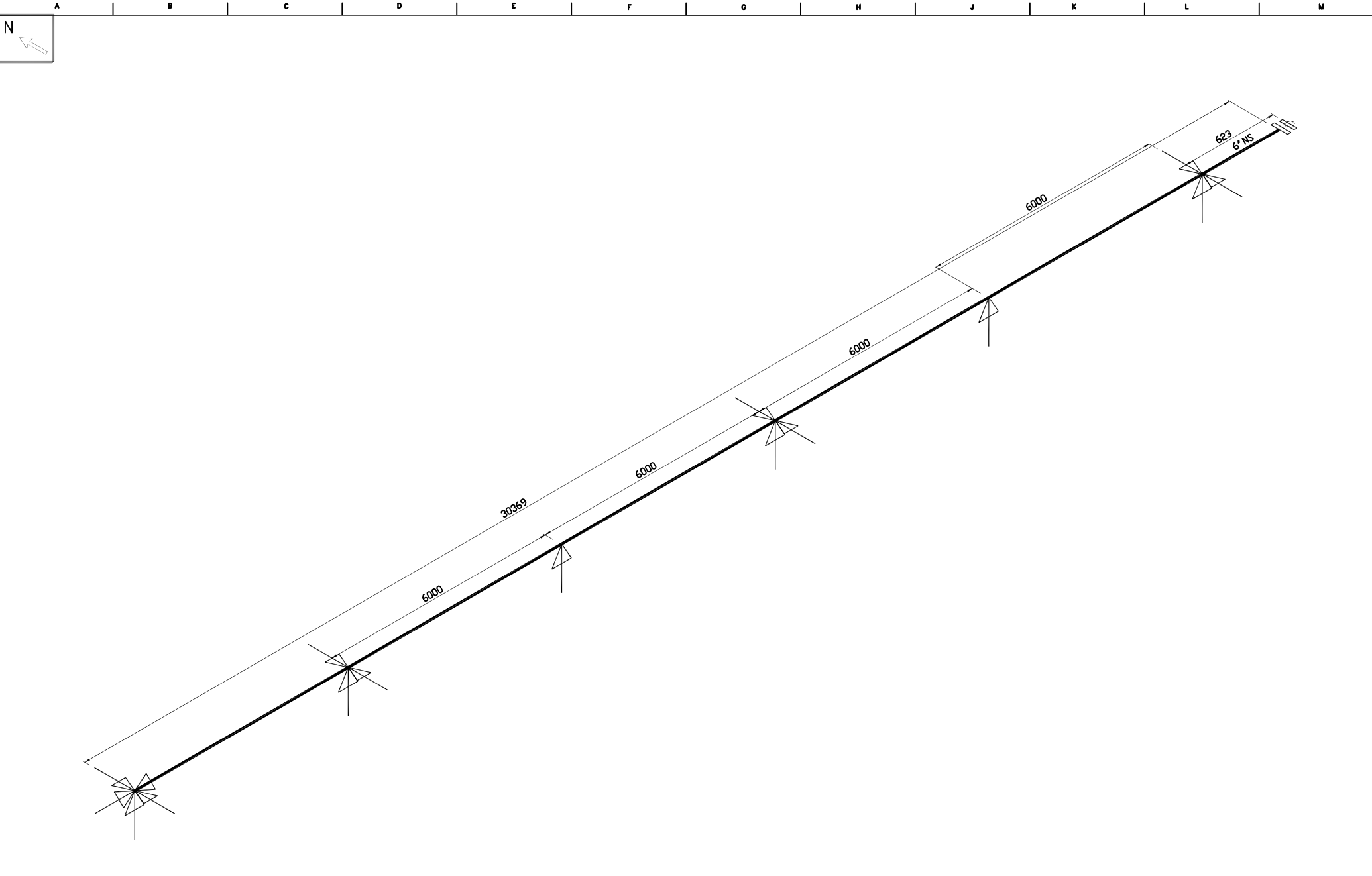
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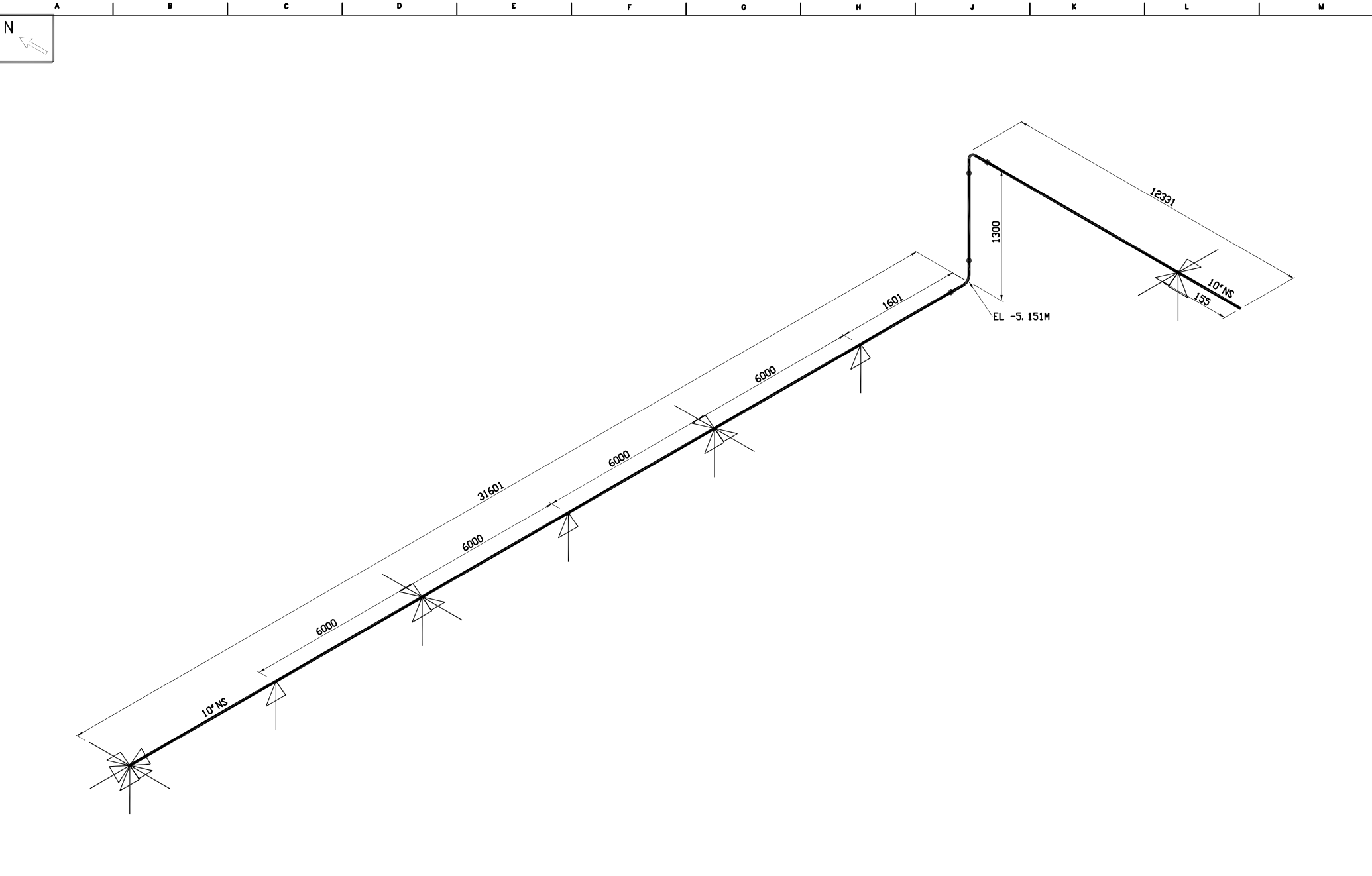
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INSULATION THKS.		SYSTEM	
PAINTING SPEC.		AREA	
MATERIAL		DRAWN BY	
OP. PRESSURE		E.L.DIAGRAM	



PIPELINE REFERENCE

REV.	
DRG.	1 OF 1

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

1 (HGR) CASE NOT ACTIVE
 2 (HGR) CASE NOT ACTIVE
 3 (HYD) WW+HP+H
 4 (OPE) W+T1+P1+H
 5 (Alt-SUS) W+P1+H
 6 (OPE) W+T2+P1+H
 7 (Alt-SUS) W+P1+H
 8 (OPE) W+T3+P1+H
 9 (Alt-SUS) W+P1+H
 10 (OPE) W+T4+P1+H
 11 (Alt-SUS) W+P1+H
 12 (SUS) W+P1+H
 13 (SUS) WNC
 14 (OPE) W+T1+P1+H+U1
 15 (OPE) W+T1+P1+H-U1
 16 (OPE) W+T1+P1+H+U2
 17 (OPE) W+T1+P1+H-U2
 18 (OPE) W+T1+P1+H+U3
 19 (OPE) W+T1+P1+H+F1
 20 (OPE) W+T1+P1+H+F2
 21 (OCC) L21=L14-L4
 22 (OCC) L22=L15-L4
 23 (OCC) L23=L16-L4
 24 (OCC) L24=L17-L4
 25 (OCC) L25=L18-L4
 26 (OCC) L26=L19-L4
 27 (OCC) L27=L20-L4
 28 (OCC) L28=L21+L12
 29 (OCC) L29=L22+L12
 30 (OCC) L30=L23+L12
 31 (OCC) L31=L24+L12
 32 (OCC) L32=L25+L12
 33 (OCC) L33=L26+L12
 34 (OCC) L34=L27+L12
 35 (EXP) L35=L4-L12
 36 (EXP) L36=L6-L12
 37 (EXP) L37=L4-L6
 38 (EXP) L38=L8-L12
 39 (EXP) L39=L4-L8
 40 (EXP) L40=L6-L8
 41 (EXP) L41=L10-L12
 42 (EXP) L42=L4-L10
 43 (EXP) L43=L6-L10
 44 (EXP) L44=L8-L10

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INPUT LISTING

Job Description:

PROJECT:

CLIENT :

ANALYST:

NOTES :

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INPUT LISTING

File created by FEATools

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PIPE DATA

 From 20 To 40 DX= -101.000 mm.

PIPE

Dia= 168.275 mm. Wall= 7.112 mm. Cor= 3.0000 mm.

Element Name= FLANGE_FLG_150

GENERAL

T1= 60 C T2= 115 C T3= 21 C T4= 60 C P1= 2,200.0500 KPa

PHYd= 3,300.0752 KPa Mat= (106)A106 Grade B E= 203,401,232 KPa

EH1= 200,644,016 KPa EH2= 197,200,352 KPa EH3= 203,401,232 KPa

EH4= 200,644,016 KPa EH5= 203,401,232 KPa EH6= 203,401,232 KPa

EH7= 203,401,232 KPa EH8= 203,401,232 KPa EH9= 203,401,232 KPa

v = .292 Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000181 kg./cu.cm.

Insul Thk= 40.000 mm. Insul Den= .0001362 kg./cu.cm.

RIGID Weight= 191.27 N.

RESTRAINTS

Node 20 ANC

UNIFORM LOAD

Vector1 in G-s X1 Dir = .26 g's Y1 Dir = .00 g's Z1 Dir = .00 g's

Vector2 in G-s X2 Dir = .00 g's Y2 Dir = .12 g's Z2 Dir = .00 g's

Vector3 in G-s X3 Dir = .00 g's Y3 Dir = .00 g's Z3 Dir = .26 g's

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

EQUIPMENT LIMITS

Nozzle Node = 20 Limiting Loads: A=pipe; B=ref; C=AxB; FA= 2,160.11 N.

FB= 2,160.11 N. FC= 2,160.11 N. MA= 1,155.05 N.m. MB= 1,155.05 N.m.

MC= 1,155.05 N.m. Equipment Major Direction Vector= .0000 1.0000 .0000

Interact. Mtd= Absolute

 From 40 To 60 DX= -835.280 mm.

BEND at "T0" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 59

Angle/Node @2= .00 58

 From 60 To 80 DY= -829.133 mm.

BEND at "T0" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 79

Angle/Node @2= .00 78

 From 80 To 100 DX= 460.000 mm.

BEND at "T0" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 99

Angle/Node @2= .00 98

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INPUT LISTING

From 100 To 120 DY= -1,058.270 mm.

From 120 To 140 DY= -229.000 mm.
RIGID Weight= .00 N.

From 140 To 160 DY= -200.000 mm.
PIPE

Dia= 114.300 mm. Wall= 6.020 mm.

GENERAL

T1= 21 C T2= 21 C T4= 21 C P1= .0000 KPa PHyd= .0000 KPa

Fluid Den= .0000000 kg./cu.cm. Insul Thk= 40.000 mm.

RESTRAINTS

Node 160 -X Mu = .30

Node 160 Z Cnode 121

Node 121 +Y Mu = .10

Node 160 X Cnode 121

HANGERS

Hanger Node = 160 Hanger Connecting Node = 121

Available Space = -1,000.0000 mm. Allowed Load Variation = 25.0000

No. Hangers = 0.0 Short Range Flag = -1 User Operating Load = .00 N.

Free Node = 0 Free Node = 0 Free Code = 0.0 Spring Rate = .00 N./cm.

Theoretical Cold Load = .00 N.

SIF's & TEE's

Node 140 Unreinforced Tee

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 120 To 180 DY= -229.000 mm.

PIPE

Dia= 168.275 mm. Wall= 7.112 mm.

GENERAL

T1= 60 C T2= 115 C T4= 60 C P1= 2,200.0500 KPa PHyd= 3,300.0752 KPa

Fluid Den= .0000181 kg./cu.cm. Insul Thk= 40.000 mm.

DOUBLE FLANGED BEND at "T0" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 179

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 180 To 200 DX= -229.000 mm.

From 200 To 220 DX= -101.600 mm.

Element Name= FLANGE_FLG_300

RIGID Weight= 191.27 N.

From 220 To 240 DX= -101.600 mm.

Element Name= FLANGE_FLG_300

RIGID Weight= 191.27 N.

From 240 To 260 DX= -900.000 mm.

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INPUT LISTING

 From 260 To 280 DX= -295.500 mm.

SIF's & TEE's

Node 280 Weldolet

 From 280 To 300 DX= -500.000 mm.

PIPE

Dia= 168.275 mm. Wall= 7.112 mm. Cor= 3.0000 mm.

GENERAL

T1= 60 C T2= 115 C T3= 21 C T4= 60 C P1= 2,200.0500 KPa

PHyd= 3,300.0752 KPa Mat= (106)A106 Grade B E= 203,401,232 KPa

EH1= 200,644,016 KPa EH2= 197,200,352 KPa EH3= 203,401,232 KPa

EH4= 200,644,016 KPa EH5= 203,401,232 KPa EH6= 203,401,232 KPa

EH7= 203,401,232 KPa EH8= 203,401,232 KPa EH9= 203,401,232 KPa

v = .292 Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000181 kg./cu.cm.

Insul Thk= .000 mm. Insul Den= .0000000 kg./cu.cm.

RESTRAINTS

Node 300 +Y Mu = .30

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

 From 300 To 320 DX= -203.000 mm.

 From 320 To 340 DX= -101.600 mm.

Element Name= FLANGE_FLG_300

RIGID Weight= 191.27 N.

 From 340 To 360 DX= -573.000 mm.

Element Name= GATE_NOFLG_300

RIGID Weight= 1,023.41 N.

 From 360 To 380 DX= -101.600 mm.

Element Name= FLANGE_FLG_300

RIGID Weight= 191.27 N.

 From 380 To 400 DX= -861.000 mm.

RESTRAINTS

Node 400 Y

Node 400 Z

 From 400 To 420 DX= -1,557.000 mm.

 From 420 To 440 DX= -101.600 mm.

Element Name= FLANGE_FLG_300

RIGID Weight= 191.27 N.

 From 440 To 460 DX= -101.600 mm.

Element Name= FLANGE_FLG_300

RIGID Weight= 191.27 N.

 From 460 To 480 DX= -1,243.000 mm.

RESTRAINTS

Node 480 Y

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INPUT LISTING

Node 480 Z

From 480 To 490 DX= -2,035.000 mm.

From 500 To 6210 DY= -76.200 mm.

RIGID Weight= .00 N.

From 490 To 500 DX= -2,035.000 mm.

SINGLE FLANGED BEND at "TO" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 499

Angle/Node @2= .00 498

From 500 To 580 DY= 4,121.000 mm.

PIPE

Dia= 168.275 mm. Wall= 7.112 mm. Cor= .0000 mm.

GENERAL

T1= 60 C T2= 115 C P1= 2,200.0500 KPa PHyd= 3,300.0752 KPa

Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 200,644,016 KPa

EH2= 197,200,352 KPa EH3= 203,401,232 KPa EH4= 200,644,016 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000058 kg./cu.cm.

Insul Thk= .000 mm.

BEND at "TO" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 579

Angle/Node @2= .00 578

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 580 To 600 DZ= -2,750.000 mm.

PIPE

Dia= 168.275 mm. Wall= 7.112 mm. Cor= 3.0000 mm.

GENERAL

T1= 60 C T2= 115 C P1= 2,200.0500 KPa PHyd= 3,300.0752 KPa

Fluid Den= .0000181 kg./cu.cm. Insul Thk= 40.000 mm.

Insul Den= .0001500 kg./cu.cm.

BEND at "TO" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 599

Angle/Node @2= .00 598

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 600 To 610 DX= -314.000 mm.

From 610 To 620 DX= -316.000 mm.

GENERAL

Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 200,644,016 KPa

EH2= 197,200,352 KPa EH3= 203,401,232 KPa EH4= 200,644,016 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

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INPUT LISTING

Pipe Den= .0078334 kg./cu.cm.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 620 To 5190 DY= 199.000 mm.

PIPE

Dia= 60.325 mm. Wall= 5.537 mm.

GENERAL

Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 200,644,016 KPa
 EH2= 197,200,352 KPa EH3= 203,401,232 KPa EH4= 200,644,016 KPa
 EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa
 EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm. Insul Thk= 40.000 mm.

BEND at "T0" end

Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 5189
 Angle/Node @2= .00 5188

SIF's & TEE's

Node 620 Weldolet

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 5190 To 5200 DZ= 226.000 mm.

 From 5200 To 5210 DZ= 73.025 mm.

RIGID Weight= 44.48 N.

 From 5210 To 5220 DZ= 301.000 mm.

RIGID Weight= 93.41 N.

 From 5220 To 5230 DZ= 73.025 mm.

RIGID Weight= 44.48 N.

 From 5230 To 5240 DZ= 77.000 mm.

BEND at "T0" end

Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 5239
 Angle/Node @2= .00 5238

 From 5240 To 5245 DX= -336.000 mm.

 From 5240 To 6230 DY= -17.961 mm. DZ= 17.961 mm.

RIGID Weight= .00 N.

SIF's & TEE's

Node 6230 Unreinforced Tee

 From 5245 To 5250 DX= -336.000 mm.

 From 5250 To 5260 DX= -73.025 mm.

RIGID Weight= 44.48 N.

 From 5260 To 5270 DX= -73.025 mm.

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INPUT LISTING

RIGID Weight= 44.48 N.

From 5270 To 5275 DX= -150.000 mm.

From 5275 To 6260 DY= -25.400 mm.

RIGID Weight= .00 N.

SIF's & TEE's

Node 6260 Unreinforced Tee

From 5275 To 5280 DX= -150.000 mm.

From 5280 To 5290 DX= -73.025 mm.

RIGID Weight= 44.48 N.

From 5290 To 5300 DX= -200.000 mm.

RIGID Weight= 258.00 N.

From 5300 To 5310 DX= -66.675 mm.

PIPE

Dia= 60.325 mm. Wall= 8.738 mm. Cor= 6.0000 mm.

GENERAL

T1= 30 C T2= 85 C T3= 21 C T4= 200 C P1= 550.0125 KPa

PHYD= 825.0188 KPa Mat= (106)A106 Grade B E= 203,401,232 KPa

EH1= 202,660,192 KPa EH2= 199,086,608 KPa EH3= 203,401,232 KPa

EH4= 191,317,008 KPa EH5= 203,401,232 KPa EH6= 203,401,232 KPa

EH7= 203,401,232 KPa EH8= 203,401,232 KPa EH9= 203,401,232 KPa

v = .292 Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000015 kg./cu.cm.

Insul Thk= 40.000 mm.

RIGID Weight= 31.14 N.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,261 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 5310 To 5320 DX= -89.000 mm.

REDUCER

Diam2= 88.900 mm. Wall2= 7.620 mm.

From 5320 To 5330 DX= -287.000 mm.

PIPE

Dia= 88.900 mm. Wall= 7.620 mm.

Insul Thk= 40.000 mm.

BEND at "T0" end

Radius= 114.300 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 5329

Angle/Node @2= .00 5328

From 5330 To 5340 DY= -718.000 mm.

From 5340 To 6280 DX= 38.100 mm.

RIGID Weight= .00 N.

SIF's & TEE's

Node 6280 Unreinforced Tee

From 5340 To 5350 DY= -2,117.000 mm.

BEND at "T0" end

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INPUT LISTING

Radius= 114.300 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 5349
Angle/Node @2= .00 5348

From 5350 To 5355 DZ= 516.500 mm.

RESTRAINTS

Node 5355 +Y

From 5355 To 5360 DZ= 516.500 mm.

BEND at "T0" end

Radius= 114.300 mm. (LONG) Bend Angle= 90.000

From 5360 To 5370 DX= -3,280.000 mm.

RESTRAINTS

Node 5370 +Y Mu = .30

Node 5370 Z Gap= 3.000 mm.

From 5370 To 5375 DX= -4,502.000 mm.

RESTRAINTS

Node 5375 +Y Mu = .30

From 5375 To 5380 DX= -441.000 mm.

BEND at "T0" end

Radius= 114.300 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 5379

Angle/Node @2= .00 5378

From 5380 To 5390 DY= -712.000 mm.

BEND at "T0" end

Radius= 114.300 mm. (LONG) Bend Angle= 50.075 Angle/Node @1= 25.04 5389

Angle/Node @2= .00 5388

From 5390 To 5421 DX= .251 mm. DY= -585.100 mm. DZ= 699.151 mm.

From 610 To 640 DY= -84.000 mm.

PIPE

Dia= 168.275 mm. Wall= 7.110 mm.

GENERAL

T1= 60 C T2= 115 C T4= 60 C P1= 2,200.0500 KPa PHyd= 3,300.0752 KPa

Insul Thk= 40.000 mm.

RIGID Weight= .00 N.

SIF's & TEE's

Node 640 Unreinforced Tee

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 640 To 660 DY= -300.000 mm.

PIPE

Dia= 114.300 mm. Wall= 6.020 mm. Cor= .0000 mm.

GENERAL

T1= 21 C T2= 21 C T3= 21 C T4= 21 C P1= .0000 KPa PHyd= .0000 KPa

Mat= (102)A53 Grade B E= 203,401,232 KPa EH1= 203,401,232 KPa

EH2= 203,401,232 KPa EH3= 203,401,232 KPa EH4= 203,401,232 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

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INPUT LISTING

Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000000 kg./cu.cm.
 Insul Thk= .000 mm. Insul Den= .0000000 kg./cu.cm.

RESTRAINTS

Node 660 +Y Cnode 800

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 620 To 680 DX= -854.600 mm.

PIPE

Dia= 168.275 mm. Wall= 7.112 mm. Cor= 3.0000 mm.

GENERAL

T1= 60 C T2= 115 C T4= 60 C P1= 2,200.0500 KPa PHyd= 3,300.0752 KPa
 Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 200,644,016 KPa
 EH2= 197,200,352 KPa EH3= 203,401,232 KPa EH4= 200,644,016 KPa
 EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa
 EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292
 Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000181 kg./cu.cm.
 Insul Thk= 40.000 mm. Insul Den= .0001500 kg./cu.cm.

BEND at "T0" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 679
 Angle/Node @2= .00 678

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 680 To 700 DY= -229.000 mm.

 From 700 To 720 DY= -126.000 mm.

Element Name= FLANGE_FLG_300

RIGID Weight= 286.91 N.

RESTRAINTS

Node 720 ANC Cnode 721

 From 721 To 760 DY= -104.775 mm.

Element Name= FLANGE_FLG_300

RIGID Weight= 177.93 N.

 From 760 To 780 DY= -198.500 mm.

RESTRAINTS

Node 780 ANC Cnode 820

EQUIPMENT LIMITS

Nozzle Node = 780 Limiting Loads: A=pipe; B=ref; C=AxB; FA= 9,600.48 N.
 FB= 9,600.48 N. FC= 7,200.36 N. MA= 5,760.24 N.m. MB= 3,840.16 N.m.
 MC= 4,990.21 N.m. Equipment Major Direction Vector= .0000 .0000 1.0000
 Interact. Mtd= Absolute

 From 780 To 800 DX= 1,170.600 mm. DY= 274.275 mm. DZ= .000 mm.

RIGID Weight= .00 N.

 From 780 To 6241 DX= 854.600 mm. DY= 839.000 mm. DZ= 1,068.010 mm.

RIGID Weight= .00 N.

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INPUT LISTING

 From 780 To 6271 DX= -113.450 mm. DY= 481.875 mm. DZ= 750.050 mm.
 RIGID Weight= .00 N.

From 780 To 6291 DX= -641.049 mm. DY= 139.275 mm. DZ= 750.050 mm.
 RIGID Weight= .00 N.

From 820 To 840 DY= -3,570.000 mm.
 PIPE

Dia= 914.400 mm. Wall= 15.000 mm.

GENERAL

Mat= (383)A516 70 E= 203,401,232 KPa EH1= 200,644,016 KPa
 EH2= 197,200,352 KPa EH3= 203,401,232 KPa EH4= 200,644,016 KPa
 EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa
 EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292
 Pipe Den= .0078334 kg./cu.cm. Insul Thk= 40.000 mm.

RIGID Weight= .00 N.

RESTRAINTS

Node 840 ANC

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 160,648 KPa
 Sh1= 160,373 KPa Sh2= 157,769 KPa Sh3= 160,648 KPa Sh4= 160,373 KPa
 Sh5= 160,648 KPa Sh6= 160,648 KPa Sh7= 160,648 KPa Sh8= 160,648 KPa
 Sh9= 160,648 KPa Sy= 262,001 KPa

From 280 To 4350 DZ= 122.000 mm.

PIPE

Dia= 60.325 mm. Wall= 5.537 mm. Cor= 3.0000 mm.

GENERAL

T1= 60 C T2= 115 C T3= 21 C T4= 60 C P1= 2,200.0500 KPa
 PHyd= 3,300.0752 KPa Mat= (106)A106 Grade B E= 203,401,232 KPa
 EH1= 200,644,016 KPa EH2= 197,200,352 KPa EH3= 203,401,232 KPa
 EH4= 200,644,016 KPa EH5= 203,401,232 KPa EH6= 203,401,232 KPa
 EH7= 203,401,232 KPa EH8= 203,401,232 KPa EH9= 203,401,232 KPa
 v = .292 Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000181 kg./cu.cm.
 Insul Thk= 40.000 mm. Insul Den= .0001500 kg./cu.cm.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

From 4350 To 4360 DZ= 73.025 mm.

RIGID Weight= 44.48 N.

From 4360 To 4370 DZ= 301.000 mm.

PIPE

Dia= 60.325 mm. Wall= 8.738 mm.

GENERAL

T1= 142 C T2= 175 C T4= 142 C P1= 6,200.1411 KPa
 PHyd= 9,300.2119 KPa Fluid Den= .0000430 kg./cu.cm.
 Insul Thk= 60.000 mm.

RIGID Weight= 311.38 N.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,571 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

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INPUT LISTING

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 4370 To 4380 DZ= 82.550 mm.

GENERAL

T1= 142 C T2= 175 C T4= 142 C

RIGID Weight= 57.83 N.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,571 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 4380 To 4390 DZ= 576.000 mm.

BEND at "T0" end

Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 4389
 Angle/Node @2= .00 4388

 From 4390 To 4395 DY= 257.000 mm.

 From 4390 To 6300 DY= -25.400 mm.

RIGID Weight= .00 N.

SIF's & TEE's

Node 6300 Unreinforced Tee

 From 4395 To 880 DY= 257.000 mm.

BEND at "T0" end

Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 879
 Angle/Node @2= .00 878

 From 880 To 900 DZ= -77.000 mm.

 From 900 To 920 DZ= -82.550 mm.

Element Name= BALL_FLG_600

GENERAL

T1= 142 C T2= 175 C P1= 6,200.1411 KPa PHYd= 9,300.2119 KPa

Fluid Den= .0000430 kg./cu.cm.

RIGID Weight= 57.83 N.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,571 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 920 To 940 DZ= -301.000 mm.

Element Name= CHECK_FLG_150

RIGID Weight= 427.03 N.

 From 940 To 960 DZ= -82.550 mm.

RIGID Weight= 57.83 N.

 From 960 To 980 DZ= -1,222.000 mm.

BEND at "T0" end

Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 979
 Angle/Node @2= .00 978

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INPUT LISTING

From 980 To 1000 DY= -100.000 mm.

 From 1000 To 1020 DY= -298.000 mm.

Element Name= CHECK_FLG_600

SIF's & TEE's

Node 1020 Weldolet

 From 1020 To 1040 DX= 300.000 mm.

PIPE

Dia= 168.275 mm. Wall= 10.973 mm. Cor= 3.0000 mm.

GENERAL

T1= 142 C T2= 175 C T3= 5 C P1= 6,200.1411 KPa PHyd= 9,300.2119 KPa

Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 195,531,264 KPa

EH2= 193,178,448 KPa EH3= 204,228,528 KPa EH4= 195,531,264 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000430 kg./cu.cm.

Insul Thk= 40.000 mm. Insul Den= .0001362 kg./cu.cm.

RESTRAINTS

Node 1040 +Y Mu = .30

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,571 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

 From 1040 To 1060 DX= 168.010 mm.

 From 1060 To 1080 DX= 126.000 mm.

Element Name= FLG.PR_FLG_150

RIGID Weight= 364.75 N.

 From 1080 To 1100 DX= 126.000 mm.

Element Name= FLG.PR_FLG_150

RIGID Weight= 364.75 N.

 From 1100 To 1120 DX= 330.000 mm.

BEND at "TO" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1119

Angle/Node @2= .00 1118

 From 1120 To 1140 DZ= -1,000.000 mm.

BEND at "TO" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1139

Angle/Node @2= .00 1138

 From 1140 To 1160 DX= 465.734 mm.

 From 1160 To 1180 DX= 232.867 mm.

BEND at "TO" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1179

Angle/Node @2= .00 1178

RESTRAINTS

Node 1180 -X Mu = .30

Node 1180 +Y Mu = .30

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INPUT LISTING

From 1180 To 1200 DZ= 1,600.000 mm.

BEND at "T0" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1199

Angle/Node @2= .00 1198

From 1200 To 1220 DX= 229.000 mm.

From 1220 To 1240 DX= 127.000 mm.

Element Name= FLANGE_FLG_600

RIGID Weight= 364.75 N.

RESTRAINTS

Node 1240 ANC

EQUIPMENT LIMITS

Nozzle Node = 1240

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 2,160.11 N. FB= 2,160.11 N.

FC= 2,160.11 N. MA= 1,155.05 N.m. MB= 1,155.05 N.m. MC= 1,155.05 N.m.

Equipment Major Direction Vector= .0000 1.0000 .0000

Interact. Mtd= Absolute

From 1020 To 1260 DX= -1,400.000 mm.

PIPE

Dia= 168.275 mm. Wall= 10.973 mm. Cor= 3.0000 mm.

GENERAL

T1= 142 C T2= 175 C T3= 21 C T4= 142 C P1= 6,200.1411 KPa

PHyd= 9,300.2119 KPa Mat= (106)A106 Grade B E= 203,401,232 KPa

EH1= 195,531,264 KPa EH2= 193,178,448 KPa EH3= 203,401,232 KPa

EH4= 195,531,264 KPa EH5= 203,401,232 KPa EH6= 203,401,232 KPa

EH7= 203,401,232 KPa EH8= 203,401,232 KPa EH9= 203,401,232 KPa

v = .292 Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000430 kg./cu.cm.

Insul Thk= 60.000 mm. Insul Den= .0001500 kg./cu.cm.

SIF's & TEE's

Node 1260 Weldolet

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,571 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 1260 To 1280 DX= -850.000 mm.

RESTRAINTS

Node 1280 Y Mu = .30

Node 1280 Z

From 1280 To 1300 DX= -650.000 mm.

From 1300 To 1320 DX= -127.000 mm.

Element Name= FLANGE_FLG_600

RIGID Weight= 364.75 N.

From 1320 To 1340 DX= -568.000 mm.

Element Name= CHECK_NOFLG_600

RIGID Weight= 3,087.07 N.

From 1340 To 1360 DX= -127.000 mm.

Element Name= FLANGE_NOFLG_600

RIGID Weight= 364.75 N.

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INPUT LISTING

 From 1360 To 1380 DX= -1,549.000 mm.

RESTRAINTS

Node 1380 Y Mu = .30
 Node 1380 Z Gap= 3.000 mm.

 From 1380 To 1390 DX= -2,035.000 mm.

 From 1390 To 1400 DX= -2,035.000 mm.

SINGLE FLANGED BEND at "T0" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1399
 Angle/Node @2= .00 1398

 From 1400 To 1480 DY= 1,584.000 mm.

PIPE

Dia= 168.275 mm. Wall= 10.973 mm.

GENERAL

T1= 142 C T2= 175 C P1= 6,200.1411 KPa PHyd= 9,300.2119 KPa
 Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 195,531,264 KPa
 EH2= 193,178,448 KPa EH3= 203,401,232 KPa EH4= 195,531,264 KPa
 EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa
 EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292
 Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000154 kg./cu.cm.
 Insul Thk= 40.000 mm.

BEND at "T0" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1479
 Angle/Node @2= .00 1478

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,571 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 1480 To 1500 DX= -5,816.000 mm.

RESTRAINTS

Node 1500 +Y
 Node 1500 Z

 From 1500 To 1520 DX= -6,000.000 mm.

RESTRAINTS

Node 1520 +Y Mu = .30

 From 1520 To 1540 DX= -3,475.000 mm.

BEND at "T0" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1539
 Angle/Node @2= .00 1538

 From 1540 To 1560 DZ= 2,129.000 mm.

RESTRAINTS

Node 1560 +Y
 Node 1560 X Gap= 3.000 mm.

 From 1560 To 1580 DZ= 1,221.000 mm.

BEND at "T0" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1579
 Angle/Node @2= .00 1578

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INPUT LISTING

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-----
From 1580 To 1600 DY= 2,791.000 mm.
BEND at "T0" end
  Radius= 228.600 mm. (LONG)   Bend Angle= 90.000   Angle/Node @1= 45.00 1599
  Angle/Node @2= .00 1598
-----
From 1600 To 1620 DX= -657.200 mm.
BEND at "T0" end
  Radius= 228.600 mm. (LONG)   Bend Angle= 90.000   Angle/Node @1= 45.00 1619
  Angle/Node @2= .00 1618
-----
From 1620 To 1640 DY= -229.000 mm.
-----
From 1640 To 1660 DY= -127.000 mm.
  Element Name= FLANGE_NOFLG_600
RIGID Weight= 364.75 N.
RESTRAINTS
  Node 1660 ANC   Cnode 1661
-----
From 1660 To 1680 DY= -35.000 mm.
PIPE
  Dia= 168.275 mm.   Wall= 10.973 mm.   Cor= 3.0000 mm.
  Element Name= FLANGE_NOFLG_600
GENERAL
  T1= 142 C   T2= 175 C   T3= 21 C   P1= 6,200.1411 KPa   PHyd= 9,300.2119 KPa
  Mat= (106)A106 Grade B   E= 203,401,232 KPa   EH1= 195,531,264 KPa
  EH2= 193,178,448 KPa   EH3= 203,401,232 KPa   EH4= 195,531,264 KPa
  EH5= 203,401,232 KPa   EH6= 203,401,232 KPa   EH7= 203,401,232 KPa
  EH8= 203,401,232 KPa   EH9= 203,401,232 KPa   v = .292
  Pipe Den= .0078334 kg./cu.cm.   Fluid Den= .0000430 kg./cu.cm.
  Insul Thk= 40.000 mm.   Insul Den= .0001362 kg./cu.cm.
RIGID Weight= 111.21 N.
ALLOWABLE STRESSES
  B31.3 (2016)   Cycle Max Switch = ---   Sc= 137,895 KPa
  Sh1= 137,895 KPa   Sh2= 137,571 KPa   Sh3= 137,895 KPa   Sh4= 137,895 KPa
  Sh5= 137,895 KPa   Sh6= 137,895 KPa   Sh7= 137,895 KPa   Sh8= 137,895 KPa
  Sh9= 137,895 KPa   Sy= 241,316 KPa
-----
From 1680 To 1700 DY= -200.000 mm.
RESTRAINTS
  Node 1700 ANC   Cnode 1720
EQUIPMENT LIMITS
  Nozzle Node = 1700
  Limiting Loads: A=pipe; B=ref; C=AxB;   FA= 15,090.75 N.   FB= 15,090.75 N.
  FC= 12,000.60 N.   MA= 9,150.39 N.m.   MB= 4,890.21 N.m.   MC= 6,420.27 N.m.
  Equipment Major Direction Vector= .0000 .0000 1.0000
  Interact. Mtd= Absolute
-----
From 1720 To 1740 DY= -240.000 mm.
RIGID Weight= .00 N.
-----
From 1740 To 1760 DY= -240.000 mm.
RIGID Weight= .00 N.
-----
From 1780 To 1800 DY= -200.000 mm.
RESTRAINTS
  
```

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INPUT LISTING

Node 1780 ANC Cnode 1760

EQUIPMENT LIMITS

Nozzle Node = 1780

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 16,200.81 N. FB= 15,090.75 N.

FC= 12,000.60 N. MA= 9,150.39 N.m. MB= 4,890.21 N.m. MC= 6,420.27 N.m.

Equipment Major Direction Vector= .0000 .0000 1.0000

Interact. Mtd= Absolute

 From 1800 To 1820 DY= -35.000 mm.

Element Name= FLANGE_NOFLG_150

RIGID Weight= 111.21 N.

 From 1740 To 1840 DZ= 1,500.000 mm.

RIGID Weight= 2,250.11 N.

RESTRAINTS

Node 1840 Y Mu = .10

Node 1840 X Mu = .30

Node 1840 Z Gap= 6.000 mm.

 From 1840 To 1860 DX= -7,035.000 mm.

RIGID Weight=10,500.52 N.

RESTRAINTS

Node 1860 Y Mu = .10

Node 1860 Z Gap= 6.000 mm. Mu = .30

 From 1860 To 1880 DZ= -3,000.000 mm.

RIGID Weight= 4,500.22 N.

RESTRAINTS

Node 1880 Y Mu = .10

Node 1880 Z Gap= 6.000 mm.

 From 1880 To 1900 DX= 7,035.000 mm.

RIGID Weight=10,500.52 N.

RESTRAINTS

Node 1900 Y Mu = .10

Node 1900 X Mu = .30

Node 1900 Z Gap= 6.000 mm. Mu = .30

 From 1900 To 1740 DZ= 1,500.000 mm.

RIGID Weight= 2,250.11 N.

 From 1820 To 1920 DY= -101.600 mm.

PIPE

Dia= 168.275 mm. Wall= 7.112 mm. Cor= .0000 mm.

Element Name= FLANGE_NOFLG_150

GENERAL

T1= 60 C T2= 175 C T3= 21 C T4= 60 C P1= 6,200.1411 KPa

Phyd= 9,300.2119 KPa Mat= (165)A312 TP316L E= 195,127,520 KPa

EH1= 192,370,304 KPa EH2= 184,539,120 KPa EH3= 195,127,520 KPa

EH4= 192,370,304 KPa EH5= 195,127,520 KPa EH6= 195,127,520 KPa

EH7= 195,127,520 KPa EH8= 195,127,520 KPa EH9= 195,127,520 KPa

v = .292 Pipe Den= .0080272 kg./cu.cm. Fluid Den= .0000596 kg./cu.cm.

Insul Thk= .000 mm. Insul Den= .0000000 kg./cu.cm.

RIGID Weight= 191.27 N.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 115,142 KPa

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INPUT LISTING

Sh1= 115,142 KPa Sh2= 111,904 KPa Sh3= 115,142 KPa Sh4= 115,142 KPa
Sh5= 115,142 KPa Sh6= 115,142 KPa Sh7= 115,142 KPa Sh8= 115,142 KPa
Sh9= 115,142 KPa Sy= 172,369 KPa

From 1920 To 1940 DY= -229.000 mm.

GENERAL

P1= 2,200.0500 KPa Fluid Den= .0000183 kg./cu.cm.

SINGLE FLANGED BEND at "T0" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1939

From 1940 To 1960 DY= .000 mm. DZ= -328.500 mm.

RESTRAINTS

Node 1960 +Y Mu = .30

From 1960 To 1980 DY= .000 mm. DZ= -328.500 mm.

BEND at "T0" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1979
Angle/Node @2= .00 1978

From 1980 To 2000 DX= 3,991.000 mm.

From 2000 To 6420 DY= -76.200 mm.

RIGID Weight= .00 N.

SIF's & TEE's

Node 6420 Unreinforced Tee Pad= 7.110 mm.

From 2000 To 6420 DY= -76.200 mm.

PIPE

Dia= 168.275 mm. Wall= 7.112 mm. Cor= .0000 mm.

GENERAL

T1= 60 C T2= 175 C T3= 21 C T4= 60 C P1= 2,200.0500 KPa
PHyd= 9,300.2119 KPa Mat= (165)A312 TP316L E= 195,127,520 KPa
EH1= 192,370,304 KPa EH2= 184,539,120 KPa EH3= 195,127,520 KPa
EH4= 192,370,304 KPa EH5= 195,127,520 KPa EH6= 195,127,520 KPa
EH7= 195,127,520 KPa EH8= 195,127,520 KPa EH9= 195,127,520 KPa
v = .292 Pipe Den= .0080272 kg./cu.cm. Fluid Den= .0000183 kg./cu.cm.
Insul Thk= .000 mm. Insul Den= .00000000 kg./cu.cm.

RIGID Weight= .00 N.

SIF's & TEE's

Node 6420 Unreinforced Tee

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 115,142 KPa
Sh1= 115,142 KPa Sh2= 111,904 KPa Sh3= 115,142 KPa Sh4= 115,142 KPa
Sh5= 115,142 KPa Sh6= 115,142 KPa Sh7= 115,142 KPa Sh8= 115,142 KPa
Sh9= 115,142 KPa Sy= 172,369 KPa

From 2000 To 4100 DX= 695.300 mm.

PIPE

Dia= 168.275 mm. Wall= 7.112 mm. Cor= .0000 mm.

GENERAL

T1= 60 C T2= 175 C T3= 21 C T4= 60 C P1= 6,200.1411 KPa
PHyd= 9,300.2119 KPa Mat= (165)A312 TP316L E= 195,127,520 KPa
EH1= 192,370,304 KPa EH2= 184,539,120 KPa EH3= 195,127,520 KPa
EH4= 192,370,304 KPa EH5= 195,127,520 KPa EH6= 195,127,520 KPa
EH7= 195,127,520 KPa EH8= 195,127,520 KPa EH9= 195,127,520 KPa
v = .292 Pipe Den= .0080272 kg./cu.cm. Fluid Den= .0000600 kg./cu.cm.

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INPUT LISTING

Insul Thk= .000 mm.

SIF's & TEE's

Node 4100 Welding Tee

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 115,142 KPa

Sh1= 115,142 KPa Sh2= 111,904 KPa Sh3= 115,142 KPa Sh4= 115,142 KPa

Sh5= 115,142 KPa Sh6= 115,142 KPa Sh7= 115,142 KPa Sh8= 115,142 KPa

Sh9= 115,142 KPa Sy= 172,369 KPa

 From 4100 To 4400 DY= -7.210 mm. DZ= 1,447.982 mm.

From 4400 To 4410 DY= -.632 mm. DZ= 126.998 mm.

RIGID Weight= 364.75 N.

From 4410 To 4420 DY= -2.828 mm. DZ= 567.993 mm.

RIGID Weight= 3,087.07 N.

From 4420 To 4430 DY= -.632 mm. DZ= 126.998 mm.

RIGID Weight= 364.75 N.

From 4430 To 4440 DY= -1.661 mm. DZ= 333.496 mm.

From 4440 To 6480 DY= -76.200 mm.

RIGID Weight= .00 N.

SIF's & TEE's

Node 6480 Unreinforced Tee Pad= 7.110 mm.

From 4440 To 4450 DY= -1.661 mm. DZ= 333.496 mm.

From 4450 To 4460 DY= -.632 mm. DZ= 126.998 mm.

RIGID Weight= 364.75 N.

From 4460 To 4470 DY= -2.828 mm. DZ= 567.993 mm.

RIGID Weight= 733.96 N.

From 4470 To 4480 DY= -.632 mm. DZ= 126.998 mm.

RIGID Weight= 364.75 N.

From 4480 To 4482 DY= -3.070 mm. DZ= 564.500 mm.

From 4485 To 6760 DX= -53.882 mm. DY= -53.882 mm.

RIGID Weight= .00 N.

SIF's & TEE's

Node 6760 Unreinforced Tee Pad= 7.110 mm.

From 4482 To 4485 DY= -3.070 mm. DZ= 564.500 mm.

BEND at "T0" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 4484

Angle/Node @2= .00 4483

From 4485 To 4490 DX= 1,042.000 mm. DY= .000 mm. DZ= .000 mm.

From 4490 To 4500 DX= 127.000 mm. DY= .000 mm. DZ= .000 mm.

RIGID Weight= 364.75 N.

From 4500 To 4505 DX= 598.000 mm. DY= .000 mm. DZ= .000 mm.

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INPUT LISTING

RIGID Weight= 1,005.30 N.

 From 4505 To 6790 DX= 127.000 mm. DY= .000 mm. DZ= .000 mm.

PIPE

Dia= 168.275 mm. Wall= 7.112 mm. Cor= .0000 mm.

GENERAL

T1= 60 C T2= 175 C T3= 21 C T4= 60 C P1= 6,200.1411 KPa
 PHyd= 9,300.2119 KPa Mat= (165)A312 TP316L E= 195,127,520 KPa
 EH1= 192,370,304 KPa EH2= 184,539,120 KPa EH3= 195,127,520 KPa
 EH4= 192,370,304 KPa EH5= 195,127,520 KPa EH6= 195,127,520 KPa
 EH7= 195,127,520 KPa EH8= 195,127,520 KPa EH9= 195,127,520 KPa
 v = .292 Pipe Den= .0080272 kg./cu.cm. Fluid Den= .0000600 kg./cu.cm.
 Insul Thk= .000 mm. Insul Den= .0000000 kg./cu.cm.

RIGID Weight= 364.75 N.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 115,142 KPa
 Sh1= 115,142 KPa Sh2= 111,904 KPa Sh3= 115,142 KPa Sh4= 115,142 KPa
 Sh5= 115,142 KPa Sh6= 115,142 KPa Sh7= 115,142 KPa Sh8= 115,142 KPa
 Sh9= 115,142 KPa Sy= 172,369 KPa

 From 6790 To 6780 DX= 324.000 mm.

 From 6795 To 7000 DX= 53.882 mm. DY= -53.882 mm.

RIGID Weight= .00 N.

SIF's & TEE's

Node 7000 Unreinforced Tee Pad= 7.110 mm.

 From 6780 To 6795 DX= 324.000 mm.

BEND at "T0" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 6794
 Angle/Node @2= .00 6793

 From 6795 To 6800 DY= -49.000 mm. DZ= 1,406.000 mm.

BEND at "T0" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 6799
 Angle/Node @2= .00 6798

 From 6800 To 6810 DX= -2,068.000 mm. DY= .000 mm. DZ= .000 mm.

 From 6810 To 6820 DX= -2,000.000 mm. DY= .000 mm.

BEND at "T0" end

Radius= 228.600 mm. (LONG) Bend Angle= 45.000 Angle/Node @1= 22.50 6819
 Angle/Node @2= .00 6818

 From 6820 To 8150 DX= -166.000 mm. DY= -166.000 mm.

 From 6845 To 6830 DZ= 341.000 mm.

PIPE

Dia= 168.275 mm. Wall= 7.112 mm. Cor= .0000 mm.

GENERAL

T1= 60 C T2= 175 C T3= 21 C T4= 60 C P1= 6,200.1411 KPa
 PHyd= 9,300.2119 KPa Mat= (165)A312 TP316L E= 195,127,520 KPa
 EH1= 192,370,304 KPa EH2= 184,539,120 KPa EH3= 195,127,520 KPa
 EH4= 192,370,304 KPa EH5= 195,127,520 KPa EH6= 195,127,520 KPa
 EH7= 195,127,520 KPa EH8= 195,127,520 KPa EH9= 195,127,520 KPa
 v = .292 Pipe Den= .0080272 kg./cu.cm. Fluid Den= .0000596 kg./cu.cm.

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INPUT LISTING

Insul Thk= .000 mm. Insul Den= .0001362 kg./cu.cm.

RESTRAINTS

Node 6845 +Y Mu = .30
 Node 6845 X Gap= 3.000 mm.
 Node 6845 Z Gap= 3.000 mm.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 115,142 KPa
 Sh1= 115,142 KPa Sh2= 111,904 KPa Sh3= 115,142 KPa Sh4= 115,142 KPa
 Sh5= 115,142 KPa Sh6= 115,142 KPa Sh7= 115,142 KPa Sh8= 115,142 KPa
 Sh9= 115,142 KPa Sy= 172,369 KPa

 From 6830 To 6870 DZ= 5,576.000 mm.

RESTRAINTS

Node 6870 +Y

 From 6870 To 6880 DZ= 2,000.000 mm.

 From 6880 To 6890 DZ= 4,000.000 mm.

RESTRAINTS

Node 6890 +Y
 Node 6890 X

 From 6890 To 6900 DZ= 6,000.000 mm.

RESTRAINTS

Node 6900 +Y

 From 6900 To 6905 DZ= 6,000.000 mm.

RESTRAINTS

Node 6905 +Y Mu = .30
 Node 6905 X Gap= 3.000 mm.

 From 6905 To 6910 DZ= 6,000.000 mm.

RESTRAINTS

Node 6910 +Y Mu = .30

 From 6910 To 8150 DZ= 488.000 mm.

SIF's & TEE's

Node 8150 Welding Tee

 From 8150 To 6915 DZ= 712.000 mm.

BEND at "T0" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 6914
 Angle/Node @2= .00 6913

 From 6915 To 6920 DX= 6,000.000 mm. DZ= .000 mm.

RESTRAINTS

Node 6920 +Y Mu = .30
 Node 6920 Z Gap= 3.000 mm.

 From 4100 To 4560 DZ= -285.000 mm.

PIPE

Dia= 168.275 mm. Wall= 7.112 mm. Cor= .0000 mm.

GENERAL

T1= 60 C T2= 175 C T3= 21 C T4= 60 C P1= 6,200.1411 KPa
 Phyd= 9,300.2119 KPa Mat= (165)A312 TP316L E= 195,127,520 KPa
 EH1= 192,364,096 KPa EH2= 184,539,120 KPa EH3= 195,127,520 KPa

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INPUT LISTING

EH4= 192,364,096 KPa EH5= 195,127,520 KPa EH6= 195,127,520 KPa
 EH7= 195,127,520 KPa EH8= 195,127,520 KPa EH9= 195,127,520 KPa
 v = .292 Pipe Den= .0080272 kg./cu.cm. Fluid Den= .0000600 kg./cu.cm.
 Insul Thk= .000 mm. Insul Den= .0000000 kg./cu.cm.

SIF's & TEE's

Node 4560 Welding Tee

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 115,142 KPa
 Sh1= 115,142 KPa Sh2= 111,904 KPa Sh3= 115,142 KPa Sh4= 115,142 KPa
 Sh5= 115,142 KPa Sh6= 115,142 KPa Sh7= 115,142 KPa Sh8= 115,142 KPa
 Sh9= 115,142 KPa Sy= 172,369 KPa

 From 4560 To 4570 DX= 143.000 mm.

From 4560 To 4580 DX= -143.000 mm.

From 4580 To 4590 DX= -372.000 mm.

BEND at "T0" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 4589
 Angle/Node @2= .00 4588

 From 4590 To 4600 DZ= -229.000 mm.

From 4600 To 4610 DZ= -127.000 mm.

RIGID Weight= 364.75 N.

From 4610 To 4620 DZ= -568.000 mm.

RIGID Weight= 2,708.97 N.

From 4620 To 4630 DZ= -127.000 mm.

RIGID Weight= 364.75 N.

From 4630 To 4640 DZ= -200.000 mm.

From 4640 To 6510 DY= -76.200 mm.

RIGID Weight= .00 N.

SIF's & TEE's

Node 6510 Unreinforced Tee Pad= 7.110 mm.

From 4640 To 4650 DZ= -532.500 mm.

From 4650 To 4660 DY= -27.000 mm. DZ= -140.000 mm.

REDUCER

Diam2= 114.300 mm. Wall2= 6.020 mm.

From 4660 To 4670 DZ= -111.125 mm.

PIPE

Dia= 114.300 mm. Wall= 6.020 mm.

Insul Thk= .000 mm.

RIGID Weight= 191.27 N.

From 4670 To 4680 DZ= -441.000 mm.

RIGID Weight= 387.00 N.

From 4680 To 4690 DZ= -111.125 mm.

RIGID Weight= 191.27 N.

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INPUT LISTING

 From 4690 To 4700 DY= 27.000 mm. DZ= -140.000 mm.

REDUCER

Diam2= 168.275 mm. Wall2= 7.112 mm.

 From 4700 To 4710 DZ= -300.000 mm.

PIPE

Dia= 168.275 mm. Wall= 7.112 mm.

Insul Thk= .000 mm.

 From 4710 To 6530 DY= -76.200 mm.

RIGID Weight= .00 N.

SIF's & TEE's

Node 6530 Unreinforced Tee Pad= 7.112 mm.

 From 4710 To 4720 DZ= -300.000 mm.

 From 4720 To 4730 DZ= -127.000 mm.

RIGID Weight= 364.75 N.

 From 4730 To 4740 DZ= -560.000 mm.

RIGID Weight= 2,708.97 N.

 From 4740 To 4750 DZ= -92.075 mm.

PIPE

Dia= 168.275 mm. Wall= 10.973 mm. Cor= 6.0000 mm.

GENERAL

T1= 37 C T2= 85 C T4= 37 C P1= 900.0205 KPa PHyd= 1,350.0308 KPa

Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 202,081,088 KPa

EH2= 199,086,608 KPa EH3= 203,401,232 KPa EH4= 202,081,088 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000060 kg./cu.cm.

Insul Thk= .000 mm.

RIGID Weight= 111.21 N.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

 From 4750 To 6550 DZ= -178.000 mm.

 From 6550 To 4140 DZ= -3,792.000 mm.

BEND at "T0" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 4139

Angle/Node @2= .00 4138

 From 4140 To 6560 DX= 429.000 mm.

RESTRAINTS

Node 6560 +Y Mu = .30

Node 6560 Z

 From 6560 To 4760 DX= 4,399.000 mm.

BEND at "T0" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 4759

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INPUT LISTING

Angle/Node @2= .00 4758

From 4760 To 4770 DZ= -457.000 mm.

BEND at "T0" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 4769

From 4770 To 4780 DY= -658.000 mm.

SIF's & TEE's

Node 4780 Welding Tee

From 4780 To 4160 DX= 993.000 mm.

PIPE

Dia= 219.075 mm. Wall= 10.312 mm. Cor= 6.0000 mm.

GENERAL

T1= 37 C T2= 85 C P1= 900.0205 KPa PHyd= 1,350.0308 KPa

Fluid Den= .0000060 kg./cu.cm. Insul Thk= .000 mm.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 4160 To 6600 DY= -101.600 mm.

RIGID Weight= .00 N.

SIF's & TEE's

Node 6600 Unreinforced Tee

From 4160 To 4180 DX= 3,603.000 mm.

From 4180 To 4200 DX= 104.775 mm.

Element Name= FLANGE_FLG_300

RIGID Weight= 177.93 N.

From 4200 To 4220 DX= 20.000 mm.

Element Name= FLANGE_FLG_300

RIGID Weight= 30.00 N.

RESTRAINTS

Node 4220 ANC Cnode 4221

From 4220 To 4240 DX= 104.775 mm.

Element Name= FLANGE_FLG_300

RIGID Weight= 177.93 N.

From 4240 To 4260 DX= 155.000 mm.

RESTRAINTS

Node 4260 ANC Cnode 4261

EQUIPMENT LIMITS

Nozzle Node = 4260

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 8,400.42 N. FB= 8,400.42 N.

FC= 6,300.31 N. MA= 3,780.16 N.m. MB= 2,520.11 N.m. MC= 3,280.14 N.m.

Equipment Major Direction Vector= .0000 1.0000 .0000

Interact. Mtd= Absolute

From 4261 To 4280 DX= 460.000 mm.

PIPE

Dia= 920.000 mm. Wall= 12.000 mm.

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INPUT LISTING

```

    Insul Thk= .000 mm.
    RIGID Weight= .00 N.
-----
From 4280 To 4300 DY= -1,300.000 mm.
    RIGID Weight= .00 N.
-----
From 4300 To 4310 DY= -1,000.000 mm.
    RIGID Weight= .00 N.
-----
From 4310 To 4320 DY= -300.000 mm.
GENERAL
    T1= 21 C    T2= 21 C    T4= 21 C
    RIGID Weight= .00 N.
RESTRAINTS
    Node 4320 ANC
ALLOWABLE STRESSES
    B31.3 (2016)      Cycle Max Switch = ---    Sc= 137,895 KPa
    Sh1= 137,895 KPa  Sh2= 137,895 KPa  Sh3= 137,895 KPa  Sh4= 137,895 KPa
    Sh5= 137,895 KPa  Sh6= 137,895 KPa  Sh7= 137,895 KPa  Sh8= 137,895 KPa
    Sh9= 137,895 KPa  Sy= 241,316 KPa
-----
From 4780 To 6620 DX= -393.500 mm.
PIPE
    Dia= 219.075 mm.  Wall= 10.312 mm.
GENERAL
    T1= 37 C    T2= 85 C    T4= 37 C    Insul Thk= .000 mm.
ALLOWABLE STRESSES
    B31.3 (2016)      Cycle Max Switch = ---    Sc= 137,895 KPa
    Sh1= 137,895 KPa  Sh2= 137,895 KPa  Sh3= 137,895 KPa  Sh4= 137,895 KPa
    Sh5= 137,895 KPa  Sh6= 137,895 KPa  Sh7= 137,895 KPa  Sh8= 137,895 KPa
    Sh9= 137,895 KPa  Sy= 241,316 KPa
-----
From 6620 To 6630 DY= -101.600 mm.
    RIGID Weight= .00 N.
SIF's & TEE's
    Node 6630 Unreinforced Tee
-----
From 6620 To 4800 DX= -393.500 mm.
-----
From 4800 To 4810 DX= -104.775 mm.
    RIGID Weight= 177.93 N.
-----
From 4810 To 4820 DX= -504.000 mm.
    RIGID Weight= 2,090.66 N.
-----
From 4820 To 4830 DX= -104.775 mm.
    RIGID Weight= 177.93 N.
-----
From 4830 To 4840 DX= -315.000 mm.
-----
From 4840 To 4850 DX= -104.775 mm.
    RIGID Weight= 177.93 N.
-----
From 4850 To 4860 DX= -606.000 mm.
    RIGID Weight= 360.31 N.
-----

```


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INPUT LISTING

From 4860 To 4870 DX= -104.775 mm.
 RIGID Weight= 177.93 N.

 From 4870 To 4880 DX= -200.000 mm.

 From 4880 To 6650 DX= -287.000 mm.

 From 6650 To 6660 DY= -101.600 mm.
 RIGID Weight= .00 N.

SIF's & TEE's

Node 6660 Unreinforced Tee

 From 6650 To 4890 DX= -487.000 mm.

 From 4890 To 4900 DX= -104.775 mm.
 RIGID Weight= 177.93 N.

 From 4900 To 4910 DX= -486.500 mm.
 RIGID Weight= 2,259.70 N.

 From 4910 To 4920 DX= -104.775 mm.
 RIGID Weight= 177.93 N.

 From 4920 To 4930 DX= -542.000 mm.

 From 4930 To 6680 DY= -101.600 mm.
 RIGID Weight= .00 N.

SIF's & TEE's

Node 6680 Unreinforced Tee

 From 4930 To 4940 DX= -605.000 mm.

BEND at "TO" end

Radius= 304.800 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 4939
 Angle/Node @2= .00 4938

 From 4940 To 4950 DZ= 1,500.000 mm.

BEND at "TO" end

Radius= 304.800 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 4949
 Angle/Node @2= .00 4948

 From 4950 To 4960 DX= -871.500 mm. DY= .000 mm.

BEND at "TO" end

Radius= 304.800 mm. (LONG) Bend Angle= 45.000 Angle/Node @1= 22.50 4959
 Angle/Node @2= .00 4958

 From 4960 To 8170 DX= -337.000 mm. DY= 337.000 mm.

 From 4570 To 4980 DX= 295.000 mm.

PIPE

Dia= 168.275 mm. Wall= 7.112 mm. Cor= .0000 mm.

GENERAL

T1= 60 C T2= 175 C T3= 21 C T4= 60 C P1= 6,200.1411 KPa
 PHyd= 9,300.2119 KPa Mat= (106)A106 Grade B E= 203,401,232 KPa
 EH1= 200,637,808 KPa EH2= 193,178,448 KPa EH3= 203,401,232 KPa
 EH4= 200,637,808 KPa EH5= 203,401,232 KPa EH6= 203,401,232 KPa
 EH7= 203,401,232 KPa EH8= 203,401,232 KPa EH9= 203,401,232 KPa

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INPUT LISTING

v = .292 Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000060 kg./cu.cm.
 Insul Thk= .000 mm. Insul Den= .0000000 kg./cu.cm.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,571 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 4980 To 4990 DX= 127.000 mm.

E= 203,401,232 KPa EH1= 200,637,808 KPa EH2= 193,178,448 KPa
 EH3= 203,401,232 KPa EH4= 200,637,808 KPa EH5= 203,401,232 KPa
 EH6= 203,401,232 KPa EH7= 203,401,232 KPa EH8= 203,401,232 KPa
 EH9= 203,401,232 KPa v = .292 Pipe Den= .0078334 kg./cu.cm.

RIGID Weight= 364.75 N.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,571 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 4990 To 5000 DX= 568.000 mm.

RIGID Weight= 2,708.97 N.

 From 5000 To 5010 DX= 127.000 mm.

RIGID Weight= 364.75 N.

 From 5010 To 5020 DX= 229.000 mm.

BEND at "T0" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 5019

 From 5020 To 5025 DZ= -464.500 mm.

 From 5020 To 6700 DX= 53.882 mm. DY= -53.882 mm.

RIGID Weight= .00 N.

SIF's & TEE's

Node 6700 Unreinforced Tee Pad= 7.112 mm.

 From 5025 To 5030 DZ= -464.500 mm.

 From 5030 To 5040 DY= -40.000 mm. DZ= -140.000 mm.

REDUCER

Diam2= 88.900 mm. Wall2= 5.486 mm.

 From 5040 To 5060 DZ= -92.075 mm.

PIPE

Dia= 88.900 mm. Wall= 5.486 mm.

Insul Thk= .000 mm.

RIGID Weight= 106.76 N.

 From 5060 To 5070 DZ= -360.000 mm.

RIGID Weight= 217.96 N.

 From 5070 To 5080 DZ= -92.075 mm.

RIGID Weight= 106.76 N.

 From 5080 To 5090 DY= 12.500 mm. DZ= -102.000 mm.

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INPUT LISTING

REDUCER

Diam2= 114.300 mm. Wall2= 6.020 mm.

From 5090 To 5095 DZ= -350.000 mm.

PIPE

Dia= 114.300 mm. Wall= 6.020 mm.

Insul Thk= .000 mm.

From 5095 To 6720 DY= -50.800 mm.

RIGID Weight= .00 N.

SIF's & TEE's

Node 6720 Reinforced Tee Pad= 6.020 mm.

From 5095 To 5100 DZ= -350.000 mm.

From 5100 To 5110 DZ= -111.125 mm.

RIGID Weight= 191.27 N.

From 5110 To 5120 DZ= -233.500 mm.

RIGID Weight= 1,116.50 N.

From 5120 To 5130 DZ= -79.375 mm.

PIPE

Dia= 114.300 mm. Wall= 8.560 mm. Cor= 6.0000 mm.

GENERAL

T1= 30 C T2= 85 C T3= 21 C T4= 200 C P1= 550.0125 KPa

Phyd= 825.0188 KPa Mat= (106)A106 Grade B E= 203,401,232 KPa

EH1= 202,660,192 KPa EH2= 199,086,608 KPa EH3= 203,401,232 KPa

EH4= 191,317,008 KPa EH5= 203,401,232 KPa EH6= 203,401,232 KPa

EH7= 203,401,232 KPa EH8= 203,401,232 KPa EH9= 203,401,232 KPa

v = .292 Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000015 kg./cu.cm.

Insul Thk= .000 mm.

RIGID Weight= 71.17 N.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,261 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 5130 To 5140 DZ= -153.000 mm.

BEND at "T0" end

Radius= 152.400 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 5139

From 5140 To 5145 DY= -624.000 mm.

From 5145 To 6740 DZ= -50.800 mm.

RIGID Weight= .00 N.

SIF's & TEE's

Node 6740 Unreinforced Tee

From 5145 To 5150 DY= -412.000 mm.

BEND at "T0" end

Radius= 152.400 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 5149

Angle/Node @2= .00 5148

From 5150 To 5160 DX= -986.000 mm.

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BEND at "T0" end
 Radius= 152.400 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 5159
 Angle/Node @2= .00 5158

 From 5160 To 5170 DY= -1,073.000 mm.

BEND at "T0" end
 Radius= 152.400 mm. (LONG) Bend Angle= 44.939 Angle/Node @1= 22.47 5169
 Angle/Node @2= .00 5168

 From 5170 To 5422 DX= .000 mm. DY= -530.000 mm. DZ= 528.876 mm.

 From 3960 To 8050 DZ= -3,875.000 mm.

PIPE

Dia= 273.050 mm. Wall= 9.271 mm. Cor= 6.0000 mm.

GENERAL

T1= 30 C T2= 8 C T3= 21 C T4= 200 C P1= 750.0171 KPa P2= .0000 KPa
 PHyd= 1,125.0256 KPa Mat= (106)A106 Grade B E= 203,401,232 KPa
 EH1= 202,660,192 KPa EH2= 204,073,408 KPa EH3= 203,401,232 KPa
 EH4= 191,317,008 KPa EH5= 203,401,232 KPa EH6= 203,401,232 KPa
 EH7= 203,401,232 KPa EH8= 203,401,232 KPa EH9= 203,401,232 KPa
 v = .292 Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000015 kg./cu.cm.
 Insul Thk= .000 mm. Insul Den= .0000000 kg./cu.cm.

RESTRAINTS

Node 3960 +Y Mu = .30
 Node 3960 X Gap= 3.000 mm.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,261 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 8050 To 5420 DZ= -2,125.000 mm.

RESTRAINTS

Node 5420 +Y Mu = .30
 Node 5420 Z Gap= 3.000 mm.

 From 5420 To 5421 DZ= -3,277.000 mm.

 From 5421 To 5422 DZ= -400.000 mm.

 From 5422 To 5425 DZ= -2,111.000 mm.

RESTRAINTS

Node 5425 +Y Mu = .30
 Node 5425 X Gap= 3.000 mm.

 From 5425 To 5430 DZ= -6,000.000 mm.

RESTRAINTS

Node 5430 +Y Mu = .30

 From 5430 To 5435 DZ= -6,000.000 mm.

RESTRAINTS

Node 5435 +Y Mu = .30
 Node 5435 X Gap= 3.000 mm.

 From 5435 To 5440 DZ= -2,750.000 mm.

BEND at "T0" end

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INPUT LISTING

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    Radius= 381.000 mm. (LONG)    Bend Angle= 90.000    Angle/Node @1= 45.00 5439
    Angle/Node @2= .00 5438
-----
From 5440 To 5450 DX= -6,000.000 mm. DZ= .000 mm.
BEND at "T0" end
    Radius= 381.000 mm. (LONG)    Bend Angle= 90.000    Angle/Node @1= 45.00 5449
    Angle/Node @2= .00 5448
-----
From 5450 To 5455 DZ= -1,000.000 mm.
RESTRAINTS
    Node 5455 +Y Mu = .30
-----
From 5455 To 5460 DZ= -1,000.000 mm.
BEND at "T0" end
    Radius= 381.000 mm. (LONG)    Bend Angle= 90.000    Angle/Node @1= 45.00 5459
    Angle/Node @2= .00 5458
-----
From 5460 To 5465 DX= 6,000.000 mm. DZ= .000 mm.
BEND at "T0" end
    Radius= 381.000 mm. (LONG)    Bend Angle= 90.000    Angle/Node @1= 45.00 5464
    Angle/Node @2= .00 5463
-----
From 5465 To 5470 DZ= -1,250.000 mm.
RESTRAINTS
    Node 5470 +Y Mu = .30
-----
From 5470 To 5475 DX= .000 mm. DZ= -3,000.000 mm.
-----
From 5475 To 5480 DX= .000 mm. DZ= -3,000.000 mm.
RESTRAINTS
    Node 5480 +Y
    Node 5480 X Gap= 3.000 mm.
    Node 5480 Z Gap= 3.000 mm.
-----
From 3960 To 8060 DZ= 6,000.000 mm.
RESTRAINTS
    Node 8060 +Y Mu = .30
    Node 8060 X Gap= 3.000 mm.
-----
From 8060 To 8070 DZ= 5,485.000 mm.
BEND at "T0" end
    Radius= 381.000 mm. (LONG)    Bend Angle= 90.000    Angle/Node @1= 45.00 8069
    Angle/Node @2= .00 8068
RESTRAINTS
    Node 8070 +Y Mu = .30
-----
From 8070 To 8080 DX= -6,000.000 mm.
BEND at "T0" end
    Radius= 381.000 mm. (LONG)    Bend Angle= 90.000    Angle/Node @1= 45.00 8079
    Angle/Node @2= .00 8078
-----
From 8080 To 8090 DZ= 1,000.000 mm.
RESTRAINTS
    Node 8090 +Y Mu = .30
-----
From 8090 To 8100 DZ= 1,000.000 mm.

```

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INPUT LISTING

BEND at "T0" end

Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 8099
Angle/Node @2= .00 8098

From 8100 To 8110 DX= 6,000.000 mm.

BEND at "T0" end

Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 8109
Angle/Node @2= .00 8108

RESTRAINTS

Node 8110 +Y Mu = .30

From 8110 To 8120 DZ= 4,515.000 mm.

RESTRAINTS

Node 8120 +Y Mu = .30

Node 8120 X Gap= 3.000 mm.

From 8120 To 8130 DZ= 6,000.000 mm.

RESTRAINTS

Node 8130 +Y Mu = .30

Node 8130 Z Gap= 3.000 mm.

From 4710 To 6530 DY= -76.200 mm.

PIPE

Dia= 168.275 mm. Wall= 7.112 mm. Cor= .0000 mm.

GENERAL

T1= 38 C T2= 85 C T3= 21 C T4= 38 C P1= 6,200.1411 KPa

Phyd= 9,300.2119 KPa Mat= (165)A312 TP316L E= 195,127,520 KPa

EH1= 193,729,152 KPa EH2= 190,812,912 KPa EH3= 195,127,520 KPa

EH4= 193,729,152 KPa EH5= 195,127,520 KPa EH6= 195,127,520 KPa

EH7= 195,127,520 KPa EH8= 195,127,520 KPa EH9= 195,127,520 KPa

v = .292 Pipe Den= .0080272 kg./cu.cm. Fluid Den= .0000600 kg./cu.cm.

Insul Thk= .000 mm. Insul Den= .0000000 kg./cu.cm.

RIGID Weight= .00 N.

SIF's & TEE's

Node 6530 Unreinforced Tee Pad= 7.112 mm.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 115,142 KPa

Sh1= 115,142 KPa Sh2= 115,142 KPa Sh3= 115,142 KPa Sh4= 115,142 KPa

Sh5= 115,142 KPa Sh6= 115,142 KPa Sh7= 115,142 KPa Sh8= 115,142 KPa

Sh9= 115,142 KPa Sy= 172,369 KPa

From 6080 To 6090 DZ= 6,000.000 mm.

PIPE

Dia= 273.050 mm. Wall= 9.271 mm. Cor= 6.0000 mm.

GENERAL

T1= 38 C T2= 85 C T3= 21 C T4= 38 C P1= 900.0205 KPa

Phyd= 1,350.0308 KPa Mat= (106)A106 Grade B E= 203,401,232 KPa

EH1= 202,002,864 KPa EH2= 199,086,608 KPa EH3= 203,401,232 KPa

EH4= 202,002,864 KPa EH5= 203,401,232 KPa EH6= 203,401,232 KPa

EH7= 203,401,232 KPa EH8= 203,401,232 KPa EH9= 203,401,232 KPa

v = .292 Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000066 kg./cu.cm.

Insul Thk= .000 mm. Insul Den= .0000000 kg./cu.cm.

RESTRAINTS

Node 6090 +Y Mu = .30

Node 6090 LIM Gap= 3.000 mm.

Node 6080 +Y Mu = .30

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INPUT LISTING

Node 6080 X Gap= 3.000 mm.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 6090 To 4970 DZ= 6,000.000 mm.

RESTRAINTS

Node 4970 +Y Mu = .30
 Node 4970 X Gap= 3.000 mm.

 From 4970 To 8160 DZ= 6,000.000 mm.

RESTRAINTS

Node 8160 +Y Mu = .30

 From 8160 To 8170 DZ= 4,700.000 mm.

SIF's & TEE's

Node 8170 Welding Tee

 From 8170 To 8180 DZ= 1,300.000 mm.

RESTRAINTS

Node 8180 +Y Mu = .30
 Node 8180 X Gap= 3.000 mm.

 From 8180 To 8190 DZ= 500.000 mm.

 From 8190 To 8200 DZ= 120.650 mm.

RIGID Weight= 409.24 N.

 From 8200 To 8210 DZ= 120.650 mm.

RIGID Weight= 409.24 N.

 From 1260 To 2140 DY= 1,530.000 mm.

PIPE

Dia= 60.325 mm. Wall= 8.738 mm. Cor= 3.0000 mm.

GENERAL

T1= 142 C T2= 175 C T3= 21 C T4= 142 C P1= 6,200.1411 KPa
 Phyd= 9,300.2119 KPa Mat= (106)A106 Grade B E= 203,401,232 KPa
 EH1= 195,549,872 KPa EH2= 193,178,448 KPa EH3= 203,401,232 KPa
 EH4= 195,549,872 KPa EH5= 203,401,232 KPa EH6= 203,401,232 KPa
 EH7= 203,401,232 KPa EH8= 203,401,232 KPa EH9= 203,401,232 KPa
 v = .292 Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000430 kg./cu.cm.
 Insul Thk= .000 mm. Insul Den= .00000000 kg./cu.cm.

BEND at "T0" end

Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 2139
 Angle/Node @2= .00 2138

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,571 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 2140 To 2160 DX= .000 mm. DZ= 252.000 mm.

BEND at "T0" end

Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 2159

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Angle/Node @2= .00 2158

 From 2160 To 2180 DX= -3,864.000 mm.

RESTRAINTS

Node 2180 +Y

Node 2180 Z Gap= 3.000 mm.

 From 2180 To 2200 DX= -4,914.500 mm.

RESTRAINTS

Node 2200 +Y Mu = .30

 From 2200 To 2220 DX= -4,914.500 mm.

RESTRAINTS

Node 2220 +Y

Node 2220 Z Gap= 3.000 mm.

 From 2220 To 2260 DX= -388.000 mm.

BEND at "T0" end

Radius= 76.200 mm. (LONG) Bend Angle= 90.000

 From 2260 To 2270 DZ= 2,498.000 mm.

RESTRAINTS

Node 2270 +Y Mu = .30

 From 2270 To 2280 DZ= 1,584.000 mm.

SIF's & TEE's

Node 2280 Welding Tee

 From 2280 To 2320 DY= 440.000 mm.

RESTRAINTS

Node 2320 +Y Mu = .30

 From 2320 To 2330 DY= 446.000 mm.

 From 2330 To 2340 DY= 213.000 mm.

 From 2340 To 2360 DY= 82.550 mm.

Element Name= GATE_FLG_600

RIGID Weight= 57.83 N.

 From 2360 To 5650 DY= 301.000 mm.

RIGID Weight= 311.38 N.

 From 5650 To 5660 DY= 82.550 mm.

RIGID Weight= 57.83 N.

 From 5660 To 2400 DY= 400.000 mm.

 From 2400 To 5670 DY= 106.000 mm.

REDUCER

Diam2= 48.260 mm. Wall2= 7.137 mm.

 From 5670 To 5680 DY= 79.375 mm.

PIPE

Dia= 48.260 mm. Wall= 7.137 mm.

Insul Thk= .000 mm.

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INPUT LISTING

RIGID Weight= 35.59 N.

 From 5680 To 5690 DY= 79.375 mm.

RIGID Weight= 35.59 N.

 From 5690 To 2420 DY= 41.500 mm.

RIGID Weight= 25.00 N.

FORCES & MOMENTS

Node 2420 FX1= 2,000.10 N. FY1= 1,000.05 N. FZ1= .00 N.

 From 2420 To 2440 DX= -156.000 mm.

PIPE

Dia= 88.900 mm. Wall= 7.620 mm.

Insul Thk= .000 mm.

RIGID Weight= 100.00 N.

 From 2440 To 2460 DX= -73.025 mm. DZ= .000 mm.

PIPE

Cor= 6.0000 mm. Element Name= FLANGE_FLG_150

GENERAL

T1= 30 C T2= 85 C T3= 21 C T4= 200 C P1= 550.0125 KPa

Phyd= 825.0188 KPa Fluid Den= .0000015 kg./cu.cm.

RIGID Weight= 54.49 N.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,261 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

 From 2460 To 2480 DX= -140.000 mm. DY= -39.700 mm. DZ= .000 mm.

REDUCER

Diam2= 168.275 mm. Wall2= 10.973 mm.

 From 2480 To 2500 DX= -350.000 mm.

PIPE

Dia= 168.275 mm. Wall= 10.973 mm.

Insul Thk= .000 mm.

RESTRAINTS

Node 2500 +Y Mu = .30

Node 2500 Z

Node 2500 X

 From 2500 To 2520 DX= -579.000 mm. DZ= .000 mm.

SINGLE FLANGED BEND at "T0" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 2519

Angle/Node @2= .00 2518

 From 2520 To 2540 DY= -229.000 mm.

 From 2540 To 5700 DY= -92.075 mm.

Element Name= BALL_FLG_150

RIGID Weight= 111.21 N.

 From 5700 To 2560 DY= -276.000 mm.

RIGID Weight= 1,005.30 N.

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From 2560 To 2570 DY= -92.075 mm.

RIGID Weight= 111.21 N.

From 2570 To 5710 DY= -654.000 mm.

From 5710 To 6440 DX= -76.200 mm.

RIGID Weight= .00 N.

SIF's & TEE's

Node 6440 Unreinforced Tee

From 5710 To 2580 DY= -587.000 mm.

BEND at "T0" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 2579

Angle/Node @2= .00 2578

From 2580 To 5840 DX= -324.000 mm.

BEND at "T0" end

Radius= 228.600 mm. (LONG) Bend Angle= 45.000 Angle/Node @1= 22.50 5839

From 5840 To 5800 DX= -500.000 mm. DZ= 500.000 mm.

From 2280 To 2300 DZ= 500.000 mm.

PIPE

Dia= 60.325 mm. Wall= 8.738 mm. Cor= 3.0000 mm.

GENERAL

T1= 142 C T2= 175 C T3= 21 C T4= 142 C P1= 6,200.1411 KPa

PHyd= 9,300.2119 KPa Fluid Den= .0000430 kg./cu.cm. Insul Thk= .000 mm.

BEND at "T0" end

Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 2299

Angle/Node @2= .00 2298

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,571 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 2300 To 2620 DY= 440.000 mm.

PIPE

Dia= 60.325 mm. Wall= 8.738 mm. Cor= 3.0000 mm.

GENERAL

T1= 142 C T2= 175 C T4= 142 C P1= 2,200.0500 KPa

PHyd= 3,300.0752 KPa Fluid Den= .0000154 kg./cu.cm. Insul Thk= .000 mm.

RESTRAINTS

Node 2620 +Y

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,571 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 2620 To 2640 DY= 660.000 mm.

From 2640 To 5720 DY= 82.550 mm.

RIGID Weight= 57.83 N.

From 5720 To 2660 DY= 301.000 mm.

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INPUT LISTING

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Element Name= GATE_FLG_600
RIGID Weight= 311.38 N.
-----
From 2660 To 5730 DY= 82.550 mm.
RIGID Weight= 57.83 N.
-----
From 5730 To 2700 DY= 400.000 mm.
-----
From 2700 To 5740 DY= 106.000 mm.
REDUCER
  Diam2= 48.260 mm. Wall2= 7.137 mm.
-----
From 5740 To 5750 DY= 79.375 mm.
PIPE
  Dia= 48.260 mm. Wall= 7.137 mm.
  Insul Thk= .000 mm.
RIGID Weight= 35.59 N.
-----
From 5750 To 5760 DY= 79.375 mm.
RIGID Weight= 35.59 N.
-----
From 5760 To 2720 DY= 41.000 mm.
RIGID Weight= 35.59 N.
FORCES & MOMENTS
  Node 2720 FX2= 2,000.10 N. FY2= 1,000.05 N. FZ2= .00 N.
-----
From 2720 To 2740 DX= -156.000 mm. DZ= .000 mm.
PIPE
  Dia= 88.900 mm. Wall= 7.620 mm.
  Insul Thk= .000 mm.
RIGID Weight= 100.00 N.
-----
From 2740 To 2760 DX= -73.025 mm. DZ= .000 mm.
PIPE
  Dia= 88.900 mm. Wall= 7.620 mm. Cor= 6.0000 mm.
Element Name= FLANGE_FLG_150
GENERAL
  T1= 30 C T2= 85 C T3= 21 C T4= 200 C P1= 550.0125 KPa
  Phyd= 825.0188 KPa Fluid Den= .0000015 kg./cu.cm. Insul Thk= .000 mm.
RIGID Weight= 54.49 N.
ALLOWABLE STRESSES
  B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
  Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,261 KPa
  Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
  Sh9= 137,895 KPa Sy= 241,316 KPa
-----
From 2760 To 2780 DX= -140.000 mm. DY= -39.700 mm. DZ= .000 mm.
REDUCER
  Diam2= 168.275 mm. Wall2= 10.973 mm.
-----
From 2780 To 2800 DX= -350.000 mm.
PIPE
  Dia= 168.275 mm. Wall= 10.973 mm.
  Insul Thk= .000 mm.
RESTRAINTS
  Node 2800 +Y

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INPUT LISTING

Node 2800 Z
 Node 2800 X

 From 2800 To 2820 DX= -579.000 mm. DZ= .000 mm.

SINGLE FLANGED BEND at "TO" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 2819
 Angle/Node @2= .00 2818

From 2820 To 2840 DY= -229.000 mm.

From 2840 To 2846 DY= -92.075 mm.

Element Name= BALL_FLG_150

RIGID Weight= 111.21 N.

From 2846 To 2852 DY= -276.000 mm.

RIGID Weight= 1,005.30 N.

From 2852 To 2860 DY= -92.075 mm.

RIGID Weight= 111.21 N.

From 2860 To 2870 DY= -654.000 mm.

From 2870 To 6460 DX= -76.200 mm.

RIGID Weight= .00 N.

From 2870 To 2880 DY= -587.000 mm.

BEND at "TO" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 2879
 Angle/Node @2= .00 2878

From 2880 To 5800 DX= -824.000 mm.

SIF's & TEE's

Node 5800 Welding Tee

From 5800 To 5805 DX= -1,547.000 mm.

RESTRAINTS

Node 5805 +Y Mu = .30

From 5805 To 5810 DX= -950.000 mm.

BEND at "TO" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 5809
 Angle/Node @2= .00 5808

From 5810 To 5820 DY= -673.500 mm.

BEND at "TO" end

Radius= 228.600 mm. (LONG) Bend Angle= 39.950 Angle/Node @1= 19.97 5819
 Angle/Node @2= .00 5818

From 5820 To 8050 DX= .126 mm. DY= -1,086.100 mm. DZ= 909.726 mm.

From 4750 To 6550 DZ= -178.000 mm.

PIPE

Dia= 168.275 mm. Wall= 10.973 mm. Cor= 6.0000 mm.

GENERAL

T1= 85 C T2= 37 C T3= 21 C T4= 37 C P1= 900.0205 KPa

Phyd= 1,350.0308 KPa Mat= (106)A106 Grade B E= 203,401,232 KPa

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INPUT LISTING

EH1= 199,086,608 KPa EH2= 202,081,088 KPa EH3= 203,401,232 KPa
 EH4= 202,081,088 KPa EH5= 203,401,232 KPa EH6= 203,401,232 KPa
 EH7= 203,401,232 KPa EH8= 203,401,232 KPa EH9= 203,401,232 KPa
 v = .292 Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000060 kg./cu.cm.
 Insul Thk= .000 mm. Insul Den= .0000000 kg./cu.cm.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 6210 To 6220 DY= -300.000 mm.

PIPE

Dia= 114.300 mm. Wall= 6.020 mm. Cor= .0000 mm.

GENERAL

T1= 21 C T2= 21 C T3= 21 C T4= 21 C P1= .0000 KPa PHyd= .0000 KPa
 Mat= (102)A53 Grade B E= 203,401,232 KPa EH1= 203,401,232 KPa
 EH2= 203,401,232 KPa EH3= 203,401,232 KPa EH4= 203,401,232 KPa
 EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa
 EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292
 Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000000 kg./cu.cm.
 Insul Thk= .000 mm. Insul Den= .0000000 kg./cu.cm.

RESTRAINTS

Node 6220 +Y Mu = .30
 Node 6220 Z

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 6230 To 6240 DZ= 300.000 mm.

PIPE

Dia= 48.260 mm. Wall= 3.683 mm.
 Insul Thk= .000 mm.

RESTRAINTS

Node 6240 +Y Cnode 6241 Mu = .30

 From 6260 To 6270 DY= -350.000 mm.

RESTRAINTS

Node 6270 +Y Cnode 6271 Mu = .30
 Node 6270 Z Cnode 6271 Gap= 3.000 mm.

 From 6280 To 6290 DX= 300.000 mm.

PIPE

Dia= 60.325 mm. Wall= 3.912 mm.
 Insul Thk= .000 mm.

RESTRAINTS

Node 6290 +Y Cnode 6291 Mu = .30
 Node 6290 Z Cnode 6291 Gap= 3.000 mm.

 From 6300 To 6310 DY= -900.000 mm.

RESTRAINTS

Node 6310 +Y Mu = .30

 From 6400 To 6410 DY= -300.000 mm.

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INPUT LISTING

PIPE

Dia= 114.300 mm. Wall= 6.020 mm.
 Insul Thk= .000 mm.

RESTRAINTS

Node 6410 +Y Mu = .30
 Node 6410 Z

 From 6420 To 6425 DY= -230.000 mm.

GENERAL

Mat= (165)A312 TP316L E= 195,127,520 KPa EH1= 195,127,520 KPa
 EH2= 195,127,520 KPa EH3= 195,127,520 KPa EH4= 195,127,520 KPa
 EH5= 195,127,520 KPa EH6= 195,127,520 KPa EH7= 195,127,520 KPa
 EH8= 195,127,520 KPa EH9= 195,127,520 KPa v = .292
 Pipe Den= .0080272 kg./cu.cm.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 115,142 KPa
 Sh1= 115,142 KPa Sh2= 115,142 KPa Sh3= 115,142 KPa Sh4= 115,142 KPa
 Sh5= 115,142 KPa Sh6= 115,142 KPa Sh7= 115,142 KPa Sh8= 115,142 KPa
 Sh9= 115,142 KPa Sy= 172,369 KPa

 From 6425 To 6430 DY= -380.000 mm.

GENERAL

Mat= (102)A53 Grade B E= 203,401,232 KPa EH1= 203,401,232 KPa
 EH2= 203,401,232 KPa EH3= 203,401,232 KPa EH4= 203,401,232 KPa
 EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa
 EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292
 Pipe Den= .0078334 kg./cu.cm.

RESTRAINTS

Node 6430 +Y

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 6440 To 6450 DX= -300.000 mm.

RESTRAINTS

Node 6450 +Y

 From 6460 To 6470 DX= -300.000 mm.

RESTRAINTS

Node 6470 Y

 From 6480 To 6485 DY= -230.000 mm.

GENERAL

Mat= (165)A312 TP316L E= 195,127,520 KPa EH1= 195,127,520 KPa
 EH2= 195,127,520 KPa EH3= 195,127,520 KPa EH4= 195,127,520 KPa
 EH5= 195,127,520 KPa EH6= 195,127,520 KPa EH7= 195,127,520 KPa
 EH8= 195,127,520 KPa EH9= 195,127,520 KPa v = .292
 Pipe Den= .0080272 kg./cu.cm.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 115,142 KPa
 Sh1= 115,142 KPa Sh2= 115,142 KPa Sh3= 115,142 KPa Sh4= 115,142 KPa
 Sh5= 115,142 KPa Sh6= 115,142 KPa Sh7= 115,142 KPa Sh8= 115,142 KPa
 Sh9= 115,142 KPa Sy= 172,369 KPa

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INPUT LISTING

From 6485 To 6490 DY= -380.000 mm.

GENERAL

Mat= (102)A53 Grade B E= 203,401,232 KPa EH1= 203,401,232 KPa
 EH2= 203,401,232 KPa EH3= 203,401,232 KPa EH4= 203,401,232 KPa
 EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa
 EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292
 Pipe Den= .0078334 kg./cu.cm.

RESTRAINTS

Node 6490 +Y Mu = .30

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

From 6510 To 6515 DY= -230.000 mm.

GENERAL

Mat= (165)A312 TP316L E= 195,127,520 KPa EH1= 195,127,520 KPa
 EH2= 195,127,520 KPa EH3= 195,127,520 KPa EH4= 195,127,520 KPa
 EH5= 195,127,520 KPa EH6= 195,127,520 KPa EH7= 195,127,520 KPa
 EH8= 195,127,520 KPa EH9= 195,127,520 KPa v = .292
 Pipe Den= .0080272 kg./cu.cm.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 115,142 KPa
 Sh1= 115,142 KPa Sh2= 115,142 KPa Sh3= 115,142 KPa Sh4= 115,142 KPa
 Sh5= 115,142 KPa Sh6= 115,142 KPa Sh7= 115,142 KPa Sh8= 115,142 KPa
 Sh9= 115,142 KPa Sy= 172,369 KPa

From 6515 To 6520 DY= -380.000 mm.

GENERAL

Mat= (102)A53 Grade B E= 203,401,232 KPa EH1= 203,401,232 KPa
 EH2= 203,401,232 KPa EH3= 203,401,232 KPa EH4= 203,401,232 KPa
 EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa
 EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292
 Pipe Den= .0078334 kg./cu.cm.

RESTRAINTS

Node 6520 +Y Mu = .30

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

From 6530 To 6535 DY= -230.000 mm.

GENERAL

Mat= (165)A312 TP316L E= 195,127,520 KPa EH1= 195,127,520 KPa
 EH2= 195,127,520 KPa EH3= 195,127,520 KPa EH4= 195,127,520 KPa
 EH5= 195,127,520 KPa EH6= 195,127,520 KPa EH7= 195,127,520 KPa
 EH8= 195,127,520 KPa EH9= 195,127,520 KPa v = .292
 Pipe Den= .0080272 kg./cu.cm.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 115,142 KPa
 Sh1= 115,142 KPa Sh2= 115,142 KPa Sh3= 115,142 KPa Sh4= 115,142 KPa
 Sh5= 115,142 KPa Sh6= 115,142 KPa Sh7= 115,142 KPa Sh8= 115,142 KPa
 Sh9= 115,142 KPa Sy= 172,369 KPa

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INPUT LISTING

From 6535 To 6540 DY= -380.000 mm.

GENERAL

Mat= (102)A53 Grade B E= 203,401,232 KPa EH1= 203,401,232 KPa
 EH2= 203,401,232 KPa EH3= 203,401,232 KPa EH4= 203,401,232 KPa
 EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa
 EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292
 Pipe Den= .0078334 kg./cu.cm.

RESTRAINTS

Node 6540 +Y Mu = .30
 Node 6540 X Gap= 3.000 mm. Mu = .30

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

From 6550 To 6590 DY= -610.000 mm.

RESTRAINTS

Node 6590 +Y
 Node 6590 X Gap= 3.000 mm.

From 6600 To 6610 DY= -500.000 mm.

PIPE

Dia= 168.275 mm. Wall= 7.112 mm.
 Insul Thk= .000 mm.

RESTRAINTS

Node 6610 +Y
 Node 6610 Z Gap= 3.000 mm.

From 6630 To 6640 DY= -500.000 mm.

RESTRAINTS

Node 6640 +Y Mu = .30
 Node 6640 Z Gap= 3.000 mm. Mu = .30

From 6660 To 6670 DY= -500.000 mm.

RESTRAINTS

Node 6670 +Y
 Node 6670 Z Gap= 3.000 mm.

From 6680 To 6690 DY= -500.000 mm.

RESTRAINTS

Node 6690 +Y Mu = .30

From 6700 To 6705 DX= 100.000 mm.

PIPE

Dia= 114.300 mm. Wall= 6.020 mm.

GENERAL

Mat= (165)A312 TP316L E= 195,127,520 KPa EH1= 195,127,520 KPa
 EH2= 195,127,520 KPa EH3= 195,127,520 KPa EH4= 195,127,520 KPa
 EH5= 195,127,520 KPa EH6= 195,127,520 KPa EH7= 195,127,520 KPa
 EH8= 195,127,520 KPa EH9= 195,127,520 KPa v = .292
 Pipe Den= .0080272 kg./cu.cm. Insul Thk= .000 mm.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 115,142 KPa
 Sh1= 115,142 KPa Sh2= 115,142 KPa Sh3= 115,142 KPa Sh4= 115,142 KPa
 Sh5= 115,142 KPa Sh6= 115,142 KPa Sh7= 115,142 KPa Sh8= 115,142 KPa

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INPUT LISTING

Sh9= 115,142 KPa Sy= 172,369 KPa

 From 6705 To 6710 DX= 400.000 mm.

GENERAL

Mat= (102)A53 Grade B E= 203,401,232 KPa EH1= 203,401,232 KPa
 EH2= 203,401,232 KPa EH3= 203,401,232 KPa EH4= 203,401,232 KPa
 EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa
 EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292
 Pipe Den= .0078334 kg./cu.cm.

RESTRAINTS

Node 6710 +Y Mu = .30

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 6720 To 6730 DY= -700.000 mm.

PIPE

Dia= 88.900 mm. Wall= 5.486 mm.
 Insul Thk= .000 mm.

RESTRAINTS

Node 6730 +Y Mu = .30
 Node 6730 X Gap= 3.000 mm.

 From 6740 To 6750 DZ= -300.000 mm.

RESTRAINTS

Node 6750 +Y

 From 6760 To 6765 DX= -100.000 mm.

PIPE

Dia= 114.300 mm. Wall= 6.020 mm.

GENERAL

Mat= (165)A312 TP316L E= 195,127,520 KPa EH1= 195,127,520 KPa
 EH2= 195,127,520 KPa EH3= 195,127,520 KPa EH4= 195,127,520 KPa
 EH5= 195,127,520 KPa EH6= 195,127,520 KPa EH7= 195,127,520 KPa
 EH8= 195,127,520 KPa EH9= 195,127,520 KPa v = .292
 Pipe Den= .0080272 kg./cu.cm. Insul Thk= .000 mm.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 115,142 KPa
 Sh1= 115,142 KPa Sh2= 115,142 KPa Sh3= 115,142 KPa Sh4= 115,142 KPa
 Sh5= 115,142 KPa Sh6= 115,142 KPa Sh7= 115,142 KPa Sh8= 115,142 KPa
 Sh9= 115,142 KPa Sy= 172,369 KPa

 From 6765 To 6770 DX= -450.000 mm.

GENERAL

Mat= (102)A53 Grade B E= 203,401,232 KPa EH1= 203,401,232 KPa
 EH2= 203,401,232 KPa EH3= 203,401,232 KPa EH4= 203,401,232 KPa
 EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa
 EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292
 Pipe Den= .0078334 kg./cu.cm.

RESTRAINTS

Node 6770 +Y Mu = .30

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

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INPUT LISTING

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
Sh9= 137,895 KPa Sy= 241,316 KPa

From 7000 To 7005 DX= 100.000 mm.

GENERAL

Mat= (165)A312 TP316L E= 195,127,520 KPa EH1= 195,127,520 KPa
EH2= 195,127,520 KPa EH3= 195,127,520 KPa EH4= 195,127,520 KPa
EH5= 195,127,520 KPa EH6= 195,127,520 KPa EH7= 195,127,520 KPa
EH8= 195,127,520 KPa EH9= 195,127,520 KPa v = .292
Pipe Den= .0080272 kg./cu.cm.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 115,142 KPa
Sh1= 115,142 KPa Sh2= 115,142 KPa Sh3= 115,142 KPa Sh4= 115,142 KPa
Sh5= 115,142 KPa Sh6= 115,142 KPa Sh7= 115,142 KPa Sh8= 115,142 KPa
Sh9= 115,142 KPa Sy= 172,369 KPa

From 7005 To 7010 DX= 400.000 mm.

GENERAL

Mat= (102)A53 Grade B E= 203,401,232 KPa EH1= 203,401,232 KPa
EH2= 203,401,232 KPa EH3= 203,401,232 KPa EH4= 203,401,232 KPa
EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa
EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292
Pipe Den= .0078334 kg./cu.cm.

RESTRAINTS

Node 7010 +Y Mu = .30
Node 7010 Z Gap= 3.000 mm.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
Sh9= 137,895 KPa Sy= 241,316 KPa

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MATERIAL Changes:

20	40	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
280	300	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
500	580	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
610	620	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
620	5190	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
5300	5310	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
640	660	Mat= (102)A53 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
620	680	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
820	840	Mat= (383)A516 70 E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
280	4350	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.

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INPUT LISTING

1020	1040	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
1020	1260	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
1400	1480	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
1660	1680	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
1820	1920	Mat= (165)A312 TP316L E= 195,127,520 KPa v = .292 Density= .0080 kg./cu.cm.
2000	6420	Mat= (165)A312 TP316L E= 195,127,520 KPa v = .292 Density= .0080 kg./cu.cm.
2000	4100	Mat= (165)A312 TP316L E= 195,127,520 KPa v = .292 Density= .0080 kg./cu.cm.
4505	6790	Mat= (165)A312 TP316L E= 195,127,520 KPa v = .292 Density= .0080 kg./cu.cm.
6845	6830	Mat= (165)A312 TP316L E= 195,127,520 KPa v = .292 Density= .0080 kg./cu.cm.
4100	4560	Mat= (165)A312 TP316L E= 195,127,520 KPa v = .292 Density= .0080 kg./cu.cm.
4740	4750	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
4570	4980	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
4980	4990	E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
5120	5130	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
3960	8050	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
4710	6530	Mat= (165)A312 TP316L E= 195,127,520 KPa v = .292 Density= .0080 kg./cu.cm.
6080	6090	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
1260	2140	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
4750	6550	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
6210	6220	Mat= (102)A53 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
6420	6425	Mat= (165)A312 TP316L E= 195,127,520 KPa v = .292 Density= .0080 kg./cu.cm.
6425	6430	Mat= (102)A53 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
6480	6485	Mat= (165)A312 TP316L E= 195,127,520 KPa v = .292 Density= .0080 kg./cu.cm.
6485	6490	Mat= (102)A53 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
6510	6515	Mat= (165)A312 TP316L E= 195,127,520 KPa v = .292 Density= .0080 kg./cu.cm.
6515	6520	Mat= (102)A53 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
6530	6535	Mat= (165)A312 TP316L E= 195,127,520 KPa v = .292 Density= .0080 kg./cu.cm.
6535	6540	Mat= (102)A53 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.

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INPUT LISTING

6700	6705	Mat= (165)A312 TP316L E= 195,127,520 KPa v = .292 Density= .0080 kg./cu.cm.
6705	6710	Mat= (102)A53 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
6760	6765	Mat= (165)A312 TP316L E= 195,127,520 KPa v = .292 Density= .0080 kg./cu.cm.
6765	6770	Mat= (102)A53 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
7000	7005	Mat= (165)A312 TP316L E= 195,127,520 KPa v = .292 Density= .0080 kg./cu.cm.
7005	7010	Mat= (102)A53 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.

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ALLOWABLE STRESS Changes

20	40	B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa Sh9= 137,895 KPa Sy= 241,316 KPa
140	160	B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa Sh9= 137,895 KPa Sy= 241,316 KPa
120	180	B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa Sh9= 137,895 KPa Sy= 241,316 KPa
280	300	B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa Sh9= 137,895 KPa Sy= 241,316 KPa
500	580	B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa Sh9= 137,895 KPa Sy= 241,316 KPa
580	600	B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa

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INPUT LISTING

		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
610	620	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
620	5190	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
5300	5310	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,261 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
610	640	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
640	660	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
620	680	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
820	840	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 160,648 KPa	Sh1= 160,373 KPa
		Sh2= 157,769 KPa	Sh3= 160,648 KPa
		Sh4= 160,373 KPa	Sh5= 160,648 KPa
		Sh6= 160,648 KPa	Sh7= 160,648 KPa
		Sh8= 160,648 KPa	Sh9= 160,648 KPa
		Sy= 262,001 KPa	
280	4350	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa

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INPUT LISTING

		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
4360	4370	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,571 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
4370	4380	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,571 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
900	920	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,571 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
1020	1040	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,571 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
1020	1260	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,571 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
1400	1480	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,571 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
1660	1680	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,571 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
1820	1920	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 115,142 KPa	Sh1= 115,142 KPa
		Sh2= 111,904 KPa	Sh3= 115,142 KPa
		Sh4= 115,142 KPa	Sh5= 115,142 KPa
		Sh6= 115,142 KPa	Sh7= 115,142 KPa

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INPUT LISTING

		Sh8= 115,142 KPa	Sh9= 115,142 KPa
		Sy= 172,369 KPa	
2000	6420	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 115,142 KPa	Sh1= 115,142 KPa
		Sh2= 111,904 KPa	Sh3= 115,142 KPa
		Sh4= 115,142 KPa	Sh5= 115,142 KPa
		Sh6= 115,142 KPa	Sh7= 115,142 KPa
		Sh8= 115,142 KPa	Sh9= 115,142 KPa
		Sy= 172,369 KPa	
2000	4100	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 115,142 KPa	Sh1= 115,142 KPa
		Sh2= 111,904 KPa	Sh3= 115,142 KPa
		Sh4= 115,142 KPa	Sh5= 115,142 KPa
		Sh6= 115,142 KPa	Sh7= 115,142 KPa
		Sh8= 115,142 KPa	Sh9= 115,142 KPa
		Sy= 172,369 KPa	
4505	6790	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 115,142 KPa	Sh1= 115,142 KPa
		Sh2= 111,904 KPa	Sh3= 115,142 KPa
		Sh4= 115,142 KPa	Sh5= 115,142 KPa
		Sh6= 115,142 KPa	Sh7= 115,142 KPa
		Sh8= 115,142 KPa	Sh9= 115,142 KPa
		Sy= 172,369 KPa	
6845	6830	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 115,142 KPa	Sh1= 115,142 KPa
		Sh2= 111,904 KPa	Sh3= 115,142 KPa
		Sh4= 115,142 KPa	Sh5= 115,142 KPa
		Sh6= 115,142 KPa	Sh7= 115,142 KPa
		Sh8= 115,142 KPa	Sh9= 115,142 KPa
		Sy= 172,369 KPa	
4100	4560	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 115,142 KPa	Sh1= 115,142 KPa
		Sh2= 111,904 KPa	Sh3= 115,142 KPa
		Sh4= 115,142 KPa	Sh5= 115,142 KPa
		Sh6= 115,142 KPa	Sh7= 115,142 KPa
		Sh8= 115,142 KPa	Sh9= 115,142 KPa
		Sy= 172,369 KPa	
4740	4750	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
4780	4160	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
4310	4320	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa

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INPUT LISTING

		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
4780	6620	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
4570	4980	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,571 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
4980	4990	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,571 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
5120	5130	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,261 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
3960	8050	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,261 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
4710	6530	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 115,142 KPa	Sh1= 115,142 KPa
		Sh2= 115,142 KPa	Sh3= 115,142 KPa
		Sh4= 115,142 KPa	Sh5= 115,142 KPa
		Sh6= 115,142 KPa	Sh7= 115,142 KPa
		Sh8= 115,142 KPa	Sh9= 115,142 KPa
		Sy= 172,369 KPa	
6080	6090	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
1260	2140	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,571 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa

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INPUT LISTING

		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
2440	2460	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,261 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
2280	2300	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,571 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
2300	2620	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,571 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
2740	2760	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,261 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
4750	6550	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
6210	6220	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
6420	6425	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 115,142 KPa	Sh1= 115,142 KPa
		Sh2= 115,142 KPa	Sh3= 115,142 KPa
		Sh4= 115,142 KPa	Sh5= 115,142 KPa
		Sh6= 115,142 KPa	Sh7= 115,142 KPa
		Sh8= 115,142 KPa	Sh9= 115,142 KPa
		Sy= 172,369 KPa	
6425	6430	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa

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INPUT LISTING

		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
6480	6485	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 115,142 KPa	Sh1= 115,142 KPa
		Sh2= 115,142 KPa	Sh3= 115,142 KPa
		Sh4= 115,142 KPa	Sh5= 115,142 KPa
		Sh6= 115,142 KPa	Sh7= 115,142 KPa
		Sh8= 115,142 KPa	Sh9= 115,142 KPa
		Sy= 172,369 KPa	
6485	6490	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
6510	6515	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 115,142 KPa	Sh1= 115,142 KPa
		Sh2= 115,142 KPa	Sh3= 115,142 KPa
		Sh4= 115,142 KPa	Sh5= 115,142 KPa
		Sh6= 115,142 KPa	Sh7= 115,142 KPa
		Sh8= 115,142 KPa	Sh9= 115,142 KPa
		Sy= 172,369 KPa	
6515	6520	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
6530	6535	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 115,142 KPa	Sh1= 115,142 KPa
		Sh2= 115,142 KPa	Sh3= 115,142 KPa
		Sh4= 115,142 KPa	Sh5= 115,142 KPa
		Sh6= 115,142 KPa	Sh7= 115,142 KPa
		Sh8= 115,142 KPa	Sh9= 115,142 KPa
		Sy= 172,369 KPa	
6535	6540	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
6700	6705	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 115,142 KPa	Sh1= 115,142 KPa
		Sh2= 115,142 KPa	Sh3= 115,142 KPa
		Sh4= 115,142 KPa	Sh5= 115,142 KPa
		Sh6= 115,142 KPa	Sh7= 115,142 KPa
		Sh8= 115,142 KPa	Sh9= 115,142 KPa
		Sy= 172,369 KPa	
6705	6710	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa

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INPUT LISTING

		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
6760	6765	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 115,142 KPa	Sh1= 115,142 KPa
		Sh2= 115,142 KPa	Sh3= 115,142 KPa
		Sh4= 115,142 KPa	Sh5= 115,142 KPa
		Sh6= 115,142 KPa	Sh7= 115,142 KPa
		Sh8= 115,142 KPa	Sh9= 115,142 KPa
		Sy= 172,369 KPa	
6765	6770	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
7000	7005	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 115,142 KPa	Sh1= 115,142 KPa
		Sh2= 115,142 KPa	Sh3= 115,142 KPa
		Sh4= 115,142 KPa	Sh5= 115,142 KPa
		Sh6= 115,142 KPa	Sh7= 115,142 KPa
		Sh8= 115,142 KPa	Sh9= 115,142 KPa
		Sy= 172,369 KPa	
7005	7010	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	

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BEND ELEMENTS

40	60	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00 59
		Angle/Node @2= .00 58
60	80	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00 79
		Angle/Node @2= .00 78
80	100	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00 99
		Angle/Node @2= .00 98
120	180	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		179
490	500	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		499 Angle/Node @2= .00 498
500	580	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		579 Angle/Node @2= .00 578
580	600	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		599 Angle/Node @2= .00 598

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INPUT LISTING

620	5190	Radius= 76.200 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		5189 Angle/Node @2= .00 5188
5230	5240	Radius= 76.200 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		5239 Angle/Node @2= .00 5238
5320	5330	Radius= 114.300 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		5329 Angle/Node @2= .00 5328
5340	5350	Radius= 114.300 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		5349 Angle/Node @2= .00 5348
5355	5360	Radius= 114.300 mm. (LONG)
		Bend Angle= 90.000
5375	5380	Radius= 114.300 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		5379 Angle/Node @2= .00 5378
5380	5390	Radius= 114.300 mm. (LONG)
		Bend Angle= 50.075 Angle/Node @1= 25.04
		5389 Angle/Node @2= .00 5388
620	680	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		679 Angle/Node @2= .00 678
4380	4390	Radius= 76.200 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		4389 Angle/Node @2= .00 4388
4395	880	Radius= 76.200 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		879 Angle/Node @2= .00 878
960	980	Radius= 76.200 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		979 Angle/Node @2= .00 978
1100	1120	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1119 Angle/Node @2= .00 1118
1120	1140	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1139 Angle/Node @2= .00 1138
1160	1180	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1179 Angle/Node @2= .00 1178
1180	1200	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1199 Angle/Node @2= .00 1198
1390	1400	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1399 Angle/Node @2= .00 1398
1400	1480	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1479 Angle/Node @2= .00 1478
1520	1540	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1539 Angle/Node @2= .00 1538
1560	1580	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1579 Angle/Node @2= .00 1578

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INPUT LISTING

1580	1600	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1599 Angle/Node @2= .00 1598
1600	1620	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1619 Angle/Node @2= .00 1618
1920	1940	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1939
1960	1980	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1979 Angle/Node @2= .00 1978
4482	4485	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		4484 Angle/Node @2= .00 4483
6780	6795	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		6794 Angle/Node @2= .00 6793
6795	6800	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		6799 Angle/Node @2= .00 6798
6810	6820	Radius= 228.600 mm. (LONG)
		Bend Angle= 45.000 Angle/Node @1= 22.50
		6819 Angle/Node @2= .00 6818
8150	6915	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		6914 Angle/Node @2= .00 6913
4580	4590	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		4589 Angle/Node @2= .00 4588
6550	4140	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		4139 Angle/Node @2= .00 4138
6560	4760	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		4759 Angle/Node @2= .00 4758
4760	4770	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		4769
4930	4940	Radius= 304.800 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		4939 Angle/Node @2= .00 4938
4940	4950	Radius= 304.800 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		4949 Angle/Node @2= .00 4948
4950	4960	Radius= 304.800 mm. (LONG)
		Bend Angle= 45.000 Angle/Node @1= 22.50
		4959 Angle/Node @2= .00 4958
5010	5020	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		5019
5130	5140	Radius= 152.400 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		5139
5145	5150	Radius= 152.400 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00

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INPUT LISTING

5150	5160	5149 Angle/Node @2= .00 5148 Radius= 152.400 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
5160	5170	5159 Angle/Node @2= .00 5158 Radius= 152.400 mm. (LONG) Bend Angle= 44.939 Angle/Node @1= 22.47
5435	5440	5169 Angle/Node @2= .00 5168 Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
5440	5450	5439 Angle/Node @2= .00 5438 Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
5455	5460	5449 Angle/Node @2= .00 5448 Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
5460	5465	5459 Angle/Node @2= .00 5458 Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
8060	8070	5464 Angle/Node @2= .00 5463 Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
8070	8080	8069 Angle/Node @2= .00 8068 Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
8090	8100	8079 Angle/Node @2= .00 8078 Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
8100	8110	8099 Angle/Node @2= .00 8098 Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
1260	2140	8109 Angle/Node @2= .00 8108 Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
2140	2160	2139 Angle/Node @2= .00 2138 Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
2220	2260	2159 Angle/Node @2= .00 2158 Radius= 76.200 mm. (LONG) Bend Angle= 90.000
2500	2520	Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
5710	2580	2519 Angle/Node @2= .00 2518 Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
2580	5840	2579 Angle/Node @2= .00 2578 Radius= 228.600 mm. (LONG) Bend Angle= 45.000 Angle/Node @1= 22.50
2280	2300	5839 Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
2800	2820	2299 Angle/Node @2= .00 2298 Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
2870	2880	2819 Angle/Node @2= .00 2818 Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00

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		2879	Angle/Node @2= .00 2878
5805	5810		Radius= 228.600 mm. (LONG)
			Bend Angle= 90.000 Angle/Node @1= 45.00
		5809	Angle/Node @2= .00 5808
5810	5820		Radius= 228.600 mm. (LONG)
			Bend Angle= 39.950 Angle/Node @1= 19.97
		5819	Angle/Node @2= .00 5818

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RIGIDS

20	40	RIGID	Weight= 191.27 N.
120	140	RIGID	Weight= .00 N.
200	220	RIGID	Weight= 191.27 N.
220	240	RIGID	Weight= 191.27 N.
320	340	RIGID	Weight= 191.27 N.
340	360	RIGID	Weight= 1,023.41 N.
360	380	RIGID	Weight= 191.27 N.
420	440	RIGID	Weight= 191.27 N.
440	460	RIGID	Weight= 191.27 N.
500	6210	RIGID	Weight= .00 N.
5200	5210	RIGID	Weight= 44.48 N.
5210	5220	RIGID	Weight= 93.41 N.
5220	5230	RIGID	Weight= 44.48 N.
5240	6230	RIGID	Weight= .00 N.
5250	5260	RIGID	Weight= 44.48 N.
5260	5270	RIGID	Weight= 44.48 N.
5275	6260	RIGID	Weight= .00 N.
5280	5290	RIGID	Weight= 44.48 N.
5290	5300	RIGID	Weight= 258.00 N.
5300	5310	RIGID	Weight= 31.14 N.
5340	6280	RIGID	Weight= .00 N.
610	640	RIGID	Weight= .00 N.
700	720	RIGID	Weight= 286.91 N.
721	760	RIGID	Weight= 177.93 N.
780	800	RIGID	Weight= .00 N.
780	6241	RIGID	Weight= .00 N.
780	6271	RIGID	Weight= .00 N.
780	6291	RIGID	Weight= .00 N.
820	840	RIGID	Weight= .00 N.
4350	4360	RIGID	Weight= 44.48 N.
4360	4370	RIGID	Weight= 311.38 N.
4370	4380	RIGID	Weight= 57.83 N.
4390	6300	RIGID	Weight= .00 N.
900	920	RIGID	Weight= 57.83 N.
920	940	RIGID	Weight= 427.03 N.
940	960	RIGID	Weight= 57.83 N.
1060	1080	RIGID	Weight= 364.75 N.
1080	1100	RIGID	Weight= 364.75 N.
1220	1240	RIGID	Weight= 364.75 N.
1300	1320	RIGID	Weight= 364.75 N.
1320	1340	RIGID	Weight= 3,087.07 N.
1340	1360	RIGID	Weight= 364.75 N.
1640	1660	RIGID	Weight= 364.75 N.
1660	1680	RIGID	Weight= 111.21 N.

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INPUT LISTING

1720	1740	RIGID	Weight= .00 N.
1740	1760	RIGID	Weight= .00 N.
1800	1820	RIGID	Weight= 111.21 N.
1740	1840	RIGID	Weight= 2,250.11 N.
1840	1860	RIGID	Weight=10,500.52 N.
1860	1880	RIGID	Weight= 4,500.22 N.
1880	1900	RIGID	Weight=10,500.52 N.
1900	1740	RIGID	Weight= 2,250.11 N.
1820	1920	RIGID	Weight= 191.27 N.
2000	6420	RIGID	Weight= .00 N.
2000	6420	RIGID	Weight= .00 N.
4400	4410	RIGID	Weight= 364.75 N.
4410	4420	RIGID	Weight= 3,087.07 N.
4420	4430	RIGID	Weight= 364.75 N.
4440	6480	RIGID	Weight= .00 N.
4450	4460	RIGID	Weight= 364.75 N.
4460	4470	RIGID	Weight= 733.96 N.
4470	4480	RIGID	Weight= 364.75 N.
4485	6760	RIGID	Weight= .00 N.
4490	4500	RIGID	Weight= 364.75 N.
4500	4505	RIGID	Weight= 1,005.30 N.
4505	6790	RIGID	Weight= 364.75 N.
6795	7000	RIGID	Weight= .00 N.
4600	4610	RIGID	Weight= 364.75 N.
4610	4620	RIGID	Weight= 2,708.97 N.
4620	4630	RIGID	Weight= 364.75 N.
4640	6510	RIGID	Weight= .00 N.
4660	4670	RIGID	Weight= 191.27 N.
4670	4680	RIGID	Weight= 387.00 N.
4680	4690	RIGID	Weight= 191.27 N.
4710	6530	RIGID	Weight= .00 N.
4720	4730	RIGID	Weight= 364.75 N.
4730	4740	RIGID	Weight= 2,708.97 N.
4740	4750	RIGID	Weight= 111.21 N.
4160	6600	RIGID	Weight= .00 N.
4180	4200	RIGID	Weight= 177.93 N.
4200	4220	RIGID	Weight= 30.00 N.
4220	4240	RIGID	Weight= 177.93 N.
4261	4280	RIGID	Weight= .00 N.
4280	4300	RIGID	Weight= .00 N.
4300	4310	RIGID	Weight= .00 N.
4310	4320	RIGID	Weight= .00 N.
6620	6630	RIGID	Weight= .00 N.
4800	4810	RIGID	Weight= 177.93 N.
4810	4820	RIGID	Weight= 2,090.66 N.
4820	4830	RIGID	Weight= 177.93 N.
4840	4850	RIGID	Weight= 177.93 N.
4850	4860	RIGID	Weight= 360.31 N.
4860	4870	RIGID	Weight= 177.93 N.
6650	6660	RIGID	Weight= .00 N.
4890	4900	RIGID	Weight= 177.93 N.
4900	4910	RIGID	Weight= 2,259.70 N.
4910	4920	RIGID	Weight= 177.93 N.
4930	6680	RIGID	Weight= .00 N.
4980	4990	RIGID	Weight= 364.75 N.
4990	5000	RIGID	Weight= 2,708.97 N.

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5000	5010	RIGID	Weight= 364.75 N.
5020	6700	RIGID	Weight= .00 N.
5040	5060	RIGID	Weight= 106.76 N.
5060	5070	RIGID	Weight= 217.96 N.
5070	5080	RIGID	Weight= 106.76 N.
5095	6720	RIGID	Weight= .00 N.
5100	5110	RIGID	Weight= 191.27 N.
5110	5120	RIGID	Weight= 1,116.50 N.
5120	5130	RIGID	Weight= 71.17 N.
5145	6740	RIGID	Weight= .00 N.
4710	6530	RIGID	Weight= .00 N.
8190	8200	RIGID	Weight= 409.24 N.
8200	8210	RIGID	Weight= 409.24 N.
2340	2360	RIGID	Weight= 57.83 N.
2360	5650	RIGID	Weight= 311.38 N.
5650	5660	RIGID	Weight= 57.83 N.
5670	5680	RIGID	Weight= 35.59 N.
5680	5690	RIGID	Weight= 35.59 N.
5690	2420	RIGID	Weight= 25.00 N.
2420	2440	RIGID	Weight= 100.00 N.
2440	2460	RIGID	Weight= 54.49 N.
2540	5700	RIGID	Weight= 111.21 N.
5700	2560	RIGID	Weight= 1,005.30 N.
2560	2570	RIGID	Weight= 111.21 N.
5710	6440	RIGID	Weight= .00 N.
2640	5720	RIGID	Weight= 57.83 N.
5720	2660	RIGID	Weight= 311.38 N.
2660	5730	RIGID	Weight= 57.83 N.
5740	5750	RIGID	Weight= 35.59 N.
5750	5760	RIGID	Weight= 35.59 N.
5760	2720	RIGID	Weight= 35.59 N.
2720	2740	RIGID	Weight= 100.00 N.
2740	2760	RIGID	Weight= 54.49 N.
2840	2846	RIGID	Weight= 111.21 N.
2846	2852	RIGID	Weight= 1,005.30 N.
2852	2860	RIGID	Weight= 111.21 N.
2870	6460	RIGID	Weight= .00 N.

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SIF's & TEE's

140	160	Node 140	Unreinforced Tee
260	280	Node 280	Weldolet
620	5190	Node 620	Weldolet
5240	6230	Node 6230	Unreinforced Tee
5275	6260	Node 6260	Unreinforced Tee
5340	6280	Node 6280	Unreinforced Tee
610	640	Node 640	Unreinforced Tee
4390	6300	Node 6300	Unreinforced Tee
1000	1020	Node 1020	Weldolet
1020	1260	Node 1260	Weldolet
2000	6420	Node 6420	Unreinforced Tee
		Pad= 7.110 mm.	
2000	6420	Node 6420	Unreinforced Tee
2000	4100	Node 4100	Welding Tee

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4440	6480	Node 6480	Unreinforced Tee	
		Pad= 7.110 mm.		
4485	6760	Node 6760	Unreinforced Tee	
		Pad= 7.110 mm.		
6795	7000	Node 7000	Unreinforced Tee	
		Pad= 7.110 mm.		
6910	8150	Node 8150	Welding Tee	
4100	4560	Node 4560	Welding Tee	
4640	6510	Node 6510	Unreinforced Tee	
		Pad= 7.110 mm.		
4710	6530	Node 6530	Unreinforced Tee	
		Pad= 7.112 mm.		
4770	4780	Node 4780	Welding Tee	
4160	6600	Node 6600	Unreinforced Tee	
6620	6630	Node 6630	Unreinforced Tee	
6650	6660	Node 6660	Unreinforced Tee	
4930	6680	Node 6680	Unreinforced Tee	
5020	6700	Node 6700	Unreinforced Tee	
		Pad= 7.112 mm.		
5095	6720	Node 6720	Reinforced Tee	Pad= 6.020 mm.
5145	6740	Node 6740	Unreinforced Tee	
4710	6530	Node 6530	Unreinforced Tee	
		Pad= 7.112 mm.		
8160	8170	Node 8170	Welding Tee	
2270	2280	Node 2280	Welding Tee	
5710	6440	Node 6440	Unreinforced Tee	
2880	5800	Node 5800	Welding Tee	

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REDUCERS

5310	5320	Diam2= 88.900 mm.	Wall2= 7.620 mm.
4650	4660	Diam2= 114.300 mm.	Wall2= 6.020 mm.
4690	4700	Diam2= 168.275 mm.	Wall2= 7.112 mm.
5030	5040	Diam2= 88.900 mm.	Wall2= 5.486 mm.
5080	5090	Diam2= 114.300 mm.	Wall2= 6.020 mm.
2400	5670	Diam2= 48.260 mm.	Wall2= 7.137 mm.
2460	2480	Diam2= 168.275 mm.	Wall2= 10.973 mm.
2700	5740	Diam2= 48.260 mm.	Wall2= 7.137 mm.
2760	2780	Diam2= 168.275 mm.	Wall2= 10.973 mm.

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RESTRAINTS

NODE	TYPE	CNODE	STIF1	Len GAP STIF2	MU YIELD FORCE	Dir Vectors
20	ANC					.000 .000 .000
160	-X				.30	1.000 .000 .000
160	Z	121				.000 .000 1.000
121	+Y				.10	.000 1.000 .000
160	X	121				1.000 .000 .000
300	+Y				.30	.000 1.000 .000
400	Y					.000 1.000 .000
400	Z					.000 .000 1.000
480	Y					.000 1.000 .000

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INPUT LISTING

480	Z				.000	.000	1.000
5355	+Y				.000	1.000	.000
5370	+Y				.30	.000	1.000
5370	Z			3.00		.000	.000
5375	+Y				.30	.000	1.000
660	+Y	800				.000	1.000
720	ANC	721				.000	.000
780	ANC	820				.000	.000
840	ANC					.000	.000
1040	+Y				.30	.000	1.000
1180	-X				.30	1.000	.000
1180	+Y				.30	.000	1.000
1240	ANC					.000	.000
1280	Y				.30	.000	1.000
1280	Z					.000	.000
1380	Y				.30	.000	1.000
1380	Z			3.00		.000	.000
1500	+Y					.000	1.000
1500	Z					.000	.000
1520	+Y				.30	.000	1.000
1560	+Y					.000	1.000
1560	X			3.00		1.000	.000
1660	ANC	1661				.000	.000
1700	ANC	1720				.000	.000
1780	ANC	1760				.000	.000
1840	Y				.10	.000	1.000
1840	X				.30	1.000	.000
1840	Z			6.00		.000	.000
1860	Y				.10	.000	1.000
1860	Z			6.00	.30	.000	.000
1880	Y				.10	.000	1.000
1880	Z			6.00		.000	.000
1900	Y				.10	.000	1.000
1900	X				.30	1.000	.000
1900	Z			6.00	.30	.000	.000
1960	+Y				.30	.000	1.000
6845	+Y				.30	.000	1.000
6845	X			3.00		1.000	.000
6845	Z			3.00		.000	.000
6870	+Y					.000	1.000
6890	+Y					.000	1.000
6890	X					1.000	.000
6900	+Y					.000	1.000
6905	+Y				.30	.000	1.000
6905	X			3.00		1.000	.000
6910	+Y				.30	.000	1.000
6920	+Y				.30	.000	1.000
6920	Z			3.00		.000	.000
6560	+Y				.30	.000	1.000
6560	Z					.000	.000
4220	ANC	4221				.000	.000
4260	ANC	4261				.000	.000
4320	ANC					.000	.000
3960	+Y				.30	.000	1.000
3960	X			3.00		1.000	.000
5420	+Y				.30	.000	1.000

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INPUT LISTING

5420	Z		3.00		.000	.000	1.000
5425	+Y			.30	.000	1.000	.000
5425	X		3.00		1.000	.000	.000
5430	+Y			.30	.000	1.000	.000
5435	+Y			.30	.000	1.000	.000
5435	X		3.00		1.000	.000	.000
5455	+Y			.30	.000	1.000	.000
5470	+Y			.30	.000	1.000	.000
5480	+Y				.000	1.000	.000
5480	X		3.00		1.000	.000	.000
5480	Z		3.00		.000	.000	1.000
8060	+Y			.30	.000	1.000	.000
8060	X		3.00		1.000	.000	.000
8070	+Y			.30	.000	1.000	.000
8090	+Y			.30	.000	1.000	.000
8110	+Y			.30	.000	1.000	.000
8120	+Y			.30	.000	1.000	.000
8120	X		3.00		1.000	.000	.000
8130	+Y			.30	.000	1.000	.000
8130	Z		3.00		.000	.000	1.000
6090	+Y			.30	.000	1.000	.000
6090	LIM		3.00		.000	.000	.000
6080	+Y			.30	.000	1.000	.000
6080	X		3.00		1.000	.000	.000
4970	+Y			.30	.000	1.000	.000
4970	X		3.00		1.000	.000	.000
8160	+Y			.30	.000	1.000	.000
8180	+Y			.30	.000	1.000	.000
8180	X		3.00		1.000	.000	.000
2180	+Y				.000	1.000	.000
2180	Z		3.00		.000	.000	1.000
2200	+Y			.30	.000	1.000	.000
2220	+Y				.000	1.000	.000
2220	Z		3.00		.000	.000	1.000
2270	+Y			.30	.000	1.000	.000
2320	+Y			.30	.000	1.000	.000
2500	+Y			.30	.000	1.000	.000
2500	Z				.000	.000	1.000
2500	X				1.000	.000	.000
2620	+Y				.000	1.000	.000
2800	+Y				.000	1.000	.000
2800	Z				.000	.000	1.000
2800	X				1.000	.000	.000
5805	+Y			.30	.000	1.000	.000
6220	+Y			.30	.000	1.000	.000
6220	Z				.000	.000	1.000
6240	+Y	6241		.30	.000	1.000	.000
6270	+Y	6271		.30	.000	1.000	.000
6270	Z	6271	3.00		.000	.000	1.000
6290	+Y	6291		.30	.000	1.000	.000
6290	Z	6291	3.00		.000	.000	1.000
6310	+Y			.30	.000	1.000	.000
6410	+Y			.30	.000	1.000	.000
6410	Z				.000	.000	1.000
6430	+Y				.000	1.000	.000
6450	+Y				.000	1.000	.000

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INPUT LISTING

6470	Y			.000	1.000	.000
6490	+Y		.30	.000	1.000	.000
6520	+Y		.30	.000	1.000	.000
6540	+Y		.30	.000	1.000	.000
6540	X	3.00	.30	1.000	.000	.000
6590	+Y			.000	1.000	.000
6590	X	3.00		1.000	.000	.000
6610	+Y			.000	1.000	.000
6610	Z	3.00		.000	.000	1.000
6640	+Y		.30	.000	1.000	.000
6640	Z	3.00	.30	.000	.000	1.000
6670	+Y			.000	1.000	.000
6670	Z	3.00		.000	.000	1.000
6690	+Y		.30	.000	1.000	.000
6710	+Y		.30	.000	1.000	.000
6730	+Y		.30	.000	1.000	.000
6730	X	3.00		1.000	.000	.000
6750	+Y			.000	1.000	.000
6770	+Y		.30	.000	1.000	.000
7010	+Y		.30	.000	1.000	.000
7010	Z	3.00		.000	.000	1.000

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HANGER CONTROL AND LOCATION DATA

No. of Hanger Design Load Cases = 1
 Actual Cold Load Flag = 0.0
 Short Range Spring Flag = 1
 Allowed Load Variation (%) = 25.0000
 Default Hanger Table = 5

140	160	Hanger Node = 160
		Hanger Connecting Node = 121
		Available Space = -1,000.0000 mm.
		Allowed Load Variation = 25.0000
		No. Hangers = 0.0 Short Range Flag = -1
		User Operating Load = .00 N. Free Node = 0
		Free Node = 0 Free Code = 0.0
		Spring Rate = .00 N./cm.
		Theoretical Cold Load = .00 N.

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EQUIPMENT LIMITS

20	40	Nozzle Node = 20

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 2,160.11 N. FB= 2,160.11 N.
 FC= 2,160.11 N. MA= 1,155.05 N.m. MB= 1,155.05 N.m. MC= 1,155.05 N.m.
 Equipment Major Direction Vector= .0000 1.0000 .0000
 Interact. Mtd= Absolute

760	780	Nozzle Node = 780

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INPUT LISTING

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 9,600.48 N. FB= 9,600.48 N.
 FC= 7,200.36 N. MA= 5,760.24 N.m. MB= 3,840.16 N.m. MC= 4,990.21 N.m.
 Equipment Major Direction Vector= .0000 .0000 1.0000
 Interact. Mtd= Absolute
 1220 1240 Nozzle Node = 1240

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 2,160.11 N. FB= 2,160.11 N.
 FC= 2,160.11 N. MA= 1,155.05 N.m. MB= 1,155.05 N.m. MC= 1,155.05 N.m.
 Equipment Major Direction Vector= .0000 1.0000 .0000
 Interact. Mtd= Absolute
 1680 1700 Nozzle Node = 1700

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 15,090.75 N. FB= 15,090.75 N.
 FC= 12,000.60 N. MA= 9,150.39 N.m. MB= 4,890.21 N.m. MC= 6,420.27 N.m.
 Equipment Major Direction Vector= .0000 .0000 1.0000
 Interact. Mtd= Absolute
 1780 1800 Nozzle Node = 1780

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 16,200.81 N. FB= 15,090.75 N.
 FC= 12,000.60 N. MA= 9,150.39 N.m. MB= 4,890.21 N.m. MC= 6,420.27 N.m.
 Equipment Major Direction Vector= .0000 .0000 1.0000
 Interact. Mtd= Absolute
 4240 4260 Nozzle Node = 4260

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 8,400.42 N. FB= 8,400.42 N.
 FC= 6,300.31 N. MA= 3,780.16 N.m. MB= 2,520.11 N.m. MC= 3,280.14 N.m.
 Equipment Major Direction Vector= .0000 1.0000 .0000
 Interact. Mtd= Absolute

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FORCES AND MOMENTS

5690 2420 Node 2420 FX1= 2,000.10 N.
 FY1= 1,000.05 N. FZ1= .00 N.
 5760 2720 Node 2720 FX2= 2,000.10 N.
 FY2= 1,000.05 N. FZ2= .00 N.

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UNIFORM LOAD Changes

20 40 Vector1 in G-s
 X1 Dir = .26 g's Y1 Dir = .00 g's
 Z1 Dir = .00 g's
 Vector2 in G-s
 X2 Dir = .00 g's Y2 Dir = .12 g's
 Z2 Dir = .00 g's
 Vector3 in G-s
 X3 Dir = .00 g's Y3 Dir = .00 g's
 Z3 Dir = .26 g's

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INPUT LISTING

INPUT UNITS USED...

UNITS=	SI (m NOM/SCH	INPUT=	ON		
LENGTH	inches	x	25.400	=	mm.
FORCE	pounds	x	4.448	=	N.
MASS(dynamics)	pounds	x	0.454	=	Kg.
MOMENTS(INPUT)	inch-pounds	x	0.113	=	N.m.
MOMENTS(OUTPUT)	inch-pounds	x	0.113	=	N.m.
STRESS	lbs./sq.in.	x	6.895	=	KPa
TEMP. SCALE	degrees F.	x	0.556	=	C
PRESSURE	psig	x	6.895	=	KPa
ELASTIC MODULUS	lbs./sq.in.	x	6.895	=	KPa
PIPE DENSITY	lbs./cu.in.	x	0.028	=	kg./cu.cm.
INSULATION DENS.	lbs./cu.in.	x	0.028	=	kg./cu.cm.
FLUID DENSITY	lbs./cu.in.	x	0.028	=	kg./cu.cm.
TRANSL. STIF	lbs./in.	x	1.751	=	N./cm.
ROTATIONAL STIF	in.lb./deg.	x	0.113	=	N.m./deg
UNIFORM LOAD	lb./in.	x	1.751	=	N./cm.
G LOAD	g's	x	1.000	=	g's
WIND LOAD	lbs./sq.in.	x	6.895	=	KPa
ELEVATION	inches	x	0.025	=	m.
COMPOUND LENGTH	inches	x	25.400	=	mm.
DIAMETER	inches	x	25.400	=	mm.
WALL THICKNESS	inches	x	25.400	=	mm.

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SETUP FILE PARAMETERS

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-----
CONNECT GEOMETRY THRU CNODES =      YES
MIN ALLOWED BEND ANGLE =             5.00000
MAX ALLOWED BEND ANGLE =             95.0000
BEND LENGTH ATTACHMENT PERCENT =     1.00000
MIN ANGLE TO ADJACENT BEND PT =      5.00000
LOOP CLOSURE TOLERANCE =             25.4000      mm.
THERMAL BOWING HORZ TOLERANCE =      0.100000E-03
AUTO NODE NUMBER INCREMENT=         10.0000
Z AXIS UP=                           NO
USE PRESSURE STIFFENING =             DEFAULT
ALPHA TOLERANCE =                    0.500000E-01
RESLD-FORCE =                         NO
HGR DEF RESWGT STIF =                 0.175127E+13 N./cm.
DECOMP SNG TOL =                     0.100000E+11
BEND AXIAL SHAPE =                    YES
FRICT STIF =                         0.175127E+07 N./cm.
FRICT NORM FORCE VAR =                 0.150000
FRICT ANGLE VAR =                     15.0000
FRICT SLIDE MULT =                    1.00000
ROD TOLERANCE =                       1.00000
ROD INC =                             2.00000
INCORE NUMERICAL CHECK =              NO
OUTCORE NUMERICAL CHECK =             NO
DEFAULT TRANS RESTRAINT STIFF=        0.175127E+13      N./cm.
DEFAULT ROT RESTRAINT STIFF=          0.112985E+12      N.m./deg
IGNORE SPRING HANGER STIFFNESS =      NO
MISSING MASS ZPA =                    EXTRACTED

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INPUT LISTING

```

MIN WALL MILL TOLERANCE =          12.5000
WRC-107 VERSION =          MAR 79 1B1/2B1
WRC-107 INTERPOLATION =          LAST VALUE
DEFAULT AMBIENT TEMPERATURE=          21.1111          C
BOURDON PRESSURE=          NONE
COEFFICIENT OF FRICTION (MU) =          0.000000
INCLUDE SPRG STIF IN HGR OPE =          NO
INCLUDE INSULATION IN HYDROTEST =          NO
REDUCED INTERSECTION =          B31.1(POST1980)
USE WRC329          NO
NO REDUCED SIF FOR RFT AND WLT          NO
B31.1 REDUCED Z FIX =          YES
CLASS 1 BRANCH FLEX          NO
ALL STRESS CASES CORRODED =          NO
ADD TORSION IN SL STRESS =          DEFAULT
ADD F/A IN STRESS =          DEFAULT
OCCASIONAL LOAD FACTOR =          0.000000
DEFAULT CODE =          B31.3
B31.3 SUS CASE SIF FACTOR =          0.000000
ALLOW USERS BEND SIF =          NO
USE SCHNEIDER          NO
YIELD CRITERION STRESS =          MAX 3D SHEAR
USE PD/4T          NO
BASE H00P STRESS ON ? =          ID
EN13480 USE IN OUTPLANE SIFS=          NO
LIBERAL EXPANSION ALLOWABLE=          YES
B31.3 SEC 319.2.3C SAXIAL=          Default
B31.3 WELDING/CONTOUR TEE ISB16.9          FALSE
PRESSURE VARIATION IN EXP CASE=          DEFAULT
IMPLEMENT B313 APP-P          NO
IMPLEMENT B313 CODE CASE 178          YES
IGNORE B31.1/B31.3 Wc FACTOR=          YES
USE FRP SIF =          YES
USE FRP FLEX =          YES
BS 7159 Pressure Stiffening=          Design Strain
FRP Property Data File=          CAESAR.FRP
FRP Emod (axial) =          0.220632E+08          KPa
FRP Ratio Gmod/Emod (axial) =          0.250000
FRP Ea/Eh*Vh/a =          0.152730
FRP Laminate Type =          THREE
FRP Alpha =          21.6000          C
FRP Density =          0.166079E-02 kg./cu.cm.
EXCLUDE f2 FROM UK00A BENDING =          NO
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EXECUTION CONTROL PARAMETERS

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Rigid/ExpJt Print Flag ..... 1.000
Bourdon Option ..... .000
Loop Closure Flag ..... 2.000
Thermal Bowing Delta Temp .. .000 C
Liberal Allowable Flag ..... 1.000
Uniform Load Option ..... 1.000

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INPUT LISTING

Ambient Temperature 20.997 C
 Plastic (FRP) Alpha 21.600
 Plastic (FRP) GMOD/EMODa 250
 Plastic (FRP) Laminate Type. 3.000
 Eqn Optimizer 000
 Node Selection 000
 Eqn Ordering 000
 Collins 000
 Degree Determination 000
 User Eqn Control 000
 North Direction -X

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COORDINATE REPORT

NODE	/------(mm.)-----/		
	X	Y	Z
20	6553.000	-5329.350	7060.100
40	6452.000	-5329.350	7060.100
60	5616.720	-5329.350	7060.100
80	5616.720	-6158.483	7060.100
100	6076.720	-6158.483	7060.100
120	6076.720	-7216.753	7060.100
140	6076.720	-7445.753	7060.100
160	6076.720	-7645.753	7060.100
120	6076.720	-7216.753	7060.100
180	6076.720	-7445.753	7060.100
200	5847.720	-7445.753	7060.100
220	5746.120	-7445.753	7060.100
240	5644.520	-7445.753	7060.100
260	4744.520	-7445.753	7060.100
280	4449.020	-7445.753	7060.100
300	3949.020	-7445.753	7060.100
320	3746.020	-7445.753	7060.100
340	3644.420	-7445.753	7060.100
360	3071.420	-7445.753	7060.100
380	2969.820	-7445.753	7060.100
400	2108.820	-7445.753	7060.100
420	551.820	-7445.753	7060.100
440	450.220	-7445.753	7060.100
460	348.620	-7445.753	7060.100
480	-894.380	-7445.753	7060.100
490	-2929.380	-7445.753	7060.100
500	-4964.380	-7445.753	7060.100
6210	-4964.380	-7521.953	7060.100
490	-2929.380	-7445.753	7060.100
500	-4964.380	-7445.753	7060.100
580	-4964.380	-3324.753	7060.100
600	-4964.380	-3324.753	4310.100
610	-5278.380	-3324.753	4310.100
620	-5594.380	-3324.753	4310.100
5190	-5594.380	-3125.753	4310.100
5200	-5594.380	-3125.753	4536.100
5210	-5594.380	-3125.753	4609.125
5220	-5594.380	-3125.753	4910.125
5230	-5594.380	-3125.753	4983.150
5240	-5594.380	-3125.753	5060.150

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INPUT LISTING

5245	-5930.380	-3125.753	5060.150
5240	-5594.380	-3125.753	5060.150
6230	-5594.380	-3143.713	5078.110
5245	-5930.380	-3125.753	5060.150
5250	-6266.380	-3125.753	5060.150
5260	-6339.405	-3125.753	5060.150
5270	-6412.430	-3125.753	5060.150
5275	-6562.430	-3125.753	5060.150
6260	-6562.430	-3151.153	5060.150
5275	-6562.430	-3125.753	5060.150
5280	-6712.430	-3125.753	5060.150
5290	-6785.455	-3125.753	5060.150
5300	-6985.455	-3125.753	5060.150
5310	-7052.129	-3125.753	5060.150
5320	-7141.129	-3125.753	5060.150
5330	-7428.129	-3125.753	5060.150
5340	-7428.129	-3843.753	5060.150
6280	-7390.029	-3843.753	5060.150
5340	-7428.129	-3843.753	5060.150
5350	-7428.129	-5960.753	5060.150
5355	-7428.129	-5960.753	5576.650
5360	-7428.129	-5960.753	6093.150
5370	-10708.129	-5960.753	6093.150
5375	-15210.129	-5960.753	6093.150
5380	-15651.129	-5960.753	6093.150
5390	-15651.129	-6672.753	6093.150
5421	-15650.878	-7257.853	6792.301
610	-5278.380	-3324.753	4310.100
640	-5278.380	-3408.753	4310.100
660	-5278.380	-3708.753	4310.100
620	-5594.380	-3324.753	4310.100
680	-6448.980	-3324.753	4310.100
700	-6448.980	-3553.753	4310.100
720	-6448.980	-3679.753	4310.100
760	-6448.980	-3784.528	4310.100
780	-6448.980	-3983.028	4310.100
660	-5278.380	-3708.753	4310.100
780	-6448.980	-3983.028	4310.100
6240	-5594.380	-3144.028	5378.110
780	-6448.980	-3983.028	4310.100
6270	-6562.430	-3501.153	5060.150
780	-6448.980	-3983.028	4310.100
6290	-7090.029	-3843.753	5060.150
780	-6448.980	-3983.028	4310.100
840	-6448.980	-7553.028	4310.100
280	4449.020	-7445.753	7060.100
4350	4449.020	-7445.753	7182.100
4360	4449.020	-7445.753	7255.125
4370	4449.020	-7445.753	7556.125
4380	4449.020	-7445.753	7638.675
4390	4449.020	-7445.753	8214.675
4395	4449.020	-7188.753	8214.675
4390	4449.020	-7445.753	8214.675
6300	4449.020	-7471.153	8214.675
4395	4449.020	-7188.753	8214.675
880	4449.020	-6931.753	8214.675

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 Job:: BNK-GCS-CN-008-D02
 Licensed To:: SPLM: Edit company name in <system>\company.txt

INPUT LISTING

900	4449.020	-6931.753	8137.675
920	4449.020	-6931.753	8055.125
940	4449.020	-6931.753	7754.125
960	4449.020	-6931.753	7671.575
980	4449.020	-6931.753	6449.575
1000	4449.020	-7031.753	6449.575
1020	4449.020	-7329.753	6449.575
1040	4749.020	-7329.753	6449.575
1060	4917.030	-7329.753	6449.575
1080	5043.030	-7329.753	6449.575
1100	5169.030	-7329.753	6449.575
1120	5499.030	-7329.753	6449.575
1140	5499.030	-7329.753	5449.575
1160	5964.764	-7329.753	5449.575
1180	6197.631	-7329.753	5449.575
1200	6197.631	-7329.753	7049.575
1220	6426.631	-7329.753	7049.575
1240	6553.631	-7329.753	7049.575
1020	4449.020	-7329.753	6449.575
1260	3049.020	-7329.753	6449.575
1280	2199.020	-7329.753	6449.575
1300	1549.020	-7329.753	6449.575
1320	1422.020	-7329.753	6449.575
1340	854.020	-7329.753	6449.575
1360	727.020	-7329.753	6449.575
1380	-821.980	-7329.753	6449.575
1390	-2856.980	-7329.753	6449.575
1400	-4891.980	-7329.753	6449.575
1480	-4891.980	-5745.753	6449.575
1500	-10707.980	-5745.753	6449.575
1520	-16707.980	-5745.753	6449.575
1540	-20182.980	-5745.753	6449.575
1560	-20182.980	-5745.753	8578.575
1580	-20182.980	-5745.753	9799.575
1600	-20182.980	-2954.753	9799.575
1620	-20840.180	-2954.753	9799.575
1640	-20840.180	-3183.753	9799.575
1660	-20840.180	-3310.753	9799.575
1680	-20840.180	-3345.753	9799.575
1700	-20840.180	-3545.753	9799.575
1740	-20840.180	-3785.753	9799.575
1780	-20840.180	-4025.753	9799.575
1800	-20840.180	-4225.753	9799.575
1820	-20840.180	-4260.753	9799.575
1740	-20840.180	-3785.753	9799.575
1840	-20840.180	-3785.753	11299.575
1860	-27875.180	-3785.753	11299.575
1880	-27875.180	-3785.753	8299.575
1900	-20840.180	-3785.753	8299.575
1740	-20840.180	-3785.753	9799.575
1820	-20840.180	-4260.753	9799.575
1920	-20840.180	-4362.353	9799.575
1940	-20840.180	-4591.353	9799.575
1960	-20840.180	-4591.353	9471.075
1980	-20840.180	-4591.353	9142.575
2000	-16849.180	-4591.353	9142.575

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INPUT LISTING

6420	-16849.180	-4667.553	9142.575
2000	-16849.180	-4591.353	9142.575
6420	-16849.180	-4667.553	9142.575
2000	-16849.180	-4591.353	9142.575
4100	-16153.880	-4591.353	9142.575
4400	-16153.880	-4598.563	10590.557
4410	-16153.880	-4599.195	10717.555
4420	-16153.880	-4602.023	11285.548
4430	-16153.880	-4602.656	11412.546
4440	-16153.880	-4604.316	11746.042
6480	-16153.880	-4680.517	11746.042
4440	-16153.880	-4604.316	11746.042
4450	-16153.880	-4605.977	12079.538
4460	-16153.880	-4606.609	12206.536
4470	-16153.880	-4609.438	12774.529
4480	-16153.880	-4610.070	12901.527
4482	-16153.880	-4613.140	13466.027
4485	-16153.880	-4616.209	14030.527
6760	-16207.762	-4670.091	14030.527
4482	-16153.880	-4613.140	13466.027
4485	-16153.880	-4616.209	14030.527
4490	-15111.880	-4616.209	14030.527
4500	-14984.880	-4616.209	14030.527
4505	-14386.880	-4616.209	14030.527
6790	-14259.880	-4616.209	14030.527
6780	-13935.880	-4616.209	14030.527
6795	-13611.880	-4616.209	14030.527
7000	-13557.998	-4670.091	14030.527
6780	-13935.880	-4616.209	14030.527
6795	-13611.880	-4616.209	14030.527
6800	-13611.880	-4665.209	15436.527
6810	-15679.880	-4665.209	15436.527
6820	-17679.879	-4665.209	15436.527
8150	-17845.879	-4831.209	15436.527
6845	-17845.879	-4831.209	-14968.473
6830	-17845.879	-4831.209	-14627.473
6870	-17845.879	-4831.209	-9051.473
6880	-17845.879	-4831.209	-7051.473
6890	-17845.879	-4831.209	-3051.473
6900	-17845.879	-4831.209	2948.527
6905	-17845.879	-4831.209	8948.527
6910	-17845.879	-4831.209	14948.527
8150	-17845.879	-4831.209	15436.527
6915	-17845.879	-4831.209	16148.527
6920	-11845.879	-4831.209	16148.527
4100	-16153.880	-4591.353	9142.575
4560	-16153.880	-4591.353	8857.575
4570	-16010.880	-4591.353	8857.575
4560	-16153.880	-4591.353	8857.575
4580	-16296.880	-4591.353	8857.575
4590	-16668.879	-4591.353	8857.575
4600	-16668.879	-4591.353	8628.575
4610	-16668.879	-4591.353	8501.575
4620	-16668.879	-4591.353	7933.575
4630	-16668.879	-4591.353	7806.575
4640	-16668.879	-4591.353	7606.575

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INPUT LISTING

6510	-16668.879	-4667.553	7606.575
4640	-16668.879	-4591.353	7606.575
4650	-16668.879	-4591.353	7074.075
4660	-16668.879	-4618.353	6934.075
4670	-16668.879	-4618.353	6822.950
4680	-16668.879	-4618.353	6381.950
4690	-16668.879	-4618.353	6270.825
4700	-16668.879	-4591.353	6130.825
4710	-16668.879	-4591.353	5830.825
6530	-16668.879	-4667.553	5830.825
4710	-16668.879	-4591.353	5830.825
4720	-16668.879	-4591.353	5530.825
4730	-16668.879	-4591.353	5403.825
4740	-16668.879	-4591.353	4843.825
4750	-16668.879	-4591.353	4751.750
6550	-16668.879	-4591.353	4573.750
4140	-16668.879	-4591.353	781.750
6560	-16239.879	-4591.353	781.750
4760	-11840.879	-4591.353	781.750
4770	-11840.879	-4591.353	324.750
4780	-11840.879	-5249.353	324.750
4160	-10847.879	-5249.353	324.750
6600	-10847.879	-5350.953	324.750
4160	-10847.879	-5249.353	324.750
4180	-7244.879	-5249.353	324.750
4200	-7140.104	-5249.353	324.750
4220	-7120.104	-5249.353	324.750
4240	-7015.329	-5249.353	324.750
4260	-6860.329	-5249.353	324.750
4280	-6400.329	-5249.353	324.750
4300	-6400.329	-6549.353	324.750
4310	-6400.329	-7549.353	324.750
4320	-6400.329	-7849.353	324.750
4780	-11840.879	-5249.353	324.750
6620	-12234.379	-5249.353	324.750
6630	-12234.379	-5350.953	324.750
6620	-12234.379	-5249.353	324.750
4800	-12627.879	-5249.353	324.750
4810	-12732.654	-5249.353	324.750
4820	-13236.654	-5249.353	324.750
4830	-13341.430	-5249.353	324.750
4840	-13656.430	-5249.353	324.750
4850	-13761.205	-5249.353	324.750
4860	-14367.205	-5249.353	324.750
4870	-14471.980	-5249.353	324.750
4880	-14671.980	-5249.353	324.750
6650	-14958.980	-5249.353	324.750
6660	-14958.980	-5350.953	324.750
6650	-14958.980	-5249.353	324.750
4890	-15445.980	-5249.353	324.750
4900	-15550.756	-5249.353	324.750
4910	-16037.256	-5249.353	324.750
4920	-16142.031	-5249.353	324.750
4930	-16684.031	-5249.353	324.750
6680	-16684.031	-5350.953	324.750
4930	-16684.031	-5249.353	324.750

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INPUT LISTING

4940	-17289.031	-5249.353	324.750
4950	-17289.031	-5249.353	1824.750
4960	-18160.531	-5249.353	1824.750
8170	-18497.531	-4912.353	1824.750
4570	-16010.880	-4591.353	8857.575
4980	-15715.880	-4591.353	8857.575
4990	-15588.880	-4591.353	8857.575
5000	-15020.880	-4591.353	8857.575
5010	-14893.880	-4591.353	8857.575
5020	-14664.880	-4591.353	8857.575
5025	-14664.880	-4591.353	8393.075
5020	-14664.880	-4591.353	8857.575
6700	-14610.998	-4645.234	8857.575
5025	-14664.880	-4591.353	8393.075
5030	-14664.880	-4591.353	7928.575
5040	-14664.880	-4631.353	7788.575
5060	-14664.880	-4631.353	7696.500
5070	-14664.880	-4631.353	7336.500
5080	-14664.880	-4631.353	7244.425
5090	-14664.880	-4618.853	7142.425
5095	-14664.880	-4618.853	6792.425
6720	-14664.880	-4669.653	6792.425
5095	-14664.880	-4618.853	6792.425
5100	-14664.880	-4618.853	6442.425
5110	-14664.880	-4618.853	6331.300
5120	-14664.880	-4618.853	6097.800
5130	-14664.880	-4618.853	6018.425
5140	-14664.880	-4618.853	5865.425
5145	-14664.880	-5242.853	5865.425
6740	-14664.880	-5242.853	5814.625
5145	-14664.880	-5242.853	5865.425
5150	-14664.880	-5654.853	5865.425
5160	-15650.880	-5654.853	5865.425
5170	-15650.880	-6727.853	5865.425
5422	-15650.880	-7257.853	6394.301
3960	-15650.878	-7257.853	16069.301
8050	-15650.878	-7257.853	12194.301
5420	-15650.878	-7257.853	10069.301
5421	-15650.878	-7257.853	6792.301
5422	-15650.878	-7257.853	6392.301
5422	-15650.880	-7257.853	6394.301
5425	-15650.880	-7257.853	4283.301
5430	-15650.880	-7257.853	-1716.699
5435	-15650.880	-7257.853	-7716.699
5440	-15650.880	-7257.853	-10466.699
5450	-21650.879	-7257.853	-10466.699
5455	-21650.879	-7257.853	-11466.699
5460	-21650.879	-7257.853	-12466.699
5465	-15650.879	-7257.853	-12466.699
5470	-15650.879	-7257.853	-13716.699
5475	-15650.879	-7257.853	-16716.699
5480	-15650.879	-7257.853	-19716.699
3960	-15650.878	-7257.853	16069.301
8060	-15650.878	-7257.853	22069.301
8070	-15650.878	-7257.853	27554.301
8080	-21650.879	-7257.853	27554.301

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INPUT LISTING

8090	-21650.879	-7257.853	28554.301
8100	-21650.879	-7257.853	29554.301
8110	-15650.879	-7257.853	29554.301
8120	-15650.879	-7257.853	34069.301
8130	-15650.879	-7257.853	40069.301
4710	-16668.879	-4591.353	5830.825
6530	-16668.879	-4667.553	5830.825
6080	-18497.531	-4912.353	-20875.250
6090	-18497.531	-4912.353	-14875.250
4970	-18497.531	-4912.353	-8875.250
8160	-18497.531	-4912.353	-2875.250
8170	-18497.531	-4912.353	1824.750
8180	-18497.531	-4912.353	3124.750
8190	-18497.531	-4912.353	3624.750
8200	-18497.531	-4912.353	3745.400
8210	-18497.531	-4912.353	3866.050
1260	3049.020	-7329.753	6449.575
2140	3049.020	-5799.753	6449.575
2160	3049.020	-5799.753	6701.575
2180	-814.980	-5799.753	6701.575
2200	-5729.480	-5799.753	6701.575
2220	-10643.980	-5799.753	6701.575
2260	-11031.980	-5799.753	6701.575
2270	-11031.980	-5799.753	9199.575
2280	-11031.980	-5799.753	10783.575
2320	-11031.980	-5359.753	10783.575
2330	-11031.980	-4913.753	10783.575
2340	-11031.980	-4700.753	10783.575
2360	-11031.980	-4618.203	10783.575
5650	-11031.980	-4317.203	10783.575
5660	-11031.980	-4234.653	10783.575
2400	-11031.980	-3834.653	10783.575
5670	-11031.980	-3728.653	10783.575
5680	-11031.980	-3649.278	10783.575
5690	-11031.980	-3569.903	10783.575
2420	-11031.980	-3528.403	10783.575
2440	-11187.980	-3528.403	10783.575
2460	-11261.006	-3528.403	10783.575
2480	-11401.006	-3568.103	10783.575
2500	-11751.006	-3568.103	10783.575
2520	-12330.006	-3568.103	10783.575
2540	-12330.006	-3797.103	10783.575
5700	-12330.006	-3889.178	10783.575
2560	-12330.006	-4165.178	10783.575
2570	-12330.006	-4257.253	10783.575
5710	-12330.006	-4911.253	10783.575
6440	-12406.206	-4911.253	10783.575
5710	-12330.006	-4911.253	10783.575
2580	-12330.006	-5498.253	10783.575
5840	-12654.006	-5498.253	10783.575
5800	-13154.006	-5498.253	11283.575
2280	-11031.980	-5799.753	10783.575
2300	-11031.980	-5799.753	11283.575
2620	-11031.980	-5359.753	11283.575
2640	-11031.980	-4699.753	11283.575
5720	-11031.980	-4617.203	11283.575

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INPUT LISTING

2660	-11031.980	-4316.203	11283.575
5730	-11031.980	-4233.653	11283.575
2700	-11031.980	-3833.653	11283.575
5740	-11031.980	-3727.653	11283.575
5750	-11031.980	-3648.278	11283.575
5760	-11031.980	-3568.903	11283.575
2720	-11031.980	-3527.903	11283.575
2740	-11187.980	-3527.903	11283.575
2760	-11261.006	-3527.903	11283.575
2780	-11401.006	-3567.603	11283.575
2800	-11751.006	-3567.603	11283.575
2820	-12330.006	-3567.603	11283.575
2840	-12330.006	-3796.603	11283.575
2846	-12330.006	-3888.678	11283.575
2852	-12330.006	-4164.678	11283.575
2860	-12330.006	-4256.753	11283.575
2870	-12330.006	-4910.753	11283.575
6460	-12406.206	-4910.753	11283.575
2870	-12330.006	-4910.753	11283.575
2880	-12330.006	-5497.753	11283.575
2880	-12330.006	-5498.253	11283.575
5800	-13154.006	-5498.253	11283.575
5805	-14701.006	-5498.253	11283.575
5810	-15651.006	-5498.253	11283.575
5820	-15651.006	-6171.753	11283.575
5820	-15651.004	-6171.753	11284.575
8050	-15650.878	-7257.853	12194.301
4750	-16668.879	-4591.353	4751.750
6550	-16668.879	-4591.353	4573.750
6210	-4964.380	-7521.953	7060.100
6220	-4964.380	-7821.953	7060.100
6230	-5594.380	-3143.713	5078.110
6240	-5594.380	-3143.713	5378.110
6260	-6562.430	-3151.153	5060.150
6270	-6562.430	-3501.153	5060.150
6280	-7390.029	-3843.753	5060.150
6290	-7090.029	-3843.753	5060.150
6300	4449.020	-7471.153	8214.675
6310	4449.020	-8371.152	8214.675
6400	-4891.800	-7405.350	6449.575
6410	-4891.800	-7705.350	6449.575
6420	-16849.180	-4667.553	9142.575
6425	-16849.180	-4897.553	9142.575
6430	-16849.180	-5277.553	9142.575
6440	-12406.206	-4911.253	10783.575
6450	-12706.206	-4911.253	10783.575
6460	-12406.206	-4910.753	11283.575
6470	-12706.206	-4910.753	11283.575
6480	-16153.880	-4680.517	11746.042
6485	-16153.880	-4910.517	11746.042
6490	-16153.880	-5290.517	11746.042
6510	-16668.879	-4667.553	7606.575
6515	-16668.879	-4897.553	7606.575
6520	-16668.879	-5277.553	7606.575
6530	-16668.879	-4667.553	5830.825
6535	-16668.879	-4897.553	5830.825

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INPUT LISTING

6540	-16668.879	-5277.553	5830.825
6550	-16668.879	-4591.353	4573.750
6590	-16668.879	-5201.353	4573.750
6600	-10847.879	-5350.953	324.750
6610	-10847.879	-5850.953	324.750
6630	-12234.379	-5350.953	324.750
6640	-12234.379	-5850.953	324.750
6660	-14958.980	-5350.953	324.750
6670	-14958.980	-5850.953	324.750
6680	-16684.031	-5350.953	324.750
6690	-16684.031	-5850.953	324.750
6700	-14610.998	-4645.234	8857.575
6705	-14510.998	-4645.234	8857.575
6710	-14110.998	-4645.234	8857.575
6720	-14664.880	-4669.653	6792.425
6730	-14664.880	-5369.653	6792.425
6740	-14664.880	-5242.853	5814.625
6750	-14664.880	-5242.853	5514.625
6760	-16207.762	-4670.091	14030.527
6765	-16307.762	-4670.091	14030.527
6770	-16757.762	-4670.091	14030.527
7000	-13557.998	-4670.091	14030.527
7005	-13457.998	-4670.091	14030.527
7010	-13057.998	-4670.091	14030.527

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

1 (HGR) CASE NOT ACTIVE
 2 (HGR) CASE NOT ACTIVE
 3 (HYD) WW+HP+H
 4 (OPE) W+T1+P1+H
 5 (Alt-SUS) W+P1+H
 6 (OPE) W+T2+P1+H
 7 (Alt-SUS) W+P1+H
 8 (OPE) W+T3+P1+H
 9 (Alt-SUS) W+P1+H
 10 (OPE) W+T4+P1+H
 11 (Alt-SUS) W+P1+H
 12 (SUS) W+P1+H
 13 (SUS) WNC
 14 (OPE) W+T1+P1+H+U1
 15 (OPE) W+T1+P1+H-U1
 16 (OPE) W+T1+P1+H+U2
 17 (OPE) W+T1+P1+H-U2
 18 (OPE) W+T1+P1+H+U3
 19 (OPE) W+T1+P1+H+F1
 20 (OPE) W+T1+P1+H+F2
 21 (OCC) L21=L14-L4
 22 (OCC) L22=L15-L4
 23 (OCC) L23=L16-L4
 24 (OCC) L24=L17-L4
 25 (OCC) L25=L18-L4
 26 (OCC) L26=L19-L4
 27 (OCC) L27=L20-L4
 28 (OCC) L28=L21+L12
 29 (OCC) L29=L22+L12
 30 (OCC) L30=L23+L12
 31 (OCC) L31=L24+L12
 32 (OCC) L32=L25+L12
 33 (OCC) L33=L26+L12
 34 (OCC) L34=L27+L12
 35 (EXP) L35=L4-L12
 36 (EXP) L36=L6-L12
 37 (EXP) L37=L4-L6
 38 (EXP) L38=L8-L12
 39 (EXP) L39=L4-L8
 40 (EXP) L40=L6-L8
 41 (EXP) L41=L10-L12
 42 (EXP) L42=L4-L10
 43 (EXP) L43=L6-L10
 44 (EXP) L44=L8-L10

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

LOAD CASE DEFINITION KEY

CASE 3 (HYD) WW+HP+H
 CASE 4 (OPE) W+T1+P1+H
 CASE 6 (OPE) W+T2+P1+H
 CASE 8 (OPE) W+T3+P1+H
 CASE 10 (OPE) W+T4+P1+H
 CASE 12 (SUS) W+P1+H
 CASE 13 (SUS) WNC
 CASE 14 (OPE) W+T1+P1+H+U1
 CASE 15 (OPE) W+T1+P1+H-U1
 CASE 16 (OPE) W+T1+P1+H+U2
 CASE 17 (OPE) W+T1+P1+H-U2
 CASE 18 (OPE) W+T1+P1+H+U3
 CASE 19 (OPE) W+T1+P1+H+F1
 CASE 20 (OPE) W+T1+P1+H+F2
 CASE 21 (OCC) L21=L14-L4
 CASE 22 (OCC) L22=L15-L4
 CASE 23 (OCC) L23=L16-L4
 CASE 24 (OCC) L24=L17-L4
 CASE 25 (OCC) L25=L18-L4
 CASE 26 (OCC) L26=L19-L4
 CASE 27 (OCC) L27=L20-L4

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
20		TYPE=Rigid ANC;					
	3(HYD)	-151	-680	15	-7	11	236
	4(OPE)	311	765	141	-181	137	-538
	6(OPE)	813	2452	188	-242	168	-1473
	8(OPE)	-106	-539	16	-8	12	176
	10(OPE)	313	769	136	-178	133	-540
	12(SUS)	-106	-538	16	-8	12	176
	13(SUS)	134	-1626	15	-11	9	1091
	14(OPE)	659	1083	135	-172	176	-671
	15(OPE)	-129	426	181	-238	113	-481
	16(OPE)	286	939	138	-177	133	-657
	17(OPE)	335	593	144	-183	141	-419
	18(OPE)	320	685	484	-350	302	-475
	19(OPE)	311	765	141	-180	137	-538
	20(OPE)	311	765	141	-181	137	-538
	21(OCC)	348	318	-6	8	39	-133
	22(OCC)	-440	-340	39	-58	-23	57
	23(OCC)	-25	173	-3	3	-4	-120
	24(OCC)	25	-173	3	-2	4	119
	25(OCC)	9	-80	343	-169	165	63
	26(OCC)	-0	0	-0	0	-0	-0
	27(OCC)	-0	0	0	-0	0	-0
	MAX	813/L6	2452/L6	484/L18	-350/L18	302/L18	-1473/L6

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
121		TYPE=Rigid +Y;					
	3(HYD)	-6	-1704	5	0	0	0
	4(OPE)	0	-1276	128	0	0	0
	6(OPE)	0	-1315	132	0	0	0
	8(OPE)	-2	-1250	7	0	0	0
	10(OPE)	0	-1276	128	0	0	0
	12(SUS)	-2	-1250	9	0	0	0
	13(SUS)	-0	-5	0	0	0	0
	14(OPE)	0	-1274	127	0	0	0
	15(OPE)	-51	-1279	117	0	0	0
	16(OPE)	0	-1275	128	0	0	0
	17(OPE)	0	-1276	128	0	0	0
	18(OPE)	0	-1276	128	0	0	0
	19(OPE)	0	-1276	128	0	0	0
	20(OPE)	0	-1276	128	0	0	0
	21(OCC)	0	1	-0	0	0	0
	22(OCC)	-51	-3	-10	0	0	0
	23(OCC)	-0	0	-0	0	0	0
	24(OCC)	0	-0	0	0	0	0
	25(OCC)	-0	-0	0	0	0	0
	26(OCC)	0	0	-0	0	0	0
	27(OCC)	0	0	-0	0	0	0
	MAX	-51/L22	-1704/L3	132/L6			
160		TYPE=Rigid Z; Rigid -X; Rigid X; Prog Design VSH;					
	3(HYD)	-6	-1704	5	0	0	0
	4(OPE)	1460	-1652	350	0	0	0
	6(OPE)	2255	-1959	333	0	0	0
	8(OPE)	-2	-1250	7	0	0	0
	10(OPE)	1484	-1657	354	0	0	0
	12(SUS)	-2	-1250	9	0	0	0
	13(SUS)	-0	-5	0	0	0	0
	14(OPE)	3130	-2095	582	0	0	0
	15(OPE)	-47	-1279	108	0	0	0
	16(OPE)	1351	-1622	334	0	0	0
	17(OPE)	1569	-1681	365	0	0	0
	18(OPE)	1405	-1566	431	0	0	0
	19(OPE)	1460	-1652	350	0	0	0
	20(OPE)	1460	-1652	350	0	0	0
	21(OCC)	1670	-443	232	0	0	0
	22(OCC)	-1507	373	-242	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	23(OCC)	-110	29	-16	0	0	0
	24(OCC)	109	-30	15	0	0	0
	25(OCC)	-56	86	81	0	0	0
	26(OCC)	-0	-0	-0	0	0	0
	27(OCC)	0	-0	0	0	0	0
	MAX	3130/L14	-2095/L14	582/L14			
300		TYPE=Rigid +Y;					
	3(HYD)	337	-2133	135	0	0	0
	4(OPE)	-801	-2949	376	0	0	0
	6(OPE)	-1521	-5209	359	0	0	0
	8(OPE)	209	-1805	158	0	0	0
	10(OPE)	-804	-2958	376	0	0	0
	12(SUS)	211	-1801	176	0	0	0
	13(SUS)	-10	-2048	196	0	0	0
	14(OPE)	-692	-2735	442	0	0	0
	15(OPE)	-888	-3103	279	0	0	0
	16(OPE)	-741	-2717	339	0	0	0
	17(OPE)	-861	-3182	413	0	0	0
	18(OPE)	-771	-3038	486	0	0	0
	19(OPE)	-801	-2949	376	0	0	0
	20(OPE)	-801	-2949	376	0	0	0
	21(OCC)	109	214	66	0	0	0
	22(OCC)	-87	-154	-97	0	0	0
	23(OCC)	60	232	-37	0	0	0
	24(OCC)	-60	-233	37	0	0	0
	25(OCC)	30	-89	110	0	0	0
	26(OCC)	-0	-0	-0	0	0	0
	27(OCC)	0	0	0	0	0	0
	MAX	-1521/L6	-5209/L6	486/L18			
400		TYPE=Rigid Z; Rigid Y;					
	3(HYD)	0	-1478	-13	0	0	0
	4(OPE)	0	-310	604	0	0	0
	6(OPE)	0	1005	729	0	0	0
	8(OPE)	0	-1108	-19	0	0	0
	10(OPE)	0	-299	609	0	0	0
	12(SUS)	0	-1108	-21	0	0	0
	13(SUS)	0	-977	-31	0	0	0
	14(OPE)	0	-304	964	0	0	0
	15(OPE)	0	-313	340	0	0	0
	16(OPE)	0	-188	591	0	0	0
	17(OPE)	0	-433	615	0	0	0
	18(OPE)	0	-311	1058	0	0	0
	19(OPE)	0	-310	603	0	0	0
	20(OPE)	0	-310	604	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	21(OCC)	0	6	360	0	0	0
	22(OCC)	0	-2	-264	0	0	0
	23(OCC)	0	123	-13	0	0	0
	24(OCC)	0	-123	11	0	0	0
	25(OCC)	0	-1	454	0	0	0
	26(OCC)	0	0	-1	0	0	0
	27(OCC)	0	-0	0	0	0	0
	MAX		-1478/L3	1058/L18			
480		TYPE=Rigid Z; Rigid Y;					
	3(HYD)	0	-2083	-16	0	0	0
	4(OPE)	0	-1688	-78	0	0	0
	6(OPE)	0	-2250	60	0	0	0
	8(OPE)	0	-1332	-9	0	0	0
	10(OPE)	0	-1712	-92	0	0	0
	12(SUS)	0	-1332	-9	0	0	0
	13(SUS)	0	-1328	-8	0	0	0
	14(OPE)	0	-1825	-218	0	0	0
	15(OPE)	0	-1564	34	0	0	0
	16(OPE)	0	-1529	-73	0	0	0
	17(OPE)	0	-1848	-82	0	0	0
	18(OPE)	0	-1642	240	0	0	0
	19(OPE)	0	-1688	-78	0	0	0
	20(OPE)	0	-1688	-78	0	0	0
	21(OCC)	0	-137	-140	0	0	0
	22(OCC)	0	124	112	0	0	0
	23(OCC)	0	159	5	0	0	0
	24(OCC)	0	-159	-4	0	0	0
	25(OCC)	0	47	318	0	0	0
	26(OCC)	0	-0	0	0	0	0
	27(OCC)	0	-0	-0	0	0	0
	MAX		-2250/L6	318/L25			
660		TYPE=Rigid +Y;					
	3(HYD)	0	-1316	0	0	0	0
	4(OPE)	0	-868	0	0	0	0
	6(OPE)	0	-863	0	0	0	0
	8(OPE)	0	-944	0	0	0	0
	10(OPE)	0	-1103	0	0	0	0
	12(SUS)	0	-944	0	0	0	0
	13(SUS)	0	-935	0	0	0	0
	14(OPE)	0	-1061	0	0	0	0
	15(OPE)	0	-709	0	0	0	0
	16(OPE)	0	-762	0	0	0	0
	17(OPE)	0	-980	0	0	0	0
	18(OPE)	0	-813	0	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	19(OPE)	0	-868	0	0	0	0
	20(OPE)	0	-868	0	0	0	0
	21(OCC)	0	-193	0	0	0	0
	22(OCC)	0	159	0	0	0	0
	23(OCC)	0	106	0	0	0	0
	24(OCC)	0	-112	0	0	0	0
	25(OCC)	0	55	0	0	0	0
	26(OCC)	0	-0	0	0	0	0
	27(OCC)	0	-0	0	0	0	0
	MAX		-1316/L3				
720		TYPE=Rigid ANC;					
	3(HYD)	-9	-542	-6	89	63	-19
	4(OPE)	-353	-323	-120	-101	-237	-13
	6(OPE)	-717	-90	-247	-322	-635	-48
	8(OPE)	-17	-475	-3	63	34	-13
	10(OPE)	279	10	-276	-241	1	-129
	12(SUS)	-17	-475	-3	63	34	-13
	13(SUS)	-18	-473	-3	62	33	-13
	14(OPE)	211	-162	-57	-57	-7	-115
	15(OPE)	-858	-455	-155	-138	-481	78
	16(OPE)	-342	-266	-115	-106	-241	-14
	17(OPE)	-356	-381	-121	-94	-233	-14
	18(OPE)	-265	-372	518	18	-750	-41
	19(OPE)	-353	-323	-120	-101	-237	-13
	20(OPE)	-353	-323	-120	-101	-236	-13
	21(OCC)	564	161	62	43	229	-102
	22(OCC)	-505	-132	-35	-37	-245	91
	23(OCC)	11	57	4	-6	-4	-1
	24(OCC)	-3	-58	-1	7	3	-1
	25(OCC)	88	-49	637	118	-514	-28
	26(OCC)	0	0	0	0	-0	-0
	27(OCC)	0	0	-0	-0	0	-0
	MAX	-858/L15	-542/L3	637/L25	-322/L6	-750/L18	-129/L10
780		TYPE=Rigid ANC;					
	3(HYD)	3	-3166	-19	860	72	-1234
	4(OPE)	-285	-3050	-68	1146	-207	-333
	6(OPE)	-484	-2765	-256	850	-504	-226
	8(OPE)	-9	-2644	-13	807	38	-816
	10(OPE)	279	-1342	-276	-324	1	-1505
	12(SUS)	-9	-2644	-13	807	38	-816
	13(SUS)	-10	-2632	-13	805	37	-806
	14(OPE)	651	-2914	-75	1027	292	-1061
	15(OPE)	-1226	-2993	-86	1088	-738	165
	16(OPE)	-278	-2671	-72	993	-213	-283

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	17(OPE)	-288	-3369	-69	1244	-204	-427
	18(OPE)	-270	-3034	977	1519	-595	-256
	19(OPE)	-285	-3050	-68	1146	-207	-333
	20(OPE)	-285	-3050	-68	1146	-207	-333
	21(OCC)	936	136	-7	-119	500	-729
	22(OCC)	-941	57	-18	-58	-531	497
	23(OCC)	7	379	-4	-153	-6	50
	24(OCC)	-3	-320	-1	98	3	-94
	25(OCC)	15	15	1045	373	-387	76
	26(OCC)	0	0	0	-0	-0	-0
	27(OCC)	-0	-0	0	0	-0	-0
	MAX	-1226/L15	-3369/L17	1045/L25	1519/L18	-738/L15	-1505/L10
840		TYPE=Rigid ANC;					
	3(HYD)	3	-3166	-19	793	72	-1244
	4(OPE)	-285	-3050	-68	904	-207	685
	6(OPE)	-484	-2765	-256	-62	-504	1502
	8(OPE)	-9	-2644	-13	762	38	-786
	10(OPE)	279	-1342	-276	-1311	1	-2500
	12(SUS)	-9	-2644	-13	762	38	-786
	13(SUS)	-10	-2632	-13	759	37	-771
	14(OPE)	651	-2914	-75	758	292	-3386
	15(OPE)	-1226	-2993	-86	783	-738	4542
	16(OPE)	-278	-2671	-72	734	-213	710
	17(OPE)	-288	-3369	-69	998	-204	600
	18(OPE)	-270	-3034	977	5007	-595	708
	19(OPE)	-285	-3050	-68	904	-207	685
	20(OPE)	-285	-3050	-68	904	-207	685
	21(OCC)	936	136	-7	-145	500	-4071
	22(OCC)	-941	57	-18	-121	-531	3857
	23(OCC)	7	379	-4	-169	-6	26
	24(OCC)	-3	-320	-1	95	3	-85
	25(OCC)	15	15	1045	4103	-387	23
	26(OCC)	0	0	0	0	-0	-0
	27(OCC)	-0	-0	0	0	-0	0
	MAX	-1226/L15	-3369/L17	1045/L25	5007/L18	-738/L15	4542/L15
1040		TYPE=Rigid +Y;					
	3(HYD)	138	-2865	-136	0	0	0
	4(OPE)	621	-2506	424	0	0	0
	6(OPE)	614	-2533	447	0	0	0
	8(OPE)	-725	-2451	123	0	0	0
	10(OPE)	614	-2481	421	0	0	0
	12(SUS)	173	-2449	-171	0	0	0
	13(SUS)	172	-2424	-174	0	0	0
	14(OPE)	670	-2585	391	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	15(OPE)	-626	-2378	342	0	0	0
	16(OPE)	539	-2208	386	0	0	0
	17(OPE)	701	-2798	461	0	0	0
	18(OPE)	668	-2663	439	0	0	0
	19(OPE)	616	-2490	422	0	0	0
	20(OPE)	621	-2507	424	0	0	0
	21(OCC)	49	-79	-33	0	0	0
	22(OCC)	-1247	128	-83	0	0	0
	23(OCC)	-82	298	-39	0	0	0
	24(OCC)	80	-291	37	0	0	0
	25(OCC)	47	-157	15	0	0	0
	26(OCC)	-5	17	-2	0	0	0
	27(OCC)	0	-1	0	0	0	0
	MAX	-1247/L22	-2865/L3	461/L17			
1180		TYPE=Rigid +Y; Rigid - X;					
	3(HYD)	6	-1182	2	0	0	0
	4(OPE)	11202	-963	-3649	0	0	0
	6(OPE)	14050	-938	-4496	0	0	0
	8(OPE)	-110	-936	258	0	0	0
	10(OPE)	11169	-964	-3640	0	0	0
	12(SUS)	7	-938	2	0	0	0
	13(SUS)	7	-925	2	0	0	0
	14(OPE)	15634	-1136	-5031	0	0	0
	15(OPE)	7656	-831	-2546	0	0	0
	16(OPE)	10809	-836	-3494	0	0	0
	17(OPE)	11579	-1090	-3801	0	0	0
	18(OPE)	11092	-759	-3555	0	0	0
	19(OPE)	11180	-963	-3643	0	0	0
	20(OPE)	11203	-963	-3650	0	0	0
	21(OCC)	4432	-173	-1381	0	0	0
	22(OCC)	-3546	132	1103	0	0	0
	23(OCC)	-393	127	156	0	0	0
	24(OCC)	377	-127	-151	0	0	0
	25(OCC)	-111	204	94	0	0	0
	26(OCC)	-22	-1	7	0	0	0
	27(OCC)	1	-0	-0	0	0	0
	MAX	15634/L14	-1182/L3	-5031/L14			
1240		TYPE=Rigid ANC;					
	3(HYD)	2	-662	3	25	1	230
	4(OPE)	1117	-556	95	32	-944	187
	6(OPE)	1497	-557	-49	31	-1281	182
	8(OPE)	-475	-600	-374	18	233	188
	10(OPE)	1119	-559	97	32	-944	188

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	12(SUS)	3	-599	5	18	1	188
	13(SUS)	3	-595	5	18	1	186
	14(OPE)	1405	-458	258	72	-927	211
	15(OPE)	907	-637	-117	1	-992	170
	16(OPE)	1119	-493	63	27	-954	163
	17(OPE)	1113	-621	124	38	-935	212
	18(OPE)	1223	-646	596	-6	-844	155
	19(OPE)	1118	-558	100	32	-943	188
	20(OPE)	1117	-556	93	32	-945	187
	21(OCC)	288	99	163	39	18	23
	22(OCC)	-210	-80	-212	-32	-48	-17
	23(OCC)	2	64	-32	-5	-10	-24
	24(OCC)	-5	-64	29	5	10	25
	25(OCC)	105	-90	501	-39	100	-32
	26(OCC)	1	-2	5	-0	1	0
	27(OCC)	-0	0	-2	0	-1	-0
	MAX	1497/L6	-662/L3	596/L18	72/L14	-1281/L6	230/L3
1280		TYPE=Rigid Z; Rigid Y;					
	3(HYD)	188	-1512	-55	0	0	0
	4(OPE)	-420	-1401	1993	0	0	0
	6(OPE)	-385	-1285	2592	0	0	0
	8(OPE)	552	-1839	-248	0	0	0
	10(OPE)	-425	-1416	1986	0	0	0
	12(SUS)	238	-1840	-58	0	0	0
	13(SUS)	237	-1841	-58	0	0	0
	14(OPE)	-377	-1256	2860	0	0	0
	15(OPE)	-471	-1571	1400	0	0	0
	16(OPE)	-356	-1187	1951	0	0	0
	17(OPE)	-486	-1619	2030	0	0	0
	18(OPE)	-403	-1343	4130	0	0	0
	19(OPE)	-423	-1411	1988	0	0	0
	20(OPE)	-420	-1401	1993	0	0	0
	21(OCC)	43	145	867	0	0	0
	22(OCC)	-51	-170	-593	0	0	0
	23(OCC)	64	214	-42	0	0	0
	24(OCC)	-65	-218	37	0	0	0
	25(OCC)	17	58	2137	0	0	0
	26(OCC)	-3	-10	-5	0	0	0
	27(OCC)	0	0	0	0	0	0
	MAX	552/L8	-1841/L13	4130/L18			
1380		TYPE=Rigid Z w/gap; Rigid Y;					
	3(HYD)	376	-8141	50	0	0	0
	4(OPE)	-2644	-8833	185	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	6(OPE)	-2830	-9458	204	0	0	0
	8(OPE)	1614	-6867	72	0	0	0
	10(OPE)	-2644	-8836	186	0	0	0
	12(SUS)	368	-6859	51	0	0	0
	13(SUS)	366	-6797	50	0	0	0
	14(OPE)	-2725	-9084	37	0	0	0
	15(OPE)	-2553	-8557	268	0	0	0
	16(OPE)	-2396	-8012	184	0	0	0
	17(OPE)	-2891	-9656	186	0	0	0
	18(OPE)	-2541	-8841	760	0	0	0
	19(OPE)	-2644	-8835	186	0	0	0
	20(OPE)	-2644	-8833	185	0	0	0
	21(OCC)	-81	-251	-148	0	0	0
	22(OCC)	91	277	82	0	0	0
	23(OCC)	247	822	-1	0	0	0
	24(OCC)	-247	-822	0	0	0	0
	25(OCC)	102	-8	574	0	0	0
	26(OCC)	-0	-1	0	0	0	0
	27(OCC)	0	0	-0	0	0	0
	MAX	-2891/L17	-9656/L17	760/L18			
1500		TYPE=Rigid Z; Rigid +Y;					
	3(HYD)	0	-5143	-28	0	0	0
	4(OPE)	0	-1929	-1761	0	0	0
	6(OPE)	0	-1243	-2314	0	0	0
	8(OPE)	0	-4048	-22	0	0	0
	10(OPE)	0	-1928	-1761	0	0	0
	12(SUS)	0	-4057	-45	0	0	0
	13(SUS)	0	-4030	-45	0	0	0
	14(OPE)	0	-1607	-1640	0	0	0
	15(OPE)	0	-2280	-1847	0	0	0
	16(OPE)	0	-1443	-1771	0	0	0
	17(OPE)	0	-2414	-1750	0	0	0
	18(OPE)	0	-1932	-190	0	0	0
	19(OPE)	0	-1928	-1761	0	0	0
	20(OPE)	0	-1929	-1761	0	0	0
	21(OCC)	0	322	121	0	0	0
	22(OCC)	0	-351	-87	0	0	0
	23(OCC)	0	486	-11	0	0	0
	24(OCC)	0	-485	11	0	0	0
	25(OCC)	0	-4	1570	0	0	0
	26(OCC)	0	0	-0	0	0	0
	27(OCC)	0	-0	0	0	0	0
	MAX		-5143/L3	-2314/L6			
1520		TYPE=Rigid +Y;					

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	3(HYD)	-765	-2562	-78	0	0	0
	4(OPE)	-447	-1790	-298	0	0	0
	6(OPE)	-431	-1727	-288	0	0	0
	8(OPE)	-602	-2014	-56	0	0	0
	10(OPE)	-447	-1790	-298	0	0	0
	12(SUS)	-580	-2011	-166	0	0	0
	13(SUS)	-577	-2002	-165	0	0	0
	14(OPE)	-479	-1930	-325	0	0	0
	15(OPE)	-417	-1642	-262	0	0	0
	16(OPE)	-386	-1549	-259	0	0	0
	17(OPE)	-509	-2032	-336	0	0	0
	18(OPE)	-472	-1794	-258	0	0	0
	19(OPE)	-447	-1790	-298	0	0	0
	20(OPE)	-447	-1790	-298	0	0	0
	21(OCC)	-32	-139	-27	0	0	0
	22(OCC)	30	148	36	0	0	0
	23(OCC)	61	241	39	0	0	0
	24(OCC)	-62	-241	-38	0	0	0
	25(OCC)	-25	-4	40	0	0	0
	26(OCC)	-0	-0	-0	0	0	0
	27(OCC)	0	0	0	0	0	0
	MAX	-765/L3	-2562/L3	-336/L17			
1560		TYPE=Rigid X w/gap; Rigid +Y;					
	3(HYD)	0	-4371	0	0	0	0
	4(OPE)	-10361	-7712	0	0	0	0
	6(OPE)	-13756	-8902	0	0	0	0
	8(OPE)	0	-3437	0	0	0	0
	10(OPE)	-10363	-7712	0	0	0	0
	12(SUS)	0	-3402	0	0	0	0
	13(SUS)	0	-3382	0	0	0	0
	14(OPE)	-9011	-7501	0	0	0	0
	15(OPE)	-11598	-7898	0	0	0	0
	16(OPE)	-10350	-7269	0	0	0	0
	17(OPE)	-10373	-8155	0	0	0	0
	18(OPE)	-10214	-8730	0	0	0	0
	19(OPE)	-10362	-7712	0	0	0	0
	20(OPE)	-10361	-7712	0	0	0	0
	21(OCC)	1350	211	0	0	0	0
	22(OCC)	-1237	-186	0	0	0	0
	23(OCC)	11	443	0	0	0	0
	24(OCC)	-12	-443	0	0	0	0
	25(OCC)	147	-1019	0	0	0	0
	26(OCC)	-1	-0	0	0	0	0
	27(OCC)	0	0	0	0	0	0
	MAX	-13756/L6	-8902/L6				

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
1660		TYPE=Rigid ANC;					
	3(HYD)	0	0	0	0	-0	-0
	4(OPE)	-0	0	0	0	-0	-0
	6(OPE)	0	0	0	0	0	-0
	8(OPE)	0	0	0	-0	-0	-0
	10(OPE)	0	0	0	0	0	-0
	12(SUS)	0	0	0	-0	0	-0
	13(SUS)	0	0	0	-0	0	-0
	14(OPE)	0	0	0	0	-0	-0
	15(OPE)	0	0	0	0	-0	-0
	16(OPE)	0	0	0	0	-0	-0
	17(OPE)	0	-0	0	0	-0	-0
	18(OPE)	0	0	0	0	0	-0
	19(OPE)	0	0	0	0	0	-0
	20(OPE)	0	0	0	0	-0	0
	21(OCC)	0	0	0	-0	0	0
	22(OCC)	0	0	0	-0	0	0
	23(OCC)	0	0	0	0	0	0
	24(OCC)	0	-0	0	-0	0	0
	25(OCC)	0	0	0	0	0	0
	26(OCC)	0	0	0	-0	0	0
	27(OCC)	0	0	0	0	0	0
	MAX	0/L27	-0/L17	0/L10	0/L18	-0/L4	-0/L4
1700		TYPE=Rigid ANC;					
	3(HYD)	-147	-745	90	14	118	-40
	4(OPE)	1441	2965	1705	-354	4663	3825
	6(OPE)	2089	3949	2137	-489	6101	5173
	8(OPE)	-114	-683	70	7	91	-37
	10(OPE)	1442	2965	1705	-355	4664	3826
	12(SUS)	-106	-720	40	28	113	-48
	13(SUS)	-106	-718	40	27	112	-48
	14(OPE)	1691	2820	1625	-252	4316	3381
	15(OPE)	1184	3085	1751	-425	4994	4248
	16(OPE)	1453	3017	1673	-337	4672	3809
	17(OPE)	1430	2912	1736	-371	4655	3841
	18(OPE)	1323	3988	2972	-841	4112	4260
	19(OPE)	1441	2965	1705	-355	4664	3825
	20(OPE)	1441	2965	1705	-354	4663	3825
	21(OCC)	250	-145	-80	102	-348	-444
	22(OCC)	-257	120	46	-70	331	424
	23(OCC)	12	52	-32	17	9	-15
	24(OCC)	-11	-52	32	-17	-8	16
	25(OCC)	-118	1023	1267	-486	-552	435
	26(OCC)	0	0	0	-0	1	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	27(OCC)	-0	-0	-0	0	-0	-0
	MAX	2089/L6	3988/L18	2972/L18	-841/L18	6101/L6	5173/L6
1780		TYPE=Rigid ANC;					
	3(HYD)	-773	349	159	27	228	-507
	4(OPE)	-2369	16156	-1907	5547	520	-1262
	6(OPE)	-5646	31634	-3241	10545	-6	-3040
	8(OPE)	-582	108	96	39	188	-337
	10(OPE)	-2392	16088	-1957	5566	514	-1271
	12(SUS)	-582	110	96	39	188	-336
	13(SUS)	-578	108	95	39	187	-333
	14(OPE)	-1872	16389	-1411	5345	-582	-1148
	15(OPE)	-4993	15323	-3582	6232	2084	-2414
	16(OPE)	-2231	16123	-1956	5558	456	-1192
	17(OPE)	-2518	16224	-1784	5506	581	-1337
	18(OPE)	-2143	15036	-4062	6438	680	-1126
	19(OPE)	-2369	16156	-1907	5547	520	-1262
	20(OPE)	-2369	16156	-1907	5547	520	-1262
	21(OCC)	497	233	496	-202	-1102	113
	22(OCC)	-2623	-832	-1675	685	1563	-1153
	23(OCC)	138	-33	-48	11	-65	69
	24(OCC)	-149	68	123	-42	60	-75
	25(OCC)	226	-1120	-2155	891	160	135
	26(OCC)	-0	-0	-0	0	0	-0
	27(OCC)	0	0	0	-0	-0	-0
	MAX	-5646/L6	31634/L6	-4062/L18	10545/L6	2084/L15	-3040/L6
1840		TYPE=Rigid X; Rigid Z w/gap; Rigid Y;					
	3(HYD)	-337	-8583	126	0	0	0
	4(OPE)	2098	-229	652	0	0	0
	6(OPE)	567	6104	781	0	0	0
	8(OPE)	-248	-8179	84	0	0	0
	10(OPE)	2086	-274	653	0	0	0
	12(SUS)	-235	-8201	69	0	0	0
	13(SUS)	-233	-8166	69	0	0	0
	14(OPE)	5759	-123	1740	0	0	0
	15(OPE)	-2787	-1027	939	0	0	0
	16(OPE)	2064	717	691	0	0	0
	17(OPE)	2127	-1141	752	0	0	0
	18(OPE)	11040	-648	3377	0	0	0
	19(OPE)	2099	-229	653	0	0	0
	20(OPE)	2098	-229	652	0	0	0
	21(OCC)	3661	106	1088	0	0	0
	22(OCC)	-4886	-799	286	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	23(OCC)	-34	946	39	0	0	0
	24(OCC)	28	-913	100	0	0	0
	25(OCC)	8942	-419	2724	0	0	0
	26(OCC)	0	0	0	0	0	0
	27(OCC)	-0	-0	-0	0	0	0
	MAX	11040/L18	-8583/L3	3377/L18			
1860		TYPE=Rigid Z w/gap; Rigid Y;					
	3(HYD)	0	-8278	-1	0	0	0
	4(OPE)	-763	-7916	211	0	0	0
	6(OPE)	-737	-7780	251	0	0	0
	8(OPE)	0	-7808	-1	0	0	0
	10(OPE)	-763	-7915	211	0	0	0
	12(SUS)	0	-7807	-2	0	0	0
	13(SUS)	0	-7772	-2	0	0	0
	14(OPE)	-761	-7899	213	0	0	0
	15(OPE)	-730	-7817	280	0	0	0
	16(OPE)	-673	-6981	186	0	0	0
	17(OPE)	-853	-8851	235	0	0	0
	18(OPE)	-716	-7954	347	0	0	0
	19(OPE)	-763	-7916	211	0	0	0
	20(OPE)	-763	-7916	211	0	0	0
	21(OCC)	3	18	3	0	0	0
	22(OCC)	33	100	69	0	0	0
	23(OCC)	90	935	-25	0	0	0
	24(OCC)	-90	-935	25	0	0	0
	25(OCC)	47	-38	136	0	0	0
	26(OCC)	-0	-0	0	0	0	0
	27(OCC)	0	0	-0	0	0	0
	MAX	-853/L17	-8851/L17	347/L18			
1880		TYPE=Rigid Z w/gap; Rigid Y;					
	3(HYD)	-0	-8278	-2	0	0	0
	4(OPE)	-791	-8004	-119	0	0	0
	6(OPE)	-792	-7944	-68	0	0	0
	8(OPE)	-0	-7809	-2	0	0	0
	10(OPE)	-791	-8003	-119	0	0	0
	12(SUS)	-0	-7808	-2	0	0	0
	13(SUS)	-0	-7772	-2	0	0	0
	14(OPE)	-790	-7983	-115	0	0	0
	15(OPE)	-791	-7919	-34	0	0	0
	16(OPE)	-699	-7069	-105	0	0	0
	17(OPE)	-884	-8938	-133	0	0	0
	18(OPE)	-805	-8059	47	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	19(OPE)	-791	-8004	-119	0	0	0
	20(OPE)	-791	-8004	-119	0	0	0
	21(OCC)	2	21	4	0	0	0
	22(OCC)	0	85	85	0	0	0
	23(OCC)	92	935	14	0	0	0
	24(OCC)	-92	-934	-14	0	0	0
	25(OCC)	-13	-55	166	0	0	0
	26(OCC)	-0	-0	-0	0	0	0
	27(OCC)	0	0	0	0	0	0
	MAX	-884/L17	-8938/L17	166/L25			
1900		TYPE=Rigid X; Rigid Z w/gap; Rigid Y;					
	3(HYD)	-583	-8567	127	0	0	0
	4(OPE)	-1356	3898	-796	0	0	0
	6(OPE)	-2575	13833	-2156	0	0	0
	8(OPE)	-448	-8152	85	0	0	0
	10(OPE)	-1364	3874	-797	0	0	0
	12(SUS)	-453	-8165	71	0	0	0
	13(SUS)	-450	-8129	70	0	0	0
	14(OPE)	3755	3842	-1511	0	0	0
	15(OPE)	-7504	3800	-2631	0	0	0
	16(OPE)	-1353	4866	-892	0	0	0
	17(OPE)	-1362	2931	-702	0	0	0
	18(OPE)	-10207	4314	3494	0	0	0
	19(OPE)	-1356	3898	-797	0	0	0
	20(OPE)	-1355	3898	-796	0	0	0
	21(OCC)	5110	-56	-714	0	0	0
	22(OCC)	-6148	-98	-1835	0	0	0
	23(OCC)	3	968	-96	0	0	0
	24(OCC)	-7	-967	95	0	0	0
	25(OCC)	-8852	416	4290	0	0	0
	26(OCC)	-0	-0	-0	0	0	0
	27(OCC)	0	-0	0	0	0	0
	MAX	-10207/L18	13833/L6	4290/L25			
1960		TYPE=Rigid +Y;					
	3(HYD)	492	-1653	-65	0	0	0
	4(OPE)	103	-17004	2465	0	0	0
	6(OPE)	723	-32510	5503	0	0	0
	8(OPE)	284	-951	-28	0	0	0
	10(OPE)	242	-16928	2510	0	0	0
	12(SUS)	285	-953	-28	0	0	0
	13(SUS)	281	-942	-28	0	0	0
	14(OPE)	4721	-17261	2127	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	15(OPE)	-1119	-16085	4694	0	0	0
	16(OPE)	105	-16875	2502	0	0	0
	17(OPE)	155	-17168	2347	0	0	0
	18(OPE)	-21	-15878	4763	0	0	0
	19(OPE)	103	-17004	2465	0	0	0
	20(OPE)	103	-17004	2465	0	0	0
	21(OCC)	4619	-258	-337	0	0	0
	22(OCC)	-1222	919	2229	0	0	0
	23(OCC)	3	129	38	0	0	0
	24(OCC)	52	-164	-118	0	0	0
	25(OCC)	-124	1126	2299	0	0	0
	26(OCC)	0	0	0	0	0	0
	27(OCC)	0	-0	-0	0	0	0
	MAX	4721/L14	-32510/L6	5503/L6			
2180		TYPE=Rigid Z w/gap; Rigid +Y;					
	3(HYD)	0	-559	0	0	0	0
	4(OPE)	0	-419	0	0	0	0
	6(OPE)	0	-402	4	0	0	0
	8(OPE)	0	-498	0	0	0	0
	10(OPE)	0	-425	0	0	0	0
	12(SUS)	0	-497	0	0	0	0
	13(SUS)	0	-495	0	0	0	0
	14(OPE)	0	-355	18	0	0	0
	15(OPE)	0	-484	0	0	0	0
	16(OPE)	0	-365	0	0	0	0
	17(OPE)	0	-475	1	0	0	0
	18(OPE)	0	-423	194	0	0	0
	19(OPE)	0	-424	0	0	0	0
	20(OPE)	0	-419	0	0	0	0
	21(OCC)	0	64	18	0	0	0
	22(OCC)	0	-65	0	0	0	0
	23(OCC)	0	54	0	0	0	0
	24(OCC)	0	-56	1	0	0	0
	25(OCC)	0	-4	194	0	0	0
	26(OCC)	0	-5	0	0	0	0
	27(OCC)	0	0	0	0	0	0
	MAX		-559/L3	194/L18			
2200		TYPE=Rigid +Y;					
	3(HYD)	-60	-662	2	0	0	0
	4(OPE)	-184	-613	9	0	0	0
	6(OPE)	-186	-620	3	0	0	0
	8(OPE)	-53	-589	2	0	0	0
	10(OPE)	-183	-614	-17	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	12(SUS)	-55	-589	2	0	0	0
	13(SUS)	-55	-586	2	0	0	0
	14(OPE)	-187	-623	3	0	0	0
	15(OPE)	-181	-603	11	0	0	0
	16(OPE)	-162	-542	6	0	0	0
	17(OPE)	-205	-685	14	0	0	0
	18(OPE)	-166	-613	79	0	0	0
	19(OPE)	-184	-612	2	0	0	0
	20(OPE)	-184	-613	9	0	0	0
	21(OCC)	-3	-10	-5	0	0	0
	22(OCC)	3	10	3	0	0	0
	23(OCC)	21	72	-2	0	0	0
	24(OCC)	-21	-72	5	0	0	0
	25(OCC)	18	1	71	0	0	0
	26(OCC)	0	1	-7	0	0	0
	27(OCC)	0	-0	1	0	0	0
	MAX	-205/L17	-685/L17	79/L18			
2220		TYPE=Rigid Z w/gap; Rigid +Y;					
	3(HYD)	0	-439	0	0	0	0
	4(OPE)	0	-356	-1498	0	0	0
	6(OPE)	0	-347	-1768	0	0	0
	8(OPE)	0	-391	0	0	0	0
	10(OPE)	0	-345	-860	0	0	0
	12(SUS)	0	-391	0	0	0	0
	13(SUS)	0	-389	0	0	0	0
	14(OPE)	0	-357	-1293	0	0	0
	15(OPE)	0	-356	-1918	0	0	0
	16(OPE)	0	-310	-1465	0	0	0
	17(OPE)	0	-402	-1616	0	0	0
	18(OPE)	0	-355	-1098	0	0	0
	19(OPE)	0	-358	-1343	0	0	0
	20(OPE)	0	-356	-1517	0	0	0
	21(OCC)	0	-0	205	0	0	0
	22(OCC)	0	0	-421	0	0	0
	23(OCC)	0	46	33	0	0	0
	24(OCC)	0	-46	-118	0	0	0
	25(OCC)	0	1	400	0	0	0
	26(OCC)	0	-1	155	0	0	0
	27(OCC)	0	0	-19	0	0	0
	MAX		-439/L3	-1918/L15			
2270		TYPE=Rigid +Y;					
	3(HYD)	-2	-291	12	0	0	0
	4(OPE)	-132	-440	8	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	6(OPE)	-144	-486	25	0	0	0
	8(OPE)	-2	-259	11	0	0	0
	10(OPE)	-163	-551	28	0	0	0
	12(SUS)	-2	-259	11	0	0	0
	13(SUS)	-2	-258	11	0	0	0
	14(OPE)	-128	-431	15	0	0	0
	15(OPE)	-138	-460	2	0	0	0
	16(OPE)	-122	-407	8	0	0	0
	17(OPE)	-143	-477	6	0	0	0
	18(OPE)	-132	-442	5	0	0	0
	19(OPE)	-129	-432	11	0	0	0
	20(OPE)	-132	-441	7	0	0	0
	21(OCC)	3	9	8	0	0	0
	22(OCC)	-6	-20	-6	0	0	0
	23(OCC)	10	33	0	0	0	0
	24(OCC)	-11	-37	-2	0	0	0
	25(OCC)	-1	-2	-3	0	0	0
	26(OCC)	3	8	3	0	0	0
	27(OCC)	-0	-1	-0	0	0	0
	MAX	-163/L10	-551/L10	28/L10			
2320		TYPE=Rigid +Y;					
	3(HYD)	-27	-305	-30	0	0	0
	4(OPE)	252	-4288	1262	0	0	0
	6(OPE)	127	-3474	1034	0	0	0
	8(OPE)	-24	-356	-23	0	0	0
	10(OPE)	15	-1015	304	0	0	0
	12(SUS)	-24	-356	-23	0	0	0
	13(SUS)	-24	-354	-23	0	0	0
	14(OPE)	408	-3309	905	0	0	0
	15(OPE)	-6	-4835	1451	0	0	0
	16(OPE)	236	-4069	1198	0	0	0
	17(OPE)	250	-4523	1334	0	0	0
	18(OPE)	215	-4066	1201	0	0	0
	19(OPE)	225	-3321	970	0	0	0
	20(OPE)	248	-4283	1261	0	0	0
	21(OCC)	156	979	-357	0	0	0
	22(OCC)	-259	-547	189	0	0	0
	23(OCC)	-17	219	-64	0	0	0
	24(OCC)	-3	-235	72	0	0	0
	25(OCC)	-37	222	-61	0	0	0
	26(OCC)	-27	968	-291	0	0	0
	27(OCC)	-4	5	-1	0	0	0
	MAX	408/L14	-4835/L15	1451/L15			
2500		TYPE=Rigid Z; Rigid X;					

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
		Rigid +Y;					
	3(HYD)	93	-2519	-21	0	0	0
	4(OPE)	-964	0	142	0	0	0
	6(OPE)	543	0	114	0	0	0
	8(OPE)	80	-2060	-11	0	0	0
	10(OPE)	1517	0	-41	0	0	0
	12(SUS)	80	-2060	-11	0	0	0
	13(SUS)	80	-2059	-11	0	0	0
	14(OPE)	512	0	141	0	0	0
	15(OPE)	-1977	0	53	0	0	0
	16(OPE)	-924	0	151	0	0	0
	17(OPE)	-1009	0	111	0	0	0
	18(OPE)	-817	0	843	0	0	0
	19(OPE)	1049	0	186	0	0	0
	20(OPE)	-958	0	136	0	0	0
	21(OCC)	1476	0	-1	0	0	0
	22(OCC)	-1013	0	-89	0	0	0
	23(OCC)	40	0	9	0	0	0
	24(OCC)	-45	0	-31	0	0	0
	25(OCC)	147	0	701	0	0	0
	26(OCC)	2013	0	44	0	0	0
	27(OCC)	6	0	-6	0	0	0
	MAX	2013/L26	-2519/L3	843/L18			
2620		TYPE=Rigid +Y;					
	3(HYD)	0	-178	0	0	0	0
	4(OPE)	0	-1465	0	0	0	0
	6(OPE)	0	0	0	0	0	0
	8(OPE)	0	-253	0	0	0	0
	10(OPE)	0	0	0	0	0	0
	12(SUS)	0	-253	0	0	0	0
	13(SUS)	0	-253	0	0	0	0
	14(OPE)	0	-681	0	0	0	0
	15(OPE)	0	-1879	0	0	0	0
	16(OPE)	0	-1255	0	0	0	0
	17(OPE)	0	-1653	0	0	0	0
	18(OPE)	0	-1241	0	0	0	0
	19(OPE)	0	-1471	0	0	0	0
	20(OPE)	0	-530	0	0	0	0
	21(OCC)	0	784	0	0	0	0
	22(OCC)	0	-414	0	0	0	0
	23(OCC)	0	210	0	0	0	0
	24(OCC)	0	-189	0	0	0	0
	25(OCC)	0	223	0	0	0	0
	26(OCC)	0	-6	0	0	0	0
	27(OCC)	0	934	0	0	0	0
	MAX		-1879/L15				

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
2800		TYPE=Rigid Z; Rigid X; Rigid +Y;					
	3(HYD)	116	-2533	-26	0	0	0
	4(OPE)	-837	0	279	0	0	0
	6(OPE)	358	0	353	0	0	0
	8(OPE)	92	-2067	-14	0	0	0
	10(OPE)	1755	0	326	0	0	0
	12(SUS)	92	-2067	-14	0	0	0
	13(SUS)	92	-2067	-14	0	0	0
	14(OPE)	647	0	252	0	0	0
	15(OPE)	-1905	0	267	0	0	0
	16(OPE)	-794	0	282	0	0	0
	17(OPE)	-867	0	269	0	0	0
	18(OPE)	-527	0	994	0	0	0
	19(OPE)	-835	0	293	0	0	0
	20(OPE)	1148	0	277	0	0	0
	21(OCC)	1484	0	-26	0	0	0
	22(OCC)	-1068	0	-12	0	0	0
	23(OCC)	42	0	4	0	0	0
	24(OCC)	-30	0	-10	0	0	0
	25(OCC)	310	0	716	0	0	0
	26(OCC)	2	0	14	0	0	0
	27(OCC)	1985	0	-2	0	0	0
	MAX	1985/L27	-2533/L3	994/L18			
3960		TYPE=Rigid X w/gap; Rigid +Y;					
	3(HYD)	111	-6442	-120	0	0	0
	4(OPE)	253	-3386	984	0	0	0
	6(OPE)	-252	-4069	-1194	0	0	0
	8(OPE)	66	-3525	-70	0	0	0
	10(OPE)	-455	-4209	1243	0	0	0
	12(SUS)	66	-3525	-70	0	0	0
	13(SUS)	66	-3521	-70	0	0	0
	14(OPE)	1012	-3601	377	0	0	0
	15(OPE)	-735	-3430	720	0	0	0
	16(OPE)	257	-2964	851	0	0	0
	17(OPE)	250	-3816	1117	0	0	0
	18(OPE)	218	-3484	1022	0	0	0
	19(OPE)	251	-3381	983	0	0	0
	20(OPE)	254	-3386	984	0	0	0
	21(OCC)	759	-215	-607	0	0	0
	22(OCC)	-988	-43	-264	0	0	0
	23(OCC)	4	422	-133	0	0	0
	24(OCC)	-2	-429	133	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	25(OCC)	-35	-97	38	0	0	0
	26(OCC)	-1	6	-1	0	0	0
	27(OCC)	1	-0	-0	0	0	0
	MAX	1012/L14	-6442/L3	1243/L10			
4220		TYPE=Rigid ANC;					
	3(HYD)	0	0	0	-0	-0	0
	4(OPE)	0	0	0	-0	0	-0
	6(OPE)	0	0	0	-0	0	-0
	8(OPE)	0	0	0	-0	-0	-0
	10(OPE)	0	0	0	-0	-0	-0
	12(SUS)	0	0	0	-0	-0	0
	13(SUS)	0	0	0	-0	0	-0
	14(OPE)	0	-0	0	0	0	0
	15(OPE)	0	0	0	0	-0	-0
	16(OPE)	-0	0	-0	-0	-0	-0
	17(OPE)	0	0	0	0	0	-0
	18(OPE)	0	0	0	0	-0	-0
	19(OPE)	0	0	0	-0	-0	-0
	20(OPE)	0	0	0	-0	-0	0
	21(OCC)	0	-0	0	0	0	0
	22(OCC)	0	0	0	0	-0	0
	23(OCC)	-0	0	-0	0	-0	0
	24(OCC)	0	0	0	0	0	0
	25(OCC)	0	0	0	0	-0	0
	26(OCC)	0	0	0	-0	-0	0
	27(OCC)	0	0	0	-0	-0	0
	MAX	-0/L16	-0/L14	0/L14	-0/L6	-0/L18	-0/L6
4260		TYPE=Rigid ANC;					
	3(HYD)	176	-2060	46	330	175	1457
	4(OPE)	3850	-1935	-37	578	121	2147
	6(OPE)	7237	-2676	-521	781	-602	4280
	8(OPE)	192	-1403	31	227	118	947
	10(OPE)	3854	-1935	-30	588	143	2146
	12(SUS)	192	-1403	31	227	118	947
	13(SUS)	193	-1399	31	226	118	944
	14(OPE)	8948	-1913	-143	367	-327	2123
	15(OPE)	-1377	-1888	148	587	537	2048
	16(OPE)	3422	-1761	-48	522	97	2023
	17(OPE)	4290	-2107	-29	627	140	2266
	18(OPE)	2238	-1920	715	750	1894	2123
	19(OPE)	3850	-1935	-37	578	121	2147
	20(OPE)	3850	-1935	-37	578	121	2147
	21(OCC)	5098	22	-106	-210	-448	-24
	22(OCC)	-5226	48	186	10	416	-98

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	23(OCC)	-428	174	-11	-55	-24	-124
	24(OCC)	441	-172	8	50	19	119
	25(OCC)	-1612	15	753	173	1773	-23
	26(OCC)	-0	0	0	0	0	0
	27(OCC)	-0	0	-0	-0	-0	0
	MAX	8948/L14	-2676/L6	753/L25	781/L6	1894/L18	4280/L6
4320		TYPE=Rigid ANC;					
	3(HYD)	176	-2060	46	450	196	1947
	4(OPE)	3850	-1935	-37	481	104	-6972
	6(OPE)	7237	-2676	-521	-573	-842	-13306
	8(OPE)	192	-1403	31	306	132	1093
	10(OPE)	3854	-1935	-30	509	129	-6983
	12(SUS)	192	-1403	31	306	132	1093
	13(SUS)	193	-1399	31	306	132	1087
	14(OPE)	8948	-1913	-143	-5	-393	-20262
	15(OPE)	-1377	-1888	148	973	605	6496
	16(OPE)	3422	-1761	-48	398	75	-6064
	17(OPE)	4290	-2107	-29	553	127	-7920
	18(OPE)	2238	-1920	715	2610	2223	-2812
	19(OPE)	3850	-1935	-37	481	104	-6972
	20(OPE)	3850	-1935	-37	481	104	-6972
	21(OCC)	5098	22	-106	-486	-496	-13290
	22(OCC)	-5226	48	186	492	501	13468
	23(OCC)	-428	174	-11	-83	-29	908
	24(OCC)	441	-172	8	72	23	-948
	25(OCC)	-1612	15	753	2129	2119	4160
	26(OCC)	-0	0	0	0	0	0
	27(OCC)	-0	0	-0	-0	-0	0
	MAX	8948/L14	-2676/L6	753/L25	2610/L18	2223/L18	-20262/L14
4970		TYPE=Rigid X w/gap; Rigid +Y;					
	3(HYD)	-9	-6137	82	0	0	0
	4(OPE)	11	-3378	-530	0	0	0
	6(OPE)	-760	-3462	708	0	0	0
	8(OPE)	-8	-3351	54	0	0	0
	10(OPE)	12	-3378	-517	0	0	0
	12(SUS)	-8	-3351	54	0	0	0
	13(SUS)	-8	-3333	54	0	0	0
	14(OPE)	918	-3383	-433	0	0	0
	15(OPE)	-954	-3364	-329	0	0	0
	16(OPE)	-5	-2975	-477	0	0	0
	17(OPE)	26	-3782	-587	0	0	0
	18(OPE)	-39	-3366	1009	0	0	0
	19(OPE)	11	-3378	-530	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	20(OPE)	11	-3378	-530	0	0	0
	21(OCC)	907	-5	97	0	0	0
	22(OCC)	-966	14	201	0	0	0
	23(OCC)	-16	403	53	0	0	0
	24(OCC)	15	-403	-57	0	0	0
	25(OCC)	-50	13	1539	0	0	0
	26(OCC)	0	0	0	0	0	0
	27(OCC)	-0	0	-0	0	0	0
	MAX	-966/L22	-6137/L3	1539/L25			
5355		TYPE=Rigid +Y;					
	3(HYD)	0	-647	0	0	0	0
	4(OPE)	0	-4	0	0	0	0
	6(OPE)	0	0	0	0	0	0
	8(OPE)	0	-587	0	0	0	0
	10(OPE)	0	-1704	0	0	0	0
	12(SUS)	0	-587	0	0	0	0
	13(SUS)	0	-587	0	0	0	0
	14(OPE)	0	-126	0	0	0	0
	15(OPE)	0	-39	0	0	0	0
	16(OPE)	0	0	0	0	0	0
	17(OPE)	0	-72	0	0	0	0
	18(OPE)	0	0	0	0	0	0
	19(OPE)	0	-4	0	0	0	0
	20(OPE)	0	-4	0	0	0	0
	21(OCC)	0	-121	0	0	0	0
	22(OCC)	0	-34	0	0	0	0
	23(OCC)	0	4	0	0	0	0
	24(OCC)	0	-68	0	0	0	0
	25(OCC)	0	4	0	0	0	0
	26(OCC)	0	-0	0	0	0	0
	27(OCC)	0	0	0	0	0	0
	MAX		-1704/L10				
5370		TYPE=Rigid Z w/gap; Rigid +Y;					
	3(HYD)	4	-811	-14	0	0	0
	4(OPE)	220	-798	-95	0	0	0
	6(OPE)	268	-899	-30	0	0	0
	8(OPE)	12	-743	-10	0	0	0
	10(OPE)	221	-824	164	0	0	0
	12(SUS)	12	-743	-10	0	0	0
	13(SUS)	12	-743	-10	0	0	0
	14(OPE)	254	-855	-36	0	0	0
	15(OPE)	-223	-811	-99	0	0	0
	16(OPE)	192	-700	-86	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	17(OPE)	249	-887	-94	0	0	0
	18(OPE)	99	-772	209	0	0	0
	19(OPE)	220	-798	-95	0	0	0
	20(OPE)	220	-798	-95	0	0	0
	21(OCC)	34	-57	59	0	0	0
	22(OCC)	-442	-13	-4	0	0	0
	23(OCC)	-28	98	9	0	0	0
	24(OCC)	29	-89	1	0	0	0
	25(OCC)	-121	27	304	0	0	0
	26(OCC)	-0	0	-0	0	0	0
	27(OCC)	0	0	0	0	0	0
	MAX	-442/L22	-899/L6	304/L25			
5375		TYPE=Rigid +Y;					
	3(HYD)	-61	-1411	208	0	0	0
	4(OPE)	-88	-937	267	0	0	0
	6(OPE)	0	0	0	0	0	0
	8(OPE)	-31	-1163	150	0	0	0
	10(OPE)	0	0	0	0	0	0
	12(SUS)	-31	-1163	150	0	0	0
	13(SUS)	-31	-1162	149	0	0	0
	14(OPE)	218	-728	10	0	0	0
	15(OPE)	-263	-897	57	0	0	0
	16(OPE)	-41	-802	237	0	0	0
	17(OPE)	-141	-1082	292	0	0	0
	18(OPE)	60	-898	262	0	0	0
	19(OPE)	-88	-937	267	0	0	0
	20(OPE)	-88	-937	267	0	0	0
	21(OCC)	307	209	-256	0	0	0
	22(OCC)	-175	40	-210	0	0	0
	23(OCC)	47	135	-30	0	0	0
	24(OCC)	-52	-146	26	0	0	0
	25(OCC)	149	39	-4	0	0	0
	26(OCC)	0	-0	0	0	0	0
	27(OCC)	0	0	0	0	0	0
	MAX	307/L21	-1411/L3	292/L17			
5420		TYPE=Rigid Z w/gap; Rigid +Y;					
	3(HYD)	371	-6130	-170	0	0	0
	4(OPE)	564	-3592	918	0	0	0
	6(OPE)	-1357	-7051	-221	0	0	0
	8(OPE)	216	-3440	-103	0	0	0
	10(OPE)	-2252	-8354	2105	0	0	0
	12(SUS)	216	-3440	-103	0	0	0
	13(SUS)	216	-3435	-102	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	14(OPE)	1233	-4128	116	0	0	0
	15(OPE)	-801	-3820	429	0	0	0
	16(OPE)	536	-3160	782	0	0	0
	17(OPE)	599	-4011	1044	0	0	0
	18(OPE)	332	-3678	1052	0	0	0
	19(OPE)	565	-3592	918	0	0	0
	20(OPE)	565	-3589	916	0	0	0
	21(OCC)	669	-537	-802	0	0	0
	22(OCC)	-1365	-228	-489	0	0	0
	23(OCC)	-28	431	-136	0	0	0
	24(OCC)	35	-419	125	0	0	0
	25(OCC)	-232	-86	134	0	0	0
	26(OCC)	1	-0	-1	0	0	0
	27(OCC)	2	2	-2	0	0	0
	MAX	-2252/L10	-8354/L10	2105/L10			
5425		TYPE=Rigid X w/gap; Rigid +Y;					
	3(HYD)	-7	-7110	-115	0	0	0
	4(OPE)	-207	-4256	-1260	0	0	0
	6(OPE)	-279	-4741	1395	0	0	0
	8(OPE)	-25	-3932	-73	0	0	0
	10(OPE)	-260	-5497	-1628	0	0	0
	12(SUS)	-25	-3932	-73	0	0	0
	13(SUS)	-24	-3927	-73	0	0	0
	14(OPE)	1192	-4035	-211	0	0	0
	15(OPE)	-1199	-4346	-513	0	0	0
	16(OPE)	-172	-3748	-1111	0	0	0
	17(OPE)	-214	-4726	-1401	0	0	0
	18(OPE)	79	-4026	1205	0	0	0
	19(OPE)	-205	-4257	-1260	0	0	0
	20(OPE)	-207	-4257	-1260	0	0	0
	21(OCC)	1399	221	1049	0	0	0
	22(OCC)	-992	-90	747	0	0	0
	23(OCC)	36	509	149	0	0	0
	24(OCC)	-7	-469	-141	0	0	0
	25(OCC)	286	230	2465	0	0	0
	26(OCC)	2	-1	-0	0	0	0
	27(OCC)	-0	-0	-0	0	0	0
	MAX	1399/L21	-7110/L3	2465/L25			
5430		TYPE=Rigid +Y;					
	3(HYD)	3	-4608	-56	0	0	0
	4(OPE)	-15	-2429	-729	0	0	0
	6(OPE)	-80	-2388	712	0	0	0
	8(OPE)	5	-2493	-35	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	10(OPE)	119	-2310	-683	0	0	0
	12(SUS)	5	-2493	-35	0	0	0
	13(SUS)	5	-2490	-35	0	0	0
	14(OPE)	696	-2467	-250	0	0	0
	15(OPE)	-640	-2409	-335	0	0	0
	16(OPE)	-6	-2133	-640	0	0	0
	17(OPE)	-26	-2729	-818	0	0	0
	18(OPE)	-8	-2455	737	0	0	0
	19(OPE)	-15	-2429	-729	0	0	0
	20(OPE)	-15	-2429	-729	0	0	0
	21(OCC)	711	-38	478	0	0	0
	22(OCC)	-626	20	394	0	0	0
	23(OCC)	8	296	89	0	0	0
	24(OCC)	-11	-300	-90	0	0	0
	25(OCC)	7	-26	1465	0	0	0
	26(OCC)	-0	0	0	0	0	0
	27(OCC)	-0	0	0	0	0	0
	MAX	711/L21	-4608/L3	1465/L25			
5435		TYPE=Rigid X w/gap; Rigid +Y;					
	3(HYD)	-1	-10654	-33	0	0	0
	4(OPE)	501	-5813	-1670	0	0	0
	6(OPE)	-459	-5748	1662	0	0	0
	8(OPE)	-1	-5783	-21	0	0	0
	10(OPE)	86	-5734	-1718	0	0	0
	12(SUS)	-1	-5783	-21	0	0	0
	13(SUS)	-1	-5775	-21	0	0	0
	14(OPE)	1454	-5796	-954	0	0	0
	15(OPE)	-1366	-5815	-1084	0	0	0
	16(OPE)	430	-5121	-1475	0	0	0
	17(OPE)	557	-6506	-1871	0	0	0
	18(OPE)	241	-5817	1728	0	0	0
	19(OPE)	501	-5813	-1670	0	0	0
	20(OPE)	501	-5813	-1670	0	0	0
	21(OCC)	953	17	717	0	0	0
	22(OCC)	-1868	-2	586	0	0	0
	23(OCC)	-72	692	195	0	0	0
	24(OCC)	55	-693	-201	0	0	0
	25(OCC)	-260	-4	3398	0	0	0
	26(OCC)	-0	0	0	0	0	0
	27(OCC)	0	-0	-0	0	0	0
	MAX	-1868/L22	-10654/L3	3398/L25			
5455		TYPE=Rigid +Y;					
	3(HYD)	0	-8356	0	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	4(OPE)	-1356	-4522	44	0	0	0
	6(OPE)	1371	-4573	47	0	0	0
	8(OPE)	1	-4535	0	0	0	0
	10(OPE)	-1255	-4594	-569	0	0	0
	12(SUS)	1	-4535	0	0	0	0
	13(SUS)	1	-4529	0	0	0	0
	14(OPE)	1355	-4529	-106	0	0	0
	15(OPE)	-1350	-4523	-138	0	0	0
	16(OPE)	-1193	-3976	22	0	0	0
	17(OPE)	-1519	-5067	55	0	0	0
	18(OPE)	-526	-4516	1249	0	0	0
	19(OPE)	-1356	-4522	44	0	0	0
	20(OPE)	-1356	-4522	44	0	0	0
	21(OCC)	2711	-7	-150	0	0	0
	22(OCC)	6	-1	-182	0	0	0
	23(OCC)	163	546	-21	0	0	0
	24(OCC)	-163	-544	12	0	0	0
	25(OCC)	830	6	1205	0	0	0
	26(OCC)	-0	-0	-0	0	0	0
	27(OCC)	0	0	0	0	0	0
	MAX	2711/L21	-8356/L3	1249/L18			
5470		TYPE=Rigid +Y;					
	3(HYD)	-0	-8606	-0	0	0	0
	4(OPE)	735	-4668	-270	0	0	0
	6(OPE)	-742	-4675	319	0	0	0
	8(OPE)	-0	-4671	-0	0	0	0
	10(OPE)	-498	-4677	1312	0	0	0
	12(SUS)	-0	-4671	-0	0	0	0
	13(SUS)	-0	-4665	-0	0	0	0
	14(OPE)	1399	-4670	-74	0	0	0
	15(OPE)	-1400	-4669	-52	0	0	0
	16(OPE)	634	-4108	-241	0	0	0
	17(OPE)	803	-5229	-290	0	0	0
	18(OPE)	225	-4668	1382	0	0	0
	19(OPE)	735	-4668	-270	0	0	0
	20(OPE)	735	-4668	-270	0	0	0
	21(OCC)	664	-1	196	0	0	0
	22(OCC)	-2134	-0	218	0	0	0
	23(OCC)	-100	561	29	0	0	0
	24(OCC)	68	-561	-20	0	0	0
	25(OCC)	-510	1	1652	0	0	0
	26(OCC)	0	-0	-0	0	0	0
	27(OCC)	0	0	-0	0	0	0
	MAX	-2134/L22	-8606/L3	1652/L25			
5480		TYPE=Rigid					

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N. Z w/gap; Rigid +Y; Rigid X w/gap;	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	3(HYD)	0	-2602	0	0	0	0
	4(OPE)	0	-1414	0	0	0	0
	6(OPE)	0	-1406	0	0	0	0
	8(OPE)	0	-1412	0	0	0	0
	10(OPE)	944	-1402	-4306	0	0	0
	12(SUS)	0	-1412	0	0	0	0
	13(SUS)	0	-1410	0	0	0	0
	14(OPE)	342	-1413	0	0	0	0
	15(OPE)	-300	-1414	0	0	0	0
	16(OPE)	0	-1245	0	0	0	0
	17(OPE)	0	-1583	0	0	0	0
	18(OPE)	0	-1415	57	0	0	0
	19(OPE)	0	-1414	0	0	0	0
	20(OPE)	0	-1414	0	0	0	0
	21(OCC)	342	1	0	0	0	0
	22(OCC)	-300	0	0	0	0	0
	23(OCC)	0	169	0	0	0	0
	24(OCC)	0	-169	0	0	0	0
	25(OCC)	0	-1	57	0	0	0
	26(OCC)	0	0	0	0	0	0
	27(OCC)	0	-0	0	0	0	0
	MAX	944/L10	-2602/L3	-4306/L10			
5805		TYPE=Rigid +Y;					
	3(HYD)	-565	-3110	438	0	0	0
	4(OPE)	683	-2497	307	0	0	0
	6(OPE)	0	0	0	0	0	0
	8(OPE)	-374	-2049	241	0	0	0
	10(OPE)	0	0	0	0	0	0
	12(SUS)	-374	-2049	241	0	0	0
	13(SUS)	-374	-2048	241	0	0	0
	14(OPE)	693	-2338	107	0	0	0
	15(OPE)	636	-2174	147	0	0	0
	16(OPE)	632	-2297	274	0	0	0
	17(OPE)	737	-2700	336	0	0	0
	18(OPE)	410	-2386	586	0	0	0
	19(OPE)	685	-2501	307	0	0	0
	20(OPE)	685	-2501	307	0	0	0
	21(OCC)	10	159	-200	0	0	0
	22(OCC)	-48	323	-161	0	0	0
	23(OCC)	-51	200	-33	0	0	0
	24(OCC)	54	-203	29	0	0	0
	25(OCC)	-273	111	279	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	26(OCC)	1	-4	-0	0	0	0
	27(OCC)	2	-4	-0	0	0	0
	MAX	737/L17	-3110/L3	586/L18			
6080		TYPE=Rigid +Y; Rigid X w/gap;					
	3(HYD)	-0	-2571	24	0	0	0
	4(OPE)	-1	-1403	-421	0	0	0
	6(OPE)	60	-1406	-418	0	0	0
	8(OPE)	-0	-1402	15	0	0	0
	10(OPE)	-1	-1403	-421	0	0	0
	12(SUS)	-0	-1402	15	0	0	0
	13(SUS)	-0	-1394	15	0	0	0
	14(OPE)	497	-1403	-314	0	0	0
	15(OPE)	-443	-1402	-304	0	0	0
	16(OPE)	-1	-1235	-370	0	0	0
	17(OPE)	-1	-1571	-471	0	0	0
	18(OPE)	7	-1402	421	0	0	0
	19(OPE)	-1	-1403	-421	0	0	0
	20(OPE)	-1	-1403	-421	0	0	0
	21(OCC)	498	-0	107	0	0	0
	22(OCC)	-442	1	117	0	0	0
	23(OCC)	0	168	50	0	0	0
	24(OCC)	-0	-168	-50	0	0	0
	25(OCC)	9	1	842	0	0	0
	26(OCC)	0	0	0	0	0	0
	27(OCC)	-0	0	0	0	0	0
	MAX	498/L21	-2571/L3	842/L25			
6090		TYPE=Rigid +Y; Rigid LIM w/gap;					
	3(HYD)	2	-7445	39	0	0	0
	4(OPE)	36	-4049	-1214	0	0	0
	6(OPE)	114	-4029	-2066	0	0	0
	8(OPE)	2	-4056	26	0	0	0
	10(OPE)	36	-4049	-1214	0	0	0
	12(SUS)	2	-4056	26	0	0	0
	13(SUS)	2	-4034	26	0	0	0
	14(OPE)	999	-4048	-690	0	0	0
	15(OPE)	-998	-4053	-695	0	0	0
	16(OPE)	40	-3563	-1068	0	0	0
	17(OPE)	32	-4536	-1360	0	0	0
	18(OPE)	27	-4053	1215	0	0	0
	19(OPE)	36	-4049	-1214	0	0	0
	20(OPE)	36	-4049	-1214	0	0	0
	21(OCC)	963	1	524	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	22(OCC)	-1034	-3	519	0	0	0
	23(OCC)	4	486	146	0	0	0
	24(OCC)	-4	-486	-146	0	0	0
	25(OCC)	-9	-3	2430	0	0	0
	26(OCC)	-0	0	0	0	0	0
	27(OCC)	0	0	0	0	0	0
	MAX	-1034/L22	-7445/L3	2430/L25			
6220		TYPE=Rigid Z; Rigid +Y;					
	3(HYD)	-224	-3316	37	0	0	0
	4(OPE)	-596	-1986	58	0	0	0
	6(OPE)	-559	-1864	70	0	0	0
	8(OPE)	-129	-2058	25	0	0	0
	10(OPE)	-567	-1889	49	0	0	0
	12(SUS)	-129	-2058	25	0	0	0
	13(SUS)	-147	-2043	25	0	0	0
	14(OPE)	-560	-1867	98	0	0	0
	15(OPE)	-630	-2102	21	0	0	0
	16(OPE)	-522	-1739	54	0	0	0
	17(OPE)	-670	-2234	61	0	0	0
	18(OPE)	-617	-2058	329	0	0	0
	19(OPE)	-596	-1986	58	0	0	0
	20(OPE)	-596	-1986	58	0	0	0
	21(OCC)	36	119	40	0	0	0
	22(OCC)	-35	-115	-37	0	0	0
	23(OCC)	74	247	-3	0	0	0
	24(OCC)	-74	-248	3	0	0	0
	25(OCC)	-22	-72	271	0	0	0
	26(OCC)	0	0	-0	0	0	0
	27(OCC)	0	0	0	0	0	0
	MAX	-670/L17	-3316/L3	329/L18			
6240		TYPE=Rigid +Y;					
	3(HYD)	-19	-62	-0	0	0	0
	4(OPE)	-38	-126	-3	0	0	0
	6(OPE)	-58	-194	-8	0	0	0
	8(OPE)	-19	-64	1	0	0	0
	10(OPE)	0	0	0	0	0	0
	12(SUS)	-19	-64	1	0	0	0
	13(SUS)	-19	-64	1	0	0	0
	14(OPE)	-3	-105	-31	0	0	0
	15(OPE)	-38	-132	11	0	0	0
	16(OPE)	-34	-113	-3	0	0	0
	17(OPE)	-40	-134	-3	0	0	0
	18(OPE)	-17	-65	9	0	0	0
	19(OPE)	-38	-126	-3	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	20(OPE)	-38	-126	-3	0	0	0
	21(OCC)	35	22	-28	0	0	0
	22(OCC)	-0	-6	14	0	0	0
	23(OCC)	4	13	0	0	0	0
	24(OCC)	-2	-8	0	0	0	0
	25(OCC)	21	61	12	0	0	0
	26(OCC)	0	0	0	0	0	0
	27(OCC)	-0	-0	-0	0	0	0
	MAX	-58/L6	-194/L6	-31/L14			
6270		TYPE=Rigid Z w/gap; Rigid +Y;					
	3(HYD)	-80	-528	-27	0	0	0
	4(OPE)	-136	-605	91	0	0	0
	6(OPE)	-26	-223	62	0	0	0
	8(OPE)	-76	-518	-22	0	0	0
	10(OPE)	0	0	0	0	0	0
	12(SUS)	-76	-518	-22	0	0	0
	13(SUS)	-76	-518	-22	0	0	0
	14(OPE)	164	-560	34	0	0	0
	15(OPE)	-139	-544	86	0	0	0
	16(OPE)	-132	-531	89	0	0	0
	17(OPE)	-140	-668	85	0	0	0
	18(OPE)	-73	-585	160	0	0	0
	19(OPE)	-136	-605	91	0	0	0
	20(OPE)	-131	-605	88	0	0	0
	21(OCC)	300	45	-56	0	0	0
	22(OCC)	-3	61	-5	0	0	0
	23(OCC)	4	75	-2	0	0	0
	24(OCC)	-5	-63	-5	0	0	0
	25(OCC)	63	21	69	0	0	0
	26(OCC)	-0	0	0	0	0	0
	27(OCC)	5	0	-3	0	0	0
	MAX	300/L21	-668/L17	160/L18			
6290		TYPE=Rigid Z w/gap; Rigid +Y;					
	3(HYD)	128	-430	16	0	0	0
	4(OPE)	261	-879	-35	0	0	0
	6(OPE)	338	-1147	-62	0	0	0
	8(OPE)	118	-395	13	0	0	0
	10(OPE)	0	0	0	0	0	0
	12(SUS)	118	-395	13	0	0	0
	13(SUS)	118	-395	13	0	0	0
	14(OPE)	233	-778	-17	0	0	0
	15(OPE)	-133	-903	-24	0	0	0

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Job:: BNK-GCS-CN-008-D02

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	16(OPE)	232	-780	-34	0	0	0
	17(OPE)	277	-928	-32	0	0	0
	18(OPE)	84	-951	273	0	0	0
	19(OPE)	261	-879	-35	0	0	0
	20(OPE)	261	-879	-35	0	0	0
	21(OCC)	-29	101	18	0	0	0
	22(OCC)	-394	-25	11	0	0	0
	23(OCC)	-30	99	1	0	0	0
	24(OCC)	15	-49	3	0	0	0
	25(OCC)	-177	-73	308	0	0	0
	26(OCC)	-0	0	-0	0	0	0
	27(OCC)	0	-0	0	0	0	0
	MAX	-394/L22	-1147/L6	308/L25			
6310		TYPE=Rigid +Y;					
	3(HYD)	1	-812	11	0	0	0
	4(OPE)	-98	-1500	159	0	0	0
	6(OPE)	-237	-1754	251	0	0	0
	8(OPE)	0	-847	10	0	0	0
	10(OPE)	-98	-1493	158	0	0	0
	12(SUS)	0	-852	8	0	0	0
	13(SUS)	-3	-857	10	0	0	0
	14(OPE)	-94	-1654	110	0	0	0
	15(OPE)	-134	-1348	214	0	0	0
	16(OPE)	-97	-1385	161	0	0	0
	17(OPE)	-99	-1613	156	0	0	0
	18(OPE)	-106	-1426	235	0	0	0
	19(OPE)	-98	-1499	159	0	0	0
	20(OPE)	-98	-1500	159	0	0	0
	21(OCC)	4	-155	-49	0	0	0
	22(OCC)	-36	151	56	0	0	0
	23(OCC)	1	114	2	0	0	0
	24(OCC)	-1	-114	-2	0	0	0
	25(OCC)	-8	73	76	0	0	0
	26(OCC)	0	0	0	0	0	0
	27(OCC)	-0	-0	-0	0	0	0
	MAX	-237/L6	-1754/L6	251/L6			
6410		TYPE=Rigid Z; Rigid +Y;					
	3(HYD)	0	-71	0	0	0	0
	4(OPE)	0	-47	0	0	0	0
	6(OPE)	0	-47	0	0	0	0
	8(OPE)	0	-47	0	0	0	0
	10(OPE)	0	-47	0	0	0	0
	12(SUS)	0	-47	0	0	0	0
	13(SUS)	0	-47	0	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	14(OPE)	12	-47	0	0	0	0
	15(OPE)	-12	-47	0	0	0	0
	16(OPE)	0	-42	0	0	0	0
	17(OPE)	0	-53	0	0	0	0
	18(OPE)	0	-47	-4	0	0	0
	19(OPE)	0	-47	0	0	0	0
	20(OPE)	0	-47	0	0	0	0
	21(OCC)	12	0	0	0	0	0
	22(OCC)	-12	0	0	0	0	0
	23(OCC)	0	6	0	0	0	0
	24(OCC)	0	-6	0	0	0	0
	25(OCC)	0	0	-4	0	0	0
	26(OCC)	0	0	0	0	0	0
	27(OCC)	0	0	0	0	0	0
	MAX	12/L14	-71/L3	-4/L18			
6430		TYPE=Rigid +Y;					
	3(HYD)	0	-5737	0	0	0	0
	4(OPE)	0	-4625	0	0	0	0
	6(OPE)	0	-4124	0	0	0	0
	8(OPE)	0	-4614	0	0	0	0
	10(OPE)	0	-4640	0	0	0	0
	12(SUS)	0	-4614	0	0	0	0
	13(SUS)	0	-4578	0	0	0	0
	14(OPE)	0	-4438	0	0	0	0
	15(OPE)	0	-5004	0	0	0	0
	16(OPE)	0	-4035	0	0	0	0
	17(OPE)	0	-5206	0	0	0	0
	18(OPE)	0	-4661	0	0	0	0
	19(OPE)	0	-4625	0	0	0	0
	20(OPE)	0	-4625	0	0	0	0
	21(OCC)	0	187	0	0	0	0
	22(OCC)	0	-379	0	0	0	0
	23(OCC)	0	590	0	0	0	0
	24(OCC)	0	-581	0	0	0	0
	25(OCC)	0	-36	0	0	0	0
	26(OCC)	0	-0	0	0	0	0
	27(OCC)	0	0	0	0	0	0
	MAX		-5737/L3				
6450		TYPE=Rigid +Y;					
	3(HYD)	0	-1169	0	0	0	0
	4(OPE)	0	-1273	0	0	0	0
	6(OPE)	0	-2310	0	0	0	0
	8(OPE)	0	-995	0	0	0	0
	10(OPE)	0	-3140	0	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	12(SUS)	0	-995	0	0	0	0
	13(SUS)	0	-995	0	0	0	0
	14(OPE)	0	-1880	0	0	0	0
	15(OPE)	0	-666	0	0	0	0
	16(OPE)	0	-1078	0	0	0	0
	17(OPE)	0	-1416	0	0	0	0
	18(OPE)	0	-2210	0	0	0	0
	19(OPE)	0	-1325	0	0	0	0
	20(OPE)	0	-1262	0	0	0	0
	21(OCC)	0	-607	0	0	0	0
	22(OCC)	0	608	0	0	0	0
	23(OCC)	0	195	0	0	0	0
	24(OCC)	0	-142	0	0	0	0
	25(OCC)	0	-937	0	0	0	0
	26(OCC)	0	-52	0	0	0	0
	27(OCC)	0	12	0	0	0	0
	MAX		-3140/L10				
6470		TYPE=Rigid Y;					
	3(HYD)	0	-1394	0	0	0	0
	4(OPE)	0	655	0	0	0	0
	6(OPE)	0	-21	0	0	0	0
	8(OPE)	0	-1149	0	0	0	0
	10(OPE)	0	-526	0	0	0	0
	12(SUS)	0	-1149	0	0	0	0
	13(SUS)	0	-1149	0	0	0	0
	14(OPE)	0	-57	0	0	0	0
	15(OPE)	0	820	0	0	0	0
	16(OPE)	0	889	0	0	0	0
	17(OPE)	0	371	0	0	0	0
	18(OPE)	0	1200	0	0	0	0
	19(OPE)	0	737	0	0	0	0
	20(OPE)	0	706	0	0	0	0
	21(OCC)	0	-712	0	0	0	0
	22(OCC)	0	166	0	0	0	0
	23(OCC)	0	234	0	0	0	0
	24(OCC)	0	-283	0	0	0	0
	25(OCC)	0	546	0	0	0	0
	26(OCC)	0	83	0	0	0	0
	27(OCC)	0	52	0	0	0	0
	MAX		-1394/L3				
6490		TYPE=Rigid +Y;					
	3(HYD)	-330	-5562	525	0	0	0
	4(OPE)	357	-5580	1635	0	0	0
	6(OPE)	999	-6057	1518	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	8(OPE)	-305	-5177	466	0	0	0
	10(OPE)	374	-5682	1663	0	0	0
	12(SUS)	-305	-5177	466	0	0	0
	13(SUS)	-305	-5155	462	0	0	0
	14(OPE)	1281	-5658	1114	0	0	0
	15(OPE)	-535	-5524	1568	0	0	0
	16(OPE)	348	-4960	1447	0	0	0
	17(OPE)	356	-6202	1826	0	0	0
	18(OPE)	217	-5563	1655	0	0	0
	19(OPE)	357	-5580	1635	0	0	0
	20(OPE)	357	-5580	1635	0	0	0
	21(OCC)	923	-79	-521	0	0	0
	22(OCC)	-892	56	-67	0	0	0
	23(OCC)	-9	620	-189	0	0	0
	24(OCC)	-1	-622	191	0	0	0
	25(OCC)	-140	17	19	0	0	0
	26(OCC)	0	0	-0	0	0	0
	27(OCC)	-0	-0	0	0	0	0
	MAX	1281/L14	-6202/L17	1826/L17			
6520		TYPE=Rigid +Y;					
	3(HYD)	-264	-4547	-658	0	0	0
	4(OPE)	430	-3707	1026	0	0	0
	6(OPE)	550	-3380	852	0	0	0
	8(OPE)	-220	-4146	-624	0	0	0
	10(OPE)	419	-3592	993	0	0	0
	12(SUS)	-220	-4146	-624	0	0	0
	13(SUS)	-220	-4123	-623	0	0	0
	14(OPE)	695	-3645	844	0	0	0
	15(OPE)	-85	-3822	1143	0	0	0
	16(OPE)	395	-3231	885	0	0	0
	17(OPE)	468	-4186	1165	0	0	0
	18(OPE)	546	-3649	949	0	0	0
	19(OPE)	430	-3707	1026	0	0	0
	20(OPE)	430	-3707	1026	0	0	0
	21(OCC)	265	62	-181	0	0	0
	22(OCC)	-515	-115	118	0	0	0
	23(OCC)	-35	475	-140	0	0	0
	24(OCC)	38	-480	140	0	0	0
	25(OCC)	116	58	-77	0	0	0
	26(OCC)	-0	-0	0	0	0	0
	27(OCC)	0	-0	-0	0	0	0
	MAX	695/L14	-4547/L3	1165/L17			
6540		TYPE=Rigid X w/gap; Rigid +Y;					

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	3(HYD)	1	-1266	111	0	0	0
	4(OPE)	-134	-1035	280	0	0	0
	6(OPE)	84	-1580	466	0	0	0
	8(OPE)	4	-1243	120	0	0	0
	10(OPE)	-153	-1077	285	0	0	0
	12(SUS)	4	-1243	120	0	0	0
	13(SUS)	3	-1232	118	0	0	0
	14(OPE)	227	-1102	241	0	0	0
	15(OPE)	-256	-939	118	0	0	0
	16(OPE)	-104	-936	261	0	0	0
	17(OPE)	-161	-1144	303	0	0	0
	18(OPE)	34	-1047	312	0	0	0
	19(OPE)	-134	-1035	280	0	0	0
	20(OPE)	-134	-1035	280	0	0	0
	21(OCC)	360	-67	-40	0	0	0
	22(OCC)	-122	96	-162	0	0	0
	23(OCC)	30	99	-19	0	0	0
	24(OCC)	-27	-109	23	0	0	0
	25(OCC)	167	-12	32	0	0	0
	26(OCC)	-0	0	-0	0	0	0
	27(OCC)	0	-0	0	0	0	0
	MAX	360/L21	-1580/L6	466/L6			
6560		TYPE=Rigid +Y; Rigid Z;					
	3(HYD)	-679	-2264	642	0	0	0
	4(OPE)	-475	-1583	-4770	0	0	0
	6(OPE)	-486	-1621	-6331	0	0	0
	8(OPE)	-487	-1622	475	0	0	0
	10(OPE)	-475	-1584	-5170	0	0	0
	12(SUS)	-487	-1622	475	0	0	0
	13(SUS)	-485	-1618	469	0	0	0
	14(OPE)	-461	-1536	-3008	0	0	0
	15(OPE)	-496	-1652	-4967	0	0	0
	16(OPE)	-417	-1392	-4365	0	0	0
	17(OPE)	-532	-1774	-5057	0	0	0
	18(OPE)	-473	-1577	2822	0	0	0
	19(OPE)	-475	-1583	-4770	0	0	0
	20(OPE)	-475	-1583	-4770	0	0	0
	21(OCC)	14	47	1762	0	0	0
	22(OCC)	-21	-69	-197	0	0	0
	23(OCC)	57	191	405	0	0	0
	24(OCC)	-57	-191	-287	0	0	0
	25(OCC)	2	6	7593	0	0	0
	26(OCC)	0	0	-0	0	0	0
	27(OCC)	-0	-0	0	0	0	0
	MAX	-679/L3	-2264/L3	7593/L25			

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
6590		TYPE=Rigid X w/gap; Rigid +Y;					
	3(HYD)	0	-4261	0	0	0	0
	4(OPE)	0	-3432	0	0	0	0
	6(OPE)	0	-2997	0	0	0	0
	8(OPE)	0	-3476	0	0	0	0
	10(OPE)	0	-3414	0	0	0	0
	12(SUS)	0	-3476	0	0	0	0
	13(SUS)	0	-3469	0	0	0	0
	14(OPE)	0	-3399	0	0	0	0
	15(OPE)	-197	-3525	0	0	0	0
	16(OPE)	0	-3001	0	0	0	0
	17(OPE)	0	-3864	0	0	0	0
	18(OPE)	0	-3453	0	0	0	0
	19(OPE)	0	-3432	0	0	0	0
	20(OPE)	0	-3432	0	0	0	0
	21(OCC)	0	32	0	0	0	0
	22(OCC)	-197	-94	0	0	0	0
	23(OCC)	0	431	0	0	0	0
	24(OCC)	0	-432	0	0	0	0
	25(OCC)	0	-22	0	0	0	0
	26(OCC)	0	-0	0	0	0	0
	27(OCC)	0	0	0	0	0	0
	MAX	-197/L15	-4261/L3				
6610		TYPE=Rigid Z w/gap; Rigid +Y;					
	3(HYD)	0	-2966	0	0	0	0
	4(OPE)	0	-156	0	0	0	0
	6(OPE)	0	0	0	0	0	0
	8(OPE)	0	-1851	0	0	0	0
	10(OPE)	0	-166	0	0	0	0
	12(SUS)	0	-1851	0	0	0	0
	13(SUS)	0	-1844	0	0	0	0
	14(OPE)	0	-693	0	0	0	0
	15(OPE)	0	0	0	0	0	0
	16(OPE)	0	0	0	0	0	0
	17(OPE)	0	-330	0	0	0	0
	18(OPE)	0	-382	0	0	0	0
	19(OPE)	0	-156	0	0	0	0
	20(OPE)	0	-156	0	0	0	0
	21(OCC)	0	-537	0	0	0	0
	22(OCC)	0	156	0	0	0	0
	23(OCC)	0	156	0	0	0	0
	24(OCC)	0	-174	0	0	0	0
	25(OCC)	0	-225	0	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	26(OCC)	0	-0	0	0	0	0
	27(OCC)	0	-0	0	0	0	0
	MAX		-2966/L3				
6640		TYPE=Rigid Z w/gap; Rigid +Y;					
	3(HYD)	354	-4727	-166	0	0	0
	4(OPE)	-1437	-4795	65	0	0	0
	6(OPE)	-1101	-3677	72	0	0	0
	8(OPE)	317	-3755	-117	0	0	0
	10(OPE)	-1433	-4785	78	0	0	0
	12(SUS)	317	-3755	-117	0	0	0
	13(SUS)	316	-3750	-116	0	0	0
	14(OPE)	-1287	-4448	-352	0	0	0
	15(OPE)	-1434	-4833	213	0	0	0
	16(OPE)	-1290	-4309	83	0	0	0
	17(OPE)	-1579	-5266	42	0	0	0
	18(OPE)	-855	-4654	1104	0	0	0
	19(OPE)	-1437	-4795	65	0	0	0
	20(OPE)	-1437	-4795	65	0	0	0
	21(OCC)	150	348	-417	0	0	0
	22(OCC)	3	-38	149	0	0	0
	23(OCC)	147	486	18	0	0	0
	24(OCC)	-142	-471	-22	0	0	0
	25(OCC)	582	141	1039	0	0	0
	26(OCC)	0	0	0	0	0	0
	27(OCC)	0	0	-0	0	0	0
	MAX	-1579/L17	-5266/L17	1104/L18			
6670		TYPE=Rigid Z w/gap; Rigid +Y;					
	3(HYD)	0	-3830	0	0	0	0
	4(OPE)	0	-3207	0	0	0	0
	6(OPE)	0	-3917	0	0	0	0
	8(OPE)	0	-3215	0	0	0	0
	10(OPE)	0	-3212	0	0	0	0
	12(SUS)	0	-3215	0	0	0	0
	13(SUS)	0	-3211	0	0	0	0
	14(OPE)	0	-2952	0	0	0	0
	15(OPE)	0	-3254	0	0	0	0
	16(OPE)	0	-2820	0	0	0	0
	17(OPE)	0	-3592	0	0	0	0
	18(OPE)	0	-3340	114	0	0	0
	19(OPE)	0	-3207	0	0	0	0
	20(OPE)	0	-3207	0	0	0	0
	21(OCC)	0	255	0	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	22(OCC)	0	-46	0	0	0	0
	23(OCC)	0	387	0	0	0	0
	24(OCC)	0	-385	0	0	0	0
	25(OCC)	0	-132	114	0	0	0
	26(OCC)	0	-0	0	0	0	0
	27(OCC)	0	0	0	0	0	0
	MAX		-3917/L6	114/L18			
6690		TYPE=Rigid +Y;					
	3(HYD)	446	-4207	-624	0	0	0
	4(OPE)	-810	-3030	414	0	0	0
	6(OPE)	-893	-3463	530	0	0	0
	8(OPE)	163	-2927	-412	0	0	0
	10(OPE)	-807	-3024	414	0	0	0
	12(SUS)	163	-2927	-412	0	0	0
	13(SUS)	161	-2919	-411	0	0	0
	14(OPE)	-1023	-3411	11	0	0	0
	15(OPE)	-849	-2969	268	0	0	0
	16(OPE)	-704	-2667	380	0	0	0
	17(OPE)	-917	-3397	445	0	0	0
	18(OPE)	-356	-2737	740	0	0	0
	19(OPE)	-810	-3030	414	0	0	0
	20(OPE)	-810	-3030	414	0	0	0
	21(OCC)	-214	-381	-403	0	0	0
	22(OCC)	-40	62	-146	0	0	0
	23(OCC)	105	363	-34	0	0	0
	24(OCC)	-107	-366	31	0	0	0
	25(OCC)	453	293	326	0	0	0
	26(OCC)	0	0	0	0	0	0
	27(OCC)	-0	-0	0	0	0	0
	MAX	-1023/L14	-4207/L3	740/L18			
6710		TYPE=Rigid +Y;					
	3(HYD)	657	-2329	-238	0	0	0
	4(OPE)	713	-2422	137	0	0	0
	6(OPE)	938	-3328	342	0	0	0
	8(OPE)	587	-2091	-222	0	0	0
	10(OPE)	860	-2953	211	0	0	0
	12(SUS)	587	-2091	-222	0	0	0
	13(SUS)	585	-2087	-222	0	0	0
	14(OPE)	729	-2580	260	0	0	0
	15(OPE)	639	-2139	61	0	0	0
	16(OPE)	630	-2154	144	0	0	0
	17(OPE)	788	-2670	141	0	0	0
	18(OPE)	597	-2450	429	0	0	0
	19(OPE)	713	-2422	137	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	20(OPE)	713	-2422	137	0	0	0
	21(OCC)	15	-158	123	0	0	0
	22(OCC)	-75	283	-76	0	0	0
	23(OCC)	-84	268	7	0	0	0
	24(OCC)	75	-248	4	0	0	0
	25(OCC)	-117	-28	292	0	0	0
	26(OCC)	-0	0	-0	0	0	0
	27(OCC)	-0	-0	0	0	0	0
	MAX	938/L6	-3328/L6	429/L18			
6730		TYPE=Rigid X w/gap; Rigid +Y;					
	3(HYD)	119	-1989	11	0	0	0
	4(OPE)	480	-1778	232	0	0	0
	6(OPE)	1876	-926	216	0	0	0
	8(OPE)	126	-1738	-2	0	0	0
	10(OPE)	0	0	0	0	0	0
	12(SUS)	126	-1738	-2	0	0	0
	13(SUS)	126	-1737	-3	0	0	0
	14(OPE)	554	-1919	158	0	0	0
	15(OPE)	93	-1699	262	0	0	0
	16(OPE)	425	-1607	228	0	0	0
	17(OPE)	543	-1978	238	0	0	0
	18(OPE)	343	-1861	441	0	0	0
	19(OPE)	480	-1778	232	0	0	0
	20(OPE)	480	-1778	232	0	0	0
	21(OCC)	74	-141	-74	0	0	0
	22(OCC)	-387	79	30	0	0	0
	23(OCC)	-55	171	-4	0	0	0
	24(OCC)	63	-200	6	0	0	0
	25(OCC)	-137	-83	209	0	0	0
	26(OCC)	0	-0	0	0	0	0
	27(OCC)	0	-0	-0	0	0	0
	MAX	1876/L6	-1989/L3	441/L18			
6750		TYPE=Rigid +Y;					
	3(HYD)	0	-619	0	0	0	0
	4(OPE)	0	-180	0	0	0	0
	6(OPE)	0	0	0	0	0	0
	8(OPE)	0	-530	0	0	0	0
	10(OPE)	0	0	0	0	0	0
	12(SUS)	0	-530	0	0	0	0
	13(SUS)	0	-531	0	0	0	0
	14(OPE)	0	-375	0	0	0	0
	15(OPE)	0	0	0	0	0	0
	16(OPE)	0	-123	0	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	17(OPE)	0	-257	0	0	0	0
	18(OPE)	0	-338	0	0	0	0
	19(OPE)	0	-180	0	0	0	0
	20(OPE)	0	-180	0	0	0	0
	21(OCC)	0	-194	0	0	0	0
	22(OCC)	0	180	0	0	0	0
	23(OCC)	0	58	0	0	0	0
	24(OCC)	0	-77	0	0	0	0
	25(OCC)	0	-158	0	0	0	0
	26(OCC)	0	0	0	0	0	0
	27(OCC)	0	-0	0	0	0	0
	MAX		-619/L3				
6770		TYPE=Rigid +Y;					
	3(HYD)	-422	-2102	-269	0	0	0
	4(OPE)	-5	-1493	448	0	0	0
	6(OPE)	198	-1252	319	0	0	0
	8(OPE)	-311	-1507	-156	0	0	0
	10(OPE)	-5	-1470	441	0	0	0
	12(SUS)	-311	-1507	-156	0	0	0
	13(SUS)	-304	-1472	-148	0	0	0
	14(OPE)	321	-1300	221	0	0	0
	15(OPE)	-309	-1585	361	0	0	0
	16(OPE)	7	-1299	390	0	0	0
	17(OPE)	-19	-1688	506	0	0	0
	18(OPE)	-26	-1507	451	0	0	0
	19(OPE)	-5	-1493	448	0	0	0
	20(OPE)	-5	-1493	448	0	0	0
	21(OCC)	327	194	-227	0	0	0
	22(OCC)	-304	-91	-87	0	0	0
	23(OCC)	12	194	-58	0	0	0
	24(OCC)	-14	-195	58	0	0	0
	25(OCC)	-20	-14	3	0	0	0
	26(OCC)	0	-0	0	0	0	0
	27(OCC)	0	-0	0	0	0	0
	MAX	-422/L3	-2102/L3	506/L17			
6845		TYPE=Rigid +Y; Rigid X w/gap; Rigid Z w/gap;					
	3(HYD)	0	-1084	1	0	0	0
	4(OPE)	9	-685	-1777	0	0	0
	6(OPE)	26	-685	-3239	0	0	0
	8(OPE)	0	-685	0	0	0	0
	10(OPE)	9	-685	-1780	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	12(SUS)	0	-685	0	0	0	0
	13(SUS)	0	-659	0	0	0	0
	14(OPE)	347	-685	-1391	0	0	0
	15(OPE)	-347	-685	-1900	0	0	0
	16(OPE)	10	-603	-1605	0	0	0
	17(OPE)	9	-767	-1947	0	0	0
	18(OPE)	8	-685	752	0	0	0
	19(OPE)	9	-685	-1777	0	0	0
	20(OPE)	9	-685	-1777	0	0	0
	21(OCC)	338	-0	386	0	0	0
	22(OCC)	-356	0	-124	0	0	0
	23(OCC)	0	82	172	0	0	0
	24(OCC)	-0	-82	-170	0	0	0
	25(OCC)	-1	0	2529	0	0	0
	26(OCC)	0	0	-0	0	0	0
	27(OCC)	0	0	0	0	0	0
	MAX	-356/L22	-1084/L3	-3239/L6			
6870		TYPE=Rigid +Y;					
	3(HYD)	0	-3149	0	0	0	0
	4(OPE)	0	-1988	0	0	0	0
	6(OPE)	0	-1988	0	0	0	0
	8(OPE)	0	-1988	0	0	0	0
	10(OPE)	0	-1988	0	0	0	0
	12(SUS)	0	-1988	0	0	0	0
	13(SUS)	0	-1915	0	0	0	0
	14(OPE)	0	-1988	0	0	0	0
	15(OPE)	0	-1988	0	0	0	0
	16(OPE)	0	-1750	0	0	0	0
	17(OPE)	0	-2227	0	0	0	0
	18(OPE)	0	-1988	0	0	0	0
	19(OPE)	0	-1988	0	0	0	0
	20(OPE)	0	-1988	0	0	0	0
	21(OCC)	0	0	0	0	0	0
	22(OCC)	0	-0	0	0	0	0
	23(OCC)	0	239	0	0	0	0
	24(OCC)	0	-239	0	0	0	0
	25(OCC)	0	-0	0	0	0	0
	26(OCC)	0	0	0	0	0	0
	27(OCC)	0	0	0	0	0	0
	MAX		-3149/L3				
6890		TYPE=Rigid +Y; Rigid X;					
	3(HYD)	-0	-2682	0	0	0	0
	4(OPE)	-32	-1695	0	0	0	0
	6(OPE)	-135	-1698	0	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	8(OPE)	-0	-1694	0	0	0	0
	10(OPE)	-32	-1695	0	0	0	0
	12(SUS)	-0	-1694	0	0	0	0
	13(SUS)	-0	-1631	0	0	0	0
	14(OPE)	1061	-1695	0	0	0	0
	15(OPE)	-1062	-1695	0	0	0	0
	16(OPE)	-34	-1492	0	0	0	0
	17(OPE)	-31	-1898	0	0	0	0
	18(OPE)	-27	-1695	0	0	0	0
	19(OPE)	-32	-1695	0	0	0	0
	20(OPE)	-32	-1695	0	0	0	0
	21(OCC)	1094	-0	0	0	0	0
	22(OCC)	-1029	0	0	0	0	0
	23(OCC)	-2	203	0	0	0	0
	24(OCC)	1	-203	0	0	0	0
	25(OCC)	5	0	0	0	0	0
	26(OCC)	-0	0	0	0	0	0
	27(OCC)	-0	0	0	0	0	0
	MAX	1094/L21	-2682/L3				
6900		TYPE=Rigid +Y;					
	3(HYD)	0	-2912	0	0	0	0
	4(OPE)	0	-1834	0	0	0	0
	6(OPE)	0	-1824	0	0	0	0
	8(OPE)	0	-1837	0	0	0	0
	10(OPE)	0	-1834	0	0	0	0
	12(SUS)	0	-1837	0	0	0	0
	13(SUS)	0	-1769	0	0	0	0
	14(OPE)	0	-1834	0	0	0	0
	15(OPE)	0	-1834	0	0	0	0
	16(OPE)	0	-1613	0	0	0	0
	17(OPE)	0	-2054	0	0	0	0
	18(OPE)	0	-1834	0	0	0	0
	19(OPE)	0	-1834	0	0	0	0
	20(OPE)	0	-1834	0	0	0	0
	21(OCC)	0	0	0	0	0	0
	22(OCC)	0	-0	0	0	0	0
	23(OCC)	0	220	0	0	0	0
	24(OCC)	0	-220	0	0	0	0
	25(OCC)	0	-0	0	0	0	0
	26(OCC)	0	0	0	0	0	0
	27(OCC)	0	0	0	0	0	0
	MAX		-2912/L3				
6905		TYPE=Rigid +Y; Rigid X w/gap;					

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	3(HYD)	2	-2449	4	0	0	0
	4(OPE)	-131	-1565	455	0	0	0
	6(OPE)	-643	-1604	480	0	0	0
	8(OPE)	1	-1552	2	0	0	0
	10(OPE)	-133	-1566	455	0	0	0
	12(SUS)	1	-1552	2	0	0	0
	13(SUS)	1	-1495	2	0	0	0
	14(OPE)	617	-1567	455	0	0	0
	15(OPE)	-1052	-1565	454	0	0	0
	16(OPE)	-123	-1379	400	0	0	0
	17(OPE)	-138	-1752	509	0	0	0
	18(OPE)	-229	-1565	463	0	0	0
	19(OPE)	-131	-1565	455	0	0	0
	20(OPE)	-131	-1565	455	0	0	0
	21(OCC)	747	-1	0	0	0	0
	22(OCC)	-922	0	-0	0	0	0
	23(OCC)	8	187	-54	0	0	0
	24(OCC)	-7	-187	54	0	0	0
	25(OCC)	-98	1	8	0	0	0
	26(OCC)	0	0	0	0	0	0
	27(OCC)	0	-0	0	0	0	0
	MAX	-1052/L15	-2449/L3	509/L17			
6910		TYPE=Rigid +Y;					
	3(HYD)	-206	-4701	10	0	0	0
	4(OPE)	25	-2968	890	0	0	0
	6(OPE)	273	-2960	845	0	0	0
	8(OPE)	-123	-2981	6	0	0	0
	10(OPE)	23	-2967	890	0	0	0
	12(SUS)	-123	-2981	6	0	0	0
	13(SUS)	-118	-2872	6	0	0	0
	14(OPE)	531	-2977	718	0	0	0
	15(OPE)	-245	-2953	851	0	0	0
	16(OPE)	32	-2611	783	0	0	0
	17(OPE)	20	-3324	997	0	0	0
	18(OPE)	49	-2971	890	0	0	0
	19(OPE)	25	-2968	890	0	0	0
	20(OPE)	25	-2968	890	0	0	0
	21(OCC)	506	-9	-172	0	0	0
	22(OCC)	-270	15	-39	0	0	0
	23(OCC)	7	356	-107	0	0	0
	24(OCC)	-5	-356	107	0	0	0
	25(OCC)	24	-3	-0	0	0	0
	26(OCC)	0	-0	0	0	0	0
	27(OCC)	0	0	-0	0	0	0
	MAX	531/L14	-4701/L3	997/L17			

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
6920		TYPE=Rigid +Y; Rigid Z w/gap;					
	3(HYD)	-90	-1383	-1	0	0	0
	4(OPE)	257	-878	59	0	0	0
	6(OPE)	262	-874	130	0	0	0
	8(OPE)	-56	-874	-1	0	0	0
	10(OPE)	257	-878	58	0	0	0
	12(SUS)	-56	-874	-1	0	0	0
	13(SUS)	-54	-842	-1	0	0	0
	14(OPE)	262	-875	-12	0	0	0
	15(OPE)	234	-881	123	0	0	0
	16(OPE)	225	-772	55	0	0	0
	17(OPE)	288	-983	62	0	0	0
	18(OPE)	245	-877	266	0	0	0
	19(OPE)	257	-878	59	0	0	0
	20(OPE)	257	-878	59	0	0	0
	21(OCC)	6	2	-71	0	0	0
	22(OCC)	-23	-3	64	0	0	0
	23(OCC)	-31	105	-4	0	0	0
	24(OCC)	32	-105	2	0	0	0
	25(OCC)	-11	1	207	0	0	0
	26(OCC)	0	-0	-0	0	0	0
	27(OCC)	-0	0	0	0	0	0
	MAX	288/L17	-1383/L3	266/L18			
7010		TYPE=Rigid Z w/gap; Rigid +Y;					
	3(HYD)	866	-2899	-82	0	0	0
	4(OPE)	340	-2204	585	0	0	0
	6(OPE)	664	-2229	1698	0	0	0
	8(OPE)	636	-2122	-33	0	0	0
	10(OPE)	340	-2205	583	0	0	0
	12(SUS)	636	-2122	-33	0	0	0
	13(SUS)	622	-2075	-29	0	0	0
	14(OPE)	680	-2268	1	0	0	0
	15(OPE)	-453	-2126	1082	0	0	0
	16(OPE)	320	-1942	559	0	0	0
	17(OPE)	372	-2465	639	0	0	0
	18(OPE)	316	-2191	1090	0	0	0
	19(OPE)	340	-2204	585	0	0	0
	20(OPE)	340	-2204	585	0	0	0
	21(OCC)	340	-64	-583	0	0	0
	22(OCC)	-793	78	497	0	0	0
	23(OCC)	-20	262	-25	0	0	0
	24(OCC)	31	-261	54	0	0	0
	25(OCC)	-25	13	506	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	26(OCC)	0	-0	0	0	0	0
	27(OCC)	0	0	-0	0	0	0
	MAX	866/L3	-2899/L3	1698/L6			
8060		TYPE=Rigid X w/gap; Rigid +Y;					
	3(HYD)	-29	-6922	-60	0	0	0
	4(OPE)	286	-3781	1098	0	0	0
	6(OPE)	-294	-3607	-1041	0	0	0
	8(OPE)	-17	-3750	-35	0	0	0
	10(OPE)	1	-3563	1069	0	0	0
	12(SUS)	-17	-3750	-35	0	0	0
	13(SUS)	-17	-3745	-35	0	0	0
	14(OPE)	1000	-3729	501	0	0	0
	15(OPE)	-998	-3773	534	0	0	0
	16(OPE)	270	-3331	962	0	0	0
	17(OPE)	302	-4230	1232	0	0	0
	18(OPE)	108	-3759	1123	0	0	0
	19(OPE)	285	-3782	1098	0	0	0
	20(OPE)	285	-3781	1098	0	0	0
	21(OCC)	714	53	-597	0	0	0
	22(OCC)	-1284	8	-564	0	0	0
	23(OCC)	-16	450	-136	0	0	0
	24(OCC)	17	-448	134	0	0	0
	25(OCC)	-178	22	25	0	0	0
	26(OCC)	-0	-1	0	0	0	0
	27(OCC)	-0	-0	0	0	0	0
	MAX	-1284/L22	-6922/L3	1232/L17			
8070		TYPE=Rigid +Y;					
	3(HYD)	7	-5948	-29	0	0	0
	4(OPE)	308	-3258	928	0	0	0
	6(OPE)	-264	-3198	-922	0	0	0
	8(OPE)	4	-3229	-17	0	0	0
	10(OPE)	-225	-3133	913	0	0	0
	12(SUS)	4	-3229	-17	0	0	0
	13(SUS)	4	-3225	-17	0	0	0
	14(OPE)	790	-3230	561	0	0	0
	15(OPE)	-902	-3259	377	0	0	0
	16(OPE)	260	-2872	822	0	0	0
	17(OPE)	354	-3645	1035	0	0	0
	18(OPE)	39	-3259	977	0	0	0
	19(OPE)	308	-3258	927	0	0	0
	20(OPE)	308	-3258	928	0	0	0
	21(OCC)	482	28	-366	0	0	0
	22(OCC)	-1210	-1	-550	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	23(OCC)	-48	386	-106	0	0	0
	24(OCC)	46	-387	107	0	0	0
	25(OCC)	-269	-1	49	0	0	0
	26(OCC)	-0	0	-0	0	0	0
	27(OCC)	-0	-0	0	0	0	0
	MAX	-1210/L22	-5948/L3	1035/L17			
8090		TYPE=Rigid +Y;					
	3(HYD)	0	-7937	0	0	0	0
	4(OPE)	-1282	-4274	-4	0	0	0
	6(OPE)	1309	-4363	-10	0	0	0
	8(OPE)	0	-4307	0	0	0	0
	10(OPE)	-1250	-4432	455	0	0	0
	12(SUS)	0	-4307	0	0	0	0
	13(SUS)	0	-4302	0	0	0	0
	14(OPE)	1293	-4310	2	0	0	0
	15(OPE)	-1281	-4275	67	0	0	0
	16(OPE)	-1127	-3756	12	0	0	0
	17(OPE)	-1438	-4792	-12	0	0	0
	18(OPE)	-264	-4277	1256	0	0	0
	19(OPE)	-1282	-4275	-4	0	0	0
	20(OPE)	-1282	-4274	-4	0	0	0
	21(OCC)	2575	-36	7	0	0	0
	22(OCC)	2	-0	71	0	0	0
	23(OCC)	156	518	17	0	0	0
	24(OCC)	-155	-518	-8	0	0	0
	25(OCC)	1018	-3	1260	0	0	0
	26(OCC)	-0	-0	0	0	0	0
	27(OCC)	0	0	0	0	0	0
	MAX	2575/L21	-7937/L3	1260/L25			
8110		TYPE=Rigid +Y;					
	3(HYD)	-0	-5014	-0	0	0	0
	4(OPE)	521	-2711	-625	0	0	0
	6(OPE)	-425	-2738	703	0	0	0
	8(OPE)	-0	-2721	-0	0	0	0
	10(OPE)	-323	-2759	-762	0	0	0
	12(SUS)	-0	-2721	-0	0	0	0
	13(SUS)	-0	-2718	-0	0	0	0
	14(OPE)	810	-2722	-102	0	0	0
	15(OPE)	-805	-2712	-115	0	0	0
	16(OPE)	459	-2384	-549	0	0	0
	17(OPE)	596	-3038	-689	0	0	0
	18(OPE)	7	-2712	814	0	0	0
	19(OPE)	521	-2711	-625	0	0	0
	20(OPE)	520	-2711	-625	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	21(OCC)	290	-11	523	0	0	0
	22(OCC)	-1326	-0	510	0	0	0
	23(OCC)	-62	327	76	0	0	0
	24(OCC)	76	-327	-64	0	0	0
	25(OCC)	-514	-1	1439	0	0	0
	26(OCC)	-0	-0	-0	0	0	0
	27(OCC)	-1	0	-0	0	0	0
	MAX	-1326/L22	-5014/L3	1439/L25			
8120		TYPE=Rigid X w/gap; Rigid +Y;					
	3(HYD)	0	-6801	-0	0	0	0
	4(OPE)	217	-3700	550	0	0	0
	6(OPE)	-247	-3674	-619	0	0	0
	8(OPE)	0	-3691	-0	0	0	0
	10(OPE)	535	-3655	-1056	0	0	0
	12(SUS)	0	-3691	-0	0	0	0
	13(SUS)	0	-3686	-0	0	0	0
	14(OPE)	1105	-3690	64	0	0	0
	15(OPE)	-1108	-3700	-58	0	0	0
	16(OPE)	221	-3257	430	0	0	0
	17(OPE)	219	-4143	615	0	0	0
	18(OPE)	85	-3699	1106	0	0	0
	19(OPE)	217	-3700	550	0	0	0
	20(OPE)	216	-3700	551	0	0	0
	21(OCC)	888	10	-486	0	0	0
	22(OCC)	-1325	0	-609	0	0	0
	23(OCC)	4	443	-121	0	0	0
	24(OCC)	2	-443	65	0	0	0
	25(OCC)	-131	1	556	0	0	0
	26(OCC)	-0	0	-0	0	0	0
	27(OCC)	-0	-0	1	0	0	0
	MAX	-1325/L22	-6801/L3	1106/L18			
8130		TYPE=Rigid Z w/gap; Rigid +Y;					
	3(HYD)	-0	-2657	-0	0	0	0
	4(OPE)	-58	-1441	428	0	0	0
	6(OPE)	61	-1444	-429	0	0	0
	8(OPE)	-0	-1442	-0	0	0	0
	10(OPE)	424	-1446	5019	0	0	0
	12(SUS)	-0	-1442	-0	0	0	0
	13(SUS)	-0	-1440	-0	0	0	0
	14(OPE)	401	-1442	162	0	0	0
	15(OPE)	-384	-1441	198	0	0	0
	16(OPE)	-58	-1268	376	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	17(OPE)	-68	-1614	479	0	0	0
	18(OPE)	18	-1441	432	0	0	0
	19(OPE)	-58	-1441	428	0	0	0
	20(OPE)	-58	-1441	428	0	0	0
	21(OCC)	459	-1	-266	0	0	0
	22(OCC)	-326	-0	-230	0	0	0
	23(OCC)	-0	173	-52	0	0	0
	24(OCC)	-10	-173	51	0	0	0
	25(OCC)	76	-0	4	0	0	0
	26(OCC)	0	-0	0	0	0	0
	27(OCC)	0	0	0	0	0	0
	MAX	459/L21	-2657/L3	5019/L10			
8160		TYPE=Rigid +Y;					
	3(HYD)	47	-7206	179	0	0	0
	4(OPE)	-519	-3789	1011	0	0	0
	6(OPE)	-687	-3455	776	0	0	0
	8(OPE)	37	-3903	118	0	0	0
	10(OPE)	-518	-3789	1012	0	0	0
	12(SUS)	37	-3903	118	0	0	0
	13(SUS)	37	-3881	117	0	0	0
	14(OPE)	562	-3775	983	0	0	0
	15(OPE)	-1128	-3845	239	0	0	0
	16(OPE)	-479	-3326	875	0	0	0
	17(OPE)	-554	-4252	1149	0	0	0
	18(OPE)	-220	-3840	1131	0	0	0
	19(OPE)	-519	-3789	1011	0	0	0
	20(OPE)	-519	-3789	1011	0	0	0
	21(OCC)	1081	14	-28	0	0	0
	22(OCC)	-610	-56	-773	0	0	0
	23(OCC)	39	463	-136	0	0	0
	24(OCC)	-35	-463	138	0	0	0
	25(OCC)	299	-51	119	0	0	0
	26(OCC)	0	0	0	0	0	0
	27(OCC)	-0	-0	-0	0	0	0
	MAX	-1128/L15	-7206/L3	1149/L17			
8180		TYPE=Rigid X w/gap; Rigid +Y;					
	3(HYD)	-303	-4810	304	0	0	0
	4(OPE)	-443	-3179	845	0	0	0
	6(OPE)	-3267	-2842	821	0	0	0
	8(OPE)	-192	-3043	201	0	0	0
	10(OPE)	-445	-3181	844	0	0	0
	12(SUS)	-192	-3043	201	0	0	0
	13(SUS)	-191	-3031	200	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	14(OPE)	-483	-2968	748	0	0	0
	15(OPE)	-745	-3240	624	0	0	0
	16(OPE)	-406	-2798	735	0	0	0
	17(OPE)	-477	-3560	956	0	0	0
	18(OPE)	-273	-3229	930	0	0	0
	19(OPE)	-443	-3179	845	0	0	0
	20(OPE)	-443	-3179	845	0	0	0
	21(OCC)	-40	212	-97	0	0	0
	22(OCC)	-302	-60	-221	0	0	0
	23(OCC)	37	381	-110	0	0	0
	24(OCC)	-34	-380	111	0	0	0
	25(OCC)	170	-50	85	0	0	0
	26(OCC)	-0	-0	-0	0	0	0
	27(OCC)	0	0	0	0	0	0
	MAX	-3267/L6	-4810/L3	956/L17			

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS 2
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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

1 (HGR) CASE NOT ACTIVE
 2 (HGR) CASE NOT ACTIVE
 3 (HYD) WW+HP+H
 4 (OPE) W+T1+P1+H
 5 (Alt-SUS) W+P1+H
 6 (OPE) W+T2+P1+H
 7 (Alt-SUS) W+P1+H
 8 (OPE) W+T3+P1+H
 9 (Alt-SUS) W+P1+H
 10 (OPE) W+T4+P1+H
 11 (Alt-SUS) W+P1+H
 12 (SUS) W+P1+H
 13 (SUS) WNC
 14 (OPE) W+T1+P1+H+U1
 15 (OPE) W+T1+P1+H-U1
 16 (OPE) W+T1+P1+H+U2
 17 (OPE) W+T1+P1+H-U2
 18 (OPE) W+T1+P1+H+U3
 19 (OPE) W+T1+P1+H+F1
 20 (OPE) W+T1+P1+H+F2
 21 (OCC) L21=L14-L4
 22 (OCC) L22=L15-L4
 23 (OCC) L23=L16-L4
 24 (OCC) L24=L17-L4
 25 (OCC) L25=L18-L4
 26 (OCC) L26=L19-L4
 27 (OCC) L27=L20-L4
 28 (OCC) L28=L21+L12
 29 (OCC) L29=L22+L12
 30 (OCC) L30=L23+L12
 31 (OCC) L31=L24+L12
 32 (OCC) L32=L25+L12
 33 (OCC) L33=L26+L12
 34 (OCC) L34=L27+L12
 35 (EXP) L35=L4-L12
 36 (EXP) L36=L6-L12
 37 (EXP) L37=L4-L6
 38 (EXP) L38=L8-L12
 39 (EXP) L39=L4-L8
 40 (EXP) L40=L6-L8
 41 (EXP) L41=L10-L12
 42 (EXP) L42=L4-L10
 43 (EXP) L43=L6-L10
 44 (EXP) L44=L8-L10

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
 Various Load Cases

LOAD CASE DEFINITION KEY

CASE 3 (HYD) WW+HP+H
 CASE 5 (Alt-SUS) W+P1+H
 CASE 7 (Alt-SUS) W+P1+H
 CASE 9 (Alt-SUS) W+P1+H
 CASE 12 (SUS) W+P1+H
 CASE 13 (SUS) WNC
 CASE 28 (OCC) L28=L21+L12
 CASE 29 (OCC) L29=L22+L12
 CASE 30 (OCC) L30=L23+L12
 CASE 31 (OCC) L31=L24+L12
 CASE 32 (OCC) L32=L25+L12
 CASE 33 (OCC) L33=L26+L12
 CASE 34 (OCC) L34=L27+L12
 CASE 35 (EXP) L35=L4-L12
 CASE 36 (EXP) L36=L6-L12
 CASE 37 (EXP) L37=L4-L6
 CASE 38 (EXP) L38=L8-L12
 CASE 39 (EXP) L39=L4-L8
 CASE 40 (EXP) L40=L6-L8
 CASE 41 (EXP) L41=L10-L12
 CASE 42 (EXP) L42=L4-L10
 CASE 43 (EXP) L43=L6-L10
 CASE 44 (EXP) L44=L8-L10

Piping Code: B31.3 = B31.3 -2016, Jan 31, 2017

CODE STRESS CHECK PASSED : LOADCASE 3 (HYD) WW+HP+H

Highest Stresses: (KPa)	LOADCASE 3 (HYD) WW+HP+H	
Ratio (%):	53.5	@Node 7000
Code Stress:	92226.6	Allowable Stress: 172368.9
Axial Stress:	48359.9	@Node 4650
Bending Stress:	122412.3	@Node 7000
Torsion Stress:	5414.0	@Node 6794
Hoop Stress:	100724.6	@Node 1939
Max Stress Intensity:	122829.7	@Node 7000

CODE STRESS CHECK PASSED : LOADCASE 5 (Alt-SUS) W+P1+H

Highest Stresses: (KPa)	LOADCASE 5 (Alt-SUS) W+P1+H	
Ratio (%):	58.9	@Node 7000
Code Stress:	67789.6	Allowable Stress: 115142.4
Axial Stress:	32161.7	@Node 4650
Bending Stress:	90373.0	@Node 7000
Torsion Stress:	3881.9	@Node 4560
Hoop Stress:	67149.7	@Node 4100
Max Stress Intensity:	90382.8	@Node 7000

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
Various Load Cases

CODE STRESS CHECK PASSED : LOADCASE 7 (Alt-SUS) W+P1+H

Highest Stresses: (KPa)	LOADCASE 7 (Alt-SUS) W+P1+H	
Ratio (%):	59.0 @Node 7000	
Code Stress:	67899.3	Allowable Stress: 115142.4
Axial Stress:	32118.6 @Node 5025	
Bending Stress:	90530.3 @Node 7000	
Torsion Stress:	5108.6 @Node 5390	
Hoop Stress:	67149.7 @Node 4100	
Max Stress Intensity:	90531.8 @Node 7000	

CODE STRESS CHECK PASSED : LOADCASE 9 (Alt-SUS) W+P1+H

Highest Stresses: (KPa)	LOADCASE 9 (Alt-SUS) W+P1+H	
Ratio (%):	58.8 @Node 7000	
Code Stress:	67657.4	Allowable Stress: 115142.4
Axial Stress:	32268.3 @Node 4650	
Bending Stress:	89800.4 @Node 7000	
Torsion Stress:	3581.5 @Node 6794	
Hoop Stress:	67149.7 @Node 4100	
Max Stress Intensity:	90107.4 @Node 7000	

CODE STRESS CHECK PASSED : LOADCASE 12 (SUS) W+P1+H

Highest Stresses: (KPa)	LOADCASE 12 (SUS) W+P1+H	
Ratio (%):	58.7 @Node 7000	
Code Stress:	67624.1	Allowable Stress: 115142.4
Axial Stress:	32275.7 @Node 4650	
Bending Stress:	89756.9 @Node 7000	
Torsion Stress:	3580.5 @Node 6794	
Hoop Stress:	67149.7 @Node 4100	
Max Stress Intensity:	90063.4 @Node 7000	

CODE STRESS CHECK PASSED : LOADCASE 13 (SUS) WNC

Highest Stresses: (KPa)	LOADCASE 13 (SUS) WNC	
Ratio (%):	58.0 @Node 6700	
Code Stress:	66764.9	Allowable Stress: 115142.4
Axial Stress:	2517.2 @Node 6490	
Bending Stress:	88672.8 @Node 6700	
Torsion Stress:	3464.4 @Node 6794	
Hoop Stress:	0.0 @Node 40	
Max Stress Intensity:	88933.1 @Node 6700	

CODE STRESS CHECK PASSED : LOADCASE 28 (OCC) L28=L21+L12

Highest Stresses: (KPa)	LOADCASE 28 (OCC) L28=L21+L12	
Ratio (%):	56.1 @Node 7000	
Code Stress:	85936.8	Allowable Stress: 153139.4
Axial Stress:	33203.1 @Node 2000	
Bending Stress:	114003.0 @Node 7000	
Torsion Stress:	9557.8 @Node 2140	

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
 Various Load Cases

Hoop Stress: 67149.7 @Node 4100
 Max Stress Intensity: 122684.4 @Node 4100

CODE STRESS CHECK PASSED : LOADCASE 29 (OCC) L29=L22+L12

Highest Stresses: (KPa) LOADCASE 29 (OCC) L29=L22+L12
 Ratio (%): 55.5 @Node 7000
 Code Stress: 85051.7 Allowable Stress: 153139.4
 Axial Stress: 32351.3 @Node 4560
 Bending Stress: 112500.2 @Node 7000
 Torsion Stress: 6289.9 @Node 1920
 Hoop Stress: 67149.7 @Node 4100
 Max Stress Intensity: 113176.8 @Node 7000

CODE STRESS CHECK PASSED : LOADCASE 30 (OCC) L30=L23+L12

Highest Stresses: (KPa) LOADCASE 30 (OCC) L30=L23+L12
 Ratio (%): 49.6 @Node 7000
 Code Stress: 75972.6 Allowable Stress: 153139.4
 Axial Stress: 32366.8 @Node 4650
 Bending Stress: 100875.1 @Node 7000
 Torsion Stress: 3138.0 @Node 6794
 Hoop Stress: 67149.7 @Node 4100
 Max Stress Intensity: 101191.3 @Node 7000

CODE STRESS CHECK PASSED : LOADCASE 31 (OCC) L31=L24+L12

Highest Stresses: (KPa) LOADCASE 31 (OCC) L31=L24+L12
 Ratio (%): 49.6 @Node 7000
 Code Stress: 75974.8 Allowable Stress: 153139.4
 Axial Stress: 32210.3 @Node 4650
 Bending Stress: 100878.8 @Node 7000
 Torsion Stress: 4024.9 @Node 6794
 Hoop Stress: 67149.7 @Node 4100
 Max Stress Intensity: 101194.5 @Node 7000

CODE STRESS CHECK PASSED : LOADCASE 32 (OCC) L32=L25+L12

Highest Stresses: (KPa) LOADCASE 32 (OCC) L32=L25+L12
 Ratio (%): 54.4 @Node 7000
 Code Stress: 83357.4 Allowable Stress: 153139.4
 Axial Stress: 33702.9 @Node 4710
 Bending Stress: 110716.1 @Node 7000
 Torsion Stress: 6114.4 @Node 5280
 Hoop Stress: 67149.7 @Node 4100
 Max Stress Intensity: 111036.4 @Node 7000

CODE STRESS CHECK PASSED : LOADCASE 33 (OCC) L33=L26+L12

Highest Stresses: (KPa) LOADCASE 33 (OCC) L33=L26+L12
 Ratio (%): 44.2 @Node 7000
 Code Stress: 67624.3 Allowable Stress: 153139.4

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
 Various Load Cases

Axial Stress:	32275.7	@Node	4650
Bending Stress:	89757.2	@Node	7000
Torsion Stress:	3580.5	@Node	6794
Hoop Stress:	67149.7	@Node	4100
Max Stress Intensity:	90063.6	@Node	7000

CODE STRESS CHECK PASSED : LOADCASE 34 (OCC) L34=L27+L12

Highest Stresses: (KPa)	LOADCASE 34 (OCC) L34=L27+L12	
Ratio (%):	44.2	@Node 7000
Code Stress:	67624.8	Allowable Stress: 153139.4
Axial Stress:	32275.8	@Node 4650
Bending Stress:	89757.8	@Node 7000
Torsion Stress:	3580.5	@Node 6794
Hoop Stress:	67149.7	@Node 4100
Max Stress Intensity:	90064.2	@Node 7000

CODE STRESS CHECK PASSED : LOADCASE 35 (EXP) L35=L4-L12

Highest Stresses: (KPa)	LOADCASE 35 (EXP) L35=L4-L12	
Ratio (%):	36.2	@Node 6510
Code Stress:	94107.3	Allowable Stress: 259772.4
Axial Stress:	59604.9	@Node 6550
Bending Stress:	93134.4	@Node 6510
Torsion Stress:	14090.0	@Node 1580
Hoop Stress:	0.0	@Node 40
Max Stress Intensity:	129999.6	@Node 6550

CODE STRESS CHECK PASSED : LOADCASE 36 (EXP) L36=L6-L12

Highest Stresses: (KPa)	LOADCASE 36 (EXP) L36=L6-L12	
Ratio (%):	49.7	@Node 4100
Code Stress:	120336.9	Allowable Stress: 242329.2
Axial Stress:	59776.3	@Node 6550
Bending Stress:	118213.4	@Node 4100
Torsion Stress:	18388.6	@Node 1580
Hoop Stress:	0.0	@Node 40
Max Stress Intensity:	150978.8	@Node 1538

CODE STRESS CHECK PASSED : LOADCASE 37 (EXP) L37=L4-L6

Highest Stresses: (KPa)	LOADCASE 37 (EXP) L37=L4-L6	
Ratio (%):	36.1	@Node 6550
Code Stress:	120669.2	Allowable Stress: 334304.2
Axial Stress:	118458.0	@Node 6550
Bending Stress:	73364.1	@Node 4100
Torsion Stress:	13673.3	@Node 5080
Hoop Stress:	0.0	@Node 40
Max Stress Intensity:	256159.3	@Node 6550

CODE STRESS CHECK PASSED : LOADCASE 38 (EXP) L38=L8-L12

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Job:: BNK-GCS-CN-008-D02

Licensed To:: SPLM: Edit company name in <system>\company.txt

STRESS SUMMARY REPORT: Highest Stresses Mini Statement

Various Load Cases

Highest Stresses: (KPa) LOADCASE 38 (EXP) L38=L8-L12
 Ratio (%): 1.0 @Node 1178
 Code Stress: 3279.5 Allowable Stress: 316111.1
 Axial Stress: 280.4 @Node 1260
 Bending Stress: 3169.3 @Node 1178
 Torsion Stress: 108.0 @Node 980
 Hoop Stress: 0.0 @Node 40
 Max Stress Intensity: 4280.2 @Node 1178

CODE STRESS CHECK PASSED : LOADCASE 39 (EXP) L39=L4-L8

Highest Stresses: (KPa) LOADCASE 39 (EXP) L39=L4-L8
 Ratio (%): 36.2 @Node 6510
 Code Stress: 94105.3 Allowable Stress: 259772.4
 Axial Stress: 59604.9 @Node 6550
 Bending Stress: 93132.4 @Node 6510
 Torsion Stress: 14095.3 @Node 1580
 Hoop Stress: 0.0 @Node 40
 Max Stress Intensity: 129999.5 @Node 6550

CODE STRESS CHECK PASSED : LOADCASE 40 (EXP) L40=L6-L8

Highest Stresses: (KPa) LOADCASE 40 (EXP) L40=L6-L8
 Ratio (%): 49.7 @Node 4100
 Code Stress: 120336.5 Allowable Stress: 242329.2
 Axial Stress: 59776.4 @Node 6550
 Bending Stress: 118212.9 @Node 4100
 Torsion Stress: 18393.9 @Node 1580
 Hoop Stress: 0.0 @Node 40
 Max Stress Intensity: 150769.3 @Node 1538

CODE STRESS CHECK PASSED : LOADCASE 41 (EXP) L41=L10-L12

Highest Stresses: (KPa) LOADCASE 41 (EXP) L41=L10-L12
 Ratio (%): 36.0 @Node 6510
 Code Stress: 93455.1 Allowable Stress: 259772.4
 Axial Stress: 4437.4 @Node 1920
 Bending Stress: 92228.3 @Node 6510
 Torsion Stress: 14092.4 @Node 1580
 Hoop Stress: 0.0 @Node 40
 Max Stress Intensity: 174847.5 @Node 8098

CODE STRESS CHECK PASSED : LOADCASE 42 (EXP) L42=L4-L10

Highest Stresses: (KPa) LOADCASE 42 (EXP) L42=L4-L10
 Ratio (%): 27.7 @Node 6280
 Code Stress: 79840.7 Allowable Stress: 288028.5
 Axial Stress: 59177.9 @Node 6550
 Bending Stress: 78882.4 @Node 6280
 Torsion Stress: 8693.0 @Node 5040
 Hoop Stress: 0.0 @Node 40
 Max Stress Intensity: 169003.8 @Node 8080

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
Various Load Cases

CODE STRESS CHECK PASSED : LOADCASE 43 (EXP) L43=L6-L10

Highest Stresses: (	KPa	)	LOADCASE 43 (EXP) L43=L6-L10	
Ratio (%):	36.2	@Node	6280	
Code Stress:	104278.5	Allowable Stress:		288028.5
Axial Stress:	59280.1	@Node	6550	
Bending Stress:	103001.3	@Node	6280	
Torsion Stress:	10134.5	@Node	6820	
Hoop Stress:	0.0	@Node	40	
Max Stress Intensity:	183762.0	@Node	8098	

CODE STRESS CHECK PASSED : LOADCASE 44 (EXP) L44=L8-L10

Highest Stresses: (	KPa	)	LOADCASE 44 (EXP) L44=L8-L10	
Ratio (%):	36.0	@Node	6510	
Code Stress:	93453.2	Allowable Stress:		259772.4
Axial Stress:	4438.0	@Node	1920	
Bending Stress:	92226.3	@Node	6510	
Torsion Stress:	14097.7	@Node	1580	
Hoop Stress:	0.0	@Node	40	
Max Stress Intensity:	174847.5	@Node	8098	

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

1 (HGR) CASE NOT ACTIVE
 2 (HGR) CASE NOT ACTIVE
 3 (HYD) WW+HP+H
 4 (OPE) W+T1+P1+H
 5 (Alt-SUS) W+P1+H
 6 (OPE) W+T2+P1+H
 7 (Alt-SUS) W+P1+H
 8 (OPE) W+T3+P1+H
 9 (Alt-SUS) W+P1+H
 10 (OPE) W+T4+P1+H
 11 (Alt-SUS) W+P1+H
 12 (SUS) W+P1+H
 13 (SUS) WNC
 14 (OPE) W+T1+P1+H+U1
 15 (OPE) W+T1+P1+H-U1
 16 (OPE) W+T1+P1+H+U2
 17 (OPE) W+T1+P1+H-U2
 18 (OPE) W+T1+P1+H+U3
 19 (OPE) W+T1+P1+H+F1
 20 (OPE) W+T1+P1+H+F2
 21 (OCC) L21=L14-L4
 22 (OCC) L22=L15-L4
 23 (OCC) L23=L16-L4
 24 (OCC) L24=L17-L4
 25 (OCC) L25=L18-L4
 26 (OCC) L26=L19-L4
 27 (OCC) L27=L20-L4
 28 (OCC) L28=L21+L12
 29 (OCC) L29=L22+L12
 30 (OCC) L30=L23+L12
 31 (OCC) L31=L24+L12
 32 (OCC) L32=L25+L12
 33 (OCC) L33=L26+L12
 34 (OCC) L34=L27+L12
 35 (EXP) L35=L4-L12
 36 (EXP) L36=L6-L12
 37 (EXP) L37=L4-L6
 38 (EXP) L38=L8-L12
 39 (EXP) L39=L4-L8
 40 (EXP) L40=L6-L8
 41 (EXP) L41=L10-L12
 42 (EXP) L42=L4-L10
 43 (EXP) L43=L6-L10
 44 (EXP) L44=L8-L10

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NOZZLE CHECK REPORT: Nozzle Loads Screening

Various Load Cases

LOAD CASE DEFINITION KEY

CASE 4 (OPE) W+T1+P1+H

CASE 6 (OPE) W+T2+P1+H

CASE 8 (OPE) W+T3+P1+H

CASE 10 (OPE) W+T4+P1+H

CASE 12 (SUS) W+P1+H

CASE 13 (SUS) WNC

Node		fa N.	fb N.	fc N.	Forces Check	ma N.m.	mb N.m.	mc N.m.	Moments Check	
20		Absolute Method								
	Limits	2160	2160	2160		1155	1155	1155		
	4(OPE)	-311	765	-141	0.354	181	137	538	0.466	
	6(OPE)	-813	2452	-188	1.135	242	168	1473	1.276	*
	8(OPE)	106	-539	-16	0.249	8	12	-176	0.153	
	10(OPE)	-313	769	-136	0.356	178	133	540	0.467	
	12(SUS)	106	-538	-16	0.249	8	12	-176	0.153	
	13(SUS)	-134	-1626	-15	0.753	11	9	-1091	0.945	
780		Absolute Method								
	Limits	9600	9600	7200		5760	3840	4990		
	4(OPE)	3050	-68	285	0.318	207	-333	-1146	0.230	
	6(OPE)	2765	-256	484	0.288	504	-226	-850	0.170	
	8(OPE)	2644	-13	9	0.275	-38	-816	-807	0.213	
	10(OPE)	1342	-276	-279	0.140	-1	-1505	324	0.392	
	12(SUS)	2644	-13	9	0.275	-38	-816	-807	0.213	
	13(SUS)	2632	-13	10	0.274	-37	-806	-805	0.210	
1240		Absolute Method								
	Limits	2160	2160	2160		1155	1155	1155		
	4(OPE)	1117	-556	95	0.517	32	-944	187	0.817	
	6(OPE)	1497	-557	-49	0.693	31	-1281	182	1.109	*
	8(OPE)	-475	-600	-374	0.278	18	233	188	0.202	
	10(OPE)	1119	-559	97	0.518	32	-944	188	0.817	
	12(SUS)	3	-599	5	0.277	18	1	188	0.163	

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NOZZLE CHECK REPORT: Nozzle Loads Screening

Various Load Cases

Node		fa N.	fb N.	fc N.	Forces Check	ma N.m.	mb N.m.	mc N.m.	Moments Check	
	13(SUS)	3	-595	5	0.275	18	1	186	0.161	
1700		Absolute Method								
	Limits	15091	15091	12001		9150	4890	6420		
	4(OPE)	-2965	1705	-1441	0.196	-4663	3825	354	0.782	
	6(OPE)	-3949	2137	-2089	0.262	-6101	5173	489	1.058	*
	8(OPE)	683	70	114	0.045	-91	-37	-7	0.010	
	10(OPE)	-2965	1705	-1442	0.196	-4664	3826	355	0.782	
	12(SUS)	720	40	106	0.048	-113	-48	-28	0.012	
	13(SUS)	718	40	106	0.048	-112	-48	-27	0.012	
1780		Absolute Method								
	Limits	16201	15091	12001		9150	4890	6420		
	4(OPE)	-16156	-1907	2369	0.997	-520	-1262	-5547	0.864	
	6(OPE)	-31634	-3241	5646	1.953	6	-3040	-10545	1.642	*
	8(OPE)	-108	96	582	0.049	-188	-337	-39	0.069	
	10(OPE)	-16088	-1957	2392	0.993	-514	-1271	-5566	0.867	
	12(SUS)	-110	96	582	0.049	-188	-336	-39	0.069	
	13(SUS)	-108	95	578	0.048	-187	-333	-39	0.068	
4260		Absolute Method								
	Limits	8400	8400	6300		3780	2520	3280		
	4(OPE)	3850	-1935	-37	0.458	578	121	2147	0.654	
	6(OPE)	7237	-2676	-521	0.862	781	-602	4280	1.305	*
	8(OPE)	192	-1403	31	0.167	227	118	947	0.289	
	10(OPE)	3854	-1935	-30	0.459	588	143	2146	0.654	
	12(SUS)	192	-1403	31	0.167	227	118	947	0.289	
	13(SUS)	193	-1399	31	0.167	226	118	944	0.288	

BNK-GCS-CN-009

Table of contents:

Line no.

Stress sketch

Input echo

Restraint summary

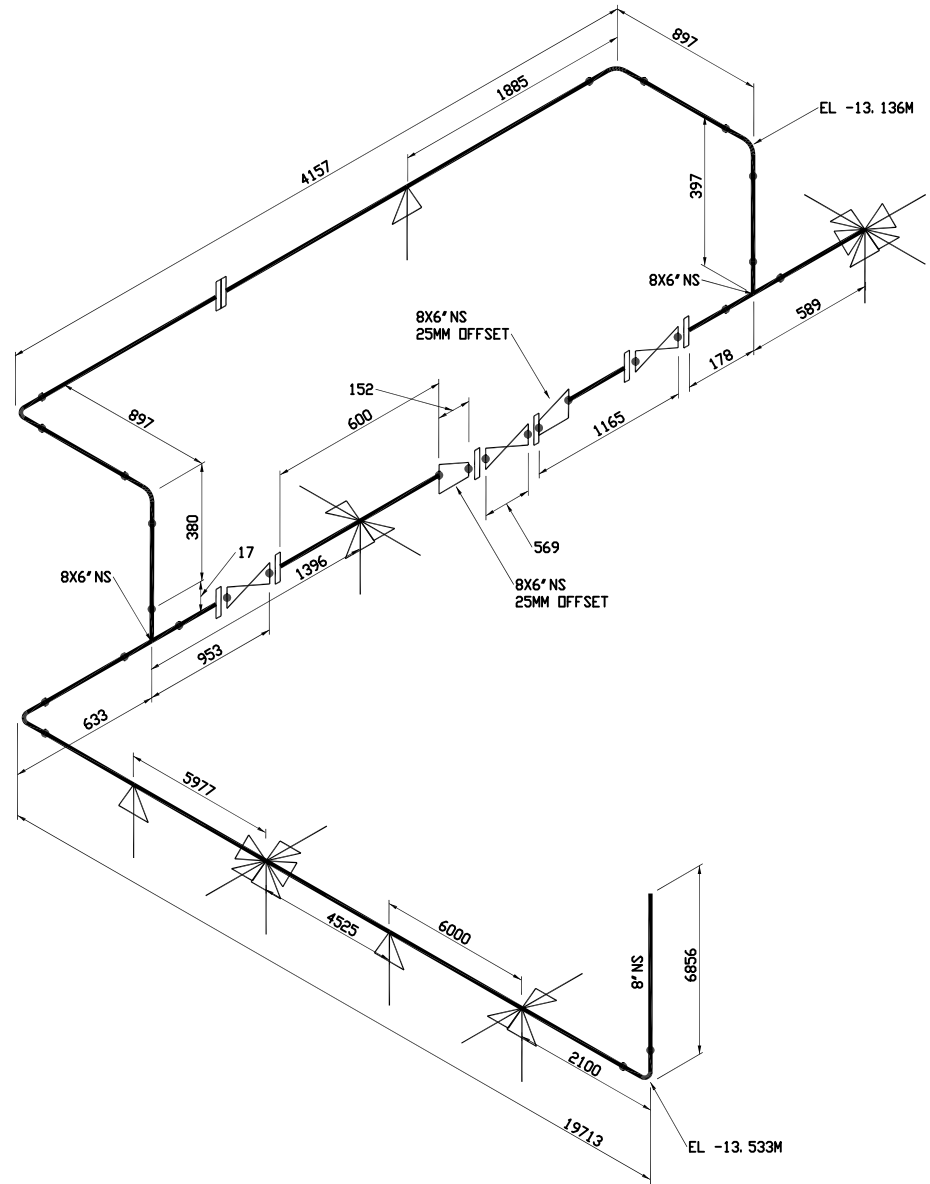
Stress summary

Nozzle load Table

BNK-GCS-CN-009

LINE Nos.

1. GAS-111-0019-AN07-8"-PT
2. GAS-111-0017-AN07-8"-PT
3. GAS-111-0012-AN07-8"-PT
4. GAS-111-0005-AN07-10"-PT
5. GAS-111-0101-AN07-6"-PT
6. GAS-111-0001-AN07-6"-PT
7. GAS-111-0020-AN07-10"-PT
8. GAS-111-0025-AN07-10"-PT



CHECK ISOMETRIC ONLY – DO NOT ISSUE

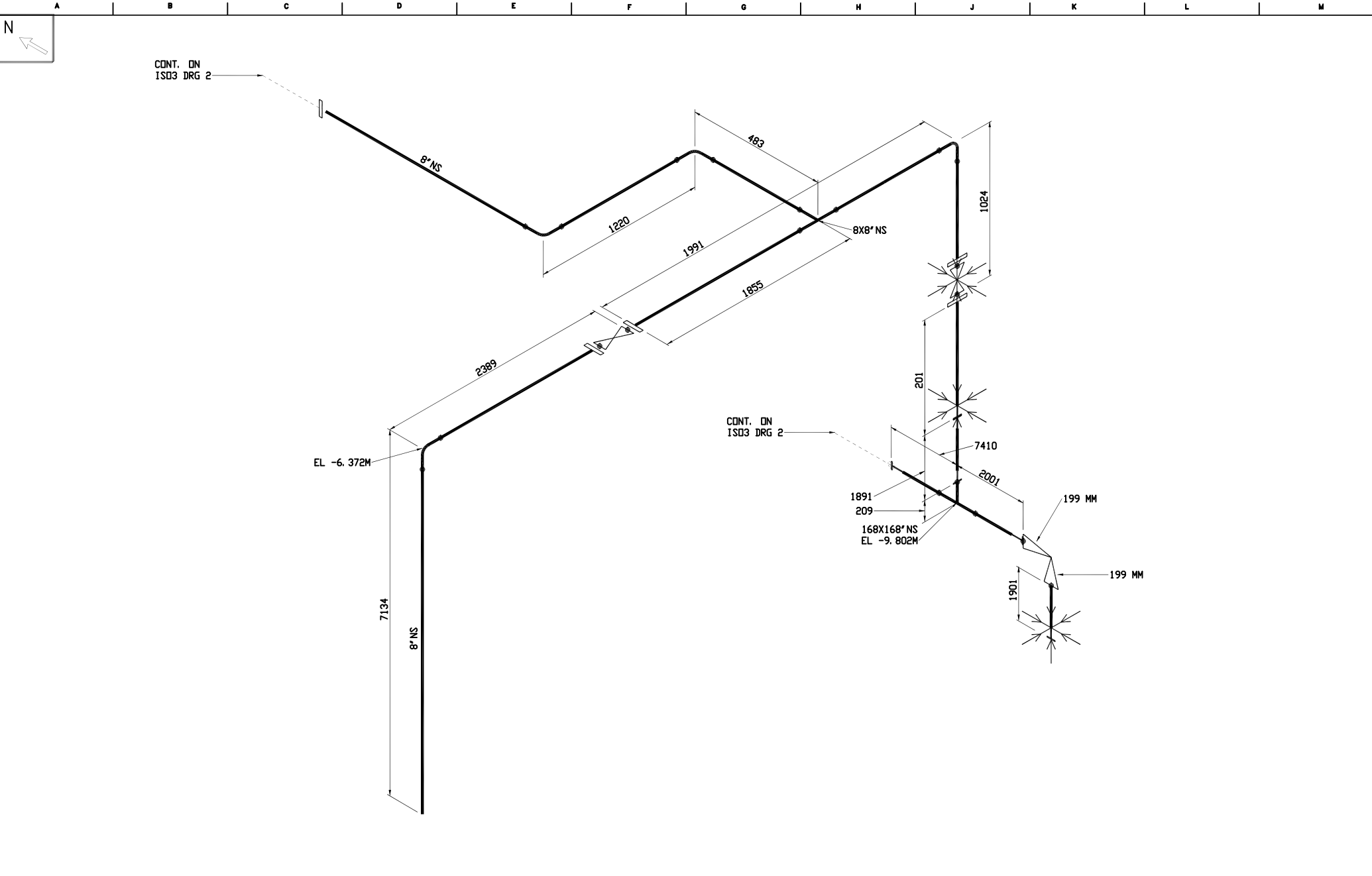
REV.	CHANGE	27 FEB 2024	THIS DRAWING IS THE PROPERTY OF INTERGRAPH LTD AND MUST NOT BE COPIED OR LENT WITHOUT THE CONSENT OF THE COMPANY
		DATE	

PIPING SPEC.		OP. TEMP.	
INSULATION SPEC.		PROJECT NO.	
INSULATION THKS.		SYSTEM	
PAINTING SPEC.		AREA	
MATERIAL		DRAWN BY	
OP. PRESSURE		E.I. DIAGRAM	



PIPELINE REFERENCE

REV.	
DRG.	1 OF 1



CHECK ISOMETRIC ONLY – DO NOT ISSUE

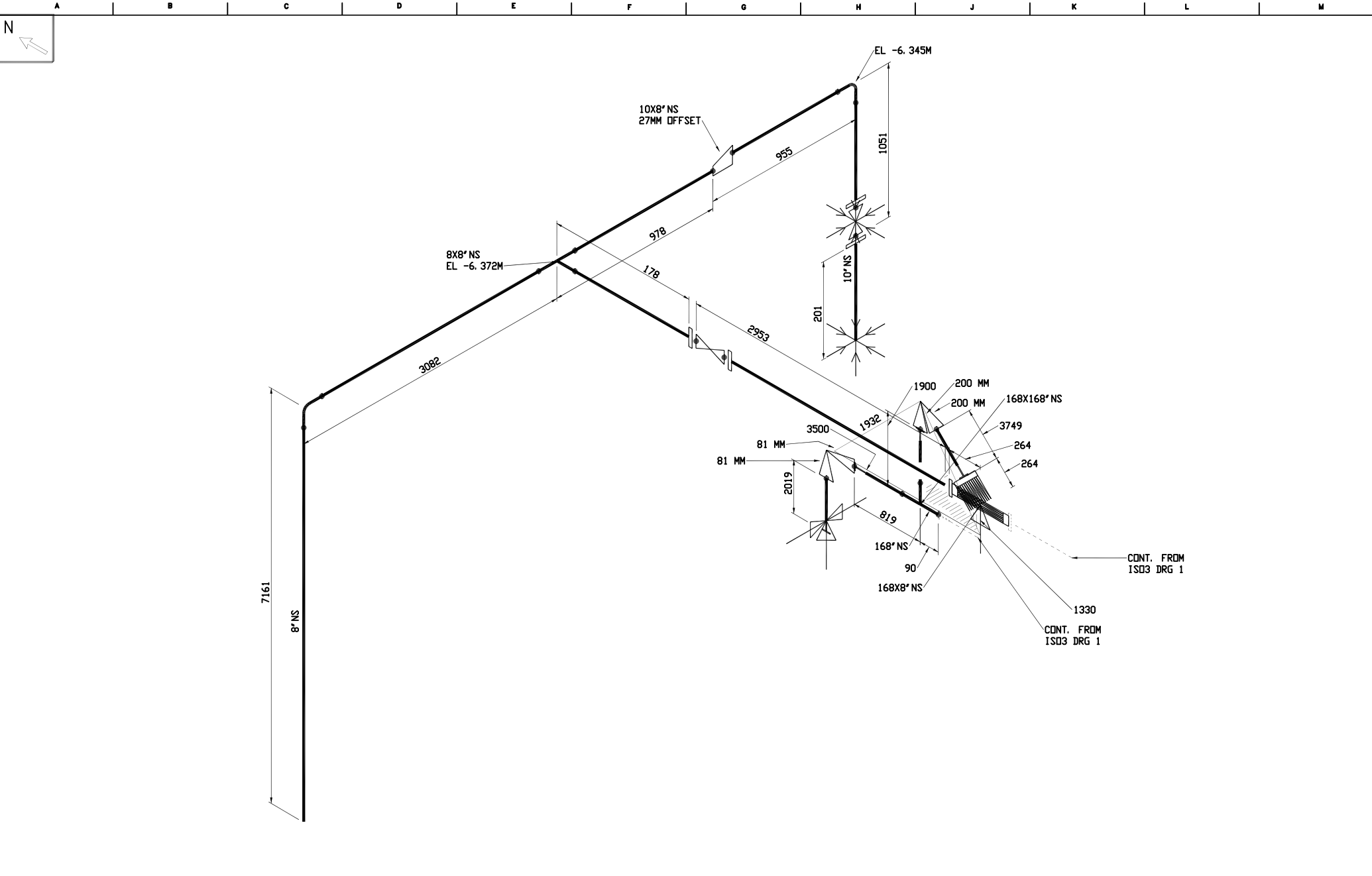
REV.	CHANGE	27 FEB 2024	THIS DRAWING IS THE PROPERTY OF INTERGRAPH LTD AND MUST NOT BE COPIED OR LENT WITHOUT THE CONSENT OF THE COMPANY
		DATE	

PIPING SPEC.		OP. TEMP.	
INSULATION SPEC.		PROJECT NO.	
INSULATION THKS.		SYSTEM	
PAINTING SPEC.		AREA	
MATERIAL		DRAWN BY	
OP. PRESSURE		E.I.DIAGRAM	



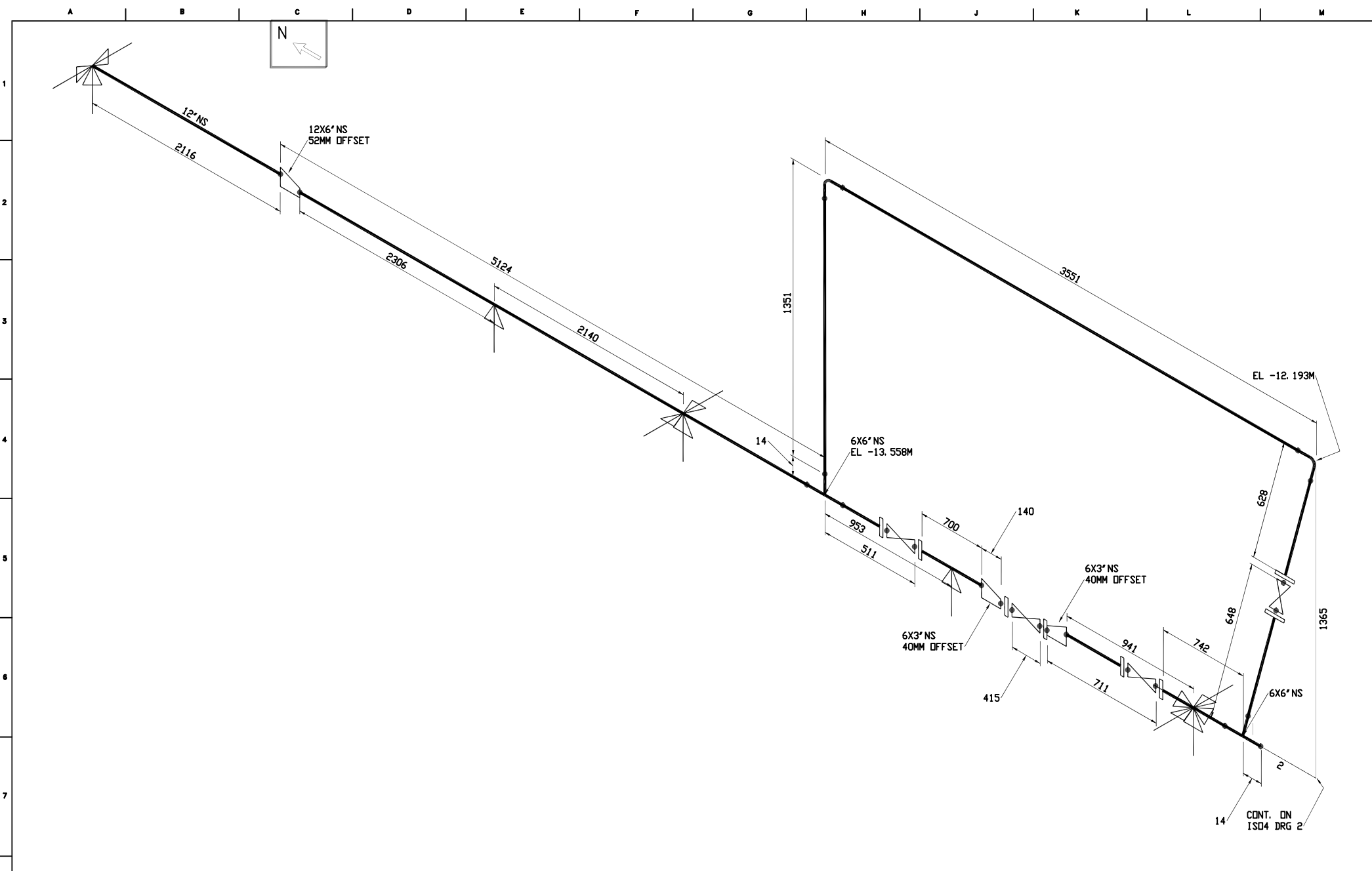
PIPELINE REFERENCE

REV.	
DRG.	1 OF 2



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REV.	CHANGE	27 FEB 2024	THIS DRAWING IS THE PROPERTY OF INTERGRAPH LTD AND MUST NOT BE COPIED OR LENT WITHOUT THE CONSENT OF THE COMPANY	PIPING SPEC.		AREA		PIPELINE REFERENCE	2 OF 2
		DATE		MATERIAL		DRAWN BY			
				OP. PRESSURE		E.L.DIAGRAM			



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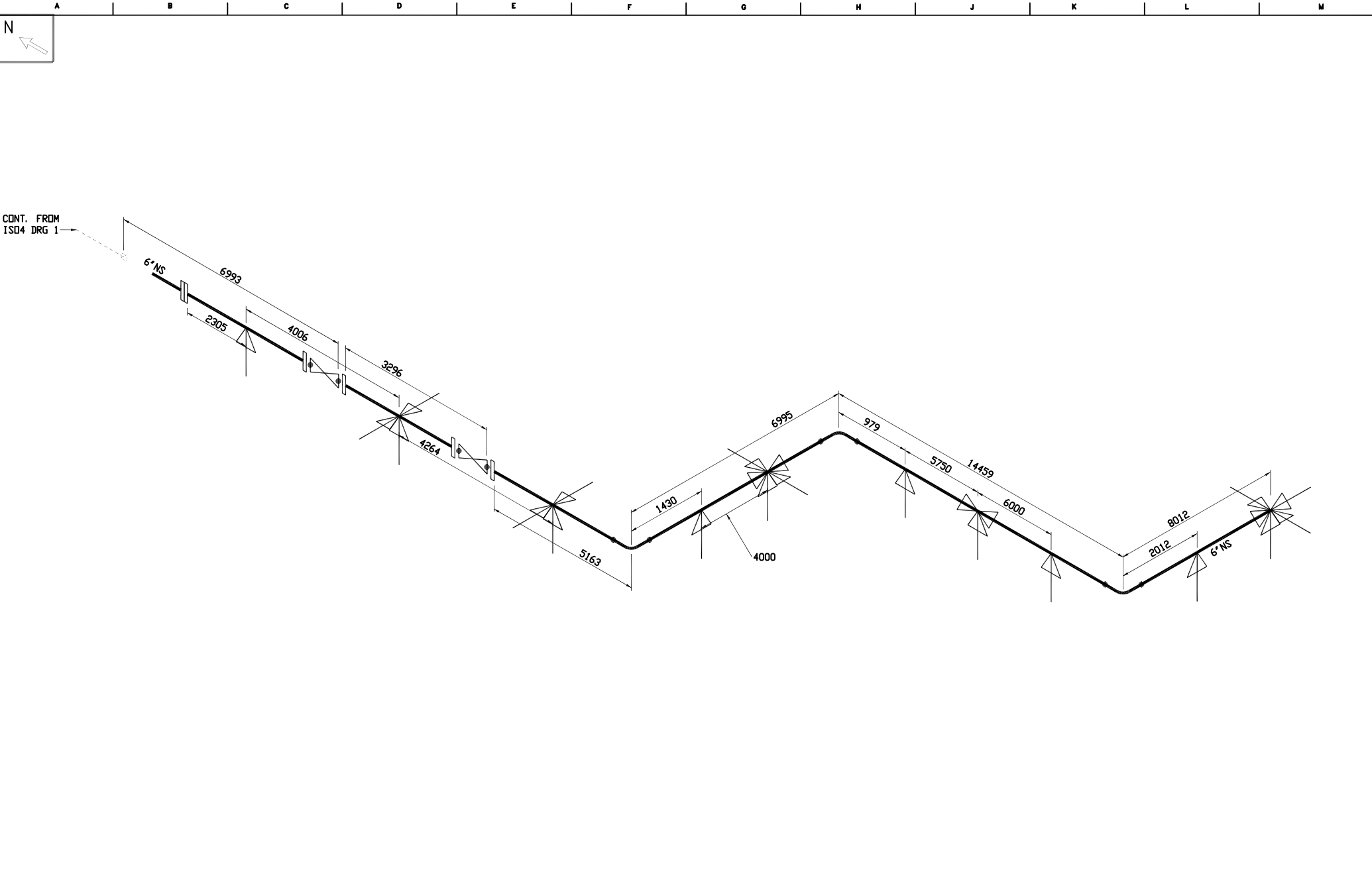
PIPING SPEC.		OP. TEMP.	
INSULATION SPEC.		PROJECT NO.	
INSULATION THKS.		SYSTEM	
PAINTING SPEC.		AREA	
MATERIAL		DRAWN BY	
OP. PRESSURE		E.L.DIAGRAM	



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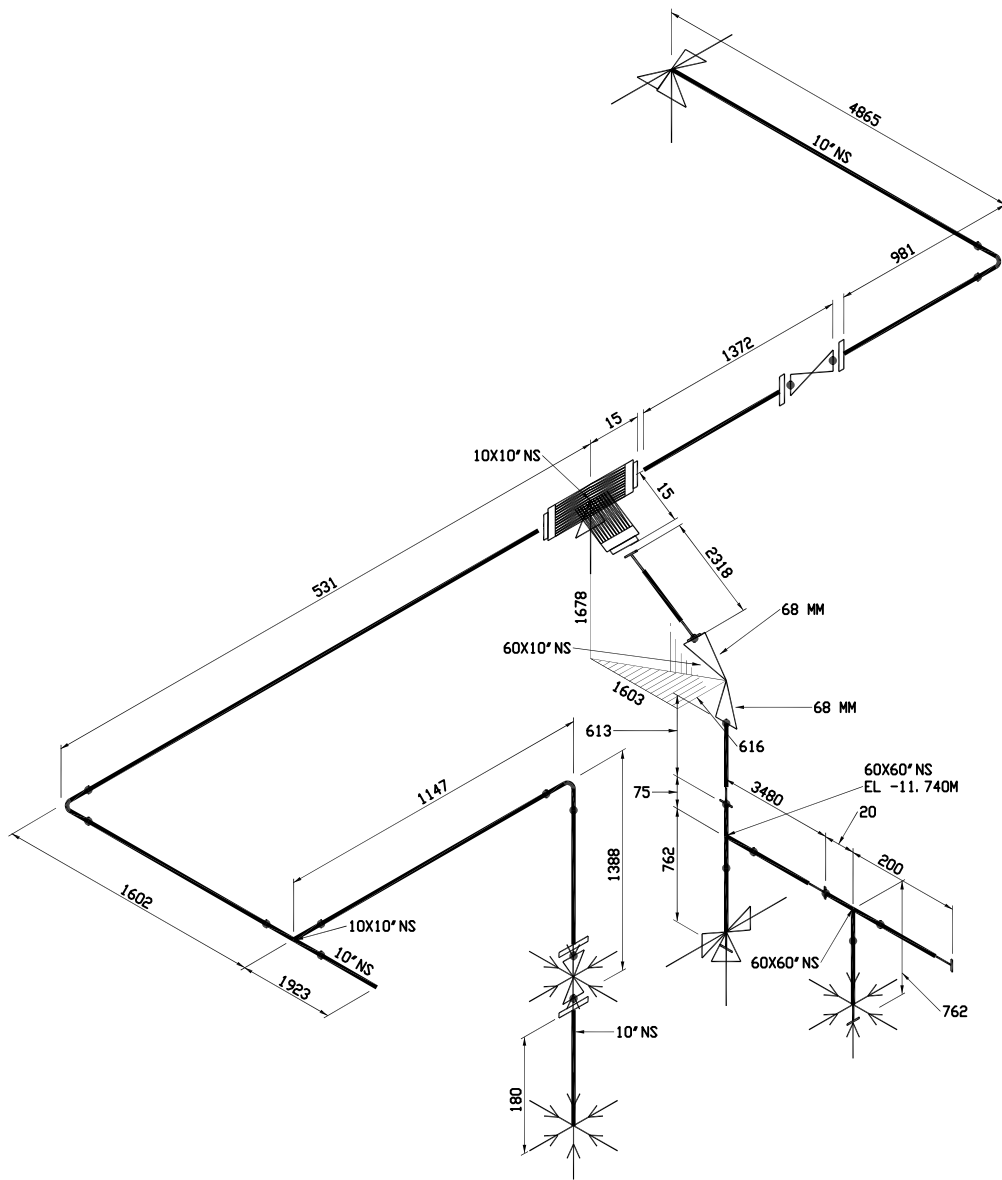
REV.	CHANGE	27 FEB 2024	DATE
THIS DRAWING IS THE PROPERTY OF INTERGRAPH LTD AND MUST NOT BE COPIED OR LENT WITHOUT THE CONSENT OF THE COMPANY			

PIPING SPEC.		OP. TEMP.	
INSULATION SPEC.		PROJECT NO.	
INSULATION THKS.		SYSTEM	
PAINTING SPEC.		AREA	
MATERIAL		DRAWN BY	
OP. PRESSURE		E.L.DIAGRAM	



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PIPING SPEC.		OP. TEMP.	
INSULATION SPEC.		PROJECT NO.	
INSULATION THKS.		SYSTEM	
PAINTING SPEC.		AREA	
MATERIAL		DRAWN BY	
OP. PRESSURE		E.L.DIAGRAM	



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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

- 1 (HYD) WW+HP
- 2 (OPE) W+T1+P1
- 3 (Alt-SUS) W+P1
- 4 (OPE) W+T2+P1
- 5 (Alt-SUS) W+P1
- 6 (OPE) W+T3+P1
- 7 (Alt-SUS) W+P1
- 8 (SUS) W+P1
- 9 (SUS) WNC
- 10 (OPE) W+T2+P1+U1
- 11 (OPE) W+T2+P1-U1
- 12 (OPE) W+T2+P1+U2
- 13 (OPE) W+T2+P1-U2
- 14 (OPE) W+T2+P1+U3
- 15 (OCC) L15=L10-L4
- 16 (OCC) L16=L11-L4
- 17 (OCC) L17=L12-L4
- 18 (OCC) L18=L13-L4
- 19 (OCC) L19=L14-L4
- 20 (OCC) L20=L15+L8
- 21 (OCC) L21=L16+L8
- 22 (OCC) L22=L17+L8
- 23 (OCC) L23=L18+L8
- 24 (OCC) L24=L19+L8
- 25 (EXP) L25=L2-L8
- 26 (EXP) L26=L4-L8
- 27 (EXP) L27=L2-L4

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INPUT LISTING

Job Description:

PROJECT:

CLIENT :

ANALYST:

NOTES :

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INPUT LISTING

File created by FEATools

CAESAR II 2018 Ver.10.00.00.7700, (Build 170726) FEB 27,2024 14:47:58

PIPE DATA

 From 10 To 20 DY= 482.000 mm.

PIPE

Dia= 219.075 mm. Wall= 10.312 mm. Cor= 6.0000 mm.

GENERAL

T1= 85 C T2= 32 C T3= 15 C P1= 900.0205 KPa PHyd= 1,350.0308 KPa

Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 199,086,608 KPa

EH2= 202,494,736 KPa EH3= 203,685,616 KPa EH4= 203,401,232 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000062 kg./cu.cm.

Insul Thk= .000 mm. Insul Den= .0000000 kg./cu.cm.

RIGID Weight= 2,259.70 N.

RESTRAINTS

Node 10 ANC Cnode 11

UNIFORM LOAD

Vector1 in G-s X1 Dir = .26 g's Y1 Dir = .00 g's Z1 Dir = .00 g's

Vector2 in G-s X2 Dir = .00 g's Y2 Dir = .12 g's Z2 Dir = .00 g's

Vector3 in G-s X3 Dir = .00 g's Y3 Dir = .00 g's Z3 Dir = .26 g's

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

 From 20 To 30 DY= 104.775 mm.

RIGID Weight= 177.93 N.

 From 30 To 40 DY= 437.000 mm.

BEND at "T0" end

Radius= 304.800 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 39

 From 40 To 50 DZ= 512.000 mm.

 From 50 To 60 DZ= 200.000 mm.

SIF's & TEE's

Node 60 Welding Tee

 From 60 To 70 DZ= 1,855.000 mm.

 From 70 To 80 DZ= 104.775 mm.

RIGID Weight= 177.93 N.

 From 80 To 90 DZ= 504.000 mm.

RIGID Weight= 2,090.66 N.

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INPUT LISTING

From 90 To 100 DZ= 104.775 mm.

RIGID Weight= 177.93 N.

From 100 To 110 DZ= 1,780.000 mm.

BEND at "T0" end

Radius= 304.800 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 109

Angle/Node @2= .00 108

From 110 To 120 DY= -7,134.000 mm.

From 120 To 130 DX= 216.000 mm.

PIPE

Dia= 273.050 mm. Wall= 9.271 mm.

GENERAL

T2= 38 C Insul Thk= .000 mm.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 120 To 125 DX= -1,900.000 mm.

RESTRAINTS

Node 125 +Y Mu = .30

Node 125 Z Gap= 3.000 mm. Mu = .30

From 125 To 140 DX= -750.000 mm.

BEND at "T0" end

Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 139

Angle/Node @2= .00 138

From 140 To 150 DY= 4,201.000 mm.

BEND at "T0" end

Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 149

Angle/Node @2= .00 148

From 150 To 155 DZ= 3,600.000 mm.

RESTRAINTS

Node 155 +Y Cnode 156 Mu = .30

From 155 To 160 DZ= 1,345.000 mm.

SIF's & TEE's

Node 160 Welding Tee

From 160 To 165 DY= -703.000 mm.

From 165 To 170 DY= -203.000 mm.

REDUCER

Diam2= 323.850 mm. Wall2= 10.312 mm.

From 170 To 190 DY= -117.475 mm.

PIPE

Dia= 323.850 mm. Wall= 9.271 mm.

Insul Thk= .000 mm.

RIGID Weight= 360.31 N.

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INPUT LISTING

From 190 To 200 DY= -366.500 mm.

RIGID Weight= 4,915.29 N.

RESTRAINTS

Node 200 ANC Cnode 201

From 200 To 906 DX= -1,777.551 mm. DY= 1,389.975 mm. DZ= 1,147.000 mm.

RIGID Weight= .00 N.

From 200 To 156 DX= .000 mm. DY= 1,389.975 mm. DZ= -1,345.000 mm.

RIGID Weight= .00 N.

From 130 To 210 DX= 178.000 mm. DY= -52.400 mm.

GENERAL

T2= 37 C T3= 19 C Fluid Den= .0000066 kg./cu.cm.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

REDUCER

Diam2= 168.275 mm. Wall2= 10.973 mm.

From 210 To 1800 DX= 2,306.000 mm.

PIPE

Dia= 168.275 mm. Wall= 10.973 mm.

Insul Thk= .000 mm.

RESTRAINTS

Node 1800 +Y Mu = .30

From 1800 To 215 DX= 2,140.000 mm.

RESTRAINTS

Node 215 +Y Mu = .30

Node 215 Z Gap= 3.000 mm. Mu = .30

From 215 To 220 DX= 500.000 mm.

From 220 To 230 DX= 143.000 mm.

From 230 To 240 DX= 92.075 mm.

RIGID Weight= 111.21 N.

From 240 To 250 DX= 276.000 mm.

RIGID Weight= 1,005.30 N.

From 250 To 260 DX= 92.075 mm.

RIGID Weight= 111.21 N.

From 260 To 265 DX= 350.000 mm.

RESTRAINTS

Node 265 +Y Mu = .30

From 265 To 270 DX= 350.000 mm.

From 270 To 280 DX= 140.000 mm. DY= -40.000 mm.

REDUCER

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INPUT LISTING

Diam2= 88.900 mm. Wall2= 7.620 mm.

From 280 To 290 DX= 73.025 mm.

PIPE

Dia= 88.900 mm. Wall= 7.620 mm.

Insul Thk= .000 mm.

RIGID Weight= 54.49 N.

From 290 To 300 DX= 415.000 mm.

RIGID Weight= 113.43 N.

From 300 To 310 DX= 73.025 mm.

RIGID Weight= 54.49 N.

From 310 To 320 DX= 140.000 mm. DY= 40.000 mm.

REDUCER

Diam2= 168.275 mm. Wall2= 10.973 mm.

From 320 To 330 DX= 203.000 mm.

PIPE

Dia= 168.275 mm. Wall= 10.973 mm.

Insul Thk= .000 mm.

From 330 To 340 DX= 92.075 mm.

RIGID Weight= 111.21 N.

From 340 To 350 DX= 276.000 mm.

RIGID Weight= 1,005.30 N.

From 350 To 360 DX= 92.075 mm.

RIGID Weight= 111.21 N.

From 360 To 365 DX= 278.000 mm.

RESTRAINTS

Node 365 +Y Mu = .30

Node 365 X Gap= 3.000 mm. Mu = .30

Node 365 Z Gap= 3.000 mm.

From 365 To 370 DX= 464.000 mm.

From 370 To 375 DX= 1,008.000 mm.

From 375 To 380 DX= 1,008.000 mm.

From 380 To 390 DX= 92.075 mm.

RIGID Weight= 111.21 N.

From 390 To 400 DX= 92.075 mm.

RIGID Weight= 111.21 N.

From 400 To 405 DX= 2,305.000 mm.

RESTRAINTS

Node 405 +Y Mu = .30

From 405 To 410 DX= 1,995.000 mm.

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INPUT LISTING

From 410 To 1610 DX= 92.075 mm.

RIGID Weight= 111.21 N.

From 1610 To 1620 DX= 415.000 mm.

RIGID Weight= 1,112.06 N.

From 1620 To 1630 DX= 92.075 mm.

RIGID Weight= 111.21 N.

From 1630 To 1640 DX= 1,412.000 mm.

RESTRAINTS

Node 1640 +Y Mu = .30

Node 1640 Z Gap= 3.000 mm.

From 1640 To 1650 DX= 1,277.000 mm.

From 1650 To 1660 DX= 92.075 mm.

RIGID Weight= 111.21 N.

From 1660 To 1670 DX= 515.000 mm.

RIGID Weight= 226.86 N.

From 1670 To 1680 DX= 92.075 mm.

RIGID Weight= 111.21 N.

From 1680 To 1690 DX= 2,288.000 mm.

RESTRAINTS

Node 1690 +Y Mu = .30

Node 1690 Z Gap= 3.000 mm.

From 1690 To 1700 DX= 2,875.000 mm.

BEND at "T0" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1699

Angle/Node @2= .00 1698

From 1700 To 1710 DZ= -1,430.000 mm.

RESTRAINTS

Node 1710 +Y Mu = .30

From 1710 To 1720 DZ= -4,000.000 mm.

RESTRAINTS

Node 1720 +Y Mu = .30

Node 1720 X Gap= 3.000 mm.

Node 1720 Z Gap= 3.000 mm. Mu = .30

From 1720 To 1730 DZ= -1,565.000 mm.

BEND at "T0" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1729

Angle/Node @2= .00 1728

From 1730 To 1740 DX= 979.000 mm.

RESTRAINTS

Node 1740 +Y Mu = .30

From 1740 To 1750 DX= 5,750.000 mm.

RESTRAINTS

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INPUT LISTING

Node 1750 +Y Mu = .30
Node 1750 X Gap= 3.000 mm. Mu = .30

From 1750 To 1760 DX= 6,000.000 mm.

RESTRAINTS

Node 1760 +Y

From 1760 To 1770 DX= 1,730.000 mm.

BEND at "T0" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1769
Angle/Node @2= .00 1768

From 1770 To 1780 DZ= -2,012.000 mm.

RESTRAINTS

Node 1780 +Y Mu = .30

From 1780 To 1790 DZ= -6,000.000 mm.

RESTRAINTS

Node 1790 +Y Mu = .30
Node 1790 Z Gap= 3.000 mm. Mu = .30
Node 1790 X Gap= 3.000 mm.

From 220 To 420 DY= 1,365.000 mm.

BEND at "T0" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 419
Angle/Node @2= .00 418

From 420 To 430 DX= 3,551.000 mm.

BEND at "T0" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.027 Angle/Node @1= 45.01 429
Angle/Node @2= .00 428

From 430 To 440 DX= -.299 mm. DY= -628.000 mm.

From 440 To 450 DX= -.044 mm. DY= -89.000 mm.

RIGID Weight= 111.21 N.

From 450 To 460 DX= -.281 mm. DY= -410.000 mm.

RIGID Weight= 1,334.47 N.

From 460 To 470 DX= -.044 mm. DY= -89.000 mm.

RIGID Weight= 111.21 N.

From 470 To 370 DX= -.071 mm. DY= -149.000 mm.

From 60 To 1820 DX= -483.000 mm.

PIPE

Dia= 219.075 mm. Wall= 10.312 mm.

GENERAL

T2= 32 C Insul Thk= .000 mm.

BEND at "T0" end

Radius= 304.800 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1819
Angle/Node @2= .00 1818

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

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INPUT LISTING

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
Sh9= 137,895 KPa Sy= 241,316 KPa

From 1820 To 1830 DZ= 1,220.000 mm.

BEND at "T0" end

Radius= 304.800 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1829
Angle/Node @2= .00 1828

From 1830 To 65 DX= -3,517.000 mm.

RESTRAINTS

Node 65 +Y Cnode 66

From 65 To 480 DX= -2,645.700 mm.

From 480 To 490 DX= -104.775 mm.

RIGID Weight= 177.93 N.

From 490 To 500 DX= -466.750 mm.

RIGID Weight= 2,259.70 N.

From 500 To 510 DX= -104.775 mm.

RIGID Weight= 177.93 N.

From 510 To 520 DX= -178.000 mm.

From 520 To 525 DZ= -978.000 mm.

From 525 To 1810 DY= 27.000 mm. DZ= -178.000 mm.

REDUCER

Diam2= 273.050 mm. Wall2= 9.271 mm.

From 1810 To 530 DZ= -777.000 mm.

PIPE

Dia= 273.050 mm. Wall= 9.271 mm.

Insul Thk= .000 mm.

BEND at "T0" end

Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 529
Angle/Node @2= .00 528

From 530 To 540 DY= -584.000 mm.

From 540 To 550 DY= -104.775 mm.

RIGID Weight= 235.76 N.

From 550 To 560 DY= -362.000 mm.

RIGID Weight= 2,259.70 N.

RESTRAINTS

Node 560 ANC Cnode 561

From 520 To 570 DZ= 3,082.000 mm.

PIPE

Dia= 219.075 mm. Wall= 10.312 mm.

Insul Thk= .000 mm.

BEND at "T0" end

Radius= 304.800 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 569
Angle/Node @2= .00 568

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INPUT LISTING

```
-----
From 570 To 580 DY= -7,161.000 mm.
BEND at "T0" end
  Radius= 304.800 mm. (LONG)  Bend Angle= 90.000  Angle/Node @1= 45.00 579
  Angle/Node @2= .00 578
-----
```

```
-----
From 580 To 590 DX= -2,100.000 mm.
RESTRAINTS
  Node 590 +Y Mu = .30
  Node 590 Z Gap= 3.000 mm. Mu = .30
-----
```

```
-----
From 590 To 600 DX= -6,000.000 mm.
RESTRAINTS
  Node 600 +Y Mu = .30
-----
```

```
-----
From 600 To 610 DX= -4,525.000 mm.
RESTRAINTS
  Node 610 +Y Mu = .30
  Node 610 X Gap= 3.000 mm. Mu = .30
  Node 610 Z Gap= 3.000 mm. Mu = .30
-----
```

```
-----
From 610 To 615 DX= -5,977.000 mm.
RESTRAINTS
  Node 615 +Y Mu = .30
-----
```

```
-----
From 615 To 620 DX= -1,111.000 mm.
BEND at "T0" end
  Radius= 304.800 mm. (LONG)  Bend Angle= 90.000  Angle/Node @1= 45.00 619
  Angle/Node @2= .00 618
-----
```

```
-----
From 620 To 630 DZ= -633.000 mm.
-----
```

```
-----
From 630 To 640 DZ= -178.000 mm.
-----
```

```
-----
From 640 To 650 DZ= -104.775 mm.
RIGID Weight= 177.93 N.
-----
```

```
-----
From 630 To 660 DY= 397.000 mm.
PIPE
  Dia= 168.275 mm. Wall= 10.973 mm.
  Insul Thk= .000 mm.
BEND at "T0" end
  Radius= 228.600 mm. (LONG)  Bend Angle= 90.000  Angle/Node @1= 45.00 659
  Angle/Node @2= .00 658
-----
```

```
-----
From 660 To 670 DX= -897.000 mm.
BEND at "T0" end
  Radius= 228.600 mm. (LONG)  Bend Angle= 90.000  Angle/Node @1= 45.00 669
  Angle/Node @2= .00 668
-----
```

```
-----
From 670 To 680 DZ= -1,000.000 mm.
-----
```

```
-----
From 680 To 690 DZ= -92.075 mm.
RIGID Weight= 111.21 N.
-----
```

```
-----
From 650 To 700 DZ= -670.000 mm.
-----
```

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INPUT LISTING

PIPE

Dia= 219.075 mm. Wall= 15.088 mm.

GENERAL

Fluid Den= .0000062 kg./cu.cm. Insul Thk= .000 mm.

RIGID Weight= 4,030.09 N.

 From 700 To 710 DZ= -142.875 mm.

RIGID Weight= 524.89 N.

 From 710 To 715 DZ= -300.000 mm.

RESTRAINTS

Node 715 +Y Mu = .30

Node 715 X Gap= 3.000 mm. Mu = .30

 From 715 To 720 DZ= -300.000 mm.

 From 720 To 730 DY= -25.400 mm. DZ= -152.400 mm.

REDUCER

Diam2= 168.275 mm. Wall2= 14.275 mm.

 From 730 To 740 DZ= -127.000 mm.

PIPE

Dia= 168.275 mm. Wall= 14.275 mm.

Insul Thk= .000 mm.

RIGID Weight= 364.75 N.

 From 740 To 750 DZ= -569.000 mm.

RIGID Weight= 733.96 N.

 From 750 To 760 DZ= -127.000 mm.

RIGID Weight= 364.75 N.

 From 760 To 770 DY= 25.400 mm. DZ= -152.400 mm.

REDUCER

Diam2= 219.075 mm. Wall2= 15.088 mm.

 From 770 To 780 DZ= -200.000 mm.

PIPE

Dia= 219.075 mm. Wall= 15.088 mm.

Insul Thk= .000 mm.

 From 780 To 790 DZ= -142.875 mm.

RIGID Weight= 524.89 N.

 From 790 To 800 DZ= -670.000 mm.

RIGID Weight= 4,030.09 N.

 From 800 To 810 DZ= -142.875 mm.

RIGID Weight= 524.89 N.

 From 810 To 820 DZ= -178.000 mm.

SIF's & TEE's

Node 820

 From 820 To 830 DZ= -588.500 mm.

RESTRAINTS

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INPUT LISTING

Node 830 +Y Mu = .30
Node 830 X Gap= 3.000 mm. Mu = .30
Node 830 Z Gap= 3.000 mm. Mu = .30

From 820 To 840 DY= 397.000 mm.

PIPE

Dia= 168.275 mm. Wall= 14.275 mm.
Insul Thk= .000 mm.

BEND at "T0" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 839
Angle/Node @2= .00 838

From 840 To 850 DX= -897.000 mm.

BEND at "T0" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 849
Angle/Node @2= .00 848

From 850 To 855 DZ= 1,885.000 mm.

RESTRAINTS

Node 855 +Y Mu = .30

From 855 To 860 DZ= 1,052.126 mm.

From 860 To 690 DZ= 127.000 mm.

RIGID Weight= 364.75 N.

From 160 To 1300 DZ= 1,147.000 mm.

PIPE

Dia= 273.050 mm. Wall= 9.271 mm.

GENERAL

T2= 37 C T3= 19 C Insul Thk= .000 mm.

BEND at "T0" end

Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1299
Angle/Node @2= .00 1298

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
Sh9= 137,895 KPa Sy= 241,316 KPa

From 1300 To 870 DX= -531.000 mm.

From 870 To 880 DX= -104.775 mm.

RIGID Weight= 235.76 N.

From 880 To 890 DX= -537.000 mm.

RIGID Weight= 3,563.03 N.

From 890 To 900 DX= -104.775 mm.

RIGID Weight= 235.76 N.

From 900 To 906 DX= -500.000 mm. DY= .000 mm. DZ= .000 mm.

RESTRAINTS

Node 905 +Y Cnode 906 Mu = .30
Node 905 Z Cnode 906 Gap= 3.000 mm.

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INPUT LISTING

From 905 To 910 DX= -1,923.000 mm.

From 910 To 920 DZ= -1,147.000 mm.

GENERAL

Fluid Den= .0000059 kg./cu.cm.

BEND at "TO" end

Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 919

Angle/Node @2= .00 918

From 920 To 930 DY= -917.000 mm.

From 930 To 940 DY= -104.775 mm.

RIGID Weight= 235.76 N.

From 940 To 950 DY= -366.000 mm.

RIGID Weight= 3,563.03 N.

RESTRAINTS

Node 950 ANC Cnode 951

From 910 To 1310 DX= -1,602.000 mm.

BEND at "TO" end

Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1309

Angle/Node @2= .00 1308

From 1310 To 1320 DZ= -531.000 mm.

RESTRAINTS

Node 1320 +Y Cnode 1321 Mu = .30

From 1320 To 960 DZ= -651.000 mm.

From 960 To 970 DZ= -104.775 mm.

RIGID Weight= 235.76 N.

From 970 To 980 DZ= -631.000 mm.

RIGID Weight= 2,562.18 N.

From 980 To 990 DX= .000 mm. DZ= -104.775 mm.

RIGID Weight= 235.76 N.

From 990 To 995 DZ= -981.000 mm.

BEND at "TO" end

Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 994

Angle/Node @2= .00 993

From 995 To 1350 DX= -4,865.000 mm.

RESTRAINTS

Node 1350 +Y Mu = .30

Node 1350 Z Gap= 3.000 mm.

From 1350 To 1000 DX= -8,385.000 mm.

BEND at "TO" end

Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 999

Angle/Node @2= .00 998

From 1000 To 1010 DY= -1,500.000 mm.

BEND at "TO" end

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INPUT LISTING

Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1009
Angle/Node @2= .00 1008

From 1010 To 1020 DZ= 1,651.000 mm.

RESTRAINTS

Node 1020 +Y Mu = .30

From 1020 To 1030 DZ= 6,000.000 mm.

RESTRAINTS

Node 1030 +Y Mu = .30

Node 1030 X Gap= 3.000 mm. Mu = .30

From 1030 To 1040 DZ= 6,000.000 mm.

RESTRAINTS

Node 1040 +Y Mu = .30

From 1040 To 1050 DZ= 6,000.000 mm.

RESTRAINTS

Node 1050 +Y Mu = .30

Node 1050 X Gap= 3.000 mm. Mu = .30

From 1050 To 1060 DZ= 6,000.000 mm.

RESTRAINTS

Node 1060 +Y Mu = .30

From 1060 To 1400 DZ= 6,000.000 mm.

From 11 To 1080 DY= -105.000 mm.

PIPE

Dia= 219.075 mm. Wall= 10.312 mm.

GENERAL

T1= 85 C T2= 32 C Insul Thk= .000 mm.

RIGID Weight= 177.93 N.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 1080 To 1090 DY= -201.000 mm.

RESTRAINTS

Node 1090 ANC Cnode 1091

EQUIPMENT LIMITS

Nozzle Node = 1090

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 14,000.70 N. FB= 14,000.70 N.

FC= 10,500.52 N. MA= 10,500.45 N.m. MB= 7,000.30 N.m.

MC= 9,100.39 N.m. Equipment Major Direction Vector= .0000 .0000 1.0000

Interact. Mtd= Absolute

From 1091 To 1100 DY= -2,100.000 mm.

PIPE

Dia= 4,267.200 mm. Wall= 10.312 mm.

Insul Thk= .000 mm.

RIGID Weight= .00 N.

From 1100 To 1110 DX= 2,200.000 mm.

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INPUT LISTING

RIGID Weight= .00 N.

From 1110 To 1120 DY= -2,100.000 mm.

RIGID Weight= .00 N.

RESTRAINTS

Node 1120 ANC

From 1100 To 1130 DX= -7,500.000 mm.

RIGID Weight= .00 N.

From 1130 To 1170 DX= -900.000 mm.

RIGID Weight= .00 N.

From 1170 To 1140 DY= -2,100.000 mm.

RIGID Weight= .00 N.

RESTRAINTS

Node 1140 +Y Mu = .30

Node 1140 Z Gap= 3.000 mm. Mu = .30

From 561 To 1150 DY= -105.000 mm.

PIPE

Dia= 273.050 mm. Wall= 9.271 mm.

Insul Thk= .000 mm.

RIGID Weight= 177.93 N.

From 1150 To 1160 DY= -201.000 mm.

RESTRAINTS

Node 1160 ANC Cnode 1161

EQUIPMENT LIMITS

Nozzle Node = 1160

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 14,000.70 N. FB= 14,000.70 N.

FC= 10,500.52 N. MA= 10,500.45 N.m. MB= 7,000.30 N.m.

MC= 9,100.39 N.m. Equipment Major Direction Vector= .0000 .0000 1.0000

Interact. Mtd= Absolute

From 1161 To 1130 DX= .002 mm. DY= -2,100.000 mm. DZ= .000 mm.

PIPE

Dia= 4,267.200 mm. Wall= 9.271 mm.

Insul Thk= .000 mm.

RIGID Weight= .00 N.

From 1161 To 66 DX= 3,500.002 mm. DY= 1,329.775 mm. DZ= 1,932.000 mm.

RIGID Weight= .00 N.

From 201 To 1180 DX= .000 mm. DY= -117.475 mm. DZ= .000 mm.

PIPE

Dia= 323.850 mm. Wall= 10.312 mm.

GENERAL

T2= 38 C Insul Thk= .000 mm.

RIGID Weight= 360.31 N.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

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INPUT LISTING

From 1180 To 1190 DY= -171.000 mm.

RESTRAINTS

Node 1190 ANC Cnode 1191

EQUIPMENT LIMITS

Nozzle Node = 1190

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 16,800.84 N. FB= 16,800.84 N.

FC= 12,600.63 N. MA= 15,120.64 N.m. MB= 10,080.43 N.m.

MC= 13,100.56 N.m. Equipment Major Direction Vector= .0000 .0000 1.0000

Interact. Mtd= Absolute

From 1191 To 1210 DY= -762.000 mm.

PIPE

Dia= 1,548.384 mm. Wall= 10.312 mm.

Insul Thk= .000 mm.

RIGID Weight= .00 N.

From 1200 To 1210 DX= 200.000 mm.

RIGID Weight= .00 N.

From 1200 To 1220 DY= -762.000 mm.

RIGID Weight= .00 N.

RESTRAINTS

Node 1220 ANC

From 1200 To 1230 DX= -3,500.000 mm.

RIGID Weight= .00 N.

From 1230 To 1240 DY= -762.000 mm.

RIGID Weight= .00 N.

RESTRAINTS

Node 1240 +Y Mu = .30

Node 1240 Z Gap= 3.000 mm. Mu = .30

From 951 To 1260 DY= -105.000 mm.

PIPE

Dia= 273.050 mm. Wall= 10.312 mm.

Insul Thk= .000 mm.

RIGID Weight= 235.76 N.

From 1260 To 1270 DY= -180.000 mm.

RESTRAINTS

Node 1270 ANC Cnode 1271

EQUIPMENT LIMITS

Nozzle Node = 1270

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 14,000.70 N. FB= 14,000.70 N.

FC= 10,500.52 N. MA= 10,500.45 N.m. MB= 7,000.30 N.m.

MC= 9,100.39 N.m. Equipment Major Direction Vector= .0000 .0000 1.0000

Interact. Mtd= Absolute

From 1271 To 1321 DX= -1,602.500 mm. DY= 1,678.449 mm. DZ= 616.000 mm.

RIGID Weight= .00 N.

From 1271 To 1230 DX= .051 mm. DY= -762.000 mm. DZ= .000 mm.

PIPE

Dia= 1,548.384 mm. Wall= 10.312 mm.

Insul Thk= .000 mm.

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INPUT LISTING

RIGID Weight= .00 N.

 From 1400 To 1410 DX= .000 mm. DZ= 6,000.000 mm.

PIPE

Dia= 273.050 mm. Wall= 9.271 mm. Cor= 6.0000 mm.

GENERAL

T1= 85 C T2= 37 C T3= 19 C P1= 900.0205 KPa PHyd= 1,350.0308 KPa

Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 199,086,608 KPa

EH2= 202,064,544 KPa EH3= 203,489,136 KPa EH4= 203,401,232 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000059 kg./cu.cm.

Insul Thk= .000 mm. Insul Den= .0000000 kg./cu.cm.

RESTRAINTS

Node 1400 +Y Mu = .30

Node 1400 Z Gap= 3.000 mm. Mu = .30

Node 1400 X Gap= 3.000 mm.

Node 1410 +Y

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

 From 1410 To 1420 DX= .000 mm. DZ= 6,000.000 mm.

RESTRAINTS

Node 1420 +Y Mu = .30

Node 1420 X Gap= 3.000 mm.

 From 1420 To 1430 DX= .000 mm. DZ= 6,000.000 mm.

RESTRAINTS

Node 1430 +Y Mu = .30

Node 1430 X Gap= 3.000 mm.

 From 1430 To 1440 DY= .000 mm. DZ= 1,250.000 mm.

BEND at "TO" end

Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1439

Angle/Node @2= .00 1438

 From 1440 To 1450 DX= -6,000.000 mm. DY= .000 mm.

BEND at "TO" end

Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1449

Angle/Node @2= .00 1448

 From 1450 To 1460 DZ= 1,900.000 mm.

RESTRAINTS

Node 1460 +Y Mu = .30

 From 1460 To 1470 DZ= 1,900.000 mm.

BEND at "TO" end

Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1469

Angle/Node @2= .00 1468

 From 1470 To 1480 DX= 6,000.000 mm. DZ= .000 mm.

BEND at "TO" end

Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1479

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INPUT LISTING

Angle/Node @2= .00 1478

 From 1480 To 1490 DZ= 800.000 mm.

RESTRAINTS

Node 1490 +Y Mu = .30

Node 1490 X Gap= 3.000 mm.

 From 1490 To 1500 DZ= 4,700.000 mm.

 From 1500 To 1510 DZ= 1,300.000 mm.

RESTRAINTS

Node 1510 +Y Mu = .30

 From 1510 To 1520 DZ= 6,000.000 mm.

RESTRAINTS

Node 1520 +Y Mu = .30

Node 1520 X Gap= 3.000 mm. Mu = .30

 From 1520 To 1530 DZ= 6,000.000 mm.

RESTRAINTS

Node 1530 +Y Mu = .30

Node 1530 LIM Gap= 3.000 mm.

 From 1530 To 1540 DZ= 6,000.000 mm.

RESTRAINTS

Node 1540 +Y Mu = .30

Node 1540 X Gap= 3.000 mm.

 From 1540 To 1550 DZ= 6,000.000 mm.

RESTRAINTS

Node 1550 +Y Mu = .30

 From 1550 To 1560 DZ= 4,700.000 mm.

SIF's & TEE's

Node 1560 Welding Tee

 From 1560 To 1570 DZ= 1,300.000 mm.

RESTRAINTS

Node 1570 +Y Mu = .30

Node 1570 X Gap= 3.000 mm.

 From 1570 To 1580 DZ= 500.000 mm.

 From 1580 To 1590 DZ= 120.650 mm.

RIGID Weight= 409.24 N.

 From 1590 To 1600 DZ= 120.650 mm.

RIGID Weight= 409.24 N.

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MATERIAL Changes:

10 20

1400 1410

Mat= (106)A106 Grade B E= 203,401,232 KPa

v = .292 Density= .0078 kg./cu.cm.

Mat= (106)A106 Grade B E= 203,401,232 KPa

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INPUT LISTING

v = .292 Density= .0078 kg./cu.cm.

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JOBNAME: D:\BINAK PRO\STRESS REPORT\D02\NATIVE\BNK-GCS-CN-009-D02\BNK-GCS-CN-00

ALLOWABLE STRESS Changes

10	20	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
120	130	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
130	210	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
60	1820	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
160	1300	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
11	1080	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
201	1180	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
1400	1410	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa

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INPUT LISTING

Sh2= 137,895 KPa Sh3= 137,895 KPa
 Sh4= 137,895 KPa Sh5= 137,895 KPa
 Sh6= 137,895 KPa Sh7= 137,895 KPa
 Sh8= 137,895 KPa Sh9= 137,895 KPa
 Sy= 241,316 KPa

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BEND ELEMENTS

30	40	Radius= 304.800 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00 39
100	110	Radius= 304.800 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		109 Angle/Node @2= .00 108
125	140	Radius= 381.000 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		139 Angle/Node @2= .00 138
140	150	Radius= 381.000 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		149 Angle/Node @2= .00 148
1690	1700	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1699 Angle/Node @2= .00 1698
1720	1730	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1729 Angle/Node @2= .00 1728
1760	1770	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1769 Angle/Node @2= .00 1768
220	420	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		419 Angle/Node @2= .00 418
420	430	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.027 Angle/Node @1= 45.01
		429 Angle/Node @2= .00 428
60	1820	Radius= 304.800 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1819 Angle/Node @2= .00 1818
1820	1830	Radius= 304.800 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1829 Angle/Node @2= .00 1828
1810	530	Radius= 381.000 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		529 Angle/Node @2= .00 528
520	570	Radius= 304.800 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		569 Angle/Node @2= .00 568
570	580	Radius= 304.800 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		579 Angle/Node @2= .00 578
615	620	Radius= 304.800 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		619 Angle/Node @2= .00 618
630	660	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00

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INPUT LISTING

660	670	659 Angle/Node @2= .00 658 Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
820	840	669 Angle/Node @2= .00 668 Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
840	850	839 Angle/Node @2= .00 838 Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
160	1300	849 Angle/Node @2= .00 848 Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
910	920	1299 Angle/Node @2= .00 1298 Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
910	1310	919 Angle/Node @2= .00 918 Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
990	995	1309 Angle/Node @2= .00 1308 Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
1350	1000	994 Angle/Node @2= .00 993 Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
1000	1010	999 Angle/Node @2= .00 998 Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
1430	1440	1009 Angle/Node @2= .00 1008 Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
1440	1450	1439 Angle/Node @2= .00 1438 Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
1460	1470	1449 Angle/Node @2= .00 1448 Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
1470	1480	1469 Angle/Node @2= .00 1468 Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
		1479 Angle/Node @2= .00 1478

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RIGIDS

10	20	RIGID Weight= 2,259.70 N.
20	30	RIGID Weight= 177.93 N.
70	80	RIGID Weight= 177.93 N.
80	90	RIGID Weight= 2,090.66 N.
90	100	RIGID Weight= 177.93 N.
170	190	RIGID Weight= 360.31 N.
190	200	RIGID Weight= 4,915.29 N.
200	906	RIGID Weight= .00 N.
200	156	RIGID Weight= .00 N.
230	240	RIGID Weight= 111.21 N.
240	250	RIGID Weight= 1,005.30 N.

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INPUT LISTING

250	260	RIGID Weight= 111.21 N.
280	290	RIGID Weight= 54.49 N.
290	300	RIGID Weight= 113.43 N.
300	310	RIGID Weight= 54.49 N.
330	340	RIGID Weight= 111.21 N.
340	350	RIGID Weight= 1,005.30 N.
350	360	RIGID Weight= 111.21 N.
380	390	RIGID Weight= 111.21 N.
390	400	RIGID Weight= 111.21 N.
410	1610	RIGID Weight= 111.21 N.
1610	1620	RIGID Weight= 1,112.06 N.
1620	1630	RIGID Weight= 111.21 N.
1650	1660	RIGID Weight= 111.21 N.
1660	1670	RIGID Weight= 226.86 N.
1670	1680	RIGID Weight= 111.21 N.
440	450	RIGID Weight= 111.21 N.
450	460	RIGID Weight= 1,334.47 N.
460	470	RIGID Weight= 111.21 N.
480	490	RIGID Weight= 177.93 N.
490	500	RIGID Weight= 2,259.70 N.
500	510	RIGID Weight= 177.93 N.
540	550	RIGID Weight= 235.76 N.
550	560	RIGID Weight= 2,259.70 N.
640	650	RIGID Weight= 177.93 N.
680	690	RIGID Weight= 111.21 N.
650	700	RIGID Weight= 4,030.09 N.
700	710	RIGID Weight= 524.89 N.
730	740	RIGID Weight= 364.75 N.
740	750	RIGID Weight= 733.96 N.
750	760	RIGID Weight= 364.75 N.
780	790	RIGID Weight= 524.89 N.
790	800	RIGID Weight= 4,030.09 N.
800	810	RIGID Weight= 524.89 N.
860	690	RIGID Weight= 364.75 N.
870	880	RIGID Weight= 235.76 N.
880	890	RIGID Weight= 3,563.03 N.
890	900	RIGID Weight= 235.76 N.
930	940	RIGID Weight= 235.76 N.
940	950	RIGID Weight= 3,563.03 N.
960	970	RIGID Weight= 235.76 N.
970	980	RIGID Weight= 2,562.18 N.
980	990	RIGID Weight= 235.76 N.
11	1080	RIGID Weight= 177.93 N.
1091	1100	RIGID Weight= .00 N.
1100	1110	RIGID Weight= .00 N.
1110	1120	RIGID Weight= .00 N.
1100	1130	RIGID Weight= .00 N.
1130	1170	RIGID Weight= .00 N.
1170	1140	RIGID Weight= .00 N.
561	1150	RIGID Weight= 177.93 N.
1161	1130	RIGID Weight= .00 N.
1161	66	RIGID Weight= .00 N.
201	1180	RIGID Weight= 360.31 N.
1191	1210	RIGID Weight= .00 N.
1200	1210	RIGID Weight= .00 N.
1200	1220	RIGID Weight= .00 N.

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INPUT LISTING

1200	1230	RIGID	Weight= .00 N.
1230	1240	RIGID	Weight= .00 N.
951	1260	RIGID	Weight= 235.76 N.
1271	1321	RIGID	Weight= .00 N.
1271	1230	RIGID	Weight= .00 N.
1580	1590	RIGID	Weight= 409.24 N.
1590	1600	RIGID	Weight= 409.24 N.

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SIF's & TEE's

50	60	Node 60	Welding Tee
155	160	Node 160	Welding Tee
810	820	Node 820	
1550	1560	Node 1560	Welding Tee

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REDUCERS

165	170	Diam2= 323.850 mm.	Wall2= 10.312 mm.
130	210	Diam2= 168.275 mm.	Wall2= 10.973 mm.
270	280	Diam2= 88.900 mm.	Wall2= 7.620 mm.
310	320	Diam2= 168.275 mm.	Wall2= 10.973 mm.
525	1810	Diam2= 273.050 mm.	Wall2= 9.271 mm.
720	730	Diam2= 168.275 mm.	Wall2= 14.275 mm.
760	770	Diam2= 219.075 mm.	Wall2= 15.088 mm.

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RESTRAINTS

NODE	TYPE	CNODE	STIF1	Len GAP STIF2	MU YIELD FORCE	Dir Vectors
10	ANC	11				.000 .000 .000
125	+Y				.30	.000 1.000 .000
125	Z			3.00	.30	.000 .000 1.000
155	+Y	156			.30	.000 1.000 .000
200	ANC	201				.000 .000 .000
1800	+Y				.30	.000 1.000 .000
215	+Y				.30	.000 1.000 .000
215	Z			3.00	.30	.000 .000 1.000
265	+Y				.30	.000 1.000 .000
365	+Y				.30	.000 1.000 .000
365	X			3.00	.30	1.000 .000 .000
365	Z			3.00		.000 .000 1.000
405	+Y				.30	.000 1.000 .000
1640	+Y				.30	.000 1.000 .000
1640	Z			3.00		.000 .000 1.000
1690	+Y				.30	.000 1.000 .000
1690	Z			3.00		.000 .000 1.000
1710	+Y				.30	.000 1.000 .000
1720	+Y				.30	.000 1.000 .000
1720	X			3.00		1.000 .000 .000
1720	Z			3.00	.30	.000 .000 1.000
1740	+Y				.30	.000 1.000 .000

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INPUT LISTING

1750	+Y			.30	.000	1.000	.000
1750	X			3.00	.30	1.000	.000
1760	+Y					.000	1.000
1780	+Y				.30	.000	1.000
1790	+Y				.30	.000	1.000
1790	Z			3.00	.30	.000	.000
1790	X			3.00		1.000	.000
65	+Y	66				.000	1.000
560	ANC	561				.000	.000
590	+Y				.30	.000	1.000
590	Z			3.00	.30	.000	.000
600	+Y				.30	.000	1.000
610	+Y				.30	.000	1.000
610	X			3.00	.30	1.000	.000
610	Z			3.00	.30	.000	.000
615	+Y				.30	.000	1.000
715	+Y				.30	.000	1.000
715	X			3.00	.30	1.000	.000
830	+Y				.30	.000	1.000
830	X			3.00	.30	1.000	.000
830	Z			3.00	.30	.000	.000
855	+Y				.30	.000	1.000
905	+Y	906			.30	.000	1.000
905	Z	906		3.00		.000	.000
950	ANC	951				.000	.000
1320	+Y	1321			.30	.000	1.000
1350	+Y				.30	.000	1.000
1350	Z			3.00		.000	.000
1020	+Y				.30	.000	1.000
1030	+Y				.30	.000	1.000
1030	X			3.00	.30	1.000	.000
1040	+Y				.30	.000	1.000
1050	+Y				.30	.000	1.000
1050	X			3.00	.30	1.000	.000
1060	+Y				.30	.000	1.000
1090	ANC	1091				.000	.000
1120	ANC					.000	.000
1140	+Y				.30	.000	1.000
1140	Z			3.00	.30	.000	.000
1160	ANC	1161				.000	.000
1190	ANC	1191				.000	.000
1220	ANC					.000	.000
1240	+Y				.30	.000	1.000
1240	Z			3.00	.30	.000	.000
1270	ANC	1271				.000	.000
1400	+Y				.30	.000	1.000
1400	Z			3.00	.30	.000	.000
1400	X			3.00		1.000	.000
1410	+Y					.000	1.000
1420	+Y				.30	.000	1.000
1420	X			3.00		1.000	.000
1430	+Y				.30	.000	1.000
1430	X			3.00		1.000	.000
1460	+Y				.30	.000	1.000
1490	+Y				.30	.000	1.000
1490	X			3.00		1.000	.000

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INPUT LISTING

1510	+Y		.30	.000	1.000	.000
1520	+Y		.30	.000	1.000	.000
1520	X	3.00	.30	1.000	.000	.000
1530	+Y		.30	.000	1.000	.000
1530	LIM	3.00		.000	.000	.000
1540	+Y		.30	.000	1.000	.000
1540	X	3.00		1.000	.000	.000
1550	+Y		.30	.000	1.000	.000
1570	+Y		.30	.000	1.000	.000
1570	X	3.00		1.000	.000	.000

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EQUIPMENT LIMITS

1080 1090 Nozzle Node = 1090

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 14,000.70 N. FB= 14,000.70 N.
 FC= 10,500.52 N. MA= 10,500.45 N.m. MB= 7,000.30 N.m.
 MC= 9,100.39 N.m. Equipment Major Direction Vector= .0000 .0000 1.0000
 Interact. Mtd= Absolute

1150 1160 Nozzle Node = 1160

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 14,000.70 N. FB= 14,000.70 N.
 FC= 10,500.52 N. MA= 10,500.45 N.m. MB= 7,000.30 N.m.
 MC= 9,100.39 N.m. Equipment Major Direction Vector= .0000 .0000 1.0000
 Interact. Mtd= Absolute

1180 1190 Nozzle Node = 1190

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 16,800.84 N. FB= 16,800.84 N.
 FC= 12,600.63 N. MA= 15,120.64 N.m. MB= 10,080.43 N.m.
 MC= 13,100.56 N.m. Equipment Major Direction Vector= .0000 .0000 1.0000
 Interact. Mtd= Absolute

1260 1270 Nozzle Node = 1270

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 14,000.70 N. FB= 14,000.70 N.
 FC= 10,500.52 N. MA= 10,500.45 N.m. MB= 7,000.30 N.m.
 MC= 9,100.39 N.m. Equipment Major Direction Vector= .0000 .0000 1.0000
 Interact. Mtd= Absolute

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UNIFORM LOAD Changes

10	20	Vector1 in G-s
		X1 Dir = .26 g's Y1 Dir = .00 g's
		Z1 Dir = .00 g's
		Vector2 in G-s
		X2 Dir = .00 g's Y2 Dir = .12 g's
		Z2 Dir = .00 g's
		Vector3 in G-s
		X3 Dir = .00 g's Y3 Dir = .00 g's

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INPUT LISTING

Z3 Dir = .26 g's

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INPUT UNITS USED...

UNITS= SI (m NOM/SCH INPUT= ON

LENGTH	inches	x	25.400	=	mm.
FORCE	pounds	x	4.448	=	N.
MASS(dynamics)	pounds	x	0.454	=	Kg.
MOMENTS(INPUT)	inch-pounds	x	0.113	=	N.m.
MOMENTS(OUTPUT)	inch-pounds	x	0.113	=	N.m.
STRESS	lbs./sq.in.	x	6.895	=	KPa
TEMP. SCALE	degrees F.	x	0.556	=	C
PRESSURE	psig	x	6.895	=	KPa
ELASTIC MODULUS	lbs./sq.in.	x	6.895	=	KPa
PIPE DENSITY	lbs./cu.in.	x	0.028	=	kg./cu.cm.
INSULATION DENS.	lbs./cu.in.	x	0.028	=	kg./cu.cm.
FLUID DENSITY	lbs./cu.in.	x	0.028	=	kg./cu.cm.
TRANSL. STIF	lbs./in.	x	1.751	=	N./cm.
ROTATIONAL STIF	in.lb./deg.	x	0.113	=	N.m./deg
UNIFORM LOAD	lb./in.	x	1.751	=	N./cm.
G LOAD	g's	x	1.000	=	g's
WIND LOAD	lbs./sq.in.	x	6.895	=	KPa
ELEVATION	inches	x	0.025	=	m.
COMPOUND LENGTH	inches	x	25.400	=	mm.
DIAMETER	inches	x	25.400	=	mm.
WALL THICKNESS	inches	x	25.400	=	mm.

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SETUP FILE PARAMETERS

```

CONNECT GEOMETRY THRU CNODES = YES
MIN ALLOWED BEND ANGLE = 5.00000
MAX ALLOWED BEND ANGLE = 95.0000
BEND LENGTH ATTACHMENT PERCENT = 1.00000
MIN ANGLE TO ADJACENT BEND PT = 5.00000
LOOP CLOSURE TOLERANCE = 25.4000 mm.
THERMAL BOWING HORZ TOLERANCE = 0.100000E-03
AUTO NODE NUMBER INCREMENT= 10.0000
Z AXIS UP= NO
USE PRESSURE STIFFENING = DEFAULT
ALPHA TOLERANCE = 0.500000E-01
RESLD-FORCE = NO
HGR DEF RESWGT STIF = 0.175127E+13 N./cm.
DECOMP SNG TOL = 0.100000E+11
BEND AXIAL SHAPE = YES
FRICT STIF = 0.175127E+07 N./cm.
FRICT NORM FORCE VAR = 0.150000
FRICT ANGLE VAR = 15.0000
FRICT SLIDE MULT = 1.00000
ROD TOLERANCE = 1.00000
ROD INC = 2.00000
INCORE NUMERICAL CHECK = NO
OUTCORE NUMERICAL CHECK = NO
DEFAULT TRANS RESTRAINT STIFF= 0.175127E+13 N./cm.
DEFAULT ROT RESTRAINT STIFF= 0.112985E+12 N.m./deg

```

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INPUT LISTING

```

  IGNORE SPRING HANGER STIFFNESS = NO
  MISSING MASS ZPA = EXTRACTED
  MIN WALL MILL TOLERANCE = 12.5000
  WRC-107 VERSION = MAR 79 1B1/2B1
  WRC-107 INTERPOLATION = LAST VALUE
  DEFAULT AMBIENT TEMPERATURE= 21.1111 C
  BOURDON PRESSURE= NONE
  COEFFICIENT OF FRICTION (MU) = 0.000000
  INCLUDE SPRG STIF IN HGR OPE = NO
  INCLUDE INSULATION IN HYDROTEST = NO
  REDUCED INTERSECTION = B31.1(POST1980)
  USE WRC329 NO
  NO REDUCED SIF FOR RFT AND WLT NO
  B31.1 REDUCED Z FIX = YES
  CLASS 1 BRANCH FLEX NO
  ALL STRESS CASES CORRODED = NO
  ADD TORSION IN SL STRESS = DEFAULT
  ADD F/A IN STRESS = DEFAULT
  OCCASIONAL LOAD FACTOR = 0.000000
  DEFAULT CODE = B31.3
  B31.3 SUS CASE SIF FACTOR = 0.000000
  ALLOW USERS BEND SIF = NO
  USE SCHNEIDER NO
  YIELD CRITERION STRESS = MAX 3D SHEAR
  USE PD/4T NO
  BASE H00P STRESS ON ? = ID
  EN13480 USE IN OUTPLANE SIFS= NO
  LIBERAL EXPANSION ALLOWABLE= YES
  B31.3 SEC 319.2.3C SAXIAL= Default
  B31.3 WELDING/CONTOUR TEE ISB16.9 FALSE
  PRESSURE VARIATION IN EXP CASE= DEFAULT
  IMPLEMENT B313 APP-P NO
  IMPLEMENT B313 CODE CASE 178 YES
  IGNORE B31.1/B31.3 Wc FACTOR= YES
  USE FRP SIF = YES
  USE FRP FLEX = YES
  BS 7159 Pressure Stiffening= Design Strain
  FRP Property Data File= CAESAR.FRP
  FRP Emod (axial) = 0.220632E+08 KPa
  FRP Ratio Gmod/Emod (axial) = 0.250000
  FRP Ea/Eh*Vh/a = 0.152730
  FRP Laminate Type = THREE
  FRP Alpha = 21.6000 C
  FRP Density = 0.166079E-02 kg./cu.cm.
  EXCLUDE f2 FROM UK00A BENDING = NO
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```

EXECUTION CONTROL PARAMETERS

```

  Rigid/ExpJt Print Flag ..... 1.000
  Bourdon Option ..... .000
  Loop Closure Flag ..... 2.000
  Thermal Bowing Delta Temp .. .000 C
  Liberal Allowable Flag ..... 1.000

```

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Uniform Load Option 1.000

 Ambient Temperature 20.997 C
 Plastic (FRP) Alpha 21.600
 Plastic (FRP) GMOD/EMODa 250
 Plastic (FRP) Laminate Type. 3.000
 Eqn Optimizer 000
 Node Selection 000
 Eqn Ordering 000
 Collins 000
 Degree Determination 000
 User Eqn Control 000
 North Direction -X

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COORDINATE REPORT

NODE	/------(mm.)-----/		
	X	Y	Z
10	-15700.080	-7395.683	7324.219
20	-15700.080	-6913.683	7324.219
30	-15700.080	-6808.908	7324.219
40	-15700.080	-6371.908	7324.219
50	-15700.080	-6371.908	7836.219
60	-15700.080	-6371.908	8036.219
70	-15700.080	-6371.908	9891.219
80	-15700.080	-6371.908	9995.994
90	-15700.080	-6371.908	10499.994
100	-15700.080	-6371.908	10604.770
110	-15700.080	-6371.908	12384.770
120	-15700.080	-13505.908	12384.770
130	-15484.080	-13505.908	12384.770
120	-15700.080	-13505.908	12384.770
125	-17600.080	-13505.908	12384.770
140	-18350.080	-13505.908	12384.770
150	-18350.080	-9304.908	12384.770
155	-18350.080	-9304.908	15984.770
160	-18350.080	-9304.908	17329.770
165	-18350.080	-10007.908	17329.770
170	-18350.080	-10210.908	17329.770
190	-18350.080	-10328.383	17329.770
200	-18350.080	-10694.883	17329.770
905	-20127.631	-9304.908	18476.770
200	-18350.080	-10694.883	17329.770
155	-18350.080	-9304.908	15984.770
130	-15484.080	-13505.908	12384.770
210	-15306.080	-13558.309	12384.770
1800	-13000.080	-13558.309	12384.770
215	-10860.080	-13558.309	12384.770
220	-10360.080	-13558.309	12384.770
230	-10217.080	-13558.309	12384.770
240	-10125.005	-13558.309	12384.770
250	-9849.005	-13558.309	12384.770
260	-9756.930	-13558.309	12384.770
265	-9406.930	-13558.309	12384.770
270	-9056.930	-13558.309	12384.770
280	-8916.930	-13598.309	12384.770

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INPUT LISTING

290	-8843.904	-13598.309	12384.770
300	-8428.904	-13598.309	12384.770
310	-8355.879	-13598.309	12384.770
320	-8215.879	-13558.309	12384.770
330	-8012.879	-13558.309	12384.770
340	-7920.804	-13558.309	12384.770
350	-7644.804	-13558.309	12384.770
360	-7552.729	-13558.309	12384.770
365	-7274.729	-13558.309	12384.770
370	-6810.729	-13558.309	12384.770
375	-5802.729	-13558.309	12384.770
380	-4794.729	-13558.309	12384.770
390	-4702.653	-13558.309	12384.770
400	-4610.578	-13558.309	12384.770
405	-2305.578	-13558.309	12384.770
410	-310.578	-13558.309	12384.770
1610	-218.503	-13558.309	12384.770
1620	196.497	-13558.309	12384.770
1630	288.572	-13558.309	12384.770
1640	1700.572	-13558.309	12384.770
1650	2977.572	-13558.309	12384.770
1660	3069.647	-13558.309	12384.770
1670	3584.647	-13558.309	12384.770
1680	3676.722	-13558.309	12384.770
1690	5964.722	-13558.309	12384.770
1700	8839.722	-13558.309	12384.770
1710	8839.722	-13558.309	10954.770
1720	8839.722	-13558.309	6954.770
1730	8839.722	-13558.309	5389.770
1740	9818.722	-13558.309	5389.770
1750	15568.722	-13558.309	5389.770
1760	21568.723	-13558.309	5389.770
1770	23298.723	-13558.309	5389.770
1780	23298.723	-13558.309	3377.770
1790	23298.723	-13558.309	-2622.230
220	-10360.080	-13558.309	12384.770
420	-10360.080	-12193.309	12384.770
430	-6809.080	-12193.309	12384.770
440	-6809.379	-12821.309	12384.770
450	-6809.423	-12910.309	12384.770
460	-6809.704	-13320.309	12384.770
470	-6809.748	-13409.309	12384.770
470	-6810.658	-13409.309	12384.770
370	-6810.729	-13558.309	12384.770
60	-15700.080	-6371.908	8036.219
1820	-16183.080	-6371.908	8036.219
1830	-16183.080	-6371.908	9256.219
65	-19700.080	-6371.908	9256.219
480	-22345.781	-6371.908	9256.219
490	-22450.557	-6371.908	9256.219
500	-22917.307	-6371.908	9256.219
510	-23022.082	-6371.908	9256.219
520	-23200.082	-6371.908	9256.219
525	-23200.082	-6371.908	8278.219
1810	-23200.082	-6344.908	8100.219
530	-23200.082	-6344.908	7323.219

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INPUT LISTING

540	-23200.082	-6928.908	7323.219
550	-23200.082	-7033.683	7323.219
560	-23200.082	-7395.683	7323.219
520	-23200.082	-6371.908	9256.219
570	-23200.082	-6371.908	12338.219
580	-23200.082	-13532.908	12338.219
590	-25300.082	-13532.908	12338.219
600	-31300.082	-13532.908	12338.219
610	-35825.082	-13532.908	12338.219
615	-41802.082	-13532.908	12338.219
620	-42913.082	-13532.908	12338.219
630	-42913.082	-13532.908	11705.219
640	-42913.082	-13532.908	11527.219
650	-42913.082	-13532.908	11422.443
630	-42913.082	-13532.908	11705.219
660	-42913.082	-13135.908	11705.219
670	-43810.082	-13135.908	11705.219
680	-43810.082	-13135.908	10705.219
690	-43810.082	-13135.908	10613.144
650	-42913.082	-13532.908	11422.443
700	-42913.082	-13532.908	10752.443
710	-42913.082	-13532.908	10609.568
715	-42913.082	-13532.908	10309.568
720	-42913.082	-13532.908	10009.568
730	-42913.082	-13558.309	9857.168
740	-42913.082	-13558.309	9730.168
750	-42913.082	-13558.309	9161.168
760	-42913.082	-13558.309	9034.168
770	-42913.082	-13532.908	8881.768
780	-42913.082	-13532.908	8681.768
790	-42913.082	-13532.908	8538.893
800	-42913.082	-13532.908	7868.893
810	-42913.082	-13532.908	7726.018
820	-42913.082	-13532.908	7548.018
830	-42913.082	-13532.908	6959.518
820	-42913.082	-13532.908	7548.018
840	-42913.082	-13135.908	7548.018
850	-43810.082	-13135.908	7548.018
855	-43810.082	-13135.908	9433.018
860	-43810.082	-13135.908	10485.144
860	-43810.082	-13135.908	10486.144
690	-43810.082	-13135.908	10613.144
160	-18350.080	-9304.908	17329.770
1300	-18350.080	-9304.908	18476.770
870	-18881.080	-9304.908	18476.770
880	-18985.855	-9304.908	18476.770
890	-19522.855	-9304.908	18476.770
900	-19627.631	-9304.908	18476.770
905	-20127.631	-9304.908	18476.770
910	-22050.631	-9304.908	18476.770
920	-22050.631	-9304.908	17329.770
930	-22050.631	-10221.908	17329.770
940	-22050.631	-10326.684	17329.770
950	-22050.631	-10692.684	17329.770
910	-22050.631	-9304.908	18476.770
1310	-23652.631	-9304.908	18476.770

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INPUT LISTING

1320	-23652.631	-9304.908	17945.770
960	-23652.631	-9304.908	17294.770
970	-23652.631	-9304.908	17189.994
980	-23652.631	-9304.908	16558.994
990	-23652.631	-9304.908	16454.219
995	-23652.631	-9304.908	15473.219
1350	-28517.631	-9304.908	15473.219
1000	-36902.633	-9304.908	15473.219
1010	-36902.633	-10804.908	15473.219
1020	-36902.633	-10804.908	17124.219
1030	-36902.633	-10804.908	23124.219
1040	-36902.633	-10804.908	29124.219
1050	-36902.633	-10804.908	35124.219
1060	-36902.633	-10804.908	41124.219
1400	-36902.633	-10804.908	47124.219
10	-15700.080	-7395.683	7324.219
1080	-15700.080	-7500.683	7324.219
1090	-15700.080	-7701.683	7324.219
1100	-15700.080	-9801.684	7324.219
1110	-13500.080	-9801.684	7324.219
1120	-13500.080	-11901.684	7324.219
1100	-15700.080	-9801.684	7324.219
1130	-23200.080	-9801.684	7324.219
1170	-24100.080	-9801.684	7324.219
1140	-24100.080	-11901.684	7324.219
560	-23200.082	-7395.683	7323.219
1150	-23200.082	-7500.683	7323.219
1160	-23200.082	-7701.683	7323.219
1160	-23200.082	-7701.683	7324.219
1130	-23200.080	-9801.684	7324.219
1160	-23200.082	-7701.683	7324.219
65	-19700.080	-6371.908	9256.219
200	-18350.080	-10694.883	17329.770
1180	-18350.080	-10812.357	17329.770
1190	-18350.080	-10983.357	17329.770
1210	-18350.080	-11745.357	17329.770
1200	-18550.080	-11745.357	17329.770
1210	-18350.080	-11745.357	17329.770
1200	-18550.080	-11745.357	17329.770
1220	-18550.080	-12507.357	17329.770
1200	-18550.080	-11745.357	17329.770
1230	-22050.080	-11745.357	17329.770
1240	-22050.080	-12507.357	17329.770
950	-22050.631	-10692.684	17329.770
1260	-22050.631	-10797.684	17329.770
1270	-22050.631	-10977.684	17329.770
1270	-22050.131	-10983.357	17329.770
1320	-23652.631	-9304.908	17945.770
1270	-22050.131	-10983.357	17329.770
1230	-22050.080	-11745.357	17329.770
1400	-36902.633	-10804.908	47124.219
1410	-36902.633	-10804.908	53124.219
1420	-36902.633	-10804.908	59124.219
1430	-36902.633	-10804.908	65124.219
1440	-36902.633	-10804.908	66374.219
1450	-42902.633	-10804.908	66374.219

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INPUT LISTING

1460	-42902.633	-10804.908	68274.219
1470	-42902.633	-10804.908	70174.219
1480	-36902.633	-10804.908	70174.219
1490	-36902.633	-10804.908	70974.219
1500	-36902.633	-10804.908	75674.219
1510	-36902.633	-10804.908	76974.219
1520	-36902.633	-10804.908	82974.219
1530	-36902.633	-10804.908	88974.219
1540	-36902.633	-10804.908	94974.219
1550	-36902.633	-10804.908	100974.219
1560	-36902.633	-10804.908	105674.219
1570	-36902.633	-10804.908	106974.219
1580	-36902.633	-10804.908	107474.219
1590	-36902.633	-10804.908	107594.867
1600	-36902.633	-10804.908	107715.516

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

- 1 (HYD) WW+HP
- 2 (OPE) W+T1+P1
- 3 (Alt-SUS) W+P1
- 4 (OPE) W+T2+P1
- 5 (Alt-SUS) W+P1
- 6 (OPE) W+T3+P1
- 7 (Alt-SUS) W+P1
- 8 (SUS) W+P1
- 9 (SUS) WNC
- 10 (OPE) W+T2+P1+U1
- 11 (OPE) W+T2+P1-U1
- 12 (OPE) W+T2+P1+U2
- 13 (OPE) W+T2+P1-U2
- 14 (OPE) W+T2+P1+U3
- 15 (OCC) L15=L10-L4
- 16 (OCC) L16=L11-L4
- 17 (OCC) L17=L12-L4
- 18 (OCC) L18=L13-L4
- 19 (OCC) L19=L14-L4
- 20 (OCC) L20=L15+L8
- 21 (OCC) L21=L16+L8
- 22 (OCC) L22=L17+L8
- 23 (OCC) L23=L18+L8
- 24 (OCC) L24=L19+L8
- 25 (EXP) L25=L2-L8
- 26 (EXP) L26=L4-L8
- 27 (EXP) L27=L2-L4

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

LOAD CASE DEFINITION KEY

CASE 1 (HYD) WW+HP
CASE 2 (OPE) W+T1+P1
CASE 4 (OPE) W+T2+P1
CASE 6 (OPE) W+T3+P1
CASE 8 (SUS) W+P1
CASE 9 (SUS) WNC
CASE 10 (OPE) W+T2+P1+U1
CASE 11 (OPE) W+T2+P1-U1
CASE 12 (OPE) W+T2+P1+U2
CASE 13 (OPE) W+T2+P1-U2
CASE 14 (OPE) W+T2+P1+U3
CASE 15 (OCC) L15=L10-L4
CASE 16 (OCC) L16=L11-L4
CASE 17 (OCC) L17=L12-L4
CASE 18 (OCC) L18=L13-L4
CASE 19 (OCC) L19=L14-L4

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
10		TYPE=Rigid ANC;					
	1(HYD)	374	-6689	-366	1972	506	-772
	2(OPE)	1043	-5275	-1067	274	653	-1137
	4(OPE)	368	-5287	-412	1212	361	-661
	6(OPE)	209	-5322	-190	1582	307	-560
	8(SUS)	235	-5290	-254	1418	327	-546
	9(SUS)	234	-5281	-254	1415	326	-544
	10(OPE)	2992	-5406	-1008	798	2983	-2627
	11(OPE)	-2280	-5179	203	1671	-2443	1201
	12(OPE)	328	-4648	-376	1045	312	-587
	13(OPE)	394	-5921	-442	1382	400	-725
	14(OPE)	-80	-5237	2692	3545	258	-281
	15(OCC)	2624	-119	-596	-414	2622	-1966
	16(OCC)	-2647	108	615	459	-2804	1862
	17(OCC)	-40	639	36	-167	-49	74
	18(OCC)	26	-634	-30	170	39	-64
	19(OCC)	-448	50	3104	2333	-103	380
	MAX	2992/L10	-6689/L1	3104/L19	3545/L14	2983/L10	-2627/L10
65		TYPE=Rigid +Y;					
	1(HYD)	0	-7438	0	0	0	0
	2(OPE)	0	-3372	0	0	0	0
	4(OPE)	0	-4780	0	0	0	0
	6(OPE)	0	-5167	0	0	0	0
	8(SUS)	0	-5062	0	0	0	0
	9(SUS)	0	-5047	0	0	0	0
	10(OPE)	0	-4933	0	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	11(OPE)	0	-4644	0	0	0	0
	12(OPE)	0	-4191	0	0	0	0
	13(OPE)	0	-5391	0	0	0	0
	14(OPE)	0	-5013	0	0	0	0
	15(OCC)	0	-153	0	0	0	0
	16(OCC)	0	136	0	0	0	0
	17(OCC)	0	589	0	0	0	0
	18(OCC)	0	-611	0	0	0	0
	19(OCC)	0	-233	0	0	0	0
	MAX		-7438/L1				
125		TYPE=Rigid Z w/gap; Rigid +Y;					
	1(HYD)	1295	-15162	-130	0	0	0
	2(OPE)	-2859	-9745	-610	0	0	0
	4(OPE)	-2772	-9283	-270	0	0	0
	6(OPE)	2637	-8792	28	0	0	0
	8(SUS)	855	-9018	-76	0	0	0
	9(SUS)	852	-8980	-75	0	0	0
	10(OPE)	259	-8703	-265	0	0	0
	11(OPE)	-2906	-9721	-244	0	0	0
	12(OPE)	-2442	-8186	-261	0	0	0
	13(OPE)	-3101	-10380	-283	0	0	0
	14(OPE)	-2755	-9284	407	0	0	0
	15(OCC)	3031	580	5	0	0	0
	16(OCC)	-134	-438	26	0	0	0
	17(OCC)	330	1097	9	0	0	0
	18(OCC)	-329	-1097	-13	0	0	0
	19(OCC)	17	-1	677	0	0	0
	MAX	-3101/L13	-15162/L1	677/L19			
155		TYPE=Rigid +Y;					
	1(HYD)	400	-2220	533	0	0	0
	2(OPE)	0	0	0	0	0	0
	4(OPE)	0	0	0	0	0	0
	6(OPE)	279	-1671	416	0	0	0
	8(SUS)	235	-898	131	0	0	0
	9(SUS)	233	-890	129	0	0	0
	10(OPE)	0	0	0	0	0	0
	11(OPE)	0	0	0	0	0	0
	12(OPE)	0	0	0	0	0	0
	13(OPE)	0	0	0	0	0	0
	14(OPE)	0	0	0	0	0	0
	15(OCC)	0	0	0	0	0	0
	16(OCC)	0	0	0	0	0	0
	17(OCC)	0	0	0	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	18(OCC)	0	0	0	0	0	0
	19(OCC)	0	0	0	0	0	0
	MAX	400/L1	-2220/L1	533/L1			
200		TYPE=Rigid ANC;					
	1(HYD)	290	-17298	149	3770	-449	5685
	2(OPE)	-719	-12128	1137	8000	2329	3925
	4(OPE)	-67	-12747	362	5447	265	4248
	6(OPE)	215	-13188	-1	2923	-745	4142
	8(SUS)	145	-13032	97	3846	-500	4199
	9(SUS)	144	-13005	97	3847	-500	4190
	10(OPE)	3898	-12930	334	5744	-848	845
	11(OPE)	-4179	-12517	418	5230	2120	7448
	12(OPE)	-82	-11184	345	4884	319	3708
	13(OPE)	-50	-14303	375	5996	212	4769
	14(OPE)	-14	-12895	4435	9227	1151	4466
	15(OCC)	3966	-183	-28	297	-1113	-3403
	16(OCC)	-4112	230	56	-217	1855	3200
	17(OCC)	-15	1563	-17	-563	54	-540
	18(OCC)	17	-1556	13	549	-53	521
	19(OCC)	53	-148	4073	3780	886	217
	MAX	-4179/L11	-17298/L1	4435/L14	9227/L14	2329/L2	7448/L11
215		TYPE=Rigid Z w/gap; Rigid +Y;					
	1(HYD)	0	0	0	0	0	0
	2(OPE)	0	0	0	0	0	0
	4(OPE)	0	0	0	0	0	0
	6(OPE)	0	0	0	0	0	0
	8(SUS)	0	0	0	0	0	0
	9(SUS)	0	0	0	0	0	0
	10(OPE)	0	0	0	0	0	0
	11(OPE)	-81	-271	2	0	0	0
	12(OPE)	0	0	0	0	0	0
	13(OPE)	0	0	0	0	0	0
	14(OPE)	0	0	0	0	0	0
	15(OCC)	0	0	0	0	0	0
	16(OCC)	-81	-271	2	0	0	0
	17(OCC)	0	0	0	0	0	0
	18(OCC)	0	0	0	0	0	0
	19(OCC)	0	0	0	0	0	0
	MAX	-81/L11	-271/L11	2/L11			
265		TYPE=Rigid +Y;					
	1(HYD)	-458	-2387	-19	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	2(OPE)	527	-1759	17	0	0	0
	4(OPE)	613	-2043	-1	0	0	0
	6(OPE)	-641	-2136	-3	0	0	0
	8(SUS)	-318	-2121	-17	0	0	0
	9(SUS)	-317	-2119	-17	0	0	0
	10(OPE)	491	-1636	-4	0	0	0
	11(OPE)	-628	-2094	14	0	0	0
	12(OPE)	536	-1788	-0	0	0	0
	13(OPE)	690	-2299	-2	0	0	0
	14(OPE)	324	-2067	529	0	0	0
	15(OCC)	-122	407	-2	0	0	0
	16(OCC)	-1241	-50	16	0	0	0
	17(OCC)	-76	255	1	0	0	0
	18(OCC)	77	-255	-1	0	0	0
	19(OCC)	-289	-24	530	0	0	0
	MAX	-1241/L16	-2387/L1	530/L19			
365		TYPE=Rigid X w/gap; Rigid Z w/gap; Rigid +Y;					
	1(HYD)	-168	-6703	5	0	0	0
	2(OPE)	1851	-5528	11	0	0	0
	4(OPE)	1632	-5441	-28	0	0	0
	6(OPE)	-1627	-5424	-1	0	0	0
	8(SUS)	-109	-5423	5	0	0	0
	9(SUS)	-109	-5415	5	0	0	0
	10(OPE)	1711	-5705	-18	0	0	0
	11(OPE)	-1583	-5277	10	0	0	0
	12(OPE)	1437	-4791	-26	0	0	0
	13(OPE)	1827	-6091	-29	0	0	0
	14(OPE)	844	-5434	1394	0	0	0
	15(OCC)	79	-264	10	0	0	0
	16(OCC)	-3215	165	38	0	0	0
	17(OCC)	-195	650	2	0	0	0
	18(OCC)	195	-650	-1	0	0	0
	19(OCC)	-788	8	1422	0	0	0
	MAX	-3215/L16	-6703/L1	1422/L19			
405		TYPE=Rigid +Y;					
	1(HYD)	-77	-3314	0	0	0	0
	2(OPE)	769	-2566	36	0	0	0
	4(OPE)	767	-2555	2	0	0	0
	6(OPE)	-764	-2548	7	0	0	0
	8(SUS)	-53	-2550	0	0	0	0
	9(SUS)	-52	-2545	0	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	10(OPE)	785	-2616	7	0	0	0
	11(OPE)	-749	-2501	-49	0	0	0
	12(OPE)	675	-2249	6	0	0	0
	13(OPE)	858	-2861	-3	0	0	0
	14(OPE)	438	-2562	632	0	0	0
	15(OCC)	18	-61	5	0	0	0
	16(OCC)	-1515	54	-51	0	0	0
	17(OCC)	-92	306	4	0	0	0
	18(OCC)	92	-306	-4	0	0	0
	19(OCC)	-329	-7	630	0	0	0
	MAX	-1515/L16	-3314/L1	632/L14			
560		TYPE=Rigid ANC;					
	1(HYD)	461	-7256	393	4594	1321	1444
	2(OPE)	208	-5861	272	2487	1319	1096
	4(OPE)	290	-5688	247	3071	953	992
	6(OPE)	323	-5630	245	3196	886	966
	8(SUS)	318	-5659	247	3194	888	963
	9(SUS)	317	-5649	246	3184	885	960
	10(OPE)	3206	-5537	869	3681	3446	-770
	11(OPE)	-2700	-5828	-392	2453	-1624	2805
	12(OPE)	251	-5005	215	2691	835	873
	13(OPE)	329	-6366	277	3455	1058	1107
	14(OPE)	700	-5606	3223	5295	1006	660
	15(OCC)	2916	151	622	610	2494	-1763
	16(OCC)	-2989	-140	-640	-618	-2576	1813
	17(OCC)	-39	683	-33	-380	-117	-120
	18(OCC)	39	-678	29	384	106	115
	19(OCC)	410	82	2975	2224	54	-332
	MAX	3206/L10	-7256/L1	3223/L14	5295/L14	3446/L10	2805/L11
590		TYPE=Rigid +Y; Rigid Z w/gap;					
	1(HYD)	-369	-13334	-250	0	0	0
	2(OPE)	2836	-9456	70	0	0	0
	4(OPE)	2641	-8808	-84	0	0	0
	6(OPE)	-2589	-8646	-153	0	0	0
	8(SUS)	-243	-8672	-149	0	0	0
	9(SUS)	-242	-8641	-148	0	0	0
	10(OPE)	2641	-8813	-130	0	0	0
	11(OPE)	-1547	-8807	-32	0	0	0
	12(OPE)	2328	-7762	-72	0	0	0
	13(OPE)	2953	-9848	-100	0	0	0
	14(OPE)	1595	-8755	1358	0	0	0
	15(OCC)	-0	-5	-46	0	0	0
	16(OCC)	-4188	1	51	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	17(OCC)	-313	1046	12	0	0	0
	18(OCC)	312	-1040	-16	0	0	0
	19(OCC)	-1046	53	1442	0	0	0
	MAX	-4188/L16	-13334/L1	1442/L19			
600		TYPE=Rigid +Y;					
	1(HYD)	-150	-1490	154	0	0	0
	2(OPE)	358	-1197	-20	0	0	0
	4(OPE)	283	-942	2	0	0	0
	6(OPE)	-251	-880	81	0	0	0
	8(SUS)	-99	-889	95	0	0	0
	9(SUS)	-99	-885	95	0	0	0
	10(OPE)	238	-808	46	0	0	0
	11(OPE)	-315	-1052	-12	0	0	0
	12(OPE)	248	-827	9	0	0	0
	13(OPE)	314	-1048	8	0	0	0
	14(OPE)	-79	-924	266	0	0	0
	15(OCC)	-45	134	45	0	0	0
	16(OCC)	-598	-109	-14	0	0	0
	17(OCC)	-35	115	7	0	0	0
	18(OCC)	32	-106	6	0	0	0
	19(OCC)	-362	18	264	0	0	0
	MAX	-598/L16	-1490/L1	266/L14			
610		TYPE=Rigid +Y; Rigid X w/gap; Rigid Z w/gap;					
	1(HYD)	-71	-5103	-50	0	0	0
	2(OPE)	-700	-3040	584	0	0	0
	4(OPE)	-929	-3164	194	0	0	0
	6(OPE)	966	-3219	-19	0	0	0
	8(SUS)	-49	-3209	-30	0	0	0
	9(SUS)	-49	-3196	-30	0	0	0
	10(OPE)	965	-3224	57	0	0	0
	11(OPE)	-937	-3139	98	0	0	0
	12(OPE)	-812	-2784	194	0	0	0
	13(OPE)	-1044	-3546	204	0	0	0
	14(OPE)	-433	-3175	1038	0	0	0
	15(OCC)	1894	-60	-138	0	0	0
	16(OCC)	-8	25	-97	0	0	0
	17(OCC)	116	379	-1	0	0	0
	18(OCC)	-115	-383	9	0	0	0
	19(OCC)	496	-11	843	0	0	0
	MAX	1894/L15	-5103/L1	1038/L14			

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
615		TYPE=Rigid +Y;					
	1(HYD)	-22	-4823	29	0	0	0
	2(OPE)	-922	-3369	414	0	0	0
	4(OPE)	-909	-3382	450	0	0	0
	6(OPE)	894	-3192	-343	0	0	0
	8(SUS)	-19	-3272	16	0	0	0
	9(SUS)	-19	-3261	16	0	0	0
	10(OPE)	-519	-3303	844	0	0	0
	11(OPE)	-953	-3254	213	0	0	0
	12(OPE)	-822	-2986	357	0	0	0
	13(OPE)	-1022	-3787	496	0	0	0
	14(OPE)	-596	-3339	805	0	0	0
	15(OCC)	390	78	394	0	0	0
	16(OCC)	-44	127	-237	0	0	0
	17(OCC)	87	396	-94	0	0	0
	18(OCC)	-113	-406	46	0	0	0
	19(OCC)	313	43	355	0	0	0
	MAX	-1022/L13	-4823/L1	844/L10			
		TYPE=Rigid +Y; Rigid X w/gap;					
715	1(HYD)	160	-9847	-197	0	0	0
	2(OPE)	-2803	-9384	265	0	0	0
	4(OPE)	-2633	-9044	655	0	0	0
	6(OPE)	931	-9030	-1632	0	0	0
	8(SUS)	134	-9018	-181	0	0	0
	9(SUS)	134	-9013	-180	0	0	0
	10(OPE)	2729	-9139	261	0	0	0
	11(OPE)	-2720	-9098	229	0	0	0
	12(OPE)	-2331	-7957	514	0	0	0
	13(OPE)	-2941	-10121	755	0	0	0
	14(OPE)	-1145	-9045	2460	0	0	0
	15(OCC)	5362	-95	-395	0	0	0
	16(OCC)	-87	-54	-426	0	0	0
	17(OCC)	302	1087	-141	0	0	0
	18(OCC)	-308	-1077	99	0	0	0
	19(OCC)	1488	-1	1805	0	0	0
	MAX	5362/L15	-10121/L13	2460/L14			
		TYPE=Rigid +Y; Rigid X w/gap; Rigid Z w/gap;					
830	1(HYD)	211	-4277	-121	0	0	0
	2(OPE)	707	-3742	-872	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	4(OPE)	903	-3727	-660	0	0	0
	6(OPE)	-142	-3746	1115	0	0	0
	8(SUS)	173	-3759	-116	0	0	0
	9(SUS)	172	-3756	-116	0	0	0
	10(OPE)	996	-3672	-471	0	0	0
	11(OPE)	-1005	-3673	-452	0	0	0
	12(OPE)	810	-3305	-572	0	0	0
	13(OPE)	1016	-4176	-733	0	0	0
	14(OPE)	444	-3711	1021	0	0	0
	15(OCC)	93	55	188	0	0	0
	16(OCC)	-1908	54	208	0	0	0
	17(OCC)	-93	423	88	0	0	0
	18(OCC)	113	-448	-73	0	0	0
	19(OCC)	-458	17	1680	0	0	0
	MAX	-1908/L16	-4277/L1	1680/L19			
855		TYPE=Rigid +Y;					
	1(HYD)	-415	-3197	296	0	0	0
	2(OPE)	-554	-2216	-368	0	0	0
	4(OPE)	-514	-2512	-551	0	0	0
	6(OPE)	-36	-2666	799	0	0	0
	8(SUS)	-327	-2591	285	0	0	0
	9(SUS)	-327	-2588	285	0	0	0
	10(OPE)	415	-2530	-636	0	0	0
	11(OPE)	-783	-2637	-112	0	0	0
	12(OPE)	-539	-2178	-370	0	0	0
	13(OPE)	-581	-2820	-615	0	0	0
	14(OPE)	-319	-2566	701	0	0	0
	15(OCC)	929	-18	-85	0	0	0
	16(OCC)	-269	-125	438	0	0	0
	17(OCC)	-24	334	181	0	0	0
	18(OCC)	-67	-308	-64	0	0	0
	19(OCC)	196	-54	1252	0	0	0
	MAX	929/L15	-3197/L1	1252/L19			
905		TYPE=Rigid +Y; Rigid Z w/gap;					
	1(HYD)	193	-665	-52	0	0	0
	2(OPE)	43	-248	-61	0	0	0
	4(OPE)	48	-247	-56	0	0	0
	6(OPE)	30	-100	4	0	0	0
	8(SUS)	38	-156	-27	0	0	0
	9(SUS)	37	-153	-26	0	0	0
	10(OPE)	115	-461	-77	0	0	0
	11(OPE)	0	0	0	0	0	0
	12(OPE)	41	-210	-48	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	13(OPE)	54	-275	-62	0	0	0
	14(OPE)	64	-372	-91	0	0	0
	15(OCC)	67	-215	-21	0	0	0
	16(OCC)	-48	247	56	0	0	0
	17(OCC)	-7	36	8	0	0	0
	18(OCC)	6	-28	-6	0	0	0
	19(OCC)	16	-125	-35	0	0	0
	MAX	193/L1	-665/L1	-91/L14			
950		TYPE=Rigid ANC;					
	1(HYD)	-924	-9666	410	289	-546	229
	2(OPE)	1464	-7109	2309	2096	1069	-2152
	4(OPE)	278	-7275	1066	893	115	-871
	6(OPE)	-465	-7593	-14	-151	-311	-82
	8(SUS)	-652	-7447	274	101	-374	154
	9(SUS)	-651	-7434	272	99	-373	154
	10(OPE)	3466	-7260	1171	959	774	-3392
	11(OPE)	-2024	-7579	-78	-377	-452	654
	12(OPE)	204	-6386	998	838	61	-736
	13(OPE)	211	-8146	1174	993	91	-862
	14(OPE)	335	-6960	3477	2726	439	-875
	15(OCC)	3188	15	106	66	659	-2521
	16(OCC)	-2302	-305	-1144	-1270	-567	1525
	17(OCC)	-74	889	-68	-55	-54	136
	18(OCC)	-66	-871	108	100	-24	9
	19(OCC)	57	315	2411	1833	324	-3
	MAX	3466/L10	-9666/L1	3477/L14	2726/L14	1069/L2	-3392/L10
1020		TYPE=Rigid +Y;					
	1(HYD)	-875	-10954	120	0	0	0
	2(OPE)	-761	-6228	-1706	0	0	0
	4(OPE)	-628	-5976	-1679	0	0	0
	6(OPE)	-163	-5831	1742	0	0	0
	8(SUS)	-394	-5881	68	0	0	0
	9(SUS)	-391	-5851	67	0	0	0
	10(OPE)	407	-5980	-1747	0	0	0
	11(OPE)	-1288	-5965	-1242	0	0	0
	12(OPE)	-562	-5275	-1479	0	0	0
	13(OPE)	-677	-6677	-1885	0	0	0
	14(OPE)	-728	-5921	-1620	0	0	0
	15(OCC)	1035	-4	-68	0	0	0
	16(OCC)	-660	11	437	0	0	0
	17(OCC)	66	701	200	0	0	0
	18(OCC)	-49	-701	-206	0	0	0
	19(OCC)	-100	54	59	0	0	0
	MAX	-1288/L11	-10954/L1	-1885/L13			

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
1030		TYPE=Rigid +Y; Rigid X w/gap;					
	1(HYD)	137	-4971	54	0	0	0
	2(OPE)	-970	-2859	-1083	0	0	0
	4(OPE)	-143	-2744	-811	0	0	0
	6(OPE)	-4	-2716	815	0	0	0
	8(SUS)	46	-2709	30	0	0	0
	9(SUS)	46	-2696	30	0	0	0
	10(OPE)	629	-2704	-579	0	0	0
	11(OPE)	-1026	-2713	-683	0	0	0
	12(OPE)	-134	-2411	-711	0	0	0
	13(OPE)	-150	-3078	-911	0	0	0
	14(OPE)	-144	-2892	-856	0	0	0
	15(OCC)	772	41	232	0	0	0
	16(OCC)	-883	31	128	0	0	0
	17(OCC)	9	333	100	0	0	0
	18(OCC)	-7	-334	-100	0	0	0
	19(OCC)	-1	-147	-45	0	0	0
	MAX	-1026/L11	-4971/L1	-1083/L2			
1040		TYPE=Rigid +Y;					
	1(HYD)	-35	-6947	24	0	0	0
	2(OPE)	15	-3744	-1123	0	0	0
	4(OPE)	-8	-3774	-1132	0	0	0
	6(OPE)	5	-3782	1135	0	0	0
	8(SUS)	-12	-3784	14	0	0	0
	9(SUS)	-12	-3765	14	0	0	0
	10(OPE)	1013	-3785	-513	0	0	0
	11(OPE)	-902	-3783	-689	0	0	0
	12(OPE)	-14	-3322	-997	0	0	0
	13(OPE)	-4	-4226	-1268	0	0	0
	14(OPE)	47	-3735	-1120	0	0	0
	15(OCC)	1021	-11	620	0	0	0
	16(OCC)	-894	-8	443	0	0	0
	17(OCC)	-7	452	136	0	0	0
	18(OCC)	4	-452	-136	0	0	0
	19(OCC)	55	39	13	0	0	0
	MAX	1021/L15	-6947/L1	-1268/L13			
1050		TYPE=Rigid +Y; Rigid X w/gap;					
	1(HYD)	9	-6423	11	0	0	0
	2(OPE)	78	-3509	-1050	0	0	0
	4(OPE)	34	-3501	-1050	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	6(OPE)	42	-3499	1049	0	0	0
	8(SUS)	3	-3499	6	0	0	0
	9(SUS)	3	-3481	6	0	0	0
	10(OPE)	1058	-3498	-240	0	0	0
	11(OPE)	-1005	-3499	-303	0	0	0
	12(OPE)	32	-3081	-924	0	0	0
	13(OPE)	35	-3922	-1176	0	0	0
	14(OPE)	6	-3512	1053	0	0	0
	15(OCC)	1024	3	810	0	0	0
	16(OCC)	-1039	2	747	0	0	0
	17(OCC)	-2	420	126	0	0	0
	18(OCC)	1	-420	-126	0	0	0
	19(OCC)	-28	-10	2103	0	0	0
	MAX	1058/L10	-6423/L1	2103/L19			
1060		TYPE=Rigid +Y;					
	1(HYD)	-2	-6565	5	0	0	0
	2(OPE)	3	-3573	-1072	0	0	0
	4(OPE)	-20	-3576	1072	0	0	0
	6(OPE)	-1	-3576	-1073	0	0	0
	8(SUS)	-1	-3576	3	0	0	0
	9(SUS)	-1	-3559	3	0	0	0
	10(OPE)	1056	-3576	189	0	0	0
	11(OPE)	-1029	-3576	305	0	0	0
	12(OPE)	-20	-3147	944	0	0	0
	13(OPE)	-19	-4005	1201	0	0	0
	14(OPE)	-18	-3573	1072	0	0	0
	15(OCC)	1076	-1	-884	0	0	0
	16(OCC)	-1008	-1	-767	0	0	0
	17(OCC)	0	429	-129	0	0	0
	18(OCC)	1	-429	129	0	0	0
	19(OCC)	3	3	-1	0	0	0
	MAX	1076/L15	-6565/L1	1201/L13			
1090		TYPE=Rigid ANC;					
	1(HYD)	374	-7064	-366	1860	506	-887
	2(OPE)	1043	-5558	-1067	-52	653	-1456
	4(OPE)	368	-5570	-412	1086	361	-774
	6(OPE)	209	-5605	-190	1524	307	-624
	8(SUS)	235	-5573	-254	1341	327	-618
	9(SUS)	234	-5564	-254	1337	326	-616
	10(OPE)	3066	-5689	-1008	490	2983	-3557
	11(OPE)	-2353	-5462	203	1733	-2443	1913
	12(OPE)	328	-4897	-376	930	312	-688
	13(OPE)	394	-6238	-442	1247	400	-845
	14(OPE)	-80	-5520	2766	4383	258	-257

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	15(OCC)	2698	-119	-596	-596	2622	-2783
	16(OCC)	-2721	108	615	647	-2804	2687
	17(OCC)	-40	673	36	-156	-49	86
	18(OCC)	26	-668	-30	161	39	-72
	19(OCC)	-448	50	3178	3298	-103	517
	MAX	3066/L10	-7064/L1	3178/L19	4383/L14	2983/L10	-3557/L10
1120		TYPE=Rigid ANC;					
	1(HYD)	916	-10488	65	21058	5236	9080
	2(OPE)	3865	-6768	-795	5695	2268	-1005
	4(OPE)	3246	-7310	-164	12777	2812	1649
	6(OPE)	-2070	-8428	58	15009	3177	12200
	8(SUS)	612	-7879	22	14359	3368	6989
	9(SUS)	610	-7862	22	14315	3356	6976
	10(OPE)	8532	-9107	-140	13386	12630	-10193
	11(OPE)	-2027	-5486	-187	12244	-7395	13430
	12(OPE)	2856	-6422	-161	11107	2407	1435
	13(OPE)	3622	-8201	-165	14506	3175	1913
	14(OPE)	3257	-7407	6059	45842	39289	2361
	15(OCC)	5286	-1797	24	609	9819	-11842
	16(OCC)	-5273	1824	-22	-533	-10206	11781
	17(OCC)	-391	888	3	-1670	-405	-214
	18(OCC)	376	-891	-1	1729	363	264
	19(OCC)	11	-97	6223	33065	36477	712
	MAX	8532/L10	-10488/L1	6223/L19	45842/L14	39289/L14	13430/L11
1140		TYPE=Rigid +Y; Rigid Z w/gap;					
	1(HYD)	-81	-11720	-38	0	0	0
	2(OPE)	-2496	-8321	-0	0	0	0
	4(OPE)	-2708	-9025	-0	0	0	0
	6(OPE)	2481	-8271	-3	0	0	0
	8(SUS)	-58	-8713	-30	0	0	0
	9(SUS)	-58	-8693	-30	0	0	0
	10(OPE)	-2205	-7349	1	0	0	0
	11(OPE)	-3224	-10745	-3	0	0	0
	12(OPE)	-2380	-7933	-0	0	0	0
	13(OPE)	-3038	-10127	-1	0	0	0
	14(OPE)	-2709	-9029	7	0	0	0
	15(OCC)	503	1676	2	0	0	0
	16(OCC)	-516	-1720	-3	0	0	0
	17(OCC)	328	1092	0	0	0	0
	18(OCC)	-330	-1101	-0	0	0	0
	19(OCC)	-1	-4	7	0	0	0
	MAX	-3224/L11	-11720/L1	-38/L1			

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Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
1160		TYPE=Rigid ANC;					
	1(HYD)	461	-7705	393	4714	1321	1303
	2(OPE)	208	-6159	272	2570	1319	1032
	4(OPE)	290	-5985	247	3147	953	903
	6(OPE)	323	-5927	245	3271	886	867
	8(SUS)	318	-5957	247	3269	888	866
	9(SUS)	317	-5945	246	3260	885	863
	10(OPE)	3283	-5834	869	3947	3446	-1766
	11(OPE)	-2777	-6125	-392	2333	-1624	3646
	12(OPE)	251	-5267	215	2757	835	796
	13(OPE)	329	-6699	277	3540	1058	1006
	14(OPE)	700	-5903	3300	6296	1006	446
	15(OCC)	2993	151	622	800	2494	-2670
	16(OCC)	-3067	-140	-640	-814	-2576	2742
	17(OCC)	-39	719	-33	-390	-117	-108
	18(OCC)	39	-714	29	393	106	103
	19(OCC)	410	82	3053	3149	54	-457
	MAX	3283/L10	-7705/L1	3300/L14	6296/L14	3446/L10	3646/L11
1190		TYPE=Rigid ANC;					
	1(HYD)	290	-17996	149	3813	-449	5602
	2(OPE)	-719	-12623	1137	8328	2329	4132
	4(OPE)	-67	-13242	362	5552	265	4267
	6(OPE)	215	-13683	-1	2923	-745	4080
	8(SUS)	145	-13527	97	3874	-500	4157
	9(SUS)	144	-13499	97	3875	-500	4148
	10(OPE)	4027	-13425	334	5840	-848	-304
	11(OPE)	-4307	-13012	418	5351	2120	8678
	12(OPE)	-82	-11619	345	4983	319	3732
	13(OPE)	-50	-14857	375	6105	212	4784
	14(OPE)	-14	-13390	4563	10531	1151	4470
	15(OCC)	4094	-183	-28	289	-1113	-4571
	16(OCC)	-4240	230	56	-201	1855	4411
	17(OCC)	-15	1623	-17	-568	54	-536
	18(OCC)	17	-1615	13	553	-53	516
	19(OCC)	53	-148	4201	4979	886	202
	MAX	-4307/L11	-17996/L1	4563/L14	10531/L14	2329/L2	8678/L11
1220		TYPE=Rigid ANC;					
	1(HYD)	320	-15895	487	7787	614	801
	2(OPE)	6020	-11866	3661	19577	13192	-2467
	4(OPE)	4929	-11895	1361	10877	4360	-2173
	6(OPE)	-3005	-12831	45	4839	-586	2624
	8(SUS)	258	-12199	297	6320	143	602
	9(SUS)	258	-12176	296	6311	140	600

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Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	10(OPE)	11009	-14965	1247	10612	3210	-11278
	11(OPE)	-2357	-7928	614	8445	2161	7622
	12(OPE)	4509	-10415	1235	9736	3879	-2023
	13(OPE)	5496	-13355	1489	12021	4823	-2433
	14(OPE)	5448	-11980	8671	30769	16693	-2426
	15(OCC)	6080	-3070	-114	-265	-1150	-9104
	16(OCC)	-7286	3967	-748	-2432	-2199	9796
	17(OCC)	-420	1480	-127	-1141	-481	151
	18(OCC)	567	-1460	128	1144	463	-259
	19(OCC)	518	-85	7310	19892	12333	-252
	MAX	11009/L10	-15895/L1	8671/L14	30769/L14	16693/L14	-11278/L10
1240		TYPE=Rigid +Y; Rigid Z w/gap;					
	1(HYD)	42	-17176	-25	0	0	0
	2(OPE)	-3704	-12346	3	0	0	0
	4(OPE)	-3742	-12473	4	0	0	0
	6(OPE)	3583	-11943	-13	0	0	0
	8(SUS)	26	-12387	-22	0	0	0
	9(SUS)	26	-12358	-22	0	0	0
	10(OPE)	-2799	-9331	2	0	0	0
	11(OPE)	-4928	-16428	-0	0	0	0
	12(OPE)	-3306	-11019	3	0	0	0
	13(OPE)	-4185	-13951	5	0	0	0
	14(OPE)	-3748	-12495	19	0	0	0
	15(OCC)	943	3142	-1	0	0	0
	16(OCC)	-1186	-3954	-4	0	0	0
	17(OCC)	436	1454	-1	0	0	0
	18(OCC)	-443	-1477	1	0	0	0
	19(OCC)	-6	-21	15	0	0	0
	MAX	-4928/L11	-17176/L1	-25/L1			
1270		TYPE=Rigid ANC;					
	1(HYD)	-924	-10160	410	406	-546	492
	2(OPE)	1464	-7464	2309	2754	1069	-2569
	4(OPE)	278	-7629	1066	1197	115	-951
	6(OPE)	-465	-7948	-14	-155	-311	50
	8(SUS)	-652	-7802	274	179	-374	340
	9(SUS)	-651	-7788	272	177	-373	339
	10(OPE)	3558	-7614	1171	1293	774	-4397
	11(OPE)	-2117	-7934	-78	-400	-452	1248
	12(OPE)	204	-6698	998	1122	61	-794
	13(OPE)	211	-8543	1174	1327	91	-922
	14(OPE)	335	-7314	3569	3734	439	-970
	15(OCC)	3280	15	106	96	659	-3447
	16(OCC)	-2394	-305	-1144	-1596	-567	2198

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Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	17(OCC)	-74	931	-68	-74	-54	157
	18(OCC)	-66	-914	108	130	-24	28
	19(OCC)	57	315	2503	2538	324	-19
	MAX	3558/L10	-10160/L1	3569/L14	3734/L14	1069/L2	-4397/L10
1320		TYPE=Rigid +Y;					
	1(HYD)	995	-4916	-98	0	0	0
	2(OPE)	1221	-4125	198	0	0	0
	4(OPE)	1048	-3498	-62	0	0	0
	6(OPE)	375	-3142	49	0	0	0
	8(SUS)	792	-3257	-95	0	0	0
	9(SUS)	791	-3247	-95	0	0	0
	10(OPE)	941	-3258	-262	0	0	0
	11(OPE)	-978	-3411	302	0	0	0
	12(OPE)	930	-3117	-97	0	0	0
	13(OPE)	1171	-3906	-51	0	0	0
	14(OPE)	1027	-3770	474	0	0	0
	15(OCC)	-106	240	-200	0	0	0
	16(OCC)	-2025	87	364	0	0	0
	17(OCC)	-117	381	-35	0	0	0
	18(OCC)	123	-408	11	0	0	0
	19(OCC)	-21	-273	536	0	0	0
	MAX	-2025/L16	-4916/L1	536/L19			
1350		TYPE=Rigid Z w/gap; Rigid +Y;					
	1(HYD)	525	-11196	-485	0	0	0
	2(OPE)	-1239	-5300	-4142	0	0	0
	4(OPE)	-781	-6106	-1657	0	0	0
	6(OPE)	217	-6456	-110	0	0	0
	8(SUS)	182	-6388	-277	0	0	0
	9(SUS)	180	-6359	-276	0	0	0
	10(OPE)	1296	-6174	-1323	0	0	0
	11(OPE)	-1751	-6170	-600	0	0	0
	12(OPE)	-669	-5343	-1457	0	0	0
	13(OPE)	-903	-6866	-1851	0	0	0
	14(OPE)	-719	-5961	17	0	0	0
	15(OCC)	2077	-68	333	0	0	0
	16(OCC)	-970	-65	1057	0	0	0
	17(OCC)	113	763	200	0	0	0
	18(OCC)	-122	-760	-194	0	0	0
	19(OCC)	62	145	1673	0	0	0
	MAX	2077/L15	-11196/L1	-4142/L2			
1400		TYPE=Rigid +Y; Rigid Z					

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
		w/gap; Rigid X w/gap;					
	1(HYD)	0	-6513	3	0	0	0
	2(OPE)	105	-3549	3806	0	0	0
	4(OPE)	3	-3548	1064	0	0	0
	6(OPE)	6	-3548	-1064	0	0	0
	8(SUS)	0	-3548	1	0	0	0
	9(SUS)	0	-3530	1	0	0	0
	10(OPE)	1347	-3548	492	0	0	0
	11(OPE)	-1426	-3548	523	0	0	0
	12(OPE)	16	-3122	937	0	0	0
	13(OPE)	-5	-3974	1192	0	0	0
	14(OPE)	33	-3549	8580	0	0	0
	15(OCC)	1345	0	-572	0	0	0
	16(OCC)	-1429	0	-542	0	0	0
	17(OCC)	13	426	-128	0	0	0
	18(OCC)	-8	-426	128	0	0	0
	19(OCC)	30	-1	7516	0	0	0
	MAX	-1429/L16	-6513/L1	8580/L14			
1410		TYPE=Rigid +Y;					
	1(HYD)	0	-6584	0	0	0	0
	2(OPE)	0	-3582	0	0	0	0
	4(OPE)	0	-3585	0	0	0	0
	6(OPE)	0	-3587	0	0	0	0
	8(SUS)	0	-3586	0	0	0	0
	9(SUS)	0	-3568	0	0	0	0
	10(OPE)	0	-3585	0	0	0	0
	11(OPE)	0	-3586	0	0	0	0
	12(OPE)	0	-3155	0	0	0	0
	13(OPE)	0	-4015	0	0	0	0
	14(OPE)	0	-3585	0	0	0	0
	15(OCC)	0	-0	0	0	0	0
	16(OCC)	0	-0	0	0	0	0
	17(OCC)	0	430	0	0	0	0
	18(OCC)	0	-430	0	0	0	0
	19(OCC)	0	1	0	0	0	0
	MAX		-6584/L1				
1420		TYPE=Rigid +Y; Rigid X w/gap;					
	1(HYD)	-0	-6349	1	0	0	0
	2(OPE)	741	-3473	1012	0	0	0
	4(OPE)	271	-3463	1003	0	0	0
	6(OPE)	-3	-3457	-1037	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	8(SUS)	-0	-3459	0	0	0	0
	9(SUS)	-0	-3442	0	0	0	0
	10(OPE)	1924	-3462	816	0	0	0
	11(OPE)	-1386	-3461	826	0	0	0
	12(OPE)	268	-3048	874	0	0	0
	13(OPE)	279	-3878	1129	0	0	0
	14(OPE)	134	-3464	1031	0	0	0
	15(OCC)	1653	1	-187	0	0	0
	16(OCC)	-1657	2	-177	0	0	0
	17(OCC)	-2	415	-129	0	0	0
	18(OCC)	8	-415	126	0	0	0
	19(OCC)	-136	-1	28	0	0	0
	MAX	1924/L10	-6349/L1	1129/L13			
1430		TYPE=Rigid +Y; Rigid X w/gap;					
	1(HYD)	0	-7859	0	0	0	0
	2(OPE)	245	-4240	1252	0	0	0
	4(OPE)	440	-4270	1203	0	0	0
	6(OPE)	-288	-4286	-1253	0	0	0
	8(SUS)	0	-4280	0	0	0	0
	9(SUS)	0	-4259	0	0	0	0
	10(OPE)	661	-4273	1098	0	0	0
	11(OPE)	-911	-4274	1103	0	0	0
	12(OPE)	393	-3756	1056	0	0	0
	13(OPE)	485	-4783	1351	0	0	0
	14(OPE)	139	-4266	1272	0	0	0
	15(OCC)	221	-3	-105	0	0	0
	16(OCC)	-1351	-4	-100	0	0	0
	17(OCC)	-47	514	-147	0	0	0
	18(OCC)	45	-514	147	0	0	0
	19(OCC)	-301	4	69	0	0	0
	MAX	-1351/L16	-7859/L1	1351/L13			
1460		TYPE=Rigid +Y;					
	1(HYD)	-0	-10289	-0	0	0	0
	2(OPE)	-1656	-5636	342	0	0	0
	4(OPE)	-1381	-5613	129	0	0	0
	6(OPE)	571	-5601	-18	0	0	0
	8(SUS)	-0	-5605	-0	0	0	0
	9(SUS)	-0	-5578	-0	0	0	0
	10(OPE)	1663	-5611	260	0	0	0
	11(OPE)	-1670	-5610	210	0	0	0
	12(OPE)	-1476	-4941	134	0	0	0
	13(OPE)	-1485	-6286	136	0	0	0
	14(OPE)	-654	-5616	1553	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	15(OCC)	3044	2	130	0	0	0
	16(OCC)	-289	3	80	0	0	0
	17(OCC)	-95	673	4	0	0	0
	18(OCC)	-104	-673	6	0	0	0
	19(OCC)	727	-3	1423	0	0	0
	MAX	3044/L15	-10289/L1	1553/L14			
1490		TYPE=Rigid +Y; Rigid X w/gap;					
	1(HYD)	0	-7016	0	0	0	0
	2(OPE)	137	-3827	-1140	0	0	0
	4(OPE)	396	-3823	-1076	0	0	0
	6(OPE)	-290	-3821	1109	0	0	0
	8(SUS)	0	-3822	0	0	0	0
	9(SUS)	0	-3803	0	0	0	0
	10(OPE)	751	-3823	-866	0	0	0
	11(OPE)	-1202	-3823	-797	0	0	0
	12(OPE)	354	-3365	-945	0	0	0
	13(OPE)	440	-4282	-1207	0	0	0
	14(OPE)	124	-3824	-1140	0	0	0
	15(OCC)	355	0	210	0	0	0
	16(OCC)	-1598	1	279	0	0	0
	17(OCC)	-42	459	131	0	0	0
	18(OCC)	44	-459	-130	0	0	0
	19(OCC)	-272	-0	-64	0	0	0
	MAX	-1598/L16	-7016/L1	-1207/L13			
1510		TYPE=Rigid +Y;					
	1(HYD)	-0	-6836	0	0	0	0
	2(OPE)	353	-3715	-1057	0	0	0
	4(OPE)	260	-3721	-1086	0	0	0
	6(OPE)	-23	-3725	1117	0	0	0
	8(SUS)	-0	-3723	0	0	0	0
	9(SUS)	-0	-3705	0	0	0	0
	10(OPE)	974	-3722	-545	0	0	0
	11(OPE)	-855	-3722	-719	0	0	0
	12(OPE)	248	-3274	-951	0	0	0
	13(OPE)	270	-4168	-1221	0	0	0
	14(OPE)	247	-3720	1089	0	0	0
	15(OCC)	715	-1	541	0	0	0
	16(OCC)	-1114	-1	367	0	0	0
	17(OCC)	-12	447	135	0	0	0
	18(OCC)	11	-447	-135	0	0	0
	19(OCC)	-13	1	2174	0	0	0
	MAX	-1114/L16	-6836/L1	2174/L19			

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RESTRAINT SUMMARY REPORT: Loads On Restraints
Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
1520		TYPE=Rigid +Y; Rigid X w/gap;					
	1(HYD)	0	-6441	0	0	0	0
	2(OPE)	299	-3512	-1010	0	0	0
	4(OPE)	7	-3510	-1053	0	0	0
	6(OPE)	13	-3509	1053	0	0	0
	8(SUS)	0	-3510	0	0	0	0
	9(SUS)	0	-3492	0	0	0	0
	10(OPE)	1008	-3510	-303	0	0	0
	11(OPE)	-989	-3510	-361	0	0	0
	12(OPE)	17	-3089	-927	0	0	0
	13(OPE)	-3	-3932	-1179	0	0	0
	14(OPE)	0	-3511	1053	0	0	0
	15(OCC)	1002	0	750	0	0	0
	16(OCC)	-996	0	692	0	0	0
	17(OCC)	10	421	126	0	0	0
	18(OCC)	-10	-421	-126	0	0	0
	19(OCC)	-7	-0	2106	0	0	0
	MAX	1008/L10	-6441/L1	2106/L19			
1530		TYPE=Rigid +Y; Rigid LIM w/gap;					
	1(HYD)	-0	-6602	0	0	0	0
	2(OPE)	-53	-3592	1897	0	0	0
	4(OPE)	-39	-3592	1077	0	0	0
	6(OPE)	-2	-3593	-253	0	0	0
	8(SUS)	-0	-3592	0	0	0	0
	9(SUS)	-0	-3575	0	0	0	0
	10(OPE)	1063	-3592	177	0	0	0
	11(OPE)	-1044	-3592	269	0	0	0
	12(OPE)	-40	-3161	948	0	0	0
	13(OPE)	-38	-4023	1206	0	0	0
	14(OPE)	-7	-3592	2907	0	0	0
	15(OCC)	1102	-0	-900	0	0	0
	16(OCC)	-1005	-0	-808	0	0	0
	17(OCC)	-1	431	-129	0	0	0
	18(OCC)	1	-431	129	0	0	0
	19(OCC)	32	0	1830	0	0	0
	MAX	1102/L15	-6602/L1	2907/L14			
1540		TYPE=Rigid +Y; Rigid X w/gap;					
	1(HYD)	0	-6348	0	0	0	0
	2(OPE)	-22	-3472	1041	0	0	0
	4(OPE)	3	-3471	1041	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	6(OPE)	0	-3471	-1041	0	0	0
	8(SUS)	0	-3471	0	0	0	0
	9(SUS)	0	-3454	0	0	0	0
	10(OPE)	889	-3471	543	0	0	0
	11(OPE)	-872	-3471	569	0	0	0
	12(OPE)	2	-3055	916	0	0	0
	13(OPE)	4	-3888	1166	0	0	0
	14(OPE)	-2	-3471	1041	0	0	0
	15(OCC)	886	0	-499	0	0	0
	16(OCC)	-876	0	-472	0	0	0
	17(OCC)	-1	417	-125	0	0	0
	18(OCC)	1	-417	125	0	0	0
	19(OCC)	-5	-0	0	0	0	0
	MAX	889/L10	-6348/L1	1166/L13			
1550		TYPE=Rigid +Y;					
	1(HYD)	-0	-7214	0	0	0	0
	2(OPE)	-6	-3878	1164	0	0	0
	4(OPE)	1	-3878	1164	0	0	0
	6(OPE)	-0	-3878	-1164	0	0	0
	8(SUS)	-0	-3878	0	0	0	0
	9(SUS)	-0	-3859	0	0	0	0
	10(OPE)	879	-3878	763	0	0	0
	11(OPE)	-862	-3878	782	0	0	0
	12(OPE)	1	-3413	1024	0	0	0
	13(OPE)	1	-4344	1303	0	0	0
	14(OPE)	0	-3878	1164	0	0	0
	15(OCC)	878	-0	-401	0	0	0
	16(OCC)	-862	-0	-381	0	0	0
	17(OCC)	0	465	-140	0	0	0
	18(OCC)	-0	-465	140	0	0	0
	19(OCC)	-1	0	-0	0	0	0
	MAX	879/L10	-7214/L1	1303/L13			
1570		TYPE=Rigid +Y; Rigid X w/gap;					
	1(HYD)	0	-4213	0	0	0	0
	2(OPE)	1	-2643	793	0	0	0
	4(OPE)	-0	-2643	793	0	0	0
	6(OPE)	0	-2643	-793	0	0	0
	8(SUS)	0	-2643	0	0	0	0
	9(SUS)	0	-2633	0	0	0	0
	10(OPE)	801	-2643	616	0	0	0
	11(OPE)	-787	-2643	625	0	0	0
	12(OPE)	-0	-2326	698	0	0	0
	13(OPE)	-0	-2960	888	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	14(OPE)	0	-2643	793	0	0	0
	15(OCC)	801	0	-177	0	0	0
	16(OCC)	-787	0	-167	0	0	0
	17(OCC)	0	317	-95	0	0	0
	18(OCC)	-0	-317	95	0	0	0
	19(OCC)	0	-0	0	0	0	0
	MAX	801/L15	-4213/L1	888/L13			
1640		TYPE=Rigid Z w/gap; Rigid +Y;					
	1(HYD)	-41	-3051	-0	0	0	0
	2(OPE)	717	-2412	102	0	0	0
	4(OPE)	717	-2419	110	0	0	0
	6(OPE)	-726	-2420	-3	0	0	0
	8(SUS)	-28	-2420	-0	0	0	0
	9(SUS)	-28	-2415	-0	0	0	0
	10(OPE)	717	-2401	67	0	0	0
	11(OPE)	-70	-2435	105	0	0	0
	12(OPE)	630	-2128	105	0	0	0
	13(OPE)	805	-2709	113	0	0	0
	14(OPE)	480	-2384	643	0	0	0
	15(OCC)	-0	18	-43	0	0	0
	16(OCC)	-787	-16	-5	0	0	0
	17(OCC)	-87	290	-5	0	0	0
	18(OCC)	87	-290	4	0	0	0
	19(OCC)	-237	34	534	0	0	0
	MAX	805/L13	-3051/L1	643/L14			
1690		TYPE=Rigid Z w/gap; Rigid +Y;					
	1(HYD)	-26	-2412	-0	0	0	0
	2(OPE)	506	-1731	907	0	0	0
	4(OPE)	488	-1724	171	0	0	0
	6(OPE)	-502	-1724	-126	0	0	0
	8(SUS)	-18	-1724	-0	0	0	0
	9(SUS)	-17	-1719	-0	0	0	0
	10(OPE)	508	-1728	104	0	0	0
	11(OPE)	440	-1720	269	0	0	0
	12(OPE)	429	-1517	153	0	0	0
	13(OPE)	548	-1930	188	0	0	0
	14(OPE)	409	-1794	717	0	0	0
	15(OCC)	19	-4	-66	0	0	0
	16(OCC)	-48	3	99	0	0	0
	17(OCC)	-60	207	-18	0	0	0
	18(OCC)	60	-207	18	0	0	0
	19(OCC)	-79	-71	547	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	MAX	548/L13	-2412/L1	907/L2			
1710		TYPE=Rigid +Y;					
	1(HYD)	-0	-2765	0	0	0	0
	2(OPE)	594	-1991	59	0	0	0
	4(OPE)	581	-1990	137	0	0	0
	6(OPE)	-557	-1990	-216	0	0	0
	8(SUS)	-0	-1990	0	0	0	0
	9(SUS)	-0	-1985	0	0	0	0
	10(OPE)	591	-1988	80	0	0	0
	11(OPE)	595	-1991	-53	0	0	0
	12(OPE)	511	-1751	120	0	0	0
	13(OPE)	651	-2228	153	0	0	0
	14(OPE)	476	-2011	371	0	0	0
	15(OCC)	10	1	-57	0	0	0
	16(OCC)	14	-1	-190	0	0	0
	17(OCC)	-70	239	-17	0	0	0
	18(OCC)	70	-239	17	0	0	0
	19(OCC)	-105	-21	234	0	0	0
	MAX	651/L13	-2765/L1	371/L14			
1720		TYPE=Rigid Z w/gap; Rigid +Y; Rigid X w/gap;					
	1(HYD)	0	-1348	0	0	0	0
	2(OPE)	-149	-958	-246	0	0	0
	4(OPE)	-277	-968	-87	0	0	0
	6(OPE)	269	-967	109	0	0	0
	8(SUS)	0	-967	0	0	0	0
	9(SUS)	0	-964	0	0	0	0
	10(OPE)	290	-968	-20	0	0	0
	11(OPE)	-791	-967	-72	0	0	0
	12(OPE)	-244	-852	-76	0	0	0
	13(OPE)	-310	-1084	-99	0	0	0
	14(OPE)	2	-863	259	0	0	0
	15(OCC)	567	-1	68	0	0	0
	16(OCC)	-515	1	16	0	0	0
	17(OCC)	33	116	11	0	0	0
	18(OCC)	-33	-116	-12	0	0	0
	19(OCC)	279	105	346	0	0	0
	MAX	-791/L11	-1348/L1	346/L19			
1740		TYPE=Rigid +Y;					
	1(HYD)	-0	-2363	0	0	0	0

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Job:: BNK-GCS-CN-009-D02

Licensed To:: SPLM: Edit company name in <system>\company.txt

RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	2(OPE)	-373	-1702	-349	0	0	0
	4(OPE)	-443	-1698	-252	0	0	0
	6(OPE)	475	-1698	185	0	0	0
	8(SUS)	-0	-1699	0	0	0	0
	9(SUS)	-0	-1694	0	0	0	0
	10(OPE)	488	-1698	-146	0	0	0
	11(OPE)	-483	-1698	-162	0	0	0
	12(OPE)	-389	-1494	-223	0	0	0
	13(OPE)	-496	-1902	-282	0	0	0
	14(OPE)	-180	-1741	491	0	0	0
	15(OCC)	930	0	106	0	0	0
	16(OCC)	-40	-0	90	0	0	0
	17(OCC)	53	204	30	0	0	0
	18(OCC)	-53	-204	-30	0	0	0
	19(OCC)	263	-43	743	0	0	0
	MAX	930/L15	-2363/L1	743/L19			
1750		TYPE=Rigid X w/gap; Rigid +Y;					
	1(HYD)	-0	-3941	-0	0	0	0
	2(OPE)	760	-2831	-379	0	0	0
	4(OPE)	238	-2831	7	0	0	0
	6(OPE)	-603	-2831	-24	0	0	0
	8(SUS)	-0	-2831	-0	0	0	0
	9(SUS)	-0	-2824	-0	0	0	0
	10(OPE)	1135	-2831	-30	0	0	0
	11(OPE)	-842	-2831	-111	0	0	0
	12(OPE)	239	-2491	-5	0	0	0
	13(OPE)	262	-3171	18	0	0	0
	14(OPE)	153	-2828	835	0	0	0
	15(OCC)	897	-0	-37	0	0	0
	16(OCC)	-1081	0	-118	0	0	0
	17(OCC)	0	340	-12	0	0	0
	18(OCC)	23	-340	10	0	0	0
	19(OCC)	-85	3	827	0	0	0
	MAX	1135/L10	-3941/L1	835/L14			
1760		TYPE=Rigid +Y;					
	1(HYD)	0	-2317	0	0	0	0
	2(OPE)	0	-1665	0	0	0	0
	4(OPE)	0	-1665	0	0	0	0
	6(OPE)	0	-1665	0	0	0	0
	8(SUS)	0	-1665	0	0	0	0
	9(SUS)	0	-1660	0	0	0	0
	10(OPE)	0	-1665	0	0	0	0
	11(OPE)	0	-1665	0	0	0	0

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Job:: BNK-GCS-CN-009-D02

Licensed To:: SPLM: Edit company name in <system>\company.txt

RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	12(OPE)	0	-1465	0	0	0	0
	13(OPE)	0	-1864	0	0	0	0
	14(OPE)	0	-1666	0	0	0	0
	15(OCC)	0	0	0	0	0	0
	16(OCC)	0	-0	0	0	0	0
	17(OCC)	0	200	0	0	0	0
	18(OCC)	0	-200	0	0	0	0
	19(OCC)	0	-1	0	0	0	0
	MAX		-2317/L1				
1780		TYPE=Rigid +Y;					
	1(HYD)	-0	-3268	0	0	0	0
	2(OPE)	662	-2348	241	0	0	0
	4(OPE)	661	-2348	243	0	0	0
	6(OPE)	-114	-2348	-324	0	0	0
	8(SUS)	-0	-2348	0	0	0	0
	9(SUS)	-0	-2342	0	0	0	0
	10(OPE)	702	-2348	62	0	0	0
	11(OPE)	-692	-2348	129	0	0	0
	12(OPE)	575	-2066	231	0	0	0
	13(OPE)	733	-2630	291	0	0	0
	14(OPE)	207	-2347	673	0	0	0
	15(OCC)	41	-0	-182	0	0	0
	16(OCC)	-1353	0	-114	0	0	0
	17(OCC)	-86	282	-13	0	0	0
	18(OCC)	72	-282	48	0	0	0
	19(OCC)	-454	1	430	0	0	0
	MAX	-1353/L16	-3268/L1	673/L14			
1790		TYPE=Rigid X w/gap; Rigid +Y; Rigid Z w/gap;					
	1(HYD)	0	-1498	0	0	0	0
	2(OPE)	-41	-1076	-325	0	0	0
	4(OPE)	-92	-1076	-309	0	0	0
	6(OPE)	17	-1076	322	0	0	0
	8(SUS)	0	-1076	0	0	0	0
	9(SUS)	0	-1073	0	0	0	0
	10(OPE)	311	-1076	-88	0	0	0
	11(OPE)	-295	-1076	-131	0	0	0
	12(OPE)	-73	-947	-274	0	0	0
	13(OPE)	-99	-1205	-348	0	0	0
	14(OPE)	-41	-1076	567	0	0	0
	15(OCC)	402	0	221	0	0	0
	16(OCC)	-203	-0	178	0	0	0

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Job:: BNK-GCS-CN-009-D02

Licensed To:: SPLM: Edit company name in <system>\company.txt

RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	17(OCC)	19	129	35	0	0	0
	18(OCC)	-7	-129	-38	0	0	0
	19(OCC)	50	-0	877	0	0	0
	MAX	402/L15	-1498/L1	877/L19			
1800		TYPE=Rigid +Y;					
	1(HYD)	-823	-7053	59	0	0	0
	2(OPE)	-1792	-5973	2	0	0	0
	4(OPE)	-1560	-5204	65	0	0	0
	6(OPE)	1383	-4875	10	0	0	0
	8(SUS)	-562	-4951	53	0	0	0
	9(SUS)	-561	-4937	53	0	0	0
	10(OPE)	1764	-5882	32	0	0	0
	11(OPE)	-1397	-4658	32	0	0	0
	12(OPE)	-1381	-4607	52	0	0	0
	13(OPE)	-1739	-5802	72	0	0	0
	14(OPE)	-701	-5128	1369	0	0	0
	15(OCC)	3324	-678	-32	0	0	0
	16(OCC)	163	547	-33	0	0	0
	17(OCC)	179	598	-13	0	0	0
	18(OCC)	-179	-597	8	0	0	0
	19(OCC)	859	77	1305	0	0	0
	MAX	3324/L15	-7053/L1	1369/L14			

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Licensed To:: SPLM: Edit company name in <system>\company.txt

LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

- 1 (HYD) WW+HP
- 2 (OPE) W+T1+P1
- 3 (Alt-SUS) W+P1
- 4 (OPE) W+T2+P1
- 5 (Alt-SUS) W+P1
- 6 (OPE) W+T3+P1
- 7 (Alt-SUS) W+P1
- 8 (SUS) W+P1
- 9 (SUS) WNC
- 10 (OPE) W+T2+P1+U1
- 11 (OPE) W+T2+P1-U1
- 12 (OPE) W+T2+P1+U2
- 13 (OPE) W+T2+P1-U2
- 14 (OPE) W+T2+P1+U3
- 15 (OCC) L15=L10-L4
- 16 (OCC) L16=L11-L4
- 17 (OCC) L17=L12-L4
- 18 (OCC) L18=L13-L4
- 19 (OCC) L19=L14-L4
- 20 (OCC) L20=L15+L8
- 21 (OCC) L21=L16+L8
- 22 (OCC) L22=L17+L8
- 23 (OCC) L23=L18+L8
- 24 (OCC) L24=L19+L8
- 25 (EXP) L25=L2-L8
- 26 (EXP) L26=L4-L8
- 27 (EXP) L27=L2-L4

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement Various Load Cases

LOAD CASE DEFINITION KEY

CASE 1 (HYD) WW+HP
 CASE 3 (Alt-SUS) W+P1
 CASE 5 (Alt-SUS) W+P1
 CASE 7 (Alt-SUS) W+P1
 CASE 8 (SUS) W+P1
 CASE 9 (SUS) WNC
 CASE 20 (OCC) L20=L15+L8
 CASE 21 (OCC) L21=L16+L8
 CASE 22 (OCC) L22=L17+L8
 CASE 23 (OCC) L23=L18+L8
 CASE 24 (OCC) L24=L19+L8
 CASE 25 (EXP) L25=L2-L8
 CASE 26 (EXP) L26=L4-L8
 CASE 27 (EXP) L27=L2-L4

Piping Code: B31.3 = B31.3 -2016, Jan 31, 2017

CODE STRESS CHECK PASSED : LOADCASE 1 (HYD) WW+HP

Highest Stresses: (KPa)	LOADCASE 1 (HYD) WW+HP	
Ratio (%):	17.0	@Node 590
Code Stress:	40947.9	Allowable Stress: 241316.5
Axial Stress:	10859.4	@Node 130
Bending Stress:	34816.2	@Node 590
Torsion Stress:	5280.1	@Node 1309
Hoop Stress:	22229.3	@Node 130
Max Stress Intensity:	41087.4	@Node 590

CODE STRESS CHECK PASSED : LOADCASE 3 (Alt-SUS) W+P1

Highest Stresses: (KPa)	LOADCASE 3 (Alt-SUS) W+P1	
Ratio (%):	44.3	@Node 590
Code Stress:	61021.2	Allowable Stress: 137895.1
Axial Stress:	21486.2	@Node 130
Bending Stress:	50384.3	@Node 590
Torsion Stress:	9679.4	@Node 1309
Hoop Stress:	43653.9	@Node 130
Max Stress Intensity:	63158.1	@Node 530

CODE STRESS CHECK PASSED : LOADCASE 5 (Alt-SUS) W+P1

Highest Stresses: (KPa)	LOADCASE 5 (Alt-SUS) W+P1	
Ratio (%):	44.1	@Node 590
Code Stress:	60825.8	Allowable Stress: 137895.1
Axial Stress:	21478.1	@Node 130
Bending Stress:	50186.8	@Node 590
Torsion Stress:	9692.5	@Node 1309
Hoop Stress:	43653.9	@Node 130

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
 Various Load Cases

Max Stress Intensity: 63258.1 @Node 530

CODE STRESS CHECK PASSED : LOADCASE 7 (Alt-SUS) W+P1

Highest Stresses: (KPa) LOADCASE 7 (Alt-SUS) W+P1
 Ratio (%): 44.1 @Node 590
 Code Stress: 60776.8 Allowable Stress: 137895.1
 Axial Stress: 21529.5 @Node 130
 Bending Stress: 50137.3 @Node 590
 Torsion Stress: 9672.1 @Node 1309
 Hoop Stress: 43653.9 @Node 130
 Max Stress Intensity: 63284.3 @Node 530

CODE STRESS CHECK PASSED : LOADCASE 8 (SUS) W+P1

Highest Stresses: (KPa) LOADCASE 8 (SUS) W+P1
 Ratio (%): 44.1 @Node 590
 Code Stress: 60820.4 Allowable Stress: 137895.1
 Axial Stress: 21738.9 @Node 130
 Bending Stress: 50124.9 @Node 590
 Torsion Stress: 9699.8 @Node 1309
 Hoop Stress: 43653.9 @Node 130
 Max Stress Intensity: 63291.6 @Node 530

CODE STRESS CHECK PASSED : LOADCASE 9 (SUS) WNC

Highest Stresses: (KPa) LOADCASE 9 (SUS) WNC
 Ratio (%): 36.3 @Node 590
 Code Stress: 50096.2 Allowable Stress: 137895.1
 Axial Stress: 3118.2 @Node 1190
 Bending Stress: 49948.7 @Node 590
 Torsion Stress: 9674.3 @Node 1309
 Hoop Stress: 0.0 @Node 20
 Max Stress Intensity: 50096.2 @Node 590

CODE STRESS CHECK PASSED : LOADCASE 20 (OCC) L20=L15+L8

Highest Stresses: (KPa) LOADCASE 20 (OCC) L20=L15+L8
 Ratio (%): 35.2 @Node 590
 Code Stress: 64621.5 Allowable Stress: 183400.5
 Axial Stress: 22141.3 @Node 130
 Bending Stress: 54402.6 @Node 1310
 Torsion Stress: 9876.6 @Node 1309
 Hoop Stress: 43653.9 @Node 130
 Max Stress Intensity: 77125.8 @Node 530

CODE STRESS CHECK PASSED : LOADCASE 21 (OCC) L21=L16+L8

Highest Stresses: (KPa) LOADCASE 21 (OCC) L21=L16+L8
 Ratio (%): 38.3 @Node 1310
 Code Stress: 70302.7 Allowable Stress: 183400.5
 Axial Stress: 22143.0 @Node 130

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
 Various Load Cases

Bending Stress:	68067.9	@Node	1310
Torsion Stress:	9826.2	@Node	1309
Hoop Stress:	43653.9	@Node	130
Max Stress Intensity:	87428.5	@Node	1310

CODE STRESS CHECK PASSED : LOADCASE 22 (OCC) L22=L17+L8

Highest Stresses: (KPa)	LOADCASE 22 (OCC) L22=L17+L8	
Ratio (%):	36.4	@Node 590
Code Stress:	66781.2	Allowable Stress: 183400.5
Axial Stress:	21870.1	@Node 130
Bending Stress:	55981.0	@Node 590
Torsion Stress:	8547.1	@Node 1309
Hoop Stress:	43653.9	@Node 130
Max Stress Intensity:	68685.0	@Node 530

CODE STRESS CHECK PASSED : LOADCASE 23 (OCC) L23=L18+L8

Highest Stresses: (KPa)	LOADCASE 23 (OCC) L23=L18+L8	
Ratio (%):	36.5	@Node 590
Code Stress:	66991.8	Allowable Stress: 183400.5
Axial Stress:	21622.2	@Node 130
Bending Stress:	56168.2	@Node 590
Torsion Stress:	10834.5	@Node 1309
Hoop Stress:	43653.9	@Node 130
Max Stress Intensity:	68726.6	@Node 530

CODE STRESS CHECK PASSED : LOADCASE 24 (OCC) L24=L19+L8

Highest Stresses: (KPa)	LOADCASE 24 (OCC) L24=L19+L8	
Ratio (%):	38.2	@Node 590
Code Stress:	69977.0	Allowable Stress: 183400.5
Axial Stress:	21872.3	@Node 130
Bending Stress:	58847.5	@Node 590
Torsion Stress:	9403.7	@Node 1308
Hoop Stress:	43653.9	@Node 130
Max Stress Intensity:	70771.2	@Node 530

CODE STRESS CHECK PASSED : LOADCASE 25 (EXP) L25=L2-L8

Highest Stresses: (KPa)	LOADCASE 25 (EXP) L25=L2-L8	
Ratio (%):	9.2	@Node 1449
Code Stress:	29817.3	Allowable Stress: 324611.3
Axial Stress:	2530.4	@Node 280
Bending Stress:	29546.4	@Node 1449
Torsion Stress:	5258.7	@Node 1000
Hoop Stress:	0.0	@Node 20
Max Stress Intensity:	79115.3	@Node 1449

CODE STRESS CHECK PASSED : LOADCASE 26 (EXP) L26=L4-L8

Highest Stresses: (KPa)	LOADCASE 26 (EXP) L26=L4-L8

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement

Various Load Cases

Ratio (%):	3.3	@Node	1439	
Code Stress:	10642.9	Allowable Stress:		324558.1
Axial Stress:	2072.4	@Node	280	
Bending Stress:	10511.6	@Node	1439	
Torsion Stress:	1340.4	@Node	658	
Hoop Stress:	0.0	@Node	20	
Max Stress Intensity:	28243.1	@Node	1439	

CODE STRESS CHECK PASSED : LOADCASE 27 (EXP) L27=L2-L4

Highest Stresses: (KPa)	LOADCASE 27 (EXP) L27=L2-L4			
Ratio (%):	6.4	@Node	1450	
Code Stress:	20869.7	Allowable Stress:		324257.8
Axial Stress:	487.6	@Node	1400	
Bending Stress:	20703.6	@Node	1450	
Torsion Stress:	4103.2	@Node	1000	
Hoop Stress:	0.0	@Node	20	
Max Stress Intensity:	55371.4	@Node	1450	

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

- 1 (HYD) WW+HP
- 2 (OPE) W+T1+P1
- 3 (Alt-SUS) W+P1
- 4 (OPE) W+T2+P1
- 5 (Alt-SUS) W+P1
- 6 (OPE) W+T3+P1
- 7 (Alt-SUS) W+P1
- 8 (SUS) W+P1
- 9 (SUS) WNC
- 10 (OPE) W+T2+P1+U1
- 11 (OPE) W+T2+P1-U1
- 12 (OPE) W+T2+P1+U2
- 13 (OPE) W+T2+P1-U2
- 14 (OPE) W+T2+P1+U3
- 15 (OCC) L15=L10-L4
- 16 (OCC) L16=L11-L4
- 17 (OCC) L17=L12-L4
- 18 (OCC) L18=L13-L4
- 19 (OCC) L19=L14-L4
- 20 (OCC) L20=L15+L8
- 21 (OCC) L21=L16+L8
- 22 (OCC) L22=L17+L8
- 23 (OCC) L23=L18+L8
- 24 (OCC) L24=L19+L8
- 25 (EXP) L25=L2-L8
- 26 (EXP) L26=L4-L8
- 27 (EXP) L27=L2-L4

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Job:: BNK-GCS-CN-009-D02

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NOZZLE CHECK REPORT: Nozzle Loads Screening

Various Load Cases

LOAD CASE DEFINITION KEY

CASE 2 (OPE) W+T1+P1

CASE 4 (OPE) W+T2+P1

CASE 6 (OPE) W+T3+P1

CASE 8 (SUS) W+P1

CASE 9 (SUS) WNC

Node		fa N.	fb N.	fc N.	Forces Check	ma N.m.	mb N.m.	mc N.m.	Moments Check	
1090		Absolute Method								
	Limits	14001	14001	10501		10500	7000	9100		
	2(OPE)	5558	-1067	-1043	0.397	-653	-1456	52	0.208	
	4(OPE)	5570	-412	-368	0.398	-361	-774	-1086	0.119	
	6(OPE)	5605	-190	-209	0.400	-307	-624	-1524	0.168	
	8(SUS)	5573	-254	-235	0.398	-327	-618	-1341	0.147	
	9(SUS)	5564	-254	-234	0.397	-326	-616	-1337	0.147	
1160		Absolute Method								
	Limits	14001	14001	10501		10500	7000	9100		
	2(OPE)	6159	272	-208	0.440	-1319	1032	-2570	0.282	
	4(OPE)	5985	247	-290	0.428	-953	903	-3147	0.346	
	6(OPE)	5927	245	-323	0.423	-886	867	-3271	0.359	
	8(SUS)	5957	247	-318	0.425	-888	866	-3269	0.359	
	9(SUS)	5945	246	-317	0.425	-885	863	-3260	0.358	
1190		Absolute Method								
	Limits	16801	16801	12601		15121	10080	13101		
	2(OPE)	12623	1137	719	0.751	-2329	4132	-8328	0.636	
	4(OPE)	13242	362	67	0.788	-265	4267	-5552	0.424	
	6(OPE)	13683	-1	-215	0.814	745	4080	-2923	0.405	

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NOZZLE CHECK REPORT: Nozzle Loads Screening

Various Load Cases

Node		fa N.	fb N.	fc N.	Forces Check	ma N.m.	mb N.m.	mc N.m.	Moments Check	
	8(SUS)	13527	97	-145	0.805	500	4157	-3874	0.412	
	9(SUS)	13499	97	-144	0.803	500	4148	-3875	0.412	
1270		Absolute Method								
	Limits	14001	14001	10501		10500	7000	9100		
	2(OPE)	7464	2309	-1464	0.533	-1069	-2569	-2754	0.367	
	4(OPE)	7629	1066	-278	0.545	-115	-951	-1197	0.136	
	6(OPE)	7948	-14	465	0.568	311	50	155	0.030	
	8(SUS)	7802	274	652	0.557	374	340	-179	0.049	
	9(SUS)	7788	272	651	0.556	373	339	-177	0.048	

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Line no.

Stress sketch

Input echo

Restraint summary

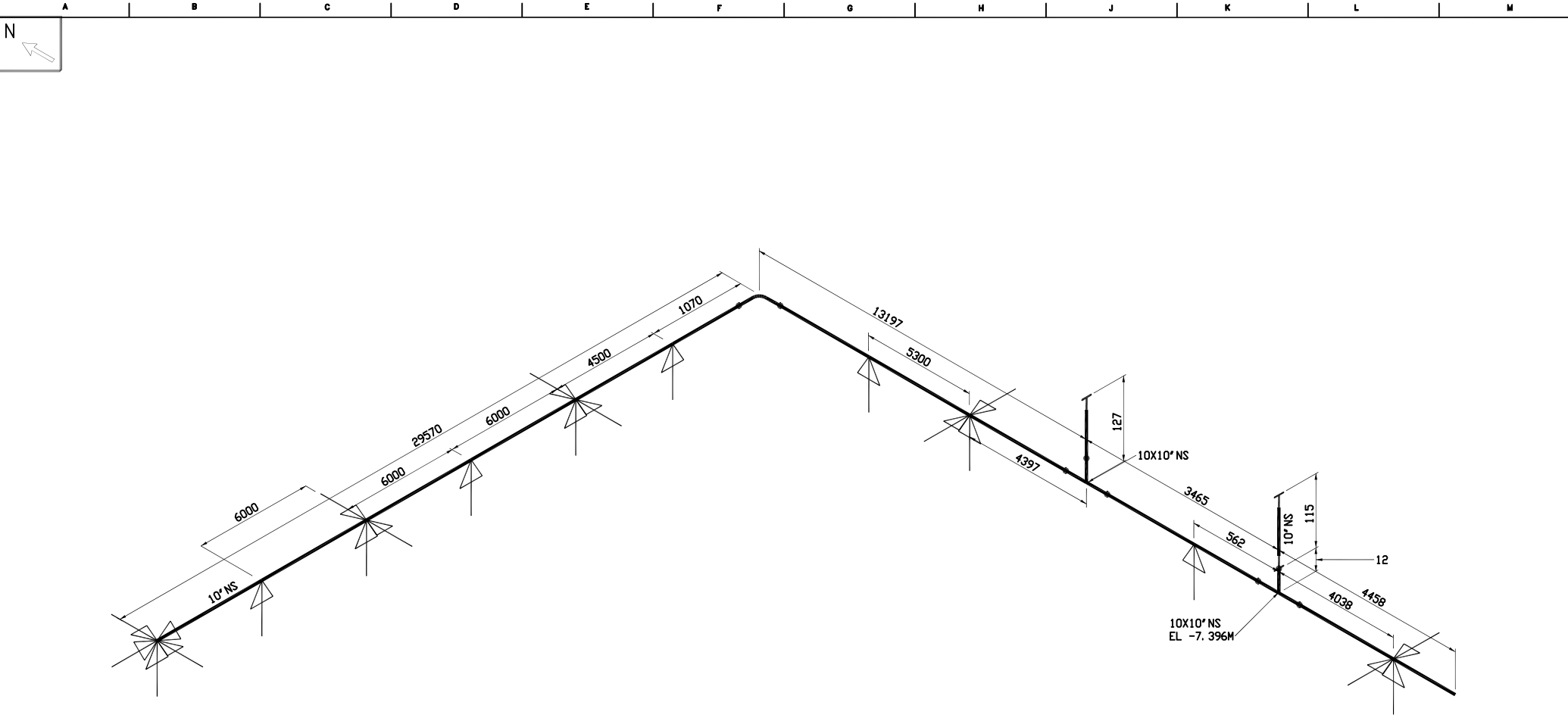
Stress summary

Nozzle load Table

BNK-GCS-CN-010

LINE Nos.

1. FL-112-0011-AN07-8"-PT
2. FL-112-0009-AN07-8"-PT
3. GAS-111-0021-AN07-6"-PT
4. GAS-111-0022-AN07-6"-PT
5. FL-112-0010-AN07-2"-PT



CHECK ISOMETRIC ONLY – DO NOT ISSUE

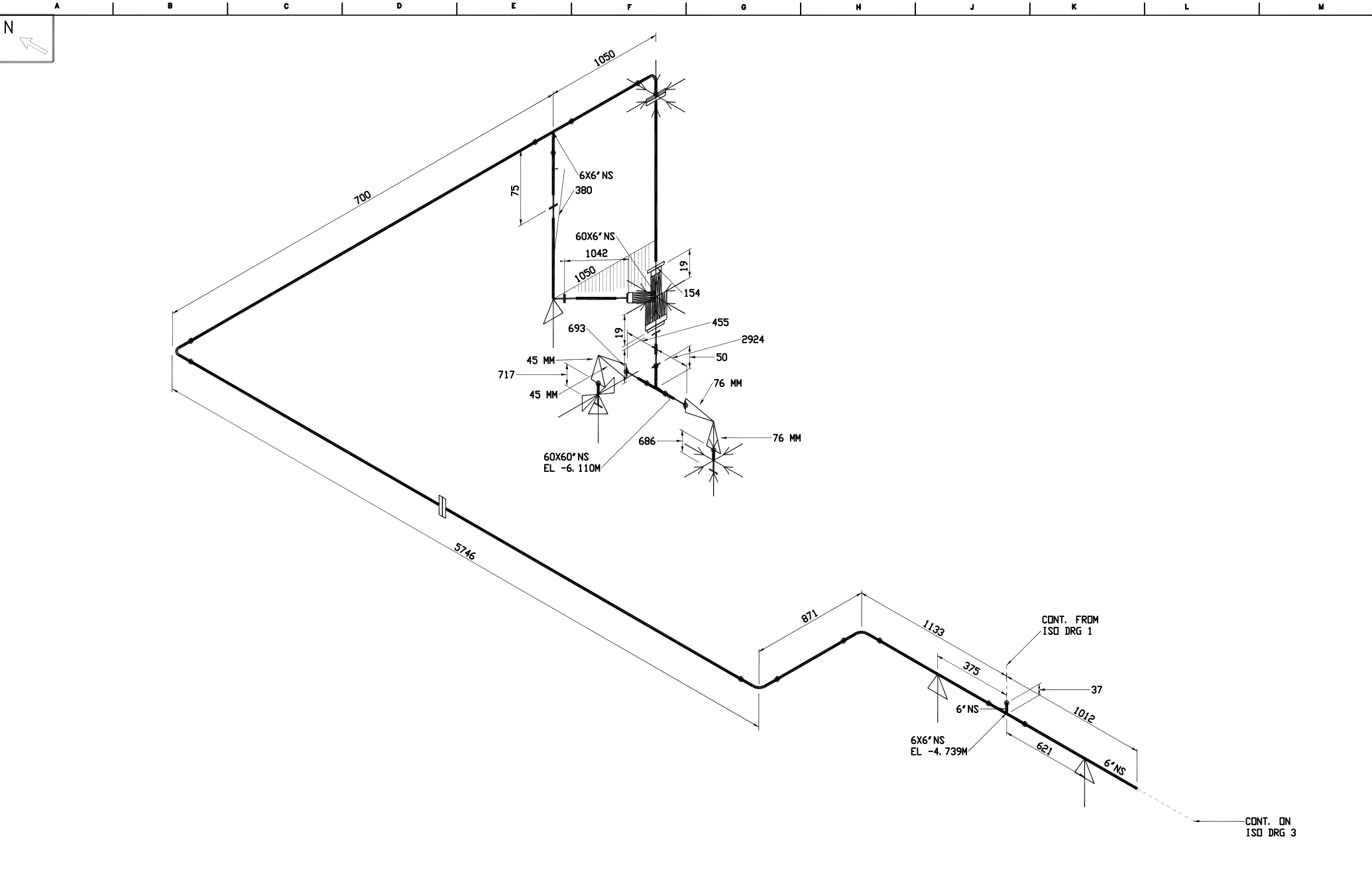
REV.	CHANGE	28 FEB 2024	THIS DRAWING IS THE PROPERTY OF INTERGRAPH LTD AND MUST NOT BE COPIED OR LENT WITHOUT THE CONSENT OF THE COMPANY
		DATE	

PIPING SPEC.		OP. TEMP.	
INSULATION SPEC.		PROJECT NO.	
INSULATION THKS.		SYSTEM	
PAINTING SPEC.		AREA	
MATERIAL		DRAWN BY	
OP. PRESSURE		E.I. DIAGRAM	



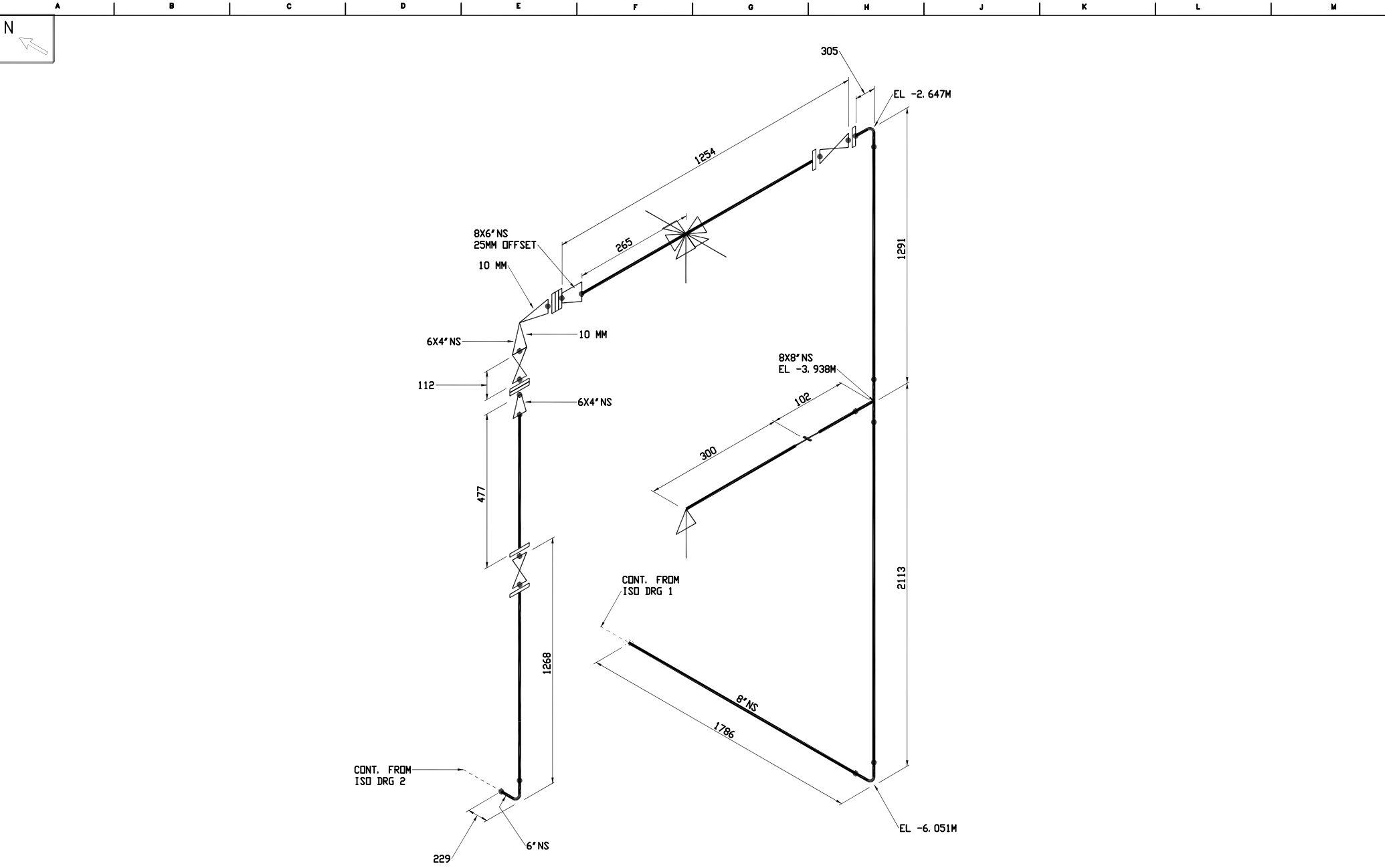
PIPELINE REFERENCE

REV.	
DRG.	
1 OF 1	



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REV.	CHANGE	28 FEB 2024	DATE	THIS DRAWING IS THE PROPERTY OF INTERGRAPH LTD AND MUST NOT BE COPIED OR LENT WITHOUT THE CONSENT OF THE COMPANY	PIPING SPEC.		OP. TEMP.		 PIPELINE REFERENCE	REV.
					INSULATION SPEC.		PROJECT NO.			DRG.
					INSULATION THKS.		SYSTEM			2 OF 3
					PAINTING SPEC.		AREA			
					MATERIAL		DRAWN BY			
					OP. PRESSURE		E.L.DIAGRAM			



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PIPING SPEC.		OP. TEMP.	
INSULATION SPEC.		PROJECT NO.	
INSULATION THKS.		SYSTEM	
PAINTING SPEC.		AREA	
MATERIAL		DRAWN BY	
OP. PRESSURE		E.L.DIAGRAM	



PIPELINE REFERENCE

REV.	
DRG.	3 OF 3

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

- 1 (HYD) WW+HP
- 2 (OPE) W+T1+P1
- 3 (Alt-SUS) W+P1
- 4 (OPE) W+T2+P1
- 5 (Alt-SUS) W+P1
- 6 (OPE) W+T3+P1
- 7 (Alt-SUS) W+P1
- 8 (SUS) W+P1
- 9 (SUS) WNC
- 10 (OPE) W+T2+P1+U1
- 11 (OPE) W+T2+P1-U1
- 12 (OPE) W+T2+P1+U2
- 13 (OPE) W+T2+P1+U3
- 14 (OPE) W+T2+P1-U3
- 15 (OPE) W+T2+P1+F1
- 16 (OPE) W+T2+P1+F2
- 17 (OCC) L17=L10-L4
- 18 (OCC) L18=L11-L4
- 19 (OCC) L19=L12-L4
- 20 (OCC) L20=L13-L4
- 21 (OCC) L21=L14-L4
- 22 (OCC) L22=L15-L4
- 23 (OCC) L23=L16-L4
- 24 (OCC) L24=L17+L8
- 25 (OCC) L25=L18+L8
- 26 (OCC) L26=L19+L8
- 27 (OCC) L27=L20+L8
- 28 (OCC) L28=L21+L8
- 29 (OCC) L29=L22+L8
- 30 (OCC) L30=L23+L8
- 31 (EXP) L31=L2-L8
- 32 (EXP) L32=L4-L8
- 33 (EXP) L33=L2-L4
- 34 (EXP) L34=L6-L8
- 35 (EXP) L35=L2-L6
- 36 (EXP) L36=L4-L6

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INPUT LISTING

Job Description:

PROJECT:

CLIENT :

ANALYST:

NOTES :

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INPUT LISTING

File created by FEATools

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PIPE DATA

 From 10 To 20 DY= 127.000 mm.

PIPE

Dia= 273.050 mm. Wall= 9.271 mm. Cor= 6.0000 mm.

GENERAL

T1= 272 C T2= 272 C T3= -28 C P1= 750.0171 KPa P2= .0000 KPa
 PHyd= 1,125.0256 KPa Mat= (106)A106 Grade B E= 203,401,232 KPa
 EH1= 187,335,024 KPa EH2= 187,335,024 KPa EH3= 205,934,864 KPa
 EH4= 203,401,232 KPa EH5= 203,401,232 KPa EH6= 203,401,232 KPa
 EH7= 203,401,232 KPa EH8= 203,401,232 KPa EH9= 203,401,232 KPa
 v = .292 Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000015 kg./cu.cm.
 Insul Thk= .000 mm. Insul Den= .0000000 kg./cu.cm.

RIGID Weight= .00 N.

UNIFORM LOAD

Vector1 in G-s X1 Dir = .26 g's Y1 Dir = .00 g's Z1 Dir = .00 g's
 Vector2 in G-s X2 Dir = .00 g's Y2 Dir = .12 g's Z2 Dir = .00 g's
 Vector3 in G-s X3 Dir = .00 g's Y3 Dir = .00 g's Z3 Dir = .26 g's

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 129,365 KPa Sh2= 129,365 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 20 To 30 DX= 717.000 mm. DY= 590.000 mm.

PIPE

Dia= 219.075 mm. Wall= 10.312 mm.

GENERAL

T1= 272 C T2= 272 C T3= -28 C P1= 600.0137 KPa PHyd= 900.0205 KPa
 Insul Thk= .000 mm.

BEND at "T0" end

Radius= 304.800 mm. (LONG) Bend Angle= 50.550 Angle/Node @1= 25.27 29
 Angle/Node @2= .00 28

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 129,365 KPa Sh2= 129,365 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 30 To 40 DY= 628.000 mm.

BEND at "T0" end

Radius= 304.800 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 39
 Angle/Node @2= .00 38

 From 40 To 50 DZ= 3,503.000 mm.

BEND at "T0" end

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INPUT LISTING

Radius= 304.800 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 49
Angle/Node @2= .00 48

From 50 To 60 DX= 998.000 mm.

From 60 To 70 DY= 101.600 mm.
RIGID Weight= .00 N.

From 60 To 80 DX= 1,796.000 mm.
BEND at "TO" end

Radius= 304.800 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 79
Angle/Node @2= .00 78

From 80 To 90 DY= 2,113.000 mm.

From 90 To 100 DZ= 101.600 mm.
RIGID Weight= .00 N.

From 90 To 110 DY= 1,291.000 mm.
BEND at "TO" end

Radius= 304.800 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 109
Angle/Node @2= .00 108

From 110 To 120 DZ= 305.000 mm.

From 120 To 130 DZ= 105.000 mm.
RIGID Weight= 177.93 N.

From 130 To 140 DZ= 466.000 mm.
RIGID Weight= 2,259.70 N.

From 140 To 150 DZ= 105.000 mm.
RIGID Weight= 177.93 N.

From 150 To 160 DZ= 265.000 mm.

RESTRAINTS

Node 160 +Y
Node 160 X Gap= 3.000 mm.
Node 160 Z Gap= 3.000 mm.

From 160 To 170 DZ= 265.000 mm.

From 170 To 180 DY= 25.400 mm. DZ= 153.000 mm.
REDUCER

Diam2= 168.275 mm. Wall2= 10.973 mm.

From 180 To 190 DZ= 92.075 mm.

PIPE

Dia= 168.275 mm. Wall= 10.973 mm.
Insul Thk= .000 mm.

RIGID Weight= 111.21 N.

From 70 To 200 DX= 555.000 mm. DY= 453.400 mm.

PIPE

Dia= 219.075 mm. Wall= 10.312 mm.
Insul Thk= .000 mm.

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INPUT LISTING

BEND at "TO" end

Radius= 304.800 mm. (LONG) Bend Angle= 50.753 Angle/Node @1= 25.38 199
Angle/Node @2= .00 198

From 200 To 210 DY= 1,558.000 mm.

From 210 To 220 DZ= 101.600 mm.

RIGID Weight= .00 N.

From 210 To 230 DY= 1,291.000 mm.

BEND at "TO" end

Radius= 304.800 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 229
Angle/Node @2= .00 228

From 230 To 240 DZ= 305.000 mm.

From 240 To 250 DZ= 105.000 mm.

RIGID Weight= 177.93 N.

From 250 To 260 DZ= 466.000 mm.

RIGID Weight= 2,259.70 N.

From 260 To 270 DZ= 105.000 mm.

RIGID Weight= 177.93 N.

From 270 To 280 DZ= 265.000 mm.

RESTRAINTS

Node 280 +Y

Node 280 X Gap= 3.000 mm.

Node 280 Z Gap= 3.000 mm.

From 280 To 290 DZ= 265.000 mm.

From 290 To 300 DY= 25.400 mm. DZ= 153.000 mm.

REDUCER

Diam2= 168.275 mm. Wall2= 10.973 mm.

From 300 To 310 DZ= 92.075 mm.

PIPE

Dia= 168.275 mm. Wall= 10.973 mm.

Insul Thk= .000 mm.

RIGID Weight= 111.21 N.

From 190 To 320 DZ= 92.075 mm.

GENERAL

T1= 85 C T2= 37 C T3= 19 C P1= 900.0205 KPa PHyd= 1,350.0308 KPa

Fluid Den= .0000062 kg./cu.cm. Insul Den= .0000000 kg./cu.cm.

RIGID Weight= 111.21 N.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 320 To 330 DZ= 108.000 mm.

RIGID Weight= 111.21 N.

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INPUT LISTING

From 330 To 340 DY= -122.125 mm.

PIPE

Dia= 114.300 mm. Wall= 8.560 mm.

Insul Thk= .000 mm.

RIGID Weight= 71.17 N.

FORCES & MOMENTS

Node 340 FY1= 1,500.07 N. FZ1= 2,000.10 N.

From 340 To 350 DY= -79.375 mm.

RIGID Weight= 71.17 N.

From 350 To 360 DY= -79.375 mm.

RIGID Weight= 71.17 N.

From 360 To 370 DY= -140.000 mm.

REDUCER

Diam2= 168.275 mm. Wall2= 10.973 mm.

From 370 To 380 DY= -337.000 mm.

PIPE

Dia= 168.275 mm. Wall= 10.973 mm.

Insul Thk= .000 mm.

From 380 To 390 DY= -92.075 mm.

RIGID Weight= 111.21 N.

From 390 To 400 DY= -276.000 mm.

RIGID Weight= 1,005.30 N.

From 400 To 410 DY= -92.075 mm.

RIGID Weight= 111.21 N.

From 410 To 420 DY= -108.000 mm.

From 420 To 430 DY= -352.000 mm.

From 430 To 440 DY= -440.000 mm.

BEND at "TO" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 439

Angle/Node @2= .00 438

From 440 To 450 DX= -620.500 mm.

RESTRAINTS

Node 450 +Y

From 450 To 460 DX= -620.500 mm.

From 310 To 470 DZ= 92.075 mm.

PIPE

Dia= 168.275 mm. Wall= 10.973 mm. Cor= 6.0000 mm.

GENERAL

T1= 85 C T2= 37 C T3= 19 C P1= 900.0205 KPa P2= .0000 KPa

Phyd= 1,350.0308 KPa Mat= (106)A106 Grade B E= 203,401,232 KPa

EH1= 199,086,608 KPa EH2= 202,081,088 KPa EH3= 203,489,136 KPa

EH4= 203,401,232 KPa EH5= 203,401,232 KPa EH6= 203,401,232 KPa

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INPUT LISTING

EH7= 203,401,232 KPa EH8= 203,401,232 KPa EH9= 203,401,232 KPa
v = .292 Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000060 kg./cu.cm.
Insul Thk= .000 mm. Insul Den= .0000000 kg./cu.cm.

RIGID Weight= 111.21 N.

UNIFORM LOAD

Vector1 in G-s X1 Dir = .26 g's Y1 Dir = .00 g's Z1 Dir = .00 g's
Vector2 in G-s X2 Dir = .00 g's Y2 Dir = .12 g's Z2 Dir = .00 g's
Vector3 in G-s X3 Dir = .00 g's Y3 Dir = .00 g's Z3 Dir = .26 g's

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
Sh9= 137,895 KPa Sy= 241,316 KPa

From 470 To 480 DZ= 108.000 mm.

RIGID Weight= 111.21 N.

From 480 To 490 DY= -122.125 mm.

PIPE

Dia= 114.300 mm. Wall= 8.560 mm.
Insul Thk= .000 mm.

RIGID Weight= 71.17 N.

FORCES & MOMENTS

Node 490 FY2= 1,500.07 N. FZ2= 2,000.10 N.

From 490 To 500 DY= -79.375 mm.

RIGID Weight= 71.17 N.

From 500 To 510 DY= -79.375 mm.

RIGID Weight= 71.17 N.

From 510 To 520 DY= -140.000 mm.

REDUCER

Diam2= 168.275 mm. Wall2= 10.973 mm.

From 520 To 530 DY= -337.000 mm.

PIPE

Dia= 168.275 mm. Wall= 10.973 mm.
Insul Thk= .000 mm.

From 530 To 540 DY= -92.075 mm.

RIGID Weight= 111.21 N.

From 540 To 550 DY= -276.000 mm.

RIGID Weight= 1,005.30 N.

From 550 To 560 DY= -92.075 mm.

RIGID Weight= 111.21 N.

From 560 To 570 DY= -108.000 mm.

From 570 To 580 DY= -352.000 mm.

From 580 To 460 DY= -440.000 mm.

SIF's & TEE's

Node 460 Welding Tee

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INPUT LISTING

From 460 To 960 DX= -375.000 mm.

RESTRAINTS

Node 960 +Y

From 960 To 590 DX= -758.000 mm.

BEND at "TO" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 589
Angle/Node @2= .00 588

From 590 To 600 DZ= 871.000 mm.

BEND at "TO" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 599
Angle/Node @2= .00 598

From 600 To 610 DX= -1,178.000 mm.

From 610 To 970 DX= -92.075 mm.

RIGID Weight= 111.21 N.

From 970 To 980 DX= -92.075 mm.

RIGID Weight= 111.21 N.

From 980 To 630 DX= -4,384.000 mm.

BEND at "TO" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 629
Angle/Node @2= .00 628

From 630 To 990 DZ= -700.000 mm.

From 990 To 1000 DY= -75.000 mm.

RIGID Weight= .00 N.

SIF's & TEE's

Node 1000 Unreinforced Tee

From 990 To 640 DZ= -1,050.000 mm.

BEND at "TO" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 639
Angle/Node @2= .00 638

From 640 To 650 DY= -229.000 mm.

From 650 To 660 DY= -92.075 mm.

RIGID Weight= 111.21 N.

RESTRAINTS

Node 660 ANC Cnode 670

From 670 To 680 DY= -92.075 mm.

RIGID Weight= 111.21 N.

From 680 To 690 DY= -196.000 mm.

RESTRAINTS

Node 690 ANC Cnode 691

EQUIPMENT LIMITS

Nozzle Node = 690 Limiting Loads: A=pipe; B=ref; C=AxB; FA= 8,400.42 N.
FB= 8,400.42 N. FC= 6,300.31 N. MA= 3,780.16 N.m. MB= 2,520.11 N.m.

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INPUT LISTING

MC= 3,280.14 N.m. Equipment Major Direction Vector= .0000 .0000 1.0000
Interact. Mtd= Absolute

From 690 To 1011 DX= .000 mm. DY= 154.150 mm. DZ= 1,050.000 mm.
RIGID Weight= .00 N.

From 691 To 700 DY= -762.000 mm.

PIPE

Dia= 1,524.000 mm. Wall= 10.973 mm.

Insul Thk= .000 mm.

RIGID Weight= .00 N.

From 700 To 720 DX= 3,000.000 mm.

RIGID Weight= .00 N.

From 720 To 730 DY= -762.000 mm.

RIGID Weight= .00 N.

RESTRAINTS

Node 730 ANC

From 700 To 740 DX= -500.000 mm.

RIGID Weight= .00 N.

From 740 To 750 DY= -762.000 mm.

RIGID Weight= .00 N.

RESTRAINTS

Node 750 +Y Mu = .30

Node 750 Z Gap= 3.000 mm. Mu = .30

From 100 To 770 DZ= 300.000 mm.

PIPE

Dia= 168.275 mm. Wall= 7.112 mm. Cor= .0000 mm.

GENERAL

T1= 21 C T2= 21 C T3= 21 C P1= .0000 KPa PHyd= .0000 KPa

Mat= (102)A53 Grade B E= 203,401,232 KPa EH1= 203,401,232 KPa

EH2= 203,401,232 KPa EH3= 203,401,232 KPa EH4= 203,401,232 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000000 kg./cu.cm.

Insul Thk= .000 mm.

RESTRAINTS

Node 770 +Y

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 220 To 780 DZ= 300.000 mm.

RESTRAINTS

Node 780 +Y Mu = .30

From 800 To 810 DZ= -6,000.000 mm.

PIPE

Dia= 273.050 mm. Wall= 9.271 mm. Cor= 6.0000 mm.

GENERAL

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INPUT LISTING

T1= 270 C T2= 272 C T3= -28 C P1= 600.0137 KPa PHyd= 900.0205 KPa
 Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 187,483,936 KPa
 EH2= 187,335,024 KPa EH3= 205,934,864 KPa EH4= 203,401,232 KPa
 EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa
 EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292
 Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000015 kg./cu.cm.
 Insul Thk= .000 mm. Insul Den= .0001362 kg./cu.cm.

RESTRAINTS

Node 810 +Y Mu = .30
 Node 800 +Y Mu = .30
 Node 800 X Gap= 3.000 mm. Mu = .30
 Node 800 Z Gap= 3.000 mm. Mu = .30

UNIFORM LOAD

Vector1 in G-s X1 Dir = .26 g's Y1 Dir = .00 g's Z1 Dir = .00 g's
 Vector2 in G-s X2 Dir = .00 g's Y2 Dir = .12 g's Z2 Dir = .00 g's
 Vector3 in G-s X3 Dir = .00 g's Y3 Dir = .00 g's Z3 Dir = .26 g's

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 129,638 KPa Sh2= 129,365 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 810 To 820 DZ= -6,000.000 mm.

RESTRAINTS

Node 820 +Y Mu = .30
 Node 820 X Gap= 3.000 mm.

 From 820 To 830 DZ= -6,000.000 mm.

RESTRAINTS

Node 830 +Y Mu = .30

 From 830 To 840 DZ= -6,000.000 mm.

RESTRAINTS

Node 840 +Y Mu = .30
 Node 840 X Gap= 3.000 mm.

 From 840 To 850 DZ= -4,500.000 mm.

RESTRAINTS

Node 850 +Y Mu = .30

 From 850 To 860 DZ= -1,070.000 mm.

BEND at "TO" end

Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 859
 Angle/Node @2= .00 858

 From 860 To 870 DX= 3,500.000 mm.

RESTRAINTS

Node 870 +Y

 From 870 To 880 DX= 5,300.000 mm.

RESTRAINTS

Node 880 +Y Mu = .30
 Node 880 Z

 From 880 To 890 DX= 4,300.000 mm.

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INPUT LISTING

From 890 To 900 DX= 97.000 mm.

From 900 To 910 DY= 127.000 mm.

RIGID Weight= .00 N.

From 900 To 920 DX= 2,903.000 mm.

RESTRAINTS

Node 920 +Y Mu = .30

From 920 To 10 DX= 562.000 mm.

From 10 To 940 DX= 4,038.000 mm.

RESTRAINTS

Node 940 +Y Mu = .00

Node 940 Z

From 940 To 950 DX= 420.000 mm.

From 1000 To 1010 DY= -380.000 mm.

PIPE

Dia= 114.300 mm. Wall= 6.020 mm. Cor= .0000 mm.

GENERAL

T1= 21 C T2= 21 C T3= 21 C P1= .0000 KPa PHyd= .0000 KPa

Mat= (102)A53 Grade B E= 203,401,232 KPa EH1= 203,401,232 KPa

EH2= 203,401,232 KPa EH3= 203,401,232 KPa EH4= 203,401,232 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000000 kg./cu.cm.

Insul Thk= .000 mm.

RESTRAINTS

Node 1010 +Y Cnode 1011 Mu = .30

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

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MATERIAL Changes:

10	20	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
310	470	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
100	770	Mat= (102)A53 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
800	810	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
1000	1010	Mat= (102)A53 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.

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JOBNAME: D:\BINAK PRO\STRESS REPORT\D02\NATIVE\BNK-GCS-CN-010-D02\BNK-GCS-CN-01

ALLOWABLE STRESS Changes

10	20	B31.3 (2016)	Cycle Max Switch = ---

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INPUT LISTING

		Sc= 137,895 KPa	Sh1= 129,365 KPa
		Sh2= 129,365 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
20	30	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 129,365 KPa
		Sh2= 129,365 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
190	320	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
310	470	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
100	770	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
800	810	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 129,638 KPa
		Sh2= 129,365 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
1000	1010	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	

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BEND ELEMENTS

20	30	Radius= 304.800 mm. (LONG)
		Bend Angle= 50.550 Angle/Node @1= 25.27 29
		Angle/Node @2= .00 28

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INPUT LISTING

30	40	Radius= 304.800 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00 39
		Angle/Node @2= .00 38
40	50	Radius= 304.800 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00 49
		Angle/Node @2= .00 48
60	80	Radius= 304.800 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00 79
		Angle/Node @2= .00 78
90	110	Radius= 304.800 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		109 Angle/Node @2= .00 108
70	200	Radius= 304.800 mm. (LONG)
		Bend Angle= 50.753 Angle/Node @1= 25.38
		199 Angle/Node @2= .00 198
210	230	Radius= 304.800 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		229 Angle/Node @2= .00 228
430	440	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		439 Angle/Node @2= .00 438
960	590	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		589 Angle/Node @2= .00 588
590	600	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		599 Angle/Node @2= .00 598
980	630	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		629 Angle/Node @2= .00 628
990	640	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		639 Angle/Node @2= .00 638
850	860	Radius= 381.000 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		859 Angle/Node @2= .00 858

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RIGIDS

10	20	RIGID Weight= .00 N.
60	70	RIGID Weight= .00 N.
90	100	RIGID Weight= .00 N.
120	130	RIGID Weight= 177.93 N.
130	140	RIGID Weight= 2,259.70 N.
140	150	RIGID Weight= 177.93 N.
180	190	RIGID Weight= 111.21 N.
210	220	RIGID Weight= .00 N.
240	250	RIGID Weight= 177.93 N.
250	260	RIGID Weight= 2,259.70 N.
260	270	RIGID Weight= 177.93 N.
300	310	RIGID Weight= 111.21 N.
190	320	RIGID Weight= 111.21 N.
320	330	RIGID Weight= 111.21 N.
330	340	RIGID Weight= 71.17 N.

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INPUT LISTING

340	350	RIGID Weight= 71.17 N.
350	360	RIGID Weight= 71.17 N.
380	390	RIGID Weight= 111.21 N.
390	400	RIGID Weight= 1,005.30 N.
400	410	RIGID Weight= 111.21 N.
310	470	RIGID Weight= 111.21 N.
470	480	RIGID Weight= 111.21 N.
480	490	RIGID Weight= 71.17 N.
490	500	RIGID Weight= 71.17 N.
500	510	RIGID Weight= 71.17 N.
530	540	RIGID Weight= 111.21 N.
540	550	RIGID Weight= 1,005.30 N.
550	560	RIGID Weight= 111.21 N.
610	970	RIGID Weight= 111.21 N.
970	980	RIGID Weight= 111.21 N.
990	1000	RIGID Weight= .00 N.
650	660	RIGID Weight= 111.21 N.
670	680	RIGID Weight= 111.21 N.
690	1011	RIGID Weight= .00 N.
691	700	RIGID Weight= .00 N.
700	720	RIGID Weight= .00 N.
720	730	RIGID Weight= .00 N.
700	740	RIGID Weight= .00 N.
740	750	RIGID Weight= .00 N.
900	910	RIGID Weight= .00 N.

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SIF's & TEE's

580	460	Node 460 Welding Tee
990	1000	Node 1000 Unreinforced Tee

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REDUCERS

170	180	Diam2= 168.275 mm.	Wall2= 10.973 mm.
290	300	Diam2= 168.275 mm.	Wall2= 10.973 mm.
360	370	Diam2= 168.275 mm.	Wall2= 10.973 mm.
510	520	Diam2= 168.275 mm.	Wall2= 10.973 mm.

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RESTRAINTS

NODE	TYPE	CNODE	STIF1	Len GAP STIF2	MU YIELD FORCE	Dir Vectors
160	+Y					.000 1.000 .000
160	X			3.00		1.000 .000 .000
160	Z			3.00		.000 .000 1.000
280	+Y					.000 1.000 .000
280	X			3.00		1.000 .000 .000
280	Z			3.00		.000 .000 1.000
450	+Y					.000 1.000 .000
960	+Y					.000 1.000 .000
660	ANC	670				.000 .000 .000

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INPUT LISTING

690	ANC	691			.000	.000	.000
730	ANC				.000	.000	.000
750	+Y			.30	.000	1.000	.000
750	Z		3.00	.30	.000	.000	1.000
770	+Y				.000	1.000	.000
780	+Y			.30	.000	1.000	.000
810	+Y			.30	.000	1.000	.000
800	+Y			.30	.000	1.000	.000
800	X		3.00	.30	1.000	.000	.000
800	Z		3.00	.30	.000	.000	1.000
820	+Y			.30	.000	1.000	.000
820	X		3.00		1.000	.000	.000
830	+Y			.30	.000	1.000	.000
840	+Y			.30	.000	1.000	.000
840	X		3.00		1.000	.000	.000
850	+Y			.30	.000	1.000	.000
870	+Y				.000	1.000	.000
880	+Y			.30	.000	1.000	.000
880	Z				.000	.000	1.000
920	+Y			.30	.000	1.000	.000
940	+Y			.00	.000	1.000	.000
940	Z				.000	.000	1.000
1010	+Y	1011		.30	.000	1.000	.000

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EQUIPMENT LIMITS

680 690 Nozzle Node = 690

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 8,400.42 N. FB= 8,400.42 N.
 FC= 6,300.31 N. MA= 3,780.16 N.m. MB= 2,520.11 N.m. MC= 3,280.14 N.m.
 Equipment Major Direction Vector= .0000 .0000 1.0000
 Interact. Mtd= Absolute

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FORCES AND MOMENTS

330	340	Node 340 FY1= 1,500.07 N.
		FZ1= 2,000.10 N.
480	490	Node 490 FY2= 1,500.07 N.
		FZ2= 2,000.10 N.

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UNIFORM LOAD Changes

10	20	Vector1 in G-s
		X1 Dir = .26 g's Y1 Dir = .00 g's
		Z1 Dir = .00 g's
		Vector2 in G-s
		X2 Dir = .00 g's Y2 Dir = .12 g's
		Z2 Dir = .00 g's
		Vector3 in G-s

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INPUT LISTING

		X3 Dir = .00 g's	Y3 Dir = .00 g's
		Z3 Dir = .26 g's	
310	470	Vector1 in G-s	
		X1 Dir = .26 g's	Y1 Dir = .00 g's
		Z1 Dir = .00 g's	
		Vector2 in G-s	
		X2 Dir = .00 g's	Y2 Dir = .12 g's
		Z2 Dir = .00 g's	
		Vector3 in G-s	
800	810	X3 Dir = .00 g's	Y3 Dir = .00 g's
		Z3 Dir = .26 g's	
		Vector1 in G-s	
		X1 Dir = .26 g's	Y1 Dir = .00 g's
		Z1 Dir = .00 g's	
		Vector2 in G-s	
		X2 Dir = .00 g's	Y2 Dir = .12 g's
		Z2 Dir = .00 g's	
		Vector3 in G-s	
		X3 Dir = .00 g's	Y3 Dir = .00 g's
		Z3 Dir = .26 g's	

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INPUT UNITS USED...

UNITS= SI (m NOM/SCH INPUT= ON

LENGTH	inches	x	25.400	=	mm.
FORCE	pounds	x	4.448	=	N.
MASS(dynamics)	pounds	x	0.454	=	Kg.
MOMENTS(INPUT)	inch-pounds	x	0.113	=	N.m.
MOMENTS(OUTPUT)	inch-pounds	x	0.113	=	N.m.
STRESS	lbs./sq.in.	x	6.895	=	KPa
TEMP. SCALE	degrees F.	x	0.556	=	C
PRESSURE	psig	x	6.895	=	KPa
ELASTIC MODULUS	lbs./sq.in.	x	6.895	=	KPa
PIPE DENSITY	lbs./cu.in.	x	0.028	=	kg./cu.cm.
INSULATION DENS.	lbs./cu.in.	x	0.028	=	kg./cu.cm.
FLUID DENSITY	lbs./cu.in.	x	0.028	=	kg./cu.cm.
TRANSL. STIF	lbs./in.	x	1.751	=	N./cm.
ROTATIONAL STIF	in.lb./deg.	x	0.113	=	N.m./deg
UNIFORM LOAD	lb./in.	x	1.751	=	N./cm.
G LOAD	g's	x	1.000	=	g's
WIND LOAD	lbs./sq.in.	x	6.895	=	KPa
ELEVATION	inches	x	0.025	=	m.
COMPOUND LENGTH	inches	x	25.400	=	mm.
DIAMETER	inches	x	25.400	=	mm.
WALL THICKNESS	inches	x	25.400	=	mm.

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SETUP FILE PARAMETERS

```

-----
CONNECT GEOMETRY THRU CNODES = YES
MIN ALLOWED BEND ANGLE = 5.00000
MAX ALLOWED BEND ANGLE = 95.0000
BEND LENGTH ATTACHMENT PERCENT = 1.00000
MIN ANGLE TO ADJACENT BEND PT = 5.00000
LOOP CLOSURE TOLERANCE = 25.4000 mm.
```

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INPUT LISTING

```

THERMAL BOWING HORZ TOLERANCE = 0.100000E-03
AUTO NODE NUMBER INCREMENT= 10.0000
Z AXIS UP= NO
USE PRESSURE STIFFENING = DEFAULT
ALPHA TOLERANCE = 0.500000E-01
RESLD-FORCE = NO
HGR DEF RESWGT STIF = 0.175127E+13 N./cm.
DECOMP SNG TOL = 0.100000E+11
BEND AXIAL SHAPE = YES
FRICT STIF = 0.175127E+07 N./cm.
FRICT NORM FORCE VAR = 0.150000
FRICT ANGLE VAR = 15.0000
FRICT SLIDE MULT = 1.00000
ROD TOLERANCE = 1.00000
ROD INC = 2.00000
INCORE NUMERICAL CHECK = NO
OUTCORE NUMERICAL CHECK = NO
DEFAULT TRANS RESTRAINT STIFF= 0.175127E+13 N./cm.
DEFAULT ROT RESTRAINT STIFF= 0.112985E+12 N.m./deg
IGNORE SPRING HANGER STIFFNESS = NO
MISSING MASS ZPA = EXTRACTED
MIN WALL MILL TOLERANCE = 12.5000
WRC-107 VERSION = MAR 79 1B1/2B1
WRC-107 INTERPOLATION = LAST VALUE
DEFAULT AMBIENT TEMPERATURE= 21.1111 C
BOURDON PRESSURE= NONE
COEFFICIENT OF FRICTION (MU) = 0.000000
INCLUDE SPRG STIF IN HGR OPE = NO
INCLUDE INSULATION IN HYDROTEST = NO
REDUCED INTERSECTION = B31.1(POST1980)
USE WRC329 NO
NO REDUCED SIF FOR RFT AND WLT NO
B31.1 REDUCED Z FIX = YES
CLASS 1 BRANCH FLEX NO
ALL STRESS CASES CORRODED = NO
ADD TORSION IN SL STRESS = DEFAULT
ADD F/A IN STRESS = DEFAULT
OCCASIONAL LOAD FACTOR = 0.000000
DEFAULT CODE = B31.3
B31.3 SUS CASE SIF FACTOR = 0.000000
ALLOW USERS BEND SIF = NO
USE SCHNEIDER NO
YIELD CRITERION STRESS = MAX 3D SHEAR
USE PD/4T NO
BASE HOOP STRESS ON ? = ID
EN13480 USE IN OUTPLANE SIFS= NO
LIBERAL EXPANSION ALLOWABLE= YES
B31.3 SEC 319.2.3C SAXIAL= Default
B31.3 WELDING/CONTOUR TEE ISB16.9 FALSE
PRESSURE VARIATION IN EXP CASE= DEFAULT
IMPLEMENT B313 APP-P NO
IMPLEMENT B313 CODE CASE 178 YES
IGNORE B31.1/B31.3 Wc FACTOR= YES
USE FRP SIF = YES
USE FRP FLEX = YES
BS 7159 Pressure Stiffening= Design Strain

```

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INPUT LISTING

```

FRP Property Data File=          CAESAR.FRP
FRP Emod (axial) =                0.220632E+08      KPa
FRP Ratio Gmod/Emod (axial) =    0.250000
FRP Ea/Eh*Vh/a =                 0.152730
FRP Laminate Type =              THREE
FRP Alpha =                      21.6000              C
FRP Density =                    0.166079E-02 kg./cu.cm.
EXCLUDE f2 FROM UK00A BENDING =  NO
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```

EXECUTION CONTROL PARAMETERS

```

Rigid/ExpJt Print Flag ..... 1.000
Bourdon Option ..... .000
Loop Closure Flag ..... 2.000
Thermal Bowing Delta Temp .. .000 C
Liberal Allowable Flag ..... 1.000
Uniform Load Option ..... 1.000

Ambient Temperature ..... 20.997 C
Plastic (FRP) Alpha ..... 21.600
Plastic (FRP) GMOD/EMODa ... .250
Plastic (FRP) Laminate Type. 3.000
Eqn Optimizer ..... .000
Node Selection ..... .000
Eqn Ordering ..... .000
Collins ..... .000
Degree Determination ..... .000
User Eqn Control ..... .000
North Direction ..... -X
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```

COORDINATE REPORT

```

/------(mm.)-----/
NODE      X          Y          Z
10      -338.080    -7395.683    -35745.781
20      -338.080    -7268.683    -35745.781
30       378.920    -6678.683    -35745.781
40       378.920    -6050.683    -35745.781
50       378.920    -6050.683    -32242.781
60      1376.920    -6050.683    -32242.781
70      1376.920    -5949.083    -32242.781
60      1376.920    -6050.683    -32242.781
80      3172.920    -6050.683    -32242.781
90      3172.920    -3937.683    -32242.781
100     3172.920    -3937.683    -32141.182
90      3172.920    -3937.683    -32242.781
110     3172.920    -2646.683    -32242.781
120     3172.920    -2646.683    -31937.781
130     3172.920    -2646.683    -31832.781
140     3172.920    -2646.683    -31366.781
150     3172.920    -2646.683    -31261.781
160     3172.920    -2646.683    -30996.781
170     3172.920    -2646.683    -30731.781

```


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INPUT LISTING

180	3172.920	-2621.283	-30578.781
190	3172.920	-2621.283	-30486.707
70	1376.920	-5949.083	-32242.781
200	1931.920	-5495.683	-32242.781
210	1931.920	-3937.683	-32242.781
220	1931.920	-3937.683	-32141.182
210	1931.920	-3937.683	-32242.781
230	1931.920	-2646.683	-32242.781
240	1931.920	-2646.683	-31937.781
250	1931.920	-2646.683	-31832.781
260	1931.920	-2646.683	-31366.781
270	1931.920	-2646.683	-31261.781
280	1931.920	-2646.683	-30996.781
290	1931.920	-2646.683	-30731.781
300	1931.920	-2621.283	-30578.781
310	1931.920	-2621.283	-30486.707
190	3172.920	-2621.283	-30486.707
320	3172.920	-2621.283	-30394.633
330	3172.920	-2621.283	-30286.633
340	3172.920	-2743.408	-30286.633
350	3172.920	-2822.783	-30286.633
360	3172.920	-2902.158	-30286.633
370	3172.920	-3042.158	-30286.633
380	3172.920	-3379.158	-30286.633
390	3172.920	-3471.233	-30286.633
400	3172.920	-3747.233	-30286.633
410	3172.920	-3839.308	-30286.633
420	3172.920	-3947.308	-30286.633
430	3172.920	-4299.308	-30286.633
440	3172.920	-4739.308	-30286.633
450	2552.420	-4739.308	-30286.633
460	1931.920	-4739.308	-30286.633
310	1931.920	-2621.283	-30486.707
470	1931.920	-2621.283	-30394.633
480	1931.920	-2621.283	-30286.633
490	1931.920	-2743.408	-30286.633
500	1931.920	-2822.783	-30286.633
510	1931.920	-2902.158	-30286.633
520	1931.920	-3042.158	-30286.633
530	1931.920	-3379.158	-30286.633
540	1931.920	-3471.233	-30286.633
550	1931.920	-3747.233	-30286.633
560	1931.920	-3839.308	-30286.633
570	1931.920	-3947.308	-30286.633
580	1931.920	-4299.308	-30286.633
460	1931.920	-4739.308	-30286.633
960	1556.920	-4739.308	-30286.633
590	798.920	-4739.308	-30286.633
600	798.920	-4739.308	-29415.633
610	-379.080	-4739.308	-29415.633
970	-471.155	-4739.308	-29415.633
980	-563.230	-4739.308	-29415.633
630	-4947.230	-4739.308	-29415.633
990	-4947.230	-4739.308	-30115.633
1000	-4947.230	-4814.308	-30115.633
990	-4947.230	-4739.308	-30115.633

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INPUT LISTING

640	-4947.230	-4739.308	-31165.633
650	-4947.230	-4968.308	-31165.633
660	-4947.230	-5060.383	-31165.633
680	-4947.230	-5152.458	-31165.633
690	-4947.230	-5348.458	-31165.633
1010	-4947.230	-5194.308	-30115.633
690	-4947.230	-5348.458	-31165.633
700	-4947.230	-6110.458	-31165.633
720	-1947.230	-6110.458	-31165.633
730	-1947.230	-6872.458	-31165.633
700	-4947.230	-6110.458	-31165.633
740	-5447.230	-6110.458	-31165.633
750	-5447.230	-6872.458	-31165.633
100	3172.920	-3937.683	-32141.182
770	3172.920	-3937.683	-31841.182
220	1931.920	-3937.683	-32141.182
780	1931.920	-3937.683	-31841.182
800	-17000.080	-7395.683	-6175.781
810	-17000.080	-7395.683	-12175.781
820	-17000.080	-7395.683	-18175.781
830	-17000.080	-7395.683	-24175.781
840	-17000.080	-7395.683	-30175.781
850	-17000.080	-7395.683	-34675.781
860	-17000.080	-7395.683	-35745.781
870	-13500.080	-7395.683	-35745.781
880	-8200.080	-7395.683	-35745.781
890	-3900.080	-7395.683	-35745.781
900	-3803.080	-7395.683	-35745.781
910	-3803.080	-7268.683	-35745.781
900	-3803.080	-7395.683	-35745.781
920	-900.080	-7395.683	-35745.781
10	-338.080	-7395.683	-35745.781
940	3699.920	-7395.683	-35745.781
950	4119.920	-7395.683	-35745.781
1000	-4947.230	-4814.308	-30115.633
1010	-4947.230	-5194.308	-30115.633

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

- 1 (HYD) WW+HP
- 2 (OPE) W+T1+P1
- 3 (Alt-SUS) W+P1
- 4 (OPE) W+T2+P1
- 5 (Alt-SUS) W+P1
- 6 (OPE) W+T3+P1
- 7 (Alt-SUS) W+P1
- 8 (SUS) W+P1
- 9 (SUS) WNC
- 10 (OPE) W+T2+P1+U1
- 11 (OPE) W+T2+P1-U1
- 12 (OPE) W+T2+P1+U2
- 13 (OPE) W+T2+P1+U3
- 14 (OPE) W+T2+P1-U3
- 15 (OPE) W+T2+P1+F1
- 16 (OPE) W+T2+P1+F2
- 17 (OCC) L17=L10-L4
- 18 (OCC) L18=L11-L4
- 19 (OCC) L19=L12-L4
- 20 (OCC) L20=L13-L4
- 21 (OCC) L21=L14-L4
- 22 (OCC) L22=L15-L4
- 23 (OCC) L23=L16-L4
- 24 (OCC) L24=L17+L8
- 25 (OCC) L25=L18+L8
- 26 (OCC) L26=L19+L8
- 27 (OCC) L27=L20+L8
- 28 (OCC) L28=L21+L8
- 29 (OCC) L29=L22+L8
- 30 (OCC) L30=L23+L8
- 31 (EXP) L31=L2-L8
- 32 (EXP) L32=L4-L8
- 33 (EXP) L33=L2-L4
- 34 (EXP) L34=L6-L8
- 35 (EXP) L35=L2-L6
- 36 (EXP) L36=L4-L6

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

LOAD CASE DEFINITION KEY

CASE 1 (HYD) WW+HP
CASE 2 (OPE) W+T1+P1
CASE 4 (OPE) W+T2+P1
CASE 6 (OPE) W+T3+P1
CASE 8 (SUS) W+P1
CASE 9 (SUS) WNC
CASE 10 (OPE) W+T2+P1+U1
CASE 11 (OPE) W+T2+P1-U1
CASE 12 (OPE) W+T2+P1+U2
CASE 13 (OPE) W+T2+P1+U3
CASE 14 (OPE) W+T2+P1-U3
CASE 15 (OPE) W+T2+P1+F1
CASE 16 (OPE) W+T2+P1+F2
CASE 17 (OCC) L17=L10-L4
CASE 18 (OCC) L18=L11-L4
CASE 19 (OCC) L19=L12-L4
CASE 20 (OCC) L20=L13-L4
CASE 21 (OCC) L21=L14-L4
CASE 22 (OCC) L22=L15-L4
CASE 23 (OCC) L23=L16-L4

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
160		TYPE=Rigid +Y; Rigid X w/gap; Rigid Z w/gap;					
	1(HYD)	0	-4481	0	0	0	0
	2(OPE)	1988	0	3824	0	0	0
	4(OPE)	1256	0	4430	0	0	0
	6(OPE)	0	-4803	-877	0	0	0
	8(SUS)	0	-4235	0	0	0	0
	9(SUS)	0	-4232	0	0	0	0
	10(OPE)	3352	0	5723	0	0	0
	11(OPE)	0	0	1953	0	0	0
	12(OPE)	1394	0	4482	0	0	0
	13(OPE)	1158	0	6281	0	0	0
	14(OPE)	1529	0	2821	0	0	0
	15(OPE)	1164	0	6175	0	0	0
	16(OPE)	1413	0	4463	0	0	0
	17(OCC)	2096	0	1293	0	0	0
	18(OCC)	-1256	0	-2477	0	0	0
	19(OCC)	137	0	52	0	0	0
	20(OCC)	-98	0	1851	0	0	0
	21(OCC)	273	0	-1609	0	0	0
	22(OCC)	-92	0	1745	0	0	0
	23(OCC)	157	0	33	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	MAX	3352/L10	-4803/L6	6281/L13			
280		TYPE=Rigid +Y; Rigid X w/gap; Rigid Z w/gap;					
	1(HYD)	0	-5145	0	0	0	0
	2(OPE)	88	0	4112	0	0	0
	4(OPE)	0	0	3681	0	0	0
	6(OPE)	0	-12161	0	0	0	0
	8(SUS)	0	-3977	0	0	0	0
	9(SUS)	0	-3978	0	0	0	0
	10(OPE)	1902	0	2913	0	0	0
	11(OPE)	0	0	4109	0	0	0
	12(OPE)	135	0	3472	0	0	0
	13(OPE)	0	0	5488	0	0	0
	14(OPE)	36	0	1458	0	0	0
	15(OPE)	0	0	3390	0	0	0
	16(OPE)	0	0	5097	0	0	0
	17(OCC)	1902	0	-768	0	0	0
	18(OCC)	0	0	428	0	0	0
	19(OCC)	135	0	-209	0	0	0
	20(OCC)	0	0	1807	0	0	0
	21(OCC)	36	0	-2223	0	0	0
	22(OCC)	0	0	-291	0	0	0
	23(OCC)	0	0	1416	0	0	0
	MAX	1902/L10	-12161/L6	5488/L13			
450		TYPE=Rigid +Y;					
	1(HYD)	0	0	0	0	0	0
	2(OPE)	0	0	0	0	0	0
	4(OPE)	0	0	0	0	0	0
	6(OPE)	0	0	0	0	0	0
	8(SUS)	0	0	0	0	0	0
	9(SUS)	0	0	0	0	0	0
	10(OPE)	0	0	0	0	0	0
	11(OPE)	0	0	0	0	0	0
	12(OPE)	0	0	0	0	0	0
	13(OPE)	0	0	0	0	0	0
	14(OPE)	0	0	0	0	0	0
	15(OPE)	0	0	0	0	0	0
	16(OPE)	0	0	0	0	0	0
	17(OCC)	0	0	0	0	0	0
	18(OCC)	0	0	0	0	0	0
	19(OCC)	0	0	0	0	0	0
	20(OCC)	0	0	0	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	21(OCC)	0	0	0	0	0	0
	22(OCC)	0	0	0	0	0	0
	23(OCC)	0	0	0	0	0	0
660		TYPE=Rigid ANC;					
	1(HYD)	346	887	1093	87	293	-906
	2(OPE)	1053	198	210	515	1593	-1643
	4(OPE)	1823	734	-29	8	2719	-1549
	6(OPE)	121	644	400	-32	41	-542
	8(SUS)	252	637	789	61	207	-655
	9(SUS)	251	635	788	61	207	-653
	10(OPE)	3544	624	-120	4	4685	-2045
	11(OPE)	333	884	564	110	65	-975
	12(OPE)	2046	436	-49	43	2775	-1265
	13(OPE)	2167	287	613	188	2483	-1198
	14(OPE)	1542	1029	-676	-154	2892	-1733
	15(OPE)	2039	433	-44	43	2737	-1372
	16(OPE)	1902	449	-12	47	2534	-1227
	17(OCC)	1721	-111	-91	-3	1966	-496
	18(OCC)	-1490	150	592	102	-2654	574
	19(OCC)	223	-299	-20	36	57	284
	20(OCC)	344	-447	642	180	-235	351
	21(OCC)	-282	295	-647	-162	174	-184
	22(OCC)	216	-302	-15	35	19	177
	23(OCC)	79	-285	17	39	-184	322
	MAX	3544/L10	1029/L14	1093/L1	515/L2	4685/L10	-2045/L10
690		TYPE=Rigid ANC;					
	1(HYD)	-107	-3334	-9	4412	-182	-936
	2(OPE)	1862	-2762	-129	3428	2442	-2071
	4(OPE)	2919	-2605	-149	3284	3869	-2243
	6(OPE)	-548	-2485	-34	3100	-662	-474
	8(SUS)	-82	-2436	-4	3190	-144	-676
	9(SUS)	-82	-2431	-4	3183	-143	-674
	10(OPE)	4540	-2760	-175	3311	5678	-3221
	11(OPE)	-560	-2765	-27	3810	-820	-932
	12(OPE)	2885	-2255	-119	2665	3656	-1984
	13(OPE)	2986	-2498	607	3086	3343	-1948
	14(OPE)	2759	-2668	-895	3294	4171	-2365
	15(OPE)	2919	-2591	-122	2990	3661	-2095
	16(OPE)	2777	-2507	-95	2932	3453	-1909
	17(OCC)	1622	-155	-25	27	1809	-978
	18(OCC)	-3479	-160	123	526	-4689	1311
	19(OCC)	-34	350	30	-619	-213	259
	20(OCC)	67	107	757	-198	-526	295

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	21(OCC)	-159	-63	-746	10	302	-122
	22(OCC)	1	14	27	-294	-208	148
	23(OCC)	-142	98	54	-352	-416	334
	MAX	4540/L10	-3334/L1	-895/L14	4412/L1	5678/L10	-3221/L10
730		TYPE=Rigid ANC;					
	1(HYD)	-96	-848	56	4399	20	528
	2(OPE)	2224	-1506	-129	3231	2056	-1018
	4(OPE)	3136	-1823	-150	3056	3420	-1612
	6(OPE)	-1140	-562	-30	3048	-750	1084
	8(SUS)	-75	-616	43	3184	10	389
	9(SUS)	-75	-615	43	3176	10	388
	10(OPE)	4600	-2576	-175	3045	5154	-2503
	11(OPE)	92	-507	-26	3770	-898	313
	12(OPE)	3067	-1683	-119	2484	3298	-1618
	13(OPE)	3244	-1728	607	4012	5164	-1699
	14(OPE)	3027	-1820	-895	1930	1485	-1534
	15(OPE)	3183	-1769	-122	2804	3294	-1647
	16(OPE)	3024	-1668	-96	2787	3166	-1558
	17(OCC)	1464	-753	-25	-11	1734	-891
	18(OCC)	-3044	1317	123	713	-4318	1925
	19(OCC)	-69	140	30	-572	-122	-6
	20(OCC)	108	95	757	955	1744	-87
	21(OCC)	-108	4	-746	-1127	-1935	77
	22(OCC)	48	54	27	-253	-126	-35
	23(OCC)	-112	156	54	-270	-254	53
	MAX	4600/L10	-2576/L10	-895/L14	4399/L1	5164/L13	-2503/L10
750		TYPE=Rigid +Y; Rigid Z w/gap;					
	1(HYD)	-10	-2486	-66	0	0	0
	2(OPE)	-377	-1256	0	0	0	0
	4(OPE)	-234	-782	0	0	0	0
	6(OPE)	577	-1923	-4	0	0	0
	8(SUS)	-8	-1820	-48	0	0	0
	9(SUS)	-7	-1816	-47	0	0	0
	10(OPE)	-55	-184	0	0	0	0
	11(OPE)	-678	-2259	-1	0	0	0
	12(OPE)	-172	-572	0	0	0	0
	13(OPE)	-231	-770	0	0	0	0
	14(OPE)	-254	-848	0	0	0	0
	15(OPE)	-246	-822	0	0	0	0
	16(OPE)	-252	-840	0	0	0	0
	17(OCC)	179	598	-0	0	0	0
	18(OCC)	-443	-1477	-1	0	0	0
	19(OCC)	63	209	-0	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	20(OCC)	4	12	0	0	0	0
	21(OCC)	-20	-66	-0	0	0	0
	22(OCC)	-12	-40	0	0	0	0
	23(OCC)	-17	-58	0	0	0	0
	MAX	-678/L11	-2486/L1	-66/L1			
770		TYPE=Rigid +Y;					
	1(HYD)	0	-2900	0	0	0	0
	2(OPE)	0	-846	0	0	0	0
	4(OPE)	0	-2164	0	0	0	0
	6(OPE)	0	-717	0	0	0	0
	8(SUS)	0	-1899	0	0	0	0
	9(SUS)	0	-1899	0	0	0	0
	10(OPE)	0	0	0	0	0	0
	11(OPE)	0	-2419	0	0	0	0
	12(OPE)	0	-1354	0	0	0	0
	13(OPE)	0	-2372	0	0	0	0
	14(OPE)	0	-1390	0	0	0	0
	15(OPE)	0	-1245	0	0	0	0
	16(OPE)	0	-1757	0	0	0	0
	17(OCC)	0	2164	0	0	0	0
	18(OCC)	0	-256	0	0	0	0
	19(OCC)	0	810	0	0	0	0
	20(OCC)	0	-208	0	0	0	0
	21(OCC)	0	774	0	0	0	0
	22(OCC)	0	919	0	0	0	0
	23(OCC)	0	407	0	0	0	0
	MAX		-2900/L1				
780		TYPE=Rigid +Y;					
	1(HYD)	-226	-7974	-699	0	0	0
	2(OPE)	2781	-10259	1318	0	0	0
	4(OPE)	2434	-9073	1218	0	0	0
	6(OPE)	-425	-2312	-548	0	0	0
	8(SUS)	-130	-5301	-466	0	0	0
	9(SUS)	-130	-5297	-465	0	0	0
	10(OPE)	2924	-10474	1151	0	0	0
	11(OPE)	781	-8984	2579	0	0	0
	12(OPE)	2037	-7650	1056	0	0	0
	13(OPE)	2158	-8791	1516	0	0	0
	14(OPE)	2619	-9173	845	0	0	0
	15(OPE)	2218	-8481	1247	0	0	0
	16(OPE)	2117	-8087	1184	0	0	0
	17(OCC)	490	-1402	-66	0	0	0
	18(OCC)	-1653	89	1362	0	0	0
	19(OCC)	-397	1423	-161	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	20(OCC)	-276	282	298	0	0	0
	21(OCC)	185	-101	-373	0	0	0
	22(OCC)	-217	592	29	0	0	0
	23(OCC)	-317	986	-34	0	0	0
	MAX	2924/L10	-10474/L10	2579/L11			
800		TYPE=Rigid +Y; Rigid X w/gap; Rigid Z w/gap;					
	1(HYD)	-0	-2577	0	0	0	0
	2(OPE)	-225	-1398	13354	0	0	0
	4(OPE)	-236	-1398	13398	0	0	0
	6(OPE)	1734	-1398	-6154	0	0	0
	8(SUS)	-0	-1398	0	0	0	0
	9(SUS)	-0	-1397	0	0	0	0
	10(OPE)	607	-1398	13049	0	0	0
	11(OPE)	-4198	-1398	14165	0	0	0
	12(OPE)	-236	-1230	12756	0	0	0
	13(OPE)	-236	-1398	18291	0	0	0
	14(OPE)	-2452	-1397	8505	0	0	0
	15(OPE)	-231	-1398	13321	0	0	0
	16(OPE)	-232	-1398	13341	0	0	0
	17(OCC)	843	-0	-349	0	0	0
	18(OCC)	-3962	0	767	0	0	0
	19(OCC)	0	168	-642	0	0	0
	20(OCC)	1	-0	4893	0	0	0
	21(OCC)	-2216	0	-4893	0	0	0
	22(OCC)	5	-0	-77	0	0	0
	23(OCC)	4	-0	-57	0	0	0
	MAX	-4198/L11	-2577/L1	18291/L13			
810		TYPE=Rigid +Y;					
	1(HYD)	0	-7414	0	0	0	0
	2(OPE)	-40	-4027	-1207	0	0	0
	4(OPE)	-47	-4027	-1207	0	0	0
	6(OPE)	-70	-4023	1205	0	0	0
	8(SUS)	0	-4023	0	0	0	0
	9(SUS)	0	-4018	0	0	0	0
	10(OPE)	102	-4027	-1204	0	0	0
	11(OPE)	-224	-4027	-1187	0	0	0
	12(OPE)	-40	-3544	-1062	0	0	0
	13(OPE)	-46	-4026	-1207	0	0	0
	14(OPE)	-40	-4028	-1208	0	0	0
	15(OPE)	-44	-4027	-1207	0	0	0
	16(OPE)	-44	-4027	-1207	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	17(OCC)	149	0	3	0	0	0
	18(OCC)	-178	-0	20	0	0	0
	19(OCC)	6	483	145	0	0	0
	20(OCC)	0	2	0	0	0	0
	21(OCC)	7	-1	-1	0	0	0
	22(OCC)	3	1	0	0	0	0
	23(OCC)	3	1	0	0	0	0
	MAX	-224/L11	-7414/L1	-1208/L14			
820		TYPE=Rigid +Y; Rigid X w/gap;					
	1(HYD)	-0	-6263	0	0	0	0
	2(OPE)	2036	-3384	-1012	0	0	0
	4(OPE)	2126	-3384	-1012	0	0	0
	6(OPE)	-88	-3400	1016	0	0	0
	8(SUS)	-0	-3400	0	0	0	0
	9(SUS)	-0	-3395	0	0	0	0
	10(OPE)	3481	-3385	-1012	0	0	0
	11(OPE)	997	-3384	-1012	0	0	0
	12(OPE)	2109	-2978	-890	0	0	0
	13(OPE)	2122	-3390	-1014	0	0	0
	14(OPE)	1978	-3378	-1010	0	0	0
	15(OPE)	2087	-3386	-1012	0	0	0
	16(OPE)	2095	-3386	-1012	0	0	0
	17(OCC)	1354	-1	-0	0	0	0
	18(OCC)	-1130	0	0	0	0	0
	19(OCC)	-18	406	121	0	0	0
	20(OCC)	-4	-6	-2	0	0	0
	21(OCC)	-148	6	2	0	0	0
	22(OCC)	-40	-2	-1	0	0	0
	23(OCC)	-32	-2	-1	0	0	0
	MAX	3481/L10	-6263/L1	1016/L6			
830		TYPE=Rigid +Y;					
	1(HYD)	0	-6746	0	0	0	0
	2(OPE)	193	-3717	-1098	0	0	0
	4(OPE)	198	-3718	-1098	0	0	0
	6(OPE)	8	-3655	1097	0	0	0
	8(SUS)	0	-3659	0	0	0	0
	9(SUS)	0	-3654	0	0	0	0
	10(OPE)	158	-3716	-1103	0	0	0
	11(OPE)	253	-3719	-1087	0	0	0
	12(OPE)	173	-3273	-967	0	0	0
	13(OPE)	196	-3694	-1091	0	0	0
	14(OPE)	188	-3739	-1106	0	0	0
	15(OPE)	194	-3709	-1096	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	16(OPE)	195	-3710	-1096	0	0	0
	17(OCC)	-39	3	-6	0	0	0
	18(OCC)	55	-1	11	0	0	0
	19(OCC)	-25	445	131	0	0	0
	20(OCC)	-1	24	7	0	0	0
	21(OCC)	-9	-21	-8	0	0	0
	22(OCC)	-3	9	2	0	0	0
	23(OCC)	-3	8	2	0	0	0
	MAX	253/L11	-6746/L1	-1106/L14			
840		TYPE=Rigid +Y; Rigid X w/gap;					
	1(HYD)	-1	-5862	1	0	0	0
	2(OPE)	-11560	-2888	-866	0	0	0
	4(OPE)	-11902	-2880	-863	0	0	0
	6(OPE)	1255	-3212	924	0	0	0
	8(SUS)	-1	-3195	1	0	0	0
	9(SUS)	-1	-3191	1	0	0	0
	10(OPE)	-8079	-2894	-867	0	0	0
	11(OPE)	-16485	-2876	-862	0	0	0
	12(OPE)	-11795	-2530	-758	0	0	0
	13(OPE)	-11901	-3005	-901	0	0	0
	14(OPE)	-11411	-2768	-830	0	0	0
	15(OPE)	-11764	-2927	-877	0	0	0
	16(OPE)	-11791	-2921	-876	0	0	0
	17(OCC)	3823	-14	-4	0	0	0
	18(OCC)	-4583	3	1	0	0	0
	19(OCC)	108	350	105	0	0	0
	20(OCC)	2	-126	-38	0	0	0
	21(OCC)	492	111	33	0	0	0
	22(OCC)	138	-47	-14	0	0	0
	23(OCC)	112	-42	-13	0	0	0
	MAX	-16485/L11	-5862/L1	924/L6			
850		TYPE=Rigid +Y;					
	1(HYD)	-1	-4534	2	0	0	0
	2(OPE)	-253	-2611	-741	0	0	0
	4(OPE)	-260	-2614	-740	0	0	0
	6(OPE)	346	-2442	645	0	0	0
	8(SUS)	-1	-2449	1	0	0	0
	9(SUS)	-1	-2446	1	0	0	0
	10(OPE)	-192	-2602	-757	0	0	0
	11(OPE)	-340	-2621	-709	0	0	0
	12(OPE)	-226	-2297	-651	0	0	0
	13(OPE)	-251	-2530	-716	0	0	0
	14(OPE)	-254	-2689	-766	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	15(OPE)	-253	-2581	-732	0	0	0
	16(OPE)	-254	-2586	-733	0	0	0
	17(OCC)	68	12	-17	0	0	0
	18(OCC)	-81	-7	31	0	0	0
	19(OCC)	34	317	89	0	0	0
	20(OCC)	9	84	24	0	0	0
	21(OCC)	6	-75	-26	0	0	0
	22(OCC)	7	33	8	0	0	0
	23(OCC)	6	28	7	0	0	0
	MAX	346/L6	-4534/L1	-766/L14			
870		TYPE=Rigid +Y;					
	1(HYD)	0	-4930	0	0	0	0
	2(OPE)	0	-2929	0	0	0	0
	4(OPE)	0	-2940	0	0	0	0
	6(OPE)	0	-2659	0	0	0	0
	8(SUS)	0	-2679	0	0	0	0
	9(SUS)	0	-2675	0	0	0	0
	10(OPE)	0	-2945	0	0	0	0
	11(OPE)	0	-2922	0	0	0	0
	12(OPE)	0	-2613	0	0	0	0
	13(OPE)	0	-2908	0	0	0	0
	14(OPE)	0	-2966	0	0	0	0
	15(OPE)	0	-2932	0	0	0	0
	16(OPE)	0	-2930	0	0	0	0
	17(OCC)	0	-5	0	0	0	0
	18(OCC)	0	18	0	0	0	0
	19(OCC)	0	327	0	0	0	0
	20(OCC)	0	32	0	0	0	0
	21(OCC)	0	-25	0	0	0	0
	22(OCC)	0	8	0	0	0	0
	23(OCC)	0	10	0	0	0	0
	MAX		-4930/L1				
880		TYPE=Rigid +Y; Rigid Z;					
	1(HYD)	119	-7079	-26	0	0	0
	2(OPE)	-1030	-3434	-15411	0	0	0
	4(OPE)	-1024	-3412	-15578	0	0	0
	6(OPE)	1158	-3859	2200	0	0	0
	8(SUS)	76	-3824	-18	0	0	0
	9(SUS)	76	-3819	-18	0	0	0
	10(OPE)	1017	-3389	-15237	0	0	0
	11(OPE)	-1038	-3461	-16369	0	0	0
	12(OPE)	-883	-2942	-15447	0	0	0
	13(OPE)	-1019	-3396	-13364	0	0	0
	14(OPE)	-1030	-3435	-17743	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	15(OPE)	-1019	-3395	-15391	0	0	0
	16(OPE)	-1021	-3404	-15415	0	0	0
	17(OCC)	2040	23	341	0	0	0
	18(OCC)	-15	-49	-791	0	0	0
	19(OCC)	141	470	131	0	0	0
	20(OCC)	5	16	2214	0	0	0
	21(OCC)	-7	-23	-2164	0	0	0
	22(OCC)	5	17	188	0	0	0
	23(OCC)	2	8	164	0	0	0
	MAX	2040/L17	-7079/L1	-17743/L14			
920		TYPE=Rigid +Y;					
	1(HYD)	215	-9755	673	0	0	0
	2(OPE)	3915	-13052	68	0	0	0
	4(OPE)	3913	-13048	93	0	0	0
	6(OPE)	-1407	-4699	85	0	0	0
	8(SUS)	137	-5502	445	0	0	0
	9(SUS)	137	-5496	444	0	0	0
	10(OPE)	4089	-13634	-90	0	0	0
	11(OPE)	3672	-12472	719	0	0	0
	12(OPE)	3700	-12342	146	0	0	0
	13(OPE)	3907	-13166	578	0	0	0
	14(OPE)	3884	-13013	-388	0	0	0
	15(OPE)	3905	-13032	183	0	0	0
	16(OPE)	3899	-13011	178	0	0	0
	17(OCC)	176	-586	-183	0	0	0
	18(OCC)	-241	576	626	0	0	0
	19(OCC)	-213	705	53	0	0	0
	20(OCC)	-6	-118	485	0	0	0
	21(OCC)	-29	35	-482	0	0	0
	22(OCC)	-8	16	90	0	0	0
	23(OCC)	-14	37	85	0	0	0
	MAX	4089/L10	-13634/L10	719/L11			
940		TYPE=Rigid +Y; Rigid Z;					
	1(HYD)	0	-2501	57	0	0	0
	2(OPE)	0	-1874	-2327	0	0	0
	4(OPE)	0	-1918	-2352	0	0	0
	6(OPE)	0	-1352	412	0	0	0
	8(SUS)	0	-1396	40	0	0	0
	9(SUS)	0	-1395	40	0	0	0
	10(OPE)	0	-1956	-2447	0	0	0
	11(OPE)	0	-1829	-2697	0	0	0
	12(OPE)	0	-1791	-2207	0	0	0
	13(OPE)	0	-2006	-1044	0	0	0
	14(OPE)	0	-1819	-3577	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	15(OPE)	0	-1976	-2127	0	0	0
	16(OPE)	0	-1955	-2120	0	0	0
	17(OCC)	0	-38	-96	0	0	0
	18(OCC)	0	89	-345	0	0	0
	19(OCC)	0	127	145	0	0	0
	20(OCC)	0	-88	1308	0	0	0
	21(OCC)	0	99	-1225	0	0	0
	22(OCC)	0	-58	224	0	0	0
	23(OCC)	0	-37	231	0	0	0
	MAX		-2501/L1	-3577/L14			
960		TYPE=Rigid +Y;					
	1(HYD)	0	-4756	0	0	0	0
	2(OPE)	0	0	0	0	0	0
	4(OPE)	0	0	0	0	0	0
	6(OPE)	0	0	0	0	0	0
	8(SUS)	0	-3806	0	0	0	0
	9(SUS)	0	-3797	0	0	0	0
	10(OPE)	0	0	0	0	0	0
	11(OPE)	0	-303	0	0	0	0
	12(OPE)	0	0	0	0	0	0
	13(OPE)	0	0	0	0	0	0
	14(OPE)	0	-715	0	0	0	0
	15(OPE)	0	0	0	0	0	0
	16(OPE)	0	0	0	0	0	0
	17(OCC)	0	0	0	0	0	0
	18(OCC)	0	-303	0	0	0	0
	19(OCC)	0	0	0	0	0	0
	20(OCC)	0	0	0	0	0	0
	21(OCC)	0	-715	0	0	0	0
	22(OCC)	0	0	0	0	0	0
	23(OCC)	0	0	0	0	0	0
	MAX		-4756/L1				
1010		TYPE=Rigid +Y;					
	1(HYD)	-365	-3981	-1137	0	0	0
	2(OPE)	765	-2766	-321	0	0	0
	4(OPE)	938	-3146	-103	0	0	0
	6(OPE)	-739	-2937	-480	0	0	0
	8(SUS)	-411	-2880	-760	0	0	0
	9(SUS)	-409	-2873	-759	0	0	0
	10(OPE)	956	-3191	-56	0	0	0
	11(OPE)	-849	-3456	-595	0	0	0
	12(OPE)	754	-2521	-63	0	0	0
	13(OPE)	776	-2592	-53	0	0	0
	14(OPE)	1041	-3503	-145	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	15(OPE)	846	-2830	-75	0	0	0
	16(OPE)	825	-2763	-79	0	0	0
	17(OCC)	17	-45	48	0	0	0
	18(OCC)	-1787	-310	-491	0	0	0
	19(OCC)	-184	625	41	0	0	0
	20(OCC)	-162	554	51	0	0	0
	21(OCC)	103	-357	-41	0	0	0
	22(OCC)	-92	316	28	0	0	0
	23(OCC)	-113	383	25	0	0	0
	MAX	-1787/L18	-3981/L1	-1137/L1			

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

- 1 (HYD) WW+HP
- 2 (OPE) W+T1+P1
- 3 (Alt-SUS) W+P1
- 4 (OPE) W+T2+P1
- 5 (Alt-SUS) W+P1
- 6 (OPE) W+T3+P1
- 7 (Alt-SUS) W+P1
- 8 (SUS) W+P1
- 9 (SUS) WNC
- 10 (OPE) W+T2+P1+U1
- 11 (OPE) W+T2+P1-U1
- 12 (OPE) W+T2+P1+U2
- 13 (OPE) W+T2+P1+U3
- 14 (OPE) W+T2+P1-U3
- 15 (OPE) W+T2+P1+F1
- 16 (OPE) W+T2+P1+F2
- 17 (OCC) L17=L10-L4
- 18 (OCC) L18=L11-L4
- 19 (OCC) L19=L12-L4
- 20 (OCC) L20=L13-L4
- 21 (OCC) L21=L14-L4
- 22 (OCC) L22=L15-L4
- 23 (OCC) L23=L16-L4
- 24 (OCC) L24=L17+L8
- 25 (OCC) L25=L18+L8
- 26 (OCC) L26=L19+L8
- 27 (OCC) L27=L20+L8
- 28 (OCC) L28=L21+L8
- 29 (OCC) L29=L22+L8
- 30 (OCC) L30=L23+L8
- 31 (EXP) L31=L2-L8
- 32 (EXP) L32=L4-L8
- 33 (EXP) L33=L2-L4
- 34 (EXP) L34=L6-L8
- 35 (EXP) L35=L2-L6
- 36 (EXP) L36=L4-L6

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement Various Load Cases

LOAD CASE DEFINITION KEY

CASE 1 (HYD) WW+HP
CASE 3 (Alt-SUS) W+P1
CASE 5 (Alt-SUS) W+P1
CASE 7 (Alt-SUS) W+P1
CASE 8 (SUS) W+P1
CASE 9 (SUS) WNC
CASE 24 (OCC) L24=L17+L8
CASE 25 (OCC) L25=L18+L8
CASE 26 (OCC) L26=L19+L8
CASE 27 (OCC) L27=L20+L8
CASE 28 (OCC) L28=L21+L8
CASE 29 (OCC) L29=L22+L8
CASE 30 (OCC) L30=L23+L8
CASE 31 (EXP) L31=L2-L8
CASE 32 (EXP) L32=L4-L8
CASE 33 (EXP) L33=L2-L4
CASE 34 (EXP) L34=L6-L8
CASE 35 (EXP) L35=L2-L6
CASE 36 (EXP) L36=L4-L6

Piping Code: B31.3 = B31.3 -2016, Jan 31, 2017

CODE STRESS CHECK PASSED : LOADCASE 1 (HYD) WW+HP

Highest Stresses: (KPa)	LOADCASE 1 (HYD) WW+HP	
Ratio (%):	9.7	@Node 1000
Code Stress:	23463.8	Allowable Stress: 241316.5
Axial Stress:	6003.0	@Node 10
Bending Stress:	28751.8	@Node 1000
Torsion Stress:	3230.0	@Node 960
Hoop Stress:	12353.7	@Node 810
Max Stress Intensity:	30651.8	@Node 1000

CODE STRESS CHECK PASSED : LOADCASE 3 (Alt-SUS) W+P1

Highest Stresses: (KPa)	LOADCASE 3 (Alt-SUS) W+P1	
Ratio (%):	68.7	@Node 228
Code Stress:	88882.9	Allowable Stress: 129365.3
Axial Stress:	13554.9	@Node 510
Bending Stress:	112188.5	@Node 228
Torsion Stress:	11006.6	@Node 638
Hoop Stress:	24443.4	@Node 810
Max Stress Intensity:	122055.6	@Node 228

CODE STRESS CHECK PASSED : LOADCASE 5 (Alt-SUS) W+P1

Highest Stresses: (KPa)	LOADCASE 5 (Alt-SUS) W+P1	
Ratio (%):	68.9	@Node 228

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
Various Load Cases

Code Stress:	89162.4	Allowable Stress:	129365.3
Axial Stress:	13596.8	@Node 510	
Bending Stress:	112574.7	@Node 228	
Torsion Stress:	10831.3	@Node 638	
Hoop Stress:	24443.4	@Node 810	
Max Stress Intensity:	122456.7	@Node 228	

CODE STRESS CHECK PASSED : LOADCASE 7 (Alt-SUS) W+P1

Highest Stresses: (KPa)	LOADCASE 7 (Alt-SUS) W+P1	
Ratio (%):	30.8	@Node 360
Code Stress:	42493.4	Allowable Stress: 137895.1
Axial Stress:	15482.0	@Node 510
Bending Stress:	32540.7	@Node 360
Torsion Stress:	4351.7	@Node 960
Hoop Stress:	24443.4	@Node 810
Max Stress Intensity:	42487.9	@Node 360

CODE STRESS CHECK PASSED : LOADCASE 8 (SUS) W+P1

Highest Stresses: (KPa)	LOADCASE 8 (SUS) W+P1	
Ratio (%):	23.9	@Node 510
Code Stress:	32895.7	Allowable Stress: 137895.1
Axial Stress:	12150.0	@Node 10
Bending Stress:	22319.1	@Node 510
Torsion Stress:	4670.6	@Node 960
Hoop Stress:	24443.4	@Node 810
Max Stress Intensity:	32910.9	@Node 510

CODE STRESS CHECK PASSED : LOADCASE 9 (SUS) WNC

Highest Stresses: (KPa)	LOADCASE 9 (SUS) WNC	
Ratio (%):	17.0	@Node 510
Code Stress:	23502.4	Allowable Stress: 137895.1
Axial Stress:	1403.2	@Node 1010
Bending Stress:	22263.5	@Node 510
Torsion Stress:	4660.5	@Node 960
Hoop Stress:	0.0	@Node 20
Max Stress Intensity:	23502.4	@Node 510

CODE STRESS CHECK PASSED : LOADCASE 24 (OCC) L24=L17+L8

Highest Stresses: (KPa)	LOADCASE 24 (OCC) L24=L17+L8	
Ratio (%):	37.5	@Node 510
Code Stress:	68750.5	Allowable Stress: 183400.5
Axial Stress:	12924.4	@Node 880
Bending Stress:	54191.1	@Node 860
Torsion Stress:	13670.9	@Node 360
Hoop Stress:	24443.4	@Node 810
Max Stress Intensity:	77285.4	@Node 860

CODE STRESS CHECK PASSED : LOADCASE 25 (OCC) L25=L18+L8

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
Various Load Cases

Highest Stresses: (	KPa	)	LOADCASE 25 (OCC)	L25=L18+L8	
Ratio (%):	60.3		@Node	510	
Code Stress:	110639.2		Allowable Stress:		183400.5
Axial Stress:	12171.4		@Node	920	
Bending Stress:	91967.6		@Node	510	
Torsion Stress:	19260.7		@Node	360	
Hoop Stress:	24443.4		@Node	810	
Max Stress Intensity:	110654.4		@Node	510	

CODE STRESS CHECK PASSED : LOADCASE 26 (OCC) L26=L19+L8

Highest Stresses: (	KPa	)	LOADCASE 26 (OCC)	L26=L19+L8	
Ratio (%):	24.8		@Node	510	
Code Stress:	45423.8		Allowable Stress:		183400.5
Axial Stress:	12304.9		@Node	810	
Bending Stress:	32818.9		@Node	510	
Torsion Stress:	5117.1		@Node	960	
Hoop Stress:	24443.4		@Node	810	
Max Stress Intensity:	45439.0		@Node	510	

CODE STRESS CHECK PASSED : LOADCASE 27 (OCC) L27=L20+L8

Highest Stresses: (	KPa	)	LOADCASE 27 (OCC)	L27=L20+L8	
Ratio (%):	33.0		@Node	510	
Code Stress:	60439.4		Allowable Stress:		183400.5
Axial Stress:	12205.4		@Node	10	
Bending Stress:	48890.4		@Node	510	
Torsion Stress:	7285.7		@Node	960	
Hoop Stress:	24443.4		@Node	810	
Max Stress Intensity:	60454.6		@Node	510	

CODE STRESS CHECK PASSED : LOADCASE 28 (OCC) L28=L21+L8

Highest Stresses: (	KPa	)	LOADCASE 28 (OCC)	L28=L21+L8	
Ratio (%):	39.5		@Node	510	
Code Stress:	72465.6		Allowable Stress:		183400.5
Axial Stress:	13838.6		@Node	800	
Bending Stress:	61202.2		@Node	510	
Torsion Stress:	4670.7		@Node	630	
Hoop Stress:	24443.4		@Node	810	
Max Stress Intensity:	72480.8		@Node	510	

CODE STRESS CHECK PASSED : LOADCASE 29 (OCC) L29=L22+L8

Highest Stresses: (	KPa	)	LOADCASE 29 (OCC)	L29=L22+L8	
Ratio (%):	27.1		@Node	510	
Code Stress:	49698.3		Allowable Stress:		183400.5
Axial Stress:	12238.4		@Node	10	
Bending Stress:	38413.8		@Node	510	
Torsion Stress:	6143.7		@Node	960	
Hoop Stress:	24443.4		@Node	810	

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
 Various Load Cases

Max Stress Intensity: 49713.5 @Node 510

CODE STRESS CHECK PASSED : LOADCASE 30 (OCC) L30=L23+L8

Highest Stresses: (KPa) LOADCASE 30 (OCC) L30=L23+L8
 Ratio (%): 30.4 @Node 510
 Code Stress: 55837.6 Allowable Stress: 183400.5
 Axial Stress: 12201.7 @Node 10
 Bending Stress: 44170.8 @Node 510
 Torsion Stress: 6149.6 @Node 960
 Hoop Stress: 24443.4 @Node 810
 Max Stress Intensity: 55852.8 @Node 510

CODE STRESS CHECK PASSED : LOADCASE 31 (EXP) L31=L2-L8

Highest Stresses: (KPa) LOADCASE 31 (EXP) L31=L2-L8
 Ratio (%): 55.2 @Node 859
 Code Stress: 174756.6 Allowable Stress: 316713.8
 Axial Stress: 1826.5 @Node 39
 Bending Stress: 173063.1 @Node 859
 Torsion Stress: 22724.0 @Node 50
 Hoop Stress: 0.0 @Node 20
 Max Stress Intensity: 463699.1 @Node 859

CODE STRESS CHECK PASSED : LOADCASE 32 (EXP) L32=L4-L8

Highest Stresses: (KPa) LOADCASE 32 (EXP) L32=L4-L8
 Ratio (%): 56.3 @Node 859
 Code Stress: 178162.7 Allowable Stress: 316372.5
 Axial Stress: 1832.8 @Node 39
 Bending Stress: 176434.1 @Node 859
 Torsion Stress: 22829.5 @Node 50
 Hoop Stress: 0.0 @Node 20
 Max Stress Intensity: 472737.1 @Node 859

CODE STRESS CHECK PASSED : LOADCASE 33 (EXP) L33=L2-L4

Highest Stresses: (KPa) LOADCASE 33 (EXP) L33=L2-L4
 Ratio (%): 4.5 @Node 360
 Code Stress: 13376.8 Allowable Stress: 300415.6
 Axial Stress: 235.2 @Node 360
 Bending Stress: 12456.0 @Node 360
 Torsion Stress: 2808.7 @Node 640
 Hoop Stress: 0.0 @Node 20
 Max Stress Intensity: 38203.8 @Node 360

CODE STRESS CHECK PASSED : LOADCASE 34 (EXP) L34=L6-L8

Highest Stresses: (KPa) LOADCASE 34 (EXP) L34=L6-L8
 Ratio (%): 7.4 @Node 859
 Code Stress: 24200.1 Allowable Stress: 327034.8
 Axial Stress: 1618.8 @Node 510

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
 Various Load Cases

Bending Stress:	23954.8	@Node	859
Torsion Stress:	2286.8	@Node	50
Hoop Stress:	0.0	@Node	20
Max Stress Intensity:	64213.9	@Node	859

CODE STRESS CHECK PASSED : LOADCASE 35 (EXP) L35=L2-L6

Highest Stresses: (KPa)	LOADCASE 35 (EXP) L35=L2-L6		
Ratio (%):	62.8	@Node	859
Code Stress:	198955.1	Allowable Stress:	316713.8
Axial Stress:	2539.2	@Node	810
Bending Stress:	197016.5	@Node	859
Torsion Stress:	25010.8	@Node	50
Hoop Stress:	0.0	@Node	20
Max Stress Intensity:	527908.8	@Node	859

CODE STRESS CHECK PASSED : LOADCASE 36 (EXP) L36=L4-L6

Highest Stresses: (KPa)	LOADCASE 36 (EXP) L36=L4-L6		
Ratio (%):	64.0	@Node	859
Code Stress:	202361.2	Allowable Stress:	316372.5
Axial Stress:	2544.9	@Node	810
Bending Stress:	200387.5	@Node	859
Torsion Stress:	25116.3	@Node	50
Hoop Stress:	0.0	@Node	20
Max Stress Intensity:	536946.6	@Node	859

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

- 1 (HYD) WW+HP
- 2 (OPE) W+T1+P1
- 3 (Alt-SUS) W+P1
- 4 (OPE) W+T2+P1
- 5 (Alt-SUS) W+P1
- 6 (OPE) W+T3+P1
- 7 (Alt-SUS) W+P1
- 8 (SUS) W+P1
- 9 (SUS) WNC
- 10 (OPE) W+T2+P1+U1
- 11 (OPE) W+T2+P1-U1
- 12 (OPE) W+T2+P1+U2
- 13 (OPE) W+T2+P1+U3
- 14 (OPE) W+T2+P1-U3
- 15 (OPE) W+T2+P1+F1
- 16 (OPE) W+T2+P1+F2
- 17 (OCC) L17=L10-L4
- 18 (OCC) L18=L11-L4
- 19 (OCC) L19=L12-L4
- 20 (OCC) L20=L13-L4
- 21 (OCC) L21=L14-L4
- 22 (OCC) L22=L15-L4
- 23 (OCC) L23=L16-L4
- 24 (OCC) L24=L17+L8
- 25 (OCC) L25=L18+L8
- 26 (OCC) L26=L19+L8
- 27 (OCC) L27=L20+L8
- 28 (OCC) L28=L21+L8
- 29 (OCC) L29=L22+L8
- 30 (OCC) L30=L23+L8
- 31 (EXP) L31=L2-L8
- 32 (EXP) L32=L4-L8
- 33 (EXP) L33=L2-L4
- 34 (EXP) L34=L6-L8
- 35 (EXP) L35=L2-L6
- 36 (EXP) L36=L4-L6

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NOZZLE CHECK REPORT: Nozzle Loads Screening

Various Load Cases

LOAD CASE DEFINITION KEY

CASE 2 (OPE) W+T1+P1

CASE 4 (OPE) W+T2+P1

CASE 6 (OPE) W+T3+P1

CASE 8 (SUS) W+P1

CASE 9 (SUS) WNC

Node		fa N.	fb N.	fc N.	Forces Check	ma N.m.	mb N.m.	mc N.m.	Moments Check	
690		Absolute Method								
	Limits	8400	8400	6300		3780	2520	3280		
	2(OPE)	2762	-129	-1862	0.329	-2442	-2071	-3428	1.045	*
	4(OPE)	2605	-149	-2919	0.463	-3869	-2243	-3284	1.023	*
	6(OPE)	2485	-34	548	0.296	662	-474	-3100	0.945	
	8(SUS)	2436	-4	82	0.290	144	-676	-3190	0.973	
	9(SUS)	2431	-4	82	0.289	143	-674	-3183	0.970	

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Line no.

Stress sketch

Input echo

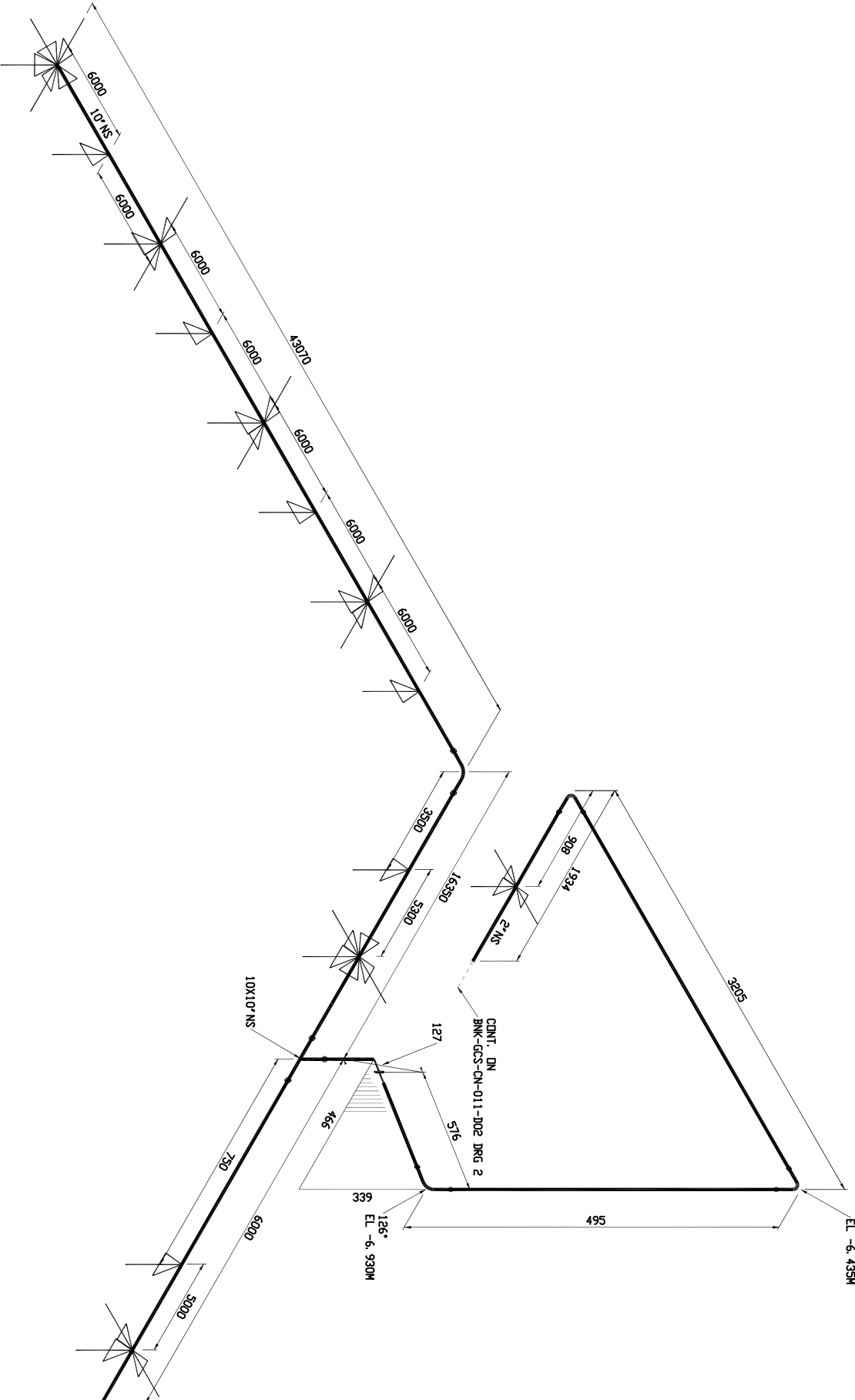
Restraint summary

Stress summary

Nozzle load Table

LINE NO.:

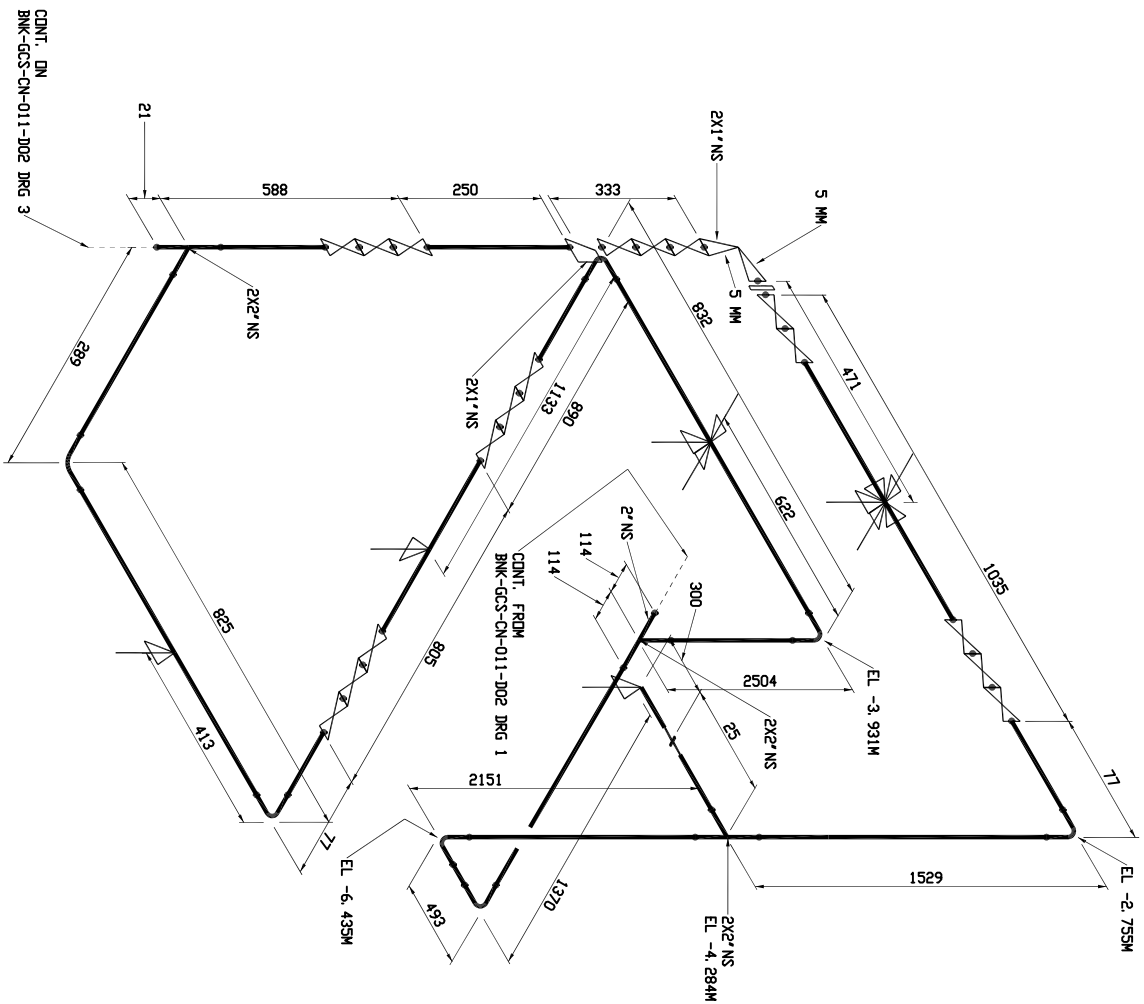
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2. FL-112-0033-AN07-2"-PT
3. FL-112-0034-AN07-2"-PT



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CHECK ISOMETRIC ONLY – DO NOT ISSUE				PIPING SPEC.	INSULATION SPEC.	INSULATION THKS.	PAINTING SPEC.	MATERIAL	OP. PRESSURE	OP. TEMP.	PROJECT NO.	SYSTEM	AREA	DRAWN BY	E.L.DIAGRAM	PIPELINE REFERENCE		REV.
REV.	CHANGE	DATE	02 MAR 2024	THIS DRAWING IS THE PROPERTY OF INTERGRAPH LTD AND MUST NOT BE COPIED OR LENT WITHOUT THE CONSENT OF THE COMPANY												DRG.		1 OF 3



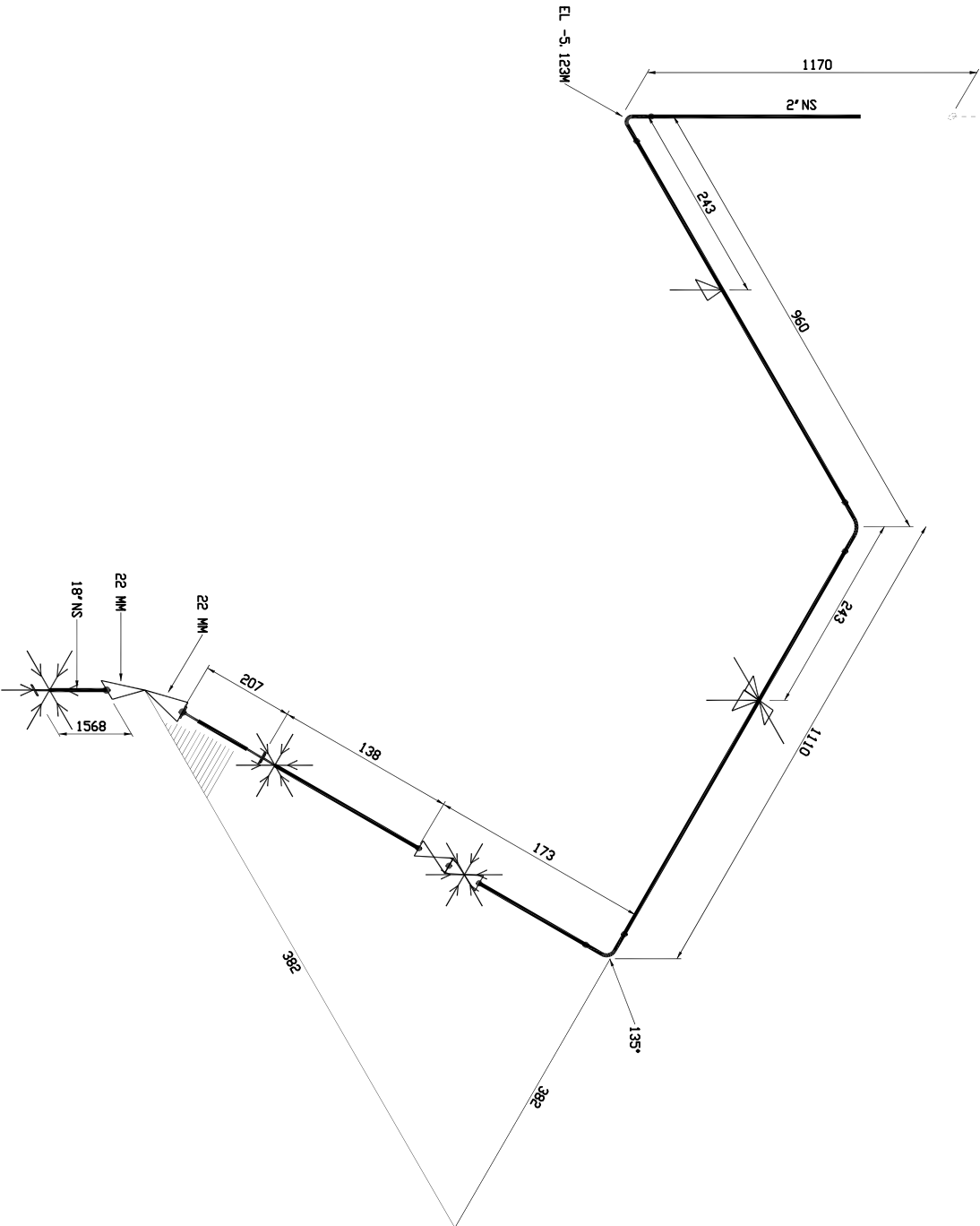


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PIPING SPEC.		OP. TEMP.		 PIPELINE REFERENCE	
INSULATION SPEC.		PROJECT NO.			
INSULATION THKS.		SYSTEM			
PAINTING SPEC.		AREA			
MATERIAL		DRAWN BY		DRG.	
OP. PRESSURE		E.L.DIAGRAM		2 OF 3	
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		02 MAR 2024															3 OF 3



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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

- 1 (HYD) WW+HP
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- 5 (Alt-SUS) W+P1
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- 7 (Alt-SUS) W+P1
- 8 (SUS) W+P1
- 9 (SUS) WNC
- 10 (OPE) W+T2+P1+U1
- 11 (OPE) W+T2+P1-U1
- 12 (OPE) W+T2+P1+U2
- 13 (OPE) W+T2+P1+U3
- 14 (OPE) W+T2+P1-U3
- 15 (OPE) W+T2+P1+F1
- 16 (OCC) L16=L10-L1
- 17 (OCC) L17=L11-L4
- 18 (OCC) L18=L12-L4
- 19 (OCC) L19=L13-L4
- 20 (OCC) L20=L14-L4
- 21 (OCC) L21=L15-L4
- 22 (OCC) L22=L16+L8
- 23 (OCC) L23=L17+L8
- 24 (OCC) L24=L18+L8
- 25 (OCC) L25=L19+L8
- 26 (OCC) L26=L20+L8
- 27 (OCC) L27=L21+L8
- 28 (EXP) L28=L2-L8
- 29 (EXP) L29=L4-L8
- 30 (EXP) L30=L2-L4
- 31 (EXP) L31=L6-L8
- 32 (EXP) L32=L2-L6
- 33 (EXP) L33=L4-L6

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Job Description:

PROJECT:

CLIENT :

ANALYST:

NOTES :

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CAESAR II 2018 Ver.10.00.00.7700, (Build 170726) MAR 2, 2024 12:46: 2

PIPE DATA

 From 10 To 20 DZ= -6,000.000 mm.

PIPE

Dia= 273.050 mm. Wall= 9.271 mm. Cor= 6.0000 mm.

GENERAL

T1= 85 C T2= 30 C T3= 21 C T4= 30 C P1= 750.0171 KPa
 PHyd= 1,125.0256 KPa Mat= (106)A106 Grade B E= 203,401,232 KPa
 EH1= 199,086,608 KPa EH2= 202,660,192 KPa EH3= 203,401,232 KPa
 EH4= 202,660,192 KPa EH5= 203,401,232 KPa EH6= 203,401,232 KPa
 EH7= 203,401,232 KPa EH8= 203,401,232 KPa EH9= 203,401,232 KPa
 v = .292 Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000015 kg./cu.cm.
 Insul Thk= .000 mm. Insul Den= .0001362 kg./cu.cm.

RESTRAINTS

Node 20 +Y Mu = .30
 Node 10 +Y Mu = .30
 Node 10 X Gap= 3.000 mm. Mu = .30
 Node 10 Z Gap= 3.000 mm. Mu = .30

UNIFORM LOAD

Vector1 in G-s X1 Dir = .26 g's Y1 Dir = .00 g's Z1 Dir = .00 g's
 Vector2 in G-s X2 Dir = .00 g's Y2 Dir = .12 g's Z2 Dir = .00 g's
 Vector3 in G-s X3 Dir = .00 g's Y3 Dir = .00 g's Z3 Dir = .26 g's

SIF's & TEE's

Node 10 <No Type Specified> SIF(in)= 2.080 SIF(out)= 2.460

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 20 To 30 DZ= -6,000.000 mm.

PIPE

Dia= 273.050 mm. Wall= 9.271 mm. Cor= 6.0000 mm.

GENERAL

Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 199,086,608 KPa
 EH2= 202,660,192 KPa EH3= 203,401,232 KPa EH4= 202,660,192 KPa
 EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa
 EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292
 Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000015 kg./cu.cm.
 Insul Thk= .000 mm.

RESTRAINTS

Node 30 +Y Mu = .30
 Node 30 X

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

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INPUT LISTING

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
Sh9= 137,895 KPa Sy= 241,316 KPa

From 30 To 40 DZ= -6,000.000 mm.

GENERAL

P2= .0000 KPa

RESTRAINTS

Node 40 +Y Mu = .30

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 40 To 50 DZ= -6,000.000 mm.

RESTRAINTS

Node 50 +Y Mu = .30

Node 50 X Gap= 3.000 mm.

From 50 To 60 DZ= -6,000.000 mm.

RESTRAINTS

Node 60 +Y Mu = .30

From 60 To 70 DZ= -6,000.000 mm.

RESTRAINTS

Node 70 +Y Mu = .30

Node 70 X Gap= 3.000 mm.

From 70 To 80 DZ= -6,000.000 mm.

RESTRAINTS

Node 80 +Y Mu = .30

From 80 To 90 DZ= -1,070.000 mm.

BEND at "T0" end

Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 89

Angle/Node @2= .00 88

From 90 To 100 DX= 3,500.000 mm.

RESTRAINTS

Node 100 +Y

From 100 To 110 DX= 5,300.000 mm.

RESTRAINTS

Node 110 +Y Mu = .30

Node 110 Z

Node 110 X

From 110 To 120 DX= 4,300.000 mm.

From 120 To 130 DX= 97.000 mm.

From 130 To 140 DX= 3,153.000 mm.

From 140 To 150 DY= 127.000 mm.

RIGID Weight= .00 N.

SIF's & TEE's

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INPUT LISTING

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Node 150 Weldolet Pad= 9.270 mm.
-----
From 140 To 160 DX= 750.000 mm.
RESTRAINTS
Node 160 +Y Mu = .30
-----
From 160 To 170 DX= 5,000.000 mm.
RESTRAINTS
Node 170 +Y Mu = .00
Node 170 Z
-----
From 170 To 180 DX= 250.000 mm.
-----
From 150 To 190 DX= 466.000 mm. DY= 339.000 mm.
PIPE
Dia= 60.325 mm. Wall= 8.738 mm.
Insul Thk= .000 mm.
BEND at "T0" end
Radius= 76.200 mm. (LONG) Bend Angle= 53.965 Angle/Node @1= 26.98 189
Angle/Node @2= .00 188
-----
From 190 To 200 DY= 495.000 mm.
BEND at "T0" end
Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 199
Angle/Node @2= .00 198
-----
From 200 To 210 DZ= 3,205.000 mm.
BEND at "T0" end
Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 209
Angle/Node @2= .00 208
-----
From 210 To 560 DX= 908.000 mm.
RESTRAINTS
Node 560 +Y Mu = .30
Node 560 Z Gap= 3.000 mm. Mu = .30
-----
From 560 To 570 DX= 1,140.000 mm.
SIF's & TEE's
Node 570 Welding Tee
-----
From 570 To 580 DY= 2,504.000 mm.
BEND at "T0" end
Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 579
Angle/Node @2= .00 578
-----
From 580 To 590 DZ= 622.000 mm.
RESTRAINTS
Node 590 +Y Mu = .30
Node 590 X Gap= 3.000 mm.
-----
From 590 To 600 DZ= 210.000 mm.
BEND at "T0" end
Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 599
Angle/Node @2= .00 598
-----
From 600 To 610 DX= 545.000 mm.

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INPUT LISTING

 From 610 To 620 DX= 66.675 mm.
 RIGID Weight= 31.14 N.

 From 620 To 630 DX= 212.000 mm.
 RIGID Weight= 271.34 N.

 From 630 To 640 DX= 66.675 mm.
 RIGID Weight= 31.14 N.

 From 640 To 645 DX= 242.500 mm.

RESTRAINTS

Node 645 +Y Mu = .30

 From 645 To 650 DX= 242.500 mm.

 From 650 To 660 DX= 66.675 mm.
 RIGID Weight= 31.14 N.

 From 660 To 670 DX= 187.000 mm.
 RIGID Weight= 209.07 N.

 From 670 To 680 DX= 66.675 mm.
 RIGID Weight= 31.14 N.

 From 680 To 690 DX= 77.000 mm.

BEND at "TO" end

Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 689
 Angle/Node @2= .00 688

 From 690 To 695 DZ= 412.500 mm.

RESTRAINTS

Node 695 +Y Mu = .30

 From 695 To 700 DZ= 412.500 mm.

BEND at "TO" end

Radius= 76.200 mm. (LONG) Bend Angle= 90.059 Angle/Node @1= 45.03 699
 Angle/Node @2= .00 698

 From 700 To 440 DX= -288.700 mm. DY= -.825 mm. DZ= -.297 mm.

 From 570 To 220 DX= 1,484.000 mm.

BEND at "TO" end

Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 219
 Angle/Node @2= .00 218

 From 220 To 230 DZ= 493.000 mm.

BEND at "TO" end

Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 229
 Angle/Node @2= .00 228

 From 230 To 240 DY= 2,151.000 mm.

 From 240 To 710 DZ= 25.400 mm.

RIGID Weight= .00 N.

SIF's & TEE's

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INPUT LISTING

Node 710 Unreinforced Tee

 From 240 To 250 DY= 352.000 mm.

SIF's & TEE's

Node 250 Welding Tee

 From 250 To 260 DY= 1,177.000 mm.

BEND at "T0" end

Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 259

Angle/Node @2= .00 258

 From 260 To 270 DZ= 77.000 mm.

 From 270 To 280 DZ= 66.675 mm.

RIGID Weight= 31.14 N.

 From 280 To 290 DZ= 187.000 mm.

RIGID Weight= 209.07 N.

 From 290 To 300 DZ= 66.675 mm.

RIGID Weight= 31.14 N.

 From 300 To 310 DZ= 290.500 mm.

RESTRAINTS

Node 310 +Y

Node 310 X

Node 310 Z Gap= 3.000 mm.

 From 310 To 320 DZ= 290.500 mm.

 From 320 To 330 DZ= 66.675 mm.

RIGID Weight= 31.14 N.

 From 330 To 340 DZ= 66.675 mm.

RIGID Weight= 31.14 N.

 From 340 To 350 DZ= 52.000 mm.

RIGID Weight= 31.14 N.

FORCES & MOMENTS

Node 350 FY1= 500.02 N. FZ1= 1,000.05 N.

 From 350 To 360 DY= -56.000 mm. DZ= .000 mm.

PIPE

Dia= 33.401 mm. Wall= 9.093 mm.

Insul Thk= .000 mm.

RIGID Weight= 15.57 N.

 From 360 To 370 DY= -58.737 mm.

RIGID Weight= 15.57 N.

 From 370 To 380 DY= -58.737 mm.

RIGID Weight= 15.57 N.

 From 380 To 390 DY= -165.000 mm.

REDUCER

Diam2= 60.325 mm. Wall2= 8.738 mm.

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INPUT LISTING

 From 390 To 400 DY= -250.000 mm.
 PIPE
 Dia= 60.325 mm. Wall= 8.738 mm.
 Insul Thk= .000 mm.

From 400 To 410 DY= -66.675 mm.
 RIGID Weight= 31.14 N.

From 410 To 420 DY= -187.000 mm.
 RIGID Weight= 209.07 N.

From 420 To 430 DY= -66.675 mm.
 RIGID Weight= 31.14 N.

From 430 To 440 DY= -269.000 mm.
 SIF's & TEE's
 Node 440 Weldolet

From 440 To 450 DY= -354.000 mm.

From 450 To 460 DY= -837.000 mm.
 BEND at "T0" end
 Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 459
 Angle/Node @2= .00 458

From 460 To 470 DX= .000 mm. DZ= -243.000 mm.
 RESTRAINTS
 Node 470 +Y Mu = .30

From 470 To 475 DX= .000 mm. DZ= -717.000 mm.
 BEND at "T0" end
 Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 474
 Angle/Node @2= .00 473

From 475 To 477 DX= 243.000 mm.
 RESTRAINTS
 Node 477 +Y Mu = .30
 Node 477 Z Gap= 3.000 mm.

From 477 To 480 DX= 867.000 mm.
 BEND at "T0" end
 Radius= 76.200 mm. (LONG) Bend Angle= 45.000 Angle/Node @1= 22.50 479
 Angle/Node @2= .00 478

From 480 To 490 DX= 25.000 mm. DZ= 25.000 mm.

From 490 To 500 DX= 50.000 mm. DZ= 50.000 mm.
 RIGID Weight= 31.14 N.
 RESTRAINTS
 Node 500 ANC Cnode 510

From 510 To 520 DX= 47.146 mm. DZ= 47.146 mm.
 RIGID Weight= 31.14 N.

From 520 To 530 DX= 97.581 mm. DZ= 97.581 mm.

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INPUT LISTING

RESTRAINTS

Node 530 ANC Cnode 531

 From 531 To 540 DX= 161.927 mm. DZ= 161.927 mm.

PIPE

Dia= 457.200 mm. Wall= 8.738 mm.

Insul Thk= .000 mm.

RIGID Weight= .00 N.

 From 540 To 550 DY= -1,590.000 mm.

RIGID Weight= .00 N.

RESTRAINTS

Node 550 ANC

 From 710 To 720 DZ= 300.000 mm.

PIPE

Dia= 48.260 mm. Wall= 3.683 mm. Cor= .0000 mm.

GENERAL

T1= 21 C T2= 21 C T3= 21 C P1= .0000 KPa PHyd= .0000 KPa

Mat= (102)A53 Grade B E= 203,401,232 KPa EH1= 203,401,232 KPa

EH2= 203,401,232 KPa EH3= 203,401,232 KPa EH4= 202,660,192 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000000 kg./cu.cm.

Insul Thk= .000 mm.

RESTRAINTS

Node 720 +Y Mu = .30

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

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MATERIAL Changes:

10 20 Mat= (106)A106 Grade B E= 203,401,232 KPa

v = .292 Density= .0078 kg./cu.cm.

20 30 Mat= (106)A106 Grade B E= 203,401,232 KPa

v = .292 Density= .0078 kg./cu.cm.

710 720 Mat= (102)A53 Grade B E= 203,401,232 KPa

v = .292 Density= .0078 kg./cu.cm.

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JOBNAME: D:\BINAK PRO\STRESS REPORT\D02\NATIVE\BNK-GCS-CN-011-)\BNK-GCS-CN-011-

ALLOWABLE STRESS Changes

10 20 B31.3 (2016) Cycle Max Switch = ---

Sc= 137,895 KPa Sh1= 137,895 KPa

Sh2= 137,895 KPa Sh3= 137,895 KPa

Sh4= 137,895 KPa Sh5= 137,895 KPa

Sh6= 137,895 KPa Sh7= 137,895 KPa

Sh8= 137,895 KPa Sh9= 137,895 KPa

Sy= 241,316 KPa

20 30 B31.3 (2016) Cycle Max Switch = ---

Sc= 137,895 KPa Sh1= 137,895 KPa

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INPUT LISTING

		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
30	40	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
710	720	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	

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BEND ELEMENTS

80	90	Radius= 381.000 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00 89
		Angle/Node @2= .00 88
150	190	Radius= 76.200 mm. (LONG)
		Bend Angle= 53.965 Angle/Node @1= 26.98
		189 Angle/Node @2= .00 188
190	200	Radius= 76.200 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		199 Angle/Node @2= .00 198
200	210	Radius= 76.200 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		209 Angle/Node @2= .00 208
570	580	Radius= 76.200 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		579 Angle/Node @2= .00 578
590	600	Radius= 76.200 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		599 Angle/Node @2= .00 598
680	690	Radius= 76.200 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		689 Angle/Node @2= .00 688
695	700	Radius= 76.200 mm. (LONG)
		Bend Angle= 90.059 Angle/Node @1= 45.03
		699 Angle/Node @2= .00 698
570	220	Radius= 76.200 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		219 Angle/Node @2= .00 218
220	230	Radius= 76.200 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		229 Angle/Node @2= .00 228
250	260	Radius= 76.200 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00

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INPUT LISTING

450	460	259 Angle/Node @2= .00 258 Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
470	475	459 Angle/Node @2= .00 458 Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
477	480	474 Angle/Node @2= .00 473 Radius= 76.200 mm. (LONG) Bend Angle= 45.000 Angle/Node @1= 22.50
		479 Angle/Node @2= .00 478

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RIGIDS

140	150	RIGID Weight= .00 N.
610	620	RIGID Weight= 31.14 N.
620	630	RIGID Weight= 271.34 N.
630	640	RIGID Weight= 31.14 N.
650	660	RIGID Weight= 31.14 N.
660	670	RIGID Weight= 209.07 N.
670	680	RIGID Weight= 31.14 N.
240	710	RIGID Weight= .00 N.
270	280	RIGID Weight= 31.14 N.
280	290	RIGID Weight= 209.07 N.
290	300	RIGID Weight= 31.14 N.
320	330	RIGID Weight= 31.14 N.
330	340	RIGID Weight= 31.14 N.
340	350	RIGID Weight= 31.14 N.
350	360	RIGID Weight= 15.57 N.
360	370	RIGID Weight= 15.57 N.
370	380	RIGID Weight= 15.57 N.
400	410	RIGID Weight= 31.14 N.
410	420	RIGID Weight= 209.07 N.
420	430	RIGID Weight= 31.14 N.
490	500	RIGID Weight= 31.14 N.
510	520	RIGID Weight= 31.14 N.
531	540	RIGID Weight= .00 N.
540	550	RIGID Weight= .00 N.

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SIF's & TEE's

10	20	Node 10 <No Type Specified> SIF(in)= 2.080 SIF(out)= 2.460
140	150	Node 150 Weldolet Pad= 9.270 mm.
560	570	Node 570 Welding Tee
240	710	Node 710 Unreinforced Tee
240	250	Node 250 Welding Tee
430	440	Node 440 Weldolet

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REDUCERS

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INPUT LISTING

380 390 Diam2= 60.325 mm. Wall2= 8.738 mm.

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RESTRAINTS

NODE	TYPE	CNODE	STIF1	Len GAP STIF2	MU YIELD FORCE	Dir Vectors	
20	+Y				.30	.000	1.000
10	+Y				.30	.000	1.000
10	X			3.00	.30	1.000	.000
10	Z			3.00	.30	.000	1.000
30	+Y				.30	.000	1.000
30	X					1.000	.000
40	+Y				.30	.000	1.000
50	+Y				.30	.000	1.000
50	X			3.00		1.000	.000
60	+Y				.30	.000	1.000
70	+Y				.30	.000	1.000
70	X			3.00		1.000	.000
80	+Y				.30	.000	1.000
100	+Y					.000	1.000
110	+Y				.30	.000	1.000
110	Z					.000	1.000
110	X					1.000	.000
160	+Y				.30	.000	1.000
170	+Y				.00	.000	1.000
170	Z					.000	1.000
560	+Y				.30	.000	1.000
560	Z			3.00	.30	.000	1.000
590	+Y				.30	.000	1.000
590	X			3.00		1.000	.000
645	+Y				.30	.000	1.000
695	+Y				.30	.000	1.000
310	+Y					.000	1.000
310	X					1.000	.000
310	Z			3.00		.000	1.000
470	+Y				.30	.000	1.000
477	+Y				.30	.000	1.000
477	Z			3.00		.000	1.000
500	ANC	510				.000	.000
530	ANC	531				.000	.000
550	ANC					.000	.000
720	+Y				.30	.000	1.000

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FORCES AND MOMENTS

340 350 Node 350 FY1= 500.02 N.

FZ1= 1,000.05 N.

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UNIFORM LOAD Changes

10 20

Vector1 in G-s

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INPUT LISTING

X1 Dir = .26 g's Y1 Dir = .00 g's
 Z1 Dir = .00 g's
 Vector2 in G-s
 X2 Dir = .00 g's Y2 Dir = .12 g's
 Z2 Dir = .00 g's
 Vector3 in G-s
 X3 Dir = .00 g's Y3 Dir = .00 g's
 Z3 Dir = .26 g's

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INPUT UNITS USED...

UNITS= SI (m NOM/SCH INPUT= ON

LENGTH	inches	x	25.400	=	mm.
FORCE	pounds	x	4.448	=	N.
MASS(dynamics)	pounds	x	0.454	=	Kg.
MOMENTS(INPUT)	inch-pounds	x	0.113	=	N.m.
MOMENTS(OUTPUT)	inch-pounds	x	0.113	=	N.m.
STRESS	lbs./sq.in.	x	6.895	=	KPa
TEMP. SCALE	degrees F.	x	0.556	=	C
PRESSURE	psig	x	6.895	=	KPa
ELASTIC MODULUS	lbs./sq.in.	x	6.895	=	KPa
PIPE DENSITY	lbs./cu.in.	x	0.028	=	kg./cu.cm.
INSULATION DENS.	lbs./cu.in.	x	0.028	=	kg./cu.cm.
FLUID DENSITY	lbs./cu.in.	x	0.028	=	kg./cu.cm.
TRANSL. STIF	lbs./in.	x	1.751	=	N./cm.
ROTATIONAL STIF	in.lb./deg.	x	0.113	=	N.m./deg
UNIFORM LOAD	lb./in.	x	1.751	=	N./cm.
G LOAD	g's	x	1.000	=	g's
WIND LOAD	lbs./sq.in.	x	6.895	=	KPa
ELEVATION	inches	x	0.025	=	m.
COMPOUND LENGTH	inches	x	25.400	=	mm.
DIAMETER	inches	x	25.400	=	mm.
WALL THICKNESS	inches	x	25.400	=	mm.

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SETUP FILE PARAMETERS

```

-----
CONNECT GEOMETRY THRU CNODES = YES
MIN ALLOWED BEND ANGLE = 5.00000
MAX ALLOWED BEND ANGLE = 95.0000
BEND LENGTH ATTACHMENT PERCENT = 1.00000
MIN ANGLE TO ADJACENT BEND PT = 5.00000
LOOP CLOSURE TOLERANCE = 25.4000 mm.
THERMAL BOWING HORZ TOLERANCE = 0.100000E-03
AUTO NODE NUMBER INCREMENT= 10.0000
Z AXIS UP= NO
USE PRESSURE STIFFENING = DEFAULT
ALPHA TOLERANCE = 0.500000E-01
RESLD-FORCE = NO
HGR DEF RESWGT STIF = 0.175127E+13 N./cm.
DECOMP SNG TOL = 0.100000E+11
BEND AXIAL SHAPE = YES
FRICT STIF = 0.175127E+07 N./cm.
FRICT NORM FORCE VAR = 0.150000
FRICT ANGLE VAR = 15.0000

```

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INPUT LISTING

```

FRICT SLIDE MULT =          1.00000
ROD TOLERANCE =          1.00000
ROD INC =          2.00000
INCORE NUMERICAL CHECK =          NO
OUTCORE NUMERICAL CHECK =          NO
DEFAULT TRANS RESTRAINT STIFF= 0.175127E+13      N./cm.
DEFAULT ROT RESTRAINT STIFF= 0.112985E+12      N.m./deg
IGNORE SPRING HANGER STIFFNESS =          NO
MISSING MASS ZPA =          EXTRACTED
MIN WALL MILL TOLERANCE =          12.5000
WRC-107 VERSION =          MAR 79 1B1/2B1
WRC-107 INTERPOLATION =          LAST VALUE
DEFAULT AMBIENT TEMPERATURE=          21.1111      C
BOURDON PRESSURE=          NONE
COEFFICIENT OF FRICTION (MU) =          0.000000
INCLUDE SPRG STIF IN HGR OPE =          NO
INCLUDE INSULATION IN HYDROTEST =          NO
REDUCED INTERSECTION =          B31.1(POST1980)
USE WRC329 =          NO
NO REDUCED SIF FOR RFT AND WLT =          NO
B31.1 REDUCED Z FIX =          YES
CLASS 1 BRANCH FLEX =          NO
ALL STRESS CASES CORRODED =          NO
ADD TORSION IN SL STRESS =          DEFAULT
ADD F/A IN STRESS =          DEFAULT
OCCASIONAL LOAD FACTOR =          0.000000
DEFAULT CODE =          B31.3
B31.3 SUS CASE SIF FACTOR =          0.000000
ALLOW USERS BEND SIF =          NO
USE SCHNEIDER =          NO
YIELD CRITERION STRESS =          MAX 3D SHEAR
USE PD/4T =          NO
BASE HOOP STRESS ON ? =          ID
EN13480 USE IN OUTPLANE SIFS=          NO
LIBERAL EXPANSION ALLOWABLE=          YES
B31.3 SEC 319.2.3C SAXIAL=          Default
B31.3 WELDING/CONTOUR TEE ISB16.9 =          FALSE
PRESSURE VARIATION IN EXP CASE=          DEFAULT
IMPLEMENT B313 APP-P =          NO
IMPLEMENT B313 CODE CASE 178 =          YES
IGNORE B31.1/B31.3 Wc FACTOR=          YES
USE FRP SIF =          YES
USE FRP FLEX =          YES
BS 7159 Pressure Stiffening=          Design Strain
FRP Property Data File=          CAESAR.FRP
FRP Emod (axial) =          0.220632E+08      KPa
FRP Ratio Gmod/Emod (axial) =          0.250000
FRP Ea/Eh*Vh/a =          0.152730
FRP Laminate Type =          THREE
FRP Alpha =          21.6000      C
FRP Density =          0.166079E-02 kg./cu.cm.
EXCLUDE f2 FROM UK00A BENDING =          NO

```

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EXECUTION CONTROL PARAMETERS

```

Rigid/ExpJt Print Flag ..... 1.000
Bourdon Option ..... .000
Loop Closure Flag ..... 2.000
Thermal Bowing Delta Temp .. .000 C
Liberal Allowable Flag ..... 1.000
Uniform Load Option ..... 1.000

Ambient Temperature ..... 20.997 C
Plastic (FRP) Alpha ..... 21.600
Plastic (FRP) GMOD/EMODa ... .250
Plastic (FRP) Laminate Type. 3.000
Eqn Optimizer ..... .000
Node Selection ..... .000
Eqn Ordering ..... .000
Collins ..... .000
Degree Determination ..... .000
User Eqn Control ..... .000
North Direction ..... -X

```

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COORDINATE REPORT

```

/------(mm.)-----/
NODE      X          Y          Z
10      -15700.080    -7395.683    7324.219
20      -15700.080    -7395.683    1324.219
30      -15700.080    -7395.683    -4675.781
40      -15700.080    -7395.683    -10675.781
50      -15700.080    -7395.683    -16675.781
60      -15700.080    -7395.683    -22675.781
70      -15700.080    -7395.683    -28675.781
80      -15700.080    -7395.683    -34675.781
90      -15700.080    -7395.683    -35745.781
100     -12200.080    -7395.683    -35745.781
110      -6900.080    -7395.683    -35745.781
120      -2600.080    -7395.683    -35745.781
130      -2503.080    -7395.683    -35745.781
140         649.920    -7395.683    -35745.781
150         649.920    -7268.683    -35745.781
140         649.920    -7395.683    -35745.781
160        1399.920    -7395.683    -35745.781
170        6399.920    -7395.683    -35745.781
180        6649.920    -7395.683    -35745.781
150         649.920    -7268.683    -35745.781
190        1115.920    -6929.683    -35745.781
200        1115.920    -6434.683    -35745.781
210        1115.920    -6434.683    -32540.781
560        2023.920    -6434.683    -32540.781
570        3163.920    -6434.683    -32540.781
580        3163.920    -3930.683    -32540.781
590        3163.920    -3930.683    -31918.781
600        3163.920    -3930.683    -31708.781
610        3708.920    -3930.683    -31708.781
620        3775.595    -3930.683    -31708.781
630        3987.595    -3930.683    -31708.781

```

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INPUT LISTING

640	4054.270	-3930.683	-31708.781
645	4296.770	-3930.683	-31708.781
650	4539.270	-3930.683	-31708.781
660	4605.945	-3930.683	-31708.781
670	4792.945	-3930.683	-31708.781
680	4859.620	-3930.683	-31708.781
690	4936.620	-3930.683	-31708.781
695	4936.620	-3930.683	-31296.281
700	4936.620	-3930.683	-30883.781
440	4647.920	-3931.508	-30884.078
570	3163.920	-6434.683	-32540.781
220	4647.920	-6434.683	-32540.781
230	4647.920	-6434.683	-32047.781
240	4647.920	-4283.683	-32047.781
710	4647.920	-4283.683	-32022.381
240	4647.920	-4283.683	-32047.781
250	4647.920	-3931.683	-32047.781
260	4647.920	-2754.683	-32047.781
270	4647.920	-2754.683	-31970.781
280	4647.920	-2754.683	-31904.105
290	4647.920	-2754.683	-31717.105
300	4647.920	-2754.683	-31650.430
310	4647.920	-2754.683	-31359.930
320	4647.920	-2754.683	-31069.430
330	4647.920	-2754.683	-31002.754
340	4647.920	-2754.683	-30936.078
350	4647.920	-2754.683	-30884.078
360	4647.920	-2810.683	-30884.078
370	4647.920	-2869.421	-30884.078
380	4647.920	-2928.158	-30884.078
390	4647.920	-3093.158	-30884.078
400	4647.920	-3343.158	-30884.078
410	4647.920	-3409.833	-30884.078
420	4647.920	-3596.833	-30884.078
430	4647.920	-3663.508	-30884.078
430	4647.920	-3662.508	-30884.078
440	4647.920	-3931.508	-30884.078
450	4647.920	-4285.508	-30884.078
460	4647.920	-5122.508	-30884.078
470	4647.920	-5122.508	-31127.078
475	4647.920	-5122.508	-31844.078
477	4890.920	-5122.508	-31844.078
480	5757.920	-5122.508	-31844.078
490	5782.920	-5122.508	-31819.078
500	5832.920	-5122.508	-31769.078
520	5880.066	-5122.508	-31721.932
530	5977.647	-5122.508	-31624.352
540	6139.574	-5122.508	-31462.424
550	6139.574	-6712.508	-31462.424
710	4647.920	-4283.683	-32022.381
720	4647.920	-4283.683	-31722.381

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

- 1 (HYD) WW+HP
- 2 (OPE) W+T1+P1
- 3 (Alt-SUS) W+P1
- 4 (OPE) W+T2+P1
- 5 (Alt-SUS) W+P1
- 6 (OPE) W+T4+P1
- 7 (Alt-SUS) W+P1
- 8 (SUS) W+P1
- 9 (SUS) WNC
- 10 (OPE) W+T2+P1+U1
- 11 (OPE) W+T2+P1-U1
- 12 (OPE) W+T2+P1+U2
- 13 (OPE) W+T2+P1+U3
- 14 (OPE) W+T2+P1-U3
- 15 (OPE) W+T2+P1+F1
- 16 (OCC) L16=L10-L1
- 17 (OCC) L17=L11-L4
- 18 (OCC) L18=L12-L4
- 19 (OCC) L19=L13-L4
- 20 (OCC) L20=L14-L4
- 21 (OCC) L21=L15-L4
- 22 (OCC) L22=L16+L8
- 23 (OCC) L23=L17+L8
- 24 (OCC) L24=L18+L8
- 25 (OCC) L25=L19+L8
- 26 (OCC) L26=L20+L8
- 27 (OCC) L27=L21+L8
- 28 (EXP) L28=L2-L8
- 29 (EXP) L29=L4-L8
- 30 (EXP) L30=L2-L4
- 31 (EXP) L31=L6-L8
- 32 (EXP) L32=L2-L6
- 33 (EXP) L33=L4-L6

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

LOAD CASE DEFINITION KEY

CASE 1 (HYD) WW+HP
CASE 2 (OPE) W+T1+P1
CASE 4 (OPE) W+T2+P1
CASE 6 (OPE) W+T4+P1
CASE 8 (SUS) W+P1
CASE 9 (SUS) WNC
CASE 10 (OPE) W+T2+P1+U1
CASE 11 (OPE) W+T2+P1-U1
CASE 12 (OPE) W+T2+P1+U2
CASE 13 (OPE) W+T2+P1+U3
CASE 14 (OPE) W+T2+P1-U3
CASE 15 (OPE) W+T2+P1+F1
CASE 16 (OCC) L16=L10-L1
CASE 17 (OCC) L17=L11-L4
CASE 18 (OCC) L18=L12-L4
CASE 19 (OCC) L19=L13-L4
CASE 20 (OCC) L20=L14-L4
CASE 21 (OCC) L21=L15-L4

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
10		TYPE=Rigid +Y; Rigid X w/gap; Rigid Z w/gap;					
	1(HYD)	0	-2578	0	0	0	0
	2(OPE)	1	-1399	9228	0	0	0
	4(OPE)	0	-1399	420	0	0	0
	6(OPE)	0	-1399	420	0	0	0
	8(SUS)	0	-1399	0	0	0	0
	9(SUS)	0	-1397	0	0	0	0
	10(OPE)	340	-1399	246	0	0	0
	11(OPE)	-350	-1399	232	0	0	0
	12(OPE)	0	-1231	369	0	0	0
	13(OPE)	-2	-1399	5974	0	0	0
	14(OPE)	0	-1399	268	0	0	0
	15(OPE)	0	-1399	420	0	0	0
	16(OCC)	340	1179	246	0	0	0
	17(OCC)	-350	-0	-188	0	0	0
	18(OCC)	0	168	-50	0	0	0
	19(OCC)	-2	-0	5555	0	0	0
	20(OCC)	0	0	-152	0	0	0
	21(OCC)	-0	0	-0	0	0	0
	MAX	-350/L17	-2578/L1	9228/L2			
20		TYPE=Rigid +Y;					

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	1(HYD)	-0	-7403	0	0	0	0
	2(OPE)	-33	-4018	-1205	0	0	0
	4(OPE)	0	-4018	1205	0	0	0
	6(OPE)	0	-4018	1205	0	0	0
	8(SUS)	-0	-4018	0	0	0	0
	9(SUS)	-0	-4013	0	0	0	0
	10(OPE)	813	-4018	890	0	0	0
	11(OPE)	-843	-4018	861	0	0	0
	12(OPE)	0	-3536	1061	0	0	0
	13(OPE)	-0	-4018	1205	0	0	0
	14(OPE)	-1	-4018	-1205	0	0	0
	15(OPE)	0	-4018	1205	0	0	0
	16(OCC)	813	3385	890	0	0	0
	17(OCC)	-843	0	-344	0	0	0
	18(OCC)	0	482	-145	0	0	0
	19(OCC)	-0	0	-0	0	0	0
	20(OCC)	-1	-0	-2411	0	0	0
	21(OCC)	0	-0	0	0	0	0
	MAX	-843/L17	-7403/L1	-2411/L20			
30		TYPE=Rigid +Y; Rigid X;					
	1(HYD)	0	-6304	0	0	0	0
	2(OPE)	57	-3421	-1026	0	0	0
	4(OPE)	0	-3421	1026	0	0	0
	6(OPE)	0	-3421	1026	0	0	0
	8(SUS)	0	-3421	0	0	0	0
	9(SUS)	0	-3417	0	0	0	0
	10(OPE)	1139	-3422	1026	0	0	0
	11(OPE)	-1120	-3422	1026	0	0	0
	12(OPE)	0	-3011	903	0	0	0
	13(OPE)	0	-3422	1026	0	0	0
	14(OPE)	0	-3421	-1026	0	0	0
	15(OPE)	0	-3421	1026	0	0	0
	16(OCC)	1139	2883	1026	0	0	0
	17(OCC)	-1120	-0	0	0	0	0
	18(OCC)	-0	411	-123	0	0	0
	19(OCC)	0	-0	0	0	0	0
	20(OCC)	-0	0	-2053	0	0	0
	21(OCC)	-0	0	-0	0	0	0
	MAX	1139/L10	-6304/L1	-2053/L20			
40		TYPE=Rigid +Y;					
	1(HYD)	-0	-6588	0	0	0	0
	2(OPE)	42	-3577	-1072	0	0	0
	4(OPE)	-4	-3575	1073	0	0	0
	6(OPE)	-4	-3575	1073	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	8(SUS)	-0	-3575	0	0	0	0
	9(SUS)	-0	-3571	0	0	0	0
	10(OPE)	1027	-3575	308	0	0	0
	11(OPE)	-1038	-3575	-270	0	0	0
	12(OPE)	-4	-3146	944	0	0	0
	13(OPE)	0	-3575	1073	0	0	0
	14(OPE)	7	-3576	-1073	0	0	0
	15(OPE)	-4	-3576	1073	0	0	0
	16(OCC)	1027	3013	308	0	0	0
	17(OCC)	-1034	0	-1342	0	0	0
	18(OCC)	-0	429	-129	0	0	0
	19(OCC)	4	0	-0	0	0	0
	20(OCC)	12	-0	-2145	0	0	0
	21(OCC)	-0	-0	0	0	0	0
	MAX	-1038/L11	-6588/L1	-2145/L20			
50		TYPE=Rigid +Y; Rigid X w/gap;					
	1(HYD)	0	-6540	0	0	0	0
	2(OPE)	61	-3543	-1061	0	0	0
	4(OPE)	13	-3549	-216	0	0	0
	6(OPE)	13	-3549	-216	0	0	0
	8(SUS)	0	-3549	0	0	0	0
	9(SUS)	0	-3545	0	0	0	0
	10(OPE)	1017	-3549	-314	0	0	0
	11(OPE)	-1003	-3550	-359	0	0	0
	12(OPE)	17	-3123	-305	0	0	0
	13(OPE)	-8	-3550	1065	0	0	0
	14(OPE)	14	-3548	-1064	0	0	0
	15(OPE)	13	-3549	-214	0	0	0
	16(OCC)	1017	2990	-314	0	0	0
	17(OCC)	-1016	-1	-143	0	0	0
	18(OCC)	4	426	-89	0	0	0
	19(OCC)	-21	-1	1281	0	0	0
	20(OCC)	0	1	-849	0	0	0
	21(OCC)	0	0	1	0	0	0
	MAX	1017/L10	-6540/L1	1281/L19			
60		TYPE=Rigid +Y;					
	1(HYD)	-0	-6453	0	0	0	0
	2(OPE)	18	-3523	-1057	0	0	0
	4(OPE)	39	-3503	-1050	0	0	0
	6(OPE)	39	-3502	-1050	0	0	0
	8(SUS)	-0	-3502	0	0	0	0
	9(SUS)	-0	-3497	0	0	0	0
	10(OPE)	956	-3501	-434	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	11(OPE)	-963	-3499	-417	0	0	0
	12(OPE)	31	-3083	-924	0	0	0
	13(OPE)	97	-3499	-1045	0	0	0
	14(OPE)	-19	-3507	-1052	0	0	0
	15(OPE)	39	-3504	-1050	0	0	0
	16(OCC)	956	2952	-434	0	0	0
	17(OCC)	-1002	3	633	0	0	0
	18(OCC)	-7	420	126	0	0	0
	19(OCC)	58	4	5	0	0	0
	20(OCC)	-58	-4	-2	0	0	0
	21(OCC)	-0	-1	-0	0	0	0
	MAX	-1002/L17	-6453/L1	-1057/L2			
70		TYPE=Rigid +Y; Rigid X w/gap;					
	1(HYD)	0	-6853	0	0	0	0
	2(OPE)	-1495	-3640	-1084	0	0	0
	4(OPE)	-141	-3717	-1106	0	0	0
	6(OPE)	-141	-3717	-1106	0	0	0
	8(SUS)	0	-3720	0	0	0	0
	9(SUS)	0	-3715	0	0	0	0
	10(OPE)	800	-3724	-780	0	0	0
	11(OPE)	-979	-3729	-627	0	0	0
	12(OPE)	-144	-3269	-970	0	0	0
	13(OPE)	-187	-3732	-1104	0	0	0
	14(OPE)	-145	-3701	-1101	0	0	0
	15(OPE)	-141	-3712	-1105	0	0	0
	16(OCC)	800	3129	-780	0	0	0
	17(OCC)	-838	-13	479	0	0	0
	18(OCC)	-2	447	136	0	0	0
	19(OCC)	-46	-15	2	0	0	0
	20(OCC)	-3	16	5	0	0	0
	21(OCC)	-0	5	1	0	0	0
	MAX	-1495/L2	-6853/L1	-1106/L6			
80		TYPE=Rigid +Y;					
	1(HYD)	-1	-5540	0	0	0	0
	2(OPE)	-226	-3048	-886	0	0	0
	4(OPE)	-375	-3009	-821	0	0	0
	6(OPE)	-375	-3009	-821	0	0	0
	8(SUS)	-1	-3007	0	0	0	0
	9(SUS)	-1	-3003	0	0	0	0
	10(OPE)	-204	-3004	-878	0	0	0
	11(OPE)	-410	-3003	-803	0	0	0
	12(OPE)	-334	-2648	-721	0	0	0
	13(OPE)	-504	-3001	-746	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	14(OPE)	-200	-3016	-883	0	0	0
	15(OPE)	-376	-3011	-821	0	0	0
	16(OCC)	-203	2537	-878	0	0	0
	17(OCC)	-34	5	18	0	0	0
	18(OCC)	41	360	100	0	0	0
	19(OCC)	-129	8	75	0	0	0
	20(OCC)	176	-7	-62	0	0	0
	21(OCC)	-0	-2	-1	0	0	0
	MAX	-504/L13	-5540/L1	-886/L2			
100		TYPE=Rigid +Y;					
	1(HYD)	0	-4394	0	0	0	0
	2(OPE)	0	-2418	0	0	0	0
	4(OPE)	0	-2383	0	0	0	0
	6(OPE)	0	-2383	0	0	0	0
	8(SUS)	0	-2382	0	0	0	0
	9(SUS)	0	-2379	0	0	0	0
	10(OPE)	0	-2384	0	0	0	0
	11(OPE)	0	-2373	0	0	0	0
	12(OPE)	0	-2098	0	0	0	0
	13(OPE)	0	-2377	0	0	0	0
	14(OPE)	0	-2392	0	0	0	0
	15(OPE)	0	-2385	0	0	0	0
	16(OCC)	0	2010	0	0	0	0
	17(OCC)	0	11	0	0	0	0
	18(OCC)	0	285	0	0	0	0
	19(OCC)	0	6	0	0	0	0
	20(OCC)	0	-9	0	0	0	0
	21(OCC)	0	-2	0	0	0	0
	MAX		-4394/L1				
110		TYPE=Rigid +Y; Rigid Z; Rigid X;					
	1(HYD)	1	-8155	-2	0	0	0
	2(OPE)	54	-4426	-3109	0	0	0
	4(OPE)	-934	-4431	-303	0	0	0
	6(OPE)	-934	-4431	-303	0	0	0
	8(SUS)	0	-4431	-2	0	0	0
	9(SUS)	0	-4425	-2	0	0	0
	10(OPE)	3162	-4422	-467	0	0	0
	11(OPE)	-5063	-4443	-203	0	0	0
	12(OPE)	-848	-3899	-296	0	0	0
	13(OPE)	-385	-4430	1436	0	0	0
	14(OPE)	-1031	-4426	-2206	0	0	0
	15(OPE)	-921	-4430	-308	0	0	0
	16(OCC)	3161	3733	-465	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	17(OCC)	-4128	-12	100	0	0	0
	18(OCC)	86	532	7	0	0	0
	19(OCC)	549	0	1739	0	0	0
	20(OCC)	-97	5	-1903	0	0	0
	21(OCC)	14	0	-5	0	0	0
	MAX	-5063/L11	-8155/L1	-3109/L2			
160		TYPE=Rigid +Y;					
	1(HYD)	-0	-8701	-90	0	0	0
	2(OPE)	1337	-4904	614	0	0	0
	4(OPE)	1453	-4847	62	0	0	0
	6(OPE)	1453	-4847	63	0	0	0
	8(SUS)	-1	-4843	-79	0	0	0
	9(SUS)	-1	-4838	-78	0	0	0
	10(OPE)	1443	-4845	177	0	0	0
	11(OPE)	1449	-4849	130	0	0	0
	12(OPE)	1278	-4267	62	0	0	0
	13(OPE)	1113	-4851	938	0	0	0
	14(OPE)	1264	-4865	-729	0	0	0
	15(OPE)	1455	-4850	38	0	0	0
	16(OCC)	1443	3856	267	0	0	0
	17(OCC)	-4	-1	67	0	0	0
	18(OCC)	-174	581	-1	0	0	0
	19(OCC)	-340	-3	875	0	0	0
	20(OCC)	-189	-17	-792	0	0	0
	21(OCC)	2	-3	-25	0	0	0
	MAX	1455/L15	-8701/L1	938/L13			
170		TYPE=Rigid +Y; Rigid Z;					
	1(HYD)	0	-1894	3	0	0	0
	2(OPE)	0	-1010	33	0	0	0
	4(OPE)	0	-1022	-36	0	0	0
	6(OPE)	0	-1022	-36	0	0	0
	8(SUS)	0	-1023	3	0	0	0
	9(SUS)	0	-1021	3	0	0	0
	10(OPE)	0	-1029	-48	0	0	0
	11(OPE)	0	-1017	-24	0	0	0
	12(OPE)	0	-899	-34	0	0	0
	13(OPE)	0	-1025	427	0	0	0
	14(OPE)	0	-1022	-503	0	0	0
	15(OPE)	0	-1021	-38	0	0	0
	16(OCC)	0	865	-52	0	0	0
	17(OCC)	0	5	11	0	0	0
	18(OCC)	0	123	1	0	0	0
	19(OCC)	0	-3	463	0	0	0
	20(OCC)	0	0	-467	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	21(OCC)	0	1	-2	0	0	0
	MAX		-1894/L1	-503/L14			
310		TYPE=Rigid +Y; Rigid X; Rigid Z w/gap;					
	1(HYD)	10	-1131	0	0	0	0
	2(OPE)	29	0	0	0	0	0
	4(OPE)	5	-688	0	0	0	0
	6(OPE)	5	-688	0	0	0	0
	8(SUS)	7	-1050	0	0	0	0
	9(SUS)	7	-1050	0	0	0	0
	10(OPE)	224	-744	0	0	0	0
	11(OPE)	-201	-854	0	0	0	0
	12(OPE)	6	-550	0	0	0	0
	13(OPE)	4	-1020	0	0	0	0
	14(OPE)	1	-591	-56	0	0	0
	15(OPE)	-19	-100	539	0	0	0
	16(OCC)	214	388	0	0	0	0
	17(OCC)	-206	-166	0	0	0	0
	18(OCC)	1	139	0	0	0	0
	19(OCC)	-2	-332	0	0	0	0
	20(OCC)	-4	97	-56	0	0	0
	21(OCC)	-24	588	539	0	0	0
	MAX	224/L10	-1131/L1	539/L15			
470		TYPE=Rigid +Y;					
	1(HYD)	0	0	0	0	0	0
	2(OPE)	-211	-867	153	0	0	0
	4(OPE)	-41	-245	61	0	0	0
	6(OPE)	-40	-244	61	0	0	0
	8(SUS)	0	0	0	0	0	0
	9(SUS)	0	0	0	0	0	0
	10(OPE)	23	-143	36	0	0	0
	11(OPE)	0	0	0	0	0	0
	12(OPE)	-46	-266	65	0	0	0
	13(OPE)	-39	-375	105	0	0	0
	14(OPE)	0	0	0	0	0	0
	15(OPE)	-159	-799	106	0	0	0
	16(OCC)	23	-143	36	0	0	0
	17(OCC)	41	245	-61	0	0	0
	18(OCC)	-5	-22	4	0	0	0
	19(OCC)	1	-130	44	0	0	0
	20(OCC)	41	245	-61	0	0	0
	21(OCC)	-118	-555	45	0	0	0
	MAX	-211/L2	-867/L2	153/L2			

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
477		TYPE=Rigid +Y; Rigid Z w/gap;					
	1(HYD)	-3	-148	44	0	0	0
	2(OPE)	0	0	0	0	0	0
	4(OPE)	-8	-26	-0	0	0	0
	6(OPE)	-8	-27	-0	0	0	0
	8(SUS)	-2	-132	40	0	0	0
	9(SUS)	-2	-132	40	0	0	0
	10(OPE)	-20	-69	5	0	0	0
	11(OPE)	-29	-116	-20	0	0	0
	12(OPE)	-1	-2	-0	0	0	0
	13(OPE)	0	0	0	0	0	0
	14(OPE)	-12	-185	-54	0	0	0
	15(OPE)	0	0	0	0	0	0
	16(OCC)	-17	79	-39	0	0	0
	17(OCC)	-21	-90	-20	0	0	0
	18(OCC)	7	24	0	0	0	0
	19(OCC)	8	26	0	0	0	0
	20(OCC)	-4	-158	-54	0	0	0
	21(OCC)	8	26	0	0	0	0
	MAX	-29/L11	-185/L14	-54/L14			
500		TYPE=Rigid ANC;					
	1(HYD)	7	-68	13	-6	11	1
	2(OPE)	253	-202	-130	42	-39	93
	4(OPE)	60	-125	-4	-10	4	41
	6(OPE)	60	-125	-4	-10	4	41
	8(SUS)	8	-63	8	-5	8	1
	9(SUS)	8	-63	8	-5	8	1
	10(OPE)	153	-129	-19	-8	4	42
	11(OPE)	-86	-100	44	-10	3	35
	12(OPE)	55	-119	-11	-10	-0	41
	13(OPE)	-9	-46	115	18	67	-25
	14(OPE)	40	-99	-85	-9	-91	35
	15(OPE)	89	-12	-48	32	-22	-57
	16(OCC)	146	-61	-32	-1	-7	41
	17(OCC)	-145	26	47	0	-1	-5
	18(OCC)	-5	6	-7	-0	-4	0
	19(OCC)	-68	79	119	27	64	-66
	20(OCC)	-20	26	-81	1	-95	-5
	21(OCC)	29	113	-44	42	-25	-98
	MAX	253/L2	-202/L2	-130/L2	42/L21	-95/L20	-98/L21
530		TYPE=Rigid ANC;					

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	1(HYD)	7	-117	13	-21	12	15
	2(OPE)	253	-248	-130	8	-94	126
	4(OPE)	60	-171	-4	-33	-6	63
	6(OPE)	60	-171	-4	-33	-6	63
	8(SUS)	8	-109	8	-19	8	14
	9(SUS)	8	-109	8	-19	8	14
	10(OPE)	165	-175	-19	-31	-22	65
	11(OPE)	-98	-146	44	-29	22	54
	12(OPE)	55	-160	-11	-31	-10	62
	13(OPE)	-9	-92	127	6	86	-14
	14(OPE)	40	-145	-97	-28	-110	54
	15(OPE)	89	-58	-48	26	-41	-51
	16(OCC)	158	-58	-32	-10	-34	49
	17(OCC)	-157	26	47	4	28	-9
	18(OCC)	-5	11	-7	1	-4	-1
	19(OCC)	-68	79	131	39	92	-77
	20(OCC)	-20	26	-93	5	-105	-9
	21(OCC)	29	113	-44	58	-36	-114
	MAX	253/L2	-248/L2	131/L19	58/L21	-110/L14	126/L2
550		TYPE=Rigid ANC;					
	1(HYD)	7	-117	13	-20	13	23
	2(OPE)	253	-248	-130	-239	-156	-235
	4(OPE)	60	-171	-4	-66	-16	-4
	6(OPE)	60	-171	-4	-66	-16	-4
	8(SUS)	8	-109	8	-23	8	20
	9(SUS)	8	-109	8	-23	8	20
	10(OPE)	165	-175	-19	-90	-52	-169
	11(OPE)	-98	-146	44	17	45	233
	12(OPE)	55	-160	-11	-74	-20	1
	13(OPE)	-9	-92	127	194	108	15
	14(OPE)	40	-145	-97	-206	-133	15
	15(OPE)	89	-58	-48	-60	-64	-182
	16(OCC)	158	-58	-32	-70	-65	-193
	17(OCC)	-157	26	47	83	61	237
	18(OCC)	-5	11	-7	-8	-4	5
	19(OCC)	-68	79	131	260	124	19
	20(OCC)	-20	26	-93	-140	-117	19
	21(OCC)	29	113	-44	7	-48	-178
	MAX	253/L2	-248/L2	131/L19	260/L19	-156/L2	237/L17
560		TYPE=Rigid Z w/gap; Rigid +Y;					
	1(HYD)	-22	-597	178	0	0	0
	2(OPE)	7	-679	626	0	0	0
	4(OPE)	-25	-548	163	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	6(OPE)	-25	-548	163	0	0	0
	8(SUS)	-19	-526	157	0	0	0
	9(SUS)	-19	-526	157	0	0	0
	10(OPE)	141	-578	102	0	0	0
	11(OPE)	-137	-524	78	0	0	0
	12(OPE)	-21	-484	144	0	0	0
	13(OPE)	-74	-564	287	0	0	0
	14(OPE)	-4	-549	28	0	0	0
	15(OPE)	9	-536	160	0	0	0
	16(OCC)	162	19	-76	0	0	0
	17(OCC)	-112	24	-85	0	0	0
	18(OCC)	4	64	-19	0	0	0
	19(OCC)	-49	-16	125	0	0	0
	20(OCC)	20	-1	-134	0	0	0
	21(OCC)	34	12	-2	0	0	0
	MAX	162/L16	-679/L2	626/L2			
590		TYPE=Rigid X w/gap; Rigid +Y;					
	1(HYD)	117	-430	-54	0	0	0
	2(OPE)	-49	-201	-35	0	0	0
	4(OPE)	-77	-373	-81	0	0	0
	6(OPE)	-78	-373	-81	0	0	0
	8(SUS)	109	-394	-46	0	0	0
	9(SUS)	109	-394	-46	0	0	0
	10(OPE)	74	-389	-90	0	0	0
	11(OPE)	-72	-247	-16	0	0	0
	12(OPE)	-69	-325	-69	0	0	0
	13(OPE)	65	-338	78	0	0	0
	14(OPE)	7	-282	-84	0	0	0
	15(OPE)	116	-387	7	0	0	0
	16(OCC)	-43	41	-36	0	0	0
	17(OCC)	4	126	65	0	0	0
	18(OCC)	8	48	12	0	0	0
	19(OCC)	142	35	160	0	0	0
	20(OCC)	84	91	-3	0	0	0
	21(OCC)	193	-14	88	0	0	0
	MAX	193/L21	-430/L1	160/L19			
645		TYPE=Rigid +Y;					
	1(HYD)	-68	-579	-123	0	0	0
	2(OPE)	52	-583	-117	0	0	0
	4(OPE)	36	-569	-118	0	0	0
	6(OPE)	37	-569	-120	0	0	0
	8(SUS)	-65	-551	-104	0	0	0
	9(SUS)	-65	-551	-104	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	10(OPE)	149	-563	-80	0	0	0
	11(OPE)	-176	-672	-98	0	0	0
	12(OPE)	28	-505	-117	0	0	0
	13(OPE)	2	-441	132	0	0	0
	14(OPE)	14	-667	-199	0	0	0
	15(OPE)	4	-369	111	0	0	0
	16(OCC)	216	16	44	0	0	0
	17(OCC)	-212	-103	20	0	0	0
	18(OCC)	-8	64	1	0	0	0
	19(OCC)	-34	128	250	0	0	0
	20(OCC)	-22	-98	-82	0	0	0
	21(OCC)	-33	200	229	0	0	0
	MAX	216/L16	-672/L11	250/L19			
695		TYPE=Rigid +Y;					
	1(HYD)	-13	-291	-86	0	0	0
	2(OPE)	0	0	0	0	0	0
	4(OPE)	61	-283	-59	0	0	0
	6(OPE)	61	-284	-60	0	0	0
	8(SUS)	-17	-285	-84	0	0	0
	9(SUS)	-17	-285	-84	0	0	0
	10(OPE)	78	-266	-18	0	0	0
	11(OPE)	-72	-308	-59	0	0	0
	12(OPE)	58	-240	-42	0	0	0
	13(OPE)	-6	-237	71	0	0	0
	14(OPE)	-15	-285	-84	0	0	0
	15(OPE)	-3	-186	56	0	0	0
	16(OCC)	91	25	69	0	0	0
	17(OCC)	-133	-26	0	0	0	0
	18(OCC)	-3	43	16	0	0	0
	19(OCC)	-68	46	129	0	0	0
	20(OCC)	-76	-2	-26	0	0	0
	21(OCC)	-64	96	114	0	0	0
	MAX	-133/L17	-308/L11	129/L19			
720		TYPE=Rigid +Y;					
	1(HYD)	-19	-440	131	0	0	0
	2(OPE)	82	-802	95	0	0	0
	4(OPE)	-5	-530	137	0	0	0
	6(OPE)	-4	-530	140	0	0	0
	8(SUS)	-16	-390	116	0	0	0
	9(SUS)	-16	-390	116	0	0	0
	10(OPE)	103	-510	114	0	0	0
	11(OPE)	-140	-562	94	0	0	0
	12(OPE)	-3	-488	120	0	0	0
	13(OPE)	-15	-363	108	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	14(OPE)	-20	-714	-213	0	0	0
	15(OPE)	-9	-494	148	0	0	0
	16(OCC)	121	-71	-17	0	0	0
	17(OCC)	-136	-32	-43	0	0	0
	18(OCC)	2	42	-17	0	0	0
	19(OCC)	-10	167	-29	0	0	0
	20(OCC)	-15	-184	-350	0	0	0
	21(OCC)	-4	36	11	0	0	0
	MAX	-140/L11	-802/L2	-350/L20			

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS 2
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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

- 1 (HYD) WW+HP
- 2 (OPE) W+T1+P1
- 3 (Alt-SUS) W+P1
- 4 (OPE) W+T2+P1
- 5 (Alt-SUS) W+P1
- 6 (OPE) W+T4+P1
- 7 (Alt-SUS) W+P1
- 8 (SUS) W+P1
- 9 (SUS) WNC
- 10 (OPE) W+T2+P1+U1
- 11 (OPE) W+T2+P1-U1
- 12 (OPE) W+T2+P1+U2
- 13 (OPE) W+T2+P1+U3
- 14 (OPE) W+T2+P1-U3
- 15 (OPE) W+T2+P1+F1
- 16 (OCC) L16=L10-L1
- 17 (OCC) L17=L11-L4
- 18 (OCC) L18=L12-L4
- 19 (OCC) L19=L13-L4
- 20 (OCC) L20=L14-L4
- 21 (OCC) L21=L15-L4
- 22 (OCC) L22=L16+L8
- 23 (OCC) L23=L17+L8
- 24 (OCC) L24=L18+L8
- 25 (OCC) L25=L19+L8
- 26 (OCC) L26=L20+L8
- 27 (OCC) L27=L21+L8
- 28 (EXP) L28=L2-L8
- 29 (EXP) L29=L4-L8
- 30 (EXP) L30=L2-L4
- 31 (EXP) L31=L6-L8
- 32 (EXP) L32=L2-L6
- 33 (EXP) L33=L4-L6

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement Various Load Cases

LOAD CASE DEFINITION KEY

CASE 1 (HYD) WW+HP
CASE 3 (Alt-SUS) W+P1
CASE 5 (Alt-SUS) W+P1
CASE 7 (Alt-SUS) W+P1
CASE 8 (SUS) W+P1
CASE 9 (SUS) WNC
CASE 22 (OCC) L22=L16+L8
CASE 23 (OCC) L23=L17+L8
CASE 24 (OCC) L24=L18+L8
CASE 25 (OCC) L25=L19+L8
CASE 26 (OCC) L26=L20+L8
CASE 27 (OCC) L27=L21+L8
CASE 28 (EXP) L28=L2-L8
CASE 29 (EXP) L29=L4-L8
CASE 30 (EXP) L30=L2-L4
CASE 31 (EXP) L31=L6-L8
CASE 32 (EXP) L32=L2-L6
CASE 33 (EXP) L33=L4-L6

Piping Code: B31.3 = B31.3 -2016, Jan 31, 2017

CODE STRESS CHECK PASSED : LOADCASE 1 (HYD) WW+HP

Highest Stresses: (KPa)	LOADCASE 1 (HYD) WW+HP	
Ratio (%):	14.1 @Node 710	
Code Stress:	33940.4	Allowable Stress: 241316.5
Axial Stress:	7449.7 @Node 160	
Bending Stress:	44934.6 @Node 710	
Torsion Stress:	1431.8 @Node 689	
Hoop Stress:	15442.1 @Node 20	
Max Stress Intensity:	45174.1 @Node 710	

CODE STRESS CHECK PASSED : LOADCASE 3 (Alt-SUS) W+P1

Highest Stresses: (KPa)	LOADCASE 3 (Alt-SUS) W+P1	
Ratio (%):	46.1 @Node 710	
Code Stress:	63502.5	Allowable Stress: 137895.1
Axial Stress:	15091.9 @Node 160	
Bending Stress:	84360.9 @Node 710	
Torsion Stress:	4967.0 @Node 689	
Hoop Stress:	30554.2 @Node 20	
Max Stress Intensity:	84592.7 @Node 710	

CODE STRESS CHECK PASSED : LOADCASE 5 (Alt-SUS) W+P1

Highest Stresses: (KPa)	LOADCASE 5 (Alt-SUS) W+P1	
Ratio (%):	27.8 @Node 380	
Code Stress:	38392.4	Allowable Stress: 137895.1

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
Various Load Cases

Axial Stress:	15092.6	@Node	120
Bending Stress:	40761.7	@Node	150
Torsion Stress:	3219.7	@Node	689
Hoop Stress:	30554.2	@Node	20
Max Stress Intensity:	45056.2	@Node	150

CODE STRESS CHECK PASSED : LOADCASE 7 (Alt-SUS) W+P1

Highest Stresses: (KPa)	LOADCASE 7 (Alt-SUS) W+P1	
Ratio (%):	27.9	@Node 380
Code Stress:	38406.4	Allowable Stress: 137895.1
Axial Stress:	15092.6	@Node 120
Bending Stress:	40773.1	@Node 150
Torsion Stress:	3221.9	@Node 689
Hoop Stress:	30554.2	@Node 20
Max Stress Intensity:	45068.3	@Node 150

CODE STRESS CHECK PASSED : LOADCASE 8 (SUS) W+P1

Highest Stresses: (KPa)	LOADCASE 8 (SUS) W+P1	
Ratio (%):	24.7	@Node 150
Code Stress:	34069.4	Allowable Stress: 137895.1
Axial Stress:	15092.1	@Node 160
Bending Stress:	40713.4	@Node 150
Torsion Stress:	3057.4	@Node 689
Hoop Stress:	30554.2	@Node 20
Max Stress Intensity:	44905.2	@Node 150

CODE STRESS CHECK PASSED : LOADCASE 9 (SUS) WNC

Highest Stresses: (KPa)	LOADCASE 9 (SUS) WNC	
Ratio (%):	22.8	@Node 380
Code Stress:	31461.8	Allowable Stress: 137895.1
Axial Stress:	1355.8	@Node 380
Bending Stress:	40703.5	@Node 150
Torsion Stress:	3056.9	@Node 689
Hoop Stress:	0.0	@Node 20
Max Stress Intensity:	41338.3	@Node 150

CODE STRESS CHECK PASSED : LOADCASE 22 (OCC) L22=L16+L8

Highest Stresses: (KPa)	LOADCASE 22 (OCC) L22=L16+L8	
Ratio (%):	29.2	@Node 110
Code Stress:	53573.8	Allowable Stress: 183400.5
Axial Stress:	7852.3	@Node 110
Bending Stress:	56471.4	@Node 150
Torsion Stress:	4133.5	@Node 689
Hoop Stress:	15277.1	@Node 20
Max Stress Intensity:	62727.3	@Node 150

CODE STRESS CHECK PASSED : LOADCASE 23 (OCC) L23=L17+L8

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Job:: BNK-GCS-CN-011-D02

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
Various Load Cases

Highest Stresses: (	KPa	)	LOADCASE 23 (OCC)	L23=L17+L8	
Ratio (%):	34.5		@Node	150	
Code Stress:	63293.9		Allowable Stress:		183400.5
Axial Stress:	15841.3		@Node	110	
Bending Stress:	79308.1		@Node	150	
Torsion Stress:	5497.8		@Node	599	
Hoop Stress:	30554.2		@Node	20	
Max Stress Intensity:	83745.4		@Node	150	

CODE STRESS CHECK PASSED : LOADCASE 24 (OCC) L24=L18+L8

Highest Stresses: (	KPa	)	LOADCASE 24 (OCC)	L24=L18+L8	
Ratio (%):	20.7		@Node	150	
Code Stress:	37940.4		Allowable Stress:		183400.5
Axial Stress:	15261.6		@Node	60	
Bending Stress:	45720.9		@Node	150	
Torsion Stress:	2660.4		@Node	689	
Hoop Stress:	30554.2		@Node	20	
Max Stress Intensity:	50010.2		@Node	150	

CODE STRESS CHECK PASSED : LOADCASE 25 (OCC) L25=L19+L8

Highest Stresses: (	KPa	)	LOADCASE 25 (OCC)	L25=L19+L8	
Ratio (%):	58.0		@Node	380	
Code Stress:	106344.8		Allowable Stress:		183400.5
Axial Stress:	15235.5		@Node	120	
Bending Stress:	102067.6		@Node	380	
Torsion Stress:	9475.3		@Node	700	
Hoop Stress:	30554.2		@Node	20	
Max Stress Intensity:	106323.8		@Node	380	

CODE STRESS CHECK PASSED : LOADCASE 26 (OCC) L26=L20+L8

Highest Stresses: (	KPa	)	LOADCASE 26 (OCC)	L26=L20+L8	
Ratio (%):	28.2		@Node	150	
Code Stress:	51681.1		Allowable Stress:		183400.5
Axial Stress:	16404.5		@Node	40	
Bending Stress:	64000.7		@Node	150	
Torsion Stress:	4388.8		@Node	699	
Hoop Stress:	30554.2		@Node	20	
Max Stress Intensity:	68306.9		@Node	150	

CODE STRESS CHECK PASSED : LOADCASE 27 (OCC) L27=L21+L8

Highest Stresses: (	KPa	)	LOADCASE 27 (OCC)	L27=L21+L8	
Ratio (%):	77.9		@Node	380	
Code Stress:	142837.7		Allowable Stress:		183400.5
Axial Stress:	15098.2		@Node	160	
Bending Stress:	139092.5		@Node	380	
Torsion Stress:	10944.7		@Node	700	
Hoop Stress:	30554.2		@Node	20	
Max Stress Intensity:	142816.6		@Node	380	

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Job:: BNK-GCS-CN-011-D02

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
Various Load Cases

CODE STRESS CHECK PASSED : LOADCASE 28 (EXP) L28=L2-L8

Highest Stresses: (KPa)	LOADCASE 28 (EXP) L28=L2-L8	
Ratio (%):	15.7 @Node 710	
Code Stress:	44102.0	Allowable Stress: 281235.3
Axial Stress:	1201.2 @Node 20	
Bending Stress:	44042.5 @Node 710	
Torsion Stress:	7160.0 @Node 189	
Hoop Stress:	0.0 @Node 20	
Max Stress Intensity:	103482.9 @Node 89	

CODE STRESS CHECK PASSED : LOADCASE 29 (EXP) L29=L4-L8

Highest Stresses: (KPa)	LOADCASE 29 (EXP) L29=L4-L8	
Ratio (%):	5.2 @Node 710	
Code Stress:	14753.2	Allowable Stress: 281235.3
Axial Stress:	465.4 @Node 50	
Bending Stress:	14662.8 @Node 710	
Torsion Stress:	778.5 @Node 480	
Hoop Stress:	0.0 @Node 20	
Max Stress Intensity:	14711.6 @Node 710	

CODE STRESS CHECK PASSED : LOADCASE 30 (EXP) L30=L2-L4

Highest Stresses: (KPa)	LOADCASE 30 (EXP) L30=L2-L4	
Ratio (%):	10.7 @Node 88	
Code Stress:	34941.1	Allowable Stress: 326661.7
Axial Stress:	1149.2 @Node 20	
Bending Stress:	34955.5 @Node 89	
Torsion Stress:	6534.9 @Node 189	
Hoop Stress:	0.0 @Node 20	
Max Stress Intensity:	93404.1 @Node 89	

CODE STRESS CHECK PASSED : LOADCASE 31 (EXP) L31=L6-L8

Highest Stresses: (KPa)	LOADCASE 31 (EXP) L31=L6-L8	
Ratio (%):	5.2 @Node 710	
Code Stress:	14728.1	Allowable Stress: 281235.3
Axial Stress:	465.4 @Node 50	
Bending Stress:	14628.1 @Node 710	
Torsion Stress:	778.8 @Node 480	
Hoop Stress:	0.0 @Node 20	
Max Stress Intensity:	14682.1 @Node 710	

CODE STRESS CHECK PASSED : LOADCASE 32 (EXP) L32=L2-L6

Highest Stresses: (KPa)	LOADCASE 32 (EXP) L32=L2-L6	
Ratio (%):	10.7 @Node 88	
Code Stress:	34941.3	Allowable Stress: 326661.7
Axial Stress:	1149.2 @Node 20	
Bending Stress:	34955.8 @Node 89	

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
 Various Load Cases

Torsion Stress:	6536.1	@Node	189
Hoop Stress:	0.0	@Node	20
Max Stress Intensity:	93404.8	@Node	89

CODE STRESS CHECK PASSED : LOADCASE 33 (EXP) L33=L4-L6

Highest Stresses: (KPa)	LOADCASE 33 (EXP) L33=L4-L6		
Ratio (%):	0.1	@Node	380
Code Stress:	253.5	Allowable Stress:	306331.4
Axial Stress:	5.2	@Node	720
Bending Stress:	242.8	@Node	380
Torsion Stress:	34.5	@Node	380
Hoop Stress:	0.0	@Node	20
Max Stress Intensity:	434.4	@Node	380

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

- 1 (HYD) WW+HP
- 2 (OPE) W+T1+P1
- 3 (Alt-SUS) W+P1
- 4 (OPE) W+T2+P1
- 5 (Alt-SUS) W+P1
- 6 (OPE) W+T4+P1
- 7 (Alt-SUS) W+P1
- 8 (SUS) W+P1
- 9 (SUS) WNC
- 10 (OPE) W+T2+P1+U1
- 11 (OPE) W+T2+P1-U1
- 12 (OPE) W+T2+P1+U2
- 13 (OPE) W+T2+P1+U3
- 14 (OPE) W+T2+P1-U3
- 15 (OPE) W+T2+P1+F1
- 16 (OCC) L16=L10-L1
- 17 (OCC) L17=L11-L4
- 18 (OCC) L18=L12-L4
- 19 (OCC) L19=L13-L4
- 20 (OCC) L20=L14-L4
- 21 (OCC) L21=L15-L4
- 22 (OCC) L22=L16+L8
- 23 (OCC) L23=L17+L8
- 24 (OCC) L24=L18+L8
- 25 (OCC) L25=L19+L8
- 26 (OCC) L26=L20+L8
- 27 (OCC) L27=L21+L8
- 28 (EXP) L28=L2-L8
- 29 (EXP) L29=L4-L8
- 30 (EXP) L30=L2-L4
- 31 (EXP) L31=L6-L8
- 32 (EXP) L32=L2-L6
- 33 (EXP) L33=L4-L6

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NOZZLE CHECK REPORT: Nozzle Loads Screening
Various Load Cases

LOAD CASE DEFINITION KEY

CASE 2 (OPE) W+T1+P1
CASE 4 (OPE) W+T2+P1
CASE 6 (OPE) W+T4+P1
CASE 8 (SUS) W+P1
CASE 9 (SUS) WNC

Report Contains No Data to Display

BNK-GCS-CN-012

Table of contents:

Line no.

Stress sketch

Input echo

Restraint summary

Stress summary

Nozzle load Table

LINE NO.:

1. CDH-111-0004-AS00-4"-NP
2. CDH-111-0010-AS00-4"-NP
3. CDH-111-0011-AS00-4"-PT



A B C D E F G H I J K L M



2" NS

4X2" NS
27MM OFFSET

83.7'
EL. -7.423M

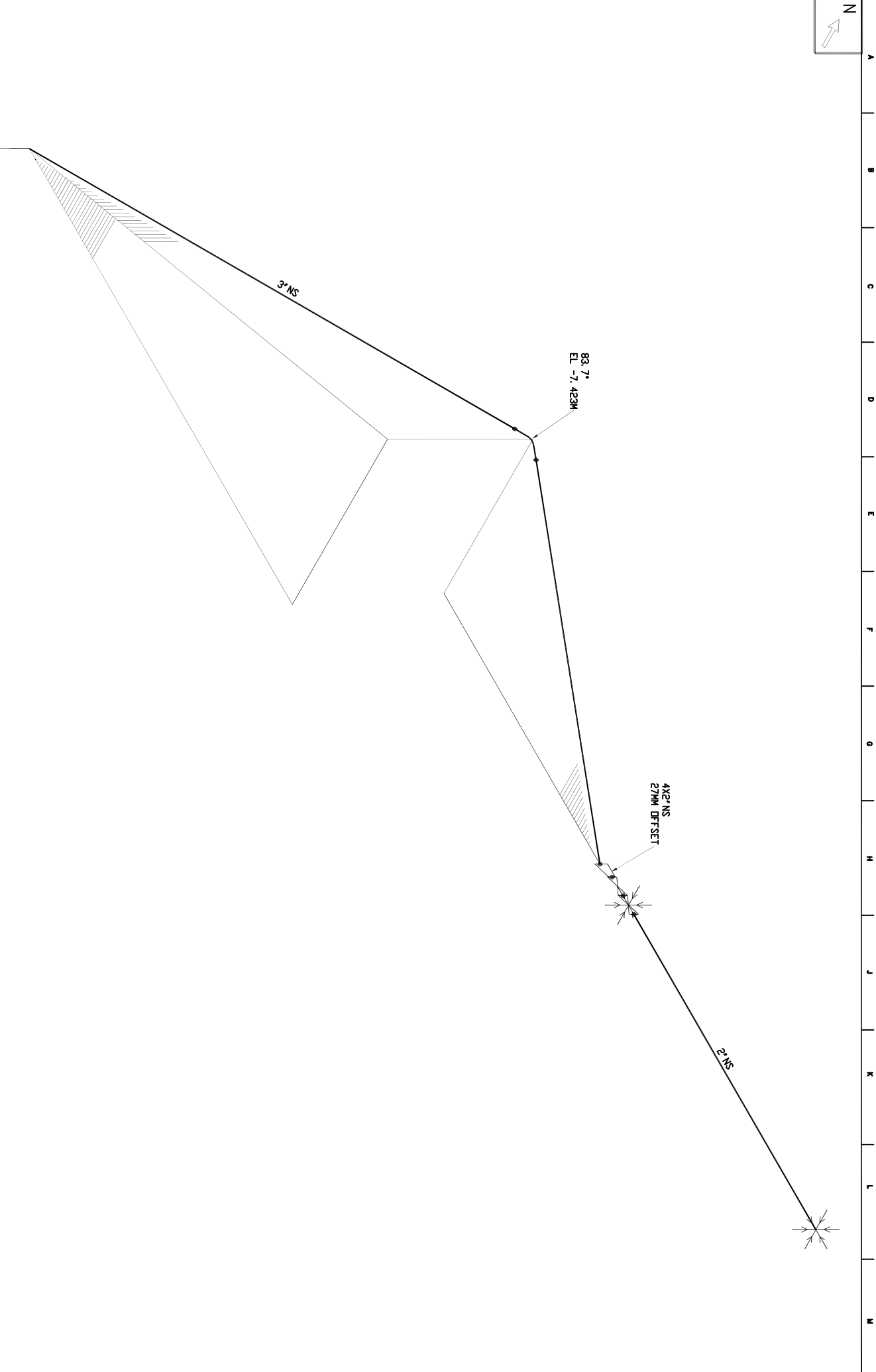
SN 4" S



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REV.	CHANGE	DATE	THIS DRAWING IS THE PROPERTY OF INTERGRAPH LTD AND MUST NOT BE COPIED OR LENT WITHOUT THE CONSENT OF THE COMPANY	PIPING SPEC.	OP. TEMP.
		27 FEB 2024		INSULATION SPEC.	PROJECT NO.
				INSULATION THICKS.	SYSTEM
				PAINTING SPEC.	AREA
				MATERIAL	DRAWN BY
				OP. PRESSURE	E.L. DIAGRAM
				PIPELINE REFERENCE	
				1 OF 3	





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CHECK ISOMETRIC ONLY – DO NOT ISSUE							REV.	
				PIPING SPEC.		OP. TEMP.		DRG.
				INSULATION SPEC.		PROJECT NO.		
				INSULATION THKS.		SYSTEM		
				PAINTING SPEC.		AREA		
				MATERIAL		DRAWN BY		PIPELINE REFERENCE
				OP. PRESSURE		E.L.DIAGRAM		

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

- 1 (HYD) WW+HP
- 2 (OPE) W+T1+P1
- 3 (Alt-SUS) W+P1
- 4 (OPE) W+T2+P1
- 5 (Alt-SUS) W+P1
- 6 (OPE) W+T3+P1
- 7 (Alt-SUS) W+P1
- 8 (SUS) W+P1
- 9 (SUS) WNC
- 10 (OPE) W+T2+P1+U1
- 11 (OPE) W+T2+P1-U1
- 12 (OPE) W+T2+P1+U2
- 13 (OPE) W+T2+P1+U3
- 14 (OPE) W+T2+P1-U3
- 15 (OCC) L15=L10-L4
- 16 (OCC) L16=L11-L4
- 17 (OCC) L17=L12-L4
- 18 (OCC) L18=L13-L4
- 19 (OCC) L19=L14-L4
- 20 (OCC) L20=L15+L8
- 21 (OCC) L21=L16+L8
- 22 (OCC) L22=L17+L8
- 23 (OCC) L23=L18+L8
- 24 (OCC) L24=L19+L8
- 25 (EXP) L25=L2-L8
- 26 (EXP) L26=L4-L8
- 27 (EXP) L27=L2-L4
- 28 (EXP) L28=L6-L8
- 29 (EXP) L29=L2-L6
- 30 (EXP) L30=L4-L6

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INPUT LISTING

Job Description:

PROJECT:

CLIENT :

ANALYST:

NOTES :

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INPUT LISTING

File created by FEATools

CAESAR II 2018 Ver.10.00.00.7700, (Build 170726) MAR 2,2024 14: 1:54

PIPE DATA

 From 10 To 20 DZ= 66.675 mm.

PIPE

Dia= 60.325 mm. Wall= 2.769 mm. Cor= .0000 mm.

GENERAL

T1= 85 C T2= 32 C T3= 21 C P1= 60.0014 KPa PHyd= 90.0021 KPa

Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 199,086,608 KPa

EH2= 202,494,736 KPa EH3= 203,401,232 KPa EH4= 203,401,232 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0010020 kg./cu.cm.

Insul Thk= .000 mm. Insul Den= .0000000 kg./cu.cm.

RIGID Weight= 31.14 N.

RESTRAINTS

Node 10 ANC Cnode 340

UNIFORM LOAD

Vector1 in G-s X1 Dir = .26 g's Y1 Dir = .00 g's Z1 Dir = .00 g's

Vector2 in G-s X2 Dir = .00 g's Y2 Dir = .12 g's Z2 Dir = .00 g's

Vector3 in G-s X3 Dir = .00 g's Y3 Dir = .00 g's Z3 Dir = .26 g's

SIF's & TEE's

Node 10 <No Type Specified> SIF(in)= 2.080 SIF(out)= 2.460

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

 From 20 To 30 DY= -27.000 mm. DZ= 102.000 mm.

REDUCER

Diam2= 114.300 mm. Wall2= 3.048 mm.

 From 30 To 40 DZ= 424.000 mm.

PIPE

Dia= 114.300 mm. Wall= 3.048 mm.

Insul Thk= .000 mm.

BEND at "T0" end

Radius= 152.400 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 39

Angle/Node @2= .00 38

 From 40 To 50 DX= -888.000 mm.

 From 40 To 60 DY= -35.921 mm. DZ= 35.921 mm.

RIGID Weight= .00 N.

SIF's & TEE's

Node 60 Reinforced Tee Pad= 3.040 mm.

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INPUT LISTING

From 50 To 70 DX= -888.000 mm.

From 70 To 80 DX= -79.375 mm.
RIGID Weight= 71.17 N.

From 80 To 90 DX= -371.000 mm.
RIGID Weight= 213.51 N.

From 90 To 100 DX= -79.375 mm.
RIGID Weight= 71.17 N.

From 100 To 110 DX= -250.000 mm.

From 110 To 120 DY= -50.800 mm.
RIGID Weight= .00 N.

From 110 To 130 DX= -250.000 mm.

From 130 To 140 DX= -79.375 mm.
RIGID Weight= 71.17 N.

From 140 To 150 DX= -255.000 mm.
RIGID Weight= 631.65 N.

From 150 To 160 DX= -79.375 mm.
RIGID Weight= 71.17 N.

From 160 To 170 DX= -552.000 mm.
BEND at "T0" end
Radius= 152.400 mm. (LONG) Bend Angle= 45.000 Angle/Node @1= 22.50 169
Angle/Node @2= .00 168

From 170 To 180 DX= -341.000 mm. DY= 341.000 mm.
BEND at "T0" end
Radius= 152.400 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 179
Angle/Node @2= .00 178

From 180 To 190 DZ= 1,340.000 mm.

RESTRAINTS

Node 190 +Y Mu = .30

From 190 To 200 DZ= 1,340.000 mm.

SIF's & TEE's

Node 200 Welding Tee

From 200 To 210 DZ= 2,960.000 mm.

PIPE

Dia= 114.300 mm. Wall= 3.048 mm. Cor= .0000 mm.

GENERAL

T1= 85 C T2= 32 C T3= 21 C P1= 60.0014 KPa PHyd= 90.0021 KPa
Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 199,086,608 KPa
EH2= 202,494,736 KPa EH3= 203,401,232 KPa EH4= 203,401,232 KPa
EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa
EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292
Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0010020 kg./cu.cm.

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INPUT LISTING

Insul Thk= .000 mm. Insul Den= .0001362 kg./cu.cm.

RESTRAINTS

Node 210 +Y Mu = .30

UNIFORM LOAD

Vector1 in G-s X1 Dir = .26 g's Y1 Dir = .00 g's Z1 Dir = .00 g's

Vector2 in G-s X2 Dir = .00 g's Y2 Dir = .12 g's Z2 Dir = .00 g's

Vector3 in G-s X3 Dir = .00 g's Y3 Dir = .00 g's Z3 Dir = .26 g's

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 210 To 220 DZ= 2,960.000 mm.

BEND at "T0" end

Radius= 152.400 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 219

Angle/Node @2= .00 218

From 220 To 230 DY= 151.000 mm.

From 230 To 240 DY= 79.375 mm.

RIGID Weight= 71.17 N.

From 240 To 250 DY= 265.000 mm.

RIGID Weight= 631.65 N.

RESTRAINTS

Node 250 ANC Cnode 260

From 260 To 270 DY= 79.375 mm.

RIGID Weight= 71.17 N.

From 270 To 280 DY= 135.000 mm.

RESTRAINTS

Node 280 ANC Cnode 281

From 281 To 290 DY= 2,100.000 mm.

PIPE

Dia= 4,200.000 mm. Wall= 3.048 mm.

Insul Thk= .000 mm.

RIGID Weight= .00 N.

From 290 To 300 DX= 2,300.000 mm.

RIGID Weight= .00 N.

From 300 To 310 DY= -2,100.000 mm.

RIGID Weight= .00 N.

RESTRAINTS

Node 310 ANC

From 290 To 320 DX= -8,300.000 mm.

RIGID Weight= .00 N.

From 320 To 330 DY= -2,100.000 mm.

RIGID Weight= .00 N.

RESTRAINTS

Node 330 +Y Mu = .30

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INPUT LISTING

Node 330 Z Gap= 3.000 mm. Mu = .30

From 340 To 350 DZ= -66.675 mm.

PIPE

Dia= 60.325 mm. Wall= 2.769 mm. Cor= .0000 mm.

GENERAL

Fluid Den= .0010020 kg./cu.cm. Insul Thk= .000 mm.

RIGID Weight= 31.14 N.

From 350 To 360 DZ= -233.000 mm.

RESTRAINTS

Node 360 ANC

EQUIPMENT LIMITS

Nozzle Node = 360 Limiting Loads: A=pipe; B=ref; C=AxB; FA= 1,779.29 N.

FB= 1,156.54 N. FC= 1,423.43 N. MA= 460.98 N.m. MB= .00 N.m.

MC= 705.03 N.m. Equipment Major Direction Vector= .0000 1.0000 .0000

Interact. Mtd= Absolute

From 60 To 370 DZ= 500.000 mm.

PIPE

Dia= 88.900 mm. Wall= 5.486 mm.

GENERAL

T1= 21 C T2= 21 C P1= .0000 KPa PHyd= .0000 KPa

Mat= (102)A53 Grade B E= 203,401,232 KPa EH1= 203,401,232 KPa

EH2= 203,401,232 KPa EH3= 203,401,232 KPa EH4= 203,401,232 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000000 kg./cu.cm.

Insul Thk= .000 mm.

RESTRAINTS

Node 370 +Y Mu = .30

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 120 To 380 DY= -500.000 mm.

RESTRAINTS

Node 380 +Y Mu = .30

Node 380 Z Gap= 3.000 mm. Mu = .30

From 400 To 410 DZ= 66.675 mm.

PIPE

Dia= 60.325 mm. Wall= 2.769 mm. Cor= .0000 mm.

GENERAL

T1= 85 C T2= 32 C T3= 21 C P1= 60.0014 KPa PHyd= 90.0021 KPa

Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 199,086,608 KPa

EH2= 202,494,736 KPa EH3= 203,401,232 KPa EH4= 203,401,232 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0010020 kg./cu.cm.

Insul Thk= .000 mm. Insul Den= .0000000 kg./cu.cm.

RIGID Weight= 31.14 N.

RESTRAINTS

Node 400 ANC Cnode 580

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INPUT LISTING

UNIFORM LOAD

Vector1 in G-s X1 Dir = .26 g's Y1 Dir = .00 g's Z1 Dir = .00 g's

Vector2 in G-s X2 Dir = .00 g's Y2 Dir = .12 g's Z2 Dir = .00 g's

Vector3 in G-s X3 Dir = .00 g's Y3 Dir = .00 g's Z3 Dir = .26 g's

SIF's & TEE's

Node 400 <No Type Specified> SIF(in)= 2.080 SIF(out)= 2.460

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 410 To 420 DY= -27.000 mm. DZ= 102.000 mm.

REDUCER

Diam2= 114.300 mm. Wall2= 3.048 mm.

From 420 To 430 DZ= 424.000 mm.

PIPE

Dia= 114.300 mm. Wall= 3.048 mm.

Insul Thk= .000 mm.

BEND at "TO" end

Radius= 152.400 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 429

Angle/Node @2= .00 428

From 430 To 440 DX= -888.000 mm.

From 430 To 450 DY= -35.921 mm. DZ= 35.921 mm.

RIGID Weight= .00 N.

SIF's & TEE's

Node 450 Reinforced Tee Pad= 3.040 mm.

From 440 To 460 DX= -888.000 mm.

From 460 To 470 DX= -79.375 mm.

RIGID Weight= 71.17 N.

From 470 To 480 DX= -371.000 mm.

RIGID Weight= 213.51 N.

From 480 To 490 DX= -79.375 mm.

RIGID Weight= 71.17 N.

From 490 To 500 DX= -250.000 mm.

From 500 To 510 DY= -50.800 mm.

RIGID Weight= .00 N.

From 500 To 520 DX= -250.000 mm.

From 520 To 530 DX= -79.375 mm.

RIGID Weight= 71.17 N.

From 530 To 540 DX= -255.000 mm.

RIGID Weight= 631.65 N.

From 540 To 550 DX= -79.375 mm.

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INPUT LISTING

RIGID Weight= 71.17 N.

From 550 To 560 DX= -552.000 mm.

BEND at "T0" end

Radius= 152.400 mm. (LONG) Bend Angle= 45.000 Angle/Node @1= 22.50 559

Angle/Node @2= .00 558

From 560 To 200 DX= -341.000 mm. DY= 341.000 mm.

From 580 To 590 DZ= -66.675 mm.

PIPE

Dia= 60.325 mm. Wall= 2.769 mm. Cor= .0000 mm.

GENERAL

T1= 85 C T2= 32 C T3= 21 C P1= 60.0014 KPa PHyd= 90.0021 KPa

Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 199,086,608 KPa

EH2= 202,494,736 KPa EH3= 203,401,232 KPa EH4= 203,401,232 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0010020 kg./cu.cm.

Insul Thk= .000 mm. Insul Den= .0001362 kg./cu.cm.

RIGID Weight= 31.14 N.

UNIFORM LOAD

Vector1 in G-s X1 Dir = .26 g's Y1 Dir = .00 g's Z1 Dir = .00 g's

Vector2 in G-s X2 Dir = .00 g's Y2 Dir = .12 g's Z2 Dir = .00 g's

Vector3 in G-s X3 Dir = .00 g's Y3 Dir = .00 g's Z3 Dir = .26 g's

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 590 To 600 DZ= -233.000 mm.

RESTRAINTS

Node 600 ANC

EQUIPMENT LIMITS

Nozzle Node = 600 Limiting Loads: A=pipe; B=ref; C=AxB; FA= 1,779.29 N.

FB= 1,156.54 N. FC= 1,423.43 N. MA= 460.98 N.m. MB= .00 N.m.

MC= 705.03 N.m. Equipment Major Direction Vector= .0000 1.0000 .0000

Interact. Mtd= Absolute

From 450 To 610 DZ= 500.000 mm.

PIPE

Dia= 88.900 mm. Wall= 5.486 mm.

GENERAL

T1= 21 C T2= 21 C P1= .0000 KPa PHyd= .0000 KPa

Mat= (102)A53 Grade B E= 203,401,232 KPa EH1= 203,401,232 KPa

EH2= 203,401,232 KPa EH3= 203,401,232 KPa EH4= 203,401,232 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000000 kg./cu.cm.

Insul Thk= .000 mm.

RESTRAINTS

Node 610 +Y Mu = .30

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

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INPUT LISTING

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
Sh9= 137,895 KPa Sy= 241,316 KPa

From 510 To 620 DY= -500.000 mm.

RESTRAINTS

Node 620 +Y Mu = .30

Node 620 Z Gap= 3.000 mm. Mu = .30

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MATERIAL Changes:

10	20	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
200	210	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
60	370	Mat= (102)A53 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
400	410	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
580	590	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
450	610	Mat= (102)A53 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.

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JOBNAME: D:\BINAK PRO\STRESS REPORT\D02\NATIVE\BNK-GCS-CN-012-)\BNK-GCS-CN-012-

ALLOWABLE STRESS Changes

10	20	B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa Sh9= 137,895 KPa Sy= 241,316 KPa
200	210	B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa Sh9= 137,895 KPa Sy= 241,316 KPa
60	370	B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa Sh9= 137,895 KPa Sy= 241,316 KPa
400	410	B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa Sh9= 137,895 KPa Sy= 241,316 KPa

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INPUT LISTING

580	590	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
450	610	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	

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BEND ELEMENTS

30	40	Radius= 152.400 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00 39
		Angle/Node @2= .00 38
160	170	Radius= 152.400 mm. (LONG)
		Bend Angle= 45.000 Angle/Node @1= 22.50
		169 Angle/Node @2= .00 168
170	180	Radius= 152.400 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		179 Angle/Node @2= .00 178
210	220	Radius= 152.400 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		219 Angle/Node @2= .00 218
420	430	Radius= 152.400 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		429 Angle/Node @2= .00 428
550	560	Radius= 152.400 mm. (LONG)
		Bend Angle= 45.000 Angle/Node @1= 22.50
		559 Angle/Node @2= .00 558

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RIGIDS

10	20	RIGID Weight= 31.14 N.
40	60	RIGID Weight= .00 N.
70	80	RIGID Weight= 71.17 N.
80	90	RIGID Weight= 213.51 N.
90	100	RIGID Weight= 71.17 N.
110	120	RIGID Weight= .00 N.
130	140	RIGID Weight= 71.17 N.
140	150	RIGID Weight= 631.65 N.
150	160	RIGID Weight= 71.17 N.
230	240	RIGID Weight= 71.17 N.
240	250	RIGID Weight= 631.65 N.
260	270	RIGID Weight= 71.17 N.
281	290	RIGID Weight= .00 N.
290	300	RIGID Weight= .00 N.

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INPUT LISTING

300	310	RIGID Weight= .00 N.
290	320	RIGID Weight= .00 N.
320	330	RIGID Weight= .00 N.
340	350	RIGID Weight= 31.14 N.
400	410	RIGID Weight= 31.14 N.
430	450	RIGID Weight= .00 N.
460	470	RIGID Weight= 71.17 N.
470	480	RIGID Weight= 213.51 N.
480	490	RIGID Weight= 71.17 N.
500	510	RIGID Weight= .00 N.
520	530	RIGID Weight= 71.17 N.
530	540	RIGID Weight= 631.65 N.
540	550	RIGID Weight= 71.17 N.
580	590	RIGID Weight= 31.14 N.

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SIF's & TEE's

10	20	Node 10 <No Type Specified>
		SIF(in)= 2.080 SIF(out)= 2.460
40	60	Node 60 Reinforced Tee Pad= 3.040 mm.
190	200	Node 200 Welding Tee
400	410	Node 400 <No Type Specified>
		SIF(in)= 2.080 SIF(out)= 2.460
430	450	Node 450 Reinforced Tee Pad= 3.040 mm.

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REDUCERS

20	30	Diam2= 114.300 mm. Wall2= 3.048 mm.
410	420	Diam2= 114.300 mm. Wall2= 3.048 mm.

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RESTRAINTS

NODE	TYPE	CNODE	STIF1	Len GAP STIF2	MU YIELD FORCE	Dir Vectors
10	ANC	340				.000 .000 .000
190	+Y				.30	.000 1.000 .000
210	+Y				.30	.000 1.000 .000
250	ANC	260				.000 .000 .000
280	ANC	281				.000 .000 .000
310	ANC					.000 .000 .000
330	+Y				.30	.000 1.000 .000
330	Z			3.00	.30	.000 .000 1.000
360	ANC					.000 .000 .000
370	+Y				.30	.000 1.000 .000
380	+Y				.30	.000 1.000 .000
380	Z			3.00	.30	.000 .000 1.000
400	ANC	580				.000 .000 .000
600	ANC					.000 .000 .000
610	+Y				.30	.000 1.000 .000
620	+Y				.30	.000 1.000 .000
620	Z			3.00	.30	.000 .000 1.000

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INPUT LISTING

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EQUIPMENT LIMITS

350 360 Nozzle Node = 360

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 1,779.29 N. FB= 1,156.54 N.
 FC= 1,423.43 N. MA= 460.98 N.m. MB= .00 N.m. MC= 705.03 N.m.
 Equipment Major Direction Vector= .0000 1.0000 .0000
 Interact. Mtd= Absolute

590 600 Nozzle Node = 600

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 1,779.29 N. FB= 1,156.54 N.
 FC= 1,423.43 N. MA= 460.98 N.m. MB= .00 N.m. MC= 705.03 N.m.
 Equipment Major Direction Vector= .0000 1.0000 .0000
 Interact. Mtd= Absolute

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UNIFORM LOAD Changes

10	20	Vector1 in G-s
		X1 Dir = .26 g's Y1 Dir = .00 g's
		Z1 Dir = .00 g's
		Vector2 in G-s
		X2 Dir = .00 g's Y2 Dir = .12 g's
		Z2 Dir = .00 g's
		Vector3 in G-s
		X3 Dir = .00 g's Y3 Dir = .00 g's
		Z3 Dir = .26 g's
200	210	Vector1 in G-s
		X1 Dir = .26 g's Y1 Dir = .00 g's
		Z1 Dir = .00 g's
		Vector2 in G-s
		X2 Dir = .00 g's Y2 Dir = .12 g's
		Z2 Dir = .00 g's
		Vector3 in G-s
		X3 Dir = .00 g's Y3 Dir = .00 g's
		Z3 Dir = .26 g's
400	410	Vector1 in G-s
		X1 Dir = .26 g's Y1 Dir = .00 g's
		Z1 Dir = .00 g's
		Vector2 in G-s
		X2 Dir = .00 g's Y2 Dir = .12 g's
		Z2 Dir = .00 g's
		Vector3 in G-s
		X3 Dir = .00 g's Y3 Dir = .00 g's
		Z3 Dir = .26 g's
580	590	Vector1 in G-s
		X1 Dir = .26 g's Y1 Dir = .00 g's
		Z1 Dir = .00 g's
		Vector2 in G-s
		X2 Dir = .00 g's Y2 Dir = .12 g's

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INPUT LISTING

Z2 Dir = .00 g's
 Vector3 in G-s
 X3 Dir = .00 g's Y3 Dir = .00 g's
 Z3 Dir = .26 g's

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INPUT UNITS USED...

UNITS= SI (m NOM/SCH INPUT= ON

LENGTH	inches	x	25.400	=	mm.
FORCE	pounds	x	4.448	=	N.
MASS(dynamics)	pounds	x	0.454	=	Kg.
MOMENTS(INPUT)	inch-pounds	x	0.113	=	N.m.
MOMENTS(OUTPUT)	inch-pounds	x	0.113	=	N.m.
STRESS	lbs./sq.in.	x	6.895	=	KPa
TEMP. SCALE	degrees F.	x	0.556	=	C
PRESSURE	psig	x	6.895	=	KPa
ELASTIC MODULUS	lbs./sq.in.	x	6.895	=	KPa
PIPE DENSITY	lbs./cu.in.	x	0.028	=	kg./cu.cm.
INSULATION DENS.	lbs./cu.in.	x	0.028	=	kg./cu.cm.
FLUID DENSITY	lbs./cu.in.	x	0.028	=	kg./cu.cm.
TRANSL. STIF	lbs./in.	x	1.751	=	N./cm.
ROTATIONAL STIF	in.lb./deg.	x	0.113	=	N.m./deg
UNIFORM LOAD	lb./in.	x	1.751	=	N./cm.
G LOAD	g's	x	1.000	=	g's
WIND LOAD	lbs./sq.in.	x	6.895	=	KPa
ELEVATION	inches	x	0.025	=	m.
COMPOUND LENGTH	inches	x	25.400	=	mm.
DIAMETER	inches	x	25.400	=	mm.
WALL THICKNESS	inches	x	25.400	=	mm.

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SETUP FILE PARAMETERS

```

CONNECT GEOMETRY THRU CNODES = YES
MIN ALLOWED BEND ANGLE = 5.00000
MAX ALLOWED BEND ANGLE = 95.0000
BEND LENGTH ATTACHMENT PERCENT = 1.00000
MIN ANGLE TO ADJACENT BEND PT = 5.00000
LOOP CLOSURE TOLERANCE = 25.4000 mm.
THERMAL BOWING HORZ TOLERANCE = 0.100000E-03
AUTO NODE NUMBER INCREMENT= 10.0000
Z AXIS UP= NO
USE PRESSURE STIFFENING = DEFAULT
ALPHA TOLERANCE = 0.500000E-01
RESLD-FORCE = NO
HGR DEF RESWGT STIF = 0.175127E+13 N./cm.
DECOMP SNG TOL = 0.100000E+11
BEND AXIAL SHAPE = YES
FRICT STIF = 0.175127E+07 N./cm.
FRICT NORM FORCE VAR = 0.150000
FRICT ANGLE VAR = 15.0000
FRICT SLIDE MULT = 1.00000
ROD TOLERANCE = 1.00000
ROD INC = 2.00000
INCORE NUMERICAL CHECK = NO

```

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INPUT LISTING

```

OUTCORE NUMERICAL CHECK = NO
DEFAULT TRANS RESTRAINT STIFF= 0.175127E+13 N./cm.
DEFAULT ROT RESTRAINT STIFF= 0.112985E+12 N.m./deg
IGNORE SPRING HANGER STIFFNESS = NO
MISSING MASS ZPA = EXTRACTED
MIN WALL MILL TOLERANCE = 12.5000
WRC-107 VERSION = MAR 79 1B1/2B1
WRC-107 INTERPOLATION = LAST VALUE
DEFAULT AMBIENT TEMPERATURE= 21.1111 C
BOURDON PRESSURE= NONE
COEFFICIENT OF FRICTION (MU) = 0.000000
INCLUDE SPRG STIF IN HGR OPE = NO
INCLUDE INSULATION IN HYDROTEST = NO
REDUCED INTERSECTION = B31.1(POST1980)
USE WRC329 NO
NO REDUCED SIF FOR RFT AND WLT NO
B31.1 REDUCED Z FIX = YES
CLASS 1 BRANCH FLEX NO
ALL STRESS CASES CORRODED = NO
ADD TORSION IN SL STRESS = DEFAULT
ADD F/A IN STRESS = DEFAULT
OCCASIONAL LOAD FACTOR = 0.000000
DEFAULT CODE = B31.3
B31.3 SUS CASE SIF FACTOR = 0.000000
ALLOW USERS BEND SIF = NO
USE SCHNEIDER NO
YIELD CRITERION STRESS = MAX 3D SHEAR
USE PD/4T NO
BASE HOOP STRESS ON ? = ID
EN13480 USE IN OUTPLANE SIFS= NO
LIBERAL EXPANSION ALLOWABLE= YES
B31.3 SEC 319.2.3C SAXIAL= Default
B31.3 WELDING/CONTOUR TEE ISB16.9 FALSE
PRESSURE VARIATION IN EXP CASE= DEFAULT
IMPLEMENT B313 APP-P NO
IMPLEMENT B313 CODE CASE 178 YES
IGNORE B31.1/B31.3 Wc FACTOR= YES
USE FRP SIF = YES
USE FRP FLEX = YES
BS 7159 Pressure Stiffening= Design Strain
FRP Property Data File= CAESAR.FRP
FRP Emod (axial) = 0.220632E+08 KPa
FRP Ratio Gmod/Emod (axial) = 0.250000
FRP Ea/Eh*Vh/a = 0.152730
FRP Laminate Type = THREE
FRP Alpha = 21.6000 C
FRP Density = 0.166079E-02 kg./cu.cm.
EXCLUDE f2 FROM UK00A BENDING = NO
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```

EXECUTION CONTROL PARAMETERS

```

Rigid/ExpJt Print Flag ..... 1.000
Bourdon Option ..... .000

```

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INPUT LISTING

Loop Closure Flag 2.000
 Thermal Bowing Delta Temp .. .000 C
 Liberal Allowable Flag 1.000
 Uniform Load Option 1.000

 Ambient Temperature 20.997 C
 Plastic (FRP) Alpha 21.600
 Plastic (FRP) GMOD/EMODa 250
 Plastic (FRP) Laminate Type. 3.000
 Eqn Optimizer 000
 Node Selection 000
 Eqn Ordering 000
 Collins 000
 Degree Determination 000
 User Eqn Control 000
 North Direction -X

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COORDINATE REPORT

NODE	X	Y	Z
10	-15700.080	-7395.683	7324.219
20	-15700.080	-7395.683	7390.894
30	-15700.080	-7422.683	7492.894
40	-15700.080	-7422.683	7916.894
50	-16588.080	-7422.683	7916.894
40	-15700.080	-7422.683	7916.894
60	-15700.080	-7458.604	7952.815
50	-16588.080	-7422.683	7916.894
70	-17476.080	-7422.683	7916.894
80	-17555.455	-7422.683	7916.894
90	-17926.455	-7422.683	7916.894
100	-18005.830	-7422.683	7916.894
110	-18255.830	-7422.683	7916.894
120	-18255.830	-7473.483	7916.894
110	-18255.830	-7422.683	7916.894
130	-18505.830	-7422.683	7916.894
140	-18585.205	-7422.683	7916.894
150	-18840.205	-7422.683	7916.894
160	-18919.580	-7422.683	7916.894
170	-19471.580	-7422.683	7916.894
180	-19812.580	-7081.683	7916.894
190	-19812.580	-7081.683	9256.895
200	-19812.580	-7081.683	10596.895
210	-19812.580	-7081.683	13556.895
220	-19812.580	-7081.683	16516.895
230	-19812.580	-6930.683	16516.895
240	-19812.580	-6851.308	16516.895
250	-19812.580	-6586.308	16516.895
270	-19812.580	-6506.933	16516.895
280	-19812.580	-6371.933	16516.895
290	-19812.580	-4271.933	16516.895
300	-17512.580	-4271.933	16516.895
310	-17512.580	-6371.933	16516.895
290	-19812.580	-4271.933	16516.895
320	-28112.580	-4271.933	16516.895

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INPUT LISTING

330	-28112.580	-6371.933	16516.895
10	-15700.080	-7395.683	7324.219
350	-15700.080	-7395.683	7257.544
360	-15700.080	-7395.683	7024.544
60	-15700.080	-7458.604	7952.815
370	-15700.080	-7458.604	8452.814
120	-18255.830	-7473.483	7916.894
380	-18255.830	-7973.483	7916.894
400	-15700.080	-7395.683	10004.220
410	-15700.080	-7395.683	10070.895
420	-15700.080	-7422.683	10172.895
430	-15700.080	-7422.683	10596.895
440	-16588.080	-7422.683	10596.895
430	-15700.080	-7422.683	10596.895
450	-15700.080	-7458.604	10632.815
440	-16588.080	-7422.683	10596.895
460	-17476.080	-7422.683	10596.895
470	-17555.455	-7422.683	10596.895
480	-17926.455	-7422.683	10596.895
490	-18005.830	-7422.683	10596.895
500	-18255.830	-7422.683	10596.895
510	-18255.830	-7473.483	10596.895
500	-18255.830	-7422.683	10596.895
520	-18505.830	-7422.683	10596.895
530	-18585.205	-7422.683	10596.895
540	-18840.205	-7422.683	10596.895
550	-18919.580	-7422.683	10596.895
560	-19471.580	-7422.683	10596.895
200	-19812.580	-7081.683	10596.895
400	-15700.080	-7395.683	10004.220
590	-15700.080	-7395.683	9937.545
600	-15700.080	-7395.683	9704.545
450	-15700.080	-7458.604	10632.815
610	-15700.080	-7458.604	11132.815
510	-18255.830	-7473.483	10596.895
620	-18255.830	-7973.483	10596.895

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

- 1 (HYD) WW+HP
- 2 (OPE) W+T1+P1
- 3 (Alt-SUS) W+P1
- 4 (OPE) W+T2+P1
- 5 (Alt-SUS) W+P1
- 6 (OPE) W+T3+P1
- 7 (Alt-SUS) W+P1
- 8 (SUS) W+P1
- 9 (SUS) WNC
- 10 (OPE) W+T2+P1+U1
- 11 (OPE) W+T2+P1-U1
- 12 (OPE) W+T2+P1+U2
- 13 (OPE) W+T2+P1+U3
- 14 (OPE) W+T2+P1-U3
- 15 (OCC) L15=L10-L4
- 16 (OCC) L16=L11-L4
- 17 (OCC) L17=L12-L4
- 18 (OCC) L18=L13-L4
- 19 (OCC) L19=L14-L4
- 20 (OCC) L20=L15+L8
- 21 (OCC) L21=L16+L8
- 22 (OCC) L22=L17+L8
- 23 (OCC) L23=L18+L8
- 24 (OCC) L24=L19+L8
- 25 (EXP) L25=L2-L8
- 26 (EXP) L26=L4-L8
- 27 (EXP) L27=L2-L4
- 28 (EXP) L28=L6-L8
- 29 (EXP) L29=L2-L6
- 30 (EXP) L30=L4-L6

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

LOAD CASE DEFINITION KEY

CASE 1 (HYD) WW+HP
CASE 2 (OPE) W+T1+P1
CASE 4 (OPE) W+T2+P1
CASE 6 (OPE) W+T3+P1
CASE 8 (SUS) W+P1
CASE 9 (SUS) WNC
CASE 10 (OPE) W+T2+P1+U1
CASE 11 (OPE) W+T2+P1-U1
CASE 12 (OPE) W+T2+P1+U2
CASE 13 (OPE) W+T2+P1+U3
CASE 14 (OPE) W+T2+P1-U3
CASE 15 (OCC) L15=L10-L4
CASE 16 (OCC) L16=L11-L4
CASE 17 (OCC) L17=L12-L4
CASE 18 (OCC) L18=L13-L4
CASE 19 (OCC) L19=L14-L4

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
10		TYPE=Rigid ANC;					
	1(HYD)	-10	-173	-11	-7	-3	17
	2(OPE)	476	-215	38	-75	75	28
	4(OPE)	124	-196	-14	-7	25	15
	6(OPE)	-11	-168	-12	-7	-3	16
	8(SUS)	-11	-168	-12	-7	-3	16
	9(SUS)	-17	-98	-15	-6	-5	7
	10(OPE)	223	-214	-16	-8	46	26
	11(OPE)	-45	-183	7	-7	-14	6
	12(OPE)	126	-177	-8	-6	26	13
	13(OPE)	89	-160	131	-8	34	12
	14(OPE)	159	-232	-156	-6	16	17
	15(OCC)	98	-18	-2	-1	22	11
	16(OCC)	-169	13	21	1	-39	-9
	17(OCC)	1	19	6	1	1	-2
	18(OCC)	-35	36	145	-1	9	-2
	19(OCC)	35	-36	-142	1	-8	3
	MAX	476/L2	-232/L14	-156/L14	-75/L2	75/L2	28/L2
190		TYPE=Rigid +Y;					
	1(HYD)	-89	-799	12	0	0	0
	2(OPE)	-113	-810	-215	0	0	0
	4(OPE)	-93	-842	-235	0	0	0
	6(OPE)	-90	-801	12	0	0	0
	8(SUS)	-90	-801	12	0	0	0
	9(SUS)	-48	-476	2	0	0	0
	10(OPE)	-37	-684	-202	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	11(OPE)	-183	-958	-222	0	0	0
	12(OPE)	-80	-743	-208	0	0	0
	13(OPE)	-104	-825	-225	0	0	0
	14(OPE)	-85	-856	-242	0	0	0
	15(OCC)	56	157	33	0	0	0
	16(OCC)	-90	-116	13	0	0	0
	17(OCC)	13	99	27	0	0	0
	18(OCC)	-11	17	10	0	0	0
	19(OCC)	8	-14	-7	0	0	0
	MAX	-183/L11	-958/L11	-242/L14			
210		TYPE=Rigid +Y;					
	1(HYD)	-24	-681	82	0	0	0
	2(OPE)	-147	-706	-153	0	0	0
	4(OPE)	-78	-699	-195	0	0	0
	6(OPE)	-24	-682	82	0	0	0
	8(SUS)	-24	-682	82	0	0	0
	9(SUS)	-11	-335	36	0	0	0
	10(OPE)	78	-678	-188	0	0	0
	11(OPE)	-194	-714	-91	0	0	0
	12(OPE)	-72	-615	-170	0	0	0
	13(OPE)	-96	-734	-198	0	0	0
	14(OPE)	-55	-665	-192	0	0	0
	15(OCC)	156	21	7	0	0	0
	16(OCC)	-116	-15	104	0	0	0
	17(OCC)	6	84	25	0	0	0
	18(OCC)	-18	-34	-3	0	0	0
	19(OCC)	23	34	3	0	0	0
	MAX	-194/L11	-734/L13	-198/L13			
250		TYPE=Rigid ANC;					
	1(HYD)	6	-938	-93	13	-2	7
	2(OPE)	35	-896	1046	-456	-7	22
	4(OPE)	24	-917	579	-272	-19	13
	6(OPE)	6	-938	-93	13	-2	7
	8(SUS)	6	-938	-93	13	-2	7
	9(SUS)	3	-797	-41	6	-2	1
	10(OPE)	283	-923	556	-264	-43	72
	11(OPE)	-252	-916	446	-213	26	-51
	12(OPE)	22	-806	538	-251	-18	12
	13(OPE)	30	-894	1467	-596	-24	16
	14(OPE)	20	-940	-286	42	-16	12
	15(OCC)	260	-6	-22	8	-25	59
	16(OCC)	-276	1	-133	59	45	-64
	17(OCC)	-2	111	-40	20	1	-1
	18(OCC)	7	24	889	-324	-6	2

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	19(OCC)	-4	-23	-865	313	3	-1
	MAX	283/L10	-940/L14	1467/L13	-596/L13	45/L16	72/L10
280		TYPE=Rigid ANC;					
	1(HYD)	6	-1039	-93	33	-2	8
	2(OPE)	35	-997	1046	-680	-7	30
	4(OPE)	24	-1019	579	-396	-19	18
	6(OPE)	6	-1040	-93	33	-2	8
	8(SUS)	6	-1040	-93	33	-2	8
	9(SUS)	3	-879	-41	14	-2	2
	10(OPE)	310	-1025	556	-384	-43	137
	11(OPE)	-279	-1018	446	-309	26	-109
	12(OPE)	22	-896	538	-367	-18	17
	13(OPE)	30	-995	1494	-914	-24	22
	14(OPE)	20	-1042	-312	107	-16	16
	15(OCC)	286	-6	-22	12	-25	119
	16(OCC)	-302	1	-133	87	45	-127
	17(OCC)	-2	123	-40	29	1	-1
	18(OCC)	7	24	915	-518	-6	4
	19(OCC)	-4	-23	-891	503	3	-2
	MAX	310/L10	-1042/L14	1494/L13	-914/L13	45/L16	137/L10
310		TYPE=Rigid ANC;					
	1(HYD)	14	-889	-86	33	-135	806
	2(OPE)	82	-842	1045	-680	2397	678
	4(OPE)	73	-862	579	-396	1312	698
	6(OPE)	14	-889	-86	33	-135	806
	8(SUS)	14	-889	-86	33	-135	806
	9(SUS)	10	-753	-37	14	-59	682
	10(OPE)	369	-832	556	-384	1236	456
	11(OPE)	-241	-898	446	-309	1052	958
	12(OPE)	65	-757	538	-367	1221	612
	13(OPE)	79	-841	1494	-914	3411	676
	14(OPE)	70	-882	-312	107	-735	717
	15(OCC)	296	29	-22	12	-76	-242
	16(OCC)	-314	-36	-133	87	-260	260
	17(OCC)	-7	104	-40	29	-91	-86
	18(OCC)	6	21	915	-518	2099	-22
	19(OCC)	-3	-20	-891	503	-2047	19
	MAX	369/L10	-898/L11	1494/L13	-914/L13	3411/L13	958/L11
330		TYPE=Rigid +Y; Rigid Z w/gap;					
	1(HYD)	-8	-150	-8	0	0	0
	2(OPE)	-47	-155	0	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	4(OPE)	-47	-157	0	0	0	0
	6(OPE)	-8	-150	-8	0	0	0
	8(SUS)	-8	-150	-8	0	0	0
	9(SUS)	-7	-127	-3	0	0	0
	10(OPE)	-58	-192	0	0	0	0
	11(OPE)	-36	-120	0	0	0	0
	12(OPE)	-41	-138	0	0	0	0
	13(OPE)	-46	-154	0	0	0	0
	14(OPE)	-48	-160	-0	0	0	0
	15(OCC)	-11	-35	0	0	0	0
	16(OCC)	11	37	-0	0	0	0
	17(OCC)	6	19	-0	0	0	0
	18(OCC)	1	3	0	0	0	0
	19(OCC)	-1	-3	-0	0	0	0
	MAX	-58/L10	-192/L10	-8/L6			
360		TYPE=Rigid ANC;					
	1(HYD)	-10	-220	-11	55	-6	17
	2(OPE)	476	-262	38	0	217	28
	4(OPE)	124	-243	-14	62	62	15
	6(OPE)	-11	-215	-12	53	-6	16
	8(SUS)	-11	-215	-12	53	-6	16
	9(SUS)	-17	-138	-15	33	-11	7
	10(OPE)	235	-261	-16	66	116	26
	11(OPE)	-57	-230	7	59	-31	6
	12(OPE)	126	-218	-8	56	64	13
	13(OPE)	89	-207	144	50	60	12
	14(OPE)	159	-279	-168	74	64	17
	15(OCC)	111	-18	-2	4	54	11
	16(OCC)	-182	13	21	-3	-93	-9
	17(OCC)	1	25	6	-6	2	-2
	18(OCC)	-35	36	157	-12	-2	-2
	19(OCC)	35	-36	-155	12	2	3
	MAX	476/L2	-279/L14	-168/L14	74/L14	217/L2	28/L2
370		TYPE=Rigid +Y;					
	1(HYD)	-56	-187	-7	0	0	0
	2(OPE)	0	0	0	0	0	0
	4(OPE)	22	-97	19	0	0	0
	6(OPE)	-50	-168	-6	0	0	0
	8(SUS)	-50	-168	-6	0	0	0
	9(SUS)	-30	-102	-3	0	0	0
	10(OPE)	37	-135	16	0	0	0
	11(OPE)	-18	-65	8	0	0	0
	12(OPE)	18	-77	15	0	0	0
	13(OPE)	39	-149	21	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	14(OPE)	2	-45	13	0	0	0
	15(OCC)	16	-39	-4	0	0	0
	16(OCC)	-39	32	-11	0	0	0
	17(OCC)	-4	20	-5	0	0	0
	18(OCC)	18	-52	2	0	0	0
	19(OCC)	-20	52	-6	0	0	0
	MAX	-56/L1	-187/L1	21/L13			
380		TYPE=Rigid +Y; Rigid Z w/gap;					
	1(HYD)	97	-1547	56	0	0	0
	2(OPE)	-319	-1738	-412	0	0	0
	4(OPE)	-82	-1578	-63	0	0	0
	6(OPE)	93	-1524	54	0	0	0
	8(SUS)	93	-1524	54	0	0	0
	9(SUS)	68	-1268	36	0	0	0
	10(OPE)	336	-1588	-64	0	0	0
	11(OPE)	-465	-1570	-74	0	0	0
	12(OPE)	-84	-1395	-69	0	0	0
	13(OPE)	-31	-1560	159	0	0	0
	14(OPE)	-131	-1597	-283	0	0	0
	15(OCC)	418	-10	-1	0	0	0
	16(OCC)	-383	8	-11	0	0	0
	17(OCC)	-1	183	-6	0	0	0
	18(OCC)	52	18	221	0	0	0
	19(OCC)	-49	-19	-220	0	0	0
	MAX	-465/L11	-1738/L2	-412/L2			
400		TYPE=Rigid ANC;					
	1(HYD)	-39	-149	-5	-7	-5	11
	2(OPE)	322	-198	-13	-10	32	13
	4(OPE)	102	-165	16	-7	26	11
	6(OPE)	-40	-144	2	-7	-5	11
	8(SUS)	-40	-144	2	-7	-5	11
	9(SUS)	-29	-88	6	-6	-4	6
	10(OPE)	223	-185	3	-8	52	22
	11(OPE)	-133	-144	41	-7	-30	2
	12(OPE)	106	-148	17	-6	27	10
	13(OPE)	58	-131	155	-8	31	7
	14(OPE)	147	-199	-124	-6	22	15
	15(OCC)	122	-20	-13	-1	26	10
	16(OCC)	-235	21	25	0	-56	-9
	17(OCC)	4	17	1	1	1	-1
	18(OCC)	-44	34	139	-1	5	-4
	19(OCC)	45	-34	-140	1	-4	4
	MAX	322/L2	-199/L14	155/L13	-10/L2	-56/L16	22/L10

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
600		TYPE=Rigid ANC;					
	1(HYD)	-39	-196	-5	48	-17	11
	2(OPE)	322	-245	-13	60	128	13
	4(OPE)	102	-212	16	53	56	11
	6(OPE)	-40	-191	2	46	-17	11
	8(SUS)	-40	-191	2	46	-17	11
	9(SUS)	-29	-128	6	29	-13	6
	10(OPE)	236	-232	3	58	122	22
	11(OPE)	-146	-191	41	47	-73	2
	12(OPE)	106	-189	17	47	59	10
	13(OPE)	58	-178	167	41	48	7
	14(OPE)	147	-246	-137	64	66	15
	15(OCC)	134	-20	-13	5	65	10
	16(OCC)	-247	21	25	-6	-130	-9
	17(OCC)	4	23	1	-6	3	-1
	18(OCC)	-44	34	152	-11	-8	-4
	19(OCC)	45	-34	-152	11	9	4
	MAX	322/L2	-246/L14	167/L13	64/L14	-130/L16	22/L10
		TYPE=Rigid +Y;					
	1(HYD)	-54	-191	20	0	0	0
	2(OPE)	-3	-56	17	0	0	0
	4(OPE)	30	-126	23	0	0	0
	6(OPE)	-50	-172	12	0	0	0
	8(SUS)	-50	-172	12	0	0	0
	9(SUS)	-33	-111	1	0	0	0
	10(OPE)	44	-158	17	0	0	0
	11(OPE)	-33	-114	10	0	0	0
	12(OPE)	26	-106	18	0	0	0
	13(OPE)	43	-164	24	0	0	0
	14(OPE)	16	-89	21	0	0	0
	15(OCC)	14	-32	-6	0	0	0
	16(OCC)	-63	12	-13	0	0	0
	17(OCC)	-4	20	-4	0	0	0
	18(OCC)	13	-38	1	0	0	0
	19(OCC)	-14	37	-2	0	0	0
	MAX	-63/L16	-191/L1	24/L13			
620		TYPE=Rigid +Y; Rigid Z w/gap;					
	1(HYD)	161	-1646	-40	0	0	0
	2(OPE)	-307	-1602	-370	0	0	0
	4(OPE)	-62	-1600	-167	0	0	0
	6(OPE)	159	-1622	-41	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	8(SUS)	159	-1622	-41	0	0	0
	9(SUS)	95	-1288	-23	0	0	0
	10(OPE)	471	-1656	-159	0	0	0
	11(OPE)	-432	-1556	-176	0	0	0
	12(OPE)	-73	-1407	-162	0	0	0
	13(OPE)	-39	-1605	56	0	0	0
	14(OPE)	-79	-1597	-389	0	0	0
	15(OCC)	533	-56	8	0	0	0
	16(OCC)	-370	45	-9	0	0	0
	17(OCC)	-11	194	5	0	0	0
	18(OCC)	23	-5	223	0	0	0
	19(OCC)	-17	3	-222	0	0	0
	MAX	533/L15	-1656/L10	-389/L14			

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Licensed To:: SPLM: Edit company name in <system>\company.txt

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS 2
Stress Summary : Multiple 3

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

- 1 (HYD) WW+HP
- 2 (OPE) W+T1+P1
- 3 (Alt-SUS) W+P1
- 4 (OPE) W+T2+P1
- 5 (Alt-SUS) W+P1
- 6 (OPE) W+T3+P1
- 7 (Alt-SUS) W+P1
- 8 (SUS) W+P1
- 9 (SUS) WNC
- 10 (OPE) W+T2+P1+U1
- 11 (OPE) W+T2+P1-U1
- 12 (OPE) W+T2+P1+U2
- 13 (OPE) W+T2+P1+U3
- 14 (OPE) W+T2+P1-U3
- 15 (OCC) L15=L10-L4
- 16 (OCC) L16=L11-L4
- 17 (OCC) L17=L12-L4
- 18 (OCC) L18=L13-L4
- 19 (OCC) L19=L14-L4
- 20 (OCC) L20=L15+L8
- 21 (OCC) L21=L16+L8
- 22 (OCC) L22=L17+L8
- 23 (OCC) L23=L18+L8
- 24 (OCC) L24=L19+L8
- 25 (EXP) L25=L2-L8
- 26 (EXP) L26=L4-L8
- 27 (EXP) L27=L2-L4
- 28 (EXP) L28=L6-L8
- 29 (EXP) L29=L2-L6
- 30 (EXP) L30=L4-L6

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement Various Load Cases

LOAD CASE DEFINITION KEY

CASE 1 (HYD) WW+HP
 CASE 3 (Alt-SUS) W+P1
 CASE 5 (Alt-SUS) W+P1
 CASE 7 (Alt-SUS) W+P1
 CASE 8 (SUS) W+P1
 CASE 9 (SUS) WNC
 CASE 20 (OCC) L20=L15+L8
 CASE 21 (OCC) L21=L16+L8
 CASE 22 (OCC) L22=L17+L8
 CASE 23 (OCC) L23=L18+L8
 CASE 24 (OCC) L24=L19+L8
 CASE 25 (EXP) L25=L2-L8
 CASE 26 (EXP) L26=L4-L8
 CASE 27 (EXP) L27=L2-L4
 CASE 28 (EXP) L28=L6-L8
 CASE 29 (EXP) L29=L2-L6
 CASE 30 (EXP) L30=L4-L6

Piping Code: B31.3 = B31.3 -2016, Jan 31, 2017

CODE STRESS CHECK PASSED : LOADCASE 1 (HYD) WW+HP

Highest Stresses: (KPa)	LOADCASE 1 (HYD) WW+HP	
Ratio (%):	6.7 @Node 500	
Code Stress:	16187.0	Allowable Stress: 241316.5
Axial Stress:	1752.5 @Node 280	
Bending Stress:	15401.6 @Node 500	
Torsion Stress:	1221.0 @Node 360	
Hoop Stress:	1597.5 @Node 30	
Max Stress Intensity:	16324.9 @Node 500	

CODE STRESS CHECK PASSED : LOADCASE 3 (Alt-SUS) W+P1

Highest Stresses: (KPa)	LOADCASE 3 (Alt-SUS) W+P1	
Ratio (%):	19.6 @Node 360	
Code Stress:	26961.2	Allowable Stress: 137895.1
Axial Stress:	1485.3 @Node 280	
Bending Stress:	26665.1 @Node 360	
Torsion Stress:	1103.8 @Node 50	
Hoop Stress:	1065.0 @Node 30	
Max Stress Intensity:	26961.2 @Node 360	

CODE STRESS CHECK PASSED : LOADCASE 5 (Alt-SUS) W+P1

Highest Stresses: (KPa)	LOADCASE 5 (Alt-SUS) W+P1	
Ratio (%):	11.0 @Node 500	
Code Stress:	15122.1	Allowable Stress: 137895.1
Axial Stress:	1490.8 @Node 280	

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
 Various Load Cases

Bending Stress:	14573.2	@Node	200
Torsion Stress:	1148.1	@Node	20
Hoop Stress:	1065.0	@Node	30
Max Stress Intensity:	15181.6	@Node	500

CODE STRESS CHECK PASSED : LOADCASE 7 (Alt-SUS) W+P1

Highest Stresses: (KPa)	LOADCASE 7 (Alt-SUS) W+P1	
Ratio (%):	11.5	@Node 500
Code Stress:	15832.1	Allowable Stress: 137895.1
Axial Stress:	1494.2	@Node 280
Bending Stress:	15308.2	@Node 500
Torsion Stress:	1176.4	@Node 20
Hoop Stress:	1065.0	@Node 30
Max Stress Intensity:	15978.6	@Node 500

CODE STRESS CHECK PASSED : LOADCASE 8 (SUS) W+P1

Highest Stresses: (KPa)	LOADCASE 8 (SUS) W+P1	
Ratio (%):	11.5	@Node 500
Code Stress:	15900.9	Allowable Stress: 137895.1
Axial Stress:	1493.9	@Node 280
Bending Stress:	15374.1	@Node 500
Torsion Stress:	1191.6	@Node 20
Hoop Stress:	1065.0	@Node 30
Max Stress Intensity:	16040.8	@Node 500

CODE STRESS CHECK PASSED : LOADCASE 9 (SUS) WNC

Highest Stresses: (KPa)	LOADCASE 9 (SUS) WNC	
Ratio (%):	7.5	@Node 500
Code Stress:	10383.7	Allowable Stress: 137895.1
Axial Stress:	895.9	@Node 620
Bending Stress:	10309.9	@Node 500
Torsion Stress:	644.4	@Node 40
Hoop Stress:	0.0	@Node 20
Max Stress Intensity:	10383.7	@Node 500

CODE STRESS CHECK PASSED : LOADCASE 20 (OCC) L20=L15+L8

Highest Stresses: (KPa)	LOADCASE 20 (OCC) L20=L15+L8	
Ratio (%):	11.5	@Node 500
Code Stress:	21043.7	Allowable Stress: 183400.5
Axial Stress:	1499.4	@Node 280
Bending Stress:	20172.7	@Node 500
Torsion Stress:	1949.5	@Node 360
Hoop Stress:	1065.0	@Node 30
Max Stress Intensity:	21183.6	@Node 500

CODE STRESS CHECK PASSED : LOADCASE 21 (OCC) L21=L16+L8

Highest Stresses: (KPa)	LOADCASE 21 (OCC) L21=L16+L8	

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
 Various Load Cases

Ratio (%):	14.5	@Node	600	
Code Stress:	26576.5	Allowable Stress:		183400.5
Axial Stress:	1493.1	@Node	280	
Bending Stress:	26024.9	@Node	600	
Torsion Stress:	1060.6	@Node	20	
Hoop Stress:	1065.0	@Node	30	
Max Stress Intensity:	26566.8	@Node	600	

CODE STRESS CHECK PASSED : LOADCASE 22 (OCC) L22=L17+L8

Highest Stresses: (KPa)	LOADCASE 22 (OCC) L22=L17+L8			
Ratio (%):	9.6	@Node	500	
Code Stress:	17669.2	Allowable Stress:		183400.5
Axial Stress:	1378.3	@Node	280	
Bending Stress:	17121.5	@Node	500	
Torsion Stress:	1066.4	@Node	360	
Hoop Stress:	1065.0	@Node	30	
Max Stress Intensity:	17809.0	@Node	500	

CODE STRESS CHECK PASSED : LOADCASE 23 (OCC) L23=L18+L8

Highest Stresses: (KPa)	LOADCASE 23 (OCC) L23=L18+L8			
Ratio (%):	11.3	@Node	280	
Code Stress:	20650.9	Allowable Stress:		183400.5
Axial Stress:	1471.7	@Node	280	
Bending Stress:	19133.1	@Node	280	
Torsion Stress:	1526.9	@Node	130	
Hoop Stress:	1065.0	@Node	30	
Max Stress Intensity:	20650.8	@Node	280	

CODE STRESS CHECK PASSED : LOADCASE 24 (OCC) L24=L19+L8

Highest Stresses: (KPa)	LOADCASE 24 (OCC) L24=L19+L8			
Ratio (%):	11.0	@Node	280	
Code Stress:	20111.2	Allowable Stress:		183400.5
Axial Stress:	1515.5	@Node	280	
Bending Stress:	18594.7	@Node	280	
Torsion Stress:	2093.5	@Node	520	
Hoop Stress:	1065.0	@Node	30	
Max Stress Intensity:	20111.1	@Node	280	

CODE STRESS CHECK PASSED : LOADCASE 25 (EXP) L25=L2-L8

Highest Stresses: (KPa)	LOADCASE 25 (EXP) L25=L2-L8			
Ratio (%):	10.5	@Node	360	
Code Stress:	33503.3	Allowable Stress:		317776.7
Axial Stress:	1069.0	@Node	218	
Bending Stress:	33360.2	@Node	360	
Torsion Stress:	3191.3	@Node	50	
Hoop Stress:	0.0	@Node	20	
Max Stress Intensity:	33503.3	@Node	360	

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
 Various Load Cases

CODE STRESS CHECK PASSED : LOADCASE 26 (EXP) L26=L4-L8

Highest Stresses: (	KPa	)	LOADCASE 26 (EXP) L26=L4-L8	
Ratio (%):	4.4	@Node	280	
Code Stress:	14887.8	Allowable Stress:		341784.1
Axial Stress:	630.8	@Node	218	
Bending Stress:	14856.6	@Node	280	
Torsion Stress:	966.8	@Node	50	
Hoop Stress:	0.0	@Node	20	
Max Stress Intensity:	14887.8	@Node	280	

CODE STRESS CHECK PASSED : LOADCASE 27 (EXP) L27=L2-L4

Highest Stresses: (	KPa	)	LOADCASE 27 (EXP) L27=L2-L4	
Ratio (%):	7.7	@Node	360	
Code Stress:	24428.5	Allowable Stress:		317776.7
Axial Stress:	458.4	@Node	210	
Bending Stress:	24251.4	@Node	360	
Torsion Stress:	2224.5	@Node	50	
Hoop Stress:	0.0	@Node	20	
Max Stress Intensity:	24428.5	@Node	360	

CODE STRESS CHECK PASSED : LOADCASE 28 (EXP) L28=L6-L8

Highest Stresses: (	KPa	)	LOADCASE 28 (EXP) L28=L6-L8	
Ratio (%):	0.0	@Node	30	
Code Stress:	0.0	Allowable Stress:		342716.0
Axial Stress:	0.0	@Node	20	
Bending Stress:	0.0	@Node	20	
Torsion Stress:	0.0	@Node	20	
Hoop Stress:	0.0	@Node	20	
Max Stress Intensity:	0.0	@Node	20	

CODE STRESS CHECK PASSED : LOADCASE 29 (EXP) L29=L2-L6

Highest Stresses: (	KPa	)	LOADCASE 29 (EXP) L29=L2-L6	
Ratio (%):	10.5	@Node	360	
Code Stress:	33503.3	Allowable Stress:		317776.7
Axial Stress:	1069.0	@Node	218	
Bending Stress:	33360.2	@Node	360	
Torsion Stress:	3191.3	@Node	50	
Hoop Stress:	0.0	@Node	20	
Max Stress Intensity:	33503.3	@Node	360	

CODE STRESS CHECK PASSED : LOADCASE 30 (EXP) L30=L4-L6

Highest Stresses: (	KPa	)	LOADCASE 30 (EXP) L30=L4-L6	
Ratio (%):	4.4	@Node	280	
Code Stress:	14887.8	Allowable Stress:		341784.1
Axial Stress:	630.8	@Node	218	
Bending Stress:	14856.6	@Node	280	
Torsion Stress:	966.8	@Node	50	

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Hoop Stress:	0.0	@Node	20
Max Stress Intensity:	14887.8	@Node	280

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Line no.

Stress sketch

Input echo

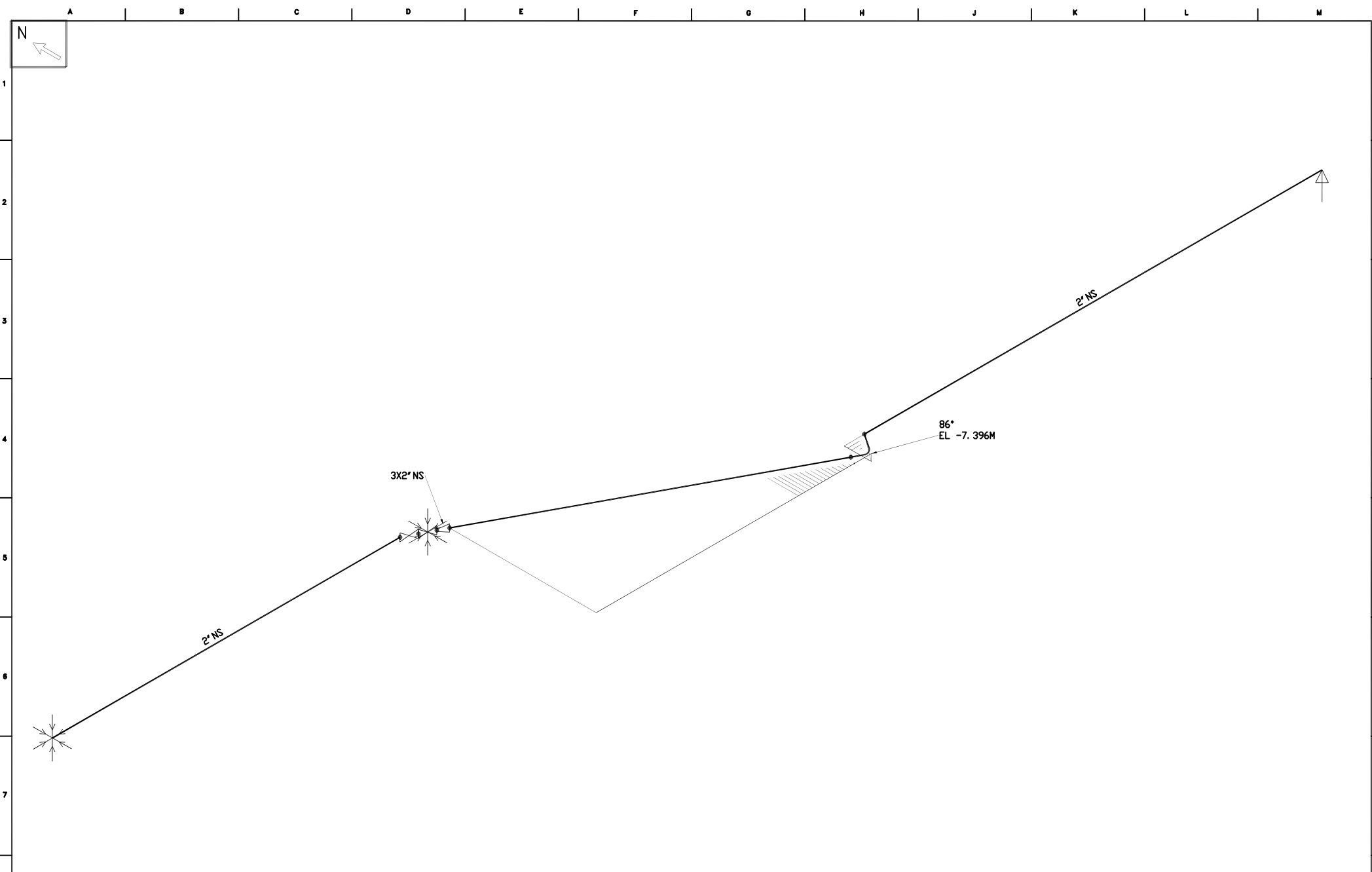
Restraint summary

Stress summary

Nozzle load Table

LINE NO.:

1. CDH-112-0012-CN05-3"-PT
2. CDH-112-0013-CN05-3"-PT
3. CDH-112-0014-CN05-3"-PT
4. CDH-112-0015-CN07-4"-PT



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PIPING SPEC.		OP. TEMP.	
INSULATION SPEC.		PROJECT NO.	
INSULATION THKS.		SYSTEM	
PAINTING SPEC.		AREA	
MATERIAL		DRAWN BY	
OP. PRESSURE		E.I.DIAGRAM	



REV.

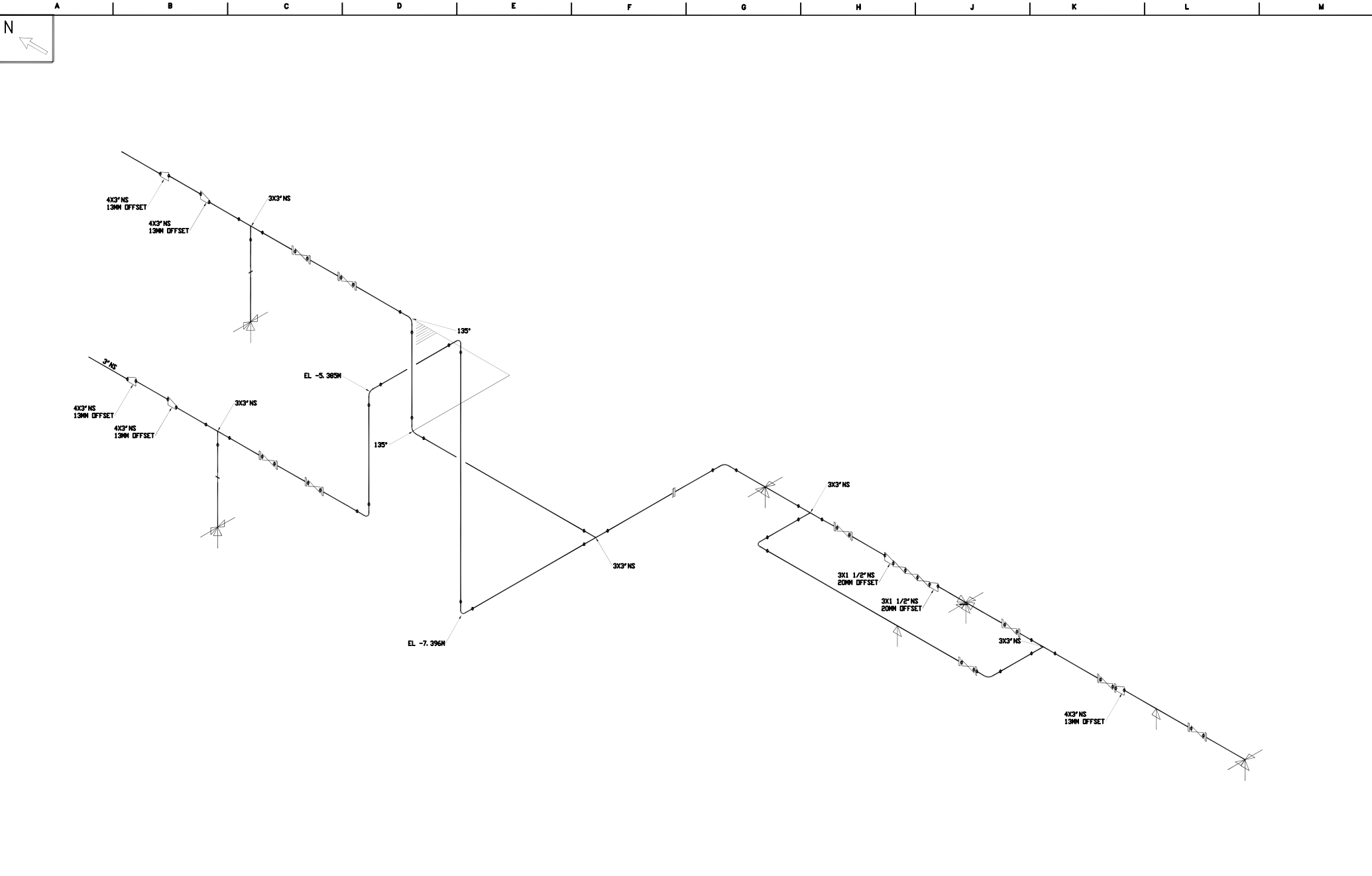
DRG.

PIPELINE REFERENCE

1 OF 5

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		DATE

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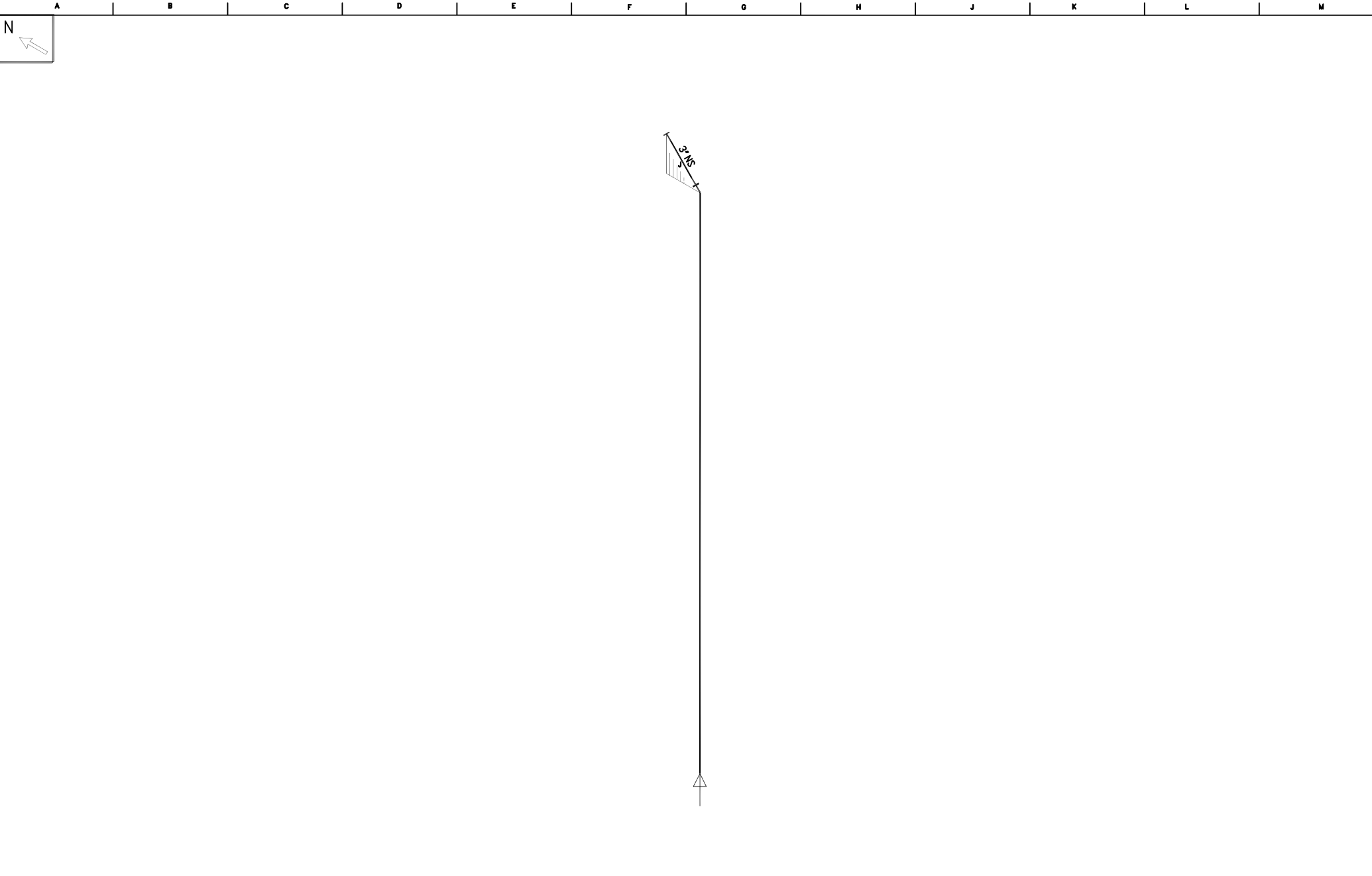
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INSULATION THKS.		SYSTEM	
PAINTING SPEC.		AREA	
MATERIAL		DRAWN BY	
OP. PRESSURE		E.I.DIAGRAM	

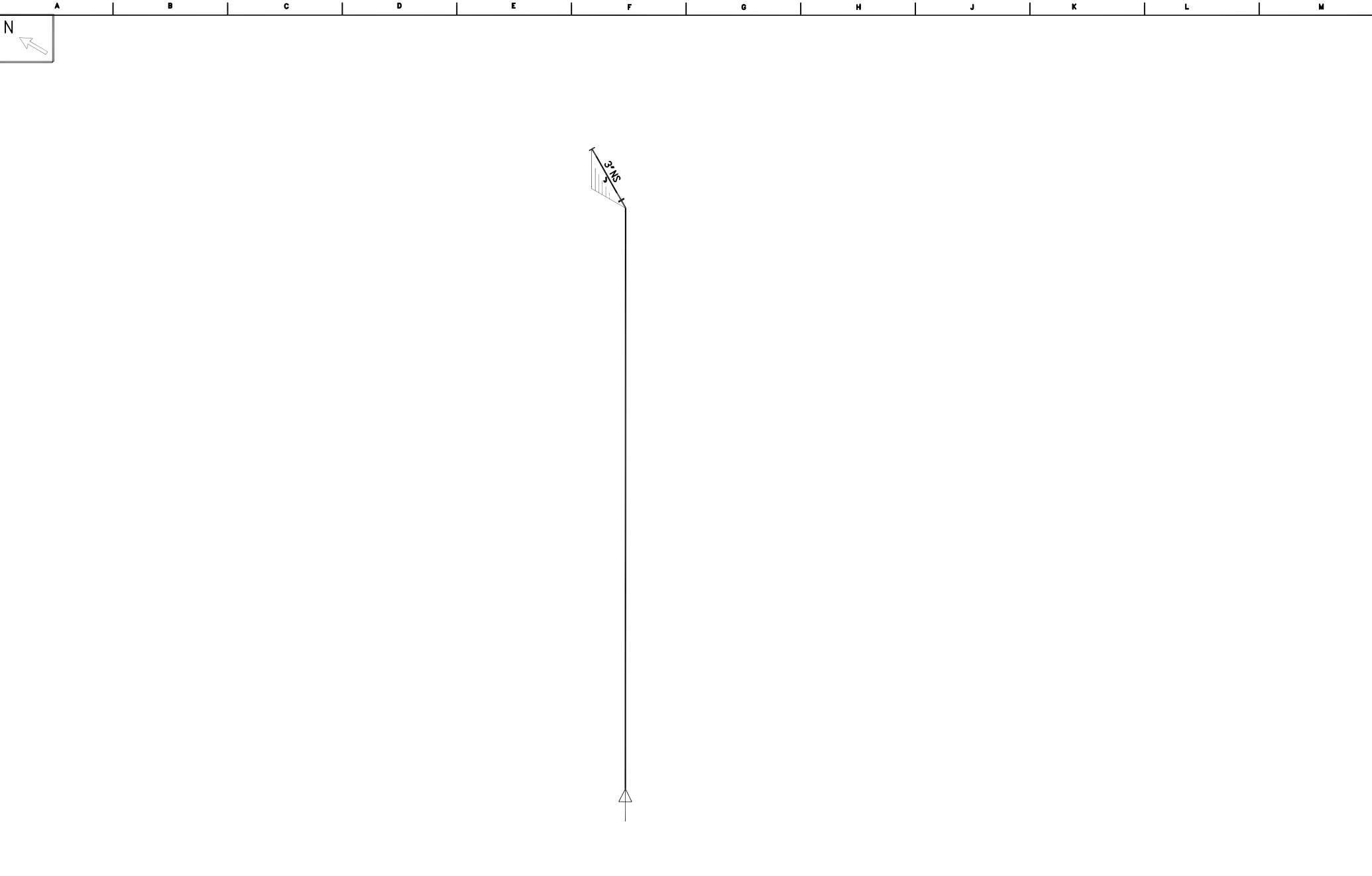


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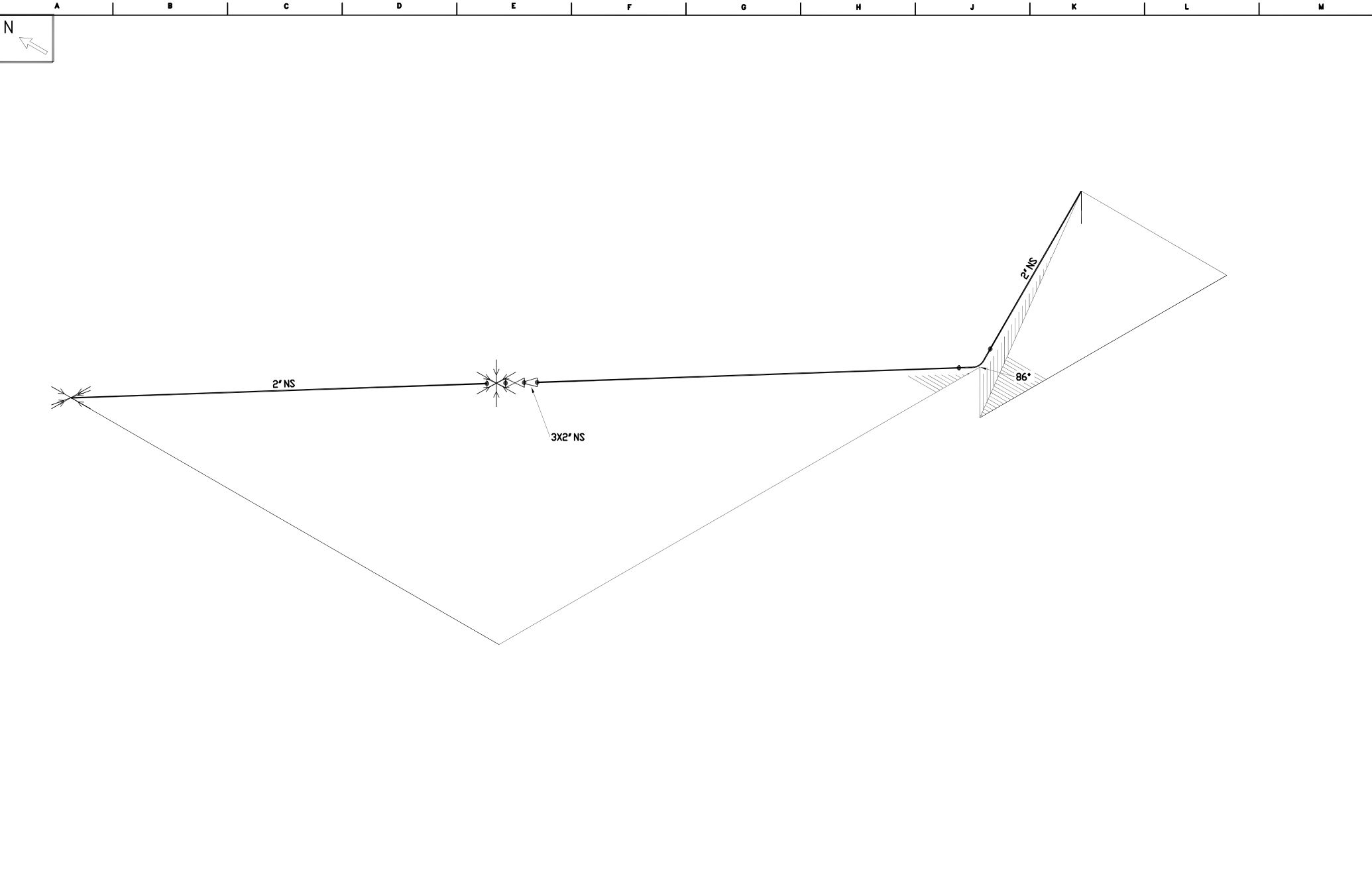
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				INSULATION SPEC.		PROJECT NO.			
				INSULATION THKS.		SYSTEM			DRG.
				PAINTING SPEC.		AREA			
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				INSULATION THKS.		SYSTEM			
				PAINTING SPEC.		AREA			
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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

- 1 (HYD) WW+HP
- 2 (OPE) W+T1+P1
- 3 (Alt-SUS) W+P1
- 4 (OPE) W+T2+P1
- 5 (Alt-SUS) W+P1
- 6 (OPE) W+T3+P1
- 7 (Alt-SUS) W+P1
- 8 (SUS) W+P1
- 9 (SUS) WNC
- 10 (OPE) W+T2+P1+U1
- 11 (OPE) W+T2+P1-U1
- 12 (OPE) W+T2+P1+U2
- 13 (OPE) W+T2+P1+U3
- 14 (OPE) W+T2+P1-U3
- 15 (OCC) L15=L10-L4
- 16 (OCC) L16=L11-L4
- 17 (OCC) L17=L12-L4
- 18 (OCC) L18=L13-L4
- 19 (OCC) L19=L14-L4
- 20 (OCC) L20=L15+L8
- 21 (OCC) L21=L16+L8
- 22 (OCC) L22=L17+L8
- 23 (OCC) L23=L18+L8
- 24 (OCC) L24=L19+L8
- 25 (EXP) L25=L2-L8
- 26 (EXP) L26=L4-L8
- 27 (EXP) L27=L2-L4
- 28 (EXP) L28=L6-L8
- 29 (EXP) L29=L2-L6
- 30 (EXP) L30=L4-L6

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INPUT LISTING

Job Description:

PROJECT:

CLIENT :

ANALYST:

NOTES :

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INPUT LISTING

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CAESAR II 2018 Ver.10.00.00.7700, (Build 170726) AUG 1, 2023 14:53:56

PIPE DATA

 From 10 To 20 DZ= -73.025 mm.

PIPE

Dia= 60.325 mm. Wall= 5.537 mm. Cor= 3.0000 mm.

GENERAL

T1= 85 C T2= 32 C T3= 21 C P1= 2,450.0559 KPa PHyd= 3,700.0842 KPa
 Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 199,086,608 KPa
 EH2= 202,494,736 KPa EH3= 203,401,232 KPa EH4= 203,401,232 KPa
 EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa
 EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292
 Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0010020 kg./cu.cm.
 Insul Thk= .000 mm. Insul Den= .0000000 kg./cu.cm.

RIGID Weight= 44.48 N.

RESTRAINTS

Node 10 ANC Cnode 11

UNIFORM LOAD

Vector1 in G-s X1 Dir = .26 g's Y1 Dir = .00 g's Z1 Dir = .00 g's
 Vector2 in G-s X2 Dir = .00 g's Y2 Dir = .12 g's Z2 Dir = .00 g's
 Vector3 in G-s X3 Dir = .00 g's Y3 Dir = .00 g's Z3 Dir = .26 g's

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 20 To 30 DZ= -89.000 mm.

REDUCER

Diam2= 88.900 mm. Wall2= 5.486 mm.

 From 30 To 40 DZ= -365.000 mm.

PIPE

Dia= 88.900 mm. Wall= 5.486 mm.
 Insul Thk= .000 mm.

BEND at "T0" end

Radius= 114.300 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 39
 Angle/Node @2= .00 38

 From 40 To 45 DX= 307.500 mm.

 From 40 To 800 DY= -26.941 mm. DZ= -26.941 mm.

RIGID Weight= .00 N.

SIF's & TEE's

Node 800 Unreinforced Tee

 From 45 To 50 DX= 307.500 mm.

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From 50 To 60 DX= 102.000 mm. DY= 12.700 mm.

REDUCER

Diam2= 114.300 mm. Wall2= 6.020 mm.

From 60 To 70 DX= 300.000 mm.

PIPE

Dia= 114.300 mm. Wall= 6.020 mm.

Insul Thk= .000 mm.

From 70 To 80 DX= 101.600 mm. DY= -12.700 mm.

REDUCER

Diam2= 88.900 mm. Wall2= 5.486 mm.

From 80 To 85 DX= 248.500 mm.

PIPE

Dia= 88.900 mm. Wall= 5.486 mm.

Insul Thk= .000 mm.

From 85 To 840 DY= -38.100 mm.

RIGID Weight= .00 N.

SIF's & TEE's

Node 840 Unreinforced Tee

From 85 To 90 DX= 248.500 mm.

From 90 To 100 DX= 82.550 mm.

RIGID Weight= 71.17 N.

From 100 To 110 DX= 327.000 mm.

RIGID Weight= 653.89 N.

From 110 To 120 DX= 82.550 mm.

RIGID Weight= 71.17 N.

From 120 To 130 DX= 200.000 mm.

From 130 To 140 DX= 82.550 mm.

RIGID Weight= 71.17 N.

From 140 To 150 DX= 310.000 mm.

RIGID Weight= 622.75 N.

From 150 To 160 DX= 82.550 mm.

RIGID Weight= 71.17 N.

From 160 To 165 DX= 232.000 mm.

From 170 To 880 DX= 26.941 mm. DY= -26.941 mm.

RIGID Weight= .00 N.

SIF's & TEE's

Node 880 Unreinforced Tee

From 165 To 170 DX= 232.000 mm.

BEND at "TO" end

Radius= 114.300 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 169

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Angle/Node @2= .00 168

From 170 To 180 DY= 2,011.000 mm.

BEND at "TO" end

Radius= 114.300 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 179

Angle/Node @2= .00 178

From 180 To 190 DZ= -2,267.000 mm.

BEND at "TO" end

Radius= 114.300 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 189

Angle/Node @2= .00 188

From 190 To 195 DY= -1,005.500 mm.

From 200 To 890 DX= 26.941 mm. DY= -26.941 mm.

RIGID Weight= .00 N.

From 195 To 200 DY= -1,005.500 mm.

BEND at "TO" end

Radius= 114.300 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 199

Angle/Node @2= .00 198

From 200 To 210 DZ= -200.000 mm.

SIF's & TEE's

Node 210 Welding Tee

From 210 To 220 DZ= -1,721.000 mm.

From 220 To 230 DZ= -82.550 mm.

RIGID Weight= 71.17 N.

From 230 To 240 DZ= -82.550 mm.

RIGID Weight= 71.17 N.

From 240 To 250 DZ= -570.000 mm.

BEND at "TO" end

Radius= 114.300 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 249

Angle/Node @2= .00 248

From 250 To 255 DX= 341.500 mm.

RESTRAINTS

Node 255 +Y Mu = .30

Node 255 Z Gap= 3.000 mm. Mu = .30

From 255 To 260 DX= 341.500 mm.

SIF's & TEE's

Node 260 Welding Tee

From 260 To 700 DZ= 400.000 mm.

BEND at "TO" end

Radius= 114.300 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 699

Angle/Node @2= .00 698

From 700 To 705 DX= 1,937.000 mm.

RESTRAINTS

Node 705 +Y Mu = .30

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INPUT LISTING

From 705 To 710 DX= 200.000 mm.

From 710 To 720 DX= 82.550 mm.
RIGID Weight= 71.17 N.

From 720 To 730 DX= 327.000 mm.
RIGID Weight= 742.85 N.

From 730 To 740 DX= 82.550 mm.
RIGID Weight= 71.17 N.

From 740 To 750 DX= 115.000 mm.
BEND at "T0" end
Radius= 114.300 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 749

From 750 To 410 DX= .000 mm. DY= .320 mm. DZ= -400.000 mm.

From 260 To 270 DX= 86.000 mm.

From 270 To 280 DX= 82.550 mm.
RIGID Weight= 71.17 N.

From 280 To 290 DX= 292.000 mm.
RIGID Weight= 622.75 N.

From 290 To 300 DX= 82.550 mm.
RIGID Weight= 71.17 N.

From 300 To 310 DX= 300.000 mm.

From 310 To 320 DX= 203.000 mm. DY= -20.000 mm.
REDUCER
Diam2= 48.260 mm. Wall2= 7.137 mm.

From 320 To 330 DX= 71.438 mm.
PIPE
Dia= 48.260 mm. Wall= 7.137 mm.
Insul Thk= .000 mm.
RIGID Weight= 40.03 N.

From 330 To 340 DX= 209.000 mm.
RIGID Weight= 84.52 N.

From 340 To 350 DX= 71.438 mm.
RIGID Weight= 40.03 N.

From 350 To 360 DX= 203.000 mm. DY= 20.320 mm.
REDUCER
Diam2= 88.900 mm. Wall2= 5.486 mm.

From 360 To 365 DX= 200.000 mm.
PIPE
Dia= 88.900 mm. Wall= 5.486 mm.
Insul Thk= .000 mm.
RESTRAINTS

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INPUT LISTING

Node 365 +Y Mu = .30
Node 365 X Gap= 3.000 mm. Mu = .30
Node 365 Z Gap= 3.000 mm. Mu = .30

From 365 To 370 DX= 400.000 mm.

From 370 To 380 DX= 82.550 mm.
RIGID Weight= 71.17 N.

From 380 To 390 DX= 292.000 mm.
RIGID Weight= 622.75 N.

From 390 To 400 DX= 82.550 mm.
RIGID Weight= 71.17 N.

From 400 To 410 DX= 86.000 mm.

SIF's & TEE's

Node 410 Welding Tee

From 410 To 420 DX= 635.000 mm.

From 420 To 430 DX= 82.550 mm.
RIGID Weight= 71.17 N.

From 430 To 440 DX= 229.000 mm.
RIGID Weight= 146.79 N.

From 440 To 450 DX= 82.550 mm.

GENERAL

T1= 85 C T2= 21 C P1= 550.0125 KPa PHyd= 825.0188 KPa

RIGID Weight= 71.17 N.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
Sh9= 137,895 KPa Sy= 241,316 KPa

From 450 To 460 DX= 101.200 mm. DY= 12.700 mm.

REDUCER

Diam2= 114.300 mm. Wall2= 6.020 mm.

From 460 To 465 DX= 300.000 mm.

PIPE

Dia= 114.300 mm. Wall= 6.020 mm.

Insul Thk= .000 mm.

RESTRAINTS

Node 465 +Y Mu = .30

From 465 To 470 DX= 300.000 mm.

From 470 To 480 DX= 88.900 mm.
RIGID Weight= 115.65 N.

From 480 To 490 DX= 314.000 mm.
RIGID Weight= 965.26 N.

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INPUT LISTING

From 490 To 500 DX= 88.900 mm.

RIGID Weight= 115.65 N.

From 500 To 510 DX= 495.000 mm.

RESTRAINTS

Node 510 +Y Mu = .30

Node 510 Z Gap= 3.000 mm. Mu = .30

From 520 To 530 DZ= -73.025 mm.

PIPE

Dia= 60.325 mm. Wall= 5.537 mm. Cor= 3.0000 mm.

GENERAL

T1= 85 C T2= 32 C T3= 21 C P1= 2,450.0559 KPa PHyd= 3,700.0842 KPa

Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 199,086,608 KPa

EH2= 202,494,736 KPa EH3= 203,401,232 KPa EH4= 203,401,232 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0010020 kg./cu.cm.

Insul Thk= .000 mm. Insul Den= .0000000 kg./cu.cm.

RIGID Weight= 44.48 N.

RESTRAINTS

Node 520 ANC Cnode 521

UNIFORM LOAD

Vector1 in G-s X1 Dir = .26 g's Y1 Dir = .00 g's Z1 Dir = .00 g's

Vector2 in G-s X2 Dir = .00 g's Y2 Dir = .12 g's Z2 Dir = .00 g's

Vector3 in G-s X3 Dir = .00 g's Y3 Dir = .00 g's Z3 Dir = .26 g's

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 530 To 540 DZ= -89.000 mm.

REDUCER

Diam2= 88.900 mm. Wall2= 5.486 mm.

From 540 To 550 DZ= -365.000 mm.

PIPE

Dia= 88.900 mm. Wall= 5.486 mm.

Insul Thk= .000 mm.

BEND at "TO" end

Radius= 114.300 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 549

Angle/Node @2= .00 548

From 550 To 555 DX= 307.500 mm.

From 550 To 810 DY= -26.941 mm. DZ= -26.941 mm.

RIGID Weight= .00 N.

SIF's & TEE's

Node 810 Unreinforced Tee

From 555 To 560 DX= 307.500 mm.

From 560 To 570 DX= 102.000 mm. DY= 12.700 mm.

REDUCER

Diam2= 114.300 mm. Wall2= 6.020 mm.

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INPUT LISTING

 From 570 To 580 DX= 300.000 mm.

PIPE

Dia= 114.300 mm. Wall= 6.020 mm.

Insul Thk= .000 mm.

From 580 To 590 DX= 101.600 mm. DY= -12.700 mm.

REDUCER

Diam2= 88.900 mm. Wall2= 5.486 mm.

From 590 To 595 DX= 248.500 mm.

PIPE

Dia= 88.900 mm. Wall= 5.486 mm.

Insul Thk= .000 mm.

From 595 To 850 DY= -38.100 mm.

RIGID Weight= .00 N.

SIF's & TEE's

Node 850 Unreinforced Tee

From 595 To 600 DX= 248.500 mm.

From 600 To 610 DX= 82.550 mm.

RIGID Weight= 71.17 N.

From 610 To 620 DX= 327.000 mm.

RIGID Weight= 653.89 N.

From 620 To 630 DX= 82.550 mm.

RIGID Weight= 71.17 N.

From 630 To 640 DX= 200.000 mm.

From 640 To 650 DX= 82.550 mm.

RIGID Weight= 71.17 N.

From 650 To 660 DX= 310.000 mm.

RIGID Weight= 622.75 N.

From 660 To 670 DX= 82.550 mm.

RIGID Weight= 71.17 N.

From 670 To 680 DX= 51.000 mm.

BEND at "T0" end

Radius= 114.300 mm. (LONG) Bend Angle= 45.000 Angle/Node @1= 22.50 679

From 680 To 690 DX= 213.000 mm. DY= .000 mm. DZ= 213.000 mm.

BEND at "T0" end

Radius= 114.300 mm. (LONG) Bend Angle= 45.000 Angle/Node @1= 22.50 689

Angle/Node @2= .00 688

From 690 To 210 DX= 137.000 mm.

From 521 To 760 DZ= 73.025 mm.

PIPE

Dia= 60.325 mm. Wall= 5.537 mm.

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INPUT LISTING

Insul Thk= .000 mm.
 RIGID Weight= 44.48 N.

 From 760 To 770 DZ= 252.000 mm.

RESTRAINTS

Node 770 ANC

EQUIPMENT LIMITS

Nozzle Node = 770 Limiting Loads: A=pipe; B=ref; C=AxB; FA= 1,779.29 N.
 FB= 1,156.54 N. FC= 1,423.43 N. MA= 460.98 N.m. MB= .00 N.m.
 MC= 705.03 N.m. Equipment Major Direction Vector= .0000 1.0000 .0000
 Interact. Mtd= Absolute

 From 11 To 780 DZ= 73.025 mm.

RIGID Weight= 44.48 N.

 From 780 To 790 DZ= 252.000 mm.

RESTRAINTS

Node 790 ANC

EQUIPMENT LIMITS

Nozzle Node = 790 Limiting Loads: A=pipe; B=ref; C=AxB; FA= 1,779.29 N.
 FB= 1,156.54 N. FC= 1,423.43 N. MA= 460.98 N.m. MB= .00 N.m.
 MC= 705.03 N.m. Equipment Major Direction Vector= .0000 1.0000 .0000
 Interact. Mtd= Absolute

 From 800 To 820 DZ= -500.000 mm.

PIPE

Dia= 60.325 mm. Wall= 3.912 mm. Cor= .0000 mm.

GENERAL

T1= 21 C T2= 21 C P1= .0000 KPa Mat= (102)A53 Grade B
 E= 203,401,232 KPa EH1= 203,401,232 KPa EH2= 203,401,232 KPa
 EH3= 203,401,232 KPa EH4= 203,401,232 KPa EH5= 203,401,232 KPa
 EH6= 203,401,232 KPa EH7= 203,401,232 KPa EH8= 203,401,232 KPa
 EH9= 203,401,232 KPa v = .292 Pipe Den= .0078334 kg./cu.cm.
 Fluid Den= .0000000 kg./cu.cm. Insul Thk= .000 mm.

RESTRAINTS

Node 820 +Y Mu = .30

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 810 To 830 DZ= -500.000 mm.

RESTRAINTS

Node 830 +Y Mu = .30

 From 840 To 860 DY= -500.000 mm.

RESTRAINTS

Node 860 +Y Mu = .30

Node 860 Z Gap= 3.000 mm. Mu = .30

 From 850 To 870 DY= -500.000 mm.

RESTRAINTS

Node 870 +Y Mu = .30

Node 870 Z Gap= 3.000 mm. Mu = .30

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INPUT LISTING

From 880 To 900 DY= -500.000 mm.

RESTRAINTS

Node 900 +Y Mu = .30

 From 890 To 910 DY= -500.000 mm.

GENERAL

Insul/Clad Unit Wt= 8.90 N./cm.

RESTRAINTS

Node 910 +Y Mu = .30

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MATERIAL Changes:

10	20	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
520	530	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
800	820	Mat= (102)A53 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.

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ALLOWABLE STRESS Changes

10	20	B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa Sh9= 137,895 KPa Sy= 241,316 KPa
440	450	B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa Sh9= 137,895 KPa Sy= 241,316 KPa
520	530	B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa Sh9= 137,895 KPa Sy= 241,316 KPa
800	820	B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa Sh9= 137,895 KPa Sy= 241,316 KPa

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INPUT LISTING BEND ELEMENTS

30	40	Radius= 114.300 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00 39
		Angle/Node @2= .00 38
165	170	Radius= 114.300 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		169 Angle/Node @2= .00 168
170	180	Radius= 114.300 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		179 Angle/Node @2= .00 178
180	190	Radius= 114.300 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		189 Angle/Node @2= .00 188
195	200	Radius= 114.300 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		199 Angle/Node @2= .00 198
240	250	Radius= 114.300 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		249 Angle/Node @2= .00 248
260	700	Radius= 114.300 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		699 Angle/Node @2= .00 698
740	750	Radius= 114.300 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		749
540	550	Radius= 114.300 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		549 Angle/Node @2= .00 548
670	680	Radius= 114.300 mm. (LONG)
		Bend Angle= 45.000 Angle/Node @1= 22.50
		679
680	690	Radius= 114.300 mm. (LONG)
		Bend Angle= 45.000 Angle/Node @1= 22.50
		689 Angle/Node @2= .00 688

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RIGIDS

10	20	RIGID Weight= 44.48 N.
40	800	RIGID Weight= .00 N.
85	840	RIGID Weight= .00 N.
90	100	RIGID Weight= 71.17 N.
100	110	RIGID Weight= 653.89 N.
110	120	RIGID Weight= 71.17 N.
130	140	RIGID Weight= 71.17 N.
140	150	RIGID Weight= 622.75 N.
150	160	RIGID Weight= 71.17 N.
170	880	RIGID Weight= .00 N.
200	890	RIGID Weight= .00 N.
220	230	RIGID Weight= 71.17 N.
230	240	RIGID Weight= 71.17 N.
710	720	RIGID Weight= 71.17 N.
720	730	RIGID Weight= 742.85 N.
730	740	RIGID Weight= 71.17 N.
270	280	RIGID Weight= 71.17 N.

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INPUT LISTING

280	290	RIGID	Weight= 622.75 N.
290	300	RIGID	Weight= 71.17 N.
320	330	RIGID	Weight= 40.03 N.
330	340	RIGID	Weight= 84.52 N.
340	350	RIGID	Weight= 40.03 N.
370	380	RIGID	Weight= 71.17 N.
380	390	RIGID	Weight= 622.75 N.
390	400	RIGID	Weight= 71.17 N.
420	430	RIGID	Weight= 71.17 N.
430	440	RIGID	Weight= 146.79 N.
440	450	RIGID	Weight= 71.17 N.
470	480	RIGID	Weight= 115.65 N.
480	490	RIGID	Weight= 965.26 N.
490	500	RIGID	Weight= 115.65 N.
520	530	RIGID	Weight= 44.48 N.
550	810	RIGID	Weight= .00 N.
595	850	RIGID	Weight= .00 N.
600	610	RIGID	Weight= 71.17 N.
610	620	RIGID	Weight= 653.89 N.
620	630	RIGID	Weight= 71.17 N.
640	650	RIGID	Weight= 71.17 N.
650	660	RIGID	Weight= 622.75 N.
660	670	RIGID	Weight= 71.17 N.
521	760	RIGID	Weight= 44.48 N.
11	780	RIGID	Weight= 44.48 N.

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SIF's & TEE's

40	800	Node 800	Unreinforced Tee
85	840	Node 840	Unreinforced Tee
170	880	Node 880	Unreinforced Tee
200	210	Node 210	Welding Tee
255	260	Node 260	Welding Tee
400	410	Node 410	Welding Tee
550	810	Node 810	Unreinforced Tee
595	850	Node 850	Unreinforced Tee

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REDUCERS

20	30	Diam2= 88.900 mm.	Wall2= 5.486 mm.
50	60	Diam2= 114.300 mm.	Wall2= 6.020 mm.
70	80	Diam2= 88.900 mm.	Wall2= 5.486 mm.
310	320	Diam2= 48.260 mm.	Wall2= 7.137 mm.
350	360	Diam2= 88.900 mm.	Wall2= 5.486 mm.
450	460	Diam2= 114.300 mm.	Wall2= 6.020 mm.
530	540	Diam2= 88.900 mm.	Wall2= 5.486 mm.
560	570	Diam2= 114.300 mm.	Wall2= 6.020 mm.
580	590	Diam2= 88.900 mm.	Wall2= 5.486 mm.

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RESTRAINTS

Len	MU	
GAP	YIELD	Dir

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INPUT LISTING

NODE	TYPE	CNODE	STIF1	STIF2	FORCE	Vectors		
10	ANC	11				.000	.000	.000
255	+Y				.30	.000	1.000	.000
255	Z			3.00	.30	.000	.000	1.000
705	+Y				.30	.000	1.000	.000
365	+Y				.30	.000	1.000	.000
365	X			3.00	.30	1.000	.000	.000
365	Z			3.00	.30	.000	.000	1.000
465	+Y				.30	.000	1.000	.000
510	+Y				.30	.000	1.000	.000
510	Z			3.00	.30	.000	.000	1.000
520	ANC	521				.000	.000	.000
770	ANC					.000	.000	.000
790	ANC					.000	.000	.000
820	+Y				.30	.000	1.000	.000
830	+Y				.30	.000	1.000	.000
860	+Y				.30	.000	1.000	.000
860	Z			3.00	.30	.000	.000	1.000
870	+Y				.30	.000	1.000	.000
870	Z			3.00	.30	.000	.000	1.000
900	+Y				.30	.000	1.000	.000
910	+Y				.30	.000	1.000	.000

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EQUIPMENT LIMITS

760 770 Nozzle Node = 770

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 1,779.29 N. FB= 1,156.54 N.
 FC= 1,423.43 N. MA= 460.98 N.m. MB= .00 N.m. MC= 705.03 N.m.
 Equipment Major Direction Vector= .0000 1.0000 .0000
 Interact. Mtd= Absolute

780 790 Nozzle Node = 790

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 1,779.29 N. FB= 1,156.54 N.
 FC= 1,423.43 N. MA= 460.98 N.m. MB= .00 N.m. MC= 705.03 N.m.
 Equipment Major Direction Vector= .0000 1.0000 .0000
 Interact. Mtd= Absolute

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UNIFORM LOAD Changes

10 20

Vector1 in G-s
 X1 Dir = .26 g's Y1 Dir = .00 g's
 Z1 Dir = .00 g's
 Vector2 in G-s
 X2 Dir = .00 g's Y2 Dir = .12 g's
 Z2 Dir = .00 g's
 Vector3 in G-s
 X3 Dir = .00 g's Y3 Dir = .00 g's
 Z3 Dir = .26 g's

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INPUT LISTING

```

520          530          Vector1 in G-s
                    X1 Dir = .26 g's   Y1 Dir = .00 g's
                    Z1 Dir = .00 g's
                    Vector2 in G-s
                    X2 Dir = .00 g's   Y2 Dir = .12 g's
                    Z2 Dir = .00 g's
                    Vector3 in G-s
                    X3 Dir = .00 g's   Y3 Dir = .00 g's
                    Z3 Dir = .26 g's

```

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INPUT UNITS USED...

UNITS= SI (m NOM/SCH INPUT= ON

LENGTH	inches	x	25.400	=	mm.
FORCE	pounds	x	4.448	=	N.
MASS(dynamics)	pounds	x	0.454	=	Kg.
MOMENTS(INPUT)	inch-pounds	x	0.113	=	N.m.
MOMENTS(OUTPUT)	inch-pounds	x	0.113	=	N.m.
STRESS	lbs./sq.in.	x	6.895	=	KPa
TEMP. SCALE	degrees F.	x	0.556	=	C
PRESSURE	psig	x	6.895	=	KPa
ELASTIC MODULUS	lbs./sq.in.	x	6.895	=	KPa
PIPE DENSITY	lbs./cu.in.	x	0.028	=	kg./cu.cm.
INSULATION DENS.	lbs./cu.in.	x	0.028	=	kg./cu.cm.
FLUID DENSITY	lbs./cu.in.	x	0.028	=	kg./cu.cm.
TRANSL. STIF	lbs./in.	x	1.751	=	N./cm.
ROTATIONAL STIF	in.lb./deg.	x	0.113	=	N.m./deg
UNIFORM LOAD	lb./in.	x	1.751	=	N./cm.
G LOAD	g's	x	1.000	=	g's
WIND LOAD	lbs./sq.in.	x	6.895	=	KPa
ELEVATION	inches	x	0.025	=	m.
COMPOUND LENGTH	inches	x	25.400	=	mm.
DIAMETER	inches	x	25.400	=	mm.
WALL THICKNESS	inches	x	25.400	=	mm.

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SETUP FILE PARAMETERS

```

-----
CONNECT GEOMETRY THRU CNODES = YES
MIN ALLOWED BEND ANGLE = 5.00000
MAX ALLOWED BEND ANGLE = 95.0000
BEND LENGTH ATTACHMENT PERCENT = 1.00000
MIN ANGLE TO ADJACENT BEND PT = 5.00000
LOOP CLOSURE TOLERANCE = 25.4000 mm.
THERMAL BOWING HORZ TOLERANCE = 0.100000E-03
AUTO NODE NUMBER INCREMENT= 10.0000
Z AXIS UP= NO
USE PRESSURE STIFFENING = DEFAULT
ALPHA TOLERANCE = 0.500000E-01
RESLD-FORCE = NO
HGR DEF RESWGT STIF = 0.175127E+13 N./cm.
DECOMP SNG TOL = 0.100000E+11
BEND AXIAL SHAPE = YES
FRICT STIF = 0.175127E+07 N./cm.
FRICT NORM FORCE VAR = 0.150000

```

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INPUT LISTING

```

FRICT ANGLE VAR = 15.0000
FRICT SLIDE MULT = 1.00000
ROD TOLERANCE = 1.00000
ROD INC = 2.00000
INCORE NUMERICAL CHECK = NO
OUTCORE NUMERICAL CHECK = NO
DEFAULT TRANS RESTRAINT STIFF= 0.175127E+13 N./cm.
DEFAULT ROT RESTRAINT STIFF= 0.112985E+12 N.m./deg
IGNORE SPRING HANGER STIFFNESS = NO
MISSING MASS ZPA = EXTRACTED
MIN WALL MILL TOLERANCE = 12.5000
WRC-107 VERSION = MAR 79 1B1/2B1
WRC-107 INTERPOLATION = LAST VALUE
DEFAULT AMBIENT TEMPERATURE= 21.1111 C
BOURDON PRESSURE= NONE
COEFFICIENT OF FRICTION (MU) = 0.000000
INCLUDE SPRG STIF IN HGR OPE = NO
INCLUDE INSULATION IN HYDROTEST = NO
REDUCED INTERSECTION = B31.1(POST1980)
USE WRC329 NO
NO REDUCED SIF FOR RFT AND WLT NO
B31.1 REDUCED Z FIX = YES
CLASS 1 BRANCH FLEX NO
ALL STRESS CASES CORRODED = NO
ADD TORSION IN SL STRESS = DEFAULT
ADD F/A IN STRESS = DEFAULT
OCCASIONAL LOAD FACTOR = 0.000000
DEFAULT CODE = B31.3
B31.3 SUS CASE SIF FACTOR = 0.000000
ALLOW USERS BEND SIF = NO
USE SCHNEIDER NO
YIELD CRITERION STRESS = MAX 3D SHEAR
USE PD/4T NO
BASE HOOP STRESS ON ? = ID
EN13480 USE IN OUTPLANE SIFS= NO
LIBERAL EXPANSION ALLOWABLE= YES
B31.3 SEC 319.2.3C SAXIAL= Default
B31.3 WELDING/CONTOUR TEE ISB16.9 FALSE
PRESSURE VARIATION IN EXP CASE= DEFAULT
IMPLEMENT B313 APP-P NO
IMPLEMENT B313 CODE CASE 178 YES
IGNORE B31.1/B31.3 Wc FACTOR= YES
USE FRP SIF = YES
USE FRP FLEX = YES
BS 7159 Pressure Stiffening= Design Strain
FRP Property Data File= CAESAR.FRP
FRP Emod (axial) = 0.220632E+08 KPa
FRP Ratio Gmod/Emod (axial) = 0.250000
FRP Ea/Eh*Vh/a = 0.152730
FRP Laminate Type = THREE
FRP Alpha = 21.6000 C
FRP Density = 0.166079E-02 kg./cu.cm.
EXCLUDE f2 FROM UK00A BENDING = NO

```

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INPUT LISTING

EXECUTION CONTROL PARAMETERS

Rigid/ExpJt Print Flag 1.000
 Bourdon Option 000
 Loop Closure Flag 2.000
 Thermal Bowing Delta Temp .. .000 C
 Liberal Allowable Flag 1.000
 Uniform Load Option 1.000

 Ambient Temperature 20.997 C
 Plastic (FRP) Alpha 21.600
 Plastic (FRP) GMOD/EMODa 250
 Plastic (FRP) Laminate Type. 3.000
 Eqn Optimizer 000
 Node Selection 000
 Eqn Ordering 000
 Collins 000
 Degree Determination 000
 User Eqn Control 000
 North Direction -X

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COORDINATE REPORT

NODE	X	Y	Z
10	-15700.080	-7395.683	7324.219
20	-15700.080	-7395.683	7251.194
30	-15700.080	-7395.683	7162.194
40	-15700.080	-7395.683	6797.194
45	-15392.580	-7395.683	6797.194
40	-15700.080	-7395.683	6797.194
800	-15700.080	-7422.624	6770.253
45	-15392.580	-7395.683	6797.194
50	-15085.080	-7395.683	6797.194
60	-14983.080	-7382.983	6797.194
70	-14683.080	-7382.983	6797.194
80	-14581.480	-7395.683	6797.194
85	-14332.980	-7395.683	6797.194
840	-14332.980	-7433.783	6797.194
85	-14332.980	-7395.683	6797.194
90	-14084.480	-7395.683	6797.194
100	-14001.931	-7395.683	6797.194
110	-13674.931	-7395.683	6797.194
120	-13592.381	-7395.683	6797.194
130	-13392.381	-7395.683	6797.194
140	-13309.831	-7395.683	6797.194
150	-12999.831	-7395.683	6797.194
160	-12917.281	-7395.683	6797.194
165	-12685.281	-7395.683	6797.194
170	-12453.281	-7395.683	6797.194
880	-12426.341	-7422.624	6797.194
165	-12685.281	-7395.683	6797.194
170	-12453.281	-7395.683	6797.194
180	-12453.281	-5384.683	6797.194
190	-12453.281	-5384.683	4530.194

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INPUT LISTING

195	-12453.281	-6390.183	4530.194
200	-12453.281	-7395.683	4530.194
890	-12426.341	-7422.624	4530.194
195	-12453.281	-6390.183	4530.194
200	-12453.281	-7395.683	4530.194
210	-12453.281	-7395.683	4330.194
220	-12453.281	-7395.683	2609.194
230	-12453.281	-7395.683	2526.644
240	-12453.281	-7395.683	2444.094
250	-12453.281	-7395.683	1874.094
255	-12111.781	-7395.683	1874.094
260	-11770.281	-7395.683	1874.094
700	-11770.281	-7395.683	2274.094
705	-9833.281	-7395.683	2274.094
710	-9633.281	-7395.683	2274.094
720	-9550.731	-7395.683	2274.094
730	-9223.731	-7395.683	2274.094
740	-9141.182	-7395.683	2274.094
750	-9026.182	-7395.683	2274.094
410	-9026.182	-7395.363	1874.094
260	-11770.281	-7395.683	1874.094
270	-11684.281	-7395.683	1874.094
280	-11601.731	-7395.683	1874.094
290	-11309.731	-7395.683	1874.094
300	-11227.182	-7395.683	1874.094
310	-10927.182	-7395.683	1874.094
320	-10724.182	-7415.683	1874.094
330	-10652.744	-7415.683	1874.094
340	-10443.744	-7415.683	1874.094
350	-10372.307	-7415.683	1874.094
360	-10169.307	-7395.363	1874.094
365	-9969.307	-7395.363	1874.094
370	-9569.307	-7395.363	1874.094
380	-9486.757	-7395.363	1874.094
390	-9194.757	-7395.363	1874.094
400	-9112.207	-7395.363	1874.094
400	-9112.182	-7395.363	1874.094
410	-9026.182	-7395.363	1874.094
420	-8391.182	-7395.363	1874.094
430	-8308.632	-7395.363	1874.094
440	-8079.632	-7395.363	1874.094
450	-7997.082	-7395.363	1874.094
460	-7895.882	-7382.663	1874.094
465	-7595.882	-7382.663	1874.094
470	-7295.882	-7382.663	1874.094
480	-7206.982	-7382.663	1874.094
490	-6892.982	-7382.663	1874.094
500	-6804.082	-7382.663	1874.094
510	-6309.082	-7382.663	1874.094
520	-15637.080	-7395.683	4644.219
530	-15637.080	-7395.683	4571.194
540	-15637.080	-7395.683	4482.194
550	-15637.080	-7395.683	4117.194
555	-15329.580	-7395.683	4117.194
550	-15637.080	-7395.683	4117.194
810	-15637.080	-7422.624	4090.254

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INPUT LISTING

555	-15329.580	-7395.683	4117.194
560	-15022.080	-7395.683	4117.194
570	-14920.080	-7382.983	4117.194
580	-14620.080	-7382.983	4117.194
590	-14518.480	-7395.683	4117.194
595	-14269.980	-7395.683	4117.194
850	-14269.980	-7433.783	4117.194
595	-14269.980	-7395.683	4117.194
600	-14021.480	-7395.683	4117.194
610	-13938.931	-7395.683	4117.194
620	-13611.931	-7395.683	4117.194
630	-13529.381	-7395.683	4117.194
640	-13329.381	-7395.683	4117.194
650	-13246.831	-7395.683	4117.194
660	-12936.831	-7395.683	4117.194
670	-12854.281	-7395.683	4117.194
680	-12803.281	-7395.683	4117.194
690	-12590.281	-7395.683	4330.194
210	-12453.281	-7395.683	4330.194
520	-15637.080	-7395.683	4644.219
760	-15637.080	-7395.683	4717.244
770	-15637.080	-7395.683	4969.244
10	-15700.080	-7395.683	7324.219
780	-15700.080	-7395.683	7397.244
790	-15700.080	-7395.683	7649.244
800	-15700.080	-7422.624	6770.253
820	-15700.080	-7422.624	6270.253
810	-15637.080	-7422.624	4090.254
830	-15637.080	-7422.624	3590.254
840	-14332.980	-7433.783	6797.194
860	-14332.980	-7933.783	6797.194
850	-14269.980	-7433.783	4117.194
870	-14269.980	-7933.783	4117.194
880	-12426.341	-7422.624	6797.194
900	-12426.341	-7922.624	6797.194
890	-12426.341	-7422.624	4530.194
910	-12426.341	-7922.624	4530.194

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

- 1 (HYD) WW+HP
- 2 (OPE) W+T1+P1
- 3 (Alt-SUS) W+P1
- 4 (OPE) W+T2+P1
- 5 (Alt-SUS) W+P1
- 6 (OPE) W+T3+P1
- 7 (Alt-SUS) W+P1
- 8 (SUS) W+P1
- 9 (SUS) WNC
- 10 (OPE) W+T2+P1+U1
- 11 (OPE) W+T2+P1-U1
- 12 (OPE) W+T2+P1+U2
- 13 (OPE) W+T2+P1+U3
- 14 (OPE) W+T2+P1-U3
- 15 (OCC) L15=L10-L4
- 16 (OCC) L16=L11-L4
- 17 (OCC) L17=L12-L4
- 18 (OCC) L18=L13-L4
- 19 (OCC) L19=L14-L4
- 20 (OCC) L20=L15+L8
- 21 (OCC) L21=L16+L8
- 22 (OCC) L22=L17+L8
- 23 (OCC) L23=L18+L8
- 24 (OCC) L24=L19+L8
- 25 (EXP) L25=L2-L8
- 26 (EXP) L26=L4-L8
- 27 (EXP) L27=L2-L4
- 28 (EXP) L28=L6-L8
- 29 (EXP) L29=L2-L6
- 30 (EXP) L30=L4-L6

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

LOAD CASE DEFINITION KEY

CASE 1 (HYD) WW+HP
CASE 2 (OPE) W+T1+P1
CASE 4 (OPE) W+T2+P1
CASE 8 (SUS) W+P1
CASE 9 (SUS) WNC
CASE 10 (OPE) W+T2+P1+U1
CASE 11 (OPE) W+T2+P1-U1
CASE 12 (OPE) W+T2+P1+U2
CASE 13 (OPE) W+T2+P1+U3
CASE 14 (OPE) W+T2+P1-U3
CASE 15 (OCC) L15=L10-L4
CASE 16 (OCC) L16=L11-L4
CASE 17 (OCC) L17=L12-L4
CASE 18 (OCC) L18=L13-L4
CASE 19 (OCC) L19=L14-L4

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
10		TYPE=Rigid ANC;					
	1(HYD)	-16	-90	5	7	2	6
	2(OPE)	-629	-31	192	12	88	14
	4(OPE)	-197	-82	61	7	33	7
	8(SUS)	-16	-87	2	8	3	6
	9(SUS)	-12	-59	0	8	2	6
	10(OPE)	112	-68	-0	9	-24	9
	11(OPE)	-557	-79	115	5	107	6
	12(OPE)	-192	-71	60	6	32	6
	13(OPE)	-236	-158	213	73	-26	-16
	14(OPE)	31	66	-98	-10	46	18
	15(OCC)	310	13	-62	2	-57	2
	16(OCC)	-359	3	54	-3	74	-0
	17(OCC)	5	11	-1	-1	-1	-1
	18(OCC)	-38	-76	152	66	-59	-23
	19(OCC)	228	148	-159	-17	13	11
	MAX	-629/L2	-158/L13	213/L13	73/L13	107/L11	-23/L18
255		TYPE=Rigid +Y; Rigid Z w/gap;					
	1(HYD)	120	-1005	-222	0	0	0
	2(OPE)	-227	-1020	-206	0	0	0
	4(OPE)	-207	-998	-216	0	0	0
	8(SUS)	120	-1006	-222	0	0	0
	9(SUS)	105	-860	-195	0	0	0
	10(OPE)	264	-1004	-145	0	0	0
	11(OPE)	-254	-1024	-172	0	0	0
	12(OPE)	-183	-878	-190	0	0	0

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Job:: BNK-GCS-CN-014-D02

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	13(OPE)	-76	-906	261	0	0	0
	14(OPE)	-55	-1165	-345	0	0	0
	15(OCC)	471	-6	71	0	0	0
	16(OCC)	-47	-25	44	0	0	0
	17(OCC)	25	121	26	0	0	0
	18(OCC)	131	92	477	0	0	0
	19(OCC)	152	-166	-129	0	0	0
	MAX	471/L15	-1165/L14	477/L18			
365		TYPE=Rigid +Y; Rigid X w/gap; Rigid Z w/gap;					
	1(HYD)	158	-1175	18	0	0	0
	2(OPE)	81	-1187	-347	0	0	0
	4(OPE)	-186	-1190	-99	0	0	0
	8(SUS)	158	-1175	18	0	0	0
	9(SUS)	148	-1098	16	0	0	0
	10(OPE)	356	-1191	-32	0	0	0
	11(OPE)	-342	-1163	-69	0	0	0
	12(OPE)	-134	-1048	-100	0	0	0
	13(OPE)	-47	-1232	367	0	0	0
	14(OPE)	-9	-1091	-327	0	0	0
	15(OCC)	542	-1	66	0	0	0
	16(OCC)	-156	27	30	0	0	0
	17(OCC)	53	142	-1	0	0	0
	18(OCC)	139	-42	465	0	0	0
	19(OCC)	177	99	-228	0	0	0
	MAX	542/L15	-1232/L13	465/L18			
465		TYPE=Rigid +Y;					
	1(HYD)	-145	-1796	5	0	0	0
	2(OPE)	527	-1773	74	0	0	0
	4(OPE)	536	-1788	27	0	0	0
	8(SUS)	-145	-1797	5	0	0	0
	9(SUS)	-143	-1660	5	0	0	0
	10(OPE)	534	-1780	24	0	0	0
	11(OPE)	-371	-1800	89	0	0	0
	12(OPE)	471	-1573	26	0	0	0
	13(OPE)	162	-1813	519	0	0	0
	14(OPE)	121	-1770	-517	0	0	0
	15(OCC)	-2	8	-4	0	0	0
	16(OCC)	-907	-12	62	0	0	0
	17(OCC)	-65	215	-1	0	0	0
	18(OCC)	-374	-25	492	0	0	0
	19(OCC)	-415	18	-545	0	0	0

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Job:: BNK-GCS-CN-014-D02

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	MAX	-907/L16	-1813/L13	-545/L19			
510		TYPE=Rigid +Y; Rigid Z w/gap;					
	1(HYD)	-102	-342	-6	0	0	0
	2(OPE)	104	-348	10	0	0	0
	4(OPE)	102	-342	-6	0	0	0
	8(SUS)	-103	-342	-5	0	0	0
	9(SUS)	-93	-308	-2	0	0	0
	10(OPE)	104	-347	5	0	0	0
	11(OPE)	-98	-340	-30	0	0	0
	12(OPE)	90	-301	-5	0	0	0
	13(OPE)	45	-335	90	0	0	0
	14(OPE)	39	-350	-98	0	0	0
	15(OCC)	2	-5	11	0	0	0
	16(OCC)	-200	1	-24	0	0	0
	17(OCC)	-12	41	1	0	0	0
	18(OCC)	-57	7	96	0	0	0
	19(OCC)	-64	-9	-92	0	0	0
	MAX	-200/L16	-350/L14	-98/L14			
520		TYPE=Rigid ANC;					
	1(HYD)	-0	-54	-38	4	8	9
	2(OPE)	-913	22	223	2	153	17
	4(OPE)	-194	-43	22	3	42	10
	8(SUS)	-0	-51	-38	5	8	9
	9(SUS)	2	-27	-35	6	7	9
	10(OPE)	171	-10	-44	4	-20	13
	11(OPE)	-581	-43	88	2	122	9
	12(OPE)	-194	-37	26	3	41	9
	13(OPE)	-228	-137	108	30	-8	-2
	14(OPE)	-9	104	-99	-10	58	22
	15(OCC)	365	34	-66	1	-62	4
	16(OCC)	-388	1	66	-1	80	-0
	17(OCC)	-0	6	4	-1	-1	-1
	18(OCC)	-35	-93	87	27	-50	-11
	19(OCC)	184	147	-121	-13	16	12
	MAX	-913/L2	147/L19	223/L2	30/L13	153/L2	22/L14
705		TYPE=Rigid +Y;					
	1(HYD)	-12	-1310	-4	0	0	0
	2(OPE)	-151	-1334	-0	0	0	0
	4(OPE)	-271	-1315	4	0	0	0
	8(SUS)	-12	-1311	-4	0	0	0
	9(SUS)	-8	-1175	-4	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	10(OPE)	399	-1330	-18	0	0	0
	11(OPE)	-393	-1310	-11	0	0	0
	12(OPE)	-263	-1158	5	0	0	0
	13(OPE)	-10	-1250	375	0	0	0
	14(OPE)	-33	-1405	-420	0	0	0
	15(OCC)	670	-15	-22	0	0	0
	16(OCC)	-122	5	-15	0	0	0
	17(OCC)	8	157	1	0	0	0
	18(OCC)	261	65	371	0	0	0
	19(OCC)	238	-90	-424	0	0	0
	MAX	670/L15	-1405/L14	-424/L19			
770		TYPE=Rigid ANC;					
	1(HYD)	-0	-123	-38	-29	8	9
	2(OPE)	-913	-47	223	-7	450	17
	4(OPE)	-194	-112	22	-27	105	10
	8(SUS)	-0	-120	-38	-28	8	9
	9(SUS)	2	-90	-35	-18	7	9
	10(OPE)	189	-79	-44	-16	-80	13
	11(OPE)	-599	-112	88	-28	315	9
	12(OPE)	-194	-98	26	-24	104	9
	13(OPE)	-228	-206	126	-31	66	-2
	14(OPE)	-9	35	-117	8	61	22
	15(OCC)	383	34	-66	12	-185	4
	16(OCC)	-406	1	66	-1	210	-0
	17(OCC)	-0	14	4	3	-1	-1
	18(OCC)	-35	-93	105	-4	-39	-11
	19(OCC)	184	147	-139	35	-44	12
	MAX	-913/L2	-206/L13	223/L2	35/L19	450/L2	22/L14
790		TYPE=Rigid ANC;					
	1(HYD)	-16	-159	5	-38	8	6
	2(OPE)	-629	-100	192	-14	293	14
	4(OPE)	-197	-151	61	-36	97	7
	8(SUS)	-16	-156	2	-37	8	6
	9(SUS)	-12	-122	0	-26	6	6
	10(OPE)	130	-137	-0	-29	-65	9
	11(OPE)	-575	-148	115	-37	292	6
	12(OPE)	-192	-132	60	-31	94	6
	13(OPE)	-236	-227	231	5	51	-16
	14(OPE)	31	-3	-116	-5	36	18
	15(OCC)	328	13	-62	6	-162	2
	16(OCC)	-377	3	54	-2	195	-0
	17(OCC)	5	19	-1	5	-3	-1
	18(OCC)	-38	-76	170	41	-46	-23
	19(OCC)	228	148	-177	31	-61	11

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	MAX	-629/L2	-227/L13	231/L13	41/L18	293/L2	-23/L18
820		TYPE=Rigid +Y;					
	1(HYD)	-16	-57	-7	0	0	0
	2(OPE)	-4	-24	-6	0	0	0
	4(OPE)	-14	-60	-11	0	0	0
	8(SUS)	-14	-50	-4	0	0	0
	9(SUS)	-10	-33	-2	0	0	0
	10(OPE)	10	-36	-5	0	0	0
	11(OPE)	-24	-83	-6	0	0	0
	12(OPE)	-13	-53	-10	0	0	0
	13(OPE)	0	0	0	0	0	0
	14(OPE)	-53	-199	-27	0	0	0
	15(OCC)	24	23	6	0	0	0
	16(OCC)	-10	-24	5	0	0	0
	17(OCC)	2	7	1	0	0	0
	18(OCC)	14	60	11	0	0	0
	19(OCC)	-39	-139	-16	0	0	0
	MAX	-53/L14	-199/L14	-27/L14			
830		TYPE=Rigid +Y;					
	1(HYD)	-24	-79	-3	0	0	0
	2(OPE)	-24	-107	-21	0	0	0
	4(OPE)	-24	-90	-13	0	0	0
	8(SUS)	-21	-72	-3	0	0	0
	9(SUS)	-16	-53	-2	0	0	0
	10(OPE)	19	-78	-14	0	0	0
	11(OPE)	-30	-104	-7	0	0	0
	12(OPE)	-21	-82	-12	0	0	0
	13(OPE)	0	0	0	0	0	0
	14(OPE)	-52	-188	-21	0	0	0
	15(OCC)	42	13	-0	0	0	0
	16(OCC)	-7	-14	7	0	0	0
	17(OCC)	2	9	1	0	0	0
	18(OCC)	24	90	13	0	0	0
	19(OCC)	-29	-97	-8	0	0	0
	MAX	-52/L14	-188/L14	-21/L2			
860		TYPE=Rigid +Y; Rigid Z w/gap;					
	1(HYD)	-113	-1344	2	0	0	0
	2(OPE)	335	-1304	-202	0	0	0
	4(OPE)	-94	-1286	-50	0	0	0
	8(SUS)	-114	-1332	2	0	0	0
	9(SUS)	-113	-1226	2	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	10(OPE)	262	-1147	-8	0	0	0
	11(OPE)	-421	-1442	-100	0	0	0
	12(OPE)	-77	-1127	-50	0	0	0
	13(OPE)	38	-1263	130	0	0	0
	14(OPE)	-57	-1323	-254	0	0	0
	15(OCC)	356	138	42	0	0	0
	16(OCC)	-327	-156	-50	0	0	0
	17(OCC)	17	158	0	0	0	0
	18(OCC)	132	23	180	0	0	0
	19(OCC)	37	-37	-204	0	0	0
	MAX	-421/L11	-1442/L11	-254/L14			
870		TYPE=Rigid +Y; Rigid Z w/gap;					
	1(HYD)	-148	-1332	49	0	0	0
	2(OPE)	126	-1230	-78	0	0	0
	4(OPE)	-143	-1268	8	0	0	0
	8(SUS)	-150	-1321	49	0	0	0
	9(SUS)	-145	-1212	45	0	0	0
	10(OPE)	246	-1143	52	0	0	0
	11(OPE)	-417	-1428	-97	0	0	0
	12(OPE)	-125	-1109	3	0	0	0
	13(OPE)	26	-1232	369	0	0	0
	14(OPE)	-195	-1418	-259	0	0	0
	15(OCC)	390	125	43	0	0	0
	16(OCC)	-274	-161	-105	0	0	0
	17(OCC)	19	159	-6	0	0	0
	18(OCC)	169	36	361	0	0	0
	19(OCC)	-51	-150	-267	0	0	0
	MAX	-417/L11	-1428/L11	369/L13			
900		TYPE=Rigid +Y;					
	1(HYD)	142	-1195	7	0	0	0
	2(OPE)	382	-1292	66	0	0	0
	4(OPE)	305	-1227	20	0	0	0
	8(SUS)	142	-1185	7	0	0	0
	9(SUS)	133	-1008	2	0	0	0
	10(OPE)	314	-1398	19	0	0	0
	11(OPE)	258	-1044	4	0	0	0
	12(OPE)	324	-1084	22	0	0	0
	13(OPE)	209	-1374	356	0	0	0
	14(OPE)	104	-1047	-296	0	0	0
	15(OCC)	9	-171	-1	0	0	0
	16(OCC)	-47	183	-16	0	0	0
	17(OCC)	20	143	2	0	0	0
	18(OCC)	-96	-148	336	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	19(OCC)	-200	180	-316	0	0	0
	MAX	382/L2	-1398/L10	356/L13			
910		TYPE=Rigid +Y;					
	1(HYD)	152	-1507	189	0	0	0
	2(OPE)	544	-2041	281	0	0	0
	4(OPE)	292	-1982	242	0	0	0
	8(SUS)	152	-1942	189	0	0	0
	9(SUS)	143	-1690	169	0	0	0
	10(OPE)	424	-2138	151	0	0	0
	11(OPE)	100	-1810	178	0	0	0
	12(OPE)	274	-1749	220	0	0	0
	13(OPE)	174	-1971	565	0	0	0
	14(OPE)	213	-1885	-524	0	0	0
	15(OCC)	133	-156	-92	0	0	0
	16(OCC)	-192	172	-64	0	0	0
	17(OCC)	-17	233	-22	0	0	0
	18(OCC)	-118	11	323	0	0	0
	19(OCC)	-79	97	-766	0	0	0
	MAX	544/L2	-2138/L10	-766/L19			

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

- 1 (HYD) WW+HP
- 2 (OPE) W+T1+P1
- 3 (Alt-SUS) W+P1
- 4 (OPE) W+T2+P1
- 5 (Alt-SUS) W+P1
- 6 (OPE) W+T3+P1
- 7 (Alt-SUS) W+P1
- 8 (SUS) W+P1
- 9 (SUS) WNC
- 10 (OPE) W+T2+P1+U1
- 11 (OPE) W+T2+P1-U1
- 12 (OPE) W+T2+P1+U2
- 13 (OPE) W+T2+P1+U3
- 14 (OPE) W+T2+P1-U3
- 15 (OCC) L15=L10-L4
- 16 (OCC) L16=L11-L4
- 17 (OCC) L17=L12-L4
- 18 (OCC) L18=L13-L4
- 19 (OCC) L19=L14-L4
- 20 (OCC) L20=L15+L8
- 21 (OCC) L21=L16+L8
- 22 (OCC) L22=L17+L8
- 23 (OCC) L23=L18+L8
- 24 (OCC) L24=L19+L8
- 25 (EXP) L25=L2-L8
- 26 (EXP) L26=L4-L8
- 27 (EXP) L27=L2-L4
- 28 (EXP) L28=L6-L8
- 29 (EXP) L29=L2-L6
- 30 (EXP) L30=L4-L6

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
 Various Load Cases

LOAD CASE DEFINITION KEY

CASE 1 (HYD) WW+HP
 CASE 3 (Alt-SUS) W+P1
 CASE 5 (Alt-SUS) W+P1
 CASE 7 (Alt-SUS) W+P1
 CASE 8 (SUS) W+P1
 CASE 9 (SUS) WNC
 CASE 20 (OCC) L20=L15+L8
 CASE 21 (OCC) L21=L16+L8
 CASE 22 (OCC) L22=L17+L8
 CASE 23 (OCC) L23=L18+L8
 CASE 24 (OCC) L24=L19+L8
 CASE 25 (EXP) L25=L2-L8
 CASE 26 (EXP) L26=L4-L8
 CASE 27 (EXP) L27=L2-L4
 CASE 28 (EXP) L28=L6-L8
 CASE 29 (EXP) L29=L2-L6
 CASE 30 (EXP) L30=L4-L6

Piping Code: B31.3 = B31.3 -2016, Jan 31, 2017

CODE STRESS CHECK PASSED : LOADCASE 1 (HYD) WW+HP

Highest Stresses: (KPa)	LOADCASE 1 (HYD) WW+HP	
Ratio (%):	13.2 @Node 850	
Code Stress:	31909.3	Allowable Stress: 241316.5
Axial Stress:	14837.7 @Node 570	
Bending Stress:	29629.9 @Node 850	
Torsion Stress:	1843.8 @Node 750	
Hoop Stress:	31427.3 @Node 60	
Max Stress Intensity:	43052.7 @Node 850	

CODE STRESS CHECK PASSED : LOADCASE 3 (Alt-SUS) W+P1

Highest Stresses: (KPa)	LOADCASE 3 (Alt-SUS) W+P1	
Ratio (%):	35.3 @Node 130	
Code Stress:	48636.8	Allowable Stress: 137895.1
Axial Stress:	21422.1 @Node 570	
Bending Stress:	28821.3 @Node 410	
Torsion Stress:	3758.9 @Node 750	
Hoop Stress:	43917.5 @Node 60	
Max Stress Intensity:	49746.1 @Node 410	

CODE STRESS CHECK PASSED : LOADCASE 5 (Alt-SUS) W+P1

Highest Stresses: (KPa)	LOADCASE 5 (Alt-SUS) W+P1	
Ratio (%):	33.9 @Node 130	
Code Stress:	46794.3	Allowable Stress: 137895.1
Axial Stress:	21375.4 @Node 570	

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
Various Load Cases

Bending Stress:	31112.4	@Node	850
Torsion Stress:	3714.3	@Node	750
Hoop Stress:	43917.5	@Node	60
Max Stress Intensity:	49602.5	@Node	410

CODE STRESS CHECK PASSED : LOADCASE 7 (Alt-SUS) W+P1

Highest Stresses: (KPa)	LOADCASE 7 (Alt-SUS) W+P1		
Ratio (%):	34.0	@Node	130
Code Stress:	46823.0	Allowable Stress:	137895.1
Axial Stress:	21359.6	@Node	570
Bending Stress:	29807.1	@Node	850
Torsion Stress:	3673.2	@Node	750
Hoop Stress:	43917.5	@Node	60
Max Stress Intensity:	49993.3	@Node	410

CODE STRESS CHECK PASSED : LOADCASE 8 (SUS) W+P1

Highest Stresses: (KPa)	LOADCASE 8 (SUS) W+P1		
Ratio (%):	34.0	@Node	130
Code Stress:	46823.0	Allowable Stress:	137895.1
Axial Stress:	21359.6	@Node	570
Bending Stress:	29807.7	@Node	850
Torsion Stress:	3673.2	@Node	750
Hoop Stress:	43917.5	@Node	60
Max Stress Intensity:	50052.3	@Node	410

CODE STRESS CHECK PASSED : LOADCASE 9 (SUS) WNC

Highest Stresses: (KPa)	LOADCASE 9 (SUS) WNC		
Ratio (%):	19.0	@Node	130
Code Stress:	26268.1	Allowable Stress:	137895.1
Axial Stress:	2437.2	@Node	910
Bending Stress:	28730.5	@Node	850
Torsion Stress:	3420.5	@Node	750
Hoop Stress:	0.0	@Node	20
Max Stress Intensity:	30440.5	@Node	850

CODE STRESS CHECK PASSED : LOADCASE 20 (OCC) L20=L15+L8

Highest Stresses: (KPa)	LOADCASE 20 (OCC) L20=L15+L8		
Ratio (%):	43.4	@Node	850
Code Stress:	79579.3	Allowable Stress:	183400.5
Axial Stress:	21687.3	@Node	570
Bending Stress:	103376.7	@Node	850
Torsion Stress:	8159.0	@Node	210
Hoop Stress:	43917.5	@Node	60
Max Stress Intensity:	105423.5	@Node	850

CODE STRESS CHECK PASSED : LOADCASE 21 (OCC) L21=L16+L8

Highest Stresses: (KPa) LOADCASE 21 (OCC) L21=L16+L8

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
Various Load Cases

Ratio (%):	35.3	@Node	850	
Code Stress:	64729.0	Allowable Stress:		183400.5
Axial Stress:	21500.7	@Node	420	
Bending Stress:	83506.8	@Node	850	
Torsion Stress:	6539.2	@Node	680	
Hoop Stress:	43917.5	@Node	60	
Max Stress Intensity:	85605.7	@Node	850	

CODE STRESS CHECK PASSED : LOADCASE 22 (OCC) L22=L17+L8

Highest Stresses: (KPa)	LOADCASE 22 (OCC) L22=L17+L8			
Ratio (%):	27.3	@Node	130	
Code Stress:	50006.7	Allowable Stress:		183400.5
Axial Stress:	21358.3	@Node	570	
Bending Stress:	33483.9	@Node	850	
Torsion Stress:	3233.3	@Node	750	
Hoop Stress:	43917.5	@Node	60	
Max Stress Intensity:	53640.8	@Node	410	

CODE STRESS CHECK PASSED : LOADCASE 23 (OCC) L23=L18+L8

Highest Stresses: (KPa)	LOADCASE 23 (OCC) L23=L18+L8			
Ratio (%):	40.6	@Node	850	
Code Stress:	74369.9	Allowable Stress:		183400.5
Axial Stress:	21407.6	@Node	370	
Bending Stress:	96601.9	@Node	850	
Torsion Stress:	4725.7	@Node	45	
Hoop Stress:	43917.5	@Node	60	
Max Stress Intensity:	98520.4	@Node	850	

CODE STRESS CHECK PASSED : LOADCASE 24 (OCC) L24=L19+L8

Highest Stresses: (KPa)	LOADCASE 24 (OCC) L24=L19+L8			
Ratio (%):	39.2	@Node	880	
Code Stress:	71933.3	Allowable Stress:		183400.5
Axial Stress:	21530.7	@Node	60	
Bending Stress:	93338.5	@Node	880	
Torsion Stress:	6335.1	@Node	590	
Hoop Stress:	43917.5	@Node	60	
Max Stress Intensity:	95267.9	@Node	880	

CODE STRESS CHECK PASSED : LOADCASE 25 (EXP) L25=L2-L8

Highest Stresses: (KPa)	LOADCASE 25 (EXP) L25=L2-L8			
Ratio (%):	26.0	@Node	840	
Code Stress:	84623.5	Allowable Stress:		325810.3
Axial Stress:	1014.7	@Node	320	
Bending Stress:	84482.3	@Node	840	
Torsion Stress:	2922.4	@Node	210	
Hoop Stress:	0.0	@Node	20	
Max Stress Intensity:	84522.8	@Node	840	

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
Various Load Cases

CODE STRESS CHECK PASSED : LOADCASE 26 (EXP) L26=L4-L8

Highest Stresses: (	KPa	)	LOADCASE 26 (EXP) L26=L4-L8	
Ratio (%):	9.7	@Node	880	
Code Stress:	31218.6	Allowable Stress:		322912.1
Axial Stress:	679.3	@Node	420	
Bending Stress:	31006.7	@Node	880	
Torsion Stress:	1328.6	@Node	210	
Hoop Stress:	0.0	@Node	20	
Max Stress Intensity:	31067.6	@Node	880	

CODE STRESS CHECK PASSED : LOADCASE 27 (EXP) L27=L2-L4

Highest Stresses: (	KPa	)	LOADCASE 27 (EXP) L27=L2-L4	
Ratio (%):	23.8	@Node	840	
Code Stress:	77532.8	Allowable Stress:		325810.3
Axial Stress:	501.0	@Node	590	
Bending Stress:	77440.8	@Node	840	
Torsion Stress:	1593.8	@Node	210	
Hoop Stress:	0.0	@Node	20	
Max Stress Intensity:	77467.2	@Node	840	

CODE STRESS CHECK PASSED : LOADCASE 28 (EXP) L28=L6-L8

Highest Stresses: (	KPa	)	LOADCASE 28 (EXP) L28=L6-L8	
Ratio (%):	0.0	@Node	30	
Code Stress:	0.0	Allowable Stress:		323557.1
Axial Stress:	0.0	@Node	20	
Bending Stress:	0.0	@Node	20	
Torsion Stress:	0.0	@Node	20	
Hoop Stress:	0.0	@Node	20	
Max Stress Intensity:	0.0	@Node	20	

CODE STRESS CHECK PASSED : LOADCASE 29 (EXP) L29=L2-L6

Highest Stresses: (	KPa	)	LOADCASE 29 (EXP) L29=L2-L6	
Ratio (%):	26.0	@Node	840	
Code Stress:	84623.5	Allowable Stress:		325810.3
Axial Stress:	1014.7	@Node	320	
Bending Stress:	84482.3	@Node	840	
Torsion Stress:	2922.4	@Node	210	
Hoop Stress:	0.0	@Node	20	
Max Stress Intensity:	84522.8	@Node	840	

CODE STRESS CHECK PASSED : LOADCASE 30 (EXP) L30=L4-L6

Highest Stresses: (	KPa	)	LOADCASE 30 (EXP) L30=L4-L6	
Ratio (%):	9.7	@Node	880	
Code Stress:	31218.6	Allowable Stress:		322912.1
Axial Stress:	679.3	@Node	420	
Bending Stress:	31006.7	@Node	880	
Torsion Stress:	1328.6	@Node	210	

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
Various Load Cases

Hoop Stress:	0.0	@Node	20
Max Stress Intensity:	31067.6	@Node	880

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS 2
Nozzle Check : Multiple 3

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

- 1 (HYD) WW+HP
- 2 (OPE) W+T1+P1
- 3 (Alt-SUS) W+P1
- 4 (OPE) W+T2+P1
- 5 (Alt-SUS) W+P1
- 6 (OPE) W+T3+P1
- 7 (Alt-SUS) W+P1
- 8 (SUS) W+P1
- 9 (SUS) WNC
- 10 (OPE) W+T2+P1+U1
- 11 (OPE) W+T2+P1-U1
- 12 (OPE) W+T2+P1+U2
- 13 (OPE) W+T2+P1+U3
- 14 (OPE) W+T2+P1-U3
- 15 (OCC) L15=L10-L4
- 16 (OCC) L16=L11-L4
- 17 (OCC) L17=L12-L4
- 18 (OCC) L18=L13-L4
- 19 (OCC) L19=L14-L4
- 20 (OCC) L20=L15+L8
- 21 (OCC) L21=L16+L8
- 22 (OCC) L22=L17+L8
- 23 (OCC) L23=L18+L8
- 24 (OCC) L24=L19+L8
- 25 (EXP) L25=L2-L8
- 26 (EXP) L26=L4-L8
- 27 (EXP) L27=L2-L4
- 28 (EXP) L28=L6-L8
- 29 (EXP) L29=L2-L6
- 30 (EXP) L30=L4-L6

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NOZZLE CHECK REPORT: Nozzle Loads Screening

Various Load Cases

LOAD CASE DEFINITION KEY

CASE 2 (OPE) W+T1+P1

CASE 4 (OPE) W+T2+P1

CASE 6 (OPE) W+T3+P1

CASE 8 (SUS) W+P1

CASE 9 (SUS) WNC

Node		fa N.	fb N.	fc N.	Forces Check	ma N.m.	mb N.m.	mc N.m.	Moments Check	
770		Absolute Method								
	Limits	1779	1157	1423		461	0	705		
	2(OPE)	223	-47	913	0.642	17	450	7	0.038	
	4(OPE)	22	-112	194	0.136	10	105	27	0.039	
	6(OPE)	-38	-120	0	0.104	9	8	28	0.040	
	8(SUS)	-38	-120	0	0.104	9	8	28	0.040	
	9(SUS)	-35	-90	-2	0.078	9	7	18	0.026	
790		Absolute Method								
	Limits	1779	1157	1423		461	0	705		
	2(OPE)	192	-100	629	0.442	14	293	14	0.031	
	4(OPE)	61	-151	197	0.139	7	97	36	0.051	
	6(OPE)	2	-156	16	0.135	6	8	37	0.052	
	8(SUS)	2	-156	16	0.135	6	8	37	0.052	
	9(SUS)	0	-122	12	0.105	6	6	26	0.037	

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Table of contents:

Line no.

Stress sketch

Input echo

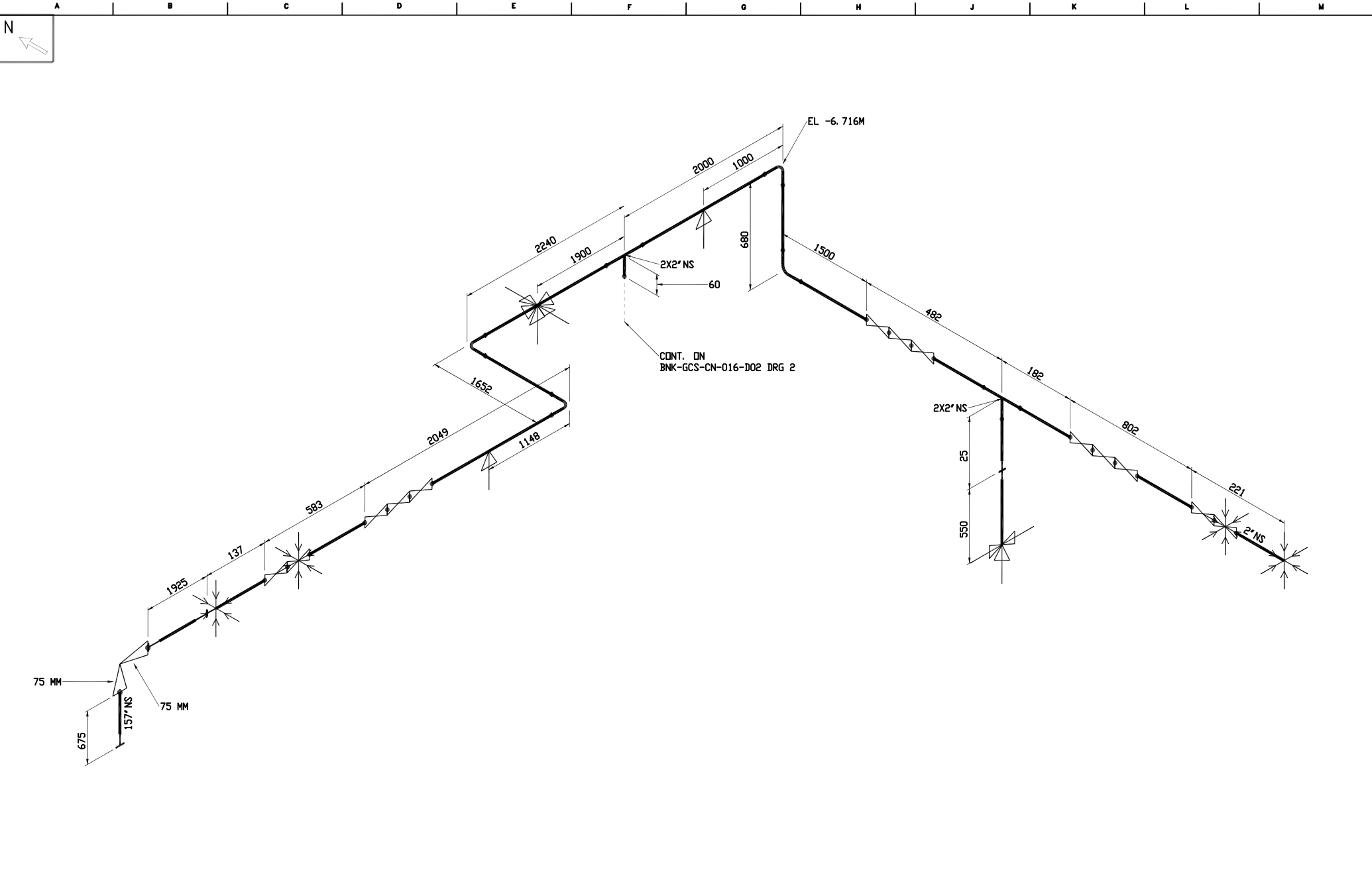
Restraint summary

Stress summary

Nozzle load Table

LINE NO.:

1. TEG-111-0004-AN04-2"-PT
2. TEG-111-0005-AN04-2"-PT



CHECK ISOMETRIC ONLY – DO NOT ISSUE

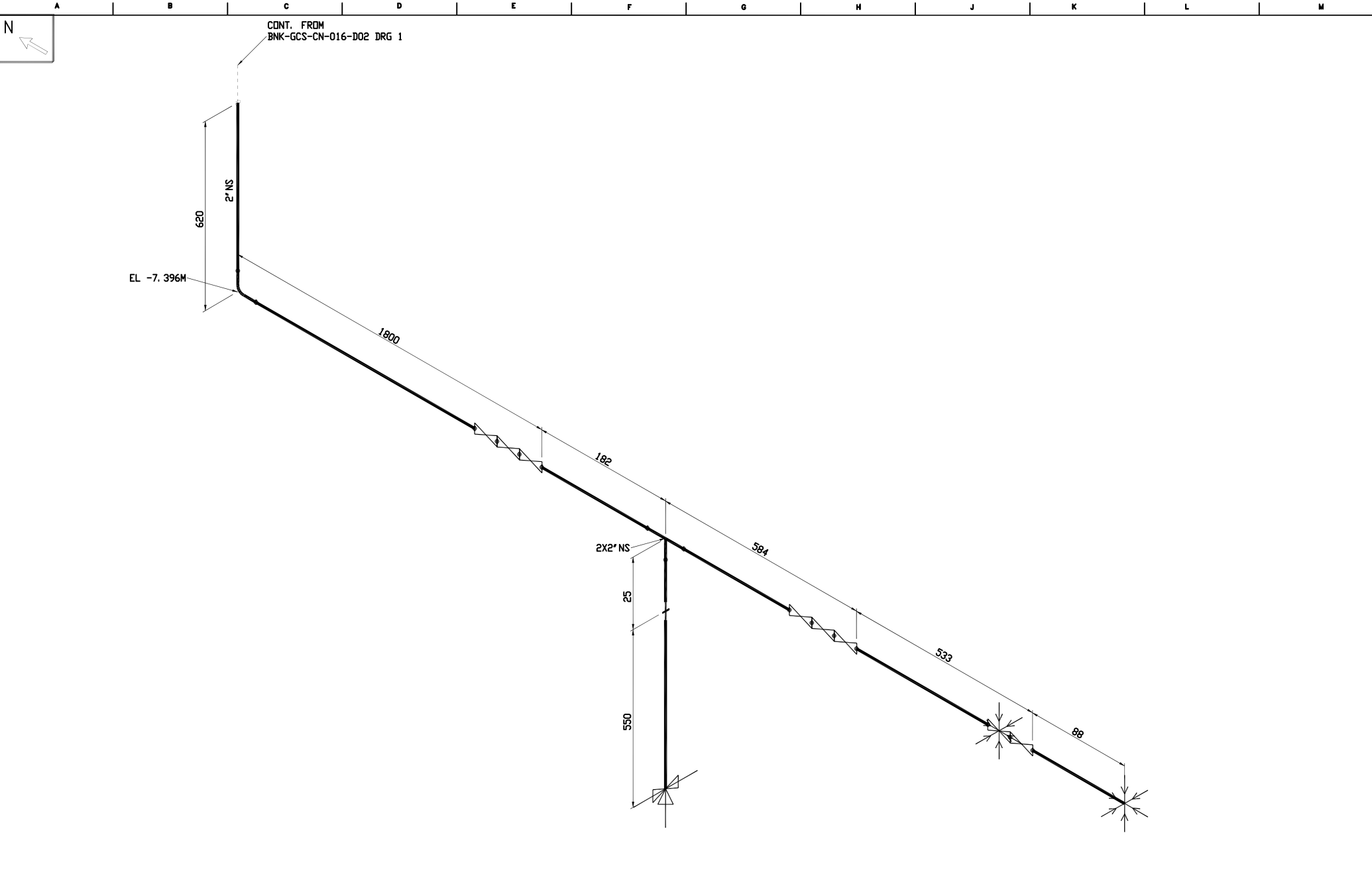
REV.	CHANGE	DATE	02 MAR 2024
THIS DRAWING IS THE PROPERTY OF INTERGRAPH LTD AND MUST NOT BE COPIED OR LENT WITHOUT THE CONSENT OF THE COMPANY			

PIPING SPEC.		OP. TEMP.	
INSULATION SPEC.		PROJECT NO.	
INSULATION THKS.		SYSTEM	
PAINTING SPEC.		AREA	
MATERIAL		DRAWN BY	
OP. PRESSURE		E.I. DIAGRAM	



PIPELINE REFERENCE

REV.	
DRG.	1 OF 2



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		DATE	

PIPING SPEC.		OP. TEMP.	
INSULATION SPEC.		PROJECT NO.	
INSULATION THKS.		SYSTEM	
PAINTING SPEC.		AREA	
MATERIAL		DRAWN BY	
OP. PRESSURE		E.I.DIAGRAM	



PIPELINE REFERENCE

REV.	
DRG.	2 OF 2

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

- 1 (HYD) WW+HP
- 2 (OPE) W+D1+T1+P1
- 3 (Alt-SUS) W+P1
- 4 (OPE) W+D1+T2+P1
- 5 (Alt-SUS) W+P1
- 6 (SUS) W+P1
- 7 (SUS) WNC
- 8 (OPE) W+D1+T2+P1+U1
- 9 (OPE) W+D1+T2+P1-U1
- 10 (OPE) W+D1+T2+P1+U2
- 11 (OPE) W+D1+T2+P1+U3
- 12 (OPE) W+D1+T2+P1-U3
- 13 (OCC) L13=L8-L4
- 14 (OCC) L14=L9-L4
- 15 (OCC) L15=L10-L4
- 16 (OCC) L16=L11-L4
- 17 (OCC) L17=L12-L4
- 18 (OCC) L18=L13+L6
- 19 (OCC) L19=L14+L6
- 20 (OCC) L20=L15+L6
- 21 (OCC) L21=L16+L6
- 22 (OCC) L22=L17+L6
- 23 (EXP) L23=L2-L6
- 24 (EXP) L24=L4-L6
- 25 (EXP) L25=L2-L4

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INPUT LISTING

Job Description:

PROJECT:

CLIENT :

ANALYST:

NOTES :

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INPUT LISTING

File created by FEATools

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PIPE DATA

 From 10 To 20 DX= -66.675 mm. DY= .000 mm.

PIPE

Dia= 60.325 mm. Wall= 5.537 mm. Cor= 3.0000 mm.

GENERAL

T1= 85 C T2= 21 C P1= 350.0080 KPa PHyd= 525.0120 KPa

Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 199,086,608 KPa

EH2= 203,396,064 KPa EH3= 203,401,232 KPa EH4= 203,401,232 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0011150 kg./cu.cm.

Insul Thk= .000 mm. Insul Den= .0000000 kg./cu.cm.

RIGID Weight= 31.14 N.

RESTRAINTS

Node 10 ANC Cnode 11

UNIFORM LOAD

Vector1 in G-s X1 Dir = .26 g's Y1 Dir = .00 g's Z1 Dir = .00 g's

Vector2 in G-s X2 Dir = .00 g's Y2 Dir = .12 g's Z2 Dir = .00 g's

Vector3 in G-s X3 Dir = .00 g's Y3 Dir = .00 g's Z3 Dir = .26 g's

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

 From 20 To 30 DX= -400.000 mm.

 From 30 To 40 DX= -66.675 mm.

RIGID Weight= 31.14 N.

 From 40 To 50 DX= -269.000 mm.

RIGID Weight= 93.41 N.

 From 50 To 60 DX= -66.675 mm.

RIGID Weight= 31.14 N.

 From 60 To 65 DX= -181.500 mm.

 From 65 To 430 DY= -25.400 mm.

RIGID Weight= .00 N.

SIF's & TEE's

Node 430 Unreinforced Tee

 From 65 To 70 DX= -181.500 mm.

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INPUT LISTING

From 70 To 80 DX= -66.675 mm.
 RIGID Weight= 31.14 N.

From 80 To 90 DX= -167.000 mm.
 RIGID Weight= 266.89 N.

From 90 To 100 DX= -66.675 mm.
 RIGID Weight= 31.14 N.

From 100 To 120 DX= -1,500.000 mm.
 BEND at "TO" end
 Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 119
 Angle/Node @2= .00 118

From 120 To 130 DY= 680.000 mm.
 BEND at "TO" end
 Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 129
 Angle/Node @2= .00 128

From 130 To 135 DZ= 1,000.000 mm.
 RESTRAINTS
 Node 135 +Y Mu = .30

From 135 To 140 DZ= 1,000.000 mm.
 SIF's & TEE's
 Node 140 Welding Tee

From 140 To 150 DZ= 1,900.000 mm.
 RESTRAINTS
 Node 150 +Y Mu = .30
 Node 150 X Gap= 3.000 mm.
 Node 150 Z Gap= 3.000 mm.

From 150 To 160 DZ= 340.000 mm.
 BEND at "TO" end
 Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 159
 Angle/Node @2= .00 158

From 160 To 170 DX= 1,652.000 mm.
 BEND at "TO" end
 Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 169
 Angle/Node @2= .00 168

From 170 To 175 DZ= 1,148.000 mm.
 RESTRAINTS
 Node 175 +Y Mu = .30

From 175 To 180 DZ= 567.000 mm.

From 180 To 190 DZ= 66.675 mm.
 RIGID Weight= 31.14 N.

From 190 To 200 DZ= 201.000 mm.
 RIGID Weight= 266.89 N.

From 200 To 210 DZ= 66.675 mm.

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INPUT LISTING

RIGID Weight= 31.14 N.

From 210 To 220 DZ= 450.000 mm.

From 220 To 230 DZ= 66.675 mm.

RIGID Weight= 31.14 N.

RESTRAINTS

Node 230 ANC Cnode 231

From 240 To 250 DX= -66.675 mm. DY= .000 mm.

PIPE

Dia= 60.325 mm. Wall= 5.537 mm. Cor= 3.0000 mm.

GENERAL

T1= 85 C T2= 21 C P1= 350.0080 KPa PHyd= 525.0120 KPa

Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 199,086,608 KPa

EH2= 203,396,064 KPa EH3= 203,401,232 KPa EH4= 203,401,232 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0011150 kg./cu.cm.

Insul Thk= .000 mm. Insul Den= .0000000 kg./cu.cm.

RIGID Weight= 31.14 N.

RESTRAINTS

Node 240 ANC Cnode 241

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 250 To 260 DX= -400.000 mm.

From 260 To 270 DX= -66.675 mm.

RIGID Weight= 31.14 N.

From 270 To 280 DX= -269.000 mm.

RIGID Weight= 93.41 N.

From 280 To 290 DX= -66.675 mm.

RIGID Weight= 31.14 N.

From 290 To 295 DX= -181.500 mm.

From 295 To 450 DY= -25.400 mm.

RIGID Weight= .00 N.

SIF's & TEE's

Node 450 Unreinforced Tee

From 295 To 300 DX= -181.500 mm.

From 300 To 310 DX= -66.675 mm.

RIGID Weight= 31.14 N.

From 310 To 320 DX= -167.000 mm.

RIGID Weight= 266.89 N.

From 320 To 330 DX= -66.675 mm.

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INPUT LISTING

RIGID Weight= 31.14 N.

From 330 To 340 DX= -1,500.000 mm.

BEND at "TO" end

Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 339

Angle/Node @2= .00 338

From 340 To 140 DY= 680.000 mm.

From 11 To 350 DX= 66.675 mm.

RIGID Weight= 31.14 N.

From 350 To 360 DX= 88.000 mm.

RESTRAINTS

Node 360 ANC

EQUIPMENT LIMITS

Nozzle Node = 360 Limiting Loads: A=pipe; B=ref; C=AxB; FA= 1,779.29 N.

FB= 1,156.54 N. FC= 1,423.43 N. MA= 921.96 N.m. MB= 705.03 N.m.

MC= 460.98 N.m. Equipment Major Direction Vector= .0000 1.0000 .0000

Interact. Mtd= Absolute

From 241 To 370 DX= 66.675 mm.

RIGID Weight= 31.14 N.

From 370 To 380 DX= 88.000 mm.

RESTRAINTS

Node 380 ANC

EQUIPMENT LIMITS

Nozzle Node = 380 Limiting Loads: A=pipe; B=ref; C=AxB; FA= 1,779.29 N.

FB= 1,156.54 N. FC= 1,423.43 N. MA= 921.96 N.m. MB= 705.03 N.m.

MC= 460.98 N.m. Equipment Major Direction Vector= .0000 1.0000 .0000

Interact. Mtd= Absolute

From 231 To 390 DZ= 66.675 mm.

RIGID Weight= 31.14 N.

From 390 To 400 DZ= 137.000 mm.

RESTRAINTS

Node 400 ANC Cnode 401

From 400 To 410 DZ= 2,000.000 mm.

PIPE

Dia= 4,000.000 mm. Wall= 5.537 mm.

Insul Thk= .000 mm.

RIGID Weight= .00 N.

From 410 To 420 DY= -750.000 mm.

RIGID Weight= .00 N.

DISPLACEMENTS

Node 420 DX1= .000 mm. DY1= -15.000 mm. DZ1= .000 mm. RX1= .000

RY1= .000 RZ1= .000

From 430 To 440 DY= -550.000 mm.

PIPE

Dia= 48.260 mm. Wall= 3.683 mm. Cor= .0000 mm.

GENERAL

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INPUT LISTING

T1= 21 C P1= .0000 KPa PHyd= .0000 KPa Mat= (102)A53 Grade B
 E= 203,401,232 KPa EH1= 203,401,232 KPa EH2= 203,396,064 KPa
 EH3= 203,401,232 KPa EH4= 203,401,232 KPa EH5= 203,401,232 KPa
 EH6= 203,401,232 KPa EH7= 203,401,232 KPa EH8= 203,401,232 KPa
 EH9= 203,401,232 KPa v = .292 Pipe Den= .0078334 kg./cu.cm.
 Fluid Den= .0000000 kg./cu.cm. Insul Thk= .000 mm.

RESTRAINTS

Node 440 +Y Mu = .30
 Node 440 Z Gap= 3.000 mm. Mu = .30

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 450 To 460 DY= -550.000 mm.

RESTRAINTS

Node 460 +Y Mu = .30
 Node 460 Z Gap= 3.000 mm. Mu = .30

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MATERIAL Changes:

10	20	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
240	250	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
430	440	Mat= (102)A53 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.

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JOBNAME: D:\BINAK PRO\STRESS REPORT\D02\NATIVE\BNK-GCS-CN-016-)\BNK-GCS-CN-016-

ALLOWABLE STRESS Changes

10	20	B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa Sh9= 137,895 KPa Sy= 241,316 KPa
240	250	B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa Sh9= 137,895 KPa Sy= 241,316 KPa
430	440	B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa Sh9= 137,895 KPa Sy= 241,316 KPa

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INPUT LISTING

BEND ELEMENTS

100	120	Radius= 76.200 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		119 Angle/Node @2= .00 118
120	130	Radius= 76.200 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		129 Angle/Node @2= .00 128
150	160	Radius= 76.200 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		159 Angle/Node @2= .00 158
160	170	Radius= 76.200 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		169 Angle/Node @2= .00 168
330	340	Radius= 76.200 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		339 Angle/Node @2= .00 338

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RIGIDS

10	20	RIGID Weight= 31.14 N.
30	40	RIGID Weight= 31.14 N.
40	50	RIGID Weight= 93.41 N.
50	60	RIGID Weight= 31.14 N.
65	430	RIGID Weight= .00 N.
70	80	RIGID Weight= 31.14 N.
80	90	RIGID Weight= 266.89 N.
90	100	RIGID Weight= 31.14 N.
180	190	RIGID Weight= 31.14 N.
190	200	RIGID Weight= 266.89 N.
200	210	RIGID Weight= 31.14 N.
220	230	RIGID Weight= 31.14 N.
240	250	RIGID Weight= 31.14 N.
260	270	RIGID Weight= 31.14 N.
270	280	RIGID Weight= 93.41 N.
280	290	RIGID Weight= 31.14 N.
295	450	RIGID Weight= .00 N.
300	310	RIGID Weight= 31.14 N.
310	320	RIGID Weight= 266.89 N.
320	330	RIGID Weight= 31.14 N.
11	350	RIGID Weight= 31.14 N.
241	370	RIGID Weight= 31.14 N.
231	390	RIGID Weight= 31.14 N.
400	410	RIGID Weight= .00 N.
410	420	RIGID Weight= .00 N.

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SIF's & TEE's

65	430	Node 430	Unreinforced Tee
135	140	Node 140	Welding Tee

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INPUT LISTING

295 450 Node 450 Unreinforced Tee
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RESTRAINTS

NODE	TYPE	CNODE	STIF1	Len GAP STIF2	MU YIELD FORCE	Dir Vectors
10	ANC	11				.000 .000 .000
135	+Y				.30	.000 1.000 .000
150	+Y				.30	.000 1.000 .000
150	X			3.00		1.000 .000 .000
150	Z			3.00		.000 .000 1.000
175	+Y				.30	.000 1.000 .000
230	ANC	231				.000 .000 .000
240	ANC	241				.000 .000 .000
360	ANC					.000 .000 .000
380	ANC					.000 .000 .000
400	ANC	401				.000 .000 .000
440	+Y				.30	.000 1.000 .000
440	Z			3.00	.30	.000 .000 1.000
460	+Y				.30	.000 1.000 .000
460	Z			3.00	.30	.000 .000 1.000

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DISPLACEMENTS

410 420 Node 420 DX1= .000 mm. DY1= -15.000 mm.
 DZ1= .000 mm. RX1= .000 RY1= .000
 RZ1= .000
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EQUIPMENT LIMITS

350 360 Nozzle Node = 360

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 1,779.29 N. FB= 1,156.54 N.
 FC= 1,423.43 N. MA= 921.96 N.m. MB= 705.03 N.m. MC= 460.98 N.m.
 Equipment Major Direction Vector= .0000 1.0000 .0000
 Interact. Mtd= Absolute

370 380 Nozzle Node = 380

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 1,779.29 N. FB= 1,156.54 N.
 FC= 1,423.43 N. MA= 921.96 N.m. MB= 705.03 N.m. MC= 460.98 N.m.
 Equipment Major Direction Vector= .0000 1.0000 .0000
 Interact. Mtd= Absolute

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UNIFORM LOAD Changes

10 20 Vector1 in G-s
 X1 Dir = .26 g's Y1 Dir = .00 g's

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INPUT LISTING

Z1 Dir = .00 g's
 Vector2 in G-s
 X2 Dir = .00 g's Y2 Dir = .12 g's
 Z2 Dir = .00 g's
 Vector3 in G-s
 X3 Dir = .00 g's Y3 Dir = .00 g's
 Z3 Dir = .26 g's

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INPUT UNITS USED...

UNITS= SI (m NOM/SCH INPUT= ON

LENGTH	inches	x	25.400	=	mm.
FORCE	pounds	x	4.448	=	N.
MASS(dynamics)	pounds	x	0.454	=	Kg.
MOMENTS(INPUT)	inch-pounds	x	0.113	=	N.m.
MOMENTS(OUTPUT)	inch-pounds	x	0.113	=	N.m.
STRESS	lbs./sq.in.	x	6.895	=	KPa
TEMP. SCALE	degrees F.	x	0.556	=	C
PRESSURE	psig	x	6.895	=	KPa
ELASTIC MODULUS	lbs./sq.in.	x	6.895	=	KPa
PIPE DENSITY	lbs./cu.in.	x	0.028	=	kg./cu.cm.
INSULATION DENS.	lbs./cu.in.	x	0.028	=	kg./cu.cm.
FLUID DENSITY	lbs./cu.in.	x	0.028	=	kg./cu.cm.
TRANSL. STIF	lbs./in.	x	1.751	=	N./cm.
ROTATIONAL STIF	in.lb./deg.	x	0.113	=	N.m./deg
UNIFORM LOAD	lb./in.	x	1.751	=	N./cm.
G LOAD	g's	x	1.000	=	g's
WIND LOAD	lbs./sq.in.	x	6.895	=	KPa
ELEVATION	inches	x	0.025	=	m.
COMPOUND LENGTH	inches	x	25.400	=	mm.
DIAMETER	inches	x	25.400	=	mm.
WALL THICKNESS	inches	x	25.400	=	mm.

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SETUP FILE PARAMETERS

```

CONNECT GEOMETRY THRU CNODES = YES
MIN ALLOWED BEND ANGLE = 5.00000
MAX ALLOWED BEND ANGLE = 95.0000
BEND LENGTH ATTACHMENT PERCENT = 1.00000
MIN ANGLE TO ADJACENT BEND PT = 5.00000
LOOP CLOSURE TOLERANCE = 25.4000 mm.
THERMAL BOWING HORZ TOLERANCE = 0.100000E-03
AUTO NODE NUMBER INCREMENT= 10.0000
Z AXIS UP= NO
USE PRESSURE STIFFENING = DEFAULT
ALPHA TOLERANCE = 0.500000E-01
RESLD-FORCE = NO
HGR DEF RESWGT STIF = 0.175127E+13 N./cm.
DECOMP SNG TOL = 0.100000E+11
BEND AXIAL SHAPE = YES
FRICT STIF = 0.175127E+07 N./cm.
FRICT NORM FORCE VAR = 0.150000
FRICT ANGLE VAR = 15.0000
FRICT SLIDE MULT = 1.00000

```

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INPUT LISTING

```

ROD TOLERANCE = 1.00000
ROD INC = 2.00000
INCORE NUMERICAL CHECK = NO
OUTCORE NUMERICAL CHECK = NO
DEFAULT TRANS RESTRAINT STIFF= 0.175127E+13 N./cm.
DEFAULT ROT RESTRAINT STIFF= 0.112985E+12 N.m./deg
IGNORE SPRING HANGER STIFFNESS = NO
MISSING MASS ZPA = EXTRACTED
MIN WALL MILL TOLERANCE = 12.5000
WRC-107 VERSION = MAR 79 1B1/2B1
WRC-107 INTERPOLATION = LAST VALUE
DEFAULT AMBIENT TEMPERATURE= 21.1111 C
BOURDON PRESSURE= NONE
COEFFICIENT OF FRICTION (MU) = 0.000000
INCLUDE SPRG STIF IN HGR OPE = NO
INCLUDE INSULATION IN HYDROTEST = NO
REDUCED INTERSECTION = B31.1(POST1980)
USE WRC329 NO
NO REDUCED SIF FOR RFT AND WLT NO
B31.1 REDUCED Z FIX = YES
CLASS 1 BRANCH FLEX NO
ALL STRESS CASES CORRODED = NO
ADD TORSION IN SL STRESS = DEFAULT
ADD F/A IN STRESS = DEFAULT
OCCASIONAL LOAD FACTOR = 0.000000
DEFAULT CODE = B31.3
B31.3 SUS CASE SIF FACTOR = 0.000000
ALLOW USERS BEND SIF = NO
USE SCHNEIDER NO
YIELD CRITERION STRESS = MAX 3D SHEAR
USE PD/4T NO
BASE HOOP STRESS ON ? = ID
EN13480 USE IN OUTPLANE SIFS= NO
LIBERAL EXPANSION ALLOWABLE= YES
B31.3 SEC 319.2.3C SAXIAL= Default
B31.3 WELDING/CONTOUR TEE ISB16.9 FALSE
PRESSURE VARIATION IN EXP CASE= DEFAULT
IMPLEMENT B313 APP-P NO
IMPLEMENT B313 CODE CASE 178 YES
IGNORE B31.1/B31.3 Wc FACTOR= YES
USE FRP SIF = YES
USE FRP FLEX = YES
BS 7159 Pressure Stiffening= Design Strain
FRP Property Data File= CAESAR.FRP
FRP Emod (axial) = 0.220632E+08 KPa
FRP Ratio Gmod/Emod (axial) = 0.250000
FRP Ea/Eh*Vh/a = 0.152730
FRP Laminate Type = THREE
FRP Alpha = 21.6000 C
FRP Density = 0.166079E-02 kg./cu.cm.
EXCLUDE f2 FROM UK00A BENDING = NO
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```

EXECUTION CONTROL PARAMETERS

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INPUT LISTING

Rigid/ExpJt Print Flag 1.000
 Bourdon Option 000
 Loop Closure Flag 2.000
 Thermal Bowing Delta Temp .. .000 C
 Liberal Allowable Flag 1.000
 Uniform Load Option 1.000

Ambient Temperature 20.997 C
 Plastic (FRP) Alpha 21.600
 Plastic (FRP) GMOD/EMODa 250
 Plastic (FRP) Laminate Type. 3.000
 Eqn Optimizer 000
 Node Selection 000
 Eqn Ordering 000
 Collins 000
 Degree Determination 000
 User Eqn Control 000
 North Direction -X

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COORDINATE REPORT

NODE	X	Y	Z
10	-15700.080	-7395.683	7324.219
20	-15766.755	-7395.683	7324.219
30	-16166.755	-7395.683	7324.219
40	-16233.430	-7395.683	7324.219
50	-16502.430	-7395.683	7324.219
60	-16569.105	-7395.683	7324.219
65	-16750.605	-7395.683	7324.219
430	-16750.605	-7421.083	7324.219
65	-16750.605	-7395.683	7324.219
70	-16932.105	-7395.683	7324.219
80	-16998.781	-7395.683	7324.219
90	-17165.781	-7395.683	7324.219
100	-17232.457	-7395.683	7324.219
120	-18732.457	-7395.683	7324.219
130	-18732.457	-6715.683	7324.219
135	-18732.457	-6715.683	8324.219
140	-18732.457	-6715.683	9324.219
150	-18732.457	-6715.683	11224.219
160	-18732.457	-6715.683	11564.219
170	-17080.457	-6715.683	11564.219
175	-17080.457	-6715.683	12712.219
180	-17080.457	-6715.683	13279.219
190	-17080.457	-6715.683	13345.894
200	-17080.457	-6715.683	13546.894
210	-17080.457	-6715.683	13613.568
220	-17080.457	-6715.683	14063.568
230	-17080.457	-6715.683	14130.243
240	-15700.080	-7395.683	9324.219
250	-15766.755	-7395.683	9324.219
260	-16166.755	-7395.683	9324.219
270	-16233.430	-7395.683	9324.219
280	-16502.430	-7395.683	9324.219

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INPUT LISTING

290	-16569.105	-7395.683	9324.219
295	-16750.605	-7395.683	9324.219
450	-16750.605	-7421.083	9324.219
295	-16750.605	-7395.683	9324.219
300	-16932.105	-7395.683	9324.219
310	-16998.781	-7395.683	9324.219
320	-17165.781	-7395.683	9324.219
330	-17232.457	-7395.683	9324.219
340	-18732.457	-7395.683	9324.219
140	-18732.457	-6715.683	9324.219
10	-15700.080	-7395.683	7324.219
350	-15633.405	-7395.683	7324.219
360	-15545.405	-7395.683	7324.219
240	-15700.080	-7395.683	9324.219
370	-15633.405	-7395.683	9324.219
380	-15545.405	-7395.683	9324.219
230	-17080.457	-6715.683	14130.243
390	-17080.457	-6715.683	14196.918
400	-17080.457	-6715.683	14333.918
410	-17080.457	-6715.683	16333.918
420	-17080.457	-7465.683	16333.918
430	-16750.605	-7421.083	7324.219
440	-16750.605	-7971.083	7324.219
450	-16750.605	-7421.083	9324.219
460	-16750.605	-7971.083	9324.219

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

- 1 (HYD) WW+HP
- 2 (OPE) W+D1+T1+P1
- 3 (Alt-SUS) W+P1
- 4 (OPE) W+D1+T2+P1
- 5 (Alt-SUS) W+P1
- 6 (SUS) W+P1
- 7 (SUS) WNC
- 8 (OPE) W+D1+T2+P1+U1
- 9 (OPE) W+D1+T2+P1-U1
- 10 (OPE) W+D1+T2+P1+U2
- 11 (OPE) W+D1+T2+P1+U3
- 12 (OPE) W+D1+T2+P1-U3
- 13 (OCC) L13=L8-L4
- 14 (OCC) L14=L9-L4
- 15 (OCC) L15=L10-L4
- 16 (OCC) L16=L11-L4
- 17 (OCC) L17=L12-L4
- 18 (OCC) L18=L13+L6
- 19 (OCC) L19=L14+L6
- 20 (OCC) L20=L15+L6
- 21 (OCC) L21=L16+L6
- 22 (OCC) L22=L17+L6
- 23 (EXP) L23=L2-L6
- 24 (EXP) L24=L4-L6
- 25 (EXP) L25=L2-L4

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

LOAD CASE DEFINITION KEY

CASE 1 (HYD) WW+HP
CASE 2 (OPE) W+D1+T1+P1
CASE 4 (OPE) W+D1+T2+P1
CASE 6 (SUS) W+P1
CASE 7 (SUS) WNC
CASE 8 (OPE) W+D1+T2+P1+U1
CASE 9 (OPE) W+D1+T2+P1-U1
CASE 10 (OPE) W+D1+T2+P1+U2
CASE 11 (OPE) W+D1+T2+P1+U3
CASE 12 (OPE) W+D1+T2+P1-U3
CASE 13 (OCC) L13=L8-L4
CASE 14 (OCC) L14=L9-L4
CASE 15 (OCC) L15=L10-L4
CASE 16 (OCC) L16=L11-L4
CASE 17 (OCC) L17=L12-L4

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
10		TYPE=Rigid ANC;					
	1(HYD)	-65	-11	-12	-1	5	-8
	2(OPE)	321	229	-12	-45	-66	-56
	4(OPE)	-26	5	-16	-2	5	-11
	6(SUS)	-66	-10	-13	-1	6	-8
	7(SUS)	-58	-13	-10	-1	5	-7
	8(OPE)	182	6	-15	-2	5	-11
	9(OPE)	-250	-1	-16	-2	6	-10
	10(OPE)	-23	5	-14	-2	5	-10
	11(OPE)	-47	6	75	27	82	-11
	12(OPE)	-47	-8	-107	-25	-59	-9
	13(OCC)	207	1	1	0	1	-0
	14(OCC)	-224	-6	-0	1	1	1
	15(OCC)	2	0	2	0	-0	1
	16(OCC)	-21	1	91	29	77	-0
	17(OCC)	-21	-13	-91	-22	-64	2
	MAX	321/L2	229/L2	-107/L12	-45/L2	82/L11	-56/L2
135		TYPE=Rigid +Y;					
	1(HYD)	24	-493	-5	0	0	0
	2(OPE)	-118	-487	-86	0	0	0
	4(OPE)	-133	-462	-39	0	0	0
	6(SUS)	24	-503	-5	0	0	0
	7(SUS)	22	-402	-4	0	0	0
	8(OPE)	-57	-455	-12	0	0	0
	9(OPE)	-147	-490	9	0	0	0
	10(OPE)	-122	-406	-7	0	0	0
	11(OPE)	-41	-491	142	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	12(OPE)	-56	-475	-131	0	0	0
	13(OCC)	76	7	27	0	0	0
	14(OCC)	-14	-28	49	0	0	0
	15(OCC)	11	55	33	0	0	0
	16(OCC)	92	-29	181	0	0	0
	17(OCC)	77	-14	-92	0	0	0
	MAX	-147/L9	-503/L6	181/L16			
150		TYPE=Rigid +Y; Rigid X w/gap; Rigid Z w/gap;					
	1(HYD)	3	-250	1	0	0	0
	2(OPE)	-46	-154	4	0	0	0
	4(OPE)	-33	-147	30	0	0	0
	6(SUS)	3	-255	1	0	0	0
	7(SUS)	3	-199	0	0	0	0
	8(OPE)	43	-144	2	0	0	0
	9(OPE)	-47	-157	2	0	0	0
	10(OPE)	-35	-118	-0	0	0	0
	11(OPE)	-16	-150	42	0	0	0
	12(OPE)	1	-159	-48	0	0	0
	13(OCC)	76	3	-28	0	0	0
	14(OCC)	-14	-9	-27	0	0	0
	15(OCC)	-3	30	-30	0	0	0
	16(OCC)	17	-2	12	0	0	0
	17(OCC)	33	-12	-77	0	0	0
	MAX	76/L13	-255/L6	-77/L17			
175		TYPE=Rigid +Y;					
	1(HYD)	-1	-446	0	0	0	0
	2(OPE)	65	-2018	-602	0	0	0
	4(OPE)	9	-2094	-355	0	0	0
	6(SUS)	-1	-453	0	0	0	0
	7(SUS)	-1	-382	0	0	0	0
	8(OPE)	110	-2096	-353	0	0	0
	9(OPE)	-165	-2086	-366	0	0	0
	10(OPE)	9	-2039	-356	0	0	0
	11(OPE)	7	-2087	-280	0	0	0
	12(OPE)	-36	-2091	-429	0	0	0
	13(OCC)	101	-2	2	0	0	0
	14(OCC)	-173	8	-11	0	0	0
	15(OCC)	0	55	-0	0	0	0
	16(OCC)	-2	7	75	0	0	0
	17(OCC)	-45	4	-74	0	0	0
	MAX	-173/L14	-2096/L8	-602/L2			

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
230		TYPE=Rigid ANC;					
	1(HYD)	0	-178	0	-16	-0	-9
	2(OPE)	72	1228	782	1623	-47	132
	4(OPE)	-4	1291	349	1691	1	137
	6(SUS)	0	-177	0	-15	-0	-10
	7(SUS)	0	-183	0	-20	-0	-7
	8(OPE)	53	1292	351	1691	-6	137
	9(OPE)	-33	1288	339	1690	0	136
	10(OPE)	-4	1312	349	1693	1	138
	11(OPE)	10	1287	479	1690	-3	137
	12(OPE)	5	1290	221	1691	-1	136
	13(OCC)	57	1	2	0	-7	0
	14(OCC)	-29	-3	-10	-1	-1	-0
	15(OCC)	-0	21	-0	2	0	1
	16(OCC)	14	-4	129	-1	-4	0
	17(OCC)	9	-1	-128	-0	-3	-1
	MAX	72/L2	1312/L10	782/L2	1693/L10	-47/L2	138/L10
240		TYPE=Rigid ANC;					
	1(HYD)	-69	-13	8	0	-4	-8
	2(OPE)	227	97	5	-16	-37	-32
	4(OPE)	70	-45	4	1	1	-2
	6(SUS)	-69	-12	8	0	-4	-8
	7(SUS)	-61	-16	6	0	-4	-6
	8(OPE)	290	-41	3	1	-0	-3
	9(OPE)	-185	-55	5	2	2	-0
	10(OPE)	73	-45	3	1	1	-1
	11(OPE)	26	-57	98	31	76	0
	12(OPE)	51	-45	-91	-23	-66	-2
	13(OCC)	220	3	-1	-0	-1	-1
	14(OCC)	-255	-11	1	1	1	2
	15(OCC)	2	-0	-1	-0	0	1
	16(OCC)	-44	-13	94	29	75	2
	17(OCC)	-19	-1	-95	-24	-67	0
	MAX	290/L8	97/L2	98/L11	31/L11	76/L11	-32/L2
360		TYPE=Rigid ANC;					
	1(HYD)	-65	-51	-12	-1	4	-2
	2(OPE)	321	188	-12	-45	-68	-87
	4(OPE)	-26	-36	-16	-2	2	-8
	6(SUS)	-66	-51	-13	-1	4	-2
	7(SUS)	-58	-50	-10	-1	3	-1
	8(OPE)	192	-35	-15	-2	3	-8
	9(OPE)	-260	-42	-16	-2	4	-6
	10(OPE)	-23	-31	-14	-2	2	-7

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	11(OPE)	-47	-35	86	27	95	-8
	12(OPE)	-47	-49	-117	-25	-77	-3
	13(OCC)	218	1	1	0	1	-0
	14(OCC)	-235	-6	-0	1	1	2
	15(OCC)	2	5	2	0	-0	1
	16(OCC)	-21	1	102	29	92	-0
	17(OCC)	-21	-13	-101	-22	-79	4
	MAX	321/L2	188/L2	-117/L12	-45/L2	95/L11	-87/L2
380		TYPE=Rigid ANC;					
	1(HYD)	-69	-53	8	0	-3	-2
	2(OPE)	227	56	5	-16	-36	-42
	4(OPE)	70	-85	4	1	1	9
	6(SUS)	-69	-53	8	0	-3	-2
	7(SUS)	-61	-53	6	0	-3	0
	8(OPE)	301	-82	3	1	0	8
	9(OPE)	-195	-96	5	2	2	13
	10(OPE)	73	-81	3	1	1	10
	11(OPE)	26	-98	108	31	92	13
	12(OPE)	51	-86	-102	-23	-81	9
	13(OCC)	231	3	-1	-0	-1	-1
	14(OCC)	-265	-11	1	1	1	4
	15(OCC)	2	5	-1	-0	-0	1
	16(OCC)	-44	-13	104	29	91	4
	17(OCC)	-19	-1	-106	-24	-82	0
	MAX	301/L8	-98/L11	108/L11	31/L11	92/L11	-42/L2
400		TYPE=Rigid ANC;					
	1(HYD)	0	0	0	0	0	0
	2(OPE)	0	0	0	-0	0	-0
	4(OPE)	0	0	0	0	-0	-0
	6(SUS)	0	0	0	0	0	0
	7(SUS)	0	-0	0	0	0	0
	8(OPE)	-0	0	0	0	0	-0
	9(OPE)	0	-0	0	0	-0	-0
	10(OPE)	0	0	0	-0	-0	-0
	11(OPE)	0	0	0	-0	0	-0
	12(OPE)	0	0	0	-0	0	-0
	13(OCC)	-0	0	0	0	0	0
	14(OCC)	0	-0	0	0	-0	0
	15(OCC)	0	0	0	-0	0	0
	16(OCC)	0	0	0	-0	0	0
	17(OCC)	0	0	0	-0	0	0
	MAX	-0/L8	-0/L9		-0/L2	-0/L9	-0/L2
420		TYPE=Displ.					

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Job:: BNK-GCS-CN-016-D02

Licensed To:: SPLM: Edit company name in <system>\company.txt

RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
		Reaction;					
	1(HYD)	0	-223	0	-504	-1	-10
	2(OPE)	72	1182	782	4818	-207	77
	4(OPE)	-4	1246	349	4701	10	140
	6(SUS)	0	-223	0	-503	-1	-10
	7(SUS)	0	-224	0	-511	-1	-7
	8(OPE)	64	1247	351	4705	-147	88
	9(OPE)	-45	1242	339	4684	99	170
	10(OPE)	-4	1272	349	4760	11	141
	11(OPE)	10	1242	490	4797	-24	130
	12(OPE)	5	1245	210	4593	-12	132
	13(OCC)	68	1	2	4	-157	-51
	14(OCC)	-41	-3	-10	-16	89	31
	15(OCC)	-0	26	-0	59	0	1
	16(OCC)	14	-4	141	97	-34	-10
	17(OCC)	9	-1	-140	-107	-22	-7
	MAX	72/L2	1272/L10	782/L2	4818/L2	-207/L2	170/L9
440		TYPE=Rigid Z w/gap; Rigid +Y;					
	1(HYD)	54	-682	25	0	0	0
	2(OPE)	-255	-944	-33	0	0	0
	4(OPE)	62	-710	29	0	0	0
	6(SUS)	55	-680	26	0	0	0
	7(SUS)	48	-627	21	0	0	0
	8(OPE)	65	-714	29	0	0	0
	9(OPE)	56	-692	32	0	0	0
	10(OPE)	55	-625	27	0	0	0
	11(OPE)	63	-705	111	0	0	0
	12(OPE)	55	-680	-40	0	0	0
	13(OCC)	3	-4	-0	0	0	0
	14(OCC)	-6	18	3	0	0	0
	15(OCC)	-7	85	-2	0	0	0
	16(OCC)	1	5	82	0	0	0
	17(OCC)	-7	30	-69	0	0	0
	MAX	-255/L2	-944/L2	111/L11			
460		TYPE=Rigid Z w/gap; Rigid +Y;					
	1(HYD)	53	-681	-17	0	0	0
	2(OPE)	-214	-722	-32	0	0	0
	4(OPE)	36	-610	-4	0	0	0
	6(SUS)	54	-680	-18	0	0	0
	7(SUS)	46	-624	-14	0	0	0
	8(OPE)	40	-620	-5	0	0	0
	9(OPE)	27	-579	-4	0	0	0

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Job:: BNK-GCS-CN-016-D02

Licensed To:: SPLM: Edit company name in <system>\company.txt

RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	10(OPE)	28	-524	-3	0	0	0
	11(OPE)	29	-576	71	0	0	0
	12(OPE)	35	-604	-71	0	0	0
	13(OCC)	4	-9	-0	0	0	0
	14(OCC)	-8	31	0	0	0	0
	15(OCC)	-7	86	2	0	0	0
	16(OCC)	-7	34	75	0	0	0
	17(OCC)	-0	6	-67	0	0	0
	MAX	-214/L2	-722/L2	75/L16			

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS 2
Stress Summary : Multiple 3

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

- 1 (HYD) WW+HP
- 2 (OPE) W+D1+T1+P1
- 3 (Alt-SUS) W+P1
- 4 (OPE) W+D1+T2+P1
- 5 (Alt-SUS) W+P1
- 6 (SUS) W+P1
- 7 (SUS) WNC
- 8 (OPE) W+D1+T2+P1+U1
- 9 (OPE) W+D1+T2+P1-U1
- 10 (OPE) W+D1+T2+P1+U2
- 11 (OPE) W+D1+T2+P1+U3
- 12 (OPE) W+D1+T2+P1-U3
- 13 (OCC) L13=L8-L4
- 14 (OCC) L14=L9-L4
- 15 (OCC) L15=L10-L4
- 16 (OCC) L16=L11-L4
- 17 (OCC) L17=L12-L4
- 18 (OCC) L18=L13+L6
- 19 (OCC) L19=L14+L6
- 20 (OCC) L20=L15+L6
- 21 (OCC) L21=L16+L6
- 22 (OCC) L22=L17+L6
- 23 (EXP) L23=L2-L6
- 24 (EXP) L24=L4-L6
- 25 (EXP) L25=L2-L4

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Job:: BNK-GCS-CN-016-D02

Licensed To:: SPLM: Edit company name in <system>\company.txt

STRESS SUMMARY REPORT: Highest Stresses Mini Statement Various Load Cases

LOAD CASE DEFINITION KEY

CASE 1 (HYD) WW+HP
CASE 3 (Alt-SUS) W+P1
CASE 5 (Alt-SUS) W+P1
CASE 6 (SUS) W+P1
CASE 7 (SUS) WNC
CASE 18 (OCC) L18=L13+L6
CASE 19 (OCC) L19=L14+L6
CASE 20 (OCC) L20=L15+L6
CASE 21 (OCC) L21=L16+L6
CASE 22 (OCC) L22=L17+L6
CASE 23 (EXP) L23=L2-L6
CASE 24 (EXP) L24=L4-L6
CASE 25 (EXP) L25=L2-L4

Piping Code: B31.3 = B31.3 -2016, Jan 31, 2017

CODE STRESS CHECK PASSED : LOADCASE 1 (HYD) WW+HP

Highest Stresses: (KPa)	LOADCASE 1 (HYD) WW+HP	
Ratio (%):	5.7	@Node 135
Code Stress:	13778.1	Allowable Stress: 241316.5
Axial Stress:	1322.2	@Node 440
Bending Stress:	16032.5	@Node 430
Torsion Stress:	715.8	@Node 150
Hoop Stress:	2334.9	@Node 30
Max Stress Intensity:	17298.7	@Node 430

CODE STRESS CHECK PASSED : LOADCASE 3 (Alt-SUS) W+P1

Highest Stresses: (KPa)	LOADCASE 3 (Alt-SUS) W+P1	
Ratio (%):	18.8	@Node 135
Code Stress:	25897.0	Allowable Stress: 137895.1
Axial Stress:	2112.8	@Node 140
Bending Stress:	24042.6	@Node 135
Torsion Stress:	1229.9	@Node 150
Hoop Stress:	3810.9	@Node 30
Max Stress Intensity:	25893.1	@Node 135

CODE STRESS CHECK PASSED : LOADCASE 5 (Alt-SUS) W+P1

Highest Stresses: (KPa)	LOADCASE 5 (Alt-SUS) W+P1	
Ratio (%):	19.0	@Node 135
Code Stress:	26183.1	Allowable Stress: 137895.1
Axial Stress:	2115.2	@Node 140
Bending Stress:	24322.3	@Node 135
Torsion Stress:	1376.4	@Node 150
Hoop Stress:	3810.9	@Node 30
Max Stress Intensity:	26178.8	@Node 135

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
Various Load Cases

CODE STRESS CHECK PASSED : LOADCASE 6 (SUS) W+P1

Highest Stresses: (KPa)	LOADCASE 6 (SUS) W+P1	
Ratio (%):	19.0 @Node 135	
Code Stress:	26191.7	Allowable Stress: 137895.1
Axial Stress:	2115.4 @Node 140	
Bending Stress:	24330.8 @Node 135	
Torsion Stress:	1378.7 @Node 150	
Hoop Stress:	3810.9 @Node 30	
Max Stress Intensity:	26187.4 @Node 135	

CODE STRESS CHECK PASSED : LOADCASE 7 (SUS) WNC

Highest Stresses: (KPa)	LOADCASE 7 (SUS) WNC	
Ratio (%):	14.2 @Node 135	
Code Stress:	19559.2	Allowable Stress: 137895.1
Axial Stress:	1215.7 @Node 440	
Bending Stress:	19527.2 @Node 135	
Torsion Stress:	1028.6 @Node 70	
Hoop Stress:	0.0 @Node 20	
Max Stress Intensity:	19559.2 @Node 135	

CODE STRESS CHECK PASSED : LOADCASE 18 (OCC) L18=L13+L6

Highest Stresses: (KPa)	LOADCASE 18 (OCC) L18=L13+L6	
Ratio (%):	15.6 @Node 135	
Code Stress:	28564.2	Allowable Stress: 183400.5
Axial Stress:	2102.2 @Node 140	
Bending Stress:	26653.8 @Node 135	
Torsion Stress:	1238.5 @Node 159	
Hoop Stress:	3810.9 @Node 30	
Max Stress Intensity:	28559.9 @Node 135	

CODE STRESS CHECK PASSED : LOADCASE 19 (OCC) L19=L14+L6

Highest Stresses: (KPa)	LOADCASE 19 (OCC) L19=L14+L6	
Ratio (%):	15.4 @Node 175	
Code Stress:	28178.3	Allowable Stress: 183400.5
Axial Stress:	2548.5 @Node 380	
Bending Stress:	26258.0 @Node 175	
Torsion Stress:	1945.0 @Node 150	
Hoop Stress:	3810.9 @Node 30	
Max Stress Intensity:	28181.6 @Node 175	

CODE STRESS CHECK PASSED : LOADCASE 20 (OCC) L20=L15+L6

Highest Stresses: (KPa)	LOADCASE 20 (OCC) L20=L15+L6	
Ratio (%):	15.8 @Node 135	
Code Stress:	28977.6	Allowable Stress: 183400.5
Axial Stress:	2086.5 @Node 140	
Bending Stress:	27066.0 @Node 135	

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
Various Load Cases

Torsion Stress:	1290.7	@Node	150
Hoop Stress:	3810.9	@Node	30
Max Stress Intensity:	28973.3	@Node	135

CODE STRESS CHECK PASSED : LOADCASE 21 (OCC) L21=L16+L6

Highest Stresses: (KPa)	LOADCASE 21 (OCC) L21=L16+L6		
Ratio (%):	16.1	@Node	430
Code Stress:	29468.0	Allowable Stress:	183400.5
Axial Stress:	2161.9	@Node	140
Bending Stress:	37573.9	@Node	430
Torsion Stress:	2535.2	@Node	70
Hoop Stress:	3810.9	@Node	30
Max Stress Intensity:	38861.5	@Node	430

CODE STRESS CHECK PASSED : LOADCASE 22 (OCC) L22=L17+L6

Highest Stresses: (KPa)	LOADCASE 22 (OCC) L22=L17+L6		
Ratio (%):	16.2	@Node	135
Code Stress:	29737.2	Allowable Stress:	183400.5
Axial Stress:	2160.6	@Node	129
Bending Stress:	34100.1	@Node	430
Torsion Stress:	1863.4	@Node	260
Hoop Stress:	3810.9	@Node	30
Max Stress Intensity:	35434.7	@Node	430

CODE STRESS CHECK PASSED : LOADCASE 23 (EXP) L23=L2-L6

Highest Stresses: (KPa)	LOADCASE 23 (EXP) L23=L2-L6		
Ratio (%):	48.5	@Node	400
Code Stress:	162029.8	Allowable Stress:	333772.6
Axial Stress:	819.9	@Node	180
Bending Stress:	160781.3	@Node	400
Torsion Stress:	8455.4	@Node	159
Hoop Stress:	0.0	@Node	20
Max Stress Intensity:	304002.5	@Node	400

CODE STRESS CHECK PASSED : LOADCASE 24 (EXP) L24=L4-L6

Highest Stresses: (KPa)	LOADCASE 24 (EXP) L24=L4-L6		
Ratio (%):	50.4	@Node	400
Code Stress:	168224.0	Allowable Stress:	333772.6
Axial Stress:	366.1	@Node	180
Bending Stress:	167415.4	@Node	400
Torsion Stress:	9138.3	@Node	159
Hoop Stress:	0.0	@Node	20
Max Stress Intensity:	315530.5	@Node	400

CODE STRESS CHECK PASSED : LOADCASE 25 (EXP) L25=L2-L4

Highest Stresses: (KPa)	LOADCASE 25 (EXP) L25=L2-L4		
Ratio (%):	26.6	@Node	430

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement

Various Load Cases

Code Stress:	88009.0	Allowable Stress:	331264.9
Axial Stress:	453.8	@Node	180
Bending Stress:	86825.3	@Node	430
Torsion Stress:	1790.2	@Node	30
Hoop Stress:	0.0	@Node	20
Max Stress Intensity:	87278.3	@Node	430

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Nozzle Check : Multiple	3

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

- 1 (HYD) WW+HP
- 2 (OPE) W+D1+T1+P1
- 3 (Alt-SUS) W+P1
- 4 (OPE) W+D1+T2+P1
- 5 (Alt-SUS) W+P1
- 6 (SUS) W+P1
- 7 (SUS) WNC
- 8 (OPE) W+D1+T2+P1+U1
- 9 (OPE) W+D1+T2+P1-U1
- 10 (OPE) W+D1+T2+P1+U2
- 11 (OPE) W+D1+T2+P1+U3
- 12 (OPE) W+D1+T2+P1-U3
- 13 (OCC) L13=L8-L4
- 14 (OCC) L14=L9-L4
- 15 (OCC) L15=L10-L4
- 16 (OCC) L16=L11-L4
- 17 (OCC) L17=L12-L4
- 18 (OCC) L18=L13+L6
- 19 (OCC) L19=L14+L6
- 20 (OCC) L20=L15+L6
- 21 (OCC) L21=L16+L6
- 22 (OCC) L22=L17+L6
- 23 (EXP) L23=L2-L6
- 24 (EXP) L24=L4-L6
- 25 (EXP) L25=L2-L4

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NOZZLE CHECK REPORT: Nozzle Loads Screening

Various Load Cases

LOAD CASE DEFINITION KEY

CASE 2 (OPE) W+D1+T1+P1

CASE 4 (OPE) W+D1+T2+P1

CASE 6 (SUS) W+P1

CASE 7 (SUS) WNC

Node		fa N.	fb N.	fc N.	Forces Check	ma N.m.	mb N.m.	mc N.m.	Moments Check	
360		Absolute Method								
	Limits	1779	1157	1423		922	705	461		
	2(OPE)	321	188	-12	0.181	-45	-68	-87	0.190	
	4(OPE)	-26	-36	-16	0.031	-2	2	-8	0.017	
	6(SUS)	-66	-51	-13	0.044	-1	4	-2	0.005	
	7(SUS)	-58	-50	-10	0.044	-1	3	-1	0.004	
380		Absolute Method								
	Limits	1779	1157	1423		922	705	461		
	2(OPE)	227	56	5	0.128	-16	-36	-42	0.092	
	4(OPE)	70	-85	4	0.074	1	1	9	0.020	
	6(SUS)	-69	-53	8	0.046	0	-3	-2	0.005	
	7(SUS)	-61	-53	6	0.046	0	-3	0	0.004	

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Line no.

Stress sketch

Input echo

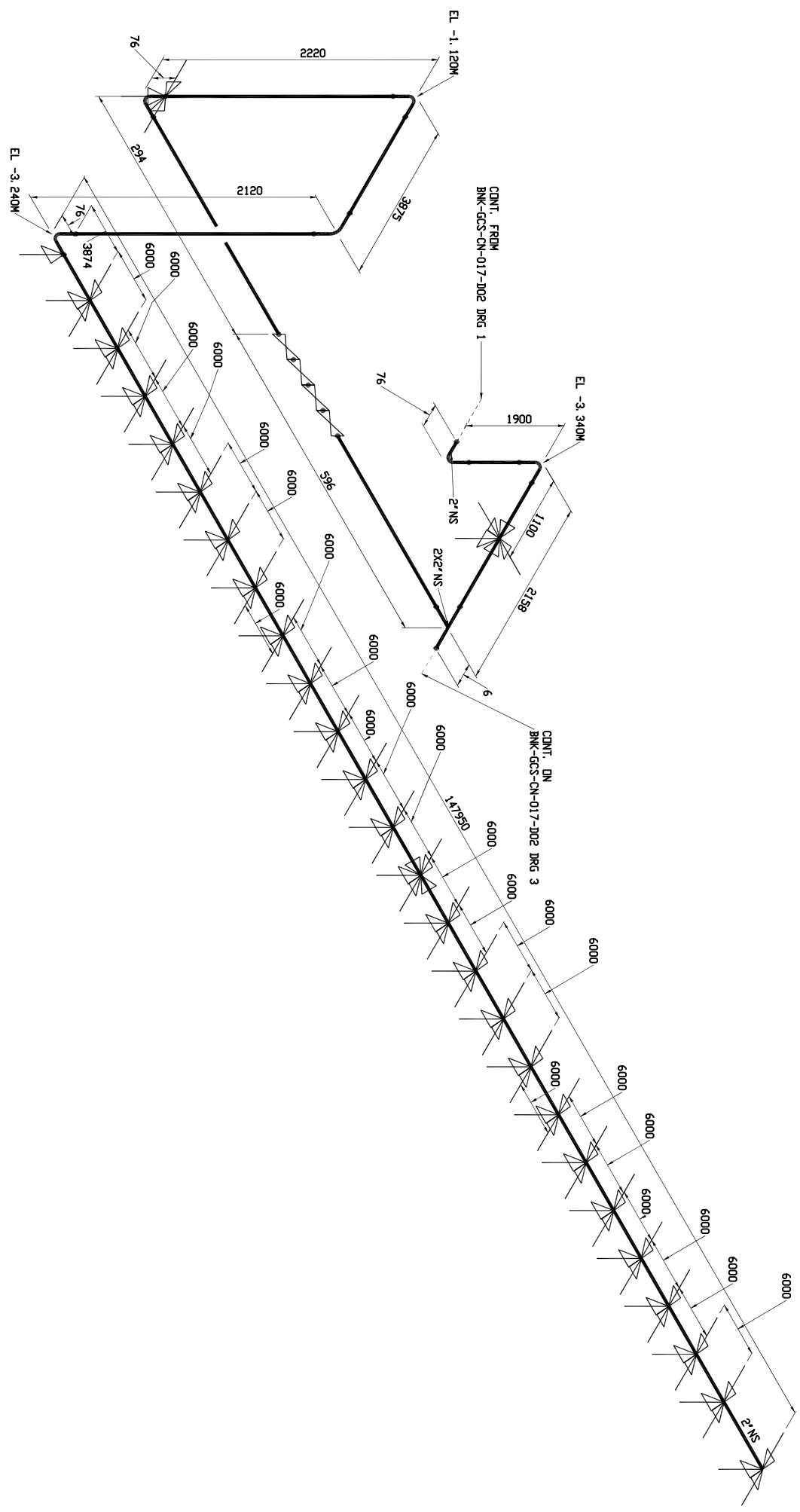
Restraint summary

Stress summary

Nozzle load Table

LINE NO.:

1. CDH-112-0032-AN07-2"-PT
2. CDH-112-0033-AN07-2"-PT
3. CDH-112-0038-AN07-2"-PT
4. CDH-112-0037-AN07-2"-PT
5. CDH-112-0145-AN07-2"-PT
6. CDH-112-0041-AN07-2"-PT



CHECK ISOMETRIC ONLY – DO NOT ISSUE

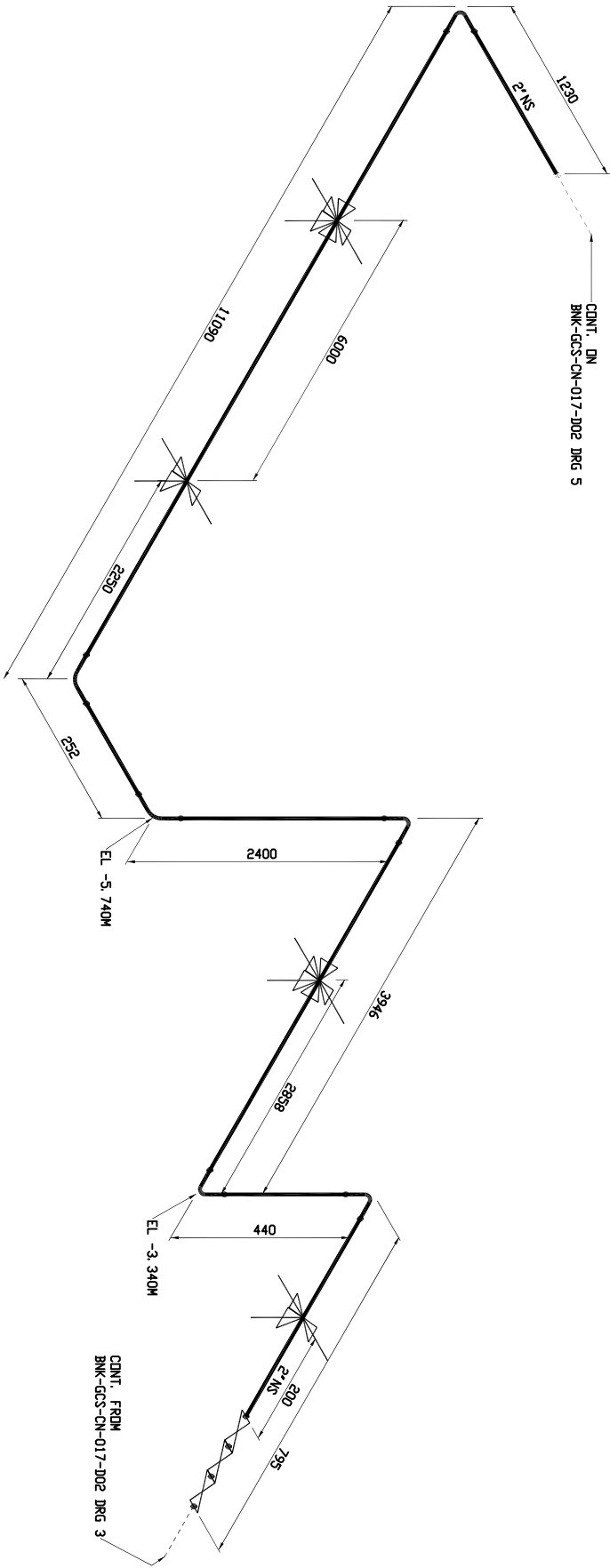
CHECK ISOMETRIC ONLY – DO NOT ISSUE				PIPING SPEC.		OP. TEMP.		 PIPELINE REFERENCE	REV.	
				INSULATION SPEC.		PROJECT NO.			DRG.	
				INSULATION THKS.		SYSTEM				
				PAINTING SPEC.		AREA				
				MATERIAL		DRAWN BY				
				OP. PRESSURE		E.L.DIAGRAM				
REV.	CHANGE	02 MAR 2024	DATE	THIS DRAWING IS THE PROPERTY OF INTERGRAPH LTD AND MUST NOT BE COPIED OR LENT WITHOUT THE CONSENT OF THE COMPANY					2 OF 6	



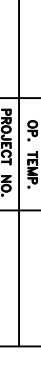
CONT, DN
BNK-GCS-CN-017-DO2 DRG 4

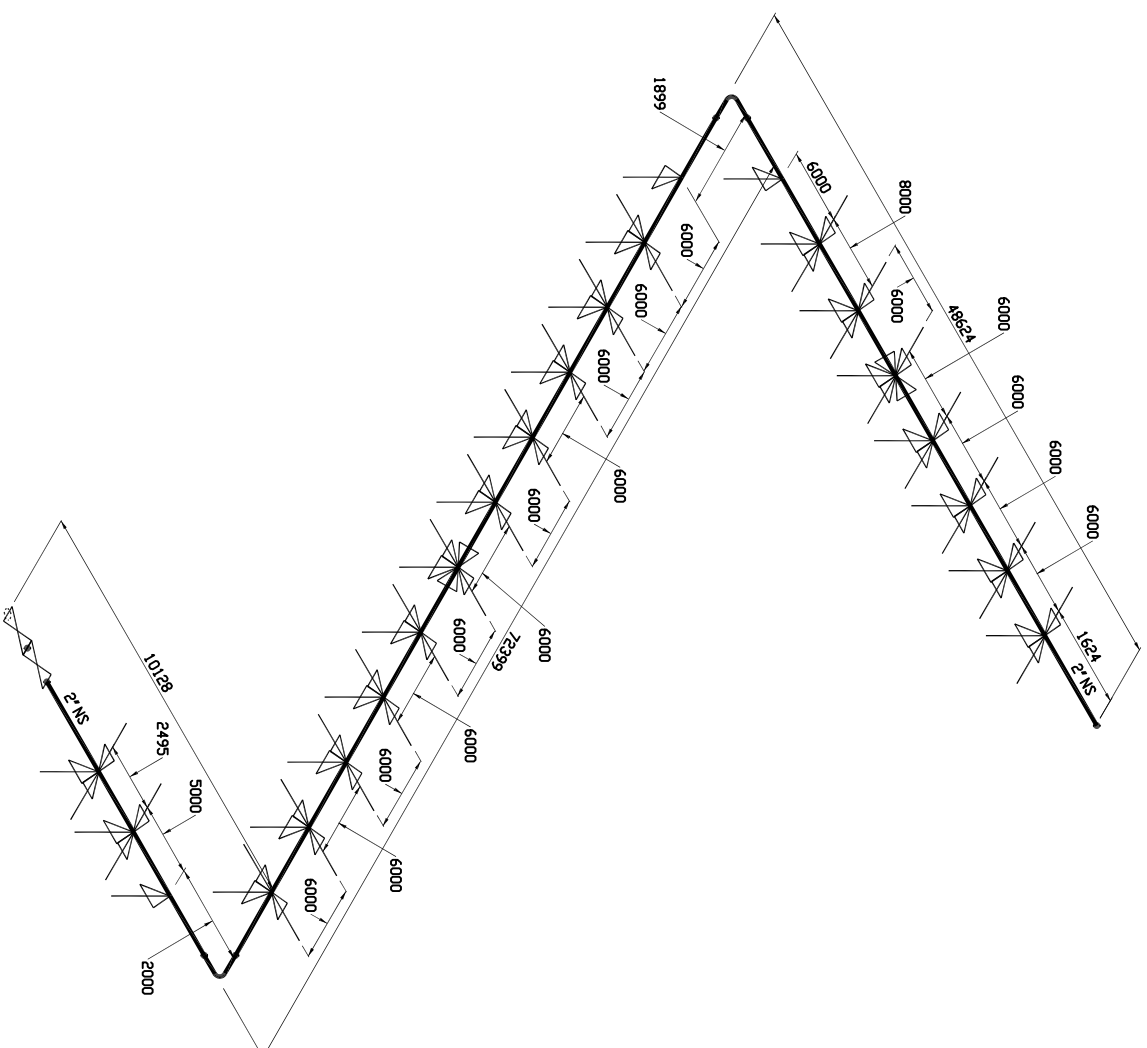
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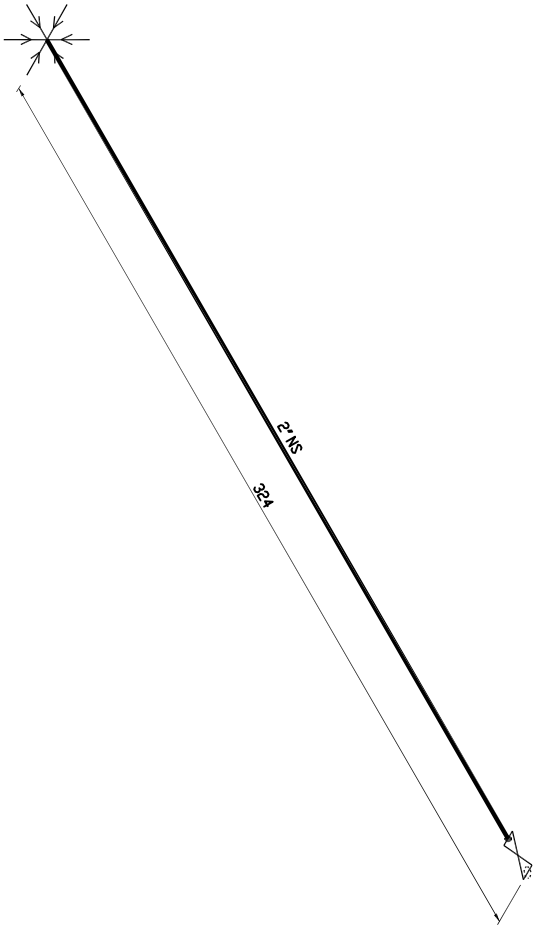
CHECK ISOMETRIC ONLY – DO NOT ISSUE

CHECK ISOMETRIC ONLY – DO NOT ISSUE							 PIPELINE REFERENCE		REV.		
			PIPING SPEC.						DRG.		
			INSULATION SPEC.		PROJECT NO.						
			INSULATION THKS.		SYSTEM						
			PAINTING SPEC.		AREA						
			MATERIAL		DRAWN BY						
REV.		CHANGE		02 MAR 2024 DATE		THIS DRAWING IS THE PROPERTY OF INTERGRAPH LTD AND MUST NOT BE COPIED OR LENT WITHOUT THE CONSENT OF THE COMPANY				4 OF 6	
				OP. PRESSURE		E.L.DIAGRAM					



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CHECK ISOMETRIC ONLY – DO NOT ISSUE				REV.	
REV.	CHANGE	02 MAR 2024	DATE	THIS DRAWING IS THE PROPERTY OF INTERGRAPH LTD AND MUST NOT BE COPIED OR LENT WITHOUT THE CONSENT OF THE COMPANY	
				PIPING SPEC.	OP. TEMP.
				INSULATION SPEC.	PROJECT NO.
				INSULATION THKS.	SYSTEM
				PAINTING SPEC.	AREA
				MATERIAL	DRAWN BY
				OP. PRESSURE	E.L. DIAGRAM
				PIPELINE REFERENCE	
				DRG.	
				6 OF 6	



CHECK ISOMETRIC ONLY – DO NOT ISSUE

CHECK ISOMETRIC ONLY – DO NOT ISSUE				PIPING SPEC.		OP. TEMP.		PIPELINE REFERENCE	REV.
				INSULATION SPEC.		PROJECT NO.			
				INSULATION THKS.		SYSTEM			DRG.
				PAINTING SPEC.		AREA			1 OF 1
REV.	CHANGE	02 MAR 2024	THIS DRAWING IS THE PROPERTY OF INTERGRAPH LTD AND MUST NOT BE COPIED OR LENT WITHOUT THE CONSENT OF THE COMPANY				OP. PRESSURE	DRAWN BY	
		DATE				E.L.DIAGRAM			

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

- 1 (HYD) WW+HP
- 2 (OPE) W+T1+P1
- 3 (Alt-SUS) W+P1
- 4 (OPE) W+T2+P1
- 5 (Alt-SUS) W+P1
- 6 (SUS) W+P1
- 7 (SUS) WNC
- 8 (OPE) W+T2+P1+U1
- 9 (OPE) W+T2+P1-U1
- 10 (OPE) W+T2+P1+U2
- 11 (OPE) W+T2+P1+U3
- 12 (OPE) W+T2+P1-U3
- 13 (OCC) L13=L8-L4
- 14 (OCC) L14=L9-L4
- 15 (OCC) L15=L10-L4
- 16 (OCC) L16=L11-L4
- 17 (OCC) L17=L12-L4
- 18 (OCC) L18=L13+L6
- 19 (OCC) L19=L14+L6
- 20 (OCC) L20=L15+L6
- 21 (OCC) L21=L16+L6
- 22 (OCC) L22=L17+L6
- 23 (EXP) L23=L2-L6
- 24 (EXP) L24=L4-L6
- 25 (EXP) L25=L2-L4

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INPUT LISTING

Job Description:

PROJECT:

CLIENT :

ANALYST:

NOTES :

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INPUT LISTING

File created by FEATools

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PIPE DATA

 From 10 To 20 DZ= -66.675 mm.

PIPE

Dia= 60.325 mm. Wall= 8.738 mm. Cor= 6.0000 mm.

GENERAL

T1= 85 C T2= 21 C P1= 770.0175 KPa PHyd= 1,155.0264 KPa
 Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 199,086,608 KPa
 EH2= 203,396,064 KPa EH3= 203,401,232 KPa EH4= 203,401,232 KPa
 EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa
 EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292
 Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0011150 kg./cu.cm.
 Insul Thk= .000 mm. Insul Den= .0000000 kg./cu.cm.

RIGID Weight= 31.14 N.

RESTRAINTS

Node 10 ANC Cnode 11

UNIFORM LOAD

Vector1 in G-s X1 Dir = .26 g's Y1 Dir = .00 g's Z1 Dir = .00 g's
 Vector2 in G-s X2 Dir = .00 g's Y2 Dir = .12 g's Z2 Dir = .00 g's
 Vector3 in G-s X3 Dir = .00 g's Y3 Dir = .00 g's Z3 Dir = .26 g's

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 20 To 30 DZ= -262.000 mm.

BEND at "T0" end

Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 29
 Angle/Node @2= .00 28

 From 30 To 40 DY= 728.000 mm.

 From 40 To 50 DY= 66.675 mm.

RIGID Weight= 31.14 N.

 From 50 To 60 DY= 187.000 mm.

RIGID Weight= 266.89 N.

 From 60 To 70 DY= 66.675 mm.

RIGID Weight= 31.14 N.

 From 70 To 80 DY= 607.000 mm.

BEND at "T0" end

Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 79
 Angle/Node @2= .00 78

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INPUT LISTING

 From 80 To 90 DX= -77.000 mm.

From 90 To 100 DX= -66.675 mm.
 RIGID Weight= 31.14 N.

From 100 To 110 DX= -212.000 mm.
 RIGID Weight= 217.96 N.

From 110 To 120 DX= -66.675 mm.
 RIGID Weight= 31.14 N.

From 120 To 125 DX= -200.000 mm.
 RESTRAINTS
 Node 125 +Y

From 125 To 130 DX= -604.000 mm.
 BEND at "T0" end
 Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 129
 Angle/Node @2= .00 128

From 130 To 135 DZ= 1,450.000 mm.
 RESTRAINTS
 Node 135 +Y Mu = .30

From 135 To 140 DZ= 1,450.000 mm.
 SIF's & TEE's
 Node 140 Welding Tee

From 140 To 150 DZ= 4,500.000 mm.
 RESTRAINTS
 Node 150 +Y Mu = .30
 Node 150 X Gap= 3.000 mm.
 Node 150 Z Gap= 3.000 mm.

From 150 To 190 DZ= 3,943.000 mm.
 RESTRAINTS
 Node 190 +Y

From 190 To 200 DZ= 2,032.000 mm.
 BEND at "T0" end
 Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 199
 Angle/Node @2= .00 198

From 200 To 210 DY= 500.000 mm.
 BEND at "T0" end
 Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 209
 Angle/Node @2= .00 208

From 210 To 220 DX= 3,000.000 mm.
 RESTRAINTS
 Node 220 +Y Mu = .30
 Node 220 X Gap= 3.000 mm.
 Node 220 Z Gap= 3.000 mm.

From 220 To 230 DX= 6,000.000 mm.

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INPUT LISTING

RESTRAINTS

Node 230 +Y Mu = .30
 Node 230 Z Gap= 3.000 mm.

 From 230 To 300 DX= 2,239.000 mm.

BEND at "TO" end

Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 299
 Angle/Node @2= .00 298

 From 300 To 310 DY= 1,900.000 mm.

BEND at "TO" end

Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 309
 Angle/Node @2= .00 308

 From 310 To 315 DX= 1,100.000 mm.

RESTRAINTS

Node 315 +Y Mu = .30
 Node 315 Z Gap= 3.000 mm.
 Node 315 X Gap= 3.000 mm.

 From 315 To 320 DX= 1,058.000 mm.

SIF's & TEE's

Node 320 Welding Tee

 From 320 To 325 DX= 156.500 mm.

RESTRAINTS

Node 325 +Y Mu = .30

 From 325 To 330 DX= 156.500 mm.

 From 330 To 340 DX= 66.675 mm.

RIGID Weight= 31.14 N.

 From 340 To 350 DX= 212.000 mm.

RIGID Weight= 217.96 N.

 From 350 To 360 DX= 66.675 mm.

RIGID Weight= 31.14 N.

 From 360 To 365 DX= 175.000 mm.

RESTRAINTS

Node 365 +Y Mu = .30

 From 365 To 370 DX= 175.000 mm.

 From 370 To 380 DX= 66.675 mm.

RIGID Weight= 31.14 N.

 From 380 To 390 DX= 186.000 mm.

RIGID Weight= 266.89 N.

 From 390 To 400 DX= 66.675 mm.

RIGID Weight= 31.14 N.

 From 400 To 410 DX= 100.000 mm.

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INPUT LISTING

From 410 To 420 DX= 66.675 mm.
 RIGID Weight= 31.14 N.

 From 420 To 430 DX= 201.000 mm.
 RIGID Weight= 266.89 N.

 From 430 To 440 DX= 66.675 mm.
 RIGID Weight= 31.14 N.

 From 440 To 450 DX= 150.000 mm.

 From 450 To 455 DX= 163.000 mm.

RESTRAINTS

Node 455 +Y Mu = .30
 Node 455 Z Gap= 3.000 mm.

 From 455 To 460 DX= 597.000 mm.

BEND at "TO" end

Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 459
 Angle/Node @2= .00 458

 From 460 To 470 DZ= 840.000 mm.

SIF's & TEE's

Node 470 Welding Tee

 From 470 To 475 DZ= 195.000 mm.

RESTRAINTS

Node 475 +Y Mu = .30

 From 475 To 480 DZ= 195.000 mm.

BEND at "TO" end

Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 479
 Angle/Node @2= .00 478

 From 480 To 490 DY= 1,700.000 mm.

BEND at "TO" end

Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 489
 Angle/Node @2= .00 488

 From 490 To 500 DX= 1,217.000 mm.

BEND at "TO" end

Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 499
 Angle/Node @2= .00 498

 From 500 To 510 DY= -1,600.000 mm.

BEND at "TO" end

Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 509
 Angle/Node @2= .00 508

RESTRAINTS

Node 510 +Y Mu = .30

 From 510 To 520 DZ= 1,700.000 mm.

RESTRAINTS

Node 520 +Y Mu = .30
 Node 520 X Gap= 3.000 mm.

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INPUT LISTING

From 520 To 530 DZ= 6,000.000 mm.

RESTRAINTS

Node 530 +Y Mu = .30
 Node 530 X Gap= 3.000 mm.

From 530 To 540 DZ= 6,000.000 mm.

RESTRAINTS

Node 540 +Y Mu = .30
 Node 540 X Gap= 3.000 mm.

From 540 To 550 DZ= 6,000.000 mm.

RESTRAINTS

Node 550 +Y Mu = .30
 Node 550 X Gap= 3.000 mm.

From 550 To 560 DZ= 6,000.000 mm.

RESTRAINTS

Node 560 +Y Mu = .30
 Node 560 Z Gap= 3.000 mm.
 Node 560 X Gap= 3.000 mm.

From 560 To 570 DZ= 6,000.000 mm.

RESTRAINTS

Node 570 +Y Mu = .30
 Node 570 X Gap= 3.000 mm.

From 570 To 575 DZ= 8,000.000 mm.

RESTRAINTS

Node 575 +Y Mu = .30
 Node 575 X Gap= 3.000 mm. Mu = .30

From 575 To 576 DZ= 6,000.000 mm.

RESTRAINTS

Node 576 +Y Mu = .30

From 576 To 580 DZ= 3,000.000 mm.

BEND at "T0" end

Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 579
 Angle/Node @2= .00 578

From 580 To 585 DX= 1,899.000 mm.

RESTRAINTS

Node 585 +Y Mu = .30

From 585 To 590 DX= 6,000.000 mm.

RESTRAINTS

Node 590 +Y Mu = .30
 Node 590 Z Gap= 3.000 mm. Mu = .30

From 590 To 600 DX= 6,000.000 mm.

RESTRAINTS

Node 600 +Y Mu = .30
 Node 600 Z Gap= 3.000 mm.

From 600 To 610 DX= 6,000.000 mm.

RESTRAINTS

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INPUT LISTING

Node 610 +Y Mu = .30
Node 610 Z Gap= 3.000 mm.

From 610 To 620 DX= 6,000.000 mm.

RESTRAINTS

Node 620 +Y Mu = .30
Node 620 Z Gap= 3.000 mm.

From 620 To 630 DX= 6,000.000 mm.

RESTRAINTS

Node 630 +Y Mu = .30
Node 630 Z Gap= 3.000 mm.

From 630 To 640 DX= 6,000.000 mm.

RESTRAINTS

Node 640 +Y Mu = .30
Node 640 X Gap= 3.000 mm.
Node 640 Z Gap= 3.000 mm.

From 640 To 650 DX= 6,000.000 mm.

RESTRAINTS

Node 650 +Y Mu = .30
Node 650 Z Gap= 3.000 mm.

From 650 To 660 DX= 6,000.000 mm.

RESTRAINTS

Node 660 +Y Mu = .30
Node 660 Z Gap= 3.000 mm.

From 660 To 670 DX= 6,000.000 mm.

RESTRAINTS

Node 670 +Y Mu = .30
Node 670 Z Gap= 3.000 mm.

From 670 To 680 DX= 6,000.000 mm.

RESTRAINTS

Node 680 +Y Mu = .30
Node 680 Z Gap= 3.000 mm.

From 680 To 690 DX= 6,000.000 mm.

RESTRAINTS

Node 690 +Y Mu = .30
Node 690 Z Gap= 3.000 mm.

From 690 To 700 DX= 4,500.000 mm.

BEND at "T0" end

Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 699
Angle/Node @2= .00 698

From 700 To 704 DZ= 2,000.000 mm.

RESTRAINTS

Node 704 +Y Mu = .30

From 704 To 706 DZ= 5,000.000 mm.

RESTRAINTS

Node 706 +Y Mu = .30

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INPUT LISTING

Node 706 X Gap= 3.000 mm.

 From 706 To 705 DZ= 2,495.000 mm.

RESTRAINTS

Node 705 +Y Mu = .30

Node 705 X Gap= 3.000 mm.

 From 705 To 710 DZ= 500.000 mm.

 From 710 To 720 DZ= 66.675 mm.

RIGID Weight= 31.14 N.

 From 720 To 730 DZ= 66.675 mm.

RIGID Weight= 31.14 N.

 From 740 To 750 DZ= 66.675 mm.

PIPE

Dia= 60.325 mm. Wall= 8.738 mm. Cor= 6.0000 mm.

GENERAL

T1= 85 C T2= 21 C P1= 770.0175 KPa PHyd= 1,155.0264 KPa

Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 199,086,608 KPa

EH2= 203,396,064 KPa EH3= 203,401,232 KPa EH4= 203,401,232 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0011150 kg./cu.cm.

Insul Thk= .000 mm. Insul Den= .00000000 kg./cu.cm.

RIGID Weight= 31.14 N.

RESTRAINTS

Node 740 ANC Cnode 741

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

 From 750 To 760 DZ= 262.000 mm.

BEND at "TO" end

Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 759

Angle/Node @2= .00 758

 From 760 To 770 DY= 728.000 mm.

 From 770 To 780 DY= 66.675 mm.

RIGID Weight= 31.14 N.

 From 780 To 790 DY= 187.000 mm.

RIGID Weight= 266.89 N.

 From 790 To 800 DY= 66.675 mm.

RIGID Weight= 31.14 N.

 From 800 To 810 DY= 607.000 mm.

BEND at "TO" end

Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 809

Angle/Node @2= .00 808

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INPUT LISTING

From 810 To 820 DX= -77.000 mm.

From 820 To 830 DX= -66.675 mm.

RIGID Weight= 31.14 N.

From 830 To 840 DX= -212.000 mm.

RIGID Weight= 217.96 N.

From 840 To 850 DX= -66.675 mm.

RIGID Weight= 31.14 N.

From 850 To 495 DX= -200.000 mm.

RESTRAINTS

Node 495 +Y Mu = .30

From 495 To 140 DX= -604.000 mm.

From 470 To 860 DY= 440.000 mm.

BEND at "TO" end

Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 861

Angle/Node @2= .00 862

From 860 To 870 DZ= -77.000 mm.

From 870 To 880 DZ= -66.675 mm.

RIGID Weight= 31.14 N.

From 880 To 890 DZ= -212.000 mm.

RIGID Weight= 217.96 N.

From 890 To 900 DZ= -66.675 mm.

RIGID Weight= 31.14 N.

From 900 To 910 DZ= -677.000 mm.

BEND at "TO" end

Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 909

Angle/Node @2= .00 908

From 910 To 920 DX= -77.000 mm.

From 920 To 930 DX= -66.675 mm.

RIGID Weight= 31.14 N.

From 930 To 940 DX= -186.000 mm.

RIGID Weight= 271.34 N.

From 940 To 950 DX= -66.675 mm.

RIGID Weight= 31.14 N.

From 950 To 955 DX= -200.000 mm.

RESTRAINTS

Node 955 +Y Mu = .30

Node 955 Z Gap= 3.000 mm.

From 955 To 960 DX= -276.000 mm.

BEND at "TO" end

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INPUT LISTING

Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 959
 Angle/Node @2= .00 958

 From 960 To 970 DY= -440.000 mm.

BEND at "TO" end

Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 969
 Angle/Node @2= .00 968

 From 970 To 980 DX= -1,131.000 mm.

SIF's & TEE's

Node 980 Welding Tee

 From 980 To 985 DX= -1,727.000 mm.

GENERAL

P1= 550.0125 KPa PHyd= 825.0188 KPa

RESTRAINTS

Node 985 +Y Mu = .30

Node 985 Z Gap= 3.000 mm.

Node 985 X Gap= 3.000 mm.

 From 985 To 990 DX= -1,088.000 mm.

BEND at "TO" end

Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 989
 Angle/Node @2= .00 988

 From 990 To 1000 DY= -2,400.000 mm.

BEND at "TO" end

Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 999
 Angle/Node @2= .00 998

 From 1000 To 1010 DZ= 252.000 mm.

BEND at "TO" end

Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1009
 Angle/Node @2= .00 1008

 From 1010 To 1030 DX= -2,250.000 mm.

RESTRAINTS

Node 1030 +Y Mu = .30

Node 1030 Z Gap= 3.000 mm.

 From 1030 To 1040 DX= -6,000.000 mm.

RESTRAINTS

Node 1040 +Y Mu = .30

Node 1040 X Gap= 3.000 mm.

Node 1040 Z Gap= 3.000 mm.

 From 1040 To 1050 DX= -2,840.000 mm.

BEND at "TO" end

Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1049
 Angle/Node @2= .00 1048

 From 1050 To 1200 DZ= -1,275.000 mm.

SIF's & TEE's

Node 1200 Welding Tee

 From 1200 To 1135 DZ= -750.000 mm.

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INPUT LISTING

RESTRAINTS

Node 1135 +Y Mu = .30

From 1135 To 1070 DZ= -750.000 mm.

BEND at "T0" end

Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1069

Angle/Node @2= .00 1068

From 1070 To 1075 DX= 454.000 mm.

RESTRAINTS

Node 1075 +Y Mu = .30

From 1075 To 1080 DX= 200.000 mm.

From 1080 To 1090 DX= 66.675 mm.

RIGID Weight= 31.14 N.

From 1090 To 1100 DX= 212.000 mm.

RIGID Weight= 217.96 N.

From 1100 To 1110 DX= 66.675 mm.

RIGID Weight= 31.14 N.

From 1110 To 1120 DX= 77.000 mm.

BEND at "T0" end

Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1119

Angle/Node @2= .00 1118

From 1120 To 1130 DY= -276.000 mm.

From 1130 To 1140 DY= -66.675 mm.

RIGID Weight= 31.14 N.

From 1140 To 1150 DY= -187.000 mm.

RIGID Weight= 266.89 N.

From 1150 To 1160 DY= -66.675 mm.

RIGID Weight= 31.14 N.

From 1160 To 1170 DY= -619.000 mm.

BEND at "T0" end

Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1169

Angle/Node @2= .00 1168

From 1170 To 1180 DZ= -176.000 mm.

From 1180 To 1190 DZ= -66.675 mm.

RIGID Weight= 31.14 N.

RESTRAINTS

Node 1190 ANC Cnode 1191

From 1200 To 1205 DX= 454.000 mm.

PIPE

Dia= 60.325 mm. Wall= 8.738 mm. Cor= 6.0000 mm.

GENERAL

T1= 85 C T2= 21 C P1= 550.0125 KPa PHyd= 825.0188 KPa

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INPUT LISTING

Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 199,086,608 KPa
 EH2= 203,396,064 KPa EH3= 203,401,232 KPa EH4= 203,401,232 KPa
 EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa
 EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292
 Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0011150 kg./cu.cm.
 Insul Thk= .000 mm. Insul Den= .0000000 kg./cu.cm.

RESTRAINTS

Node 1205 +Y

UNIFORM LOAD

Vector1 in G-s X1 Dir = .26 g's Y1 Dir = .00 g's Z1 Dir = .00 g's
 Vector2 in G-s X2 Dir = .00 g's Y2 Dir = .12 g's Z2 Dir = .00 g's
 Vector3 in G-s X3 Dir = .00 g's Y3 Dir = .00 g's Z3 Dir = .26 g's

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 1205 To 1210 DX= 200.000 mm.

From 1210 To 1220 DX= 66.675 mm.
 RIGID Weight= 31.14 N.

From 1220 To 1230 DX= 212.000 mm.
 RIGID Weight= 217.96 N.

From 1230 To 1240 DX= 66.675 mm.
 RIGID Weight= 31.14 N.

From 1240 To 1250 DX= 77.000 mm.
 BEND at "TO" end
 Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1249
 Angle/Node @2= .00 1248

From 1250 To 1260 DY= -276.000 mm.

From 1260 To 1270 DY= -66.675 mm.
 RIGID Weight= 31.14 N.

From 1270 To 1280 DY= -187.000 mm.
 RIGID Weight= 266.89 N.

From 1280 To 1290 DY= -66.675 mm.
 RIGID Weight= 31.14 N.

From 1290 To 1300 DY= -619.000 mm.
 BEND at "TO" end
 Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1299
 Angle/Node @2= .00 1298

From 1300 To 1310 DZ= -176.000 mm.

From 1310 To 1320 DZ= -66.675 mm.
 RIGID Weight= 31.14 N.

RESTRAINTS

Node 1320 ANC Cnode 1321

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INPUT LISTING

```

-----
From 320 To 1330 DZ= 64.000 mm.
-----
From 1330 To 1340 DZ= 66.675 mm.
RIGID Weight= 31.14 N.
-----
From 1340 To 1350 DZ= 187.000 mm.
RIGID Weight= 266.89 N.
-----
From 1350 To 1360 DZ= 212.000 mm.
RIGID Weight= 217.96 N.
-----
From 1360 To 1370 DZ= 66.675 mm.
RIGID Weight= 31.14 N.
-----
From 1370 To 1380 DZ= 294.000 mm.
BEND at "TO" end
  Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1379
  Angle/Node @2= .00 1378
RESTRAINTS
  Node 1380 +Y Mu = .30
  Node 1380 X Gap= 3.000 mm.
-----
From 1380 To 1390 DY= 2,220.000 mm.
BEND at "TO" end
  Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1389
  Angle/Node @2= .00 1388
-----
From 1390 To 1400 DX= 3,875.000 mm.
BEND at "TO" end
  Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1399
  Angle/Node @2= .00 1398
-----
From 1400 To 1410 DY= -2,120.000 mm.
BEND at "TO" end
  Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1409
  Angle/Node @2= .00 1408
RESTRAINTS
  Node 1410 +Y Mu = .30
-----
From 1410 To 1420 DZ= -3,950.000 mm.
RESTRAINTS
  Node 1420 +Y Mu = .30
  Node 1420 X Gap= 3.000 mm.
-----
From 1420 To 1430 DZ= -6,000.000 mm.
RESTRAINTS
  Node 1430 +Y Mu = .30
  Node 1430 X Gap= 3.000 mm.
-----
From 1430 To 1440 DZ= -6,000.000 mm.
RESTRAINTS
  Node 1440 +Y Mu = .30
  Node 1440 X Gap= 3.000 mm.
-----
From 1440 To 1450 DZ= -6,000.000 mm.

```

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INPUT LISTING

RESTRAINTS

Node 1450 +Y Mu = .30
 Node 1450 X Gap= 3.000 mm.

 From 1450 To 1460 DZ= -6,000.000 mm.

RESTRAINTS

Node 1460 +Y Mu = .30
 Node 1460 X Gap= 3.000 mm.

 From 1460 To 1470 DZ= -6,000.000 mm.

RESTRAINTS

Node 1470 +Y Mu = .30
 Node 1470 X Gap= 3.000 mm.

 From 1470 To 1480 DZ= -6,000.000 mm.

RESTRAINTS

Node 1480 +Y Mu = .30
 Node 1480 X Gap= 3.000 mm.

 From 1480 To 1490 DZ= -6,000.000 mm.

RESTRAINTS

Node 1490 +Y Mu = .30
 Node 1490 X Gap= 3.000 mm.

 From 1490 To 1500 DZ= -6,000.000 mm.

RESTRAINTS

Node 1500 +Y Mu = .30
 Node 1500 X Gap= 3.000 mm.

 From 1500 To 1510 DZ= -6,000.000 mm.

RESTRAINTS

Node 1510 +Y Mu = .30
 Node 1510 X Gap= 3.000 mm.

 From 1510 To 1520 DZ= -6,000.000 mm.

RESTRAINTS

Node 1520 +Y Mu = .30
 Node 1520 X Gap= 3.000 mm.

 From 1520 To 1530 DZ= -6,000.000 mm.

RESTRAINTS

Node 1530 +Y Mu = .30
 Node 1530 X Gap= 3.000 mm.

 From 1530 To 1540 DZ= -6,000.000 mm.

RESTRAINTS

Node 1540 +Y Mu = .30
 Node 1540 Z Gap= 3.000 mm.
 Node 1540 X Gap= 3.000 mm.

 From 1540 To 1550 DZ= -6,000.000 mm.

RESTRAINTS

Node 1550 +Y Mu = .30
 Node 1550 X Gap= 3.000 mm.

 From 1550 To 1560 DZ= -6,000.000 mm.

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INPUT LISTING

RESTRAINTS

Node 1560 +Y Mu = .30
 Node 1560 X Gap= 3.000 mm.

 From 1560 To 1570 DZ= -6,000.000 mm.

RESTRAINTS

Node 1570 +Y Mu = .30
 Node 1570 X Gap= 3.000 mm.

 From 1570 To 1580 DZ= -6,000.000 mm.

RESTRAINTS

Node 1580 +Y Mu = .30
 Node 1580 X Gap= 3.000 mm.

 From 1580 To 1590 DZ= -6,000.000 mm.

RESTRAINTS

Node 1590 +Y Mu = .30
 Node 1590 X Gap= 3.000 mm.

 From 1590 To 1600 DZ= -6,000.000 mm.

RESTRAINTS

Node 1600 +Y Mu = .30
 Node 1600 X Gap= 3.000 mm.

 From 1600 To 1610 DZ= -6,000.000 mm.

RESTRAINTS

Node 1610 +Y Mu = .30
 Node 1610 X Gap= 3.000 mm.

 From 1610 To 1620 DZ= -6,000.000 mm.

RESTRAINTS

Node 1620 +Y Mu = .30
 Node 1620 X Gap= 3.000 mm.

 From 1620 To 1630 DZ= -6,000.000 mm.

RESTRAINTS

Node 1630 +Y Mu = .30
 Node 1630 X Gap= 3.000 mm.

 From 1630 To 1640 DZ= -6,000.000 mm.

RESTRAINTS

Node 1640 +Y Mu = .30
 Node 1640 X Gap= 3.000 mm.

 From 1640 To 1650 DZ= -6,000.000 mm.

RESTRAINTS

Node 1650 +Y Mu = .30
 Node 1650 X Gap= 3.000 mm.

 From 1650 To 1660 DZ= -6,000.000 mm.

RESTRAINTS

Node 1660 +Y Mu = .30
 Node 1660 X Gap= 3.000 mm.

 From 11 To 1670 DZ= 66.675 mm.

RIGID Weight= 31.14 N.

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INPUT LISTING

 From 1670 To 1680 DZ= 257.000 mm.

RESTRAINTS

Node 1680 ANC

EQUIPMENT LIMITS

Nozzle Node = 1680

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 1,779.29 N. FB= 1,156.54 N.
 FC= 1,423.43 N. MA= 460.98 N.m. MB= .00 N.m. MC= 705.03 N.m.

Equipment Major Direction Vector= .0000 1.0000 .0000

Interact. Mtd= Absolute

 From 741 To 1690 DZ= -66.675 mm.

RIGID Weight= 31.14 N.

 From 1690 To 1700 DZ= -257.000 mm.

RESTRAINTS

Node 1700 ANC

EQUIPMENT LIMITS

Nozzle Node = 1700

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 1,779.29 N. FB= 1,156.54 N.
 FC= 1,423.43 N. MA= 460.98 N.m. MB= .00 N.m. MC= 705.03 N.m.

Equipment Major Direction Vector= .0000 1.0000 .0000

Interact. Mtd= Absolute

 From 1191 To 1710 DZ= -66.675 mm.

RIGID Weight= 31.14 N.

 From 1710 To 1720 DZ= -233.000 mm.

RESTRAINTS

Node 1720 ANC

EQUIPMENT LIMITS

Nozzle Node = 1720

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 1,779.29 N. FB= 1,156.54 N.
 FC= 1,423.43 N. MA= 460.98 N.m. MB= .00 N.m. MC= 705.03 N.m.

Equipment Major Direction Vector= .0000 1.0000 .0000

Interact. Mtd= Absolute

 From 1321 To 1730 DZ= -66.675 mm.

RIGID Weight= 31.14 N.

 From 1730 To 1740 DZ= -233.000 mm.

RESTRAINTS

Node 1740 ANC

EQUIPMENT LIMITS

Nozzle Node = 1740

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 1,779.29 N. FB= 1,156.54 N.
 FC= 1,423.43 N. MA= 460.98 N.m. MB= .00 N.m. MC= 705.03 N.m.

Equipment Major Direction Vector= .0000 1.0000 .0000

Interact. Mtd= Absolute

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MATERIAL Changes:

10

20

Mat= (106)A106 Grade B E= 203,401,232 KPa
 v = .292 Density= .0078 kg./cu.cm.

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INPUT LISTING

740	750	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
1200	1205	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.

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JOBNAME: D:\BINAK PRO\STRESS REPORT\D02\NATIVE\BNK-GCS-CN-017-)\BNK-GCS-CN-017-

ALLOWABLE STRESS Changes

10	20	B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa Sh9= 137,895 KPa Sy= 241,316 KPa
740	750	B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa Sh9= 137,895 KPa Sy= 241,316 KPa
1200	1205	B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa Sh9= 137,895 KPa Sy= 241,316 KPa

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BEND ELEMENTS

20	30	Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 29 Angle/Node @2= .00 28
70	80	Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 79 Angle/Node @2= .00 78
125	130	Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 129 Angle/Node @2= .00 128
190	200	Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 199 Angle/Node @2= .00 198
200	210	Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 209 Angle/Node @2= .00 208
230	300	Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 299 Angle/Node @2= .00 298
300	310	Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 309 Angle/Node @2= .00 308
455	460	Radius= 76.200 mm. (LONG)

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INPUT LISTING

		Bend Angle= 90.000	Angle/Node @1= 45.00
		459 Angle/Node @2= .00	458
475	480	Radius= 76.200 mm.	(LONG)
		Bend Angle= 90.000	Angle/Node @1= 45.00
		479 Angle/Node @2= .00	478
480	490	Radius= 76.200 mm.	(LONG)
		Bend Angle= 90.000	Angle/Node @1= 45.00
		489 Angle/Node @2= .00	488
490	500	Radius= 76.200 mm.	(LONG)
		Bend Angle= 90.000	Angle/Node @1= 45.00
		499 Angle/Node @2= .00	498
500	510	Radius= 76.200 mm.	(LONG)
		Bend Angle= 90.000	Angle/Node @1= 45.00
		509 Angle/Node @2= .00	508
576	580	Radius= 76.200 mm.	(LONG)
		Bend Angle= 90.000	Angle/Node @1= 45.00
		579 Angle/Node @2= .00	578
690	700	Radius= 76.200 mm.	(LONG)
		Bend Angle= 90.000	Angle/Node @1= 45.00
		699 Angle/Node @2= .00	698
750	760	Radius= 76.200 mm.	(LONG)
		Bend Angle= 90.000	Angle/Node @1= 45.00
		759 Angle/Node @2= .00	758
800	810	Radius= 76.200 mm.	(LONG)
		Bend Angle= 90.000	Angle/Node @1= 45.00
		809 Angle/Node @2= .00	808
470	860	Radius= 76.200 mm.	(LONG)
		Bend Angle= 90.000	Angle/Node @1= 45.00
		861 Angle/Node @2= .00	862
900	910	Radius= 76.200 mm.	(LONG)
		Bend Angle= 90.000	Angle/Node @1= 45.00
		909 Angle/Node @2= .00	908
955	960	Radius= 76.200 mm.	(LONG)
		Bend Angle= 90.000	Angle/Node @1= 45.00
		959 Angle/Node @2= .00	958
960	970	Radius= 76.200 mm.	(LONG)
		Bend Angle= 90.000	Angle/Node @1= 45.00
		969 Angle/Node @2= .00	968
985	990	Radius= 76.200 mm.	(LONG)
		Bend Angle= 90.000	Angle/Node @1= 45.00
		989 Angle/Node @2= .00	988
990	1000	Radius= 76.200 mm.	(LONG)
		Bend Angle= 90.000	Angle/Node @1= 45.00
		999 Angle/Node @2= .00	998
1000	1010	Radius= 76.200 mm.	(LONG)
		Bend Angle= 90.000	Angle/Node @1= 45.00
		1009 Angle/Node @2= .00	1008
1040	1050	Radius= 76.200 mm.	(LONG)
		Bend Angle= 90.000	Angle/Node @1= 45.00
		1049 Angle/Node @2= .00	1048
1135	1070	Radius= 76.200 mm.	(LONG)
		Bend Angle= 90.000	Angle/Node @1= 45.00
		1069 Angle/Node @2= .00	1068
1110	1120	Radius= 76.200 mm.	(LONG)
		Bend Angle= 90.000	Angle/Node @1= 45.00
		1119 Angle/Node @2= .00	1118

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1160	1170	Radius= 76.200 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1169 Angle/Node @2= .00 1168
1240	1250	Radius= 76.200 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1249 Angle/Node @2= .00 1248
1290	1300	Radius= 76.200 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1299 Angle/Node @2= .00 1298
1370	1380	Radius= 76.200 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1379 Angle/Node @2= .00 1378
1380	1390	Radius= 76.200 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1389 Angle/Node @2= .00 1388
1390	1400	Radius= 76.200 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1399 Angle/Node @2= .00 1398
1400	1410	Radius= 76.200 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1409 Angle/Node @2= .00 1408

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RIGIDS

10	20	RIGID Weight= 31.14 N.
40	50	RIGID Weight= 31.14 N.
50	60	RIGID Weight= 266.89 N.
60	70	RIGID Weight= 31.14 N.
90	100	RIGID Weight= 31.14 N.
100	110	RIGID Weight= 217.96 N.
110	120	RIGID Weight= 31.14 N.
330	340	RIGID Weight= 31.14 N.
340	350	RIGID Weight= 217.96 N.
350	360	RIGID Weight= 31.14 N.
370	380	RIGID Weight= 31.14 N.
380	390	RIGID Weight= 266.89 N.
390	400	RIGID Weight= 31.14 N.
410	420	RIGID Weight= 31.14 N.
420	430	RIGID Weight= 266.89 N.
430	440	RIGID Weight= 31.14 N.
710	720	RIGID Weight= 31.14 N.
720	730	RIGID Weight= 31.14 N.
740	750	RIGID Weight= 31.14 N.
770	780	RIGID Weight= 31.14 N.
780	790	RIGID Weight= 266.89 N.
790	800	RIGID Weight= 31.14 N.
820	830	RIGID Weight= 31.14 N.
830	840	RIGID Weight= 217.96 N.
840	850	RIGID Weight= 31.14 N.
870	880	RIGID Weight= 31.14 N.
880	890	RIGID Weight= 217.96 N.
890	900	RIGID Weight= 31.14 N.
920	930	RIGID Weight= 31.14 N.
930	940	RIGID Weight= 271.34 N.

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INPUT LISTING

940	950	RIGID	Weight=	31.14	N.
1080	1090	RIGID	Weight=	31.14	N.
1090	1100	RIGID	Weight=	217.96	N.
1100	1110	RIGID	Weight=	31.14	N.
1130	1140	RIGID	Weight=	31.14	N.
1140	1150	RIGID	Weight=	266.89	N.
1150	1160	RIGID	Weight=	31.14	N.
1180	1190	RIGID	Weight=	31.14	N.
1210	1220	RIGID	Weight=	31.14	N.
1220	1230	RIGID	Weight=	217.96	N.
1230	1240	RIGID	Weight=	31.14	N.
1260	1270	RIGID	Weight=	31.14	N.
1270	1280	RIGID	Weight=	266.89	N.
1280	1290	RIGID	Weight=	31.14	N.
1310	1320	RIGID	Weight=	31.14	N.
1330	1340	RIGID	Weight=	31.14	N.
1340	1350	RIGID	Weight=	266.89	N.
1350	1360	RIGID	Weight=	217.96	N.
1360	1370	RIGID	Weight=	31.14	N.
11	1670	RIGID	Weight=	31.14	N.
741	1690	RIGID	Weight=	31.14	N.
1191	1710	RIGID	Weight=	31.14	N.
1321	1730	RIGID	Weight=	31.14	N.

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SIF's & TEE's

135	140	Node	140	Welding Tee
315	320	Node	320	Welding Tee
460	470	Node	470	Welding Tee
970	980	Node	980	Welding Tee
1050	1200	Node	1200	Welding Tee

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RESTRAINTS

NODE	TYPE	CNODE	STIF1	Len GAP STIF2	MU YIELD FORCE	Dir Vectors
10	ANC	11				.000 .000 .000
125	+Y					.000 1.000 .000
135	+Y				.30	.000 1.000 .000
150	+Y				.30	.000 1.000 .000
150	X			3.00		1.000 .000 .000
150	Z			3.00		.000 .000 1.000
190	+Y					.000 1.000 .000
220	+Y				.30	.000 1.000 .000
220	X			3.00		1.000 .000 .000
220	Z			3.00		.000 .000 1.000
230	+Y				.30	.000 1.000 .000
230	Z			3.00		.000 .000 1.000
315	+Y				.30	.000 1.000 .000
315	Z			3.00		.000 .000 1.000
315	X			3.00		1.000 .000 .000
325	+Y				.30	.000 1.000 .000
365	+Y				.30	.000 1.000 .000

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455	+Y		.30	.000	1.000	.000
455	Z	3.00		.000	.000	1.000
475	+Y		.30	.000	1.000	.000
510	+Y		.30	.000	1.000	.000
520	+Y		.30	.000	1.000	.000
520	X	3.00		1.000	.000	.000
530	+Y		.30	.000	1.000	.000
530	X	3.00		1.000	.000	.000
540	+Y		.30	.000	1.000	.000
540	X	3.00		1.000	.000	.000
550	+Y		.30	.000	1.000	.000
550	X	3.00		1.000	.000	.000
560	+Y		.30	.000	1.000	.000
560	Z	3.00		.000	.000	1.000
560	X	3.00		1.000	.000	.000
570	+Y		.30	.000	1.000	.000
570	X	3.00		1.000	.000	.000
575	+Y		.30	.000	1.000	.000
575	X	3.00	.30	1.000	.000	.000
576	+Y		.30	.000	1.000	.000
585	+Y		.30	.000	1.000	.000
590	+Y		.30	.000	1.000	.000
590	Z	3.00	.30	.000	.000	1.000
600	+Y		.30	.000	1.000	.000
600	Z	3.00		.000	.000	1.000
610	+Y		.30	.000	1.000	.000
610	Z	3.00		.000	.000	1.000
620	+Y		.30	.000	1.000	.000
620	Z	3.00		.000	.000	1.000
630	+Y		.30	.000	1.000	.000
630	Z	3.00		.000	.000	1.000
640	+Y		.30	.000	1.000	.000
640	X	3.00		1.000	.000	.000
640	Z	3.00		.000	.000	1.000
650	+Y		.30	.000	1.000	.000
650	Z	3.00		.000	.000	1.000
660	+Y		.30	.000	1.000	.000
660	Z	3.00		.000	.000	1.000
670	+Y		.30	.000	1.000	.000
670	Z	3.00		.000	.000	1.000
680	+Y		.30	.000	1.000	.000
680	Z	3.00		.000	.000	1.000
690	+Y		.30	.000	1.000	.000
690	Z	3.00		.000	.000	1.000
704	+Y		.30	.000	1.000	.000
706	+Y		.30	.000	1.000	.000
706	X	3.00		1.000	.000	.000
705	+Y		.30	.000	1.000	.000
705	X	3.00		1.000	.000	.000
740	ANC	741		.000	.000	.000
495	+Y		.30	.000	1.000	.000
955	+Y		.30	.000	1.000	.000
955	Z	3.00		.000	.000	1.000
985	+Y		.30	.000	1.000	.000
985	Z	3.00		.000	.000	1.000
985	X	3.00		1.000	.000	.000

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1030	+Y			.30	.000	1.000	.000
1030	Z		3.00		.000	.000	1.000
1040	+Y			.30	.000	1.000	.000
1040	X		3.00		1.000	.000	.000
1040	Z		3.00		.000	.000	1.000
1135	+Y			.30	.000	1.000	.000
1075	+Y			.30	.000	1.000	.000
1190	ANC	1191			.000	.000	.000
1205	+Y				.000	1.000	.000
1320	ANC	1321			.000	.000	.000
1380	+Y			.30	.000	1.000	.000
1380	X		3.00		1.000	.000	.000
1410	+Y			.30	.000	1.000	.000
1420	+Y			.30	.000	1.000	.000
1420	X		3.00		1.000	.000	.000
1430	+Y			.30	.000	1.000	.000
1430	X		3.00		1.000	.000	.000
1440	+Y			.30	.000	1.000	.000
1440	X		3.00		1.000	.000	.000
1450	+Y			.30	.000	1.000	.000
1450	X		3.00		1.000	.000	.000
1460	+Y			.30	.000	1.000	.000
1460	X		3.00		1.000	.000	.000
1470	+Y			.30	.000	1.000	.000
1470	X		3.00		1.000	.000	.000
1480	+Y			.30	.000	1.000	.000
1480	X		3.00		1.000	.000	.000
1490	+Y			.30	.000	1.000	.000
1490	X		3.00		1.000	.000	.000
1500	+Y			.30	.000	1.000	.000
1500	X		3.00		1.000	.000	.000
1510	+Y			.30	.000	1.000	.000
1510	X		3.00		1.000	.000	.000
1520	+Y			.30	.000	1.000	.000
1520	X		3.00		1.000	.000	.000
1530	+Y			.30	.000	1.000	.000
1530	X		3.00		1.000	.000	.000
1540	+Y			.30	.000	1.000	.000
1540	Z		3.00		.000	.000	1.000
1540	X		3.00		1.000	.000	.000
1550	+Y			.30	.000	1.000	.000
1550	X		3.00		1.000	.000	.000
1560	+Y			.30	.000	1.000	.000
1560	X		3.00		1.000	.000	.000
1570	+Y			.30	.000	1.000	.000
1570	X		3.00		1.000	.000	.000
1580	+Y			.30	.000	1.000	.000
1580	X		3.00		1.000	.000	.000
1590	+Y			.30	.000	1.000	.000
1590	X		3.00		1.000	.000	.000
1600	+Y			.30	.000	1.000	.000
1600	X		3.00		1.000	.000	.000
1610	+Y			.30	.000	1.000	.000
1610	X		3.00		1.000	.000	.000
1620	+Y			.30	.000	1.000	.000
1620	X		3.00		1.000	.000	.000

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1630	+Y		.30	.000	1.000	.000
1630	X	3.00		1.000	.000	.000
1640	+Y		.30	.000	1.000	.000
1640	X	3.00		1.000	.000	.000
1650	+Y		.30	.000	1.000	.000
1650	X	3.00		1.000	.000	.000
1660	+Y		.30	.000	1.000	.000
1660	X	3.00		1.000	.000	.000
1680	ANC			.000	.000	.000
1700	ANC			.000	.000	.000
1720	ANC			.000	.000	.000
1740	ANC			.000	.000	.000

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EQUIPMENT LIMITS

1670 1680 Nozzle Node = 1680

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 1,779.29 N. FB= 1,156.54 N.
 FC= 1,423.43 N. MA= 460.98 N.m. MB= .00 N.m. MC= 705.03 N.m.
 Equipment Major Direction Vector= .0000 1.0000 .0000
 Interact. Mtd= Absolute

1690 1700 Nozzle Node = 1700

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 1,779.29 N. FB= 1,156.54 N.
 FC= 1,423.43 N. MA= 460.98 N.m. MB= .00 N.m. MC= 705.03 N.m.
 Equipment Major Direction Vector= .0000 1.0000 .0000
 Interact. Mtd= Absolute

1710 1720 Nozzle Node = 1720

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 1,779.29 N. FB= 1,156.54 N.
 FC= 1,423.43 N. MA= 460.98 N.m. MB= .00 N.m. MC= 705.03 N.m.
 Equipment Major Direction Vector= .0000 1.0000 .0000
 Interact. Mtd= Absolute

1730 1740 Nozzle Node = 1740

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 1,779.29 N. FB= 1,156.54 N.
 FC= 1,423.43 N. MA= 460.98 N.m. MB= .00 N.m. MC= 705.03 N.m.
 Equipment Major Direction Vector= .0000 1.0000 .0000
 Interact. Mtd= Absolute

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UNIFORM LOAD Changes

10	20	Vector1 in G-s
		X1 Dir = .26 g's Y1 Dir = .00 g's
		Z1 Dir = .00 g's
		Vector2 in G-s
		X2 Dir = .00 g's Y2 Dir = .12 g's
		Z2 Dir = .00 g's

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		Vector3 in G-s	
		X3 Dir = .00 g's	Y3 Dir = .00 g's
		Z3 Dir = .26 g's	
1200	1205	Vector1 in G-s	
		X1 Dir = .26 g's	Y1 Dir = .00 g's
		Z1 Dir = .00 g's	
		Vector2 in G-s	
		X2 Dir = .00 g's	Y2 Dir = .12 g's
		Z2 Dir = .00 g's	
		Vector3 in G-s	
		X3 Dir = .00 g's	Y3 Dir = .00 g's
		Z3 Dir = .26 g's	

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INPUT UNITS USED...

UNITS= SI (m NOM/SCH INPUT= ON

LENGTH	inches	x	25.400	=	mm.
FORCE	pounds	x	4.448	=	N.
MASS(dynamics)	pounds	x	0.454	=	Kg.
MOMENTS(INPUT)	inch-pounds	x	0.113	=	N.m.
MOMENTS(OUTPUT)	inch-pounds	x	0.113	=	N.m.
STRESS	lbs./sq.in.	x	6.895	=	KPa
TEMP. SCALE	degrees F.	x	0.556	=	C
PRESSURE	psig	x	6.895	=	KPa
ELASTIC MODULUS	lbs./sq.in.	x	6.895	=	KPa
PIPE DENSITY	lbs./cu.in.	x	0.028	=	kg./cu.cm.
INSULATION DENS.	lbs./cu.in.	x	0.028	=	kg./cu.cm.
FLUID DENSITY	lbs./cu.in.	x	0.028	=	kg./cu.cm.
TRANSL. STIF	lbs./in.	x	1.751	=	N./cm.
ROTATIONAL STIF	in.lb./deg.	x	0.113	=	N.m./deg
UNIFORM LOAD	lb./in.	x	1.751	=	N./cm.
G LOAD	g's	x	1.000	=	g's
WIND LOAD	lbs./sq.in.	x	6.895	=	KPa
ELEVATION	inches	x	0.025	=	m.
COMPOUND LENGTH	inches	x	25.400	=	mm.
DIAMETER	inches	x	25.400	=	mm.
WALL THICKNESS	inches	x	25.400	=	mm.

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SETUP FILE PARAMETERS

```

CONNECT GEOMETRY THRU CNODES = YES
MIN ALLOWED BEND ANGLE = 5.00000
MAX ALLOWED BEND ANGLE = 95.0000
BEND LENGTH ATTACHMENT PERCENT = 1.00000
MIN ANGLE TO ADJACENT BEND PT = 5.00000
LOOP CLOSURE TOLERANCE = 25.4000 mm.
THERMAL BOWING HORZ TOLERANCE = 0.100000E-03
AUTO NODE NUMBER INCREMENT= 10.0000
Z AXIS UP= NO
USE PRESSURE STIFFENING = DEFAULT
ALPHA TOLERANCE = 0.500000E-01
RESLD-FORCE = NO
HGR DEF RESWGT STIF = 0.175127E+13 N./cm.
DECOMP SNG TOL = 0.100000E+11

```

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BEND AXIAL SHAPE = YES
FRICT STIF = 0.175127E+07 N./cm.
FRICT NORM FORCE VAR = 0.150000
FRICT ANGLE VAR = 15.0000
FRICT SLIDE MULT = 1.00000
ROD TOLERANCE = 1.00000
ROD INC = 2.00000
INCORE NUMERICAL CHECK = NO
OUTCORE NUMERICAL CHECK = NO
DEFAULT TRANS RESTRAINT STIFF= 0.175127E+13 N./cm.
DEFAULT ROT RESTRAINT STIFF= 0.112985E+12 N.m./deg
IGNORE SPRING HANGER STIFFNESS = NO
MISSING MASS ZPA = EXTRACTED
MIN WALL MILL TOLERANCE = 12.5000
WRC-107 VERSION = MAR 79 1B1/2B1
WRC-107 INTERPOLATION = LAST VALUE
DEFAULT AMBIENT TEMPERATURE= 21.1111 C
BOURDON PRESSURE= NONE
COEFFICIENT OF FRICTION (MU) = 0.000000
INCLUDE SPRG STIF IN HGR OPE = NO
INCLUDE INSULATION IN HYDROTEST = NO
REDUCED INTERSECTION = B31.1(POST1980)
USE WRC329 NO
NO REDUCED SIF FOR RFT AND WLT NO
B31.1 REDUCED Z FIX = YES
CLASS 1 BRANCH FLEX NO
ALL STRESS CASES CORRODED = NO
ADD TORSION IN SL STRESS = DEFAULT
ADD F/A IN STRESS = DEFAULT
OCCASIONAL LOAD FACTOR = 0.000000
DEFAULT CODE = B31.3
B31.3 SUS CASE SIF FACTOR = 0.000000
ALLOW USERS BEND SIF = NO
USE SCHNEIDER NO
YIELD CRITERION STRESS = MAX 3D SHEAR
USE PD/4T NO
BASE HOOP STRESS ON ? = ID
EN13480 USE IN OUTPLANE SIFS= NO
LIBERAL EXPANSION ALLOWABLE= YES
B31.3 SEC 319.2.3C SAXIAL= Default
B31.3 WELDING/CONTOUR TEE ISB16.9 FALSE
PRESSURE VARIATION IN EXP CASE= DEFAULT
IMPLEMENT B313 APP-P NO
IMPLEMENT B313 CODE CASE 178 YES
IGNORE B31.1/B31.3 Wc FACTOR= YES
USE FRP SIF = YES
USE FRP FLEX = YES
BS 7159 Pressure Stiffening= Design Strain
FRP Property Data File= CAESAR.FRP
FRP Emod (axial) = 0.220632E+08 KPa
FRP Ratio Gmod/Emod (axial) = 0.250000
FRP Ea/Eh*Vh/a = 0.152730
FRP Laminate Type = THREE
FRP Alpha = 21.6000 C
FRP Density = 0.166079E-02 kg./cu.cm.
EXCLUDE f2 FROM UK00A BENDING = NO

```

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EXECUTION CONTROL PARAMETERS

Rigid/ExpJt Print Flag 1.000
 Bourdon Option 000
 Loop Closure Flag 2.000
 Thermal Bowing Delta Temp .. .000 C
 Liberal Allowable Flag 1.000
 Uniform Load Option 1.000

 Ambient Temperature 20.997 C
 Plastic (FRP) Alpha 21.600
 Plastic (FRP) GMOD/EMODa 250
 Plastic (FRP) Laminate Type. 3.000
 Eqn Optimizer 000
 Node Selection 000
 Eqn Ordering 000
 Collins 000
 Degree Determination 000
 User Eqn Control 000
 North Direction -X

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COORDINATE REPORT

NODE	/------(mm.)-----/		
	X	Y	Z
10	-15700.080	-7395.683	7324.219
20	-15700.080	-7395.683	7257.544
30	-15700.080	-7395.683	6995.544
40	-15700.080	-6667.683	6995.544
50	-15700.080	-6601.008	6995.544
60	-15700.080	-6414.008	6995.544
70	-15700.080	-6347.333	6995.544
80	-15700.080	-5740.333	6995.544
90	-15777.080	-5740.333	6995.544
100	-15843.755	-5740.333	6995.544
110	-16055.755	-5740.333	6995.544
120	-16122.430	-5740.333	6995.544
125	-16322.430	-5740.333	6995.544
130	-16926.430	-5740.333	6995.544
135	-16926.430	-5740.333	8445.545
140	-16926.430	-5740.333	9895.545
150	-16926.430	-5740.333	14395.545
190	-16926.430	-5740.333	18338.545
200	-16926.430	-5740.333	20370.545
210	-16926.430	-5240.333	20370.545
220	-13926.430	-5240.333	20370.545
230	-7926.430	-5240.333	20370.545
300	-5687.430	-5240.333	20370.545
310	-5687.430	-3340.333	20370.545
315	-4587.430	-3340.333	20370.545
320	-3529.430	-3340.333	20370.545
325	-3372.930	-3340.333	20370.545

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330	-3216.430	-3340.333	20370.545
340	-3149.755	-3340.333	20370.545
350	-2937.755	-3340.333	20370.545
360	-2871.080	-3340.333	20370.545
365	-2696.080	-3340.333	20370.545
370	-2521.080	-3340.333	20370.545
380	-2454.405	-3340.333	20370.545
390	-2268.405	-3340.333	20370.545
400	-2201.729	-3340.333	20370.545
410	-2101.729	-3340.333	20370.545
420	-2035.054	-3340.333	20370.545
430	-1834.054	-3340.333	20370.545
440	-1767.379	-3340.333	20370.545
450	-1617.379	-3340.333	20370.545
455	-1454.379	-3340.333	20370.545
460	-857.379	-3340.333	20370.545
470	-857.379	-3340.333	21210.545
475	-857.379	-3340.333	21405.545
480	-857.379	-3340.333	21600.545
490	-857.379	-1640.333	21600.545
500	359.621	-1640.333	21600.545
510	359.621	-3240.333	21600.545
520	359.621	-3240.333	23300.545
530	359.621	-3240.333	29300.545
540	359.621	-3240.333	35300.547
550	359.621	-3240.333	41300.547
560	359.621	-3240.333	47300.547
570	359.621	-3240.333	53300.547
575	359.621	-3240.333	61300.547
576	359.621	-3240.333	67300.547
580	359.621	-3240.333	70300.547
585	2258.621	-3240.333	70300.547
590	8258.621	-3240.333	70300.547
600	14258.621	-3240.333	70300.547
610	20258.621	-3240.333	70300.547
620	26258.621	-3240.333	70300.547
630	32258.621	-3240.333	70300.547
640	38258.621	-3240.333	70300.547
650	44258.621	-3240.333	70300.547
660	50258.621	-3240.333	70300.547
670	56258.621	-3240.333	70300.547
680	62258.621	-3240.333	70300.547
690	68258.625	-3240.333	70300.547
700	72758.625	-3240.333	70300.547
704	72758.625	-3240.333	72300.547
706	72758.625	-3240.333	77300.547
705	72758.625	-3240.333	79795.547
710	72758.625	-3240.333	80295.547
720	72758.625	-3240.333	80362.219
730	72758.625	-3240.333	80428.891
740	-15700.080	-7395.683	9566.870
750	-15700.080	-7395.683	9633.545
760	-15700.080	-7395.683	9895.545
770	-15700.080	-6667.683	9895.545
780	-15700.080	-6601.008	9895.545
790	-15700.080	-6414.008	9895.545

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800	-15700.080	-6347.333	9895.545
810	-15700.080	-5740.333	9895.545
820	-15777.080	-5740.333	9895.545
830	-15843.755	-5740.333	9895.545
840	-16055.755	-5740.333	9895.545
850	-16122.430	-5740.333	9895.545
495	-16322.430	-5740.333	9895.545
140	-16926.430	-5740.333	9895.545
470	-857.379	-3340.333	21210.545
860	-857.379	-2900.333	21210.545
870	-857.379	-2900.333	21133.545
880	-857.379	-2900.333	21066.869
890	-857.379	-2900.333	20854.869
900	-857.379	-2900.333	20788.193
910	-857.379	-2900.333	20111.193
920	-934.379	-2900.333	20111.193
930	-1001.054	-2900.333	20111.193
940	-1187.054	-2900.333	20111.193
950	-1253.729	-2900.333	20111.193
955	-1453.729	-2900.333	20111.193
960	-1729.729	-2900.333	20111.193
970	-1729.729	-3340.333	20111.193
980	-2860.729	-3340.333	20111.193
985	-4587.729	-3340.333	20111.193
990	-5675.729	-3340.333	20111.193
1000	-5675.729	-5740.333	20111.193
1010	-5675.729	-5740.333	20363.193
1030	-7925.729	-5740.333	20363.193
1040	-13925.729	-5740.333	20363.193
1050	-16765.730	-5740.333	20363.193
1200	-16765.730	-5740.333	19088.193
1135	-16765.730	-5740.333	18338.193
1070	-16765.730	-5740.333	17588.193
1075	-16311.730	-5740.333	17588.193
1080	-16111.730	-5740.333	17588.193
1090	-16045.056	-5740.333	17588.193
1100	-15833.056	-5740.333	17588.193
1110	-15766.381	-5740.333	17588.193
1120	-15689.381	-5740.333	17588.193
1130	-15689.381	-6016.333	17588.193
1140	-15689.381	-6083.008	17588.193
1150	-15689.381	-6270.008	17588.193
1160	-15689.381	-6336.683	17588.193
1170	-15689.381	-6955.683	17588.193
1180	-15689.381	-6955.683	17412.193
1190	-15689.381	-6955.683	17345.518
1200	-16765.730	-5740.333	19088.193
1205	-16311.730	-5740.333	19088.193
1210	-16111.730	-5740.333	19088.193
1220	-16045.056	-5740.333	19088.193
1230	-15833.056	-5740.333	19088.193
1240	-15766.381	-5740.333	19088.193
1250	-15689.381	-5740.333	19088.193
1260	-15689.381	-6016.333	19088.193
1270	-15689.381	-6083.008	19088.193
1280	-15689.381	-6270.008	19088.193

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1290	-15689.381	-6336.683	19088.193
1300	-15689.381	-6955.683	19088.193
1310	-15689.381	-6955.683	18912.193
1320	-15689.381	-6955.683	18845.518
320	-3529.430	-3340.333	20370.545
1330	-3529.430	-3340.333	20434.545
1340	-3529.430	-3340.333	20501.221
1350	-3529.430	-3340.333	20688.221
1360	-3529.430	-3340.333	20900.221
1370	-3529.430	-3340.333	20966.896
1380	-3529.430	-3340.333	21260.896
1390	-3529.430	-1120.333	21260.896
1400	345.570	-1120.333	21260.896
1410	345.570	-3240.333	21260.896
1420	345.570	-3240.333	17310.896
1430	345.570	-3240.333	11310.896
1440	345.570	-3240.333	5310.896
1450	345.570	-3240.333	-689.104
1460	345.570	-3240.333	-6689.104
1470	345.570	-3240.333	-12689.104
1480	345.570	-3240.333	-18689.104
1490	345.570	-3240.333	-24689.104
1500	345.570	-3240.333	-30689.104
1510	345.570	-3240.333	-36689.102
1520	345.570	-3240.333	-42689.102
1530	345.570	-3240.333	-48689.102
1540	345.570	-3240.333	-54689.102
1550	345.570	-3240.333	-60689.102
1560	345.570	-3240.333	-66689.102
1570	345.570	-3240.333	-72689.102
1580	345.570	-3240.333	-78689.102
1590	345.570	-3240.333	-84689.102
1600	345.570	-3240.333	-90689.102
1610	345.570	-3240.333	-96689.102
1620	345.570	-3240.333	-102689.102
1630	345.570	-3240.333	-108689.102
1640	345.570	-3240.333	-114689.102
1650	345.570	-3240.333	-120689.102
1660	345.570	-3240.333	-126689.102
10	-15700.080	-7395.683	7324.219
1670	-15700.080	-7395.683	7390.894
1680	-15700.080	-7395.683	7647.894
740	-15700.080	-7395.683	9566.870
1690	-15700.080	-7395.683	9500.195
1700	-15700.080	-7395.683	9243.195
1190	-15689.381	-6955.683	17345.518
1710	-15689.381	-6955.683	17278.842
1720	-15689.381	-6955.683	17045.842
1320	-15689.381	-6955.683	18845.518
1730	-15689.381	-6955.683	18778.842
1740	-15689.381	-6955.683	18545.842

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

- 1 (HYD) WW+HP
- 2 (OPE) W+T1+P1
- 3 (Alt-SUS) W+P1
- 4 (OPE) W+T2+P1
- 5 (Alt-SUS) W+P1
- 6 (SUS) W+P1
- 7 (SUS) WNC
- 8 (OPE) W+T2+P1+U1
- 9 (OPE) W+T2+P1-U1
- 10 (OPE) W+T2+P1+U2
- 11 (OPE) W+T2+P1+U3
- 12 (OPE) W+T2+P1-U3
- 13 (OCC) L13=L8-L4
- 14 (OCC) L14=L9-L4
- 15 (OCC) L15=L10-L4
- 16 (OCC) L16=L11-L4
- 17 (OCC) L17=L12-L4
- 18 (OCC) L18=L13+L6
- 19 (OCC) L19=L14+L6
- 20 (OCC) L20=L15+L6
- 21 (OCC) L21=L16+L6
- 22 (OCC) L22=L17+L6
- 23 (EXP) L23=L2-L6
- 24 (EXP) L24=L4-L6
- 25 (EXP) L25=L2-L4

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

LOAD CASE DEFINITION KEY

CASE 1 (HYD) WW+HP
CASE 2 (OPE) W+T1+P1
CASE 4 (OPE) W+T2+P1
CASE 6 (SUS) W+P1
CASE 7 (SUS) WNC
CASE 8 (OPE) W+T2+P1+U1
CASE 9 (OPE) W+T2+P1-U1
CASE 10 (OPE) W+T2+P1+U2
CASE 11 (OPE) W+T2+P1+U3
CASE 12 (OPE) W+T2+P1-U3
CASE 13 (OCC) L13=L8-L4
CASE 14 (OCC) L14=L9-L4
CASE 15 (OCC) L15=L10-L4
CASE 16 (OCC) L16=L11-L4
CASE 17 (OCC) L17=L12-L4

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
10		TYPE=Rigid ANC;					
	1(HYD)	-31	-502	34	-87	18	-3
	2(OPE)	57	-829	-24	-265	-12	11
	4(OPE)	-30	-504	34	-88	18	-3
	6(SUS)	-31	-502	34	-87	18	-3
	7(SUS)	-27	-490	32	-86	16	-5
	8(OPE)	236	-773	58	-135	-55	-140
	9(OPE)	-245	-292	-13	-79	76	95
	10(OPE)	-27	-443	30	-77	16	-3
	11(OPE)	-35	-600	273	62	38	18
	12(OPE)	23	-470	-211	-260	-9	-58
	13(OCC)	267	-270	24	-47	-73	-137
	14(OCC)	-214	211	-47	9	58	99
	15(OCC)	4	60	-4	11	-2	0
	16(OCC)	-5	-96	239	150	20	21
	17(OCC)	53	34	-245	-172	-26	-55
	MAX	267/L13	-829/L2	273/L11	-265/L2	76/L9	-140/L8
125		TYPE=Rigid +Y;					
	1(HYD)	0	-517	0	0	0	0
	2(OPE)	0	-127	0	0	0	0
	4(OPE)	0	-521	0	0	0	0
	6(SUS)	0	-522	0	0	0	0
	7(SUS)	0	-481	0	0	0	0
	8(OPE)	0	-258	0	0	0	0
	9(OPE)	0	-746	0	0	0	0
	10(OPE)	0	-459	0	0	0	0
	11(OPE)	0	-362	0	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	12(OPE)	0	-633	0	0	0	0
	13(OCC)	0	263	0	0	0	0
	14(OCC)	0	-225	0	0	0	0
	15(OCC)	0	63	0	0	0	0
	16(OCC)	0	159	0	0	0	0
	17(OCC)	0	-112	0	0	0	0
	MAX		-746/L9				
135		TYPE=Rigid +Y;					
	1(HYD)	38	-126	-1	0	0	0
	2(OPE)	-54	-341	-87	0	0	0
	4(OPE)	38	-128	-5	0	0	0
	6(SUS)	38	-128	-1	0	0	0
	7(SUS)	30	-103	-6	0	0	0
	8(OPE)	32	-109	-7	0	0	0
	9(OPE)	-31	-109	-9	0	0	0
	10(OPE)	34	-113	-4	0	0	0
	11(OPE)	-0	-156	47	0	0	0
	12(OPE)	5	-55	-15	0	0	0
	13(OCC)	-6	19	-3	0	0	0
	14(OCC)	-69	19	-5	0	0	0
	15(OCC)	-5	15	0	0	0	0
	16(OCC)	-39	-28	51	0	0	0
	17(OCC)	-33	73	-11	0	0	0
	MAX	-69/L14	-341/L2	-87/L2			
150		TYPE=Rigid +Y; Rigid X w/gap; Rigid Z w/gap;					
	1(HYD)	-1	-449	-122	0	0	0
	2(OPE)	-56	-472	172	0	0	0
	4(OPE)	-2	-456	-117	0	0	0
	6(SUS)	-1	-456	-121	0	0	0
	7(SUS)	-2	-397	-119	0	0	0
	8(OPE)	157	-445	-14	0	0	0
	9(OPE)	-163	-464	-5	0	0	0
	10(OPE)	-1	-401	-102	0	0	0
	11(OPE)	13	-457	137	0	0	0
	12(OPE)	-14	-450	-134	0	0	0
	13(OCC)	158	10	102	0	0	0
	14(OCC)	-161	-8	111	0	0	0
	15(OCC)	0	55	15	0	0	0
	16(OCC)	14	-2	253	0	0	0
	17(OCC)	-13	5	-18	0	0	0
	MAX	-163/L9	-472/L2	253/L16			

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
190		TYPE=Rigid +Y;					
	1(HYD)	0	-641	0	0	0	0
	2(OPE)	0	-666	0	0	0	0
	4(OPE)	0	-650	0	0	0	0
	6(SUS)	0	-649	0	0	0	0
	7(SUS)	0	-567	0	0	0	0
	8(OPE)	0	-675	0	0	0	0
	9(OPE)	0	-624	0	0	0	0
	10(OPE)	0	-572	0	0	0	0
	11(OPE)	0	-649	0	0	0	0
	12(OPE)	0	-650	0	0	0	0
	13(OCC)	0	-26	0	0	0	0
	14(OCC)	0	25	0	0	0	0
	15(OCC)	0	78	0	0	0	0
	16(OCC)	0	1	0	0	0	0
	17(OCC)	0	-0	0	0	0	0
	MAX		-675/L8				
220		TYPE=Rigid +Y; Rigid X w/gap; Rigid Z w/gap;					
	1(HYD)	8	-728	32	0	0	0
	2(OPE)	-525	-697	110	0	0	0
	4(OPE)	-138	-737	33	0	0	0
	6(SUS)	8	-737	32	0	0	0
	7(SUS)	7	-644	28	0	0	0
	8(OPE)	208	-713	52	0	0	0
	9(OPE)	-228	-761	-2	0	0	0
	10(OPE)	-126	-649	29	0	0	0
	11(OPE)	11	-740	222	0	0	0
	12(OPE)	30	-740	-185	0	0	0
	13(OCC)	346	24	19	0	0	0
	14(OCC)	-90	-24	-34	0	0	0
	15(OCC)	12	88	-4	0	0	0
	16(OCC)	149	-3	189	0	0	0
	17(OCC)	168	-3	-217	0	0	0
	MAX	-525/L2	-761/L9	222/L11			
230		TYPE=Rigid +Y; Rigid Z w/gap;					
	1(HYD)	29	-632	-25	0	0	0
	2(OPE)	254	-855	-38	0	0	0
	4(OPE)	190	-641	-27	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	6(SUS)	29	-641	-25	0	0	0
	7(SUS)	25	-560	-22	0	0	0
	8(OPE)	214	-717	-21	0	0	0
	9(OPE)	-175	-588	-18	0	0	0
	10(OPE)	168	-564	-23	0	0	0
	11(OPE)	20	-645	193	0	0	0
	12(OPE)	1	-640	-192	0	0	0
	13(OCC)	24	-76	6	0	0	0
	14(OCC)	-366	54	9	0	0	0
	15(OCC)	-23	77	4	0	0	0
	16(OCC)	-171	-4	220	0	0	0
	17(OCC)	-190	1	-165	0	0	0
	MAX	-366/L14	-855/L2	220/L16			
315		TYPE=Rigid +Y; Rigid Z w/gap; Rigid X w/gap;					
	1(HYD)	-24	-659	43	0	0	0
	2(OPE)	-152	-524	-40	0	0	0
	4(OPE)	-195	-668	48	0	0	0
	6(SUS)	-24	-668	44	0	0	0
	7(SUS)	-22	-585	39	0	0	0
	8(OPE)	165	-564	36	0	0	0
	9(OPE)	-228	-761	2	0	0	0
	10(OPE)	-171	-588	44	0	0	0
	11(OPE)	-17	-653	195	0	0	0
	12(OPE)	-63	-683	-195	0	0	0
	13(OCC)	360	103	-12	0	0	0
	14(OCC)	-34	-93	-46	0	0	0
	15(OCC)	24	80	-4	0	0	0
	16(OCC)	178	15	147	0	0	0
	17(OCC)	132	-15	-243	0	0	0
	MAX	360/L13	-761/L9	-243/L17			
325		TYPE=Rigid +Y;					
	1(HYD)	-2	-297	89	0	0	0
	2(OPE)	9	-34	-5	0	0	0
	4(OPE)	-24	-295	85	0	0	0
	6(SUS)	-2	-295	88	0	0	0
	7(SUS)	-3	-310	93	0	0	0
	8(OPE)	64	-214	-8	0	0	0
	9(OPE)	-112	-375	-4	0	0	0
	10(OPE)	-27	-260	73	0	0	0
	11(OPE)	-1	-34	10	0	0	0
	12(OPE)	-23	-554	-164	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	13(OCC)	88	81	-94	0	0	0
	14(OCC)	-88	-80	-90	0	0	0
	15(OCC)	-3	35	-12	0	0	0
	16(OCC)	23	262	-75	0	0	0
	17(OCC)	1	-258	-250	0	0	0
	MAX	-112/L9	-554/L12	-250/L17			
365		TYPE=Rigid +Y;					
	1(HYD)	-15	-590	1	0	0	0
	2(OPE)	151	-515	-33	0	0	0
	4(OPE)	-22	-592	1	0	0	0
	6(SUS)	-15	-592	1	0	0	0
	7(SUS)	-14	-571	-0	0	0	0
	8(OPE)	203	-676	0	0	0	0
	9(OPE)	-142	-481	24	0	0	0
	10(OPE)	-33	-521	1	0	0	0
	11(OPE)	-15	-660	197	0	0	0
	12(OPE)	-20	-493	-147	0	0	0
	13(OCC)	225	-84	-1	0	0	0
	14(OCC)	-120	111	23	0	0	0
	15(OCC)	-11	71	-0	0	0	0
	16(OCC)	7	-68	197	0	0	0
	17(OCC)	3	99	-147	0	0	0
	MAX	225/L13	-676/L8	197/L11			
455		TYPE=Rigid +Y; Rigid Z w/gap;					
	1(HYD)	-18	-564	-14	0	0	0
	2(OPE)	231	-874	-124	0	0	0
	4(OPE)	159	-567	-17	0	0	0
	6(SUS)	-18	-567	-14	0	0	0
	7(SUS)	-18	-540	-14	0	0	0
	8(OPE)	188	-636	32	0	0	0
	9(OPE)	-165	-552	9	0	0	0
	10(OPE)	149	-499	-14	0	0	0
	11(OPE)	-11	-501	150	0	0	0
	12(OPE)	-26	-697	-207	0	0	0
	13(OCC)	29	-69	48	0	0	0
	14(OCC)	-324	15	26	0	0	0
	15(OCC)	-10	68	2	0	0	0
	16(OCC)	-170	66	166	0	0	0
	17(OCC)	-185	-130	-191	0	0	0
	MAX	-324/L14	-874/L2	-207/L12			
475		TYPE=Rigid +Y;					

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	1(HYD)	5	-648	56	0	0	0
	2(OPE)	105	-359	-24	0	0	0
	4(OPE)	6	-655	59	0	0	0
	6(SUS)	5	-654	56	0	0	0
	7(SUS)	5	-591	56	0	0	0
	8(OPE)	157	-525	2	0	0	0
	9(OPE)	-187	-764	34	0	0	0
	10(OPE)	5	-576	52	0	0	0
	11(OPE)	-25	-695	207	0	0	0
	12(OPE)	5	-569	-171	0	0	0
	13(OCC)	151	130	-57	0	0	0
	14(OCC)	-193	-109	-25	0	0	0
	15(OCC)	-1	79	-7	0	0	0
	16(OCC)	-31	-40	148	0	0	0
	17(OCC)	-1	86	-229	0	0	0
	MAX	-193/L14	-764/L9	-229/L17			
495		TYPE=Rigid +Y;					
	1(HYD)	23	-1164	125	0	0	0
	2(OPE)	-133	-443	4	0	0	0
	4(OPE)	22	-1175	122	0	0	0
	6(SUS)	22	-1176	124	0	0	0
	7(SUS)	26	-1060	112	0	0	0
	8(OPE)	346	-1159	-30	0	0	0
	9(OPE)	-335	-1162	96	0	0	0
	10(OPE)	19	-1034	107	0	0	0
	11(OPE)	59	-1286	381	0	0	0
	12(OPE)	-13	-1104	-331	0	0	0
	13(OCC)	324	17	-153	0	0	0
	14(OCC)	-357	14	-26	0	0	0
	15(OCC)	-3	141	-15	0	0	0
	16(OCC)	36	-110	259	0	0	0
	17(OCC)	-35	71	-453	0	0	0
	MAX	-357/L14	-1286/L11	-453/L17			
510		TYPE=Rigid +Y;					
	1(HYD)	14	-213	5	0	0	0
	2(OPE)	3	-100	-30	0	0	0
	4(OPE)	14	-216	-63	0	0	0
	6(SUS)	14	-216	6	0	0	0
	7(SUS)	13	-191	4	0	0	0
	8(OPE)	82	-340	-60	0	0	0
	9(OPE)	-33	-111	-6	0	0	0
	10(OPE)	14	-190	-55	0	0	0
	11(OPE)	8	-160	1	0	0	0
	12(OPE)	22	-278	-80	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	13(OCC)	68	-125	3	0	0	0
	14(OCC)	-47	104	57	0	0	0
	15(OCC)	-0	26	8	0	0	0
	16(OCC)	-6	56	64	0	0	0
	17(OCC)	8	-62	-17	0	0	0
	MAX	82/L8	-340/L8	-80/L12			
520		TYPE=Rigid X w/gap; Rigid +Y;					
	1(HYD)	3	-626	2	0	0	0
	2(OPE)	90	-810	-238	0	0	0
	4(OPE)	3	-634	-190	0	0	0
	6(SUS)	3	-634	3	0	0	0
	7(SUS)	2	-553	2	0	0	0
	8(OPE)	186	-622	-18	0	0	0
	9(OPE)	-186	-641	-50	0	0	0
	10(OPE)	3	-558	-167	0	0	0
	11(OPE)	10	-694	208	0	0	0
	12(OPE)	-1	-575	-173	0	0	0
	13(OCC)	182	12	173	0	0	0
	14(OCC)	-189	-6	141	0	0	0
	15(OCC)	-0	76	23	0	0	0
	16(OCC)	6	-59	398	0	0	0
	17(OCC)	-5	59	18	0	0	0
	MAX	-189/L14	-810/L2	398/L16			
530		TYPE=Rigid X w/gap; Rigid +Y;					
	1(HYD)	-0	-760	0	0	0	0
	2(OPE)	12	-762	-228	0	0	0
	4(OPE)	-0	-770	-76	0	0	0
	6(SUS)	-0	-770	0	0	0	0
	7(SUS)	-0	-672	0	0	0	0
	8(OPE)	231	-770	-14	0	0	0
	9(OPE)	-229	-770	-28	0	0	0
	10(OPE)	-0	-677	-101	0	0	0
	11(OPE)	-0	-767	230	0	0	0
	12(OPE)	-0	-772	-232	0	0	0
	13(OCC)	231	-1	62	0	0	0
	14(OCC)	-229	0	48	0	0	0
	15(OCC)	0	92	-26	0	0	0
	16(OCC)	-0	3	306	0	0	0
	17(OCC)	0	-3	-156	0	0	0
	MAX	231/L13	-772/L12	306/L16			
540		TYPE=Rigid					

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
		X w/gap; Rigid +Y;					
	1(HYD)	0	-728	0	0	0	0
	2(OPE)	-3	-740	-222	0	0	0
	4(OPE)	0	-738	-14	0	0	0
	6(SUS)	0	-738	0	0	0	0
	7(SUS)	0	-644	0	0	0	0
	8(OPE)	220	-738	-19	0	0	0
	9(OPE)	-220	-738	-21	0	0	0
	10(OPE)	0	-649	-18	0	0	0
	11(OPE)	0	-738	222	0	0	0
	12(OPE)	0	-737	-221	0	0	0
	13(OCC)	220	0	-5	0	0	0
	14(OCC)	-220	-0	-7	0	0	0
	15(OCC)	-0	89	-5	0	0	0
	16(OCC)	0	-1	235	0	0	0
	17(OCC)	-0	1	-207	0	0	0
	MAX	220/L8	-740/L2	235/L16			
550		TYPE=Rigid X w/gap; Rigid +Y;					
	1(HYD)	-0	-753	0	0	0	0
	2(OPE)	0	-763	-229	0	0	0
	4(OPE)	-0	-763	-2	0	0	0
	6(SUS)	-0	-763	0	0	0	0
	7(SUS)	-0	-667	0	0	0	0
	8(OPE)	228	-763	-20	0	0	0
	9(OPE)	-228	-763	17	0	0	0
	10(OPE)	-0	-672	-3	0	0	0
	11(OPE)	-0	-763	229	0	0	0
	12(OPE)	0	-763	-229	0	0	0
	13(OCC)	228	-0	-19	0	0	0
	14(OCC)	-228	0	19	0	0	0
	15(OCC)	0	92	-1	0	0	0
	16(OCC)	-0	0	231	0	0	0
	17(OCC)	0	-0	-227	0	0	0
	MAX	-228/L9	-763/L12	231/L16			
560		TYPE=Rigid Z w/gap; Rigid X w/gap; Rigid +Y;					
	1(HYD)	0	-684	0	0	0	0
	2(OPE)	-2	-694	322	0	0	0
	4(OPE)	0	-693	3	0	0	0
	6(SUS)	0	-693	0	0	0	0

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Job:: BNK-GCS-CN-017-D02

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	7(SUS)	0	-606	0	0	0	0
	8(OPE)	207	-693	17	0	0	0
	9(OPE)	-207	-693	22	0	0	0
	10(OPE)	0	-610	4	0	0	0
	11(OPE)	0	-693	208	0	0	0
	12(OPE)	-0	-693	-208	0	0	0
	13(OCC)	207	-0	14	0	0	0
	14(OCC)	-207	0	18	0	0	0
	15(OCC)	-0	83	0	0	0	0
	16(OCC)	0	-0	205	0	0	0
	17(OCC)	-0	0	-211	0	0	0
	MAX	207/L8	-694/L2	322/L2			
570		TYPE=Rigid X w/gap; Rigid +Y;					
	1(HYD)	-0	-900	0	0	0	0
	2(OPE)	8	-912	274	0	0	0
	4(OPE)	-0	-912	20	0	0	0
	6(SUS)	-0	-912	0	0	0	0
	7(SUS)	-0	-797	0	0	0	0
	8(OPE)	272	-912	27	0	0	0
	9(OPE)	-273	-912	15	0	0	0
	10(OPE)	-0	-803	23	0	0	0
	11(OPE)	-0	-912	274	0	0	0
	12(OPE)	0	-912	-274	0	0	0
	13(OCC)	272	0	7	0	0	0
	14(OCC)	-273	-0	-5	0	0	0
	15(OCC)	-0	109	3	0	0	0
	16(OCC)	-0	0	254	0	0	0
	17(OCC)	0	-0	-294	0	0	0
	MAX	-273/L9	-912/L9	-294/L17			
575		TYPE=Rigid X w/gap; Rigid +Y;					
	1(HYD)	0	-913	0	0	0	0
	2(OPE)	-3	-926	278	0	0	0
	4(OPE)	0	-926	140	0	0	0
	6(SUS)	0	-926	0	0	0	0
	7(SUS)	0	-808	0	0	0	0
	8(OPE)	277	-926	13	0	0	0
	9(OPE)	-278	-925	7	0	0	0
	10(OPE)	0	-815	160	0	0	0
	11(OPE)	1	-926	278	0	0	0
	12(OPE)	-0	-926	-278	0	0	0
	13(OCC)	277	-0	-127	0	0	0
	14(OCC)	-278	0	-133	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	15(OCC)	0	111	20	0	0	0
	16(OCC)	1	0	138	0	0	0
	17(OCC)	-0	-0	-418	0	0	0
	MAX	-278/L14	-926/L2	-418/L17			
576		TYPE=Rigid +Y;					
	1(HYD)	-0	-596	0	0	0	0
	2(OPE)	-119	-603	137	0	0	0
	4(OPE)	-0	-604	181	0	0	0
	6(SUS)	-0	-604	0	0	0	0
	7(SUS)	-0	-527	0	0	0	0
	8(OPE)	166	-603	72	0	0	0
	9(OPE)	-173	-604	55	0	0	0
	10(OPE)	-0	-531	159	0	0	0
	11(OPE)	-5	-604	181	0	0	0
	12(OPE)	3	-604	-81	0	0	0
	13(OCC)	166	0	-109	0	0	0
	14(OCC)	-172	-0	-126	0	0	0
	15(OCC)	-0	72	-22	0	0	0
	16(OCC)	-5	-0	-0	0	0	0
	17(OCC)	4	0	-262	0	0	0
	MAX	-173/L9	-604/L9	-262/L17			
585		TYPE=Rigid +Y;					
	1(HYD)	0	-691	0	0	0	0
	2(OPE)	-171	-700	122	0	0	0
	4(OPE)	-210	-700	0	0	0	0
	6(SUS)	0	-700	0	0	0	0
	7(SUS)	0	-612	0	0	0	0
	8(OPE)	95	-700	4	0	0	0
	9(OPE)	-210	-700	-1	0	0	0
	10(OPE)	-185	-616	0	0	0	0
	11(OPE)	-58	-700	202	0	0	0
	12(OPE)	-82	-700	-193	0	0	0
	13(OCC)	305	-0	4	0	0	0
	14(OCC)	0	0	-2	0	0	0
	15(OCC)	25	84	0	0	0	0
	16(OCC)	152	0	202	0	0	0
	17(OCC)	128	-0	-194	0	0	0
	MAX	305/L13	-700/L2	202/L11			
590		TYPE=Rigid Z w/gap; Rigid +Y;					
	1(HYD)	0	-734	-0	0	0	0
	2(OPE)	-222	-745	23	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	4(OPE)	-113	-744	-0	0	0	0
	6(SUS)	0	-744	-0	0	0	0
	7(SUS)	0	-650	-0	0	0	0
	8(OPE)	223	-744	-0	0	0	0
	9(OPE)	-223	-744	-0	0	0	0
	10(OPE)	-131	-655	-0	0	0	0
	11(OPE)	-5	-744	223	0	0	0
	12(OPE)	-4	-744	-223	0	0	0
	13(OCC)	336	-0	-0	0	0	0
	14(OCC)	-110	0	-0	0	0	0
	15(OCC)	-18	89	-0	0	0	0
	16(OCC)	108	0	223	0	0	0
	17(OCC)	109	-0	-223	0	0	0
	MAX	336/L13	-745/L2	223/L16			
600		TYPE=Rigid Z w/gap; Rigid +Y;					
	1(HYD)	0	-738	0	0	0	0
	2(OPE)	-224	-748	-9	0	0	0
	4(OPE)	-21	-748	0	0	0	0
	6(SUS)	0	-748	0	0	0	0
	7(SUS)	0	-653	0	0	0	0
	8(OPE)	224	-748	0	0	0	0
	9(OPE)	-224	-748	0	0	0	0
	10(OPE)	-24	-658	0	0	0	0
	11(OPE)	-7	-748	224	0	0	0
	12(OPE)	-5	-748	-224	0	0	0
	13(OCC)	245	0	0	0	0	0
	14(OCC)	-204	-0	0	0	0	0
	15(OCC)	-3	90	0	0	0	0
	16(OCC)	13	-0	224	0	0	0
	17(OCC)	15	0	-224	0	0	0
	MAX	245/L13	-748/L9	-224/L17			
610		TYPE=Rigid Z w/gap; Rigid +Y;					
	1(HYD)	0	-737	-0	0	0	0
	2(OPE)	-224	-747	-1	0	0	0
	4(OPE)	-4	-747	-0	0	0	0
	6(SUS)	0	-747	-0	0	0	0
	7(SUS)	0	-652	-0	0	0	0
	8(OPE)	224	-747	-0	0	0	0
	9(OPE)	-224	-747	-0	0	0	0
	10(OPE)	-4	-657	-0	0	0	0
	11(OPE)	-16	-747	224	0	0	0
	12(OPE)	-15	-747	-224	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	13(OCC)	228	-0	-0	0	0	0
	14(OCC)	-220	0	-0	0	0	0
	15(OCC)	-1	90	-0	0	0	0
	16(OCC)	-13	0	224	0	0	0
	17(OCC)	-11	-0	-224	0	0	0
	MAX	228/L13	-747/L2	-224/L12			
620		TYPE=Rigid Z w/gap; Rigid +Y;					
	1(HYD)	0	-738	0	0	0	0
	2(OPE)	-224	-747	0	0	0	0
	4(OPE)	-1	-747	0	0	0	0
	6(SUS)	0	-747	0	0	0	0
	7(SUS)	0	-653	0	0	0	0
	8(OPE)	224	-747	0	0	0	0
	9(OPE)	-224	-747	0	0	0	0
	10(OPE)	-1	-658	0	0	0	0
	11(OPE)	-23	-747	223	0	0	0
	12(OPE)	-25	-747	-223	0	0	0
	13(OCC)	225	0	0	0	0	0
	14(OCC)	-224	-0	0	0	0	0
	15(OCC)	-0	90	0	0	0	0
	16(OCC)	-22	-0	223	0	0	0
	17(OCC)	-25	0	-223	0	0	0
	MAX	225/L13	-747/L9	223/L11			
630		TYPE=Rigid Z w/gap; Rigid +Y;					
	1(HYD)	0	-738	-0	0	0	0
	2(OPE)	-224	-747	-0	0	0	0
	4(OPE)	-0	-747	-0	0	0	0
	6(SUS)	0	-747	-0	0	0	0
	7(SUS)	0	-653	-0	0	0	0
	8(OPE)	224	-747	-0	0	0	0
	9(OPE)	-224	-747	0	0	0	0
	10(OPE)	-0	-658	-0	0	0	0
	11(OPE)	-25	-747	223	0	0	0
	12(OPE)	-8	-747	-194	0	0	0
	13(OCC)	224	-0	-0	0	0	0
	14(OCC)	-224	0	0	0	0	0
	15(OCC)	-0	90	-0	0	0	0
	16(OCC)	-25	0	223	0	0	0
	17(OCC)	-8	-0	-194	0	0	0
	MAX	224/L13	-747/L2	223/L16			
640		TYPE=Rigid					

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
		X w/gap; Rigid Z w/gap; Rigid +Y;					
	1(HYD)	0	-737	0	0	0	0
	2(OPE)	224	-747	0	0	0	0
	4(OPE)	0	-747	0	0	0	0
	6(SUS)	0	-747	0	0	0	0
	7(SUS)	0	-653	0	0	0	0
	8(OPE)	224	-747	0	0	0	0
	9(OPE)	-224	-747	-0	0	0	0
	10(OPE)	0	-658	0	0	0	0
	11(OPE)	-22	-747	223	0	0	0
	12(OPE)	22	-747	-223	0	0	0
	13(OCC)	224	0	0	0	0	0
	14(OCC)	-224	-0	-0	0	0	0
	15(OCC)	0	90	0	0	0	0
	16(OCC)	-22	0	223	0	0	0
	17(OCC)	22	0	-223	0	0	0
	MAX	-224/L14	-747/L9	-223/L17			
650		TYPE=Rigid Z w/gap; Rigid +Y;					
	1(HYD)	0	-738	-0	0	0	0
	2(OPE)	224	-748	-0	0	0	0
	4(OPE)	1	-748	-0	0	0	0
	6(SUS)	0	-748	-0	0	0	0
	7(SUS)	0	-653	-0	0	0	0
	8(OPE)	224	-748	-0	0	0	0
	9(OPE)	-224	-748	0	0	0	0
	10(OPE)	1	-658	-0	0	0	0
	11(OPE)	23	-748	223	0	0	0
	12(OPE)	25	-748	-223	0	0	0
	13(OCC)	224	-0	-0	0	0	0
	14(OCC)	-225	0	0	0	0	0
	15(OCC)	0	90	-0	0	0	0
	16(OCC)	22	0	223	0	0	0
	17(OCC)	24	-0	-223	0	0	0
	MAX	-225/L14	-748/L2	223/L16			
660		TYPE=Rigid Z w/gap; Rigid +Y;					
	1(HYD)	0	-736	0	0	0	0
	2(OPE)	224	-746	-1	0	0	0
	4(OPE)	3	-746	0	0	0	0
	6(SUS)	0	-746	0	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	7(SUS)	0	-651	0	0	0	0
	8(OPE)	224	-746	0	0	0	0
	9(OPE)	-224	-746	-0	0	0	0
	10(OPE)	4	-656	0	0	0	0
	11(OPE)	16	-746	223	0	0	0
	12(OPE)	17	-746	-223	0	0	0
	13(OCC)	220	0	0	0	0	0
	14(OCC)	-227	-0	-0	0	0	0
	15(OCC)	1	89	0	0	0	0
	16(OCC)	13	0	223	0	0	0
	17(OCC)	13	0	-223	0	0	0
	MAX	-227/L14	-746/L9	223/L11			
670		TYPE=Rigid Z w/gap; Rigid +Y;					
	1(HYD)	0	-743	-0	0	0	0
	2(OPE)	226	-753	2	0	0	0
	4(OPE)	19	-753	-0	0	0	0
	6(SUS)	0	-753	-0	0	0	0
	7(SUS)	0	-657	-0	0	0	0
	8(OPE)	226	-753	-0	0	0	0
	9(OPE)	-226	-753	0	0	0	0
	10(OPE)	22	-662	-0	0	0	0
	11(OPE)	4	-753	226	0	0	0
	12(OPE)	5	-753	-226	0	0	0
	13(OCC)	207	-0	-0	0	0	0
	14(OCC)	-244	0	0	0	0	0
	15(OCC)	3	90	-0	0	0	0
	16(OCC)	-15	0	226	0	0	0
	17(OCC)	-13	-0	-226	0	0	0
	MAX	-244/L14	-753/L2	226/L16			
680		TYPE=Rigid Z w/gap; Rigid +Y;					
	1(HYD)	0	-717	0	0	0	0
	2(OPE)	218	-727	9	0	0	0
	4(OPE)	102	-727	0	0	0	0
	6(SUS)	0	-727	0	0	0	0
	7(SUS)	0	-635	0	0	0	0
	8(OPE)	218	-727	1	0	0	0
	9(OPE)	-218	-727	-1	0	0	0
	10(OPE)	121	-640	0	0	0	0
	11(OPE)	2	-727	218	0	0	0
	12(OPE)	3	-727	-218	0	0	0
	13(OCC)	116	0	1	0	0	0
	14(OCC)	-320	-0	-1	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	15(OCC)	19	87	0	0	0	0
	16(OCC)	-99	-0	218	0	0	0
	17(OCC)	-99	0	-218	0	0	0
	MAX	-320/L14	-727/L9	-218/L17			
690		TYPE=Rigid Z w/gap; Rigid +Y;					
	1(HYD)	0	-760	0	0	0	0
	2(OPE)	230	-770	-99	0	0	0
	4(OPE)	231	-770	-0	0	0	0
	6(SUS)	0	-770	0	0	0	0
	7(SUS)	0	-673	0	0	0	0
	8(OPE)	231	-770	-4	0	0	0
	9(OPE)	-110	-770	3	0	0	0
	10(OPE)	203	-678	-0	0	0	0
	11(OPE)	97	-770	210	0	0	0
	12(OPE)	84	-770	-215	0	0	0
	13(OCC)	-0	-0	-4	0	0	0
	14(OCC)	-342	0	4	0	0	0
	15(OCC)	-28	92	-0	0	0	0
	16(OCC)	-134	0	210	0	0	0
	17(OCC)	-147	-0	-215	0	0	0
	MAX	-342/L14	-770/L2	-215/L12			
704		TYPE=Rigid +Y;					
	1(HYD)	0	-826	0	0	0	0
	2(OPE)	245	-837	-55	0	0	0
	4(OPE)	0	-837	-181	0	0	0
	6(SUS)	0	-837	0	0	0	0
	7(SUS)	0	-731	0	0	0	0
	8(OPE)	186	-837	3	0	0	0
	9(OPE)	-186	-837	-3	0	0	0
	10(OPE)	0	-737	-165	0	0	0
	11(OPE)	18	-837	251	0	0	0
	12(OPE)	-16	-837	-251	0	0	0
	13(OCC)	185	-0	183	0	0	0
	14(OCC)	-187	0	177	0	0	0
	15(OCC)	0	100	15	0	0	0
	16(OCC)	18	0	431	0	0	0
	17(OCC)	-16	-0	-70	0	0	0
	MAX	245/L2	-837/L2	431/L16			
705		TYPE=Rigid X w/gap; Rigid +Y;					
	1(HYD)	0	-266	0	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	2(OPE)	-35	-268	73	0	0	0
	4(OPE)	0	-268	80	0	0	0
	6(SUS)	0	-268	0	0	0	0
	7(SUS)	0	-242	0	0	0	0
	8(OPE)	80	-268	0	0	0	0
	9(OPE)	-80	-268	0	0	0	0
	10(OPE)	0	-236	71	0	0	0
	11(OPE)	1	-268	80	0	0	0
	12(OPE)	-0	-268	-80	0	0	0
	13(OCC)	80	-0	-80	0	0	0
	14(OCC)	-81	0	-80	0	0	0
	15(OCC)	0	32	-10	0	0	0
	16(OCC)	1	0	-0	0	0	0
	17(OCC)	-0	-0	-161	0	0	0
	MAX	-81/L14	-268/L2	-161/L17			
706		TYPE=Rigid X w/gap; Rigid +Y;					
	1(HYD)	0	-375	0	0	0	0
	2(OPE)	23	-380	75	0	0	0
	4(OPE)	-0	-380	114	0	0	0
	6(SUS)	0	-380	0	0	0	0
	7(SUS)	0	-330	0	0	0	0
	8(OPE)	114	-380	0	0	0	0
	9(OPE)	-114	-380	0	0	0	0
	10(OPE)	-0	-334	100	0	0	0
	11(OPE)	-2	-380	114	0	0	0
	12(OPE)	1	-380	-114	0	0	0
	13(OCC)	114	0	-114	0	0	0
	14(OCC)	-114	-0	-114	0	0	0
	15(OCC)	-0	46	-14	0	0	0
	16(OCC)	-2	-0	-0	0	0	0
	17(OCC)	1	0	-228	0	0	0
	MAX	114/L13	-380/L9	-228/L17			
740		TYPE=Rigid ANC;					
	1(HYD)	-27	-223	-57	20	-12	5
	2(OPE)	146	-795	-138	111	-6	-24
	4(OPE)	-27	-222	-57	20	-12	5
	6(SUS)	-27	-221	-57	20	-12	5
	7(SUS)	-28	-237	-53	25	-13	5
	8(OPE)	95	-253	-48	38	-1	-36
	9(OPE)	-104	-239	-49	32	-37	15
	10(OPE)	-23	-195	-50	18	-11	5
	11(OPE)	-30	-144	155	145	20	-8
	12(OPE)	-2	-291	-214	-51	-64	-2

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	13(OCC)	122	-31	9	18	11	-42
	14(OCC)	-77	-18	8	12	-25	10
	15(OCC)	3	27	7	-2	1	-1
	16(OCC)	-4	78	212	125	32	-13
	17(OCC)	24	-69	-157	-71	-51	-7
	MAX	146/L2	-795/L2	-214/L12	145/L11	-64/L12	-42/L13
955		TYPE=Rigid +Y; Rigid Z w/gap;					
	1(HYD)	178	-631	-66	0	0	0
	2(OPE)	155	-641	-114	0	0	0
	4(OPE)	178	-635	-67	0	0	0
	6(SUS)	179	-636	-66	0	0	0
	7(SUS)	167	-596	-64	0	0	0
	8(OPE)	188	-642	-45	0	0	0
	9(OPE)	-181	-638	-63	0	0	0
	10(OPE)	157	-559	-59	0	0	0
	11(OPE)	97	-644	167	0	0	0
	12(OPE)	61	-650	-185	0	0	0
	13(OCC)	9	-7	22	0	0	0
	14(OCC)	-359	-3	4	0	0	0
	15(OCC)	-22	76	7	0	0	0
	16(OCC)	-82	-9	234	0	0	0
	17(OCC)	-117	-15	-118	0	0	0
	MAX	-359/L14	-650/L12	234/L16			
985		TYPE=Rigid +Y; Rigid Z w/gap; Rigid X w/gap;					
	1(HYD)	-197	-657	7	0	0	0
	2(OPE)	-165	-552	-12	0	0	0
	4(OPE)	-200	-666	7	0	0	0
	6(SUS)	-200	-666	7	0	0	0
	7(SUS)	-173	-579	7	0	0	0
	8(OPE)	144	-628	4	0	0	0
	9(OPE)	-197	-655	4	0	0	0
	10(OPE)	-176	-586	6	0	0	0
	11(OPE)	-103	-656	168	0	0	0
	12(OPE)	-93	-640	-168	0	0	0
	13(OCC)	343	38	-3	0	0	0
	14(OCC)	3	11	-3	0	0	0
	15(OCC)	24	80	-1	0	0	0
	16(OCC)	97	10	161	0	0	0
	17(OCC)	107	26	-175	0	0	0
	MAX	343/L13	-666/L6	-175/L17			

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
1030		TYPE=Rigid +Y; Rigid Z w/gap;					
	1(HYD)	33	-686	-1	0	0	0
	2(OPE)	255	-849	10	0	0	0
	4(OPE)	208	-695	-1	0	0	0
	6(SUS)	34	-695	-1	0	0	0
	7(SUS)	29	-608	-1	0	0	0
	8(OPE)	215	-716	1	0	0	0
	9(OPE)	-204	-690	37	0	0	0
	10(OPE)	183	-611	-1	0	0	0
	11(OPE)	33	-697	206	0	0	0
	12(OPE)	3	-707	-212	0	0	0
	13(OCC)	6	-22	1	0	0	0
	14(OCC)	-412	4	38	0	0	0
	15(OCC)	-25	83	0	0	0	0
	16(OCC)	-176	-2	207	0	0	0
	17(OCC)	-205	-12	-211	0	0	0
	MAX	-412/L14	-849/L2	-212/L12			
1040		TYPE=Rigid +Y; Rigid X w/gap; Rigid Z w/gap;					
	1(HYD)	11	-659	3	0	0	0
	2(OPE)	-182	-641	62	0	0	0
	4(OPE)	-138	-668	3	0	0	0
	6(SUS)	11	-668	3	0	0	0
	7(SUS)	11	-584	4	0	0	0
	8(OPE)	199	-665	10	0	0	0
	9(OPE)	-201	-668	-2	0	0	0
	10(OPE)	-127	-588	3	0	0	0
	11(OPE)	48	-673	196	0	0	0
	12(OPE)	10	-662	-199	0	0	0
	13(OCC)	338	3	6	0	0	0
	14(OCC)	-62	-0	-6	0	0	0
	15(OCC)	11	80	-0	0	0	0
	16(OCC)	186	-5	193	0	0	0
	17(OCC)	148	5	-202	0	0	0
	MAX	338/L13	-673/L11	-202/L17			
1075		TYPE=Rigid +Y;					
	1(HYD)	59	-326	78	0	0	0
	2(OPE)	0	0	0	0	0	0
	4(OPE)	59	-331	80	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	6(SUS)	59	-328	79	0	0	0
	7(SUS)	55	-303	73	0	0	0
	8(OPE)	14	-56	9	0	0	0
	9(OPE)	-108	-405	55	0	0	0
	10(OPE)	52	-291	70	0	0	0
	11(OPE)	11	-213	63	0	0	0
	12(OPE)	22	-340	-100	0	0	0
	13(OCC)	-46	276	-70	0	0	0
	14(OCC)	-168	-74	-25	0	0	0
	15(OCC)	-7	40	-10	0	0	0
	16(OCC)	-48	118	-17	0	0	0
	17(OCC)	-37	-9	-179	0	0	0
	MAX	-168/L14	-405/L9	-179/L17			
1135		TYPE=Rigid +Y;					
	1(HYD)	0	0	0	0	0	0
	2(OPE)	-49	-164	1	0	0	0
	4(OPE)	0	0	0	0	0	0
	6(SUS)	0	0	0	0	0	0
	7(SUS)	0	0	0	0	0	0
	8(OPE)	0	0	0	0	0	0
	9(OPE)	0	0	0	0	0	0
	10(OPE)	0	0	0	0	0	0
	11(OPE)	0	0	0	0	0	0
	12(OPE)	0	-9	-3	0	0	0
	13(OCC)	0	0	0	0	0	0
	14(OCC)	0	0	0	0	0	0
	15(OCC)	0	0	0	0	0	0
	16(OCC)	0	0	0	0	0	0
	17(OCC)	0	-9	-3	0	0	0
	MAX	-49/L2	-164/L2	-3/L12			
1190		TYPE=Rigid ANC;					
	1(HYD)	-32	-538	-39	69	-11	-6
	2(OPE)	67	-787	-90	81	-49	3
	4(OPE)	-33	-538	-41	67	-11	-5
	6(SUS)	-32	-539	-39	69	-11	-6
	7(SUS)	-30	-525	-37	68	-11	-6
	8(OPE)	231	-784	-10	140	44	-108
	9(OPE)	-160	-462	-22	68	-43	30
	10(OPE)	-29	-473	-36	59	-10	-4
	11(OPE)	-49	-542	236	241	16	-19
	12(OPE)	8	-577	-199	-5	-18	-14
	13(OCC)	264	-247	30	73	55	-103
	14(OCC)	-127	75	19	1	-31	35
	15(OCC)	4	65	5	-8	1	1

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	16(OCC)	-16	-4	277	174	28	-14
	17(OCC)	41	-39	-158	-72	-6	-9
	MAX	264/L13	-787/L2	277/L16	241/L11	55/L13	-108/L8
1205		TYPE=Rigid +Y;					
	1(HYD)	0	-930	0	0	0	0
	2(OPE)	0	-860	0	0	0	0
	4(OPE)	0	-938	0	0	0	0
	6(SUS)	0	-940	0	0	0	0
	7(SUS)	0	-843	0	0	0	0
	8(OPE)	0	-733	0	0	0	0
	9(OPE)	0	-1110	0	0	0	0
	10(OPE)	0	-826	0	0	0	0
	11(OPE)	0	-1119	0	0	0	0
	12(OPE)	0	-805	0	0	0	0
	13(OCC)	0	205	0	0	0	0
	14(OCC)	0	-171	0	0	0	0
	15(OCC)	0	113	0	0	0	0
	16(OCC)	0	-181	0	0	0	0
	17(OCC)	0	133	0	0	0	0
	MAX		-1119/L11				
1320		TYPE=Rigid ANC;					
	1(HYD)	-25	-323	-34	56	-17	-6
	2(OPE)	-209	-331	31	134	-82	156
	4(OPE)	-25	-323	-36	55	-18	-6
	6(SUS)	-25	-323	-34	56	-17	-6
	7(SUS)	-25	-332	-32	56	-16	-6
	8(OPE)	254	-557	-10	120	43	-115
	9(OPE)	-236	-153	-25	29	-56	69
	10(OPE)	-22	-284	-31	48	-15	-5
	11(OPE)	-4	-251	258	223	18	-35
	12(OPE)	-8	-401	-240	-44	-17	-2
	13(OCC)	280	-234	25	66	61	-109
	14(OCC)	-210	170	11	-25	-38	74
	15(OCC)	3	39	4	-7	2	1
	16(OCC)	22	72	293	168	36	-29
	17(OCC)	18	-78	-204	-98	1	4
	MAX	280/L13	-557/L8	293/L16	223/L11	-82/L2	156/L2
1380		TYPE=Rigid +Y; Rigid X w/gap;					
	1(HYD)	-54	-734	-116	0	0	0
	2(OPE)	-172	-932	221	0	0	0
	4(OPE)	-56	-740	-109	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	6(SUS)	-55	-741	-116	0	0	0
	7(SUS)	-47	-671	-116	0	0	0
	8(OPE)	199	-667	-19	0	0	0
	9(OPE)	-242	-809	-21	0	0	0
	10(OPE)	-50	-651	-95	0	0	0
	11(OPE)	-76	-967	280	0	0	0
	12(OPE)	-6	-519	-156	0	0	0
	13(OCC)	255	74	90	0	0	0
	14(OCC)	-185	-68	88	0	0	0
	15(OCC)	7	89	15	0	0	0
	16(OCC)	-19	-227	389	0	0	0
	17(OCC)	51	221	-46	0	0	0
	MAX	255/L13	-967/L11	389/L16			
1410		TYPE=Rigid +Y;					
	1(HYD)	60	-677	1	0	0	0
	2(OPE)	5	-634	190	0	0	0
	4(OPE)	67	-686	195	0	0	0
	6(SUS)	60	-686	1	0	0	0
	7(SUS)	53	-599	1	0	0	0
	8(OPE)	223	-752	36	0	0	0
	9(OPE)	-87	-618	164	0	0	0
	10(OPE)	57	-604	172	0	0	0
	11(OPE)	66	-741	212	0	0	0
	12(OPE)	59	-630	71	0	0	0
	13(OCC)	156	-66	-158	0	0	0
	14(OCC)	-154	68	-31	0	0	0
	15(OCC)	-9	82	-23	0	0	0
	16(OCC)	-0	-55	18	0	0	0
	17(OCC)	-7	56	-124	0	0	0
	MAX	223/L8	-752/L8	212/L11			
1420		TYPE=Rigid +Y; Rigid X w/gap;					
	1(HYD)	-2	-658	0	0	0	0
	2(OPE)	63	-732	219	0	0	0
	4(OPE)	-2	-667	128	0	0	0
	6(SUS)	-2	-667	0	0	0	0
	7(SUS)	-2	-583	0	0	0	0
	8(OPE)	198	-665	28	0	0	0
	9(OPE)	-200	-669	12	0	0	0
	10(OPE)	-2	-587	142	0	0	0
	11(OPE)	-3	-603	181	0	0	0
	12(OPE)	-1	-731	-105	0	0	0
	13(OCC)	200	2	-99	0	0	0
	14(OCC)	-198	-2	-115	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	15(OCC)	0	80	14	0	0	0
	16(OCC)	-1	64	53	0	0	0
	17(OCC)	1	-64	-233	0	0	0
	MAX	-200/L9	-732/L2	-233/L17			
1430		TYPE=Rigid +Y; Rigid X w/gap;					
	1(HYD)	0	-756	0	0	0	0
	2(OPE)	-0	-756	227	0	0	0
	4(OPE)	0	-766	23	0	0	0
	6(SUS)	0	-766	0	0	0	0
	7(SUS)	0	-669	0	0	0	0
	8(OPE)	229	-766	21	0	0	0
	9(OPE)	-229	-766	17	0	0	0
	10(OPE)	0	-674	26	0	0	0
	11(OPE)	1	-776	233	0	0	0
	12(OPE)	0	-756	-178	0	0	0
	13(OCC)	228	-0	-2	0	0	0
	14(OCC)	-229	0	-7	0	0	0
	15(OCC)	-0	92	3	0	0	0
	16(OCC)	0	-10	209	0	0	0
	17(OCC)	-0	10	-201	0	0	0
	MAX	-229/L14	-776/L11	233/L11			
1440		TYPE=Rigid +Y; Rigid X w/gap;					
	1(HYD)	-0	-733	0	0	0	0
	2(OPE)	-1	-745	224	0	0	0
	4(OPE)	-0	-742	4	0	0	0
	6(SUS)	-0	-742	0	0	0	0
	7(SUS)	-0	-648	0	0	0	0
	8(OPE)	222	-742	19	0	0	0
	9(OPE)	-222	-742	21	0	0	0
	10(OPE)	-0	-653	5	0	0	0
	11(OPE)	-0	-740	222	0	0	0
	12(OPE)	-0	-745	-191	0	0	0
	13(OCC)	222	0	14	0	0	0
	14(OCC)	-222	-0	17	0	0	0
	15(OCC)	0	89	0	0	0	0
	16(OCC)	-0	3	218	0	0	0
	17(OCC)	0	-3	-196	0	0	0
	MAX	222/L13	-745/L2	224/L2			
1450		TYPE=Rigid +Y; Rigid X w/gap;					

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	1(HYD)	0	-739	0	0	0	0
	2(OPE)	0	-748	224	0	0	0
	4(OPE)	0	-749	1	0	0	0
	6(SUS)	0	-749	0	0	0	0
	7(SUS)	0	-654	0	0	0	0
	8(OPE)	224	-749	20	0	0	0
	9(OPE)	-223	-749	22	0	0	0
	10(OPE)	0	-659	1	0	0	0
	11(OPE)	0	-749	225	0	0	0
	12(OPE)	0	-748	-194	0	0	0
	13(OCC)	224	-0	19	0	0	0
	14(OCC)	-223	0	22	0	0	0
	15(OCC)	-0	90	0	0	0	0
	16(OCC)	0	-1	224	0	0	0
	17(OCC)	-0	1	-195	0	0	0
	MAX	224/L8	-749/L11	225/L11			
1460		TYPE=Rigid +Y; Rigid X w/gap;					
	1(HYD)	-0	-737	0	0	0	0
	2(OPE)	1	-747	224	0	0	0
	4(OPE)	-0	-747	0	0	0	0
	6(SUS)	-0	-747	0	0	0	0
	7(SUS)	-0	-652	0	0	0	0
	8(OPE)	223	-747	20	0	0	0
	9(OPE)	-223	-747	23	0	0	0
	10(OPE)	-0	-657	0	0	0	0
	11(OPE)	-0	-747	224	0	0	0
	12(OPE)	-0	-747	-194	0	0	0
	13(OCC)	223	0	20	0	0	0
	14(OCC)	-223	-0	23	0	0	0
	15(OCC)	0	90	0	0	0	0
	16(OCC)	-0	0	224	0	0	0
	17(OCC)	0	-0	-194	0	0	0
	MAX	223/L13	-747/L2	224/L2			
1470		TYPE=Rigid +Y; Rigid X w/gap;					
	1(HYD)	0	-738	0	0	0	0
	2(OPE)	2	-747	224	0	0	0
	4(OPE)	0	-747	0	0	0	0
	6(SUS)	0	-747	0	0	0	0
	7(SUS)	0	-653	0	0	0	0
	8(OPE)	223	-747	20	0	0	0
	9(OPE)	-223	-747	26	0	0	0
	10(OPE)	0	-658	0	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	11(OPE)	0	-747	224	0	0	0
	12(OPE)	0	-747	-194	0	0	0
	13(OCC)	223	-0	20	0	0	0
	14(OCC)	-223	0	26	0	0	0
	15(OCC)	-0	90	0	0	0	0
	16(OCC)	0	-0	224	0	0	0
	17(OCC)	-0	0	-194	0	0	0
	MAX	223/L8	-747/L11	224/L11			
1480		TYPE=Rigid +Y; Rigid X w/gap;					
	1(HYD)	-0	-737	0	0	0	0
	2(OPE)	3	-747	224	0	0	0
	4(OPE)	-0	-747	0	0	0	0
	6(SUS)	-0	-747	0	0	0	0
	7(SUS)	-0	-653	0	0	0	0
	8(OPE)	223	-747	19	0	0	0
	9(OPE)	-223	-747	22	0	0	0
	10(OPE)	-0	-658	0	0	0	0
	11(OPE)	0	-747	224	0	0	0
	12(OPE)	-0	-747	-194	0	0	0
	13(OCC)	223	0	19	0	0	0
	14(OCC)	-223	-0	22	0	0	0
	15(OCC)	0	90	0	0	0	0
	16(OCC)	0	0	224	0	0	0
	17(OCC)	0	-0	-194	0	0	0
	MAX	223/L13	-747/L2	224/L11			
1490		TYPE=Rigid +Y; Rigid X w/gap;					
	1(HYD)	0	-738	0	0	0	0
	2(OPE)	3	-747	224	0	0	0
	4(OPE)	0	-747	0	0	0	0
	6(SUS)	0	-747	0	0	0	0
	7(SUS)	0	-653	0	0	0	0
	8(OPE)	223	-747	21	0	0	0
	9(OPE)	-223	-747	25	0	0	0
	10(OPE)	0	-658	0	0	0	0
	11(OPE)	-0	-747	224	0	0	0
	12(OPE)	0	-747	-194	0	0	0
	13(OCC)	223	-0	21	0	0	0
	14(OCC)	-223	0	25	0	0	0
	15(OCC)	-0	90	0	0	0	0
	16(OCC)	-0	-0	224	0	0	0
	17(OCC)	-0	0	-194	0	0	0
	MAX	223/L8	-747/L11	224/L11			

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
1500		TYPE=Rigid +Y; Rigid X w/gap;					
	1(HYD)	-0	-738	0	0	0	0
	2(OPE)	2	-747	224	0	0	0
	4(OPE)	-0	-747	0	0	0	0
	6(SUS)	-0	-747	0	0	0	0
	7(SUS)	-0	-653	0	0	0	0
	8(OPE)	223	-747	23	0	0	0
	9(OPE)	-194	-747	-15	0	0	0
	10(OPE)	-0	-658	0	0	0	0
	11(OPE)	0	-747	224	0	0	0
	12(OPE)	-0	-747	-194	0	0	0
	13(OCC)	223	0	23	0	0	0
	14(OCC)	-194	-0	-15	0	0	0
	15(OCC)	0	90	0	0	0	0
	16(OCC)	0	0	224	0	0	0
	17(OCC)	0	-0	-194	0	0	0
	MAX	223/L13	-747/L2	224/L11			
1510		TYPE=Rigid +Y; Rigid X w/gap;					
	1(HYD)	0	-738	0	0	0	0
	2(OPE)	0	-747	224	0	0	0
	4(OPE)	0	-747	0	0	0	0
	6(SUS)	0	-747	0	0	0	0
	7(SUS)	0	-653	0	0	0	0
	8(OPE)	223	-747	21	0	0	0
	9(OPE)	-223	-747	-20	0	0	0
	10(OPE)	0	-658	0	0	0	0
	11(OPE)	31	-747	222	0	0	0
	12(OPE)	0	-747	-194	0	0	0
	13(OCC)	223	0	21	0	0	0
	14(OCC)	-223	0	-20	0	0	0
	15(OCC)	-0	90	0	0	0	0
	16(OCC)	31	-0	222	0	0	0
	17(OCC)	-0	0	-194	0	0	0
	MAX	-223/L14	-747/L11	224/L2			
1520		TYPE=Rigid +Y; Rigid X w/gap;					
	1(HYD)	-0	-738	0	0	0	0
	2(OPE)	-0	-747	224	0	0	0
	4(OPE)	-0	-747	0	0	0	0
	6(SUS)	-0	-747	0	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	7(SUS)	-0	-653	0	0	0	0
	8(OPE)	223	-747	23	0	0	0
	9(OPE)	-223	-747	-20	0	0	0
	10(OPE)	-0	-658	0	0	0	0
	11(OPE)	0	-747	224	0	0	0
	12(OPE)	-0	-747	-194	0	0	0
	13(OCC)	223	0	23	0	0	0
	14(OCC)	-223	0	-20	0	0	0
	15(OCC)	0	90	0	0	0	0
	16(OCC)	0	0	224	0	0	0
	17(OCC)	0	-0	-194	0	0	0
	MAX	-223/L9	-747/L2	224/L2			
1530		TYPE=Rigid +Y; Rigid X w/gap;					
	1(HYD)	0	-738	0	0	0	0
	2(OPE)	-0	-747	224	0	0	0
	4(OPE)	0	-747	0	0	0	0
	6(SUS)	0	-747	0	0	0	0
	7(SUS)	0	-653	0	0	0	0
	8(OPE)	194	-747	-11	0	0	0
	9(OPE)	-223	-747	-19	0	0	0
	10(OPE)	0	-658	0	0	0	0
	11(OPE)	-0	-747	224	0	0	0
	12(OPE)	0	-747	-195	0	0	0
	13(OCC)	194	0	-11	0	0	0
	14(OCC)	-223	0	-19	0	0	0
	15(OCC)	-0	90	0	0	0	0
	16(OCC)	-0	0	224	0	0	0
	17(OCC)	-0	0	-195	0	0	0
	MAX	-223/L9	-747/L2	224/L11			
1540		TYPE=Rigid +Y; Rigid Z w/gap; Rigid X w/gap;					
	1(HYD)	-0	-738	0	0	0	0
	2(OPE)	-1	-747	-587	0	0	0
	4(OPE)	-0	-747	-0	0	0	0
	6(SUS)	-0	-747	0	0	0	0
	7(SUS)	-0	-653	0	0	0	0
	8(OPE)	223	-747	-19	0	0	0
	9(OPE)	-223	-747	-20	0	0	0
	10(OPE)	-0	-658	-0	0	0	0
	11(OPE)	0	-747	224	0	0	0
	12(OPE)	-0	-747	-197	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	13(OCC)	223	0	-19	0	0	0
	14(OCC)	-223	0	-20	0	0	0
	15(OCC)	0	90	-0	0	0	0
	16(OCC)	0	0	224	0	0	0
	17(OCC)	0	-0	-197	0	0	0
	MAX	223/L8	-747/L2	-587/L2			
1550		TYPE=Rigid +Y; Rigid X w/gap;					
	1(HYD)	0	-738	0	0	0	0
	2(OPE)	-1	-747	-224	0	0	0
	4(OPE)	0	-747	-0	0	0	0
	6(SUS)	0	-747	0	0	0	0
	7(SUS)	0	-653	0	0	0	0
	8(OPE)	223	-747	-20	0	0	0
	9(OPE)	-223	-747	-19	0	0	0
	10(OPE)	0	-658	-0	0	0	0
	11(OPE)	16	-747	224	0	0	0
	12(OPE)	0	-747	-209	0	0	0
	13(OCC)	223	0	-20	0	0	0
	14(OCC)	-223	0	-19	0	0	0
	15(OCC)	-0	90	-0	0	0	0
	16(OCC)	16	0	224	0	0	0
	17(OCC)	-0	0	-209	0	0	0
	MAX	-223/L9	-747/L2	-224/L2			
1560		TYPE=Rigid +Y; Rigid X w/gap;					
	1(HYD)	-0	-738	0	0	0	0
	2(OPE)	-1	-747	-224	0	0	0
	4(OPE)	-0	-747	-0	0	0	0
	6(SUS)	-0	-747	0	0	0	0
	7(SUS)	-0	-653	0	0	0	0
	8(OPE)	223	-747	-21	0	0	0
	9(OPE)	-223	-747	-20	0	0	0
	10(OPE)	-0	-658	-0	0	0	0
	11(OPE)	0	-747	224	0	0	0
	12(OPE)	-0	-747	-224	0	0	0
	13(OCC)	223	0	-21	0	0	0
	14(OCC)	-223	0	-20	0	0	0
	15(OCC)	0	90	-0	0	0	0
	16(OCC)	0	0	224	0	0	0
	17(OCC)	-0	0	-224	0	0	0
	MAX	-223/L9	-747/L2	224/L16			
1570		TYPE=Rigid					

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
		+Y; Rigid X w/gap;					
	1(HYD)	0	-738	0	0	0	0
	2(OPE)	-1	-747	-224	0	0	0
	4(OPE)	0	-747	-0	0	0	0
	6(SUS)	0	-747	0	0	0	0
	7(SUS)	0	-653	0	0	0	0
	8(OPE)	223	-747	-19	0	0	0
	9(OPE)	-223	-747	-20	0	0	0
	10(OPE)	0	-658	-0	0	0	0
	11(OPE)	-0	-747	224	0	0	0
	12(OPE)	-0	-747	-224	0	0	0
	13(OCC)	223	0	-19	0	0	0
	14(OCC)	-223	0	-20	0	0	0
	15(OCC)	-0	90	-0	0	0	0
	16(OCC)	-0	0	224	0	0	0
	17(OCC)	-0	0	-224	0	0	0
	MAX	223/L8	-747/L2	224/L16			
1580		TYPE=Rigid +Y; Rigid X w/gap;					
	1(HYD)	-0	-737	0	0	0	0
	2(OPE)	-1	-747	-224	0	0	0
	4(OPE)	-0	-747	-0	0	0	0
	6(SUS)	-0	-747	0	0	0	0
	7(SUS)	-0	-653	0	0	0	0
	8(OPE)	223	-747	-20	0	0	0
	9(OPE)	-223	-747	-20	0	0	0
	10(OPE)	-0	-658	-0	0	0	0
	11(OPE)	-13	-747	224	0	0	0
	12(OPE)	-0	-747	-224	0	0	0
	13(OCC)	223	0	-20	0	0	0
	14(OCC)	-223	0	-20	0	0	0
	15(OCC)	0	90	-0	0	0	0
	16(OCC)	-13	0	224	0	0	0
	17(OCC)	-0	0	-224	0	0	0
	MAX	-223/L9	-747/L2	-224/L12			
1590		TYPE=Rigid +Y; Rigid X w/gap;					
	1(HYD)	0	-738	0	0	0	0
	2(OPE)	-1	-747	-224	0	0	0
	4(OPE)	0	-747	-0	0	0	0
	6(SUS)	0	-747	0	0	0	0
	7(SUS)	0	-653	0	0	0	0
	8(OPE)	223	-747	-21	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	9(OPE)	-223	-747	-20	0	0	0
	10(OPE)	0	-658	-0	0	0	0
	11(OPE)	-0	-747	224	0	0	0
	12(OPE)	-0	-747	-224	0	0	0
	13(OCC)	223	0	-21	0	0	0
	14(OCC)	-223	0	-20	0	0	0
	15(OCC)	-0	90	-0	0	0	0
	16(OCC)	-0	0	224	0	0	0
	17(OCC)	-0	0	-224	0	0	0
	MAX	-223/L9	-747/L2	224/L16			
1600		TYPE=Rigid +Y; Rigid X w/gap;					
	1(HYD)	-0	-737	0	0	0	0
	2(OPE)	-1	-747	-224	0	0	0
	4(OPE)	-0	-747	-0	0	0	0
	6(SUS)	-0	-747	0	0	0	0
	7(SUS)	-0	-653	0	0	0	0
	8(OPE)	223	-747	-20	0	0	0
	9(OPE)	-223	-747	-20	0	0	0
	10(OPE)	-0	-658	-0	0	0	0
	11(OPE)	0	-747	224	0	0	0
	12(OPE)	-0	-747	-224	0	0	0
	13(OCC)	223	0	-20	0	0	0
	14(OCC)	-223	0	-20	0	0	0
	15(OCC)	0	90	-0	0	0	0
	16(OCC)	0	0	224	0	0	0
	17(OCC)	-0	0	-224	0	0	0
	MAX	223/L8	-747/L2	224/L16			
1610		TYPE=Rigid +Y; Rigid X w/gap;					
	1(HYD)	0	-738	0	0	0	0
	2(OPE)	-1	-748	-224	0	0	0
	4(OPE)	0	-748	-0	0	0	0
	6(SUS)	0	-748	0	0	0	0
	7(SUS)	0	-653	0	0	0	0
	8(OPE)	223	-748	-21	0	0	0
	9(OPE)	-223	-748	-21	0	0	0
	10(OPE)	0	-658	-0	0	0	0
	11(OPE)	-11	-748	199	0	0	0
	12(OPE)	-0	-748	-224	0	0	0
	13(OCC)	223	0	-20	0	0	0
	14(OCC)	-223	0	-20	0	0	0
	15(OCC)	-0	90	-0	0	0	0
	16(OCC)	-11	0	200	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	17(OCC)	-0	0	-224	0	0	0
	MAX	223/L8	-748/L2	-224/L12			
1620		TYPE=Rigid +Y; Rigid X w/gap;					
	1(HYD)	0	-736	0	0	0	0
	2(OPE)	-1	-745	-224	0	0	0
	4(OPE)	-0	-745	-1	0	0	0
	6(SUS)	0	-745	0	0	0	0
	7(SUS)	0	-651	0	0	0	0
	8(OPE)	223	-745	-21	0	0	0
	9(OPE)	-223	-745	-21	0	0	0
	10(OPE)	-0	-656	-1	0	0	0
	11(OPE)	-0	-745	180	0	0	0
	12(OPE)	-0	-745	-224	0	0	0
	13(OCC)	223	0	-20	0	0	0
	14(OCC)	-223	0	-20	0	0	0
	15(OCC)	0	89	-0	0	0	0
	16(OCC)	-0	0	182	0	0	0
	17(OCC)	-0	0	-222	0	0	0
	MAX	-223/L9	-745/L2	-224/L12			
1630		TYPE=Rigid +Y; Rigid X w/gap;					
	1(HYD)	0	-745	0	0	0	0
	2(OPE)	-1	-754	-226	0	0	0
	4(OPE)	0	-754	-7	0	0	0
	6(SUS)	0	-754	0	0	0	0
	7(SUS)	0	-659	0	0	0	0
	8(OPE)	225	-754	-22	0	0	0
	9(OPE)	-225	-754	-24	0	0	0
	10(OPE)	0	-664	-7	0	0	0
	11(OPE)	3	-754	111	0	0	0
	12(OPE)	-0	-754	-226	0	0	0
	13(OCC)	225	0	-15	0	0	0
	14(OCC)	-225	0	-17	0	0	0
	15(OCC)	-0	91	-0	0	0	0
	16(OCC)	3	0	117	0	0	0
	17(OCC)	-0	0	-220	0	0	0
	MAX	225/L8	-754/L2	-226/L12			
1640		TYPE=Rigid +Y; Rigid X w/gap;					
	1(HYD)	0	-711	0	0	0	0
	2(OPE)	-1	-720	-216	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	4(OPE)	-0	-720	-36	0	0	0
	6(SUS)	0	-720	0	0	0	0
	7(SUS)	0	-629	0	0	0	0
	8(OPE)	215	-720	-21	0	0	0
	9(OPE)	-215	-720	-23	0	0	0
	10(OPE)	-0	-634	-38	0	0	0
	11(OPE)	0	-720	158	0	0	0
	12(OPE)	-0	-720	-216	0	0	0
	13(OCC)	215	0	15	0	0	0
	14(OCC)	-215	0	14	0	0	0
	15(OCC)	0	86	-2	0	0	0
	16(OCC)	0	0	194	0	0	0
	17(OCC)	-0	0	-180	0	0	0
	MAX	215/L8	-720/L2	-216/L12			
1650		TYPE=Rigid +Y; Rigid X w/gap;					
	1(HYD)	0	-836	0	0	0	0
	2(OPE)	-1	-847	-254	0	0	0
	4(OPE)	0	-847	-199	0	0	0
	6(SUS)	0	-847	0	0	0	0
	7(SUS)	0	-740	0	0	0	0
	8(OPE)	253	-847	-23	0	0	0
	9(OPE)	-253	-847	-25	0	0	0
	10(OPE)	0	-746	-207	0	0	0
	11(OPE)	-0	-847	72	0	0	0
	12(OPE)	-0	-847	-254	0	0	0
	13(OCC)	253	0	175	0	0	0
	14(OCC)	-253	0	174	0	0	0
	15(OCC)	-0	102	-9	0	0	0
	16(OCC)	-0	0	271	0	0	0
	17(OCC)	-0	0	-55	0	0	0
	MAX	253/L8	-847/L2	271/L16			
1660		TYPE=Rigid +Y; Rigid X w/gap;					
	1(HYD)	0	-291	0	0	0	0
	2(OPE)	-0	-295	-88	0	0	0
	4(OPE)	-0	-295	-88	0	0	0
	6(SUS)	0	-295	0	0	0	0
	7(SUS)	0	-257	0	0	0	0
	8(OPE)	88	-295	-8	0	0	0
	9(OPE)	-88	-295	-8	0	0	0
	10(OPE)	-0	-259	-78	0	0	0
	11(OPE)	0	-295	-88	0	0	0
	12(OPE)	-0	-295	-88	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	13(OCC)	88	0	81	0	0	0
	14(OCC)	-88	0	80	0	0	0
	15(OCC)	0	35	11	0	0	0
	16(OCC)	0	0	0	0	0	0
	17(OCC)	-0	0	0	0	0	0
	MAX	88/L8	-295/L2	-88/L4			
1680		TYPE=Rigid ANC;					
	1(HYD)	-31	-565	34	-263	28	-3
	2(OPE)	57	-893	-24	-547	-31	11
	4(OPE)	-30	-568	34	-264	28	-3
	6(SUS)	-31	-566	34	-263	28	-3
	7(SUS)	-27	-549	32	-258	25	-5
	8(OPE)	253	-838	58	-399	-135	-140
	9(OPE)	-261	-356	-13	-187	158	95
	10(OPE)	-27	-500	30	-233	24	-3
	11(OPE)	-35	-664	290	-146	49	18
	12(OPE)	23	-534	-228	-426	-16	-58
	13(OCC)	283	-270	24	-135	-163	-137
	14(OCC)	-231	211	-47	77	131	99
	15(OCC)	4	68	-4	32	-3	0
	16(OCC)	-5	-96	256	119	22	21
	17(OCC)	53	34	-261	-161	-44	-55
	MAX	283/L13	-893/L2	290/L11	-547/L2	-163/L13	-140/L8
1700		TYPE=Rigid ANC;					
	1(HYD)	-27	-286	-57	106	-21	5
	2(OPE)	146	-859	-138	382	41	-24
	4(OPE)	-27	-286	-57	105	-21	5
	6(SUS)	-27	-285	-57	105	-21	5
	7(SUS)	-28	-296	-53	114	-22	5
	8(OPE)	112	-317	-48	133	33	-36
	9(OPE)	-121	-304	-49	123	-74	15
	10(OPE)	-23	-252	-50	93	-19	5
	11(OPE)	-30	-208	172	205	10	-8
	12(OPE)	-2	-355	-230	57	-64	-2
	13(OCC)	138	-31	9	28	54	-42
	14(OCC)	-94	-18	8	18	-53	10
	15(OCC)	3	34	7	-13	3	-1
	16(OCC)	-4	78	228	100	31	-13
	17(OCC)	24	-69	-174	-49	-43	-7
	MAX	146/L2	-859/L2	-230/L12	382/L2	-74/L9	-42/L13
1720		TYPE=Rigid ANC;					
	1(HYD)	-32	-598	-39	242	-21	-6

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Job:: BNK-GCS-CN-017-D02

Licensed To:: SPLM: Edit company name in <system>\company.txt

RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	2(OPE)	67	-848	-90	329	-29	3
	4(OPE)	-33	-599	-41	240	-21	-5
	6(SUS)	-32	-600	-39	242	-21	-6
	7(SUS)	-30	-581	-37	236	-20	-6
	8(OPE)	247	-845	-10	387	116	-108
	9(OPE)	-176	-524	-22	218	-94	30
	10(OPE)	-29	-527	-36	211	-19	-4
	11(OPE)	-49	-603	252	416	2	-19
	12(OPE)	8	-638	-215	179	-15	-14
	13(OCC)	280	-247	30	147	137	-103
	14(OCC)	-143	75	19	-22	-72	35
	15(OCC)	4	72	5	-29	3	1
	16(OCC)	-16	-4	293	176	23	-14
	17(OCC)	41	-39	-174	-61	6	-9
	MAX	280/L13	-848/L2	293/L16	416/L11	137/L13	-108/L8
1740		TYPE=Rigid ANC;					
	1(HYD)	-25	-384	-34	164	-25	-6
	2(OPE)	-209	-392	31	245	-144	156
	4(OPE)	-25	-384	-36	163	-25	-6
	6(SUS)	-25	-384	-34	164	-25	-6
	7(SUS)	-25	-388	-32	167	-24	-6
	8(OPE)	270	-619	-10	300	122	-115
	9(OPE)	-252	-215	-25	87	-130	69
	10(OPE)	-22	-338	-31	144	-22	-5
	11(OPE)	-4	-313	273	310	17	-35
	12(OPE)	-8	-463	-256	89	-19	-2
	13(OCC)	296	-234	25	136	147	-109
	14(OCC)	-226	170	11	-76	-105	74
	15(OCC)	3	46	4	-20	3	1
	16(OCC)	22	72	309	147	42	-29
	17(OCC)	18	-78	-220	-75	6	4
	MAX	296/L13	-619/L8	309/L16	310/L11	147/L13	156/L2

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

- 1 (HYD) WW+HP
- 2 (OPE) W+T1+P1
- 3 (Alt-SUS) W+P1
- 4 (OPE) W+T2+P1
- 5 (Alt-SUS) W+P1
- 6 (SUS) W+P1
- 7 (SUS) WNC
- 8 (OPE) W+T2+P1+U1
- 9 (OPE) W+T2+P1-U1
- 10 (OPE) W+T2+P1+U2
- 11 (OPE) W+T2+P1+U3
- 12 (OPE) W+T2+P1-U3
- 13 (OCC) L13=L8-L4
- 14 (OCC) L14=L9-L4
- 15 (OCC) L15=L10-L4
- 16 (OCC) L16=L11-L4
- 17 (OCC) L17=L12-L4
- 18 (OCC) L18=L13+L6
- 19 (OCC) L19=L14+L6
- 20 (OCC) L20=L15+L6
- 21 (OCC) L21=L16+L6
- 22 (OCC) L22=L17+L6
- 23 (EXP) L23=L2-L6
- 24 (EXP) L24=L4-L6
- 25 (EXP) L25=L2-L4

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
 Various Load Cases

LOAD CASE DEFINITION KEY

CASE 1 (HYD) WW+HP
 CASE 3 (Alt-SUS) W+P1
 CASE 5 (Alt-SUS) W+P1
 CASE 6 (SUS) W+P1
 CASE 7 (SUS) WNC
 CASE 18 (OCC) L18=L13+L6
 CASE 19 (OCC) L19=L14+L6
 CASE 20 (OCC) L20=L15+L6
 CASE 21 (OCC) L21=L16+L6
 CASE 22 (OCC) L22=L17+L6
 CASE 23 (EXP) L23=L2-L6
 CASE 24 (EXP) L24=L4-L6
 CASE 25 (EXP) L25=L2-L4

Piping Code: B31.3 = B31.3 -2016, Jan 31, 2017

CODE STRESS CHECK PASSED : LOADCASE 1 (HYD) WW+HP

Highest Stresses: (KPa)	LOADCASE 1 (HYD) WW+HP	
Ratio (%):	15.5 @Node 704	
Code Stress:	37426.7	Allowable Stress: 241316.5
Axial Stress:	1406.4 @Node 808	
Bending Stress:	36250.4 @Node 704	
Torsion Stress:	1687.7 @Node 810	
Hoop Stress:	2832.2 @Node 28	
Max Stress Intensity:	37426.7 @Node 704	

CODE STRESS CHECK PASSED : LOADCASE 3 (Alt-SUS) W+P1

Highest Stresses: (KPa)	LOADCASE 3 (Alt-SUS) W+P1	
Ratio (%):	65.4 @Node 704	
Code Stress:	90173.0	Allowable Stress: 137895.1
Axial Stress:	4345.3 @Node 808	
Bending Stress:	86499.4 @Node 704	
Torsion Stress:	4586.6 @Node 1000	
Hoop Stress:	7713.9 @Node 28	
Max Stress Intensity:	90173.0 @Node 704	

CODE STRESS CHECK PASSED : LOADCASE 5 (Alt-SUS) W+P1

Highest Stresses: (KPa)	LOADCASE 5 (Alt-SUS) W+P1	
Ratio (%):	65.4 @Node 704	
Code Stress:	90173.4	Allowable Stress: 137895.1
Axial Stress:	4341.4 @Node 808	
Bending Stress:	86499.8 @Node 704	
Torsion Stress:	4028.9 @Node 810	
Hoop Stress:	7713.9 @Node 28	
Max Stress Intensity:	90173.4 @Node 704	

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
Various Load Cases

CODE STRESS CHECK PASSED : LOADCASE 6 (SUS) W+P1

Highest Stresses: (	KPa	)	LOADCASE 6 (SUS) W+P1	
Ratio (%):	65.4	@Node	704	
Code Stress:	90173.4	Allowable Stress:		137895.1
Axial Stress:	4341.4	@Node	808	
Bending Stress:	86499.8	@Node	704	
Torsion Stress:	4028.0	@Node	810	
Hoop Stress:	7713.9	@Node	28	
Max Stress Intensity:	90173.4	@Node	704	

CODE STRESS CHECK PASSED : LOADCASE 7 (SUS) WNC

Highest Stresses: (	KPa	)	LOADCASE 7 (SUS) WNC	
Ratio (%):	54.8	@Node	704	
Code Stress:	75553.2	Allowable Stress:		137895.1
Axial Stress:	948.3	@Node	1168	
Bending Stress:	75553.2	@Node	704	
Torsion Stress:	3457.7	@Node	810	
Hoop Stress:	0.0	@Node	20	
Max Stress Intensity:	75553.2	@Node	704	

CODE STRESS CHECK PASSED : LOADCASE 18 (OCC) L18=L13+L6

Highest Stresses: (	KPa	)	LOADCASE 18 (OCC) L18=L13+L6	
Ratio (%):	61.5	@Node	575	
Code Stress:	112760.2	Allowable Stress:		183400.5
Axial Stress:	4517.9	@Node	660	
Bending Stress:	108622.7	@Node	575	
Torsion Stress:	10215.2	@Node	28	
Hoop Stress:	7713.9	@Node	28	
Max Stress Intensity:	112760.2	@Node	575	

CODE STRESS CHECK PASSED : LOADCASE 19 (OCC) L19=L14+L6

Highest Stresses: (	KPa	)	LOADCASE 19 (OCC) L19=L14+L6	
Ratio (%):	61.2	@Node	575	
Code Stress:	112313.5	Allowable Stress:		183400.5
Axial Stress:	4462.4	@Node	610	
Bending Stress:	108123.5	@Node	575	
Torsion Stress:	12987.4	@Node	1330	
Hoop Stress:	7713.9	@Node	28	
Max Stress Intensity:	112313.5	@Node	575	

CODE STRESS CHECK PASSED : LOADCASE 20 (OCC) L20=L15+L6

Highest Stresses: (	KPa	)	LOADCASE 20 (OCC) L20=L15+L6	
Ratio (%):	54.8	@Node	704	
Code Stress:	100584.5	Allowable Stress:		183400.5
Axial Stress:	4261.3	@Node	808	
Bending Stress:	96879.8	@Node	704	

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
 Various Load Cases

Torsion Stress:	3544.5	@Node	810
Hoop Stress:	7713.9	@Node	28
Max Stress Intensity:	100584.5	@Node	704

CODE STRESS CHECK PASSED : LOADCASE 21 (OCC) L21=L16+L6

Highest Stresses: (KPa)	LOADCASE 21 (OCC) L21=L16+L6	
Ratio (%):	49.8 @Node 704	
Code Stress:	91383.5	Allowable Stress: 183400.5
Axial Stress:	4544.8 @Node 570	
Bending Stress:	87139.2 @Node 704	
Torsion Stress:	7042.4 @Node 1070	
Hoop Stress:	7713.9 @Node 28	
Max Stress Intensity:	91383.5 @Node 704	

CODE STRESS CHECK PASSED : LOADCASE 22 (OCC) L22=L17+L6

Highest Stresses: (KPa)	LOADCASE 22 (OCC) L22=L17+L6	
Ratio (%):	49.5 @Node 704	
Code Stress:	90868.9	Allowable Stress: 183400.5
Axial Stress:	4468.9 @Node 550	
Bending Stress:	86952.0 @Node 704	
Torsion Stress:	7860.6 @Node 809	
Hoop Stress:	7713.9 @Node 28	
Max Stress Intensity:	90868.9 @Node 704	

CODE STRESS CHECK PASSED : LOADCASE 23 (EXP) L23=L2-L6

Highest Stresses: (KPa)	LOADCASE 23 (EXP) L23=L2-L6	
Ratio (%):	6.5 @Node 475	
Code Stress:	21650.3	Allowable Stress: 334797.3
Axial Stress:	2235.3 @Node 1540	
Bending Stress:	20921.5 @Node 475	
Torsion Stress:	9135.8 @Node 499	
Hoop Stress:	0.0 @Node 20	
Max Stress Intensity:	51091.1 @Node 475	

CODE STRESS CHECK PASSED : LOADCASE 24 (EXP) L24=L4-L6

Highest Stresses: (KPa)	LOADCASE 24 (EXP) L24=L4-L6	
Ratio (%):	0.1 @Node 570	
Code Stress:	231.7	Allowable Stress: 257018.7
Axial Stress:	234.3 @Node 1520	
Bending Stress:	152.2 @Node 1720	
Torsion Stress:	32.0 @Node 1170	
Hoop Stress:	0.0 @Node 20	
Max Stress Intensity:	669.9 @Node 1500	

CODE STRESS CHECK PASSED : LOADCASE 25 (EXP) L25=L2-L4

Highest Stresses: (KPa)	LOADCASE 25 (EXP) L25=L2-L4	
Ratio (%):	6.5 @Node 475	

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement

Various Load Cases

Code Stress:	21639.6	Allowable Stress:	334797.3
Axial Stress:	2001.0	@Node	1540
Bending Stress:	20910.6	@Node	475
Torsion Stress:	9132.6	@Node	499
Hoop Stress:	0.0	@Node	20
Max Stress Intensity:	51065.7	@Node	475

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

- 1 (HYD) WW+HP
- 2 (OPE) W+T1+P1
- 3 (Alt-SUS) W+P1
- 4 (OPE) W+T2+P1
- 5 (Alt-SUS) W+P1
- 6 (SUS) W+P1
- 7 (SUS) WNC
- 8 (OPE) W+T2+P1+U1
- 9 (OPE) W+T2+P1-U1
- 10 (OPE) W+T2+P1+U2
- 11 (OPE) W+T2+P1+U3
- 12 (OPE) W+T2+P1-U3
- 13 (OCC) L13=L8-L4
- 14 (OCC) L14=L9-L4
- 15 (OCC) L15=L10-L4
- 16 (OCC) L16=L11-L4
- 17 (OCC) L17=L12-L4
- 18 (OCC) L18=L13+L6
- 19 (OCC) L19=L14+L6
- 20 (OCC) L20=L15+L6
- 21 (OCC) L21=L16+L6
- 22 (OCC) L22=L17+L6
- 23 (EXP) L23=L2-L6
- 24 (EXP) L24=L4-L6
- 25 (EXP) L25=L2-L4

CAESAR II 2018 Ver.10.00.00.7700, (Build 170726) Date: MAR 2, 2024 Time: 15:51

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NOZZLE CHECK REPORT: Nozzle Loads Screening

Various Load Cases

LOAD CASE DEFINITION KEY

CASE 2 (OPE) W+T1+P1

CASE 4 (OPE) W+T2+P1

CASE 6 (SUS) W+P1

CASE 7 (SUS) WNC

Node		fa N.	fb N.	fc N.	Forces Check	ma N.m.	mb N.m.	mc N.m.	Moments Check	
1680		Absolute Method								
	Limits	1779	1157	1423		461	0	705		
	2(OPE)	-24	-893	-57	0.772	11	-31	547	0.775	
	4(OPE)	34	-568	30	0.491	-3	28	264	0.375	
	6(SUS)	34	-566	31	0.490	-3	28	263	0.373	
	7(SUS)	32	-549	27	0.474	-5	25	258	0.365	
1700		Absolute Method								
	Limits	1779	1157	1423		461	0	705		
	2(OPE)	138	-859	146	0.743	24	41	382	0.542	
	4(OPE)	57	-286	-27	0.247	-5	-21	105	0.149	
	6(SUS)	57	-285	-27	0.247	-5	-21	105	0.148	
	7(SUS)	53	-296	-28	0.256	-5	-22	114	0.162	
1720		Absolute Method								
	Limits	1779	1157	1423		461	0	705		
	2(OPE)	90	-848	67	0.733	-3	-29	329	0.466	
	4(OPE)	41	-599	-33	0.518	5	-21	240	0.340	
	6(SUS)	39	-600	-32	0.519	6	-21	242	0.344	
	7(SUS)	37	-581	-30	0.502	6	-20	236	0.335	
1740		Absolute								

CAESAR II 2018 Ver.10.00.00.7700, (Build 170726) Date: MAR 2, 2024 Time: 15:51

Job:: BNK-GCS-CN-017-D02

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NOZZLE CHECK REPORT: Nozzle Loads Screening

Various Load Cases

Node		fa N.	fb N.	fc N.	Forces Check	ma N.m.	mb N.m.	mc N.m.	Moments Check	
		Method								
	Limits	1779	1157	1423		461	0	705		
	2(OPE)	-31	-392	-209	0.339	-156	-144	245	0.348	
	4(OPE)	36	-384	-25	0.332	6	-25	163	0.232	
	6(SUS)	34	-384	-25	0.332	6	-25	164	0.233	
	7(SUS)	32	-388	-25	0.336	6	-24	167	0.237	

BNK-GCS-CN- · 18

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Line no.

Stress sketch

Input echo

Restraint summary

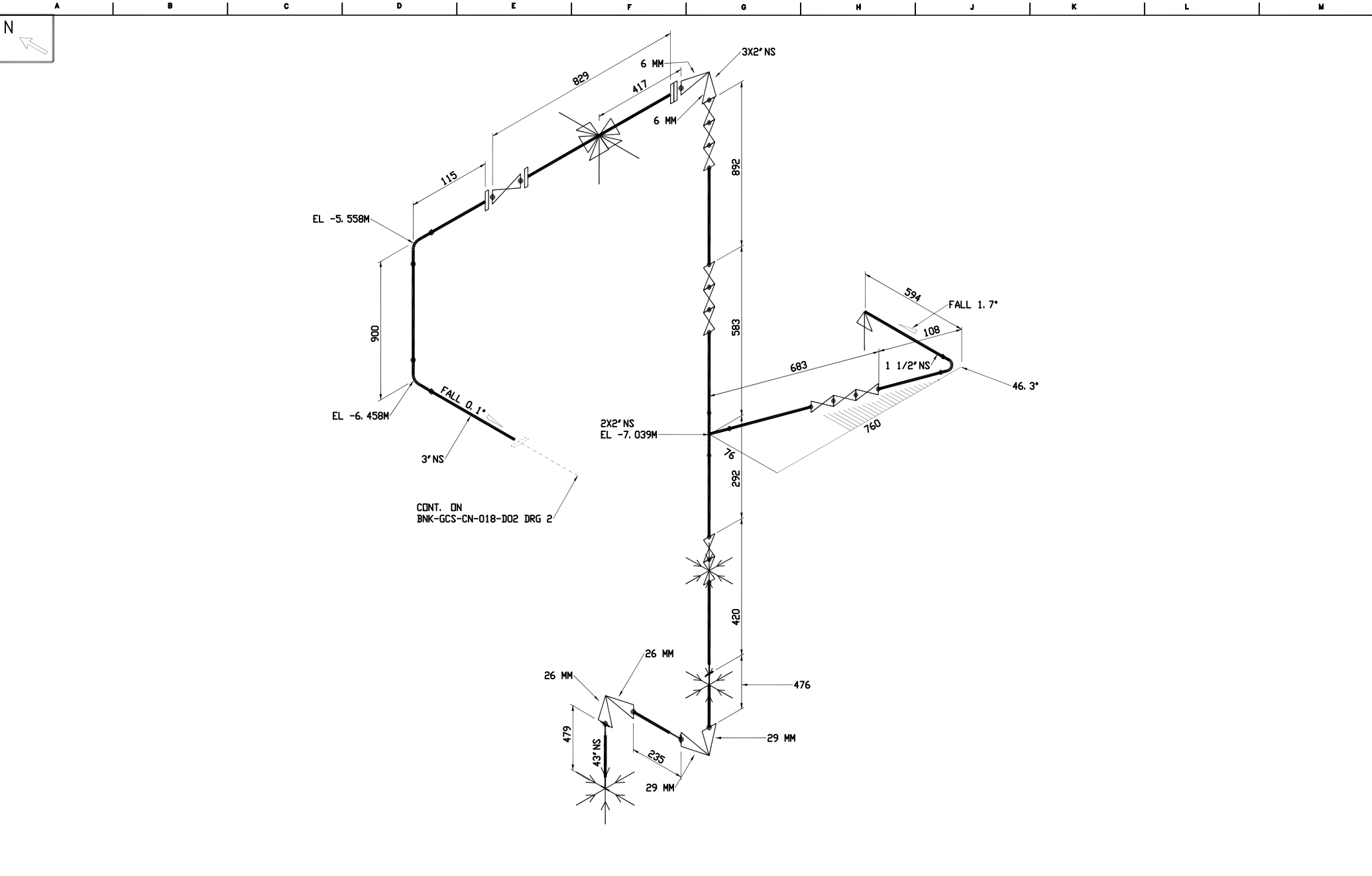
Stress summary

Nozzle load Table

BNK-GCS-CN-018

LINE Nos.

1. FL-112-0001-AN07-10"-PT
2. FL-112-0128-AN07-3"-PT
3. TEG-111-0113-AN04-2"-PT
4. FL-112-0127-AN07-2"-PT



CHECK ISOMETRIC ONLY – DO NOT ISSUE

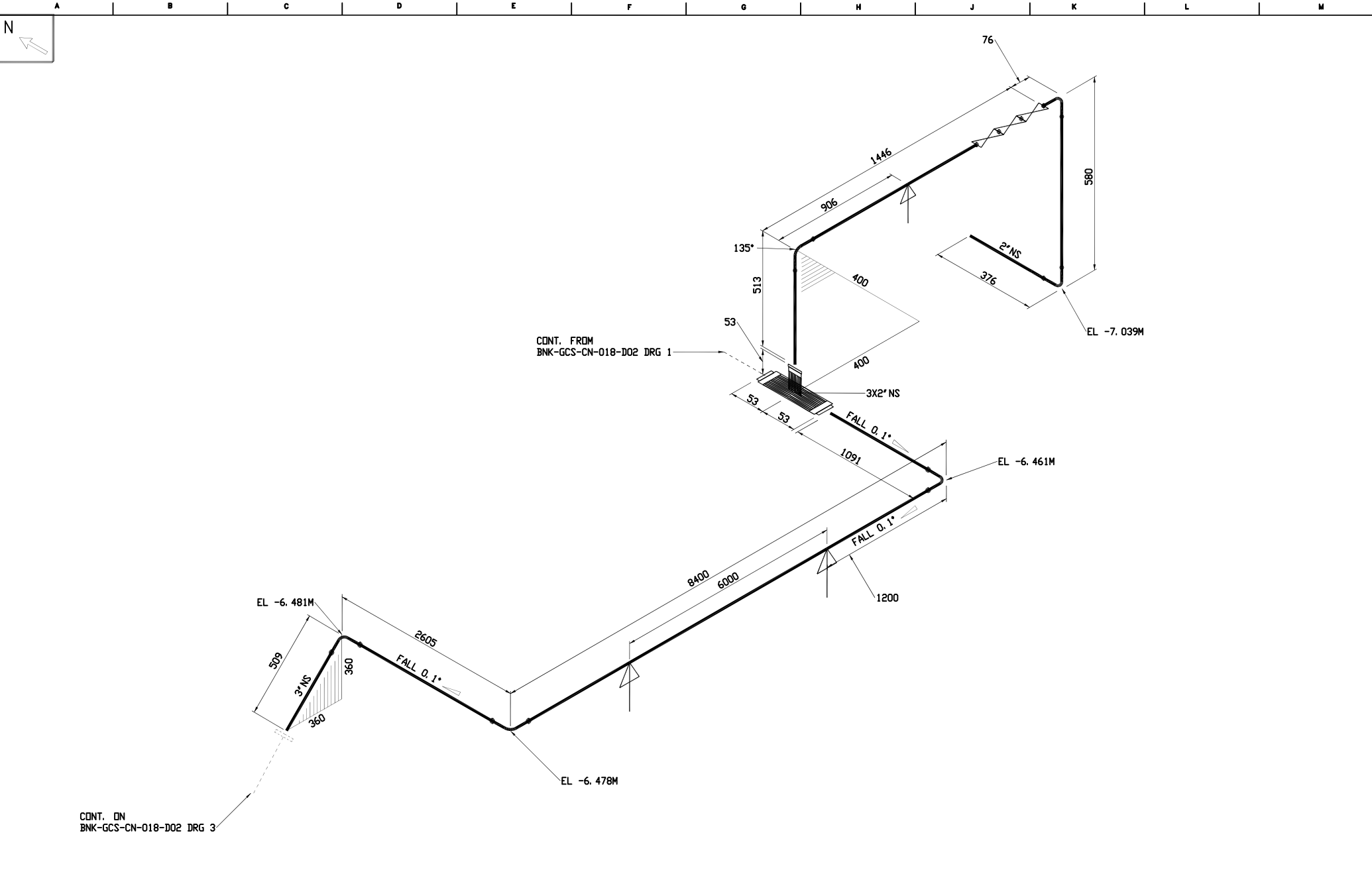
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PIPING SPEC.		OP. TEMP.	
INSULATION SPEC.		PROJECT NO.	
INSULATION THKS.		SYSTEM	
PAINTING SPEC.		AREA	
MATERIAL		DRAWN BY	
OP. PRESSURE		E.I.DIAGRAM	



PIPELINE REFERENCE

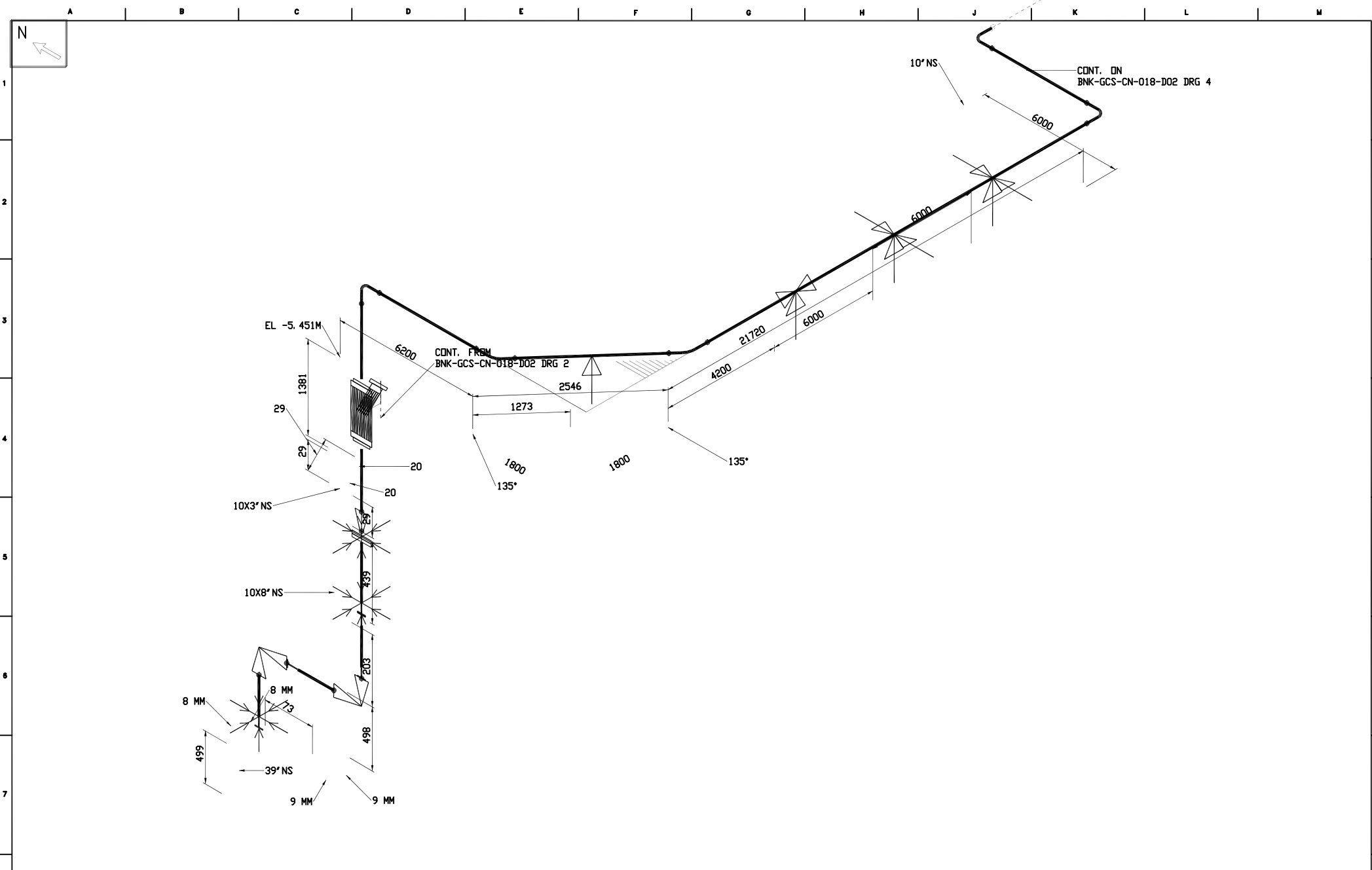
REV.	
DRG.	1 OF 5



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THIS DRAWING IS THE PROPERTY OF INTERGRAPH LTD AND MUST NOT BE COPIED OR LENT WITHOUT THE CONSENT OF THE COMPANY			PIPING SPEC.		OP. TEMP.			REV.
			INSULATION SPEC.		PROJECT NO.			DRG.
			INSULATION THKS.		SYSTEM			2 OF 5
			PAINTING SPEC.		AREA			
			MATERIAL		DRAWN BY			
REV.	CHANGE	DATE	OP. PRESSURE		E.I. DIAGRAM		PIPELINE REFERENCE	

27 FEB 2024



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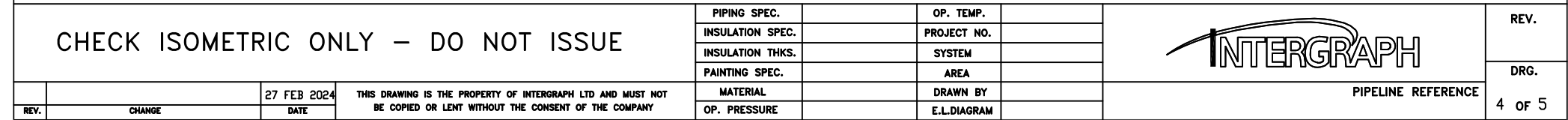
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INSULATION SPEC.		PROJECT NO.	
INSULATION THKS.		SYSTEM	
PAINTING SPEC.		AREA	
MATERIAL		DRAWN BY	
OP. PRESSURE		E.L.DIAGRAM	

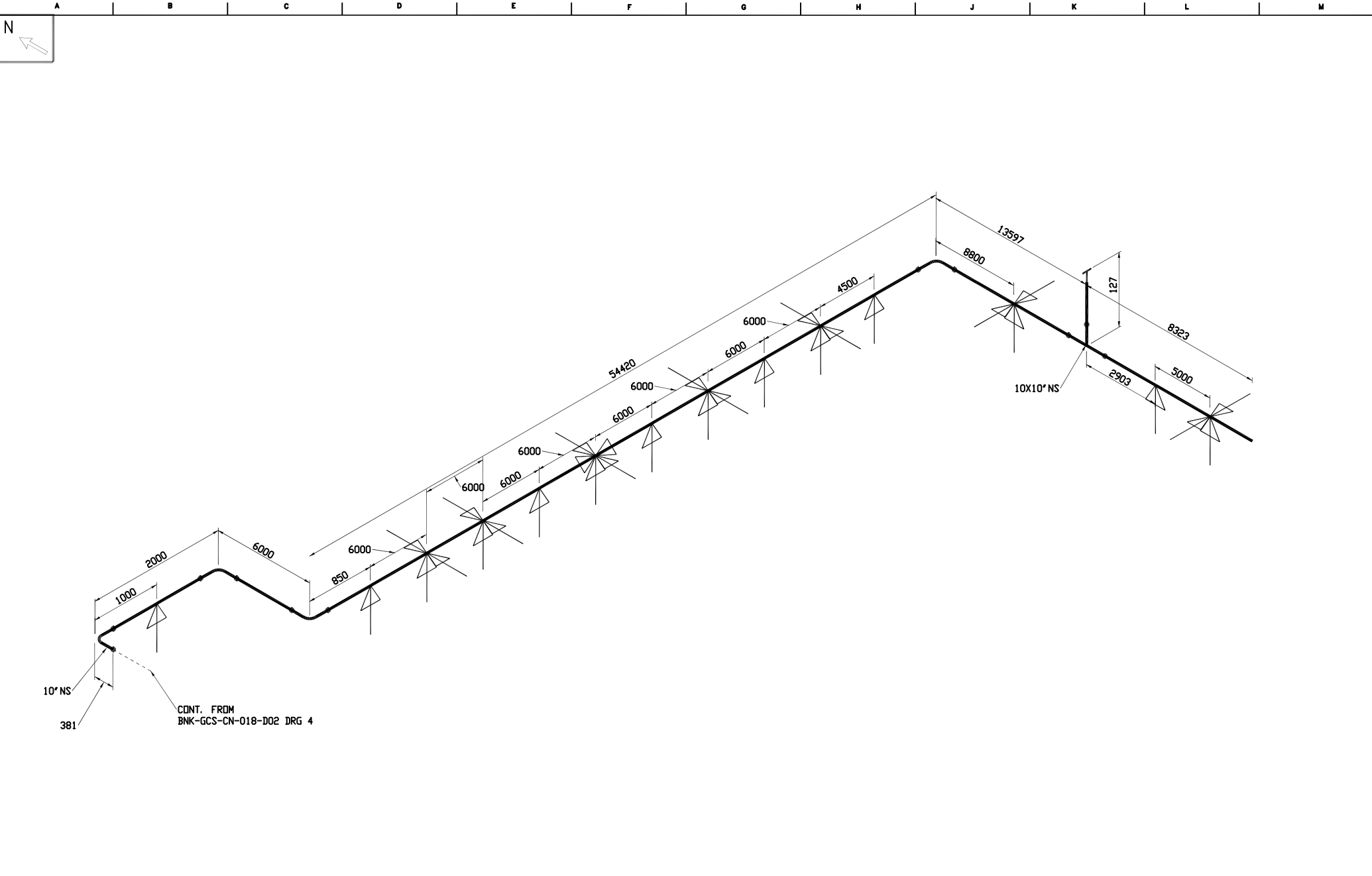


REV.
DRG.
3 OF 5

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REV.	CHANGE	DATE	27 FEB 2024

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INSULATION SPEC.		PROJECT NO.	
INSULATION THKS.		SYSTEM	
PAINTING SPEC.		AREA	
MATERIAL		DRAWN BY	
OP. PRESSURE		E.I. DIAGRAM	



PIPELINE REFERENCE

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

- 1 (HYD) WW+HP
- 2 (OPE) W+T1+P1
- 3 (Alt-SUS) W+P1
- 4 (OPE) W+T2+P1
- 5 (Alt-SUS) W+P1
- 6 (OPE) W+T3+P1
- 7 (Alt-SUS) W+P1
- 8 (SUS) W+P1
- 9 (SUS) WNC
- 10 (OPE) W+T2+P1+U1
- 11 (OPE) W+T2+P1-U1
- 12 (OPE) W+T2+P1+U2
- 13 (OPE) W+T2+P1-U2
- 14 (OPE) W+T2+P1+U3
- 15 (OPE) W+T2+P1+F1
- 16 (OCC) L16=L10-L4
- 17 (OCC) L17=L11-L4
- 18 (OCC) L18=L12-L4
- 19 (OCC) L19=L13-L4
- 20 (OCC) L20=L14-L4
- 21 (OCC) L21=L15-L4
- 22 (OCC) L22=L16+L8
- 23 (OCC) L23=L17+L8
- 24 (OCC) L24=L18+L8
- 25 (OCC) L25=L19+L8
- 26 (OCC) L26=L20+L8
- 27 (OCC) L27=L21+L8
- 28 (EXP) L28=L2-L8
- 29 (EXP) L29=L4-L8
- 30 (EXP) L30=L2-L4
- 31 (EXP) L31=L6-L8
- 32 (EXP) L32=L2-L6
- 33 (EXP) L33=L4-L6

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INPUT LISTING

Job Description:

PROJECT:

CLIENT :

ANALYST:

NOTES :

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 Job:: BNK-GCS-CN-018-D02
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INPUT LISTING

File created by FEATools

CAESAR II 2018 Ver.10.00.00.7700, (Build 170726) FEB 27,2024 12:40: 0

PIPE DATA

 From 10 To 20 DY= 66.675 mm.

PIPE

Dia= 219.075 mm. Wall= 10.312 mm. Cor= 6.0000 mm.

GENERAL

T1= 270 C T2= 272 C T3= -28 C P1= 600.0137 KPa PHyd= 900.0205 KPa
 Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 187,483,936 KPa
 EH2= 187,335,024 KPa EH3= 205,934,864 KPa EH4= 203,401,232 KPa
 EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa
 EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292
 Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000015 kg./cu.cm.
 Insul Thk= .000 mm. Insul Den= .0000000 kg./cu.cm.

RIGID Weight= 31.14 N.

RESTRAINTS

Node 10 ANC Cnode 11

UNIFORM LOAD

Vector1 in G-s X1 Dir = .26 g's Y1 Dir = .00 g's Z1 Dir = .00 g's
 Vector2 in G-s X2 Dir = .00 g's Y2 Dir = .12 g's Z2 Dir = .00 g's
 Vector3 in G-s X3 Dir = .00 g's Y3 Dir = .00 g's Z3 Dir = .26 g's

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 129,638 KPa Sh2= 129,365 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

EQUIPMENT LIMITS

Nozzle Node = 10 Limiting Loads: A=pipe; B=ref; C=AxB; FA= 11,200.56 N.
 FB= 11,200.56 N. FC= 8,400.42 N. MA= 6,720.29 N.m. MB= 4,480.19 N.m.
 MC= 5,820.25 N.m. Equipment Major Direction Vector= 1.0000 .0000 .0000
 Interact. Mtd= Absolute

 From 20 To 30 DY= 178.000 mm.

REDUCER

Diam2= 273.050 mm. Wall2= 9.271 mm.

 From 30 To 40 DY= 290.000 mm.

PIPE

Dia= 273.050 mm. Wall= 9.271 mm.
 Insul Thk= .000 mm.

SIF's & TEE's

Node 40 Weldolet

 From 40 To 50 DY= 1,410.000 mm.

BEND at "T0" end

Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 49
 Angle/Node @2= .00 48

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INPUT LISTING

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-----
From 50 To 60 DX= 6,200.000 mm.
BEND at "T0" end
  Radius= 381.000 mm. (LONG) Bend Angle= 45.000 Angle/Node @1= 22.50 59
  Angle/Node @2= .00 58
-----
From 60 To 65 DX= 900.000 mm. DZ= -900.000 mm.
RESTRAINTS
  Node 65 +Y Mu = .30
SIF's & TEE's
  Node 65
-----
From 65 To 70 DX= 900.000 mm. DZ= -900.000 mm.
BEND at "T0" end
  Radius= 381.000 mm. (LONG) Bend Angle= 45.000 Angle/Node @1= 22.50 69
  Angle/Node @2= .00 68
-----
From 70 To 80 DZ= -4,200.000 mm.
RESTRAINTS
  Node 80 +Y Mu = .30
  Node 80 Z Gap= 3.000 mm.
-----
From 40 To 110 DY= 380.423 mm. DZ= -380.423 mm.
PIPE
  Dia= 88.900 mm. Wall= 7.620 mm.
  Insul Thk= .000 mm.
BEND at "T0" end
  Radius= 114.300 mm. (LONG) Bend Angle= 89.959 Angle/Node @1= 44.98 109
  Angle/Node @2= .00 108
-----
From 110 To 120 DX= 2,605.000 mm. DY= 2.610 mm.
BEND at "T0" end
  Radius= 114.300 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 119
  Angle/Node @2= .00 118
-----
From 120 To 470 DY= 2.347 mm. DZ= -1,199.998 mm.
RESTRAINTS
  Node 470 +Y Mu = .30
-----
From 470 To 480 DY= 11.806 mm. DZ= -6,000.000 mm.
RESTRAINTS
  Node 480 +Y Mu = .30
-----
From 480 To 130 DY= 2.347 mm. DZ= -1,199.998 mm.
BEND at "T0" end
  Radius= 114.300 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 129
  Angle/Node @2= .00 128
-----
From 130 To 140 DX= -1,144.000 mm. DY= 2.110 mm.
SIF's & TEE's
  Node 140 Welding Tee
-----
From 140 To 150 DX= -852.000 mm. DY= 1.300 mm.
BEND at "T0" end
  Radius= 114.300 mm. (LONG) Bend Angle= 89.913 Angle/Node @1= 44.96 149
  Angle/Node @2= .00 148

```

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INPUT LISTING

 From 150 To 160 DY= 900.000 mm.
 BEND at "T0" end
 Radius= 114.300 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 159
 Angle/Node @2= .00 158

From 160 To 170 DZ= -115.000 mm.

From 170 To 180 DZ= -73.025 mm.
 RIGID Weight= 54.49 N.

From 180 To 190 DZ= -203.000 mm.
 RIGID Weight= 447.05 N.

From 190 To 200 DZ= -73.025 mm.
 RIGID Weight= 54.49 N.

From 200 To 205 DZ= -276.000 mm.

RESTRAINTS

Node 205 +Y Mu = .30
 Node 205 X Gap= .000 mm.
 Node 205 Z Gap= 3.000 mm.

From 205 To 210 DZ= -277.000 mm.

From 210 To 220 DZ= -73.025 mm.
 RIGID Weight= 54.49 N.

From 220 To 230 DZ= -73.025 mm.
 PIPE

Cor= 3.0000 mm.

GENERAL

T1= 85 C T2= 21 C T3= 21 C P1= 350.0080 KPa

Fluid Den= .0001150 kg./cu.cm.

RIGID Weight= 54.49 N.

FORCES & MOMENTS

Node 230 FX1= .00 N. FY1= 1,500.07 N. FZ1= -1,500.07 N.

MX1= .00 N.m. MY1= .00 N.m. MZ1= .00 N.m.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

From 230 To 240 DY= -66.675 mm.

PIPE

Dia= 60.325 mm. Wall= 5.537 mm. Cor= 3.0000 mm.

GENERAL

P1= 350.0080 KPa PHyd= 525.0120 KPa Fluid Den= .0011150 kg./cu.cm.

Insul Thk= .000 mm.

RIGID Weight= 31.14 N.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

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INPUT LISTING

From 240 To 250 DY= -66.675 mm.

PIPE

Dia= 60.325 mm. Wall= 5.537 mm.

Insul Thk= .000 mm.

RIGID Weight= 31.14 N.

From 250 To 260 DY= -66.675 mm.

RIGID Weight= 31.14 N.

From 260 To 280 DY= -698.000 mm.

From 280 To 290 DY= -66.675 mm.

RIGID Weight= 31.14 N.

From 290 To 300 DY= -187.000 mm.

RIGID Weight= 209.07 N.

From 300 To 310 DY= -66.675 mm.

RIGID Weight= 31.14 N.

From 310 To 315 DY= -263.000 mm.

PHyd= 525.0120 KPa

From 315 To 320 DY= -292.000 mm.

From 320 To 330 DY= -66.675 mm.

RIGID Weight= 31.14 N.

RESTRAINTS

Node 330 ANC Cnode 331

EQUIPMENT LIMITS

Nozzle Node = 330 Limiting Loads: A=pipe; B=ref; C=AxB; FA= 2,800.14 N.

FB= 2,800.14 N. FC= 2,100.10 N. MA= 420.02 N.m. MB= 280.01 N.m.

MC= 360.02 N.m. Equipment Major Direction Vector= 1.0000 .0000 .0000

Interact. Mtd= Absolute

From 315 To 340 DZ= -363.000 mm.

PIPE

Dia= 60.325 mm. Wall= 8.738 mm. Cor= 6.0000 mm.

GENERAL

T2= 272 C T3= -28 C P1= 600.0137 KPa PHyd= 900.0205 KPa

Fluid Den= .0000015 kg./cu.cm. Insul Thk= .000 mm.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 129,365 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 340 To 350 DZ= -66.675 mm.

RIGID Weight= 31.14 N.

From 350 To 360 DZ= -187.000 mm.

RIGID Weight= 271.34 N.

From 360 To 370 DZ= -66.675 mm.

RIGID Weight= 31.14 N.

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INPUT LISTING

 From 370 To 380 DZ= -77.000 mm.
 BEND at "TO" end
 Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 379
 Angle/Node @2= .00 378

From 380 To 385 DX= 326.000 mm.

From 380 To 460 DX= -17.961 mm. DY= -17.961 mm.

RIGID Weight= .00 N.

SIF's & TEE's

Node 460 Unreinforced Tee

From 385 To 390 DX= 126.000 mm.

BEND at "TO" end

 Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 389

 Angle/Node @2= .00 388

From 390 To 400 DY= 580.000 mm.

BEND at "TO" end

 Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 399

 Angle/Node @2= .00 398

From 400 To 410 DZ= 77.000 mm.

From 410 To 420 DZ= 66.675 mm.

RIGID Weight= 31.14 N.

From 420 To 430 DZ= 207.000 mm.

RIGID Weight= 266.89 N.

From 430 To 440 DZ= 66.675 mm.

RIGID Weight= 31.14 N.

From 440 To 445 DZ= 200.000 mm.

RESTRAINTS

Node 445 +Y Mu = .30

From 445 To 450 DZ= 906.000 mm.

BEND at "TO" end

 Radius= 76.200 mm. (LONG) Bend Angle= 44.993 Angle/Node @1= 22.50 449

 Angle/Node @2= .00 448

From 450 To 140 DX= 400.000 mm. DY= .074 mm. DZ= 400.100 mm.

From 331 To 500 DY= -66.675 mm.

PIPE

Dia= 60.325 mm. Wall= 5.537 mm. Cor= 3.0000 mm.

GENERAL

P1= 600.0137 KPa PHyd= 900.0205 KPa Fluid Den= .0011150 kg./cu.cm.

Insul Thk= .000 mm.

RIGID Weight= 31.14 N.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 129,365 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

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INPUT LISTING

Sh9= 137,895 KPa Sy= 241,316 KPa

From 500 To 510 DY= -287.000 mm.

RESTRAINTS

Node 510 ANC Cnode 511

From 511 To 520 DY= -505.000 mm.

PIPE

Dia= 1,100.000 mm. Wall= 5.537 mm.

Insul Thk= .000 mm.

RIGID Weight= .00 N.

From 520 To 530 DX= -290.000 mm.

RIGID Weight= .00 N.

From 530 To 540 DY= -505.000 mm.

RIGID Weight= .00 N.

RESTRAINTS

Node 540 ANC

From 11 To 550 DY= -104.775 mm.

PIPE

Dia= 219.075 mm. Wall= 10.312 mm. Cor= 6.0000 mm.

GENERAL

P1= 600.0137 KPa PHyd= 825.0188 KPa Fluid Den= .0000015 kg./cu.cm.

Insul Thk= .000 mm.

RIGID Weight= 177.93 N.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 129,365 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 550 To 560 DY= -203.000 mm.

RESTRAINTS

Node 560 ANC Cnode 561

From 561 To 570 DY= -507.000 mm.

PIPE

Dia= 1,014.000 mm. Wall= 10.312 mm.

Insul Thk= .000 mm.

RIGID Weight= .00 N.

From 570 To 580 DX= -90.000 mm.

RIGID Weight= .00 N.

From 580 To 590 DY= -507.000 mm.

RIGID Weight= .00 N.

RESTRAINTS

Node 590 ANC

From 460 To 610 DX= -500.000 mm.

PIPE

Dia= 48.260 mm. Wall= 3.683 mm. Cor= .0000 mm.

GENERAL

T1= 21 C T2= 21 C P1= .0000 KPa PHyd= .0000 KPa

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INPUT LISTING

Mat= (102)A53 Grade B E= 203,401,232 KPa EH1= 203,401,232 KPa
 EH2= 203,401,232 KPa EH3= 205,934,864 KPa EH4= 203,401,232 KPa
 EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa
 EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292
 Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000000 kg./cu.cm.
 Insul Thk= .000 mm.

RESTRAINTS

Node 610 +Y Mu = .30

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 620 To 630 DZ= 6,000.000 mm.

PIPE

Dia= 273.050 mm. Wall= 9.271 mm. Cor= 6.0000 mm.

GENERAL

T1= 270 C T2= 272 C T3= -28 C P1= 600.0137 KPa PHyd= 900.0205 KPa
 Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 187,483,936 KPa
 EH2= 187,335,024 KPa EH3= 205,934,864 KPa EH4= 203,401,232 KPa
 EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa
 EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292
 Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000015 kg./cu.cm.
 Insul Thk= .000 mm. Insul Den= .0001362 kg./cu.cm.

RESTRAINTS

Node 630 +Y Mu = .30

Node 630 X

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 129,638 KPa Sh2= 129,365 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 630 To 640 DZ= 4,480.000 mm.

BEND at "T0" end

Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 639
 Angle/Node @2= .00 638

 From 640 To 650 DX= -6,000.000 mm.

BEND at "T0" end

Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 649
 Angle/Node @2= .00 648

 From 650 To 660 DZ= 517.000 mm.

 From 660 To 670 DZ= 500.000 mm.

RESTRAINTS

Node 670 +Y Mu = .30

 From 670 To 680 DZ= 983.000 mm.

BEND at "T0" end

Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 679
 Angle/Node @2= .00 678

 From 680 To 690 DX= 6,000.000 mm.

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INPUT LISTING

BEND at "T0" end

Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 689
Angle/Node @2= .00 688

From 690 To 695 DZ= 5,520.000 mm.

RESTRAINTS

Node 695 +Y Mu = .30
Node 695 X Gap= 3.000 mm.

From 695 To 700 DZ= 6,000.000 mm.

RESTRAINTS

Node 700 +Y Mu = .30
Node 700 X

From 700 To 80 DZ= 6,000.000 mm.

From 620 To 740 DZ= -3,000.000 mm.

PIPE

Dia= 273.050 mm. Wall= 9.271 mm. Cor= 6.0000 mm.

GENERAL

T1= 270 C T2= 272 C T3= -28 C P1= 600.0137 KPa PHyd= 900.0205 KPa
Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 187,483,936 KPa
EH2= 187,335,024 KPa EH3= 205,934,864 KPa EH4= 203,401,232 KPa
EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa
EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292
Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000015 kg./cu.cm.
Insul Thk= .000 mm. Insul Den= .0000000 kg./cu.cm.

RESTRAINTS

Node 620 +Y Mu = .30

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
Sh1= 129,638 KPa Sh2= 129,365 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
Sh9= 137,895 KPa Sy= 241,316 KPa

From 740 To 750 DZ= -3,000.000 mm.

RESTRAINTS

Node 750 +Y Mu = .30
Node 750 Z Gap= 3.000 mm.
Node 750 X Gap= 3.000 mm.

From 750 To 760 DZ= -3,000.000 mm.

From 760 To 770 DZ= -400.000 mm.

From 770 To 780 DZ= -3,000.000 mm.

RESTRAINTS

Node 780 +Y Mu = .30

From 780 To 800 DZ= -6,000.000 mm.

RESTRAINTS

Node 800 +Y Mu = .30
Node 800 X Gap= 3.000 mm.

From 800 To 810 DZ= -2,750.000 mm.

BEND at "T0" end

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INPUT LISTING

Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 809
Angle/Node @2= .00 808

From 810 To 820 DX= -6,000.000 mm. DZ= .000 mm.

BEND at "T0" end

Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 819
Angle/Node @2= .00 818

From 820 To 830 DZ= -1,000.000 mm.

RESTRAINTS

Node 830 +Y Mu = .30

From 830 To 840 DZ= -1,000.000 mm.

BEND at "T0" end

Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 839
Angle/Node @2= .00 838

From 840 To 850 DX= 6,000.000 mm. DZ= .000 mm.

BEND at "T0" end

Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 849
Angle/Node @2= .00 848

From 850 To 860 DZ= -1,250.000 mm.

RESTRAINTS

Node 860 +Y Mu = .30

From 860 To 875 DZ= -3,000.000 mm.

From 875 To 880 DZ= -3,000.000 mm.

RESTRAINTS

Node 880 +Y

Node 880 X Gap= 3.000 mm.

Node 880 Z Gap= 3.000 mm.

From 880 To 1050 DZ= -6,000.000 mm.

PIPE

Dia= 273.050 mm. Wall= 9.271 mm. Cor= 6.0000 mm.

GENERAL

P1= 600.0137 KPa PHyd= 900.0205 KPa Mat= (106)A106 Grade B

E= 203,401,232 KPa EH1= 187,483,936 KPa EH2= 187,335,024 KPa

EH3= 205,934,864 KPa EH4= 203,401,232 KPa EH5= 203,401,232 KPa

EH6= 203,401,232 KPa EH7= 203,401,232 KPa EH8= 203,401,232 KPa

EH9= 203,401,232 KPa v = .292 Pipe Den= .0078334 kg./cu.cm.

Fluid Den= .0000015 kg./cu.cm. Insul Thk= .000 mm.

Insul Den= .0000000 kg./cu.cm.

RESTRAINTS

Node 1050 +Y Mu = .30

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 129,638 KPa Sh2= 129,365 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 1050 To 1060 DZ= -6,000.000 mm.

RESTRAINTS

Node 1060 +Y Mu = .30

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INPUT LISTING

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Node 1060 X Gap= 3.000 mm.
-----
From 1060 To 1070 DZ= -2,950.000 mm.
BEND at "TO" end
  Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1069
  Angle/Node @2= .00 1068
-----
From 1070 To 1080 DX= -6,000.000 mm. DZ= .000 mm.
BEND at "TO" end
  Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1079
  Angle/Node @2= .00 1078
-----
From 1080 To 1090 DZ= -1,000.000 mm.
RESTRAINTS
  Node 1090 +Y Mu = .30
-----
From 1090 To 1100 DZ= -1,000.000 mm.
BEND at "TO" end
  Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1099
  Angle/Node @2= .00 1098
-----
From 1100 To 1110 DX= 6,000.000 mm. DZ= .000 mm.
BEND at "TO" end
  Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1109
  Angle/Node @2= .00 1108
-----
From 1110 To 1120 DZ= -850.000 mm.
RESTRAINTS
  Node 1120 +Y Mu = .30
-----
From 1120 To 1130 DX= .000 mm. DZ= -6,000.000 mm.
RESTRAINTS
  Node 1130 +Y Mu = .30
  Node 1130 X Gap= 3.000 mm.
-----
From 1130 To 1140 DX= .000 mm. DZ= -6,000.000 mm.
RESTRAINTS
  Node 1140 +Y
  Node 1140 X Gap= 3.000 mm.
-----
From 1140 To 1150 DZ= -6,000.000 mm.
PIPE
  Dia= 273.050 mm. Wall= 9.271 mm. Cor= 6.0000 mm.
GENERAL
  P1= 600.0137 KPa PHyd= 900.0205 KPa Mat= (106)A106 Grade B
  E= 203,401,232 KPa EH1= 187,483,936 KPa EH2= 187,335,024 KPa
  EH3= 205,934,864 KPa EH4= 203,401,232 KPa EH5= 203,401,232 KPa
  EH6= 203,401,232 KPa EH7= 203,401,232 KPa EH8= 203,401,232 KPa
  EH9= 203,401,232 KPa v = .292 Pipe Den= .0078334 kg./cu.cm.
  Fluid Den= .0000015 kg./cu.cm. Insul Thk= .000 mm.
  Insul Den= .0001362 kg./cu.cm.
RESTRAINTS
  Node 1150 +Y Mu = .30
ALLOWABLE STRESSES
  B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
  Sh1= 129,638 KPa Sh2= 129,365 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

```

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Job:: BNK-GCS-CN-018-D02

Licensed To:: SPLM: Edit company name in <system>\company.txt

INPUT LISTING

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
Sh9= 137,895 KPa Sy= 241,316 KPa

From 1150 To 890 DZ= -6,000.000 mm.

RESTRAINTS

Node 890 +Y Mu = .30
Node 890 X
Node 890 Z Gap= 3.000 mm.

From 890 To 900 DZ= -6,000.000 mm.

RESTRAINTS

Node 900 +Y Mu = .30

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
Sh1= 129,638 KPa Sh2= 129,365 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
Sh9= 137,895 KPa Sy= 241,316 KPa

From 900 To 910 DZ= -6,000.000 mm.

RESTRAINTS

Node 910 +Y Mu = .30
Node 910 X Gap= 3.000 mm.

From 910 To 920 DZ= -6,000.000 mm.

RESTRAINTS

Node 920 +Y Mu = .30

From 920 To 930 DZ= -6,000.000 mm.

RESTRAINTS

Node 930 +Y Mu = .30
Node 930 X Gap= 3.000 mm.

From 930 To 940 DZ= -4,500.000 mm.

RESTRAINTS

Node 940 +Y Mu = .30

From 940 To 950 DZ= -1,070.000 mm.

BEND at "T0" end

Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 949
Angle/Node @2= .00 948

From 950 To 960 DX= 3,500.000 mm.

From 960 To 970 DX= 5,300.000 mm.

RESTRAINTS

Node 970 +Y Mu = .30
Node 970 Z

From 970 To 980 DX= 4,700.000 mm.

From 980 To 990 DX= 97.000 mm.

From 990 To 1000 DY= 127.000 mm.

RIGID Weight= .00 N.

From 990 To 1010 DX= 2,903.000 mm.

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INPUT LISTING

RESTRAINTS

Node 1010 +Y Mu = .30

From 1010 To 1020 DX= 5,000.000 mm.

RESTRAINTS

Node 1020 +Y Mu = .00

Node 1020 Z

From 1020 To 1030 DX= 420.000 mm.

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MATERIAL Changes:

10	20	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
460	610	Mat= (102)A53 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
620	630	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
620	740	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
880	1050	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
1140	1150	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.

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JOBNAME: D:\BINAK PRO\STRESS REPORT\D02\NATIVE\BNK-GCS-CN-018-D02\BNK-GCS-CN-01

ALLOWABLE STRESS Changes

10	20	B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa Sh1= 129,638 KPa Sh2= 129,365 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa Sh9= 137,895 KPa Sy= 241,316 KPa
220	230	B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa Sh9= 137,895 KPa Sy= 241,316 KPa
230	240	B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa Sh9= 137,895 KPa Sy= 241,316 KPa
315	340	B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa Sh1= 137,895 KPa Sh2= 129,365 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa

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INPUT LISTING

		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
331	500	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 129,365 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
11	550	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 129,365 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
460	610	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
620	630	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 129,638 KPa
		Sh2= 129,365 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
620	740	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 129,638 KPa
		Sh2= 129,365 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
880	1050	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 129,638 KPa
		Sh2= 129,365 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
1140	1150	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 129,638 KPa
		Sh2= 129,365 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
890	900	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 129,638 KPa
		Sh2= 129,365 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa

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INPUT LISTING

Sh8= 137,895 KPa Sh9= 137,895 KPa

Sy= 241,316 KPa

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BEND ELEMENTS

40	50	Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 49 Angle/Node @2= .00 48
50	60	Radius= 381.000 mm. (LONG) Bend Angle= 45.000 Angle/Node @1= 22.50 59 Angle/Node @2= .00 58
65	70	Radius= 381.000 mm. (LONG) Bend Angle= 45.000 Angle/Node @1= 22.50 69 Angle/Node @2= .00 68
40	110	Radius= 114.300 mm. (LONG) Bend Angle= 89.959 Angle/Node @1= 44.98 109 Angle/Node @2= .00 108
110	120	Radius= 114.300 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 119 Angle/Node @2= .00 118
480	130	Radius= 114.300 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 129 Angle/Node @2= .00 128
140	150	Radius= 114.300 mm. (LONG) Bend Angle= 89.913 Angle/Node @1= 44.96 149 Angle/Node @2= .00 148
150	160	Radius= 114.300 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 159 Angle/Node @2= .00 158
370	380	Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 379 Angle/Node @2= .00 378
385	390	Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 389 Angle/Node @2= .00 388
390	400	Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 399 Angle/Node @2= .00 398
445	450	Radius= 76.200 mm. (LONG) Bend Angle= 44.993 Angle/Node @1= 22.50 449 Angle/Node @2= .00 448
630	640	Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 639 Angle/Node @2= .00 638
640	650	Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 649 Angle/Node @2= .00 648
670	680	Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 679 Angle/Node @2= .00 678
680	690	Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 689 Angle/Node @2= .00 688
800	810	Radius= 381.000 mm. (LONG)

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INPUT LISTING

		Bend Angle= 90.000 Angle/Node @1= 45.00
		809 Angle/Node @2= .00 808
810	820	Radius= 381.000 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		819 Angle/Node @2= .00 818
830	840	Radius= 381.000 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		839 Angle/Node @2= .00 838
840	850	Radius= 381.000 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		849 Angle/Node @2= .00 848
1060	1070	Radius= 381.000 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1069 Angle/Node @2= .00 1068
1070	1080	Radius= 381.000 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1079 Angle/Node @2= .00 1078
1090	1100	Radius= 381.000 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1099 Angle/Node @2= .00 1098
1100	1110	Radius= 381.000 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1109 Angle/Node @2= .00 1108
940	950	Radius= 381.000 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		949 Angle/Node @2= .00 948

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RIGIDS

10	20	RIGID Weight= 31.14 N.
170	180	RIGID Weight= 54.49 N.
180	190	RIGID Weight= 447.05 N.
190	200	RIGID Weight= 54.49 N.
210	220	RIGID Weight= 54.49 N.
220	230	RIGID Weight= 54.49 N.
230	240	RIGID Weight= 31.14 N.
240	250	RIGID Weight= 31.14 N.
250	260	RIGID Weight= 31.14 N.
280	290	RIGID Weight= 31.14 N.
290	300	RIGID Weight= 209.07 N.
300	310	RIGID Weight= 31.14 N.
320	330	RIGID Weight= 31.14 N.
340	350	RIGID Weight= 31.14 N.
350	360	RIGID Weight= 271.34 N.
360	370	RIGID Weight= 31.14 N.
380	460	RIGID Weight= .00 N.
410	420	RIGID Weight= 31.14 N.
420	430	RIGID Weight= 266.89 N.
430	440	RIGID Weight= 31.14 N.
331	500	RIGID Weight= 31.14 N.
511	520	RIGID Weight= .00 N.
520	530	RIGID Weight= .00 N.
530	540	RIGID Weight= .00 N.
11	550	RIGID Weight= 177.93 N.

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INPUT LISTING

```

561          570          RIGID Weight= .00 N.
570          580          RIGID Weight= .00 N.
580          590          RIGID Weight= .00 N.
990          1000         RIGID Weight= .00 N.
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```

SIF's & TEE's

```

30           40           Node 40   Weldolet
60           65           Node 65
130          140          Node 140   Welding Tee
380          460          Node 460   Unreinforced Tee
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```

REDUCERS

```

20           30           Diam2= 273.050 mm. Wall2= 9.271 mm.
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```

RESTRAINTS

NODE	TYPE	CNODE	STIF1	Len GAP STIF2	MU YIELD FORCE	Dir Vectors
10	ANC	11				.000 .000 .000
65	+Y				.30	.000 1.000 .000
80	+Y				.30	.000 1.000 .000
80	Z			3.00		.000 .000 1.000
470	+Y				.30	.000 1.000 .000
480	+Y				.30	.000 1.000 .000
205	+Y				.30	.000 1.000 .000
205	X			.00		1.000 .000 .000
205	Z			3.00		.000 .000 1.000
330	ANC	331				.000 .000 .000
445	+Y				.30	.000 1.000 .000
510	ANC	511				.000 .000 .000
540	ANC					.000 .000 .000
560	ANC	561				.000 .000 .000
590	ANC					.000 .000 .000
610	+Y				.30	.000 1.000 .000
630	+Y				.30	.000 1.000 .000
630	X					1.000 .000 .000
670	+Y				.30	.000 1.000 .000
695	+Y				.30	.000 1.000 .000
695	X			3.00		1.000 .000 .000
700	+Y				.30	.000 1.000 .000
700	X					1.000 .000 .000
620	+Y				.30	.000 1.000 .000
750	+Y				.30	.000 1.000 .000
750	Z			3.00		.000 .000 1.000
750	X			3.00		1.000 .000 .000
780	+Y				.30	.000 1.000 .000
800	+Y				.30	.000 1.000 .000
800	X			3.00		1.000 .000 .000
830	+Y				.30	.000 1.000 .000

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INPUT LISTING

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UNIFORM LOAD Changes

10	20	Vector1 in G-s
		X1 Dir = .26 g's Y1 Dir = .00 g's
		Z1 Dir = .00 g's
		Vector2 in G-s
		X2 Dir = .00 g's Y2 Dir = .12 g's
		Z2 Dir = .00 g's
		Vector3 in G-s
		X3 Dir = .00 g's Y3 Dir = .00 g's
		Z3 Dir = .26 g's

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INPUT UNITS USED...

UNITS= SI (m NOM/SCH INPUT= ON

LENGTH	inches	x	25.400	=	mm.
FORCE	pounds	x	4.448	=	N.
MASS(dynamics)	pounds	x	0.454	=	Kg.
MOMENTS(INPUT)	inch-pounds	x	0.113	=	N.m.
MOMENTS(OUTPUT)	inch-pounds	x	0.113	=	N.m.
STRESS	lbs./sq.in.	x	6.895	=	KPa
TEMP. SCALE	degrees F.	x	0.556	=	C
PRESSURE	psig	x	6.895	=	KPa
ELASTIC MODULUS	lbs./sq.in.	x	6.895	=	KPa
PIPE DENSITY	lbs./cu.in.	x	0.028	=	kg./cu.cm.
INSULATION DENS.	lbs./cu.in.	x	0.028	=	kg./cu.cm.
FLUID DENSITY	lbs./cu.in.	x	0.028	=	kg./cu.cm.
TRANSL. STIF	lbs./in.	x	1.751	=	N./cm.
ROTATIONAL STIF	in.lb./deg.	x	0.113	=	N.m./deg
UNIFORM LOAD	lb./in.	x	1.751	=	N./cm.
G LOAD	g's	x	1.000	=	g's
WIND LOAD	lbs./sq.in.	x	6.895	=	KPa
ELEVATION	inches	x	0.025	=	m.
COMPOUND LENGTH	inches	x	25.400	=	mm.
DIAMETER	inches	x	25.400	=	mm.
WALL THICKNESS	inches	x	25.400	=	mm.

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SETUP FILE PARAMETERS

```

CONNECT GEOMETRY THRU CNODES = YES
MIN ALLOWED BEND ANGLE = 5.00000
MAX ALLOWED BEND ANGLE = 95.0000
BEND LENGTH ATTACHMENT PERCENT = 1.00000
MIN ANGLE TO ADJACENT BEND PT = 5.00000
LOOP CLOSURE TOLERANCE = 25.4000 mm.
THERMAL BOWING HORZ TOLERANCE = 0.100000E-03
AUTO NODE NUMBER INCREMENT= 10.0000
Z AXIS UP= NO
USE PRESSURE STIFFENING = DEFAULT
ALPHA TOLERANCE = 0.500000E-01
RESLD-FORCE = NO

```

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INPUT LISTING

```

HGR DEF RESWGT STIF =          0.175127E+13 N./cm.
DECOMP SNG TOL =             0.100000E+11
BEND AXIAL SHAPE =          YES
FRICT STIF =                 0.175127E+07 N./cm.
FRICT NORM FORCE VAR =        0.150000
FRICT ANGLE VAR =             15.0000
FRICT SLIDE MULT =           1.00000
ROD TOLERANCE =              1.00000
ROD INC =                    2.00000
INCORE NUMERICAL CHECK =      NO
OUTCORE NUMERICAL CHECK =     NO
DEFAULT TRANS RESTRAINT STIFF= 0.175127E+13 N./cm.
DEFAULT ROT RESTRAINT STIFF=  0.112985E+12 N.m./deg
IGNORE SPRING HANGER STIFFNESS = NO
MISSING MASS ZPA =            EXTRACTED
MIN WALL MILL TOLERANCE =     12.5000
WRC-107 VERSION =             MAR 79 1B1/2B1
WRC-107 INTERPOLATION =       LAST VALUE
DEFAULT AMBIENT TEMPERATURE=  21.1111 C
BOURDON PRESSURE=             NONE
COEFFICIENT OF FRICTION (MU) = 0.000000
INCLUDE SPRG STIF IN HGR OPE = NO
INCLUDE INSULATION IN HYDROTEST = NO
REDUCED INTERSECTION =        B31.1(POST1980)
USE WRC329                     NO
NO REDUCED SIF FOR RFT AND WLT NO
B31.1 REDUCED Z FIX =          YES
CLASS 1 BRANCH FLEX           NO
ALL STRESS CASES CORRODED =    NO
ADD TORSION IN SL STRESS =     DEFAULT
ADD F/A IN STRESS =            DEFAULT
OCCASIONAL LOAD FACTOR =       0.000000
DEFAULT CODE =                 B31.3
B31.3 SUS CASE SIF FACTOR =     0.000000
ALLOW USERS BEND SIF =         NO
USE SCHNEIDER                  NO
YIELD CRITERION STRESS =        MAX 3D SHEAR
USE PD/4T                       NO
BASE HOOP STRESS ON ? =        ID
EN13480 USE IN OUTPLANE SIFS=   NO
LIBERAL EXPANSION ALLOWABLE=    YES
B31.3 SEC 319.2.3C SAXIAL=      Default
B31.3 WELDING/CONTOUR TEE ISB16.9 FALSE
PRESSURE VARIATION IN EXP CASE= DEFAULT
IMPLEMENT B313 APP-P            NO
IMPLEMENT B313 CODE CASE 178    YES
IGNORE B31.1/B31.3 Wc FACTOR=   YES
USE FRP SIF =                   YES
USE FRP FLEX =                  YES
BS 7159 Pressure Stiffening=    Design Strain
FRP Property Data File=         CAESAR.FRP
FRP Emod (axial) =              0.220632E+08 KPa
FRP Ratio Gmod/Emod (axial) =   0.250000
FRP Ea/Eh*Vh/a =               0.152730
FRP Laminate Type =             THREE
FRP Alpha =                    21.6000 C

```


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INPUT LISTING

FRP Density = 0.166079E-02 kg./cu.cm.

EXCLUDE f2 FROM UK00A BENDING = NO

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EXECUTION CONTROL PARAMETERS

Rigid/ExpJt Print Flag 1.000
 Bourdon Option 000
 Loop Closure Flag 2.000
 Thermal Bowing Delta Temp .. .000 C
 Liberal Allowable Flag 1.000
 Uniform Load Option 1.000

Ambient Temperature 20.997 C
 Plastic (FRP) Alpha 21.600
 Plastic (FRP) GMOD/EMODa 250
 Plastic (FRP) Laminate Type. 3.000
 Eqn Optimizer 000
 Node Selection 000
 Eqn Ordering 000
 Collins 000
 Degree Determination 000
 User Eqn Control 000
 North Direction -X

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COORDINATE REPORT

NODE	X	Y	Z
10	-15700.080	-7395.683	7324.219
20	-15700.080	-7329.008	7324.219
30	-15700.080	-7151.008	7324.219
40	-15700.080	-6861.008	7324.219
50	-15700.080	-5451.008	7324.219
60	-9500.080	-5451.008	7324.219
65	-8600.080	-5451.008	6424.219
70	-7700.080	-5451.008	5524.219
80	-7700.080	-5451.008	1324.219
40	-15700.080	-6861.008	7324.219
110	-15700.080	-6480.585	6943.796
120	-13095.080	-6477.975	6943.796
470	-13095.080	-6475.628	5743.798
480	-13095.080	-6463.822	-256.202
130	-13095.080	-6461.476	-1456.200
140	-14239.080	-6459.366	-1456.200
150	-15091.080	-6458.066	-1456.200
160	-15091.080	-5558.066	-1456.200
170	-15091.080	-5558.066	-1571.200
180	-15091.080	-5558.066	-1644.225
190	-15091.080	-5558.066	-1847.225
200	-15091.080	-5558.066	-1920.250
205	-15091.080	-5558.066	-2196.250
210	-15091.080	-5558.066	-2473.250
220	-15091.080	-5558.066	-2546.275

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INPUT LISTING

230	-15091.080	-5558.066	-2619.300
240	-15091.080	-5624.741	-2619.300
250	-15091.080	-5691.416	-2619.300
260	-15091.080	-5758.090	-2619.300
280	-15091.080	-6456.090	-2619.300
290	-15091.080	-6522.765	-2619.300
300	-15091.080	-6709.765	-2619.300
310	-15091.080	-6776.440	-2619.300
315	-15091.080	-7039.440	-2619.300
320	-15091.080	-7331.440	-2619.300
330	-15091.080	-7398.115	-2619.300
315	-15091.080	-7039.440	-2619.300
340	-15091.080	-7039.440	-2982.300
350	-15091.080	-7039.440	-3048.975
360	-15091.080	-7039.440	-3235.975
370	-15091.080	-7039.440	-3302.650
380	-15091.080	-7039.440	-3379.650
385	-14765.080	-7039.440	-3379.650
380	-15091.080	-7039.440	-3379.650
460	-15109.041	-7057.400	-3379.650
385	-14765.080	-7039.440	-3379.650
390	-14639.080	-7039.440	-3379.650
400	-14639.080	-6459.440	-3379.650
410	-14639.080	-6459.440	-3302.650
420	-14639.080	-6459.440	-3235.975
430	-14639.080	-6459.440	-3028.975
440	-14639.080	-6459.440	-2962.300
445	-14639.080	-6459.440	-2762.300
450	-14639.080	-6459.440	-1856.300
140	-14239.080	-6459.366	-1456.200
330	-15091.080	-7398.115	-2619.300
500	-15091.080	-7464.790	-2619.300
510	-15091.080	-7751.790	-2619.300
520	-15091.080	-8256.789	-2619.300
530	-15381.080	-8256.789	-2619.300
540	-15381.080	-8761.789	-2619.300
10	-15700.080	-7395.683	7324.219
550	-15700.080	-7500.458	7324.219
560	-15700.080	-7703.458	7324.219
570	-15700.080	-8210.458	7324.219
580	-15790.080	-8210.458	7324.219
590	-15790.080	-8717.458	7324.219
460	-15109.041	-7057.400	-3379.650
610	-15609.041	-7057.400	-3379.650
620	-7700.080	-5451.008	-28675.781
630	-7700.080	-5451.008	-22675.781
640	-7700.080	-5451.008	-18195.781
650	-13700.080	-5451.008	-18195.781
660	-13700.080	-5451.008	-17678.781
670	-13700.080	-5451.008	-17178.781
680	-13700.080	-5451.008	-16195.781
690	-7700.080	-5451.008	-16195.781
695	-7700.080	-5451.008	-10675.781
700	-7700.080	-5451.008	-4675.781
80	-7700.080	-5451.008	1324.219
620	-7700.080	-5451.008	-28675.781

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INPUT LISTING

740	-7700.080	-5451.008	-31675.781
750	-7700.080	-5451.008	-34675.781
760	-7700.080	-5451.008	-37675.781
770	-7700.080	-5451.008	-38075.781
780	-7700.080	-5451.008	-41075.781
800	-7700.080	-5451.008	-47075.781
810	-7700.080	-5451.008	-49825.781
820	-13700.080	-5451.008	-49825.781
830	-13700.080	-5451.008	-50825.781
840	-13700.080	-5451.008	-51825.781
850	-7700.080	-5451.008	-51825.781
860	-7700.080	-5451.008	-53075.781
875	-7700.080	-5451.008	-56075.781
880	-7700.080	-5451.008	-59075.781
1050	-7700.080	-5451.008	-65075.781
1060	-7700.080	-5451.008	-71075.781
1070	-7700.080	-5451.008	-74025.781
1080	-13700.080	-5451.008	-74025.781
1090	-13700.080	-5451.008	-75025.781
1100	-13700.080	-5451.008	-76025.781
1110	-7700.080	-5451.008	-76025.781
1120	-7700.080	-5451.008	-76875.781
1130	-7700.080	-5451.008	-82875.781
1140	-7700.080	-5451.008	-88875.781
1150	-7700.080	-5451.008	-94875.781
890	-7700.080	-5451.008	-100875.781
900	-7700.080	-5451.008	-106875.781
910	-7700.080	-5451.008	-112875.781
920	-7700.080	-5451.008	-118875.781
930	-7700.080	-5451.008	-124875.781
940	-7700.080	-5451.008	-129375.781
950	-7700.080	-5451.008	-130445.781
960	-4200.080	-5451.008	-130445.781
970	1099.920	-5451.008	-130445.781
980	5799.920	-5451.008	-130445.781
990	5896.920	-5451.008	-130445.781
1000	5896.920	-5324.008	-130445.781
990	5896.920	-5451.008	-130445.781
1010	8799.920	-5451.008	-130445.781
1020	13799.920	-5451.008	-130445.781
1030	14219.920	-5451.008	-130445.781

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

- 1 (HYD) WW+HP
- 2 (OPE) W+T1+P1
- 3 (Alt-SUS) W+P1
- 4 (OPE) W+T2+P1
- 5 (Alt-SUS) W+P1
- 6 (OPE) W+T3+P1
- 7 (Alt-SUS) W+P1
- 8 (SUS) W+P1
- 9 (SUS) WNC
- 10 (OPE) W+T2+P1+U1
- 11 (OPE) W+T2+P1-U1
- 12 (OPE) W+T2+P1+U2
- 13 (OPE) W+T2+P1-U2
- 14 (OPE) W+T2+P1+U3
- 15 (OPE) W+T2+P1+F1
- 16 (OCC) L16=L10-L4
- 17 (OCC) L17=L11-L4
- 18 (OCC) L18=L12-L4
- 19 (OCC) L19=L13-L4
- 20 (OCC) L20=L14-L4
- 21 (OCC) L21=L15-L4
- 22 (OCC) L22=L16+L8
- 23 (OCC) L23=L17+L8
- 24 (OCC) L24=L18+L8
- 25 (OCC) L25=L19+L8
- 26 (OCC) L26=L20+L8
- 27 (OCC) L27=L21+L8
- 28 (EXP) L28=L2-L8
- 29 (EXP) L29=L4-L8
- 30 (EXP) L30=L2-L4
- 31 (EXP) L31=L6-L8
- 32 (EXP) L32=L2-L6
- 33 (EXP) L33=L4-L6

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

LOAD CASE DEFINITION KEY

CASE 1 (HYD) WW+HP
 CASE 2 (OPE) W+T1+P1
 CASE 4 (OPE) W+T2+P1
 CASE 6 (OPE) W+T3+P1
 CASE 8 (SUS) W+P1
 CASE 9 (SUS) WNC
 CASE 10 (OPE) W+T2+P1+U1
 CASE 11 (OPE) W+T2+P1-U1
 CASE 12 (OPE) W+T2+P1+U2
 CASE 13 (OPE) W+T2+P1-U2
 CASE 14 (OPE) W+T2+P1+U3
 CASE 15 (OPE) W+T2+P1+F1
 CASE 16 (OCC) L16=L10-L4
 CASE 17 (OCC) L17=L11-L4
 CASE 18 (OCC) L18=L12-L4
 CASE 19 (OCC) L19=L13-L4
 CASE 20 (OCC) L20=L14-L4
 CASE 21 (OCC) L21=L15-L4

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
10		TYPE=Rigid ANC;					
	1(HYD)	-1429	-5963	36	382	44	481
	2(OPE)	-3461	-3946	3488	5053	-9282	2258
	4(OPE)	-3449	-4175	3557	5130	-9429	1268
	6(OPE)	1625	-3061	-917	-1113	2444	-2814
	8(SUS)	-779	-3331	21	177	22	261
	9(SUS)	-778	-3327	21	176	22	261
	10(OPE)	-1041	-4044	3261	4752	-9201	-2009
	11(OPE)	-5978	-4312	3905	5592	-9734	4731
	12(OPE)	-3261	-3766	3528	5075	-9409	1109
	13(OPE)	-3638	-4583	3587	5186	-9449	1428
	14(OPE)	-3389	-4174	4694	6582	-10059	1132
	15(OPE)	-3455	-4160	3516	5110	-9352	1271
	16(OCC)	2408	130	-296	-378	228	-3276
	17(OCC)	-2529	-138	348	463	-305	3463
	18(OCC)	188	408	-29	-55	20	-159
	19(OCC)	-189	-409	30	56	-21	161
	20(OCC)	60	1	1136	1453	-631	-135
	21(OCC)	-6	14	-41	-19	77	4
	MAX	-5978/L11	-5963/L1	4694/L14	6582/L14	-10059/L14	4731/L11
65		TYPE=Rigid +Y;					
	1(HYD)	1434	-7323	1074	0	0	0
	2(OPE)	809	-3491	665	0	0	0
	4(OPE)	753	-3226	608	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	6(OPE)	-703	-4206	-1048	0	0	0
	8(SUS)	780	-3974	582	0	0	0
	9(SUS)	779	-3969	581	0	0	0
	10(OPE)	795	-3359	619	0	0	0
	11(OPE)	708	-3087	597	0	0	0
	12(OPE)	643	-2753	518	0	0	0
	13(OPE)	862	-3698	698	0	0	0
	14(OPE)	759	-3271	621	0	0	0
	15(OPE)	753	-3226	608	0	0	0
	16(OCC)	42	-134	11	0	0	0
	17(OCC)	-45	139	-11	0	0	0
	18(OCC)	-110	472	-90	0	0	0
	19(OCC)	109	-472	90	0	0	0
	20(OCC)	7	-45	13	0	0	0
	21(OCC)	0	-0	-0	0	0	0
	MAX	1434/L1	-7323/L1	1074/L1			
80		TYPE=Rigid +Y; Rigid Z w/gap;					
	1(HYD)	1	-7293	-627	0	0	0
	2(OPE)	1218	-4139	4908	0	0	0
	4(OPE)	1277	-4339	4952	0	0	0
	6(OPE)	-695	-3882	-2034	0	0	0
	8(SUS)	1	-3959	-340	0	0	0
	9(SUS)	1	-3954	-339	0	0	0
	10(OPE)	1271	-4305	5614	0	0	0
	11(OPE)	1281	-4372	4302	0	0	0
	12(OPE)	1138	-3863	4686	0	0	0
	13(OPE)	1417	-4814	5217	0	0	0
	14(OPE)	1263	-4294	10259	0	0	0
	15(OPE)	1277	-4339	4949	0	0	0
	16(OCC)	-7	34	662	0	0	0
	17(OCC)	3	-33	-650	0	0	0
	18(OCC)	-140	475	-265	0	0	0
	19(OCC)	139	-475	266	0	0	0
	20(OCC)	-14	45	5308	0	0	0
	21(OCC)	-0	0	-3	0	0	0
	MAX	1417/L13	-7293/L1	10259/L14			
205		TYPE=Rigid +Y; Rigid X; Rigid Z w/gap;					
	1(HYD)	-39	-2146	21	0	0	0
	2(OPE)	-121	0	0	0	0	0
	4(OPE)	155	0	0	0	0	0
	6(OPE)	82	-3758	-444	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	8(SUS)	-33	-1881	14	0	0	0
	9(SUS)	-33	-1880	14	0	0	0
	10(OPE)	678	0	1	0	0	0
	11(OPE)	-367	0	0	0	0	0
	12(OPE)	184	0	0	0	0	0
	13(OPE)	125	0	0	0	0	0
	14(OPE)	103	0	334	0	0	0
	15(OPE)	284	0	-1189	0	0	0
	16(OCC)	523	0	1	0	0	0
	17(OCC)	-521	0	0	0	0	0
	18(OCC)	30	0	0	0	0	0
	19(OCC)	-29	0	0	0	0	0
	20(OCC)	-52	0	334	0	0	0
	21(OCC)	129	0	-1189	0	0	0
	MAX	678/L10	-3758/L6	-1189/L15			
330		TYPE=Rigid ANC;					
	1(HYD)	-23	193	168	-18	-5	-13
	2(OPE)	-96	-1806	-536	-216	308	80
	4(OPE)	-363	-2556	-726	-342	494	125
	6(OPE)	26	1947	503	98	-72	-18
	8(SUS)	-25	62	164	-17	-5	-11
	9(SUS)	-25	100	164	-17	-5	-11
	10(OPE)	-34	-2584	-613	-229	468	96
	11(OPE)	-689	-2528	-837	-455	519	153
	12(OPE)	-368	-2278	-711	-325	496	134
	13(OPE)	-357	-2834	-741	-360	492	116
	14(OPE)	-289	-2510	-252	-169	380	93
	15(OPE)	-443	-1169	-995	-583	498	129
	16(OCC)	328	-28	113	114	-26	-28
	17(OCC)	-327	27	-111	-113	26	28
	18(OCC)	-5	278	15	18	2	9
	19(OCC)	6	-278	-15	-17	-2	-9
	20(OCC)	74	46	474	174	-114	-32
	21(OCC)	-81	1387	-269	-240	4	4
	MAX	-689/L11	-2834/L13	-995/L15	-583/L15	519/L11	153/L11
445		TYPE=Rigid +Y;					
	1(HYD)	53	-644	-186	0	0	0
	2(OPE)	10	-443	-133	0	0	0
	4(OPE)	0	0	0	0	0	0
	6(OPE)	35	-687	203	0	0	0
	8(SUS)	53	-615	-177	0	0	0
	9(SUS)	53	-615	-177	0	0	0
	10(OPE)	0	0	0	0	0	0
	11(OPE)	0	0	0	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	12(OPE)	0	0	0	0	0	0
	13(OPE)	0	0	0	0	0	0
	14(OPE)	0	0	0	0	0	0
	15(OPE)	0	0	0	0	0	0
	16(OCC)	0	0	0	0	0	0
	17(OCC)	0	0	0	0	0	0
	18(OCC)	0	0	0	0	0	0
	19(OCC)	0	0	0	0	0	0
	20(OCC)	0	0	0	0	0	0
	21(OCC)	0	0	0	0	0	0
	MAX	53/L8	-687/L6	203/L6			
470		TYPE=Rigid +Y;					
	1(HYD)	-9	-1035	-2	0	0	0
	2(OPE)	157	-653	117	0	0	0
	4(OPE)	140	-584	106	0	0	0
	6(OPE)	-170	-878	-201	0	0	0
	8(SUS)	-3	-810	-3	0	0	0
	9(SUS)	-3	-809	-3	0	0	0
	10(OPE)	152	-613	104	0	0	0
	11(OPE)	127	-555	107	0	0	0
	12(OPE)	118	-493	89	0	0	0
	13(OPE)	161	-675	123	0	0	0
	14(OPE)	125	-575	119	0	0	0
	15(OPE)	146	-595	103	0	0	0
	16(OCC)	12	-29	-2	0	0	0
	17(OCC)	-12	30	1	0	0	0
	18(OCC)	-22	91	-17	0	0	0
	19(OCC)	21	-91	17	0	0	0
	20(OCC)	-15	10	13	0	0	0
	21(OCC)	6	-11	-3	0	0	0
	MAX	-170/L6	-1035/L1	-201/L6			
480		TYPE=Rigid +Y;					
	1(HYD)	-16	-1025	-10	0	0	0
	2(OPE)	252	-938	-126	0	0	0
	4(OPE)	218	-789	-93	0	0	0
	6(OPE)	-198	-731	94	0	0	0
	8(SUS)	-17	-802	-10	0	0	0
	9(SUS)	-17	-802	-10	0	0	0
	10(OPE)	211	-750	-78	0	0	0
	11(OPE)	222	-829	-112	0	0	0
	12(OPE)	183	-663	-78	0	0	0
	13(OPE)	252	-915	-108	0	0	0
	14(OPE)	245	-838	-54	0	0	0
	15(OPE)	180	-679	-95	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	16(OCC)	-7	40	15	0	0	0
	17(OCC)	4	-40	-19	0	0	0
	18(OCC)	-35	126	15	0	0	0
	19(OCC)	35	-126	-15	0	0	0
	20(OCC)	28	-48	39	0	0	0
	21(OCC)	-37	110	-2	0	0	0
	MAX	252/L13	-1025/L1	-126/L2			
510		TYPE=Rigid ANC;					
	1(HYD)	-23	134	168	41	-5	-5
	2(OPE)	-96	-1866	-536	-405	308	114
	4(OPE)	-363	-2615	-726	-599	494	253
	6(OPE)	26	1888	503	276	-72	-27
	8(SUS)	-25	2	164	41	-5	-2
	9(SUS)	-25	47	164	41	-5	-2
	10(OPE)	-19	-2643	-613	-446	468	105
	11(OPE)	-705	-2588	-837	-751	519	400
	12(OPE)	-368	-2330	-711	-576	496	264
	13(OPE)	-357	-2900	-741	-622	492	242
	14(OPE)	-289	-2569	-236	-254	380	195
	15(OPE)	-443	-1229	-995	-934	498	286
	16(OCC)	344	-28	113	153	-26	-148
	17(OCC)	-342	27	-111	-152	26	147
	18(OCC)	-5	285	15	23	2	11
	19(OCC)	6	-285	-15	-23	-2	-11
	20(OCC)	74	46	490	345	-114	-58
	21(OCC)	-81	1387	-269	-335	4	33
	MAX	-705/L11	-2900/L13	-995/L15	-934/L15	519/L11	400/L11
540		TYPE=Rigid ANC;					
	1(HYD)	-23	134	168	211	-54	57
	2(OPE)	-96	-1866	-536	-947	463	-330
	4(OPE)	-363	-2615	-726	-1332	704	-139
	6(OPE)	26	1888	503	783	-218	495
	8(SUS)	-25	2	164	207	-53	24
	9(SUS)	-25	47	164	207	-53	37
	10(OPE)	-19	-2643	-613	-1065	646	-643
	11(OPE)	-705	-2588	-837	-1596	762	362
	12(OPE)	-368	-2330	-711	-1295	702	-40
	13(OPE)	-357	-2900	-741	-1370	707	-238
	14(OPE)	-289	-2569	-236	-493	449	-259
	15(OPE)	-443	-1229	-995	-1939	787	377
	16(OCC)	344	-28	113	267	-59	-503
	17(OCC)	-342	27	-111	-264	58	501
	18(OCC)	-5	285	15	38	-3	99
	19(OCC)	6	-285	-15	-37	3	-99

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	20(OCC)	74	46	490	840	-256	-119
	21(OCC)	-81	1387	-269	-607	83	516
	MAX	-705/L11	-2900/L13	-995/L15	-1939/L15	787/L15	-643/L10
560		TYPE=Rigid ANC;					
	1(HYD)	-1429	-6340	36	393	44	921
	2(OPE)	-3461	-4230	3488	6126	-9282	3323
	4(OPE)	-3449	-4458	3557	6225	-9429	2329
	6(OPE)	1625	-3345	-917	-1395	2444	-3314
	8(SUS)	-779	-3614	21	183	22	501
	9(SUS)	-778	-3610	21	183	22	500
	10(OPE)	-968	-4328	3261	5756	-9201	-1703
	11(OPE)	-6052	-4596	3905	6794	-9734	6585
	12(OPE)	-3261	-4016	3528	6161	-9409	2113
	13(OPE)	-3638	-4901	3587	6290	-9449	2548
	14(OPE)	-3389	-4457	4767	8041	-10059	2175
	15(OPE)	-3455	-4444	3516	6192	-9352	2335
	16(OCC)	2481	130	-296	-469	228	-4032
	17(OCC)	-2603	-138	348	570	-305	4256
	18(OCC)	188	442	-29	-64	20	-217
	19(OCC)	-189	-443	30	65	-21	219
	20(OCC)	60	1	1210	1817	-631	-154
	21(OCC)	-6	14	-41	-32	77	6
	MAX	-6052/L11	-6340/L1	4767/L14	8041/L14	-10059/L14	6585/L11
590		TYPE=Rigid ANC;					
	1(HYD)	-1429	-6340	36	429	41	1800
	2(OPE)	-3461	-4230	3488	9663	-9596	6452
	4(OPE)	-3449	-4458	3557	9831	-9749	5425
	6(OPE)	1625	-3345	-917	-2325	2526	-5262
	8(SUS)	-779	-3614	21	204	20	965
	9(SUS)	-778	-3610	21	204	20	964
	10(OPE)	-968	-4328	3261	9062	-9494	-1111
	11(OPE)	-6052	-4596	3905	10754	-10085	12308
	12(OPE)	-3261	-4016	3528	9738	-9727	5058
	13(OPE)	-3638	-4901	3587	9927	-9772	5796
	14(OPE)	-3389	-4457	4767	12875	-10488	5210
	15(OPE)	-3455	-4444	3516	9757	-9668	5438
	16(OCC)	2481	130	-296	-769	255	-6536
	17(OCC)	-2603	-138	348	923	-336	6883
	18(OCC)	188	442	-29	-94	22	-367
	19(OCC)	-189	-443	30	95	-23	371
	20(OCC)	60	1	1210	3044	-740	-215
	21(OCC)	-6	14	-41	-74	81	13
	MAX	-6052/L11	-6340/L1	4767/L14	12875/L14	-10488/L14	12308/L11

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
610		TYPE=Rigid +Y;					
	1(HYD)	36	-123	-9	0	0	0
	2(OPE)	-49	-165	9	0	0	0
	4(OPE)	0	0	0	0	0	0
	6(OPE)	33	-117	13	0	0	0
	8(SUS)	33	-114	-10	0	0	0
	9(SUS)	33	-114	-10	0	0	0
	10(OPE)	0	0	0	0	0	0
	11(OPE)	0	0	0	0	0	0
	12(OPE)	0	0	0	0	0	0
	13(OPE)	0	0	0	0	0	0
	14(OPE)	0	0	0	0	0	0
	15(OPE)	0	0	0	0	0	0
	16(OCC)	0	0	0	0	0	0
	17(OCC)	0	0	0	0	0	0
	18(OCC)	0	0	0	0	0	0
	19(OCC)	0	0	0	0	0	0
	20(OCC)	0	0	0	0	0	0
	21(OCC)	0	0	0	0	0	0
	MAX	-49/L2	-165/L2	13/L6			
		TYPE=Rigid +Y;					
	1(HYD)	0	-1551	-0	0	0	0
	2(OPE)	80	-845	241	0	0	0
	4(OPE)	80	-847	241	0	0	0
	6(OPE)	24	-841	-251	0	0	0
	8(SUS)	0	-842	-0	0	0	0
	9(SUS)	0	-841	-0	0	0	0
	10(OPE)	59	-847	247	0	0	0
	11(OPE)	81	-847	241	0	0	0
	12(OPE)	72	-746	212	0	0	0
	13(OPE)	88	-948	270	0	0	0
	14(OPE)	65	-847	246	0	0	0
	15(OPE)	80	-847	241	0	0	0
	16(OCC)	-21	0	6	0	0	0
	17(OCC)	1	-0	-0	0	0	0
	18(OCC)	-8	101	-29	0	0	0
	19(OCC)	8	-101	29	0	0	0
	20(OCC)	-15	0	4	0	0	0
	21(OCC)	-0	-0	0	0	0	0
	MAX	88/L13	-1551/L1	270/L13			
630		TYPE=Rigid X; Rigid +Y;					
	1(HYD)	-0	-15387	-0	0	0	0
	2(OPE)	-578	-8364	2509	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	4(OPE)	-593	-8368	2511	0	0	0
	6(OPE)	-846	-8347	-2504	0	0	0
	8(SUS)	-0	-8351	-0	0	0	0
	9(SUS)	-0	-8340	-0	0	0	0
	10(OPE)	2792	-8368	2510	0	0	0
	11(OPE)	-3821	-8369	2511	0	0	0
	12(OPE)	-677	-7366	2210	0	0	0
	13(OPE)	-492	-9370	2811	0	0	0
	14(OPE)	-1287	-8369	2511	0	0	0
	15(OPE)	-593	-8368	2511	0	0	0
	16(OCC)	3385	1	-0	0	0	0
	17(OCC)	-3228	-1	0	0	0	0
	18(OCC)	-84	1002	-301	0	0	0
	19(OCC)	101	-1002	301	0	0	0
	20(OCC)	-694	-0	0	0	0	0
	21(OCC)	0	-0	0	0	0	0
	MAX	-3821/L11	-15387/L1	2811/L13			
670		TYPE=Rigid +Y;					
	1(HYD)	-0	-8678	-0	0	0	0
	2(OPE)	-1383	-4627	-120	0	0	0
	4(OPE)	-1374	-4596	-119	0	0	0
	6(OPE)	1403	-4734	-220	0	0	0
	8(SUS)	-0	-4710	-0	0	0	0
	9(SUS)	-0	-4704	-0	0	0	0
	10(OPE)	-1380	-4600	-32	0	0	0
	11(OPE)	-1370	-4591	-140	0	0	0
	12(OPE)	-1205	-4031	-106	0	0	0
	13(OPE)	-1543	-5161	-131	0	0	0
	14(OPE)	-1372	-4595	133	0	0	0
	15(OPE)	-1374	-4596	-119	0	0	0
	16(OCC)	-6	-5	87	0	0	0
	17(OCC)	4	5	-21	0	0	0
	18(OCC)	169	565	13	0	0	0
	19(OCC)	-169	-565	-12	0	0	0
	20(OCC)	2	1	252	0	0	0
	21(OCC)	0	0	0	0	0	0
	MAX	-1543/L13	-8678/L1	252/L20			
695		TYPE=Rigid X w/gap; Rigid +Y;					
	1(HYD)	-0	-16081	-181	0	0	0
	2(OPE)	-2044	-8891	-2658	0	0	0
	4(OPE)	-2100	-8959	-2679	0	0	0
	6(OPE)	-188	-8679	2597	0	0	0
	8(SUS)	-0	-8727	-98	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	9(SUS)	-0	-8716	-98	0	0	0
	10(OPE)	-53	-8949	-2684	0	0	0
	11(OPE)	-4735	-8970	-2682	0	0	0
	12(OPE)	-2281	-7911	-2365	0	0	0
	13(OPE)	-1923	-10007	-2992	0	0	0
	14(OPE)	-1256	-8959	-2679	0	0	0
	15(OPE)	-2100	-8959	-2679	0	0	0
	16(OCC)	2047	10	-5	0	0	0
	17(OCC)	-2635	-11	-3	0	0	0
	18(OCC)	-181	1048	313	0	0	0
	19(OCC)	177	-1048	-313	0	0	0
	20(OCC)	844	-0	-0	0	0	0
	21(OCC)	-0	-0	-0	0	0	0
	MAX	-4735/L11	-16081/L1	-2992/L13			
700		TYPE=Rigid X; Rigid +Y;					
	1(HYD)	1	-1156	-302	0	0	0
	2(OPE)	4151	-372	-112	0	0	0
	4(OPE)	4206	-242	-73	0	0	0
	6(OPE)	-334	-707	212	0	0	0
	8(SUS)	0	-627	-164	0	0	0
	9(SUS)	0	-627	-164	0	0	0
	10(OPE)	5570	-262	-79	0	0	0
	11(OPE)	3399	-221	-66	0	0	0
	12(OPE)	4365	-167	-50	0	0	0
	13(OPE)	4047	-317	-95	0	0	0
	14(OPE)	3939	-251	-75	0	0	0
	15(OPE)	4207	-242	-73	0	0	0
	16(OCC)	1364	-20	-6	0	0	0
	17(OCC)	-807	21	6	0	0	0
	18(OCC)	158	75	22	0	0	0
	19(OCC)	-160	-75	-22	0	0	0
	20(OCC)	-268	-9	-3	0	0	0
	21(OCC)	1	-0	-0	0	0	0
	MAX	5570/L10	-1156/L1	-302/L1			
750		TYPE=Rigid +Y; Rigid Z w/gap; Rigid X w/gap;					
	1(HYD)	-0	-8531	-0	0	0	0
	2(OPE)	2041	-4629	-1298	0	0	0
	4(OPE)	2068	-4628	-1313	0	0	0
	6(OPE)	-35	-4630	393	0	0	0
	8(SUS)	-0	-4630	-0	0	0	0
	9(SUS)	-0	-4624	-0	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	10(OPE)	3491	-4628	-1555	0	0	0
	11(OPE)	855	-4628	-1210	0	0	0
	12(OPE)	2063	-4072	-1303	0	0	0
	13(OPE)	2001	-5184	-1329	0	0	0
	14(OPE)	2173	-4628	4665	0	0	0
	15(OPE)	2068	-4628	-1313	0	0	0
	16(OCC)	1424	-0	-242	0	0	0
	17(OCC)	-1213	0	103	0	0	0
	18(OCC)	-4	556	9	0	0	0
	19(OCC)	-67	-556	-16	0	0	0
	20(OCC)	106	-0	5978	0	0	0
	21(OCC)	-0	0	-0	0	0	0
	MAX	3491/L10	-8531/L1	5978/L20			
780		TYPE=Rigid +Y;					
	1(HYD)	0	-4582	-0	0	0	0
	2(OPE)	121	-2488	-737	0	0	0
	4(OPE)	121	-2489	-737	0	0	0
	6(OPE)	-201	-2486	718	0	0	0
	8(SUS)	0	-2487	-0	0	0	0
	9(SUS)	0	-2483	-0	0	0	0
	10(OPE)	219	-2488	-714	0	0	0
	11(OPE)	112	-2489	-738	0	0	0
	12(OPE)	104	-2190	-649	0	0	0
	13(OPE)	132	-2787	-826	0	0	0
	14(OPE)	175	-2489	-726	0	0	0
	15(OPE)	121	-2489	-737	0	0	0
	16(OCC)	98	0	23	0	0	0
	17(OCC)	-9	-0	-1	0	0	0
	18(OCC)	-17	298	88	0	0	0
	19(OCC)	11	-298	-89	0	0	0
	20(OCC)	54	-0	11	0	0	0
	21(OCC)	0	0	0	0	0	0
	MAX	219/L10	-4582/L1	-826/L13			
800		TYPE=Rigid +Y; Rigid X w/gap;					
	1(HYD)	-0	-10767	-0	0	0	0
	2(OPE)	-469	-5841	-1748	0	0	0
	4(OPE)	-491	-5840	-1748	0	0	0
	6(OPE)	-417	-5844	1703	0	0	0
	8(SUS)	-0	-5843	-0	0	0	0
	9(SUS)	-0	-5836	-0	0	0	0
	10(OPE)	2113	-5840	-1748	0	0	0
	11(OPE)	-4209	-5840	-1748	0	0	0
	12(OPE)	-746	-5138	-1538	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	13(OPE)	-307	-6541	-1958	0	0	0
	14(OPE)	-46	-5840	-1751	0	0	0
	15(OPE)	-491	-5840	-1748	0	0	0
	16(OCC)	2604	-0	-0	0	0	0
	17(OCC)	-3718	0	0	0	0	0
	18(OCC)	-255	701	210	0	0	0
	19(OCC)	184	-701	-210	0	0	0
	20(OCC)	445	0	-3	0	0	0
	21(OCC)	0	0	0	0	0	0
	MAX	-4209/L11	-10767/L1	-1958/L13			
830		TYPE=Rigid +Y;					
	1(HYD)	0	-8205	0	0	0	0
	2(OPE)	-1296	-4455	-328	0	0	0
	4(OPE)	-1296	-4455	-327	0	0	0
	6(OPE)	1331	-4452	118	0	0	0
	8(SUS)	0	-4453	0	0	0	0
	9(SUS)	0	-4447	0	0	0	0
	10(OPE)	-1282	-4455	-379	0	0	0
	11(OPE)	-1326	-4456	-168	0	0	0
	12(OPE)	-1142	-3921	-282	0	0	0
	13(OPE)	-1450	-4990	-373	0	0	0
	14(OPE)	-1337	-4455	2	0	0	0
	15(OPE)	-1296	-4455	-327	0	0	0
	16(OCC)	14	0	-52	0	0	0
	17(OCC)	-30	-0	159	0	0	0
	18(OCC)	154	534	44	0	0	0
	19(OCC)	-154	-534	-46	0	0	0
	20(OCC)	-41	-0	329	0	0	0
	21(OCC)	0	0	0	0	0	0
	MAX	-1450/L13	-8205/L1	-379/L10			
860		TYPE=Rigid +Y;					
	1(HYD)	-0	-8041	0	0	0	0
	2(OPE)	-524	-4364	1200	0	0	0
	4(OPE)	-525	-4364	1199	0	0	0
	6(OPE)	-284	-4364	-1278	0	0	0
	8(SUS)	-0	-4364	0	0	0	0
	9(SUS)	-0	-4358	0	0	0	0
	10(OPE)	-205	-4364	1293	0	0	0
	11(OPE)	-690	-4364	1113	0	0	0
	12(OPE)	-471	-3840	1051	0	0	0
	13(OPE)	-574	-4888	1349	0	0	0
	14(OPE)	-525	-4364	1199	0	0	0
	15(OPE)	-525	-4364	1199	0	0	0
	16(OCC)	320	0	94	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	17(OCC)	-165	-0	-87	0	0	0
	18(OCC)	54	524	-148	0	0	0
	19(OCC)	-49	-524	150	0	0	0
	20(OCC)	-0	-0	-0	0	0	0
	21(OCC)	-0	0	0	0	0	0
	MAX	-690/L11	-8041/L1	1349/L13			
880		TYPE=Rigid +Y; Rigid X w/gap; Rigid Z w/gap;					
	1(HYD)	0	-6891	0	0	0	0
	2(OPE)	2092	-3740	3181	0	0	0
	4(OPE)	2119	-3739	3212	0	0	0
	6(OPE)	0	-3740	-917	0	0	0
	8(SUS)	0	-3740	0	0	0	0
	9(SUS)	0	-3735	0	0	0	0
	10(OPE)	4771	-3739	3304	0	0	0
	11(OPE)	373	-3739	3568	0	0	0
	12(OPE)	2104	-3291	3166	0	0	0
	13(OPE)	2139	-4188	3451	0	0	0
	14(OPE)	1884	-3739	8874	0	0	0
	15(OPE)	2119	-3739	3212	0	0	0
	16(OCC)	2652	-0	92	0	0	0
	17(OCC)	-1746	0	356	0	0	0
	18(OCC)	-15	449	-45	0	0	0
	19(OCC)	20	-449	239	0	0	0
	20(OCC)	-235	0	5662	0	0	0
	21(OCC)	0	0	0	0	0	0
	MAX	4771/L10	-6891/L1	8874/L14			
890		TYPE=Rigid +Y; Rigid X; Rigid Z w/gap;					
	1(HYD)	0	-6522	0	0	0	0
	2(OPE)	-46	-3540	-243	0	0	0
	4(OPE)	-51	-3540	-262	0	0	0
	6(OPE)	28	-3540	-1062	0	0	0
	8(SUS)	0	-3540	0	0	0	0
	9(SUS)	0	-3535	0	0	0	0
	10(OPE)	2405	-3540	-1483	0	0	0
	11(OPE)	-2306	-3540	1062	0	0	0
	12(OPE)	-54	-3115	-935	0	0	0
	13(OPE)	-2	-3965	23	0	0	0
	14(OPE)	145	-3540	9605	0	0	0
	15(OPE)	-51	-3540	-262	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	16(OCC)	2456	0	-1221	0	0	0
	17(OCC)	-2255	0	1324	0	0	0
	18(OCC)	-3	425	-672	0	0	0
	19(OCC)	48	-425	286	0	0	0
	20(OCC)	196	0	9867	0	0	0
	21(OCC)	-0	0	0	0	0	0
	MAX	2456/L16	-6522/L1	9867/L20			
900		TYPE=Rigid +Y;					
	1(HYD)	-0	-6558	0	0	0	0
	2(OPE)	-56	-3559	-1066	0	0	0
	4(OPE)	-58	-3559	-1066	0	0	0
	6(OPE)	-25	-3559	1067	0	0	0
	8(SUS)	-0	-3559	0	0	0	0
	9(SUS)	-0	-3555	0	0	0	0
	10(OPE)	91	-3559	-1064	0	0	0
	11(OPE)	-167	-3559	-1055	0	0	0
	12(OPE)	-57	-3132	-938	0	0	0
	13(OPE)	-34	-3986	-1195	0	0	0
	14(OPE)	-76	-3559	-1065	0	0	0
	15(OPE)	-58	-3559	-1066	0	0	0
	16(OCC)	149	0	2	0	0	0
	17(OCC)	-109	0	12	0	0	0
	18(OCC)	1	427	128	0	0	0
	19(OCC)	24	-427	-129	0	0	0
	20(OCC)	-18	0	1	0	0	0
	21(OCC)	0	0	0	0	0	0
	MAX	-167/L11	-6558/L1	-1195/L13			
910		TYPE=Rigid +Y; Rigid X w/gap;					
	1(HYD)	0	-6443	0	0	0	0
	2(OPE)	-64	-3496	-1047	0	0	0
	4(OPE)	-66	-3496	-1047	0	0	0
	6(OPE)	-20	-3496	1049	0	0	0
	8(SUS)	0	-3496	0	0	0	0
	9(SUS)	0	-3492	0	0	0	0
	10(OPE)	14	-3496	-1049	0	0	0
	11(OPE)	-508	-3496	-1045	0	0	0
	12(OPE)	-194	-3077	-920	0	0	0
	13(OPE)	-38	-3916	-1174	0	0	0
	14(OPE)	-68	-3496	-1047	0	0	0
	15(OPE)	-66	-3496	-1047	0	0	0
	16(OCC)	79	0	-2	0	0	0
	17(OCC)	-442	0	1	0	0	0
	18(OCC)	-129	420	126	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	19(OCC)	28	-420	-127	0	0	0
	20(OCC)	-2	0	0	0	0	0
	21(OCC)	0	0	0	0	0	0
	MAX	-508/L11	-6443/L1	-1174/L13			
920		TYPE=Rigid +Y;					
	1(HYD)	-0	-6875	0	0	0	0
	2(OPE)	-67	-3731	-1117	0	0	0
	4(OPE)	-68	-3731	-1117	0	0	0
	6(OPE)	71	-3731	1117	0	0	0
	8(SUS)	-0	-3731	0	0	0	0
	9(SUS)	-0	-3726	0	0	0	0
	10(OPE)	-71	-3731	-1117	0	0	0
	11(OPE)	-7	-3731	-1119	0	0	0
	12(OPE)	-76	-3283	-982	0	0	0
	13(OPE)	-47	-4179	-1253	0	0	0
	14(OPE)	-67	-3731	-1117	0	0	0
	15(OPE)	-68	-3731	-1117	0	0	0
	16(OCC)	-3	0	0	0	0	0
	17(OCC)	62	0	-2	0	0	0
	18(OCC)	-8	448	135	0	0	0
	19(OCC)	21	-448	-136	0	0	0
	20(OCC)	1	0	-0	0	0	0
	21(OCC)	0	0	0	0	0	0
	MAX	-76/L12	-6875/L1	-1253/L13			
930		TYPE=Rigid +Y; Rigid X w/gap;					
	1(HYD)	0	-4874	0	0	0	0
	2(OPE)	-2959	-2645	-793	0	0	0
	4(OPE)	-2953	-2645	-793	0	0	0
	6(OPE)	861	-2645	773	0	0	0
	8(SUS)	0	-2645	0	0	0	0
	9(SUS)	0	-2642	0	0	0	0
	10(OPE)	3558	-2645	-793	0	0	0
	11(OPE)	-8443	-2645	-793	0	0	0
	12(OPE)	-2430	-2328	-698	0	0	0
	13(OPE)	-3424	-2963	-888	0	0	0
	14(OPE)	-2961	-2645	-793	0	0	0
	15(OPE)	-2953	-2645	-793	0	0	0
	16(OCC)	6511	0	-0	0	0	0
	17(OCC)	-5490	0	0	0	0	0
	18(OCC)	523	317	95	0	0	0
	19(OCC)	-471	-317	-95	0	0	0
	20(OCC)	-8	0	0	0	0	0
	21(OCC)	0	0	0	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	MAX	-8443/L11	-4874/L1	-888/L13			
940		TYPE=Rigid +Y;					
	1(HYD)	0	-7875	0	0	0	0
	2(OPE)	43	-4274	-1281	0	0	0
	4(OPE)	46	-4274	-1281	0	0	0
	6(OPE)	396	-4274	1220	0	0	0
	8(SUS)	0	-4274	0	0	0	0
	9(SUS)	0	-4269	0	0	0	0
	10(OPE)	371	-4274	-1227	0	0	0
	11(OPE)	-161	-4274	-1272	0	0	0
	12(OPE)	67	-3761	-1126	0	0	0
	13(OPE)	14	-4787	-1436	0	0	0
	14(OPE)	39	-4274	-1282	0	0	0
	15(OPE)	46	-4274	-1281	0	0	0
	16(OCC)	325	0	54	0	0	0
	17(OCC)	-206	0	9	0	0	0
	18(OCC)	22	513	155	0	0	0
	19(OCC)	-31	-513	-155	0	0	0
	20(OCC)	-7	0	-0	0	0	0
	21(OCC)	-0	0	0	0	0	0
	MAX	396/L6	-7875/L1	-1436/L13			
970		TYPE=Rigid +Y; Rigid Z;					
	1(HYD)	0	-10550	0	0	0	0
	2(OPE)	1718	-5726	-7121	0	0	0
	4(OPE)	1718	-5726	-7168	0	0	0
	6(OPE)	-318	-5726	1641	0	0	0
	8(SUS)	0	-5726	0	0	0	0
	9(SUS)	0	-5718	0	0	0	0
	10(OPE)	1718	-5726	-5811	0	0	0
	11(OPE)	1718	-5726	-8029	0	0	0
	12(OPE)	1512	-5038	-6989	0	0	0
	13(OPE)	1924	-6413	-7363	0	0	0
	14(OPE)	1718	-5726	-4898	0	0	0
	15(OPE)	1718	-5726	-7168	0	0	0
	16(OCC)	0	0	1356	0	0	0
	17(OCC)	0	0	-862	0	0	0
	18(OCC)	-206	687	179	0	0	0
	19(OCC)	206	-687	-196	0	0	0
	20(OCC)	0	0	2269	0	0	0
	21(OCC)	0	0	-0	0	0	0
	MAX	1924/L13	-10550/L1	-8029/L11			
1010		TYPE=Rigid +Y;					

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	1(HYD)	0	-6976	0	0	0	0
	2(OPE)	1101	-3786	278	0	0	0
	4(OPE)	1101	-3786	277	0	0	0
	6(OPE)	-1026	-3786	-487	0	0	0
	8(SUS)	0	-3786	0	0	0	0
	9(SUS)	0	-3781	0	0	0	0
	10(OPE)	1120	-3786	189	0	0	0
	11(OPE)	1067	-3786	389	0	0	0
	12(OPE)	972	-3332	234	0	0	0
	13(OPE)	1230	-4240	325	0	0	0
	14(OPE)	1094	-3786	305	0	0	0
	15(OPE)	1101	-3786	277	0	0	0
	16(OCC)	19	0	-89	0	0	0
	17(OCC)	-34	0	112	0	0	0
	18(OCC)	-130	454	-43	0	0	0
	19(OCC)	128	-454	48	0	0	0
	20(OCC)	-7	0	28	0	0	0
	21(OCC)	0	0	0	0	0	0
	MAX	1230/L13	-6976/L1	-487/L6			
1020		TYPE=Rigid +Y; Rigid Z;					
	1(HYD)	0	-2475	0	0	0	0
	2(OPE)	0	-1343	1795	0	0	0
	4(OPE)	0	-1343	1812	0	0	0
	6(OPE)	0	-1343	-126	0	0	0
	8(SUS)	0	-1343	0	0	0	0
	9(SUS)	0	-1342	0	0	0	0
	10(OPE)	0	-1343	1882	0	0	0
	11(OPE)	0	-1343	1851	0	0	0
	12(OPE)	0	-1182	1825	0	0	0
	13(OPE)	0	-1505	1799	0	0	0
	14(OPE)	0	-1343	2588	0	0	0
	15(OPE)	0	-1343	1812	0	0	0
	16(OCC)	0	0	71	0	0	0
	17(OCC)	0	0	40	0	0	0
	18(OCC)	0	161	14	0	0	0
	19(OCC)	0	-161	-13	0	0	0
	20(OCC)	0	0	777	0	0	0
	21(OCC)	0	0	0	0	0	0
	MAX		-2475/L1	2588/L14			
1050		TYPE=Rigid +Y;					
	1(HYD)	0	-4473	-0	0	0	0
	2(OPE)	331	-2428	-649	0	0	0
	4(OPE)	331	-2428	-649	0	0	0
	6(OPE)	-593	-2428	423	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	8(SUS)	0	-2428	-0	0	0	0
	9(SUS)	0	-2425	-0	0	0	0
	10(OPE)	368	-2428	-629	0	0	0
	11(OPE)	390	-2428	-615	0	0	0
	12(OPE)	294	-2136	-569	0	0	0
	13(OPE)	365	-2719	-730	0	0	0
	14(OPE)	358	-2428	-635	0	0	0
	15(OPE)	331	-2428	-649	0	0	0
	16(OCC)	37	0	20	0	0	0
	17(OCC)	59	-0	34	0	0	0
	18(OCC)	-37	291	79	0	0	0
	19(OCC)	34	-291	-81	0	0	0
	20(OCC)	27	-0	14	0	0	0
	21(OCC)	0	0	0	0	0	0
	MAX	-593/L6	-4473/L1	-730/L13			
1060		TYPE=Rigid X w/gap; Rigid +Y;					
	1(HYD)	-0	-10876	-0	0	0	0
	2(OPE)	-1154	-5903	-1765	0	0	0
	4(OPE)	-1178	-5903	-1765	0	0	0
	6(OPE)	-219	-5903	1757	0	0	0
	8(SUS)	-0	-5903	-0	0	0	0
	9(SUS)	-0	-5895	-0	0	0	0
	10(OPE)	1093	-5903	-1765	0	0	0
	11(OPE)	-4952	-5903	-1765	0	0	0
	12(OPE)	-1157	-5194	-1553	0	0	0
	13(OPE)	-1054	-6611	-1977	0	0	0
	14(OPE)	-959	-5903	-1765	0	0	0
	15(OPE)	-1178	-5903	-1765	0	0	0
	16(OCC)	2270	0	0	0	0	0
	17(OCC)	-3775	-0	-0	0	0	0
	18(OCC)	21	708	212	0	0	0
	19(OCC)	124	-708	-212	0	0	0
	20(OCC)	219	-0	0	0	0	0
	21(OCC)	0	0	0	0	0	0
	MAX	-4952/L11	-10876/L1	-1977/L13			
1090		TYPE=Rigid +Y;					
	1(HYD)	0	-8358	0	0	0	0
	2(OPE)	-1258	-4536	519	0	0	0
	4(OPE)	-1257	-4536	520	0	0	0
	6(OPE)	1325	-4536	-310	0	0	0
	8(SUS)	0	-4536	0	0	0	0
	9(SUS)	0	-4530	0	0	0	0
	10(OPE)	-1225	-4536	592	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	11(OPE)	-1196	-4536	649	0	0	0
	12(OPE)	-1106	-3991	458	0	0	0
	13(OPE)	-1413	-5080	570	0	0	0
	14(OPE)	-1164	-4536	705	0	0	0
	15(OPE)	-1257	-4536	520	0	0	0
	16(OCC)	32	-0	72	0	0	0
	17(OCC)	61	0	128	0	0	0
	18(OCC)	151	544	-63	0	0	0
	19(OCC)	-156	-544	50	0	0	0
	20(OCC)	93	0	185	0	0	0
	21(OCC)	0	0	0	0	0	0
	MAX	-1413/L13	-8358/L1	705/L14			
1120		TYPE=Rigid +Y;					
	1(HYD)	-0	-7442	0	0	0	0
	2(OPE)	-228	-4039	1190	0	0	0
	4(OPE)	-228	-4039	1190	0	0	0
	6(OPE)	-169	-4039	-1200	0	0	0
	8(SUS)	-0	-4039	0	0	0	0
	9(SUS)	-0	-4034	0	0	0	0
	10(OPE)	-108	-4039	1207	0	0	0
	11(OPE)	-333	-4039	1165	0	0	0
	12(OPE)	-202	-3554	1047	0	0	0
	13(OPE)	-248	-4523	1334	0	0	0
	14(OPE)	-288	-4039	1177	0	0	0
	15(OPE)	-228	-4039	1190	0	0	0
	16(OCC)	120	-0	17	0	0	0
	17(OCC)	-105	0	-25	0	0	0
	18(OCC)	26	485	-143	0	0	0
	19(OCC)	-20	-485	144	0	0	0
	20(OCC)	-59	0	-13	0	0	0
	21(OCC)	-0	0	0	0	0	0
	MAX	-333/L11	-7442/L1	1334/L13			
1130		TYPE=Rigid X w/gap; Rigid +Y;					
	1(HYD)	0	-6769	0	0	0	0
	2(OPE)	183	-3674	1101	0	0	0
	4(OPE)	176	-3674	1101	0	0	0
	6(OPE)	-355	-3674	-1056	0	0	0
	8(SUS)	0	-3674	0	0	0	0
	9(SUS)	0	-3669	0	0	0	0
	10(OPE)	3379	-3674	1101	0	0	0
	11(OPE)	-1154	-3674	1101	0	0	0
	12(OPE)	130	-3233	969	0	0	0
	13(OPE)	369	-4115	1233	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	14(OPE)	4	-3674	1102	0	0	0
	15(OPE)	176	-3674	1101	0	0	0
	16(OCC)	3203	0	-0	0	0	0
	17(OCC)	-1329	-0	0	0	0	0
	18(OCC)	-46	441	-132	0	0	0
	19(OCC)	193	-441	132	0	0	0
	20(OCC)	-172	-0	1	0	0	0
	21(OCC)	-0	0	0	0	0	0
	MAX	3379/L10	-6769/L1	1233/L13			
1140		TYPE=Rigid X w/gap; Rigid +Y;					
	1(HYD)	0	-6470	0	0	0	0
	2(OPE)	1192	-3511	0	0	0	0
	4(OPE)	1210	-3511	0	0	0	0
	6(OPE)	0	-3511	0	0	0	0
	8(SUS)	0	-3511	0	0	0	0
	9(SUS)	0	-3507	0	0	0	0
	10(OPE)	1269	-3511	0	0	0	0
	11(OPE)	0	-3511	0	0	0	0
	12(OPE)	1234	-3090	0	0	0	0
	13(OPE)	1094	-3933	0	0	0	0
	14(OPE)	915	-3511	0	0	0	0
	15(OPE)	1210	-3511	0	0	0	0
	16(OCC)	59	-0	0	0	0	0
	17(OCC)	-1210	0	0	0	0	0
	18(OCC)	24	421	0	0	0	0
	19(OCC)	-116	-421	0	0	0	0
	20(OCC)	-295	0	0	0	0	0
	21(OCC)	0	0	0	0	0	0
	MAX	1269/L10	-6470/L1				
1150		TYPE=Rigid +Y;					
	1(HYD)	-0	-6551	0	0	0	0
	2(OPE)	58	-3555	1065	0	0	0
	4(OPE)	58	-3555	1065	0	0	0
	6(OPE)	-130	-3555	-1059	0	0	0
	8(SUS)	-0	-3555	0	0	0	0
	9(SUS)	-0	-3551	0	0	0	0
	10(OPE)	114	-3555	1061	0	0	0
	11(OPE)	-36	-3555	1066	0	0	0
	12(OPE)	51	-3129	937	0	0	0
	13(OPE)	61	-3982	1193	0	0	0
	14(OPE)	79	-3555	1064	0	0	0
	15(OPE)	58	-3555	1065	0	0	0
	16(OCC)	56	0	-5	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	17(OCC)	-94	0	1	0	0	0
	18(OCC)	-6	427	-128	0	0	0
	19(OCC)	3	-427	128	0	0	0
	20(OCC)	21	0	-1	0	0	0
	21(OCC)	-0	0	0	0	0	0
	MAX	-130/L6	-6551/L1	1193/L13			

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS.....2
Stress Summary : Multiple 3

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

- 1 (HYD) WW+HP
- 2 (OPE) W+T1+P1
- 3 (Alt-SUS) W+P1
- 4 (OPE) W+T2+P1
- 5 (Alt-SUS) W+P1
- 6 (OPE) W+T3+P1
- 7 (Alt-SUS) W+P1
- 8 (SUS) W+P1
- 9 (SUS) WNC
- 10 (OPE) W+T2+P1+U1
- 11 (OPE) W+T2+P1-U1
- 12 (OPE) W+T2+P1+U2
- 13 (OPE) W+T2+P1-U2
- 14 (OPE) W+T2+P1+U3
- 15 (OPE) W+T2+P1+F1
- 16 (OCC) L16=L10-L4
- 17 (OCC) L17=L11-L4
- 18 (OCC) L18=L12-L4
- 19 (OCC) L19=L13-L4
- 20 (OCC) L20=L14-L4
- 21 (OCC) L21=L15-L4
- 22 (OCC) L22=L16+L8
- 23 (OCC) L23=L17+L8
- 24 (OCC) L24=L18+L8
- 25 (OCC) L25=L19+L8
- 26 (OCC) L26=L20+L8
- 27 (OCC) L27=L21+L8
- 28 (EXP) L28=L2-L8
- 29 (EXP) L29=L4-L8
- 30 (EXP) L30=L2-L4
- 31 (EXP) L31=L6-L8
- 32 (EXP) L32=L2-L6
- 33 (EXP) L33=L4-L6

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
 Various Load Cases

LOAD CASE DEFINITION KEY

CASE 1 (HYD) WW+HP
 CASE 3 (Alt-SUS) W+P1
 CASE 5 (Alt-SUS) W+P1
 CASE 7 (Alt-SUS) W+P1
 CASE 8 (SUS) W+P1
 CASE 9 (SUS) WNC
 CASE 22 (OCC) L22=L16+L8
 CASE 23 (OCC) L23=L17+L8
 CASE 24 (OCC) L24=L18+L8
 CASE 25 (OCC) L25=L19+L8
 CASE 26 (OCC) L26=L20+L8
 CASE 27 (OCC) L27=L21+L8
 CASE 28 (EXP) L28=L2-L8
 CASE 29 (EXP) L29=L4-L8
 CASE 30 (EXP) L30=L2-L4
 CASE 31 (EXP) L31=L6-L8
 CASE 32 (EXP) L32=L2-L6
 CASE 33 (EXP) L33=L4-L6

Piping Code: B31.3 = B31.3 -2016, Jan 31, 2017

CODE STRESS CHECK PASSED : LOADCASE 1 (HYD) WW+HP

Highest Stresses: (KPa)	LOADCASE 1 (HYD) WW+HP	
Ratio (%):	22.9 @Node 695	
Code Stress:	55349.4	Allowable Stress: 241316.5
Axial Stress:	5959.8 @Node 640	
Bending Stress:	49305.0 @Node 695	
Torsion Stress:	5959.4 @Node 680	
Hoop Stress:	12353.7 @Node 30	
Max Stress Intensity:	55373.0 @Node 695	

CODE STRESS CHECK PASSED : LOADCASE 3 (Alt-SUS) W+P1

Highest Stresses: (KPa)	LOADCASE 3 (Alt-SUS) W+P1	
Ratio (%):	64.3 @Node 695	
Code Stress:	83126.0	Allowable Stress: 129365.3
Axial Stress:	12073.8 @Node 680	
Bending Stress:	77761.9 @Node 140	
Torsion Stress:	12906.7 @Node 130	
Hoop Stress:	24443.4 @Node 30	
Max Stress Intensity:	83126.2 @Node 695	

CODE STRESS CHECK PASSED : LOADCASE 5 (Alt-SUS) W+P1

Highest Stresses: (KPa)	LOADCASE 5 (Alt-SUS) W+P1	
Ratio (%):	64.3 @Node 695	
Code Stress:	83125.9	Allowable Stress: 129365.3

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
Various Load Cases

Axial Stress:	12073.8	@Node	680
Bending Stress:	70933.0	@Node	695
Torsion Stress:	20036.3	@Node	140
Hoop Stress:	24443.4	@Node	30
Max Stress Intensity:	83126.1	@Node	695

CODE STRESS CHECK PASSED : LOADCASE 7 (Alt-SUS) W+P1

Highest Stresses: (KPa)	LOADCASE 7 (Alt-SUS) W+P1	
Ratio (%):	64.3	@Node 695
Code Stress:	83127.9	Allowable Stress: 129365.3
Axial Stress:	12073.5	@Node 640
Bending Stress:	70935.0	@Node 695
Torsion Stress:	8576.3	@Node 680
Hoop Stress:	24443.4	@Node 30
Max Stress Intensity:	83128.0	@Node 695

CODE STRESS CHECK PASSED : LOADCASE 8 (SUS) W+P1

Highest Stresses: (KPa)	LOADCASE 8 (SUS) W+P1	
Ratio (%):	64.3	@Node 695
Code Stress:	83159.5	Allowable Stress: 129365.3
Axial Stress:	12073.5	@Node 640
Bending Stress:	70969.2	@Node 695
Torsion Stress:	8577.9	@Node 680
Hoop Stress:	24443.4	@Node 30
Max Stress Intensity:	83194.8	@Node 695

CODE STRESS CHECK PASSED : LOADCASE 9 (SUS) WNC

Highest Stresses: (KPa)	LOADCASE 9 (SUS) WNC	
Ratio (%):	54.9	@Node 695
Code Stress:	71051.0	Allowable Stress: 129365.3
Axial Stress:	1723.1	@Node 260
Bending Stress:	70879.4	@Node 695
Torsion Stress:	8567.0	@Node 680
Hoop Stress:	0.0	@Node 20
Max Stress Intensity:	71051.0	@Node 695

CODE STRESS CHECK PASSED : LOADCASE 22 (OCC) L22=L16+L8

Highest Stresses: (KPa)	LOADCASE 22 (OCC) L22=L16+L8	
Ratio (%):	60.6	@Node 630
Code Stress:	104310.8	Allowable Stress: 172055.9
Axial Stress:	13421.9	@Node 950
Bending Stress:	115575.7	@Node 950
Torsion Stress:	9463.3	@Node 140
Hoop Stress:	24443.4	@Node 30
Max Stress Intensity:	136196.3	@Node 950

CODE STRESS CHECK PASSED : LOADCASE 23 (OCC) L23=L17+L8

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
Various Load Cases

Highest Stresses: (KPa) LOADCASE 23 (OCC) L23=L17+L8
Ratio (%): 61.8 @Node 695
Code Stress: 106276.3 Allowable Stress: 172055.9
Axial Stress: 12808.4 @Node 1070
Bending Stress: 93928.2 @Node 695
Torsion Stress: 8583.4 @Node 680
Hoop Stress: 24443.4 @Node 30
Max Stress Intensity: 107677.5 @Node 950

CODE STRESS CHECK PASSED : LOADCASE 24 (OCC) L24=L18+L8

Highest Stresses: (KPa) LOADCASE 24 (OCC) L24=L18+L8
Ratio (%): 53.4 @Node 695
Code Stress: 91963.7 Allowable Stress: 172055.9
Axial Stress: 12383.8 @Node 900
Bending Stress: 79667.0 @Node 695
Torsion Stress: 7548.3 @Node 680
Hoop Stress: 24443.4 @Node 30
Max Stress Intensity: 92034.3 @Node 695

CODE STRESS CHECK PASSED : LOADCASE 25 (OCC) L25=L19+L8

Highest Stresses: (KPa) LOADCASE 25 (OCC) L25=L19+L8
Ratio (%): 53.4 @Node 695
Code Stress: 91952.9 Allowable Stress: 172055.9
Axial Stress: 12080.3 @Node 840
Bending Stress: 79655.6 @Node 695
Torsion Stress: 9607.5 @Node 680
Hoop Stress: 24443.4 @Node 30
Max Stress Intensity: 92023.6 @Node 695

CODE STRESS CHECK PASSED : LOADCASE 26 (OCC) L26=L20+L8

Highest Stresses: (KPa) LOADCASE 26 (OCC) L26=L20+L8
Ratio (%): 51.1 @Node 695
Code Stress: 87959.3 Allowable Stress: 172055.9
Axial Stress: 13827.0 @Node 890
Bending Stress: 75027.9 @Node 695
Torsion Stress: 12648.4 @Node 108
Hoop Stress: 24443.4 @Node 30
Max Stress Intensity: 87994.7 @Node 695

CODE STRESS CHECK PASSED : LOADCASE 27 (OCC) L27=L21+L8

Highest Stresses: (KPa) LOADCASE 27 (OCC) L27=L21+L8
Ratio (%): 48.3 @Node 695
Code Stress: 83161.0 Allowable Stress: 172055.9
Axial Stress: 12073.5 @Node 680
Bending Stress: 70970.8 @Node 695
Torsion Stress: 9324.9 @Node 130
Hoop Stress: 24443.4 @Node 30
Max Stress Intensity: 83196.4 @Node 695

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
Various Load Cases

CODE STRESS CHECK PASSED : LOADCASE 28 (EXP) L28=L2-L8

Highest Stresses: (	KPa	)	LOADCASE 28 (EXP) L28=L2-L8	
Ratio (%):	41.0	@Node	1099	
Code Stress:	128545.7	Allowable Stress:		313501.9
Axial Stress:	1959.9	@Node	320	
Bending Stress:	130223.7	@Node	1098	
Torsion Stress:	13796.3	@Node	20	
Hoop Stress:	0.0	@Node	20	
Max Stress Intensity:	347855.5	@Node	1098	

CODE STRESS CHECK PASSED : LOADCASE 29 (EXP) L29=L4-L8

Highest Stresses: (	KPa	)	LOADCASE 29 (EXP) L29=L4-L8	
Ratio (%):	41.4	@Node	1099	
Code Stress:	129675.3	Allowable Stress:		313160.6
Axial Stress:	2746.3	@Node	320	
Bending Stress:	131371.3	@Node	1098	
Torsion Stress:	20844.1	@Node	320	
Hoop Stress:	0.0	@Node	20	
Max Stress Intensity:	350919.3	@Node	1098	

CODE STRESS CHECK PASSED : LOADCASE 30 (EXP) L30=L2-L4

Highest Stresses: (	KPa	)	LOADCASE 30 (EXP) L30=L2-L4	
Ratio (%):	13.3	@Node	315	
Code Stress:	35510.8	Allowable Stress:		266899.0
Axial Stress:	786.4	@Node	510	
Bending Stress:	36831.0	@Node	315	
Torsion Stress:	7769.8	@Node	320	
Hoop Stress:	0.0	@Node	20	
Max Stress Intensity:	83849.0	@Node	315	

CODE STRESS CHECK PASSED : LOADCASE 31 (EXP) L31=L6-L8

Highest Stresses: (	KPa	)	LOADCASE 31 (EXP) L31=L6-L8	
Ratio (%):	9.9	@Node	260	
Code Stress:	28153.1	Allowable Stress:		284424.4
Axial Stress:	1978.8	@Node	320	
Bending Stress:	26277.2	@Node	260	
Torsion Stress:	3590.8	@Node	20	
Hoop Stress:	0.0	@Node	20	
Max Stress Intensity:	59709.0	@Node	949	

CODE STRESS CHECK PASSED : LOADCASE 32 (EXP) L32=L2-L6

Highest Stresses: (	KPa	)	LOADCASE 32 (EXP) L32=L2-L6	
Ratio (%):	47.4	@Node	1099	
Code Stress:	148702.1	Allowable Stress:		313501.9
Axial Stress:	3938.7	@Node	320	
Bending Stress:	150038.5	@Node	1098	

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
 Various Load Cases

Torsion Stress:	17387.2	@Node	20
Hoop Stress:	0.0	@Node	20
Max Stress Intensity:	400888.2	@Node	1098

CODE STRESS CHECK PASSED : LOADCASE 33 (EXP) L33=L4-L6

Highest Stresses: (KPa)	LOADCASE 33 (EXP) L33=L4-L6	
Ratio (%):	47.8	@Node 1099
Code Stress:	149831.6	Allowable Stress: 313160.6
Axial Stress:	4725.1	@Node 320
Bending Stress:	151186.1	@Node 1098
Torsion Stress:	23619.0	@Node 320
Hoop Stress:	0.0	@Node 20
Max Stress Intensity:	403952.0	@Node 1098

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Nozzle Check : Multiple 3

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

- 1 (HYD) WW+HP
- 2 (OPE) W+T1+P1
- 3 (Alt-SUS) W+P1
- 4 (OPE) W+T2+P1
- 5 (Alt-SUS) W+P1
- 6 (OPE) W+T3+P1
- 7 (Alt-SUS) W+P1
- 8 (SUS) W+P1
- 9 (SUS) WNC
- 10 (OPE) W+T2+P1+U1
- 11 (OPE) W+T2+P1-U1
- 12 (OPE) W+T2+P1+U2
- 13 (OPE) W+T2+P1-U2
- 14 (OPE) W+T2+P1+U3
- 15 (OPE) W+T2+P1+F1
- 16 (OCC) L16=L10-L4
- 17 (OCC) L17=L11-L4
- 18 (OCC) L18=L12-L4
- 19 (OCC) L19=L13-L4
- 20 (OCC) L20=L14-L4
- 21 (OCC) L21=L15-L4
- 22 (OCC) L22=L16+L8
- 23 (OCC) L23=L17+L8
- 24 (OCC) L24=L18+L8
- 25 (OCC) L25=L19+L8
- 26 (OCC) L26=L20+L8
- 27 (OCC) L27=L21+L8
- 28 (EXP) L28=L2-L8
- 29 (EXP) L29=L4-L8
- 30 (EXP) L30=L2-L4
- 31 (EXP) L31=L6-L8
- 32 (EXP) L32=L2-L6
- 33 (EXP) L33=L4-L6

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NOZZLE CHECK REPORT: Nozzle Loads Screening

Various Load Cases

LOAD CASE DEFINITION KEY

CASE 2 (OPE) W+T1+P1

CASE 4 (OPE) W+T2+P1

CASE 6 (OPE) W+T3+P1

CASE 8 (SUS) W+P1

CASE 9 (SUS) WNC

Node		fa N.	fb N.	fc N.	Forces Check	ma N.m.	mb N.m.	mc N.m.	Moments Check	
10		Absolute Method								
	Limits	11201	11201	8400		6720	4480	5820		
	2(OPE)	-3946	-3461	-3488	0.415	-9282	5053	-2258	1.381	*
	4(OPE)	-4175	-3449	-3557	0.423	-9429	5130	-1268	1.403	*
	6(OPE)	-3061	1625	917	0.273	2444	-1113	2814	0.483	
	8(SUS)	-3331	-779	-21	0.297	22	177	-261	0.045	
	9(SUS)	-3327	-778	-21	0.297	22	176	-261	0.045	
330		Absolute Method								
	Limits	2800	2800	2100		420	280	360		
	2(OPE)	1806	-96	-536	0.645	-308	-216	80	0.770	
	4(OPE)	2556	-363	-726	0.913	-494	-342	125	1.223	*
	6(OPE)	-1947	26	503	0.695	72	98	-18	0.350	
	8(SUS)	-62	-25	164	0.078	5	-17	-11	0.062	
	9(SUS)	-100	-25	164	0.078	5	-17	-11	0.062	

BNK-GCS-CN-020

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Line no.

Stress sketch

Input echo

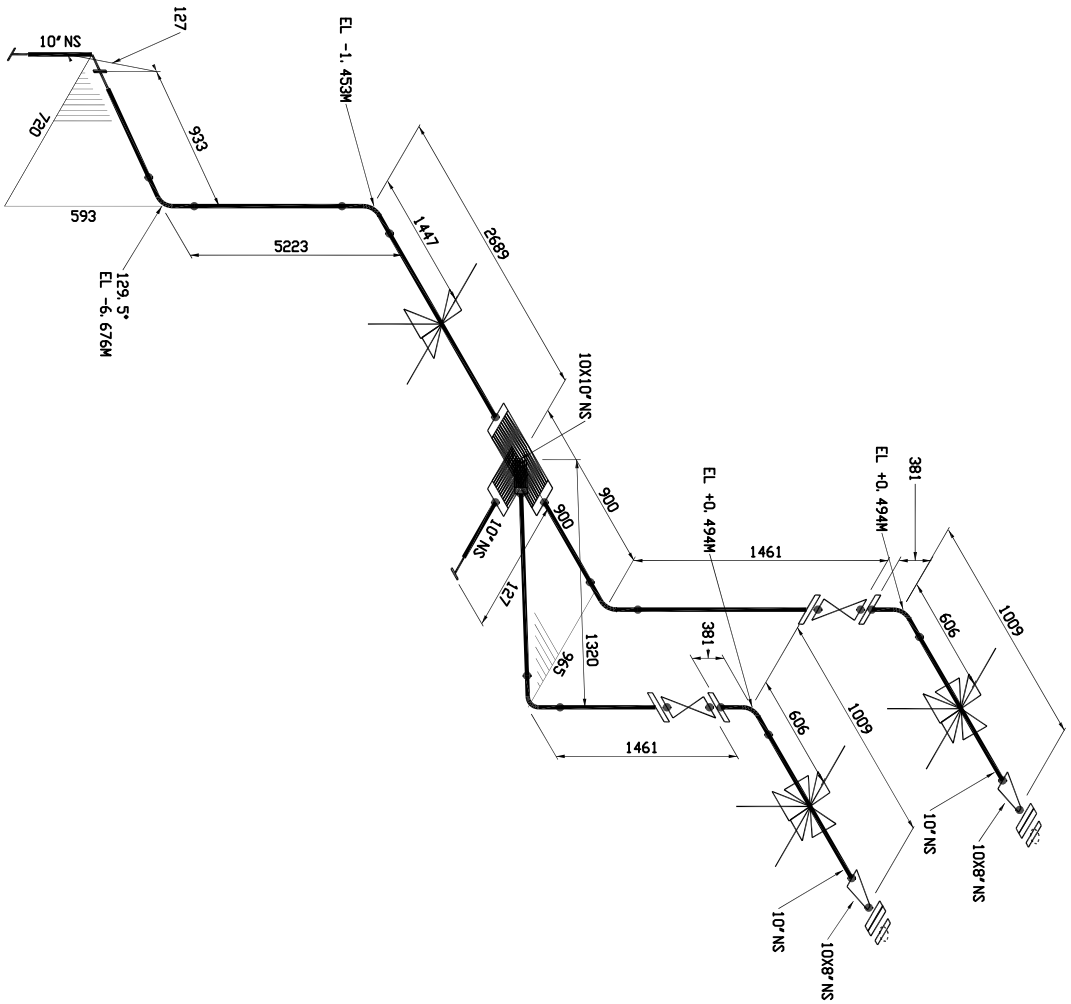
Restraint summary

Stress summary

Nozzle load Table

LINE NO.:

1. CDH-112-0031-AN07-2"-PT



CHECK ISOMETRIC ONLY – DO NOT ISSUE

CHECK ISOMETRIC ONLY – DO NOT ISSUE					REV.	
PIPING SPEC.		OP. TEMP.		INTERGRAPH		
INSULATION SPEC.		PROJECT NO.				
INSULATION THKS.		SYSTEM				
PAINTING SPEC.		AREA				
MATERIAL		DRAWN BY		PIPELINE REFERENCE		
OP. PRESSURE		E.L.DIAGRAM				
REV.	CHANGE	DATE	THIS DRAWING IS THE PROPERTY OF INTERGRAPH LTD AND MUST NOT BE COPIED OR LENT WITHOUT THE CONSENT OF THE COMPANY			
		27 FEB 2024				
					DRG.	
					1 OF 1	

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

- 1 (HYD) WW+HP
- 2 (OPE) W+T1+P1
- 3 (Alt-SUS) W+P1
- 4 (OPE) W+T2+P1
- 5 (Alt-SUS) W+P1
- 6 (OPE) W+T3+P1
- 7 (Alt-SUS) W+P1
- 8 (SUS) W+P1
- 9 (SUS) WNC
- 10 (OPE) W+T2+P1+U1
- 11 (OPE) W+T2+P1-U1
- 12 (OPE) W+T2+P1+U2
- 13 (OPE) W+T2+P1+U3
- 14 (OPE) W+T2+P1-U3
- 15 (OPE) W+T2+P1+F1
- 16 (OCC) L16=L10-L4
- 17 (OCC) L17=L11-L4
- 18 (OCC) L18=L12-L4
- 19 (OCC) L19=L13-L4
- 20 (OCC) L20=L14-L4
- 21 (OCC) L21=L15-L4
- 22 (OCC) L22=L16+L8
- 23 (OCC) L23=L17+L8
- 24 (OCC) L24=L18+L8
- 25 (OCC) L25=L19+L8
- 26 (OCC) L26=L20+L8
- 27 (OCC) L27=L21+L8
- 28 (EXP) L28=L2-L8
- 29 (EXP) L29=L4-L8
- 30 (EXP) L30=L2-L4
- 31 (EXP) L31=L6-L8
- 32 (EXP) L32=L2-L6
- 33 (EXP) L33=L4-L6

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INPUT LISTING

Job Description:

PROJECT:

CLIENT :

ANALYST:

NOTES :

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INPUT LISTING

File created by FEATools

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PIPE DATA

 From 10 To 20 DY= 127.000 mm.

PIPE

Dia= 273.050 mm. Wall= 9.271 mm. Cor= 6.0000 mm.

GENERAL

T1= 272 C T2= 272 C T3= -28 C P1= 750.0171 KPa P2= .0000 KPa
 PHyd= 1,125.0256 KPa Mat= (106)A106 Grade B E= 203,401,232 KPa
 EH1= 187,335,024 KPa EH2= 187,335,024 KPa EH3= 205,934,864 KPa
 EH4= 203,401,232 KPa EH5= 203,401,232 KPa EH6= 203,401,232 KPa
 EH7= 203,401,232 KPa EH8= 203,401,232 KPa EH9= 203,401,232 KPa
 v = .292 Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000015 kg./cu.cm.
 Insul Thk= .000 mm. Insul Den= .0001362 kg./cu.cm.

RIGID Weight= .00 N.

UNIFORM LOAD

Vector1 in G-s X1 Dir = .26 g's Y1 Dir = .00 g's Z1 Dir = .00 g's
 Vector2 in G-s X2 Dir = .00 g's Y2 Dir = .12 g's Z2 Dir = .00 g's
 Vector3 in G-s X3 Dir = .00 g's Y3 Dir = .00 g's Z3 Dir = .26 g's

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 129,365 KPa Sh2= 129,365 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 20 To 30 DX= 720.000 mm. DY= 593.000 mm.

GENERAL

T1= 272 C T2= 272 C T3= -28 C P1= 600.0137 KPa PHyd= 900.0205 KPa

BEND at "T0" end

Radius= 381.000 mm. (LONG) Bend Angle= 50.525 Angle/Node @1= 25.26 29
 Angle/Node @2= .00 28

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 129,365 KPa Sh2= 129,365 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 30 To 40 DY= 5,223.000 mm.

BEND at "T0" end

Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 39
 Angle/Node @2= .00 38

 From 40 To 50 DZ= -1,447.000 mm.

RESTRAINTS

Node 50 +Y Mu = .30
 Node 50 X Gap= 3.000 mm.

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INPUT LISTING

From 50 To 60 DZ= -1,242.000 mm.

From 60 To 70 DZ= -900.000 mm.

BEND at "TO" end

Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 69

Angle/Node @2= .00 68

From 70 To 80 DY= 1,017.000 mm.

From 80 To 90 DY= 104.775 mm.

RIGID Weight= 235.76 N.

From 90 To 100 DY= 339.000 mm.

RIGID Weight= 3,563.03 N.

From 100 To 110 DY= 104.775 mm.

RIGID Weight= 235.76 N.

From 110 To 120 DY= 381.000 mm.

BEND at "TO" end

Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 119

From 120 To 130 DZ= -606.000 mm.

RESTRAINTS

Node 130 +Y Cnode 580

Node 130 X Cnode 580 Gap= 3.000 mm.

Node 130 Z Cnode 580 Gap= 3.000 mm.

From 130 To 140 DZ= -225.000 mm.

From 140 To 150 DZ= -178.000 mm.

REDUCER

Diam2= 219.075 mm. Wall2= 10.312 mm.

From 150 To 160 DZ= -104.775 mm.

PIPE

Dia= 219.075 mm. Wall= 10.312 mm.

Insul Thk= .000 mm.

RIGID Weight= 177.93 N.

From 60 To 170 DX= 127.000 mm.

PIPE

Dia= 273.050 mm. Wall= 9.271 mm.

Insul Thk= .000 mm.

RIGID Weight= .00 N.

SIF's & TEE's

Node 170 Unreinforced Tee

From 60 To 180 DX= 965.000 mm. DZ= -900.000 mm.

BEND at "TO" end

Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 179

Angle/Node @2= .00 178

SIF's & TEE's

Node 60 Unreinforced Tee

From 180 To 190 DY= 1,017.000 mm.

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INPUT LISTING

From 190 To 200 DY= 104.775 mm.

RIGID Weight= 235.76 N.

From 200 To 210 DY= 339.000 mm.

RIGID Weight= 3,563.03 N.

From 210 To 220 DY= 104.775 mm.

RIGID Weight= 235.76 N.

From 220 To 230 DY= 381.000 mm.

BEND at "T0" end

Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 229

From 230 To 240 DZ= -606.000 mm.

RESTRAINTS

Node 240 +Y Cnode 590

Node 240 X Cnode 590 Gap= 3.000 mm.

Node 240 Z Cnode 590 Gap= 3.000 mm.

From 240 To 250 DZ= -225.000 mm.

From 250 To 260 DZ= -178.000 mm.

REDUCER

Diam2= 219.075 mm. Wall2= 10.312 mm.

From 260 To 270 DZ= -104.775 mm.

PIPE

Dia= 219.075 mm. Wall= 10.312 mm.

Insul Thk= .000 mm.

RIGID Weight= 177.93 N.

From 270 To 280 DZ= -105.000 mm.

PIPE

Dia= 219.075 mm. Wall= 10.312 mm.

GENERAL

T1= 85 C T2= 32 C T3= 15 C P1= 900.0205 KPa PHyd= 1,350.0308 KPa

Fluid Den= .0000060 kg./cu.cm. Insul Thk= .000 mm.

RIGID Weight= 177.93 N.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 280 To 290 DZ= -136.000 mm.

RIGID Weight= 200.01 N.

FORCES & MOMENTS

Node 290 FY1= 2,000.10 N. FZ1= -3,000.15 N.

From 290 To 300 DY= -122.500 mm.

PIPE

Dia= 168.275 mm. Wall= 10.973 mm.

Insul Thk= .000 mm.

RIGID Weight= 200.01 N.

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INPUT LISTING

From 300 To 310 DY= -122.500 mm.

RIGID Weight= 111.21 N.

From 310 To 320 DY= -92.075 mm.

RIGID Weight= 111.21 N.

From 320 To 330 DY= -152.000 mm.

REDUCER

Diam2= 219.075 mm. Wall2= 10.312 mm.

From 330 To 340 DY= -300.000 mm.

PIPE

Dia= 219.075 mm. Wall= 10.312 mm.

Insul Thk= .000 mm.

From 340 To 350 DY= -104.775 mm.

RIGID Weight= 177.93 N.

From 350 To 360 DY= -301.000 mm.

RIGID Weight= 2,259.70 N.

From 360 To 370 DY= -104.775 mm.

RIGID Weight= 177.93 N.

From 370 To 380 DY= -500.000 mm.

BEND at "T0" end

Radius= 304.800 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 379

Angle/Node @2= .00 378

From 380 To 390 DX= -482.000 mm.

From 160 To 400 DZ= -105.000 mm.

PIPE

Dia= 219.075 mm. Wall= 10.312 mm. Cor= 6.0000 mm.

GENERAL

T1= 85 C T2= 32 C T3= 15 C P1= 900.0205 KPa P2= .0000 KPa

Phyd= 1,350.0308 KPa Mat= (106)A106 Grade B E= 203,401,232 KPa

EH1= 199,086,608 KPa EH2= 202,494,736 KPa EH3= 203,685,616 KPa

EH4= 203,401,232 KPa EH5= 203,401,232 KPa EH6= 203,401,232 KPa

EH7= 203,401,232 KPa EH8= 203,401,232 KPa EH9= 203,401,232 KPa

v = .292 Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000060 kg./cu.cm.

Insul Thk= .000 mm. Insul Den= .0001362 kg./cu.cm.

RIGID Weight= 177.93 N.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 400 To 410 DZ= -136.000 mm.

RIGID Weight= 200.01 N.

FORCES & MOMENTS

Node 410 FY1= 2,000.10 N. FZ1= -3,000.15 N.

From 410 To 420 DY= -148.000 mm.

PIPE

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INPUT LISTING

Dia= 168.275 mm. Wall= 10.973 mm.

Insul Thk= .000 mm.

RIGID Weight= 200.01 N.

From 420 To 430 DY= -92.075 mm.

RIGID Weight= 111.21 N.

From 430 To 440 DY= -92.075 mm.

RIGID Weight= 111.21 N.

From 440 To 450 DY= -152.000 mm.

REDUCER

Diam2= 219.075 mm. Wall2= 10.312 mm.

From 450 To 460 DY= -300.000 mm.

PIPE

Dia= 219.075 mm. Wall= 10.312 mm.

Insul Thk= .000 mm.

From 460 To 470 DY= -104.775 mm.

RIGID Weight= 177.93 N.

From 470 To 480 DY= -301.000 mm.

RIGID Weight= 2,259.70 N.

From 480 To 490 DY= -104.775 mm.

RIGID Weight= 177.93 N.

From 490 To 500 DY= -500.000 mm.

BEND at "TO" end

Radius= 304.800 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 499

Angle/Node @2= .00 498

From 500 To 390 DX= 482.000 mm.

From 390 To 800 DZ= -483.000 mm.

BEND at "TO" end

Radius= 304.800 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 799

Angle/Node @2= .00 798

From 800 To 510 DY= -305.000 mm.

From 510 To 520 DY= -104.775 mm.

RIGID Weight= 177.93 N.

RESTRAINTS

Node 520 ANC Cnode 530

From 530 To 540 DY= -104.775 mm.

RIGID Weight= 177.93 N.

From 540 To 550 DY= -202.000 mm.

PIPE

Dia= 219.075 mm. Wall= 10.312 mm.

Insul Thk= .000 mm.

RESTRAINTS

Node 550 ANC Cnode 560

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INPUT LISTING

EQUIPMENT LIMITS

Nozzle Node = 550

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 11,200.56 N. FB= 11,200.56 N.

FC= 8,400.42 N. MA= 6,720.29 N.m. MB= 4,480.19 N.m. MC= 5,820.25 N.m.

Equipment Major Direction Vector= .0000 .0000 1.0000

Interact. Mtd= Absolute

From 560 To 570 DY= -2,100.000 mm.

PIPE

Dia= 4,200.000 mm. Wall= 10.312 mm.

Insul Thk= .000 mm.

RIGID Weight= .00 N.

From 560 To 580 DX= -483.000 mm. DY= 2,516.175 mm. DZ= 1,231.773 mm.

RIGID Weight= .00 N.

From 560 To 590 DX= 482.000 mm. DY= 2,516.175 mm. DZ= 1,231.773 mm.

RIGID Weight= .00 N.

From 570 To 600 DX= -4,600.000 mm.

RIGID Weight= .00 N.

From 600 To 610 DY= -2,100.000 mm.

RIGID Weight= .00 N.

RESTRAINTS

Node 610 +Y Mu = .30

Node 610 Z Gap= 3.000 mm. Mu = .30

From 570 To 620 DX= 6,000.000 mm.

RIGID Weight= .00 N.

From 620 To 630 DY= -2,100.000 mm.

RIGID Weight= .00 N.

RESTRAINTS

Node 630 ANC

From 650 To 660 DZ= -6,000.000 mm.

PIPE

Dia= 273.050 mm. Wall= 9.271 mm. Cor= 6.0000 mm.

GENERAL

T1= 270 C T2= 272 C T3= -28 C P1= 600.0137 KPa PHyd= 900.0205 KPa

Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 187,483,936 KPa

EH2= 187,335,024 KPa EH3= 205,934,864 KPa EH4= 203,401,232 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000015 kg./cu.cm.

Insul Thk= .000 mm. Insul Den= .0001362 kg./cu.cm.

RESTRAINTS

Node 660 +Y Mu = .30

Node 650 +Y Mu = .30

Node 650 X Gap= 3.000 mm. Mu = .30

Node 650 Z Gap= 3.000 mm. Mu = .30

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 129,638 KPa Sh2= 129,365 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

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INPUT LISTING

Sh9= 137,895 KPa Sy= 241,316 KPa

 From 660 To 670 DZ= -6,000.000 mm.

RESTRAINTS

Node 670 +Y Mu = .30

Node 670 X Gap= 3.000 mm.

 From 670 To 680 DZ= -6,000.000 mm.

RESTRAINTS

Node 680 +Y Mu = .30

 From 680 To 690 DZ= -6,000.000 mm.

RESTRAINTS

Node 690 +Y Mu = .30

Node 690 X Gap= 3.000 mm.

 From 690 To 700 DZ= -4,500.000 mm.

RESTRAINTS

Node 700 +Y Mu = .30

 From 700 To 710 DZ= -1,070.000 mm.

BEND at "TO" end

Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 709

Angle/Node @2= .00 708

 From 710 To 720 DX= 3,500.000 mm.

 From 720 To 730 DX= 4,500.000 mm.

RESTRAINTS

Node 730 +Y Mu = .30

Node 730 Z

 From 730 To 740 DX= 4,500.000 mm.

 From 740 To 750 DX= 97.000 mm.

 From 750 To 20 DY= 127.000 mm.

RIGID Weight= .00 N.

SIF's & TEE's

Node 20 Welding Tee

 From 750 To 770 DX= 3,103.000 mm.

RESTRAINTS

Node 770 +Y Mu = .30

 From 770 To 780 DX= 4,600.000 mm.

RESTRAINTS

Node 780 +Y Mu = .00

Node 780 Z

 From 780 To 790 DX= 420.000 mm.

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MATERIAL Changes:

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INPUT LISTING

10	20	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
160	400	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
650	660	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.

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JOBNAME: D:\BINAK PRO\STRESS REPORT\D02\NATIVE\BNK-GCS-CN-005-D02\BNK-GCS-CN-00

ALLOWABLE STRESS Changes

10	20	B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa Sh1= 129,365 KPa Sh2= 129,365 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa Sh9= 137,895 KPa Sy= 241,316 KPa
20	30	B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa Sh1= 129,365 KPa Sh2= 129,365 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa Sh9= 137,895 KPa Sy= 241,316 KPa
270	280	B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa Sh9= 137,895 KPa Sy= 241,316 KPa
160	400	B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa Sh9= 137,895 KPa Sy= 241,316 KPa
650	660	B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa Sh1= 129,638 KPa Sh2= 129,365 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa Sh9= 137,895 KPa Sy= 241,316 KPa

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BEND ELEMENTS

20	30	Radius= 381.000 mm. (LONG) Bend Angle= 50.525 Angle/Node @1= 25.26 29 Angle/Node @2= .00 28
30	40	Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 39 Angle/Node @2= .00 38

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INPUT LISTING

60	70	Radius= 381.000 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00 69
		Angle/Node @2= .00 68
110	120	Radius= 381.000 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		119
60	180	Radius= 381.000 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		179 Angle/Node @2= .00 178
220	230	Radius= 381.000 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		229
370	380	Radius= 304.800 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		379 Angle/Node @2= .00 378
490	500	Radius= 304.800 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		499 Angle/Node @2= .00 498
390	800	Radius= 304.800 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		799 Angle/Node @2= .00 798
700	710	Radius= 381.000 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		709 Angle/Node @2= .00 708

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RIGIDS

10	20	RIGID Weight= .00 N.
80	90	RIGID Weight= 235.76 N.
90	100	RIGID Weight= 3,563.03 N.
100	110	RIGID Weight= 235.76 N.
150	160	RIGID Weight= 177.93 N.
60	170	RIGID Weight= .00 N.
190	200	RIGID Weight= 235.76 N.
200	210	RIGID Weight= 3,563.03 N.
210	220	RIGID Weight= 235.76 N.
260	270	RIGID Weight= 177.93 N.
270	280	RIGID Weight= 177.93 N.
280	290	RIGID Weight= 200.01 N.
290	300	RIGID Weight= 200.01 N.
300	310	RIGID Weight= 111.21 N.
310	320	RIGID Weight= 111.21 N.
340	350	RIGID Weight= 177.93 N.
350	360	RIGID Weight= 2,259.70 N.
360	370	RIGID Weight= 177.93 N.
160	400	RIGID Weight= 177.93 N.
400	410	RIGID Weight= 200.01 N.
410	420	RIGID Weight= 200.01 N.
420	430	RIGID Weight= 111.21 N.
430	440	RIGID Weight= 111.21 N.
460	470	RIGID Weight= 177.93 N.
470	480	RIGID Weight= 2,259.70 N.
480	490	RIGID Weight= 177.93 N.
510	520	RIGID Weight= 177.93 N.

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INPUT LISTING

530	540	RIGID Weight= 177.93 N.
560	570	RIGID Weight= .00 N.
560	580	RIGID Weight= .00 N.
560	590	RIGID Weight= .00 N.
570	600	RIGID Weight= .00 N.
600	610	RIGID Weight= .00 N.
570	620	RIGID Weight= .00 N.
620	630	RIGID Weight= .00 N.
750	20	RIGID Weight= .00 N.

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SIF's & TEE's

60	170	Node 170 Unreinforced Tee
60	180	Node 60 Unreinforced Tee
750	20	Node 20 Welding Tee

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REDUCERS

140	150	Diam2= 219.075 mm.	Wall2= 10.312 mm.
250	260	Diam2= 219.075 mm.	Wall2= 10.312 mm.
320	330	Diam2= 219.075 mm.	Wall2= 10.312 mm.
440	450	Diam2= 219.075 mm.	Wall2= 10.312 mm.

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RESTRAINTS

NODE	TYPE	CNODE	STIF1	Len GAP STIF2	MU YIELD FORCE	Dir Vectors
50	+Y				.30	.000 1.000 .000
50	X			3.00		1.000 .000 .000
130	+Y	580				.000 1.000 .000
130	X	580		3.00		1.000 .000 .000
130	Z	580		3.00		.000 .000 1.000
240	+Y	590				.000 1.000 .000
240	X	590		3.00		1.000 .000 .000
240	Z	590		3.00		.000 .000 1.000
520	ANC	530				.000 .000 .000
550	ANC	560				.000 .000 .000
610	+Y				.30	.000 1.000 .000
610	Z			3.00	.30	.000 .000 1.000
630	ANC					.000 .000 .000
660	+Y				.30	.000 1.000 .000
650	+Y				.30	.000 1.000 .000
650	X			3.00	.30	1.000 .000 .000
650	Z			3.00	.30	.000 .000 1.000
670	+Y				.30	.000 1.000 .000
670	X			3.00		1.000 .000 .000
680	+Y				.30	.000 1.000 .000
690	+Y				.30	.000 1.000 .000
690	X			3.00		1.000 .000 .000
700	+Y				.30	.000 1.000 .000
730	+Y				.30	.000 1.000 .000

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INPUT LISTING

730	Z		.000	.000	1.000
770	+Y	.30	.000	1.000	.000
780	+Y	.00	.000	1.000	.000
780	Z		.000	.000	1.000

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EQUIPMENT LIMITS

540 550 Nozzle Node = 550

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 11,200.56 N. FB= 11,200.56 N.
 FC= 8,400.42 N. MA= 6,720.29 N.m. MB= 4,480.19 N.m. MC= 5,820.25 N.m.
 Equipment Major Direction Vector= .0000 .0000 1.0000
 Interact. Mtd= Absolute

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FORCES AND MOMENTS

280	290	Node 290	FY1= 2,000.10 N.
			FZ1= -3,000.15 N.
400	410	Node 410	FY1= 2,000.10 N.
			FZ1= -3,000.15 N.

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UNIFORM LOAD Changes

10	20	Vector1 in G-s
		X1 Dir = .26 g's Y1 Dir = .00 g's
		Z1 Dir = .00 g's
		Vector2 in G-s
		X2 Dir = .00 g's Y2 Dir = .12 g's
		Z2 Dir = .00 g's
		Vector3 in G-s
		X3 Dir = .00 g's Y3 Dir = .00 g's
		Z3 Dir = .26 g's

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INPUT UNITS USED...

UNITS= SI (m NOM/SCH INPUT= ON

LENGTH	inches	x	25.400	=	mm.
FORCE	pounds	x	4.448	=	N.
MASS(dynamics)	pounds	x	0.454	=	Kg.
MOMENTS(INPUT)	inch-pounds	x	0.113	=	N.m.
MOMENTS(OUTPUT)	inch-pounds	x	0.113	=	N.m.
STRESS	lbs./sq.in.	x	6.895	=	KPa
TEMP. SCALE	degrees F.	x	0.556	=	C
PRESSURE	psig	x	6.895	=	KPa
ELASTIC MODULUS	lbs./sq.in.	x	6.895	=	KPa
PIPE DENSITY	lbs./cu.in.	x	0.028	=	kg./cu.cm.
INSULATION DENS.	lbs./cu.in.	x	0.028	=	kg./cu.cm.
FLUID DENSITY	lbs./cu.in.	x	0.028	=	kg./cu.cm.

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INPUT LISTING

TRANSL. STIF	lbs./in.	x	1.751	=	N./cm.
ROTATIONAL STIF	in.lb./deg.	x	0.113	=	N.m./deg
UNIFORM LOAD	lb./in.	x	1.751	=	N./cm.
G LOAD	g's	x	1.000	=	g's
WIND LOAD	lbs./sq.in.	x	6.895	=	KPa
ELEVATION	inches	x	0.025	=	m.
COMPOUND LENGTH	inches	x	25.400	=	mm.
DIAMETER	inches	x	25.400	=	mm.
WALL THICKNESS	inches	x	25.400	=	mm.

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SETUP FILE PARAMETERS

```

CONNECT GEOMETRY THRU CNODES = YES
MIN ALLOWED BEND ANGLE = 5.00000
MAX ALLOWED BEND ANGLE = 95.0000
BEND LENGTH ATTACHMENT PERCENT = 1.00000
MIN ANGLE TO ADJACENT BEND PT = 5.00000
LOOP CLOSURE TOLERANCE = 25.4000 mm.
THERMAL BOWING HORZ TOLERANCE = 0.100000E-03
AUTO NODE NUMBER INCREMENT= 10.0000
Z AXIS UP= NO
USE PRESSURE STIFFENING = DEFAULT
ALPHA TOLERANCE = 0.500000E-01
RESLD-FORCE = NO
HGR DEF RESWGT STIF = 0.175127E+13 N./cm.
DECOMP SNG TOL = 0.100000E+11
BEND AXIAL SHAPE = YES
FRICT STIF = 0.175127E+07 N./cm.
FRICT NORM FORCE VAR = 0.150000
FRICT ANGLE VAR = 15.0000
FRICT SLIDE MULT = 1.00000
ROD TOLERANCE = 1.00000
ROD INC = 2.00000
INCORE NUMERICAL CHECK = NO
OUTCORE NUMERICAL CHECK = NO
DEFAULT TRANS RESTRAINT STIFF= 0.175127E+13 N./cm.
DEFAULT ROT RESTRAINT STIFF= 0.112985E+12 N.m./deg
IGNORE SPRING HANGER STIFFNESS = NO
MISSING MASS ZPA = EXTRACTED
MIN WALL MILL TOLERANCE = 12.5000
WRC-107 VERSION = MAR 79 1B1/2B1
WRC-107 INTERPOLATION = LAST VALUE
DEFAULT AMBIENT TEMPERATURE= 21.1111 C
BOURDON PRESSURE= NONE
COEFFICIENT OF FRICTION (MU) = 0.000000
INCLUDE SPRG STIF IN HGR OPE = NO
INCLUDE INSULATION IN HYDROTEST = NO
REDUCED INTERSECTION = B31.1(POST1980)
USE WRC329 NO
NO REDUCED SIF FOR RFT AND WLT NO
B31.1 REDUCED Z FIX = YES
CLASS 1 BRANCH FLEX NO
ALL STRESS CASES CORRODED = NO
ADD TORSION IN SL STRESS = DEFAULT
ADD F/A IN STRESS = DEFAULT

```

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INPUT LISTING

```
OCCASIONAL LOAD FACTOR = 0.000000
DEFAULT CODE = B31.3
B31.3 SUS CASE SIF FACTOR = 0.000000
ALLOW USERS BEND SIF = NO
USE SCHNEIDER NO
YIELD CRITERION STRESS = MAX 3D SHEAR
USE PD/4T NO
BASE H00P STRESS ON ? = ID
EN13480 USE IN OUTPLANE SIFS= NO
LIBERAL EXPANSION ALLOWABLE= YES
B31.3 SEC 319.2.3C SAXIAL= Default
B31.3 WELDING/CONTOUR TEE ISB16.9 FALSE
PRESSURE VARIATION IN EXP CASE= DEFAULT
IMPLEMENT B313 APP-P NO
IMPLEMENT B313 CODE CASE 178 YES
IGNORE B31.1/B31.3 Wc FACTOR= YES
USE FRP SIF = YES
USE FRP FLEX = YES
BS 7159 Pressure Stiffening= Design Strain
FRP Property Data File= CAESAR.FRP
FRP Emod (axial) = 0.220632E+08 KPa
FRP Ratio Gmod/Emod (axial) = 0.250000
FRP Ea/Eh*Vh/a = 0.152730
FRP Laminate Type = THREE
FRP Alpha = 21.6000 C
FRP Density = 0.166079E-02 kg./cu.cm.
EXCLUDE f2 FROM UK00A BENDING = NO
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```

EXECUTION CONTROL PARAMETERS

```
Rigid/ExpJt Print Flag ..... 1.000
Bourdon Option ..... .000
Loop Closure Flag ..... 2.000
Thermal Bowing Delta Temp .. .000 C
Liberal Allowable Flag ..... 1.000
Uniform Load Option ..... 1.000

Ambient Temperature ..... 20.997 C
Plastic (FRP) Alpha ..... 21.600
Plastic (FRP) GMOD/EMODa ... .250
Plastic (FRP) Laminate Type. 3.000
Eqn Optimizer ..... .000
Node Selection ..... .000
Eqn Ordering ..... .000
Collins ..... .000
Degree Determination ..... .000
User Eqn Control ..... .000
North Direction ..... -X
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```

COORDINATE REPORT

```

/------(mm.)-----/
NODE          X          Y          Z
```


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INPUT LISTING

10	-2503.080	-7395.683	-35745.781
20	-2503.080	-7268.683	-35745.781
30	-1783.080	-6675.683	-35745.781
40	-1783.080	-1452.683	-35745.781
50	-1783.080	-1452.683	-37192.781
60	-1783.080	-1452.683	-38434.781
70	-1783.080	-1452.683	-39334.781
80	-1783.080	-435.683	-39334.781
90	-1783.080	-330.908	-39334.781
100	-1783.080	8.092	-39334.781
110	-1783.080	112.867	-39334.781
120	-1783.080	493.867	-39334.781
130	-1783.080	493.867	-39940.781
140	-1783.080	493.867	-40165.781
150	-1783.080	493.867	-40343.781
160	-1783.080	493.867	-40448.555
60	-1783.080	-1452.683	-38434.781
170	-1656.080	-1452.683	-38434.781
60	-1783.080	-1452.683	-38434.781
180	-818.080	-1452.683	-39334.781
190	-818.080	-435.683	-39334.781
200	-818.080	-330.908	-39334.781
210	-818.080	8.092	-39334.781
220	-818.080	112.867	-39334.781
230	-818.080	493.867	-39334.781
240	-818.080	493.867	-39940.781
250	-818.080	493.867	-40165.781
260	-818.080	493.867	-40343.781
270	-818.080	493.867	-40448.555
280	-818.080	493.867	-40553.555
290	-818.080	493.867	-40689.555
300	-818.080	371.367	-40689.555
310	-818.080	248.867	-40689.555
320	-818.080	156.792	-40689.555
330	-818.080	4.792	-40689.555
340	-818.080	-295.208	-40689.555
350	-818.080	-399.983	-40689.555
360	-818.080	-700.983	-40689.555
370	-818.080	-805.758	-40689.555
380	-818.080	-1305.758	-40689.555
390	-1300.080	-1305.758	-40689.555
160	-1783.080	493.867	-40448.555
400	-1783.080	493.867	-40553.555
410	-1783.080	493.867	-40689.555
420	-1783.080	345.867	-40689.555
430	-1783.080	253.792	-40689.555
440	-1783.080	161.717	-40689.555
450	-1783.080	9.717	-40689.555
460	-1783.080	-290.283	-40689.555
470	-1783.080	-395.058	-40689.555
480	-1783.080	-696.058	-40689.555
490	-1783.080	-800.833	-40689.555
500	-1783.080	-1300.833	-40689.555
500	-1782.080	-1305.758	-40689.555
390	-1300.080	-1305.758	-40689.555
800	-1300.080	-1305.758	-41172.555

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INPUT LISTING

510	-1300.080	-1610.758	-41172.555
520	-1300.080	-1715.533	-41172.555
540	-1300.080	-1820.308	-41172.555
550	-1300.080	-2022.308	-41172.555
570	-1300.080	-4122.308	-41172.555
550	-1300.080	-2022.308	-41172.555
130	-1783.080	493.867	-39940.781
550	-1300.080	-2022.308	-41172.555
240	-818.080	493.867	-39940.781
570	-1300.080	-4122.308	-41172.555
600	-5900.080	-4122.308	-41172.555
610	-5900.080	-6222.308	-41172.555
570	-1300.080	-4122.308	-41172.555
620	4699.920	-4122.308	-41172.555
630	4699.920	-6222.308	-41172.555
650	-15100.080	-7395.683	-6175.781
660	-15100.080	-7395.683	-12175.781
670	-15100.080	-7395.683	-18175.781
680	-15100.080	-7395.683	-24175.781
690	-15100.080	-7395.683	-30175.781
700	-15100.080	-7395.683	-34675.781
710	-15100.080	-7395.683	-35745.781
720	-11600.080	-7395.683	-35745.781
730	-7100.080	-7395.683	-35745.781
740	-2600.080	-7395.683	-35745.781
750	-2503.080	-7395.683	-35745.781
20	-2503.080	-7268.683	-35745.781
750	-2503.080	-7395.683	-35745.781
770	599.920	-7395.683	-35745.781
780	5199.920	-7395.683	-35745.781
790	5619.920	-7395.683	-35745.781

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

- 1 (HYD) WW+HP
- 2 (OPE) W+T1+P1
- 3 (Alt-SUS) W+P1
- 4 (OPE) W+T2+P1
- 5 (Alt-SUS) W+P1
- 6 (OPE) W+T3+P1
- 7 (Alt-SUS) W+P1
- 8 (SUS) W+P1
- 9 (SUS) WNC
- 10 (OPE) W+T2+P1+U1
- 11 (OPE) W+T2+P1-U1
- 12 (OPE) W+T2+P1+U2
- 13 (OPE) W+T2+P1+U3
- 14 (OPE) W+T2+P1-U3
- 15 (OPE) W+T2+P1+F1
- 16 (OCC) L16=L10-L4
- 17 (OCC) L17=L11-L4
- 18 (OCC) L18=L12-L4
- 19 (OCC) L19=L13-L4
- 20 (OCC) L20=L14-L4
- 21 (OCC) L21=L15-L4
- 22 (OCC) L22=L16+L8
- 23 (OCC) L23=L17+L8
- 24 (OCC) L24=L18+L8
- 25 (OCC) L25=L19+L8
- 26 (OCC) L26=L20+L8
- 27 (OCC) L27=L21+L8
- 28 (EXP) L28=L2-L8
- 29 (EXP) L29=L4-L8
- 30 (EXP) L30=L2-L4
- 31 (EXP) L31=L6-L8
- 32 (EXP) L32=L2-L6
- 33 (EXP) L33=L4-L6

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

LOAD CASE DEFINITION KEY

CASE 1 (HYD) WW+HP
CASE 2 (OPE) W+T1+P1
CASE 4 (OPE) W+T2+P1
CASE 6 (OPE) W+T3+P1
CASE 8 (SUS) W+P1
CASE 9 (SUS) WNC
CASE 10 (OPE) W+T2+P1+U1
CASE 11 (OPE) W+T2+P1-U1
CASE 12 (OPE) W+T2+P1+U2
CASE 13 (OPE) W+T2+P1+U3
CASE 14 (OPE) W+T2+P1-U3
CASE 15 (OPE) W+T2+P1+F1
CASE 16 (OCC) L16=L10-L4
CASE 17 (OCC) L17=L11-L4
CASE 18 (OCC) L18=L12-L4
CASE 19 (OCC) L19=L13-L4
CASE 20 (OCC) L20=L14-L4
CASE 21 (OCC) L21=L15-L4

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
50		TYPE=Rigid +Y; Rigid X w/gap;					
	1(HYD)	6	-12562	-102	0	0	0
	2(OPE)	948	0	0	0	0	0
	4(OPE)	1764	0	0	0	0	0
	6(OPE)	-9	-12190	-3657	0	0	0
	8(SUS)	37	-6853	-322	0	0	0
	9(SUS)	37	-6844	-323	0	0	0
	10(OPE)	6037	0	0	0	0	0
	11(OPE)	0	0	0	0	0	0
	12(OPE)	1945	0	0	0	0	0
	13(OPE)	2037	0	0	0	0	0
	14(OPE)	1388	0	0	0	0	0
	15(OPE)	1493	0	0	0	0	0
	16(OCC)	4273	0	0	0	0	0
	17(OCC)	-1764	0	0	0	0	0
	18(OCC)	181	0	0	0	0	0
	19(OCC)	273	0	0	0	0	0
	20(OCC)	-376	0	0	0	0	0
	21(OCC)	-271	0	0	0	0	0
	MAX	6037/L10	-12562/L1	-3657/L6			
130		TYPE=Rigid +Y; Rigid X w/gap; Rigid Z					

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
		w/gap;					
	1(HYD)	0	-8349	0	0	0	0
	2(OPE)	0	-737	0	0	0	0
	4(OPE)	0	0	0	0	0	0
	6(OPE)	0	-8114	0	0	0	0
	8(SUS)	0	-7659	0	0	0	0
	9(SUS)	0	-7656	0	0	0	0
	10(OPE)	0	0	0	0	0	0
	11(OPE)	-1730	0	0	0	0	0
	12(OPE)	0	0	0	0	0	0
	13(OPE)	0	-3403	0	0	0	0
	14(OPE)	0	0	0	0	0	0
	15(OPE)	0	0	0	0	0	0
	16(OCC)	0	0	0	0	0	0
	17(OCC)	-1730	0	0	0	0	0
	18(OCC)	0	0	0	0	0	0
	19(OCC)	0	-3403	0	0	0	0
	20(OCC)	0	0	0	0	0	0
	21(OCC)	0	0	0	0	0	0
	MAX	-1730/L11	-8349/L1				
240		TYPE=Rigid +Y; Rigid X w/gap; Rigid Z w/gap;					
	1(HYD)	0	-11392	0	0	0	0
	2(OPE)	0	0	0	0	0	0
	4(OPE)	0	0	0	0	0	0
	6(OPE)	0	-12684	0	0	0	0
	8(SUS)	0	-9327	0	0	0	0
	9(SUS)	0	-9323	0	0	0	0
	10(OPE)	0	0	0	0	0	0
	11(OPE)	0	0	0	0	0	0
	12(OPE)	0	0	0	0	0	0
	13(OPE)	0	0	0	0	0	0
	14(OPE)	0	0	-1697	0	0	0
	15(OPE)	0	0	-3543	0	0	0
	16(OCC)	0	0	0	0	0	0
	17(OCC)	0	0	0	0	0	0
	18(OCC)	0	0	0	0	0	0
	19(OCC)	0	0	0	0	0	0
	20(OCC)	0	0	-1697	0	0	0
	21(OCC)	0	0	-3543	0	0	0
	MAX		-12684/L6	-3543/L15			
520		TYPE=Rigid ANC;					

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	1(HYD)	-10	-2537	396	518	71	221
	2(OPE)	1497	-14229	-1901	1063	4365	1340
	4(OPE)	760	-14359	-2116	-35	2403	1718
	6(OPE)	-539	2292	4563	1305	-255	509
	8(SUS)	-39	-1757	481	434	31	134
	9(SUS)	-39	-1751	481	433	31	134
	10(OPE)	4082	-14362	-2112	-58	2956	-1368
	11(OPE)	-2221	-14339	-2130	-52	452	3995
	12(OPE)	712	-12257	-2031	-1127	2384	2043
	13(OPE)	672	-10864	4144	2964	2327	847
	14(OPE)	1026	-14555	-6659	-3036	2391	1617
	15(OPE)	1133	-11357	-4369	-2988	2332	2296
	16(OCC)	3322	-3	4	-23	552	-3086
	17(OCC)	-2981	20	-14	-17	-1951	2277
	18(OCC)	-48	2102	85	-1092	-19	325
	19(OCC)	-89	3495	6261	2999	-77	-871
	20(OCC)	266	-197	-4543	-3001	-13	-101
	21(OCC)	373	3002	-2252	-2953	-71	578
	MAX	4082/L10	-14555/L14	-6659/L14	-3036/L14	4365/L2	3995/L11
550		TYPE=Rigid ANC;					
	1(HYD)	-10	-2913	396	640	71	224
	2(OPE)	1497	-14513	-1901	479	4365	881
	4(OPE)	760	-14642	-2116	-684	2403	1485
	6(OPE)	-539	2009	4563	2705	-255	675
	8(SUS)	-39	-2040	481	582	31	146
	9(SUS)	-39	-2033	481	581	31	146
	10(OPE)	4156	-14645	-2112	-706	2956	-2635
	11(OPE)	-2295	-14622	-2130	-705	452	4691
	12(OPE)	712	-12506	-2031	-1750	2384	1824
	13(OPE)	672	-11147	4218	4250	2327	641
	14(OPE)	1026	-14839	-6732	-5093	2391	1303
	15(OPE)	1133	-11641	-4369	-4328	2332	1948
	16(OCC)	3395	-3	4	-21	552	-4120
	17(OCC)	-3055	20	-14	-21	-1951	3206
	18(OCC)	-48	2136	85	-1066	-19	339
	19(OCC)	-89	3495	6334	4934	-77	-844
	20(OCC)	266	-197	-4616	-4409	-13	-182
	21(OCC)	373	3002	-2252	-3644	-71	463
	MAX	4156/L10	-14839/L14	-6732/L14	-5093/L14	4365/L2	4691/L11
610		TYPE=Rigid +Y; Rigid Z w/gap;					
	1(HYD)	-97	-10683	-65	0	0	0
	2(OPE)	-2243	-7476	-0	0	0	0
	4(OPE)	-2193	-7309	-2	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	6(OPE)	2534	-8447	7	0	0	0
	8(SUS)	-82	-9013	-45	0	0	0
	9(SUS)	-82	-9007	-45	0	0	0
	10(OPE)	-1848	-6160	-1	0	0	0
	11(OPE)	-2747	-9156	-3	0	0	0
	12(OPE)	-1881	-6269	-1	0	0	0
	13(OPE)	-2208	-7359	4	0	0	0
	14(OPE)	-2192	-7306	-7	0	0	0
	15(OPE)	-1746	-5821	-5	0	0	0
	16(OCC)	345	1148	0	0	0	0
	17(OCC)	-554	-1848	-1	0	0	0
	18(OCC)	312	1040	0	0	0	0
	19(OCC)	-15	-51	6	0	0	0
	20(OCC)	1	3	-6	0	0	0
	21(OCC)	446	1487	-3	0	0	0
	MAX	-2747/L11	-10683/L1	-65/L1			
630		TYPE=Rigid ANC;					
	1(HYD)	87	-11971	461	26618	3134	21492
	2(OPE)	3937	-7774	-1901	-6599	-7041	7200
	4(OPE)	2860	-7334	-2115	-9572	-10278	8674
	6(OPE)	-3136	-10342	4556	47488	27045	23941
	8(SUS)	43	-10013	526	23525	3391	18131
	9(SUS)	43	-10006	526	23517	3391	18118
	10(OPE)	6016	-8485	-2111	-9576	-9702	2483
	11(OPE)	-1136	-5466	-2127	-9651	-14427	16626
	12(OPE)	2455	-6237	-2030	-10280	-9789	7423
	13(OPE)	2796	-7191	4214	26157	27593	8755
	14(OPE)	3006	-7533	-8423	-44766	-47299	8581
	15(OPE)	3126	-5819	-7906	-46475	-43372	5327
	16(OCC)	3156	-1151	4	-3	576	-6191
	17(OCC)	-3996	1868	-12	-79	-4149	7952
	18(OCC)	-406	1096	85	-708	489	-1250
	19(OCC)	-64	143	6329	35730	37871	82
	20(OCC)	146	-199	-6308	-35194	-37021	-93
	21(OCC)	265	1514	-5792	-36903	-33094	-3347
	MAX	6016/L10	-11971/L1	-8423/L14	47488/L6	-47299/L14	23941/L6
650		TYPE=Rigid +Y; Rigid X w/gap; Rigid Z w/gap;					
	1(HYD)	0	-2575	0	0	0	0
	2(OPE)	-131	-1398	12657	0	0	0
	4(OPE)	-141	-1398	12726	0	0	0
	6(OPE)	-1792	-1397	-6373	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	8(SUS)	0	-1397	0	0	0	0
	9(SUS)	0	-1396	0	0	0	0
	10(OPE)	660	-1398	12265	0	0	0
	11(OPE)	-3863	-1398	13050	0	0	0
	12(OPE)	-130	-1231	12002	0	0	0
	13(OPE)	-140	-1398	17463	0	0	0
	14(OPE)	-2320	-1398	8091	0	0	0
	15(OPE)	-133	-1398	12697	0	0	0
	16(OCC)	800	-0	-461	0	0	0
	17(OCC)	-3723	0	324	0	0	0
	18(OCC)	11	168	-724	0	0	0
	19(OCC)	1	-0	4737	0	0	0
	20(OCC)	-2179	0	-4635	0	0	0
	21(OCC)	8	0	-29	0	0	0
	MAX	-3863/L11	-2575/L1	17463/L13			
660		TYPE=Rigid +Y;					
	1(HYD)	-0	-7423	0	0	0	0
	2(OPE)	21	-4023	-1207	0	0	0
	4(OPE)	14	-4023	-1207	0	0	0
	6(OPE)	-70	-4029	1207	0	0	0
	8(SUS)	-0	-4029	0	0	0	0
	9(SUS)	-0	-4023	0	0	0	0
	10(OPE)	136	-4023	-1199	0	0	0
	11(OPE)	-274	-4023	-1175	0	0	0
	12(OPE)	19	-3540	-1062	0	0	0
	13(OPE)	15	-4023	-1207	0	0	0
	14(OPE)	6	-4024	-1207	0	0	0
	15(OPE)	19	-4024	-1207	0	0	0
	16(OCC)	121	0	8	0	0	0
	17(OCC)	-289	-0	31	0	0	0
	18(OCC)	4	483	145	0	0	0
	19(OCC)	1	0	0	0	0	0
	20(OCC)	-8	-0	-0	0	0	0
	21(OCC)	5	-1	-0	0	0	0
	MAX	-289/L17	-7423/L1	-1207/L15			
670		TYPE=Rigid +Y; Rigid X w/gap;					
	1(HYD)	0	-6224	1	0	0	0
	2(OPE)	1286	-3400	-1016	0	0	0
	4(OPE)	1364	-3399	-1016	0	0	0
	6(OPE)	-4	-3375	1012	0	0	0
	8(SUS)	0	-3378	0	0	0	0
	9(SUS)	0	-3374	0	0	0	0
	10(OPE)	3081	-3401	-1017	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	11(OPE)	-16	-3399	-1020	0	0	0
	12(OPE)	1286	-2992	-895	0	0	0
	13(OPE)	1357	-3400	-1017	0	0	0
	14(OPE)	1421	-3398	-1016	0	0	0
	15(OPE)	1299	-3396	-1015	0	0	0
	16(OCC)	1717	-1	-0	0	0	0
	17(OCC)	-1380	0	-3	0	0	0
	18(OCC)	-78	407	122	0	0	0
	19(OCC)	-7	-1	-0	0	0	0
	20(OCC)	57	1	0	0	0	0
	21(OCC)	-64	3	1	0	0	0
	MAX	3081/L10	-6224/L1	-1020/L11			
680		TYPE=Rigid +Y;					
	1(HYD)	-0	-6893	2	0	0	0
	2(OPE)	136	-3659	-1089	0	0	0
	4(OPE)	140	-3660	-1089	0	0	0
	6(OPE)	124	-3753	1119	0	0	0
	8(SUS)	-0	-3741	1	0	0	0
	9(SUS)	-0	-3736	1	0	0	0
	10(OPE)	124	-3655	-1089	0	0	0
	11(OPE)	110	-3661	-1093	0	0	0
	12(OPE)	118	-3217	-958	0	0	0
	13(OPE)	140	-3656	-1088	0	0	0
	14(OPE)	145	-3664	-1090	0	0	0
	15(OPE)	136	-3673	-1093	0	0	0
	16(OCC)	-16	5	-1	0	0	0
	17(OCC)	-31	-1	-4	0	0	0
	18(OCC)	-22	442	131	0	0	0
	19(OCC)	-1	3	1	0	0	0
	20(OCC)	4	-4	-1	0	0	0
	21(OCC)	-4	-13	-4	0	0	0
	MAX	145/L14	-6893/L1	1119/L6			
690		TYPE=Rigid +Y; Rigid X w/gap;					
	1(HYD)	1	-5086	4	0	0	0
	2(OPE)	-9227	-3195	-958	0	0	0
	4(OPE)	-9510	-3188	-956	0	0	0
	6(OPE)	606	-2697	776	0	0	0
	8(SUS)	1	-2760	2	0	0	0
	9(SUS)	1	-2757	2	0	0	0
	10(OPE)	-6412	-3214	-963	0	0	0
	11(OPE)	-12257	-3184	-954	0	0	0
	12(OPE)	-9208	-2823	-846	0	0	0
	13(OPE)	-9478	-3207	-961	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	14(OPE)	-9710	-3168	-950	0	0	0
	15(OPE)	-9300	-3121	-936	0	0	0
	16(OCC)	3098	-26	-8	0	0	0
	17(OCC)	-2747	4	1	0	0	0
	18(OCC)	302	365	110	0	0	0
	19(OCC)	32	-18	-5	0	0	0
	20(OCC)	-200	20	6	0	0	0
	21(OCC)	210	67	20	0	0	0
	MAX	-12257/L11	-5086/L1	-963/L10			
700		TYPE=Rigid +Y;					
	1(HYD)	-27	-7184	8	0	0	0
	2(OPE)	-196	-2814	-821	0	0	0
	4(OPE)	-199	-2772	-807	0	0	0
	6(OPE)	436	-4245	1197	0	0	0
	8(SUS)	-14	-3900	4	0	0	0
	9(SUS)	-14	-3895	4	0	0	0
	10(OPE)	-147	-2688	-793	0	0	0
	11(OPE)	-224	-2775	-802	0	0	0
	12(OPE)	-162	-2370	-692	0	0	0
	13(OPE)	-197	-2746	-800	0	0	0
	14(OPE)	-208	-2810	-817	0	0	0
	15(OPE)	-201	-2890	-843	0	0	0
	16(OCC)	52	84	15	0	0	0
	17(OCC)	-25	-3	6	0	0	0
	18(OCC)	37	402	115	0	0	0
	19(OCC)	2	26	8	0	0	0
	20(OCC)	-9	-38	-10	0	0	0
	21(OCC)	-2	-118	-36	0	0	0
	MAX	436/L6	-7184/L1	1197/L6			
730		TYPE=Rigid +Y; Rigid Z;					
	1(HYD)	19	-10265	-80	0	0	0
	2(OPE)	3283	-10945	-9157	0	0	0
	4(OPE)	3382	-11273	-9284	0	0	0
	6(OPE)	-560	-3560	896	0	0	0
	8(SUS)	10	-5566	-42	0	0	0
	9(SUS)	10	-5558	-42	0	0	0
	10(OPE)	3578	-11925	-8713	0	0	0
	11(OPE)	-132	-11274	-9886	0	0	0
	12(OPE)	3117	-10391	-9135	0	0	0
	13(OPE)	3409	-11363	-6825	0	0	0
	14(OPE)	3330	-11101	-11840	0	0	0
	15(OPE)	3268	-10894	-9274	0	0	0
	16(OCC)	196	-652	571	0	0	0
	17(OCC)	-3514	-1	-602	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	18(OCC)	-265	882	150	0	0	0
	19(OCC)	27	-90	2460	0	0	0
	20(OCC)	-52	173	-2555	0	0	0
	21(OCC)	-114	379	10	0	0	0
	MAX	3578/L10	-11925/L10	-11840/L14			
770		TYPE=Rigid +Y;					
	1(HYD)	11	-7671	-279	0	0	0
	2(OPE)	2918	-11223	1679	0	0	0
	4(OPE)	2963	-11549	1795	0	0	0
	6(OPE)	0	0	0	0	0	0
	8(SUS)	6	-4148	-152	0	0	0
	9(SUS)	6	-4142	-151	0	0	0
	10(OPE)	2953	-10956	1443	0	0	0
	11(OPE)	2871	-11569	1949	0	0	0
	12(OPE)	2622	-10126	1533	0	0	0
	13(OPE)	2865	-11562	1956	0	0	0
	14(OPE)	3039	-11504	1636	0	0	0
	15(OPE)	2815	-10869	1646	0	0	0
	16(OCC)	-10	592	-352	0	0	0
	17(OCC)	-92	-20	154	0	0	0
	18(OCC)	-341	1423	-262	0	0	0
	19(OCC)	-99	-13	161	0	0	0
	20(OCC)	75	45	-159	0	0	0
	21(OCC)	-148	680	-149	0	0	0
	MAX	3039/L14	-11569/L11	1956/L13			
780		TYPE=Rigid +Y; Rigid Z;					
	1(HYD)	0	-2038	50	0	0	0
	2(OPE)	0	0	1901	0	0	0
	4(OPE)	0	0	1980	0	0	0
	6(OPE)	0	-1870	-445	0	0	0
	8(SUS)	0	-1109	27	0	0	0
	9(SUS)	0	-1108	27	0	0	0
	10(OPE)	0	0	1997	0	0	0
	11(OPE)	0	0	1831	0	0	0
	12(OPE)	0	0	2052	0	0	0
	13(OPE)	0	0	2882	0	0	0
	14(OPE)	0	0	1041	0	0	0
	15(OPE)	0	0	2007	0	0	0
	16(OCC)	0	0	17	0	0	0
	17(OCC)	0	0	-149	0	0	0
	18(OCC)	0	0	72	0	0	0
	19(OCC)	0	0	902	0	0	0
	20(OCC)	0	0	-939	0	0	0
	21(OCC)	0	0	27	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	MAX		-2038/L1	2882/L13			

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS 2
Stress Summary : Multiple 3

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

- 1 (HYD) WW+HP
- 2 (OPE) W+T1+P1
- 3 (Alt-SUS) W+P1
- 4 (OPE) W+T2+P1
- 5 (Alt-SUS) W+P1
- 6 (OPE) W+T3+P1
- 7 (Alt-SUS) W+P1
- 8 (SUS) W+P1
- 9 (SUS) WNC
- 10 (OPE) W+T2+P1+U1
- 11 (OPE) W+T2+P1-U1
- 12 (OPE) W+T2+P1+U2
- 13 (OPE) W+T2+P1+U3
- 14 (OPE) W+T2+P1-U3
- 15 (OPE) W+T2+P1+F1
- 16 (OCC) L16=L10-L4
- 17 (OCC) L17=L11-L4
- 18 (OCC) L18=L12-L4
- 19 (OCC) L19=L13-L4
- 20 (OCC) L20=L14-L4
- 21 (OCC) L21=L15-L4
- 22 (OCC) L22=L16+L8
- 23 (OCC) L23=L17+L8
- 24 (OCC) L24=L18+L8
- 25 (OCC) L25=L19+L8
- 26 (OCC) L26=L20+L8
- 27 (OCC) L27=L21+L8
- 28 (EXP) L28=L2-L8
- 29 (EXP) L29=L4-L8
- 30 (EXP) L30=L2-L4
- 31 (EXP) L31=L6-L8
- 32 (EXP) L32=L2-L6
- 33 (EXP) L33=L4-L6

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
 Various Load Cases

LOAD CASE DEFINITION KEY

CASE 1 (HYD) WW+HP
 CASE 3 (Alt-SUS) W+P1
 CASE 5 (Alt-SUS) W+P1
 CASE 7 (Alt-SUS) W+P1
 CASE 8 (SUS) W+P1
 CASE 9 (SUS) WNC
 CASE 22 (OCC) L22=L16+L8
 CASE 23 (OCC) L23=L17+L8
 CASE 24 (OCC) L24=L18+L8
 CASE 25 (OCC) L25=L19+L8
 CASE 26 (OCC) L26=L20+L8
 CASE 27 (OCC) L27=L21+L8
 CASE 28 (EXP) L28=L2-L8
 CASE 29 (EXP) L29=L4-L8
 CASE 30 (EXP) L30=L2-L4
 CASE 31 (EXP) L31=L6-L8
 CASE 32 (EXP) L32=L2-L6
 CASE 33 (EXP) L33=L4-L6

Piping Code: B31.3 = B31.3 -2016, Jan 31, 2017

CODE STRESS CHECK PASSED : LOADCASE 1 (HYD) WW+HP

Highest Stresses: (KPa)	LOADCASE 1 (HYD) WW+HP	
Ratio (%):	9.2 @Node 730	
Code Stress:	22099.4	Allowable Stress: 241316.5
Axial Stress:	6681.2 @Node 330	
Bending Stress:	16137.6 @Node 730	
Torsion Stress:	700.2 @Node 500	
Hoop Stress:	12989.9 @Node 330	
Max Stress Intensity:	22103.6 @Node 730	

CODE STRESS CHECK PASSED : LOADCASE 3 (Alt-SUS) W+P1

Highest Stresses: (KPa)	LOADCASE 3 (Alt-SUS) W+P1	
Ratio (%):	43.5 @Node 750	
Code Stress:	56304.9	Allowable Stress: 129365.3
Axial Stress:	15344.9 @Node 110	
Bending Stress:	60496.4 @Node 800	
Torsion Stress:	16117.3 @Node 798	
Hoop Stress:	24443.4 @Node 28	
Max Stress Intensity:	72393.2 @Node 800	

CODE STRESS CHECK PASSED : LOADCASE 5 (Alt-SUS) W+P1

Highest Stresses: (KPa)	LOADCASE 5 (Alt-SUS) W+P1	
Ratio (%):	70.6 @Node 750	
Code Stress:	91323.5	Allowable Stress: 129365.3

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
 Various Load Cases

Axial Stress:	13477.6	@Node	220
Bending Stress:	120977.4	@Node	800
Torsion Stress:	11783.4	@Node	178
Hoop Stress:	24443.4	@Node	28
Max Stress Intensity:	137704.7	@Node	800

CODE STRESS CHECK PASSED : LOADCASE 7 (Alt-SUS) W+P1

Highest Stresses: (KPa)	LOADCASE 7 (Alt-SUS) W+P1	
Ratio (%):	42.9	@Node 50
Code Stress:	55502.6	Allowable Stress: 129365.3
Axial Stress:	14374.9	@Node 38
Bending Stress:	43293.5	@Node 50
Torsion Stress:	2023.0	@Node 500
Hoop Stress:	24443.4	@Node 28
Max Stress Intensity:	55500.5	@Node 50

CODE STRESS CHECK PASSED : LOADCASE 8 (SUS) W+P1

Highest Stresses: (KPa)	LOADCASE 8 (SUS) W+P1	
Ratio (%):	27.3	@Node 730
Code Stress:	35269.5	Allowable Stress: 129365.3
Axial Stress:	13744.3	@Node 220
Bending Stress:	23193.5	@Node 730
Torsion Stress:	997.7	@Node 500
Hoop Stress:	24443.4	@Node 28
Max Stress Intensity:	35319.9	@Node 730

CODE STRESS CHECK PASSED : LOADCASE 9 (SUS) WNC

Highest Stresses: (KPa)	LOADCASE 9 (SUS) WNC	
Ratio (%):	17.9	@Node 730
Code Stress:	23174.7	Allowable Stress: 129365.3
Axial Stress:	1670.4	@Node 220
Bending Stress:	23163.9	@Node 730
Torsion Stress:	994.9	@Node 500
Hoop Stress:	0.0	@Node 20
Max Stress Intensity:	23174.7	@Node 730

CODE STRESS CHECK PASSED : LOADCASE 22 (OCC) L22=L16+L8

Highest Stresses: (KPa)	LOADCASE 22 (OCC) L22=L16+L8	
Ratio (%):	33.9	@Node 50
Code Stress:	58246.8	Allowable Stress: 172055.9
Axial Stress:	13643.9	@Node 220
Bending Stress:	50444.9	@Node 28
Torsion Stress:	10470.6	@Node 40
Hoop Stress:	24443.4	@Node 28
Max Stress Intensity:	74646.4	@Node 28

CODE STRESS CHECK PASSED : LOADCASE 23 (OCC) L23=L17+L8

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
 Various Load Cases

Highest Stresses: (KPa) LOADCASE 23 (OCC) L23=L17+L8
 Ratio (%): 24.6 @Node 690
 Code Stress: 42297.8 Allowable Stress: 172055.9
 Axial Stress: 13771.8 @Node 220
 Bending Stress: 30101.8 @Node 690
 Torsion Stress: 6268.3 @Node 800
 Hoop Stress: 24443.4 @Node 28
 Max Stress Intensity: 49317.3 @Node 690

CODE STRESS CHECK PASSED : LOADCASE 24 (OCC) L24=L18+L8

Highest Stresses: (KPa) LOADCASE 24 (OCC) L24=L18+L8
 Ratio (%): 23.2 @Node 730
 Code Stress: 39943.7 Allowable Stress: 172055.9
 Axial Stress: 13552.2 @Node 220
 Bending Stress: 27759.4 @Node 730
 Torsion Stress: 1378.8 @Node 798
 Hoop Stress: 24443.4 @Node 28
 Max Stress Intensity: 40927.7 @Node 20

CODE STRESS CHECK PASSED : LOADCASE 25 (OCC) L25=L19+L8

Highest Stresses: (KPa) LOADCASE 25 (OCC) L25=L19+L8
 Ratio (%): 29.6 @Node 730
 Code Stress: 50853.2 Allowable Stress: 172055.9
 Axial Stress: 13775.7 @Node 119
 Bending Stress: 48466.7 @Node 230
 Torsion Stress: 3203.7 @Node 380
 Hoop Stress: 24443.4 @Node 28
 Max Stress Intensity: 61544.7 @Node 230

CODE STRESS CHECK PASSED : LOADCASE 26 (OCC) L26=L20+L8

Highest Stresses: (KPa) LOADCASE 26 (OCC) L26=L20+L8
 Ratio (%): 30.1 @Node 730
 Code Stress: 51805.6 Allowable Stress: 172055.9
 Axial Stress: 13745.5 @Node 650
 Bending Stress: 47118.2 @Node 230
 Torsion Stress: 4449.7 @Node 500
 Hoop Stress: 24443.4 @Node 28
 Max Stress Intensity: 60350.8 @Node 230

CODE STRESS CHECK PASSED : LOADCASE 27 (OCC) L27=L21+L8

Highest Stresses: (KPa) LOADCASE 27 (OCC) L27=L21+L8
 Ratio (%): 23.3 @Node 800
 Code Stress: 42801.1 Allowable Stress: 183400.5
 Axial Stress: 14087.8 @Node 110
 Bending Stress: 42061.5 @Node 800
 Torsion Stress: 4182.2 @Node 500
 Hoop Stress: 24443.4 @Node 28
 Max Stress Intensity: 61122.1 @Node 800

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
 Various Load Cases

CODE STRESS CHECK PASSED : LOADCASE 28 (EXP) L28=L2-L8

Highest Stresses: (	KPa	)	LOADCASE 28 (EXP) L28=L2-L8	
Ratio (%):	49.4	@Node	709	
Code Stress:	157561.0	Allowable Stress:		319151.3
Axial Stress:	1844.2	@Node	550	
Bending Stress:	156110.2	@Node	709	
Torsion Stress:	6427.6	@Node	800	
Hoop Stress:	0.0	@Node	20	
Max Stress Intensity:	418063.5	@Node	709	

CODE STRESS CHECK PASSED : LOADCASE 29 (EXP) L29=L4-L8

Highest Stresses: (	KPa	)	LOADCASE 29 (EXP) L29=L4-L8	
Ratio (%):	50.4	@Node	709	
Code Stress:	160525.1	Allowable Stress:		318810.1
Axial Stress:	1863.3	@Node	800	
Bending Stress:	159046.3	@Node	709	
Torsion Stress:	5808.4	@Node	380	
Hoop Stress:	0.0	@Node	20	
Max Stress Intensity:	425928.4	@Node	709	

CODE STRESS CHECK PASSED : LOADCASE 30 (EXP) L30=L2-L4

Highest Stresses: (	KPa	)	LOADCASE 30 (EXP) L30=L2-L4	
Ratio (%):	3.9	@Node	799	
Code Stress:	10329.5	Allowable Stress:		261639.9
Axial Stress:	94.1	@Node	500	
Bending Stress:	10825.3	@Node	798	
Torsion Stress:	2909.5	@Node	800	
Hoop Stress:	0.0	@Node	20	
Max Stress Intensity:	23904.4	@Node	798	

CODE STRESS CHECK PASSED : LOADCASE 31 (EXP) L31=L6-L8

Highest Stresses: (	KPa	)	LOADCASE 31 (EXP) L31=L6-L8	
Ratio (%):	6.2	@Node	750	
Code Stress:	15695.3	Allowable Stress:		253414.3
Axial Stress:	850.1	@Node	799	
Bending Stress:	19209.7	@Node	709	
Torsion Stress:	2148.4	@Node	178	
Hoop Stress:	0.0	@Node	20	
Max Stress Intensity:	51472.0	@Node	709	

CODE STRESS CHECK PASSED : LOADCASE 32 (EXP) L32=L2-L6

Highest Stresses: (	KPa	)	LOADCASE 32 (EXP) L32=L2-L6	
Ratio (%):	55.4	@Node	709	
Code Stress:	176950.9	Allowable Stress:		319151.3
Axial Stress:	2477.1	@Node	660	
Bending Stress:	175312.2	@Node	709	

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
 Various Load Cases

Torsion Stress:	7860.2	@Node	260
Hoop Stress:	0.0	@Node	20
Max Stress Intensity:	469512.8	@Node	709

CODE STRESS CHECK PASSED : LOADCASE 33 (EXP) L33=L4-L6

Highest Stresses: (KPa)	LOADCASE 33 (EXP) L33=L4-L6	
Ratio (%):	56.4	@Node 709
Code Stress:	179915.8	Allowable Stress: 318810.1
Axial Stress:	2486.1	@Node 660
Bending Stress:	178249.0	@Node 709
Torsion Stress:	7555.8	@Node 178
Hoop Stress:	0.0	@Node 20
Max Stress Intensity:	477380.0	@Node 709

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

- 1 (HYD) WW+HP
- 2 (OPE) W+T1+P1
- 3 (Alt-SUS) W+P1
- 4 (OPE) W+T2+P1
- 5 (Alt-SUS) W+P1
- 6 (OPE) W+T3+P1
- 7 (Alt-SUS) W+P1
- 8 (SUS) W+P1
- 9 (SUS) WNC
- 10 (OPE) W+T2+P1+U1
- 11 (OPE) W+T2+P1-U1
- 12 (OPE) W+T2+P1+U2
- 13 (OPE) W+T2+P1+U3
- 14 (OPE) W+T2+P1-U3
- 15 (OPE) W+T2+P1+F1
- 16 (OCC) L16=L10-L4
- 17 (OCC) L17=L11-L4
- 18 (OCC) L18=L12-L4
- 19 (OCC) L19=L13-L4
- 20 (OCC) L20=L14-L4
- 21 (OCC) L21=L15-L4
- 22 (OCC) L22=L16+L8
- 23 (OCC) L23=L17+L8
- 24 (OCC) L24=L18+L8
- 25 (OCC) L25=L19+L8
- 26 (OCC) L26=L20+L8
- 27 (OCC) L27=L21+L8
- 28 (EXP) L28=L2-L8
- 29 (EXP) L29=L4-L8
- 30 (EXP) L30=L2-L4
- 31 (EXP) L31=L6-L8
- 32 (EXP) L32=L2-L6
- 33 (EXP) L33=L4-L6

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NOZZLE CHECK REPORT: Nozzle Loads Screening

Various Load Cases

LOAD CASE DEFINITION KEY

CASE 2 (OPE) W+T1+P1

CASE 4 (OPE) W+T2+P1

CASE 6 (OPE) W+T3+P1

CASE 8 (SUS) W+P1

CASE 9 (SUS) WNC

Node		fa N.	fb N.	fc N.	Forces Check	ma N.m.	mb N.m.	mc N.m.	Moments Check	
550		Absolute Method								
	Limits	11201	11201	8400		6720	4480	5820		
	2(OPE)	14513	-1901	-1497	1.296	-4365	881	-479	0.650	*
	4(OPE)	14642	-2116	-760	1.307	-2403	1485	684	0.358	*
	6(OPE)	-2009	4563	539	0.407	255	675	-2705	0.465	
	8(SUS)	2040	481	39	0.182	-31	146	-582	0.100	
	9(SUS)	2033	481	39	0.182	-31	146	-581	0.100	

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Line no.

Stress sketch

Input echo

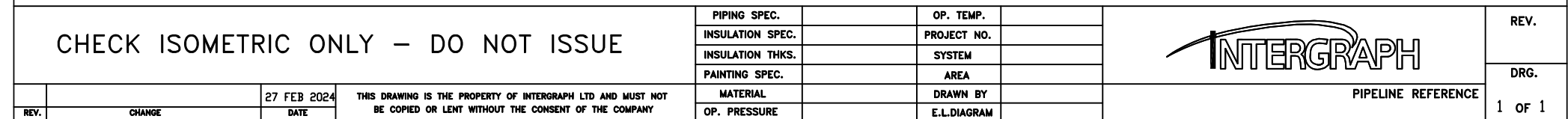
Restraint summary

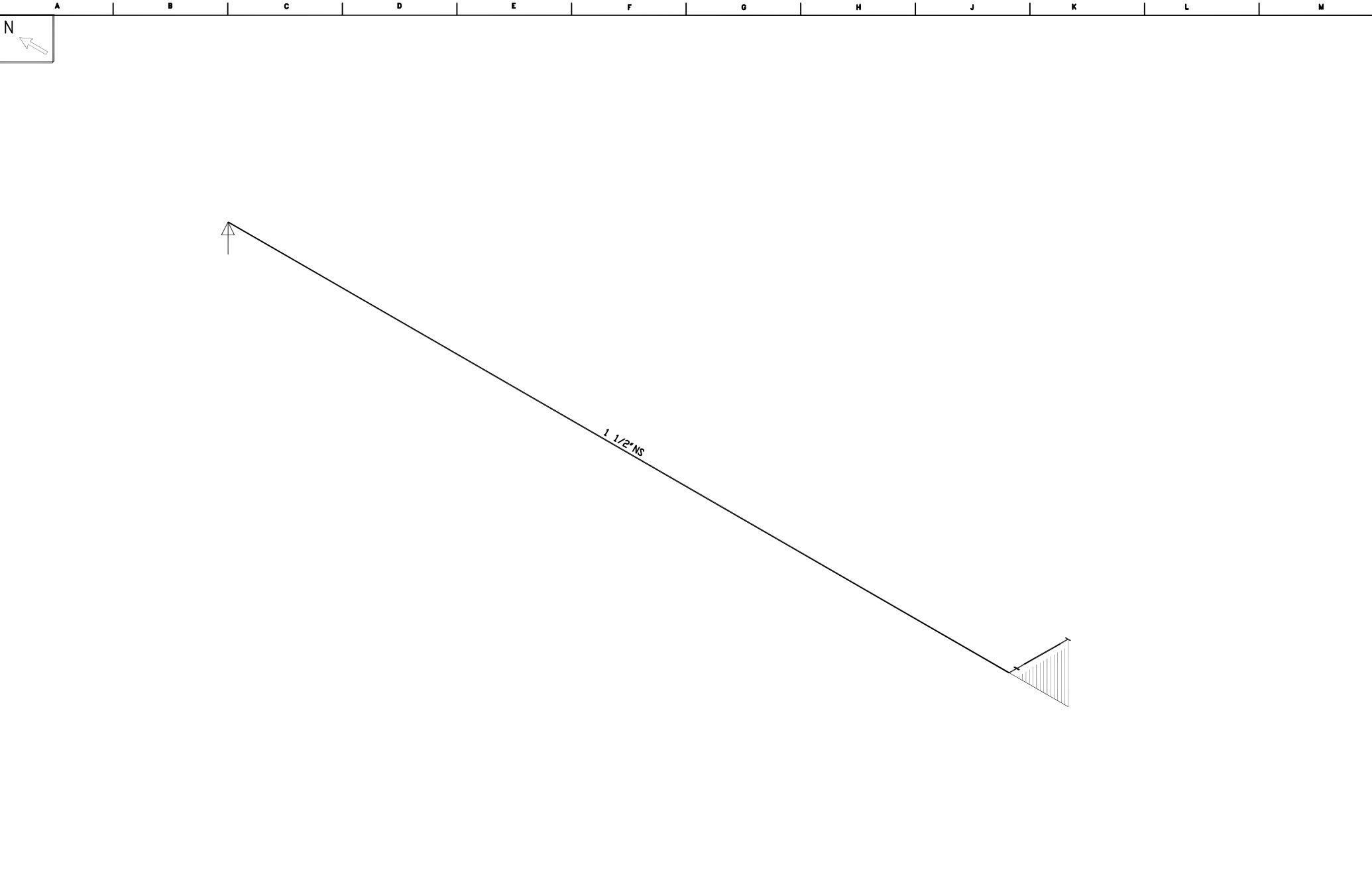
Stress summary

Nozzle load Table

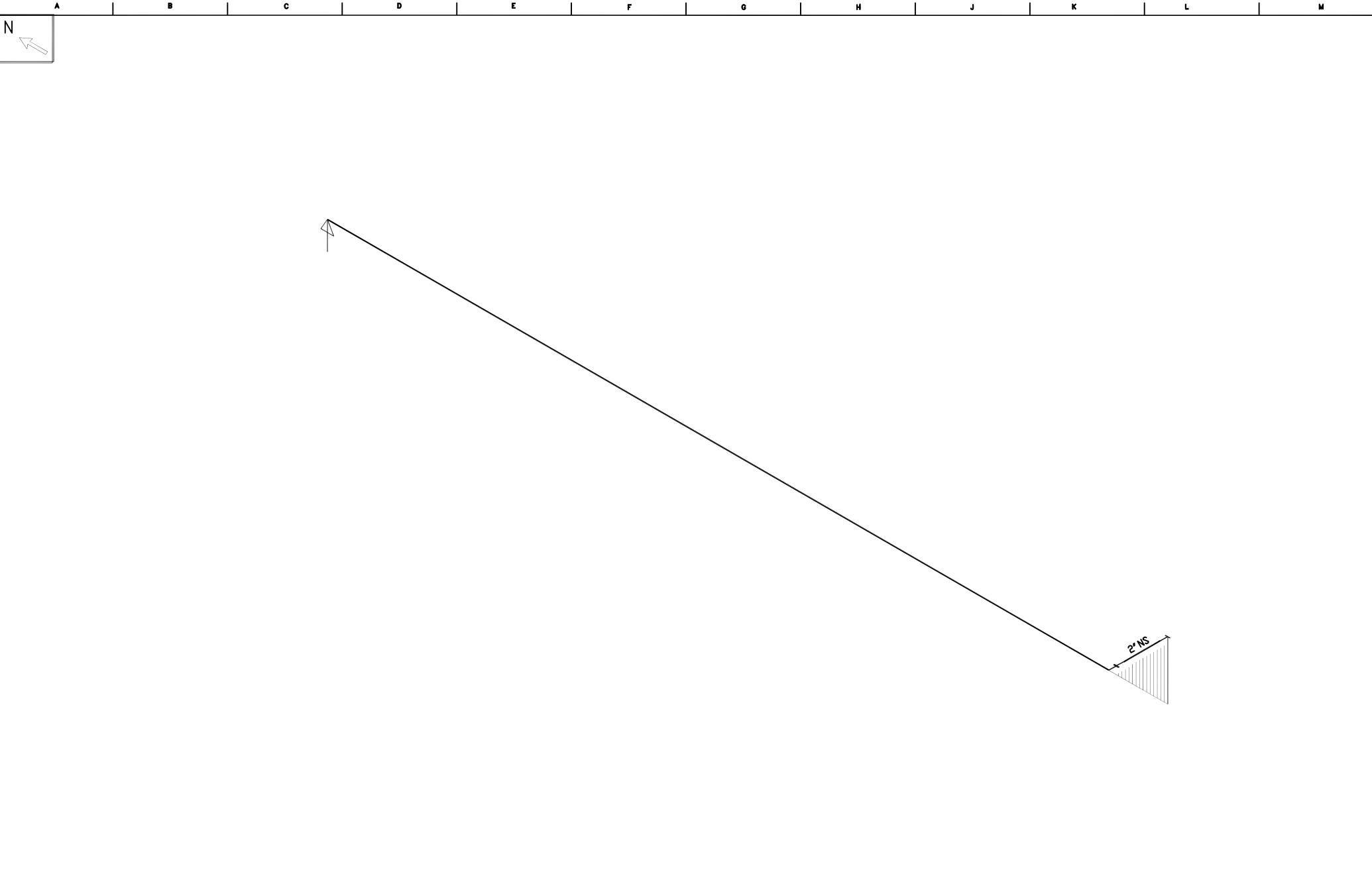
LINE NO.:

1. CDH-112-0036-AN07-2"-PT





CHECK ISOMETRIC ONLY – DO NOT ISSUE				PIPING SPEC.		OP. TEMP.		INTERGRAPH	REV.
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DRG.	1 OF 1

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

- 1 (HYD) WW+HP
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- 3 (Alt-SUS) W+P1
- 4 (OPE) W+T2+P1
- 5 (Alt-SUS) W+P1
- 6 (SUS) W+P1
- 7 (SUS) WNC
- 8 (OPE) W+T2+P1+U1
- 9 (OPE) W+T2+P1-U1
- 10 (OPE) W+T2+P1+U2
- 11 (OPE) W+T2+P1+U3
- 12 (OPE) W+T2+P1-U3
- 13 (OCC) L13=L8-L4
- 14 (OCC) L14=L9-L4
- 15 (OCC) L15=L10-L4
- 16 (OCC) L16=L11-L4
- 17 (OCC) L17=L12-L4
- 18 (OCC) L18=L13+L6
- 19 (OCC) L19=L14+L6
- 20 (OCC) L20=L15+L6
- 21 (OCC) L21=L16+L6
- 22 (OCC) L22=L17+L6
- 23 (EXP) L23=L2-L6
- 24 (EXP) L24=L4-L6
- 25 (EXP) L25=L2-L4

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INPUT LISTING

Job Description:

PROJECT:

CLIENT :

ANALYST:

NOTES :

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INPUT LISTING

File created by FEATools

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PIPE DATA

 From 10 To 20 DZ= -66.675 mm.

PIPE

Dia= 60.325 mm. Wall= 8.738 mm. Cor= 6.0000 mm.

GENERAL

T1= 85 C T2= 21 C P1= 550.0125 KPa PHyd= 825.0188 KPa

Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 199,086,608 KPa

EH2= 203,396,064 KPa EH3= 203,401,232 KPa EH4= 203,401,232 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0009820 kg./cu.cm.

Insul Thk= .000 mm. Insul Den= .0000000 kg./cu.cm.

RIGID Weight= 31.14 N.

RESTRAINTS

Node 10 ANC Cnode 11

UNIFORM LOAD

Vector1 in G-s X1 Dir = .26 g's Y1 Dir = .00 g's Z1 Dir = .00 g's

Vector2 in G-s X2 Dir = .00 g's Y2 Dir = .12 g's Z2 Dir = .00 g's

Vector3 in G-s X3 Dir = .00 g's Y3 Dir = .00 g's Z3 Dir = .26 g's

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

 From 20 To 25 DZ= -304.500 mm.

 From 30 To 430 DX= -1.000 mm. DY= -1.000 mm.

RIGID Weight= .00 N.

SIF's & TEE's

Node 430 Unreinforced Tee

 From 25 To 30 DZ= -304.500 mm.

BEND at "T0" end

Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 29

Angle/Node @2= .00 28

 From 30 To 40 DX= 77.000 mm.

 From 40 To 50 DX= 66.675 mm.

RIGID Weight= 31.14 N.

 From 50 To 60 DX= 269.000 mm.

RIGID Weight= 93.41 N.

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From 60 To 70 DX= 66.675 mm.
 RIGID Weight= 31.14 N.

 From 70 To 80 DX= 185.000 mm.

 From 80 To 90 DX= 66.675 mm.
 RIGID Weight= 31.14 N.

 From 90 To 100 DX= 201.000 mm.
 RIGID Weight= 266.89 N.

 From 100 To 110 DX= 66.675 mm.
 RIGID Weight= 31.14 N.

 From 110 To 120 DX= 64.000 mm.

 From 120 To 130 DZ= 164.000 mm.

 From 130 To 140 DZ= 66.675 mm.
 RIGID Weight= 31.14 N.

 From 140 To 150 DZ= 201.000 mm.
 RIGID Weight= 266.89 N.

 From 150 To 160 DZ= 66.675 mm.
 RIGID Weight= 31.14 N.

 From 160 To 170 DZ= 185.000 mm.

 From 170 To 180 DZ= 66.675 mm.
 RIGID Weight= 31.14 N.

 From 180 To 190 DZ= 269.000 mm.
 RIGID Weight= 93.41 N.

 From 190 To 200 DZ= 66.675 mm.
 RIGID Weight= 31.14 N.

 From 200 To 205 DZ= 200.000 mm.

RESTRAINTS

Node 205 +Y Mu = .30

 From 205 To 210 DZ= 577.000 mm.

BEND at "T0" end

Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 209
 Angle/Node @2= .00 208

 From 210 To 215 DX= -525.000 mm.

 From 220 To 400 DX= -17.961 mm. DY= -17.961 mm.
 RIGID Weight= .00 N.

SIF's & TEE's

Node 400 Unreinforced Tee

 From 215 To 220 DX= -525.000 mm.
 BEND at "T0" end

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INPUT LISTING

Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 219
Angle/Node @2= .00 218

From 220 To 230 DZ= 259.000 mm.

From 230 To 240 DZ= 66.675 mm.

RIGID Weight= 31.14 N.

RESTRAINTS

Node 240 ANC Cnode 241

From 120 To 185 DX= 210.000 mm.

RESTRAINTS

Node 185 +Y Mu = .30

From 185 To 250 DX= 4,490.000 mm.

BEND at "T0" end

Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 249
Angle/Node @2= .00 248

From 250 To 255 DZ= 626.500 mm.

RESTRAINTS

Node 255 +Y Mu = .30

From 255 To 260 DZ= 626.500 mm.

BEND at "T0" end

Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 259
Angle/Node @2= .00 258

From 260 To 270 DY= 332.000 mm.

From 270 To 280 DY= 66.675 mm.

RIGID Weight= 31.14 N.

RESTRAINTS

Node 280 ANC Cnode 281

From 11 To 290 DZ= 66.675 mm.

RIGID Weight= 31.14 N.

From 290 To 300 DZ= 253.000 mm.

RESTRAINTS

Node 300 ANC

EQUIPMENT LIMITS

Nozzle Node = 300 Limiting Loads: A=pipe; B=ref; C=AxB; FA= 1,779.29 N.
FB= 1,156.54 N. FC= 1,423.43 N. MA= 460.98 N.m. MB= .00 N.m.
MC= 705.03 N.m. Equipment Major Direction Vector= .0000 1.0000 .0000
Interact. Mtd= Absolute

From 241 To 310 DZ= 66.675 mm.

RIGID Weight= 31.14 N.

From 310 To 320 DZ= 253.000 mm.

RESTRAINTS

Node 320 ANC

EQUIPMENT LIMITS

Nozzle Node = 320 Limiting Loads: A=pipe; B=ref; C=AxB; FA= 1,779.29 N.
FB= 1,156.54 N. FC= 1,423.43 N. MA= 460.98 N.m. MB= .00 N.m.

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INPUT LISTING

MC= 705.03 N.m. Equipment Major Direction Vector= .0000 1.0000 .0000
Interact. Mtd= Absolute

From 281 To 330 DY= 66.675 mm.
RIGID Weight= 31.14 N.

From 330 To 340 DY= 133.000 mm.

RESTRAINTS

Node 340 ANC Cnode 341

From 341 To 350 DY= 507.000 mm.

PIPE

Dia= 1,014.000 mm. Wall= 8.738 mm.

Insul Thk= .000 mm.

RIGID Weight= .00 N.

From 350 To 360 DX= -400.000 mm.

RIGID Weight= .00 N.

From 360 To 370 DY= -507.000 mm.

RIGID Weight= .00 N.

RESTRAINTS

Node 370 +Y Mu = .30

Node 370 Z Gap= 3.000 mm.

From 350 To 380 DX= 1,800.000 mm.

RIGID Weight= .00 N.

From 380 To 390 DY= -507.000 mm.

RIGID Weight= .00 N.

RESTRAINTS

Node 390 ANC

From 400 To 410 DX= -300.000 mm.

PIPE

Dia= 48.260 mm. Wall= 3.683 mm. Cor= .0000 mm.

GENERAL

Mat= (102)A53 Grade B E= 203,401,232 KPa EH1= 199,086,608 KPa

EH2= 203,396,064 KPa EH3= 203,401,232 KPa EH4= 203,401,232 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000000 kg./cu.cm.

Insul Thk= .000 mm.

RESTRAINTS

Node 410 +Y Mu = .30

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 430 To 440 DX= -300.000 mm.

RESTRAINTS

Node 440 +Y Mu = .30

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INPUT LISTING

MATERIAL Changes:

10	20	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
400	410	Mat= (102)A53 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.

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JOBNAME: D:\BINAK PRO\STRESS REPORT\D02\NATIVE\BNK-GCS-CN-022-)\BNK-GCS-CN-022-

ALLOWABLE STRESS Changes

10	20	B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa Sh9= 137,895 KPa Sy= 241,316 KPa
400	410	B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa Sh9= 137,895 KPa Sy= 241,316 KPa

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BEND ELEMENTS

25	30	Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 29 Angle/Node @2= .00 28
205	210	Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 209 Angle/Node @2= .00 208
215	220	Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 219 Angle/Node @2= .00 218
185	250	Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 249 Angle/Node @2= .00 248
255	260	Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 259 Angle/Node @2= .00 258

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RIGIDS

10	20	RIGID Weight= 31.14 N.
30	430	RIGID Weight= .00 N.
40	50	RIGID Weight= 31.14 N.
50	60	RIGID Weight= 93.41 N.
60	70	RIGID Weight= 31.14 N.
80	90	RIGID Weight= 31.14 N.

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INPUT LISTING

90	100	RIGID	Weight= 266.89 N.
100	110	RIGID	Weight= 31.14 N.
130	140	RIGID	Weight= 31.14 N.
140	150	RIGID	Weight= 266.89 N.
150	160	RIGID	Weight= 31.14 N.
170	180	RIGID	Weight= 31.14 N.
180	190	RIGID	Weight= 93.41 N.
190	200	RIGID	Weight= 31.14 N.
220	400	RIGID	Weight= .00 N.
230	240	RIGID	Weight= 31.14 N.
270	280	RIGID	Weight= 31.14 N.
11	290	RIGID	Weight= 31.14 N.
241	310	RIGID	Weight= 31.14 N.
281	330	RIGID	Weight= 31.14 N.
341	350	RIGID	Weight= .00 N.
350	360	RIGID	Weight= .00 N.
360	370	RIGID	Weight= .00 N.
350	380	RIGID	Weight= .00 N.
380	390	RIGID	Weight= .00 N.

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SIF's & TEE's

30	430	Node 430	Unreinforced Tee
220	400	Node 400	Unreinforced Tee

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RESTRAINTS

NODE	TYPE	CNODE	STIF1	Len GAP STIF2	MU YIELD FORCE	Dir Vectors
10	ANC	11				.000 .000 .000
205	+Y				.30	.000 1.000 .000
240	ANC	241				.000 .000 .000
185	+Y				.30	.000 1.000 .000
255	+Y				.30	.000 1.000 .000
280	ANC	281				.000 .000 .000
300	ANC					.000 .000 .000
320	ANC					.000 .000 .000
340	ANC	341				.000 .000 .000
370	+Y				.30	.000 1.000 .000
370	Z			3.00		.000 .000 1.000
390	ANC					.000 .000 .000
410	+Y				.30	.000 1.000 .000
440	+Y				.30	.000 1.000 .000

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EQUIPMENT LIMITS

290	300	Nozzle Node = 300

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 1,779.29 N. FB= 1,156.54 N.
FC= 1,423.43 N. MA= 460.98 N.m. MB= .00 N.m. MC= 705.03 N.m.

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INPUT LISTING

Equipment Major Direction Vector= .0000 1.0000 .0000
 Interact. Mtd= Absolute
 310 320 Nozzle Node = 320

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 1,779.29 N. FB= 1,156.54 N.
 FC= 1,423.43 N. MA= 460.98 N.m. MB= .00 N.m. MC= 705.03 N.m.
 Equipment Major Direction Vector= .0000 1.0000 .0000
 Interact. Mtd= Absolute

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UNIFORM LOAD Changes

10 20 Vector1 in G-s
 X1 Dir = .26 g's Y1 Dir = .00 g's
 Z1 Dir = .00 g's
 Vector2 in G-s
 X2 Dir = .00 g's Y2 Dir = .12 g's
 Z2 Dir = .00 g's
 Vector3 in G-s
 X3 Dir = .00 g's Y3 Dir = .00 g's
 Z3 Dir = .26 g's

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INPUT UNITS USED...

UNITS= SI (m NOM/SCH INPUT= ON

LENGTH	inches	x	25.400	=	mm.
FORCE	pounds	x	4.448	=	N.
MASS(dynamics)	pounds	x	0.454	=	Kg.
MOMENTS(INPUT)	inch-pounds	x	0.113	=	N.m.
MOMENTS(OUTPUT)	inch-pounds	x	0.113	=	N.m.
STRESS	lbs./sq.in.	x	6.895	=	KPa
TEMP. SCALE	degrees F.	x	0.556	=	C
PRESSURE	psig	x	6.895	=	KPa
ELASTIC MODULUS	lbs./sq.in.	x	6.895	=	KPa
PIPE DENSITY	lbs./cu.in.	x	0.028	=	kg./cu.cm.
INSULATION DENS.	lbs./cu.in.	x	0.028	=	kg./cu.cm.
FLUID DENSITY	lbs./cu.in.	x	0.028	=	kg./cu.cm.
TRANSL. STIF	lbs./in.	x	1.751	=	N./cm.
ROTATIONAL STIF	in.lb./deg.	x	0.113	=	N.m./deg
UNIFORM LOAD	lb./in.	x	1.751	=	N./cm.
G LOAD	g's	x	1.000	=	g's
WIND LOAD	lbs./sq.in.	x	6.895	=	KPa
ELEVATION	inches	x	0.025	=	m.
COMPOUND LENGTH	inches	x	25.400	=	mm.
DIAMETER	inches	x	25.400	=	mm.
WALL THICKNESS	inches	x	25.400	=	mm.

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SETUP FILE PARAMETERS

 CONNECT GEOMETRY THRU CNODES = YES
 MIN ALLOWED BEND ANGLE = 5.00000
 MAX ALLOWED BEND ANGLE = 95.0000

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INPUT LISTING

```

BEND LENGTH ATTACHMENT PERCENT = 1.00000
MIN ANGLE TO ADJACENT BEND PT = 5.00000
LOOP CLOSURE TOLERANCE = 25.4000 mm.
THERMAL BOWING HORZ TOLERANCE = 0.100000E-03
AUTO NODE NUMBER INCREMENT= 10.0000
Z AXIS UP= NO
USE PRESSURE STIFFENING = DEFAULT
ALPHA TOLERANCE = 0.500000E-01
RESLD-FORCE = NO
HGR DEF RESWGT STIF = 0.175127E+13 N./cm.
DECOMP SNG TOL = 0.100000E+11
BEND AXIAL SHAPE = YES
FRICT STIF = 0.175127E+07 N./cm.
FRICT NORM FORCE VAR = 0.150000
FRICT ANGLE VAR = 15.0000
FRICT SLIDE MULT = 1.00000
ROD TOLERANCE = 1.00000
ROD INC = 2.00000
INCORE NUMERICAL CHECK = NO
OUTCORE NUMERICAL CHECK = NO
DEFAULT TRANS RESTRAINT STIFF= 0.175127E+13 N./cm.
DEFAULT ROT RESTRAINT STIFF= 0.112985E+12 N.m./deg
IGNORE SPRING HANGER STIFFNESS = NO
MISSING MASS ZPA = EXTRACTED
MIN WALL MILL TOLERANCE = 12.5000
WRC-107 VERSION = MAR 79 1B1/2B1
WRC-107 INTERPOLATION = LAST VALUE
DEFAULT AMBIENT TEMPERATURE= 21.1111 C
BOURDON PRESSURE= NONE
COEFFICIENT OF FRICTION (MU) = 0.000000
INCLUDE SPRG STIF IN HGR OPE = NO
INCLUDE INSULATION IN HYDROTEST = NO
REDUCED INTERSECTION = B31.1(POST1980)
USE WRC329 NO
NO REDUCED SIF FOR RFT AND WLT NO
B31.1 REDUCED Z FIX = YES
CLASS 1 BRANCH FLEX NO
ALL STRESS CASES CORRODED = NO
ADD TORSION IN SL STRESS = DEFAULT
ADD F/A IN STRESS = DEFAULT
OCCASIONAL LOAD FACTOR = 0.000000
DEFAULT CODE = B31.3
B31.3 SUS CASE SIF FACTOR = 0.000000
ALLOW USERS BEND SIF = NO
USE SCHNEIDER NO
YIELD CRITERION STRESS = MAX 3D SHEAR
USE PD/4T NO
BASE HOOP STRESS ON ? = ID
EN13480 USE IN OUTPLANE SIFS= NO
LIBERAL EXPANSION ALLOWABLE= YES
B31.3 SEC 319.2.3C SAXIAL= Default
B31.3 WELDING/CONTOUR TEE ISB16.9 FALSE
PRESSURE VARIATION IN EXP CASE= DEFAULT
IMPLEMENT B313 APP-P NO
IMPLEMENT B313 CODE CASE 178 YES
IGNORE B31.1/B31.3 Wc FACTOR= YES

```

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INPUT LISTING

```

USE FRP SIF = YES
USE FRP FLEX = YES
BS 7159 Pressure Stiffening= Design Strain
FRP Property Data File= CAESAR.FRP
FRP Emod (axial) = 0.220632E+08 KPa
FRP Ratio Gmod/Emod (axial) = 0.250000
FRP Ea/Eh*Vh/a = 0.152730
FRP Laminate Type = THREE
FRP Alpha = 21.6000 C
FRP Density = 0.166079E-02 kg./cu.cm.
EXCLUDE f2 FROM UK00A BENDING = NO
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```

EXECUTION CONTROL PARAMETERS

```

Rigid/ExpJt Print Flag ..... 1.000
Bourdon Option ..... .000
Loop Closure Flag ..... 2.000
Thermal Bowing Delta Temp .. .000 C
Liberal Allowable Flag ..... 1.000
Uniform Load Option ..... 1.000

Ambient Temperature ..... 20.997 C
Plastic (FRP) Alpha ..... 21.600
Plastic (FRP) GMOD/EMODa ... .250
Plastic (FRP) Laminate Type. 3.000
Eqn Optimizer ..... .000
Node Selection ..... .000
Eqn Ordering ..... .000
Collins ..... .000
Degree Determination ..... .000
User Eqn Control ..... .000
North Direction ..... -X
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```

COORDINATE REPORT

```

/------(mm.)-----/
NODE      X      Y      Z
10      -15700.080    -7395.683    7324.219
20      -15700.080    -7395.683    7257.544
25      -15700.080    -7395.683    6953.044
30      -15700.080    -7395.683    6648.544
430     -15701.080    -7396.683    6648.544
25      -15700.080    -7395.683    6953.044
30      -15700.080    -7395.683    6648.544
40      -15623.080    -7395.683    6648.544
50      -15556.405    -7395.683    6648.544
60      -15287.405    -7395.683    6648.544
70      -15220.730    -7395.683    6648.544
80      -15035.730    -7395.683    6648.544
90      -14969.056    -7395.683    6648.544
100     -14768.056    -7395.683    6648.544
110     -14701.381    -7395.683    6648.544
120     -14637.381    -7395.683    6648.544

```


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INPUT LISTING

130	-14637.381	-7395.683	6812.544
140	-14637.381	-7395.683	6879.219
150	-14637.381	-7395.683	7080.219
160	-14637.381	-7395.683	7146.894
170	-14637.381	-7395.683	7331.894
180	-14637.381	-7395.683	7398.569
190	-14637.381	-7395.683	7667.569
200	-14637.381	-7395.683	7734.244
205	-14637.381	-7395.683	7934.244
210	-14637.381	-7395.683	8511.244
215	-15162.381	-7395.683	8511.244
220	-15687.381	-7395.683	8511.244
400	-15705.342	-7413.644	8511.244
215	-15162.381	-7395.683	8511.244
220	-15687.381	-7395.683	8511.244
230	-15687.381	-7395.683	8770.244
240	-15687.381	-7395.683	8836.919
120	-14637.381	-7395.683	6648.544
185	-14427.381	-7395.683	6648.544
250	-9937.381	-7395.683	6648.544
255	-9937.381	-7395.683	7275.044
260	-9937.381	-7395.683	7901.544
270	-9937.381	-7063.683	7901.544
280	-9937.381	-6997.008	7901.544
10	-15700.080	-7395.683	7324.219
290	-15700.080	-7395.683	7390.894
300	-15700.080	-7395.683	7643.894
240	-15687.381	-7395.683	8836.919
310	-15687.381	-7395.683	8903.594
320	-15687.381	-7395.683	9156.594
280	-9937.381	-6997.008	7901.544
330	-9937.381	-6930.333	7901.544
340	-9937.381	-6797.333	7901.544
350	-9937.381	-6290.333	7901.544
360	-10337.381	-6290.333	7901.544
370	-10337.381	-6797.333	7901.544
350	-9937.381	-6290.333	7901.544
380	-8137.381	-6290.333	7901.544
390	-8137.381	-6797.333	7901.544
400	-15705.342	-7413.644	8511.244
410	-16005.342	-7413.644	8511.244
430	-15701.080	-7396.683	6648.544
440	-16001.080	-7396.683	6648.544

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

- 1 (HYD) WW+HP
- 2 (OPE) W+T1+P1
- 3 (Alt-SUS) W+P1
- 4 (OPE) W+T2+P1
- 5 (Alt-SUS) W+P1
- 6 (SUS) W+P1
- 7 (SUS) WNC
- 8 (OPE) W+T2+P1+U1
- 9 (OPE) W+T2+P1-U1
- 10 (OPE) W+T2+P1+U2
- 11 (OPE) W+T2+P1+U3
- 12 (OPE) W+T2+P1-U3
- 13 (OCC) L13=L8-L4
- 14 (OCC) L14=L9-L4
- 15 (OCC) L15=L10-L4
- 16 (OCC) L16=L11-L4
- 17 (OCC) L17=L12-L4
- 18 (OCC) L18=L13+L6
- 19 (OCC) L19=L14+L6
- 20 (OCC) L20=L15+L6
- 21 (OCC) L21=L16+L6
- 22 (OCC) L22=L17+L6
- 23 (EXP) L23=L2-L6
- 24 (EXP) L24=L4-L6
- 25 (EXP) L25=L2-L4

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

LOAD CASE DEFINITION KEY

CASE 1 (HYD) WW+HP
CASE 2 (OPE) W+T1+P1
CASE 4 (OPE) W+T2+P1
CASE 6 (SUS) W+P1
CASE 7 (SUS) WNC
CASE 8 (OPE) W+T2+P1+U1
CASE 9 (OPE) W+T2+P1-U1
CASE 10 (OPE) W+T2+P1+U2
CASE 11 (OPE) W+T2+P1+U3
CASE 12 (OPE) W+T2+P1-U3
CASE 13 (OCC) L13=L8-L4
CASE 14 (OCC) L14=L9-L4
CASE 15 (OCC) L15=L10-L4
CASE 16 (OCC) L16=L11-L4
CASE 17 (OCC) L17=L12-L4

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
10		TYPE=Rigid ANC;					
	1(HYD)	-0	-87	0	-1	0	2
	2(OPE)	-579	-90	148	-1	240	2
	4(OPE)	-1	-87	0	-1	0	2
	6(SUS)	-0	-87	0	-1	0	2
	7(SUS)	-0	-85	0	-3	0	1
	8(OPE)	10	-87	10	-1	2	2
	9(OPE)	-69	-87	21	-1	14	2
	10(OPE)	-1	-77	0	-1	0	2
	11(OPE)	-7	-87	86	-1	1	2
	12(OPE)	5	-87	-77	-1	-0	2
	13(OCC)	11	0	10	0	2	0
	14(OCC)	-68	0	20	0	14	0
	15(OCC)	0	10	-0	0	-0	-0
	16(OCC)	-6	0	86	-0	0	-0
	17(OCC)	6	0	-78	0	-0	0
	MAX	-579/L2	-90/L2	148/L2	-3/L7	240/L2	2/L1
185		TYPE=Rigid +Y;					
	1(HYD)	-32	-1097	-4	0	0	0
	2(OPE)	4	-1090	-327	0	0	0
	4(OPE)	-13	-1095	-26	0	0	0
	6(SUS)	-32	-1095	-4	0	0	0
	7(SUS)	-27	-1026	-4	0	0	0
	8(OPE)	312	-1095	-53	0	0	0
	9(OPE)	-328	-1096	-12	0	0	0
	10(OPE)	-11	-964	-26	0	0	0
	11(OPE)	-87	-1095	294	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	12(OPE)	74	-1096	-320	0	0	0
	13(OCC)	325	-0	-27	0	0	0
	14(OCC)	-316	-1	14	0	0	0
	15(OCC)	2	131	1	0	0	0
	16(OCC)	-74	0	321	0	0	0
	17(OCC)	86	-0	-294	0	0	0
	MAX	-328/L9	-1097/L1	-327/L2			
205		TYPE=Rigid +Y;					
	1(HYD)	2	-380	4	0	0	0
	2(OPE)	84	-389	-81	0	0	0
	4(OPE)	5	-379	25	0	0	0
	6(SUS)	2	-379	4	0	0	0
	7(SUS)	2	-353	3	0	0	0
	8(OPE)	97	-379	43	0	0	0
	9(OPE)	-112	-379	-17	0	0	0
	10(OPE)	4	-334	25	0	0	0
	11(OPE)	6	-379	52	0	0	0
	12(OPE)	8	-379	-73	0	0	0
	13(OCC)	92	-0	17	0	0	0
	14(OCC)	-117	0	-42	0	0	0
	15(OCC)	-0	46	-0	0	0	0
	16(OCC)	1	-0	27	0	0	0
	17(OCC)	4	0	-98	0	0	0
	MAX	-117/L14	-389/L2	-98/L17			
240		TYPE=Rigid ANC;					
	1(HYD)	2	-88	-1	-7	-0	-12
	2(OPE)	-88	-75	187	-4	-35	-14
	4(OPE)	4	-87	3	-6	-1	-12
	6(SUS)	2	-87	-1	-6	-0	-12
	7(SUS)	2	-78	-1	-6	-0	-10
	8(OPE)	20	-87	7	-7	-1	-12
	9(OPE)	-31	-87	2	-6	1	-12
	10(OPE)	3	-77	3	-6	-0	-10
	11(OPE)	-0	-87	39	-7	-1	-12
	12(OPE)	5	-87	-35	-6	0	-12
	13(OCC)	17	-0	5	-0	-0	-0
	14(OCC)	-34	-0	-0	0	2	0
	15(OCC)	-0	10	0	1	0	1
	16(OCC)	-4	0	36	-0	-1	-0
	17(OCC)	1	-0	-38	0	1	0
	MAX	-88/L2	-88/L1	187/L2	-7/L1	-35/L2	-14/L2
255		TYPE=Rigid +Y;					

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	1(HYD)	117	-659	-94	0	0	0
	2(OPE)	223	-870	-136	0	0	0
	4(OPE)	121	-658	-97	0	0	0
	6(SUS)	117	-657	-94	0	0	0
	7(SUS)	103	-582	-83	0	0	0
	8(OPE)	158	-658	-97	0	0	0
	9(OPE)	12	-658	-99	0	0	0
	10(OPE)	107	-580	-85	0	0	0
	11(OPE)	197	-659	12	0	0	0
	12(OPE)	21	-645	-192	0	0	0
	13(OCC)	37	0	0	0	0	0
	14(OCC)	-110	1	-3	0	0	0
	15(OCC)	-14	79	11	0	0	0
	16(OCC)	76	-0	108	0	0	0
	17(OCC)	-100	13	-96	0	0	0
	MAX	223/L2	-870/L2	-192/L12			
280		TYPE=Rigid ANC;					
	1(HYD)	-71	203	95	0	17	49
	2(OPE)	383	419	219	76	-380	215
	4(OPE)	-72	204	98	-0	17	48
	6(SUS)	-70	203	95	0	17	48
	7(SUS)	-62	177	84	0	15	43
	8(OPE)	-53	204	98	-0	18	50
	9(OPE)	-61	204	98	-0	16	56
	10(OPE)	-63	180	86	-0	15	42
	11(OPE)	-72	204	110	0	15	48
	12(OPE)	-57	191	43	9	17	53
	13(OCC)	19	-0	-0	-0	1	2
	14(OCC)	11	-0	-0	0	-1	8
	15(OCC)	8	-24	-11	-0	-2	-6
	16(OCC)	-1	0	12	0	-2	-0
	17(OCC)	14	-13	-55	9	-0	5
	MAX	383/L2	419/L2	219/L2	76/L2	-380/L2	215/L2
300		TYPE=Rigid ANC;					
	1(HYD)	-0	-151	0	-43	0	2
	2(OPE)	-579	-153	148	-43	425	2
	4(OPE)	-1	-150	0	-42	1	2
	6(SUS)	-0	-150	0	-42	0	2
	7(SUS)	-0	-144	0	-42	0	1
	8(OPE)	26	-150	10	-42	-5	2
	9(OPE)	-86	-150	21	-42	40	2
	10(OPE)	-1	-132	0	-37	1	2
	11(OPE)	-7	-150	103	-42	3	2
	12(OPE)	5	-150	-94	-42	-2	2

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	13(OCC)	27	0	10	0	-5	0
	14(OCC)	-85	0	20	0	39	0
	15(OCC)	0	18	-0	5	-0	-0
	16(OCC)	-6	0	102	0	2	-0
	17(OCC)	6	0	-94	0	-2	0
	MAX	-579/L2	-153/L2	148/L2	-43/L2	425/L2	2/L1
320		TYPE=Rigid ANC;					
	1(HYD)	2	-152	-1	-48	-1	-12
	2(OPE)	-88	-138	187	-41	-7	-14
	4(OPE)	4	-150	3	-47	-2	-12
	6(SUS)	2	-150	-1	-47	-1	-12
	7(SUS)	2	-137	-1	-43	-1	-10
	8(OPE)	37	-150	7	-48	-11	-12
	9(OPE)	-47	-150	2	-47	14	-12
	10(OPE)	3	-132	3	-42	-2	-10
	11(OPE)	-0	-150	55	-47	-1	-12
	12(OPE)	5	-150	-51	-47	-1	-12
	13(OCC)	33	-0	5	-0	-9	-0
	14(OCC)	-51	-0	-0	0	16	0
	15(OCC)	-0	18	0	6	0	1
	16(OCC)	-4	0	53	-0	1	-0
	17(OCC)	1	-0	-54	0	0	0
	MAX	-88/L2	-152/L1	187/L2	-48/L1	16/L14	-14/L2
340		TYPE=Rigid ANC;					
	1(HYD)	-71	155	95	-18	17	34
	2(OPE)	383	371	219	32	-380	291
	4(OPE)	-72	156	98	-20	17	34
	6(SUS)	-70	155	95	-18	17	34
	7(SUS)	-62	131	84	-16	15	30
	8(OPE)	-40	156	98	-20	18	42
	9(OPE)	-73	156	98	-20	16	42
	10(OPE)	-63	137	86	-17	15	30
	11(OPE)	-72	156	122	-23	15	33
	12(OPE)	-57	143	30	2	17	42
	13(OCC)	31	-0	-0	0	1	8
	14(OCC)	-2	-0	-0	0	-1	9
	15(OCC)	8	-19	-11	2	-2	-4
	16(OCC)	-1	0	24	-4	-2	-0
	17(OCC)	14	-13	-67	22	-0	8
	MAX	383/L2	371/L2	219/L2	32/L2	-380/L2	291/L2
370		TYPE=Rigid +Y; Rigid Z w/gap;					

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Job:: BNK-GCS-CN-022-D02

Licensed To:: SPLM: Edit company name in <system>\company.txt

RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	1(HYD)	0	0	0	0	0	0
	2(OPE)	0	0	0	0	0	0
	4(OPE)	0	0	0	0	0	0
	6(SUS)	0	0	0	0	0	0
	7(SUS)	0	0	0	0	0	0
	8(OPE)	0	0	0	0	0	0
	9(OPE)	0	0	0	0	0	0
	10(OPE)	0	0	0	0	0	0
	11(OPE)	0	0	0	0	0	0
	12(OPE)	0	0	0	0	0	0
	13(OCC)	0	0	0	0	0	0
	14(OCC)	0	0	0	0	0	0
	15(OCC)	0	0	0	0	0	0
	16(OCC)	0	0	0	0	0	0
	17(OCC)	0	0	0	0	0	0
390		TYPE=Rigid ANC;					
	1(HYD)	-71	155	95	-18	187	-245
	2(OPE)	383	371	219	32	14	-376
	4(OPE)	-72	156	98	-20	192	-247
	6(SUS)	-70	155	95	-18	187	-244
	7(SUS)	-62	131	84	-16	165	-205
	8(OPE)	-40	156	98	-20	193	-239
	9(OPE)	-73	156	98	-20	191	-237
	10(OPE)	-63	137	86	-17	170	-217
	11(OPE)	-72	156	122	-23	235	-248
	12(OPE)	-57	143	30	2	71	-216
	13(OCC)	31	-0	-0	0	1	8
	14(OCC)	-2	-0	-0	0	-1	9
	15(OCC)	8	-19	-11	2	-22	29
	16(OCC)	-1	0	24	-4	42	-1
	17(OCC)	14	-13	-67	22	-121	31
	MAX	383/L2	371/L2	219/L2	32/L2	235/L11	-376/L2
410		TYPE=Rigid +Y;					
	1(HYD)	-4	-49	1	0	0	0
	2(OPE)	-7	-58	-16	0	0	0
	4(OPE)	-8	-47	-1	0	0	0
	6(SUS)	-4	-46	1	0	0	0
	7(SUS)	-4	-44	1	0	0	0
	8(OPE)	13	-46	-5	0	0	0
	9(OPE)	-13	-47	5	0	0	0
	10(OPE)	-8	-41	-1	0	0	0
	11(OPE)	-2	-47	-2	0	0	0
	12(OPE)	-14	-47	1	0	0	0

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Job:: BNK-GCS-CN-022-D02

Licensed To:: SPLM: Edit company name in <system>\company.txt

RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	13(OCC)	21	0	-4	0	0	0
	14(OCC)	-5	0	6	0	0	0
	15(OCC)	1	6	-0	0	0	0
	16(OCC)	7	0	-1	0	0	0
	17(OCC)	-6	0	2	0	0	0
	MAX	21/L13	-58/L2	-16/L2			
440		TYPE=Rigid +Y;					
	1(HYD)	-15	-128	-0	0	0	0
	2(OPE)	-33	-122	-16	0	0	0
	4(OPE)	-37	-125	-2	0	0	0
	6(SUS)	-15	-125	-0	0	0	0
	7(SUS)	-14	-129	-0	0	0	0
	8(OPE)	35	-125	-4	0	0	0
	9(OPE)	-37	-125	0	0	0	0
	10(OPE)	-33	-110	-2	0	0	0
	11(OPE)	-37	-125	-6	0	0	0
	12(OPE)	-31	-125	0	0	0	0
	13(OCC)	72	0	-2	0	0	0
	14(OCC)	-0	0	2	0	0	0
	15(OCC)	5	15	0	0	0	0
	16(OCC)	0	-0	-4	0	0	0
	17(OCC)	7	0	3	0	0	0
	MAX	72/L13	-129/L7	-16/L2			

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Job:: BNK-GCS-CN-022-D02
Licensed To:: SPLM: Edit company name in <system>\company.txt

LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

- 1 (HYD) WW+HP
- 2 (OPE) W+T1+P1
- 3 (Alt-SUS) W+P1
- 4 (OPE) W+T2+P1
- 5 (Alt-SUS) W+P1
- 6 (SUS) W+P1
- 7 (SUS) WNC
- 8 (OPE) W+T2+P1+U1
- 9 (OPE) W+T2+P1-U1
- 10 (OPE) W+T2+P1+U2
- 11 (OPE) W+T2+P1+U3
- 12 (OPE) W+T2+P1-U3
- 13 (OCC) L13=L8-L4
- 14 (OCC) L14=L9-L4
- 15 (OCC) L15=L10-L4
- 16 (OCC) L16=L11-L4
- 17 (OCC) L17=L12-L4
- 18 (OCC) L18=L13+L6
- 19 (OCC) L19=L14+L6
- 20 (OCC) L20=L15+L6
- 21 (OCC) L21=L16+L6
- 22 (OCC) L22=L17+L6
- 23 (EXP) L23=L2-L6
- 24 (EXP) L24=L4-L6
- 25 (EXP) L25=L2-L4

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Job:: BNK-GCS-CN-022-D02

Licensed To:: SPLM: Edit company name in <system>\company.txt

STRESS SUMMARY REPORT: Highest Stresses Mini Statement Various Load Cases

LOAD CASE DEFINITION KEY

CASE 1 (HYD) WW+HP
CASE 3 (Alt-SUS) W+P1
CASE 5 (Alt-SUS) W+P1
CASE 6 (SUS) W+P1
CASE 7 (SUS) WNC
CASE 18 (OCC) L18=L13+L6
CASE 19 (OCC) L19=L14+L6
CASE 20 (OCC) L20=L15+L6
CASE 21 (OCC) L21=L16+L6
CASE 22 (OCC) L22=L17+L6
CASE 23 (EXP) L23=L2-L6
CASE 24 (EXP) L24=L4-L6
CASE 25 (EXP) L25=L2-L4

Piping Code: B31.3 = B31.3 -2016, Jan 31, 2017

CODE STRESS CHECK PASSED : LOADCASE 1 (HYD) WW+HP

Highest Stresses: (KPa)	LOADCASE 1 (HYD) WW+HP	
Ratio (%):	6.9 @Node 185	
Code Stress:	16718.5	Allowable Stress: 241316.5
Axial Stress:	2092.9 @Node 410	
Bending Stress:	15868.9 @Node 185	
Torsion Stress:	2385.9 @Node 250	
Hoop Stress:	4580.3 @Node 410	
Max Stress Intensity:	16761.6 @Node 185	

CODE STRESS CHECK PASSED : LOADCASE 3 (Alt-SUS) W+P1

Highest Stresses: (KPa)	LOADCASE 3 (Alt-SUS) W+P1	
Ratio (%):	29.1 @Node 185	
Code Stress:	40126.0	Allowable Stress: 137895.1
Axial Stress:	2632.7 @Node 248	
Bending Stress:	37446.4 @Node 185	
Torsion Stress:	5444.1 @Node 250	
Hoop Stress:	5509.9 @Node 25	
Max Stress Intensity:	40110.5 @Node 185	

CODE STRESS CHECK PASSED : LOADCASE 5 (Alt-SUS) W+P1

Highest Stresses: (KPa)	LOADCASE 5 (Alt-SUS) W+P1	
Ratio (%):	29.0 @Node 185	
Code Stress:	39954.2	Allowable Stress: 137895.1
Axial Stress:	2626.5 @Node 230	
Bending Stress:	37292.7 @Node 185	
Torsion Stress:	5607.4 @Node 250	
Hoop Stress:	5509.9 @Node 25	
Max Stress Intensity:	40056.0 @Node 185	

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
Various Load Cases

CODE STRESS CHECK PASSED : LOADCASE 6 (SUS) W+P1

Highest Stresses: (	KPa	)	LOADCASE 6 (SUS) W+P1	
Ratio (%):	29.0	@Node	185	
Code Stress:	39932.8	Allowable Stress:		137895.1
Axial Stress:	2626.5	@Node	230	
Bending Stress:	37292.6	@Node	185	
Torsion Stress:	5607.5	@Node	250	
Hoop Stress:	5509.9	@Node	25	
Max Stress Intensity:	40055.9	@Node	185	

CODE STRESS CHECK PASSED : LOADCASE 7 (SUS) WNC

Highest Stresses: (	KPa	)	LOADCASE 7 (SUS) WNC	
Ratio (%):	24.3	@Node	185	
Code Stress:	33496.4	Allowable Stress:		137895.1
Axial Stress:	475.6	@Node	260	
Bending Stress:	33370.9	@Node	185	
Torsion Stress:	4940.7	@Node	250	
Hoop Stress:	0.0	@Node	20	
Max Stress Intensity:	33496.4	@Node	185	

CODE STRESS CHECK PASSED : LOADCASE 18 (OCC) L18=L13+L6

Highest Stresses: (	KPa	)	LOADCASE 18 (OCC) L18=L13+L6	
Ratio (%):	22.0	@Node	185	
Code Stress:	40332.6	Allowable Stress:		183400.5
Axial Stress:	2821.3	@Node	185	
Bending Stress:	37327.1	@Node	185	
Torsion Stress:	5585.3	@Node	250	
Hoop Stress:	5509.9	@Node	25	
Max Stress Intensity:	40391.6	@Node	185	

CODE STRESS CHECK PASSED : LOADCASE 19 (OCC) L19=L14+L6

Highest Stresses: (	KPa	)	LOADCASE 19 (OCC) L19=L14+L6	
Ratio (%):	22.3	@Node	185	
Code Stress:	40833.1	Allowable Stress:		183400.5
Axial Stress:	2953.8	@Node	185	
Bending Stress:	37833.5	@Node	185	
Torsion Stress:	5545.2	@Node	250	
Hoop Stress:	5509.9	@Node	25	
Max Stress Intensity:	40892.1	@Node	185	

CODE STRESS CHECK PASSED : LOADCASE 20 (OCC) L20=L15+L6

Highest Stresses: (	KPa	)	LOADCASE 20 (OCC) L20=L15+L6	
Ratio (%):	24.2	@Node	185	
Code Stress:	44422.0	Allowable Stress:		183400.5
Axial Stress:	2626.2	@Node	230	
Bending Stress:	41767.7	@Node	185	

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
Various Load Cases

Torsion Stress:	4934.6	@Node	250
Hoop Stress:	5509.9	@Node	25
Max Stress Intensity:	44548.1	@Node	185

CODE STRESS CHECK PASSED : LOADCASE 21 (OCC) L21=L16+L6

Highest Stresses: (KPa)	LOADCASE 21 (OCC) L21=L16+L6		
Ratio (%):	26.2	@Node	185
Code Stress:	48010.9	Allowable Stress:	183400.5
Axial Stress:	2926.1	@Node	120
Bending Stress:	45283.5	@Node	185
Torsion Stress:	5608.9	@Node	250
Hoop Stress:	5509.9	@Node	25
Max Stress Intensity:	48198.1	@Node	185

CODE STRESS CHECK PASSED : LOADCASE 22 (OCC) L22=L17+L6

Highest Stresses: (KPa)	LOADCASE 22 (OCC) L22=L17+L6		
Ratio (%):	26.0	@Node	185
Code Stress:	47726.7	Allowable Stress:	183400.5
Axial Stress:	2813.6	@Node	300
Bending Stress:	44971.2	@Node	185
Torsion Stress:	5563.8	@Node	250
Hoop Stress:	5509.9	@Node	25
Max Stress Intensity:	47913.9	@Node	185

CODE STRESS CHECK PASSED : LOADCASE 23 (EXP) L23=L2-L6

Highest Stresses: (KPa)	LOADCASE 23 (EXP) L23=L2-L6		
Ratio (%):	8.9	@Node	340
Code Stress:	29659.2	Allowable Stress:	332464.3
Axial Stress:	434.1	@Node	185
Bending Stress:	26441.0	@Node	300
Torsion Stress:	12347.4	@Node	270
Hoop Stress:	0.0	@Node	20
Max Stress Intensity:	69887.3	@Node	340

CODE STRESS CHECK PASSED : LOADCASE 24 (EXP) L24=L4-L6

Highest Stresses: (KPa)	LOADCASE 24 (EXP) L24=L4-L6		
Ratio (%):	0.1	@Node	430
Code Stress:	282.0	Allowable Stress:	334063.8
Axial Stress:	40.8	@Node	440
Bending Stress:	228.8	@Node	120
Torsion Stress:	11.5	@Node	260
Hoop Stress:	0.0	@Node	20
Max Stress Intensity:	583.6	@Node	120

CODE STRESS CHECK PASSED : LOADCASE 25 (EXP) L25=L2-L4

Highest Stresses: (KPa)	LOADCASE 25 (EXP) L25=L2-L4		
Ratio (%):	8.9	@Node	340

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement

Various Load Cases

Code Stress:	29669.1	Allowable Stress:	332464.3
Axial Stress:	418.5	@Node	185
Bending Stress:	26407.2	@Node	300
Torsion Stress:	12335.9	@Node	270
Hoop Stress:	0.0	@Node	20
Max Stress Intensity:	69910.5	@Node	340

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

- 1 (HYD) WW+HP
- 2 (OPE) W+T1+P1
- 3 (Alt-SUS) W+P1
- 4 (OPE) W+T2+P1
- 5 (Alt-SUS) W+P1
- 6 (SUS) W+P1
- 7 (SUS) WNC
- 8 (OPE) W+T2+P1+U1
- 9 (OPE) W+T2+P1-U1
- 10 (OPE) W+T2+P1+U2
- 11 (OPE) W+T2+P1+U3
- 12 (OPE) W+T2+P1-U3
- 13 (OCC) L13=L8-L4
- 14 (OCC) L14=L9-L4
- 15 (OCC) L15=L10-L4
- 16 (OCC) L16=L11-L4
- 17 (OCC) L17=L12-L4
- 18 (OCC) L18=L13+L6
- 19 (OCC) L19=L14+L6
- 20 (OCC) L20=L15+L6
- 21 (OCC) L21=L16+L6
- 22 (OCC) L22=L17+L6
- 23 (EXP) L23=L2-L6
- 24 (EXP) L24=L4-L6
- 25 (EXP) L25=L2-L4

CAESAR II 2018 Ver.10.00.00.7700, (Build 170726) Date: MAR 3, 2024 Time: 13:10

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NOZZLE CHECK REPORT: Nozzle Loads Screening

Various Load Cases

LOAD CASE DEFINITION KEY

CASE 2 (OPE) W+T1+P1

CASE 4 (OPE) W+T2+P1

CASE 6 (SUS) W+P1

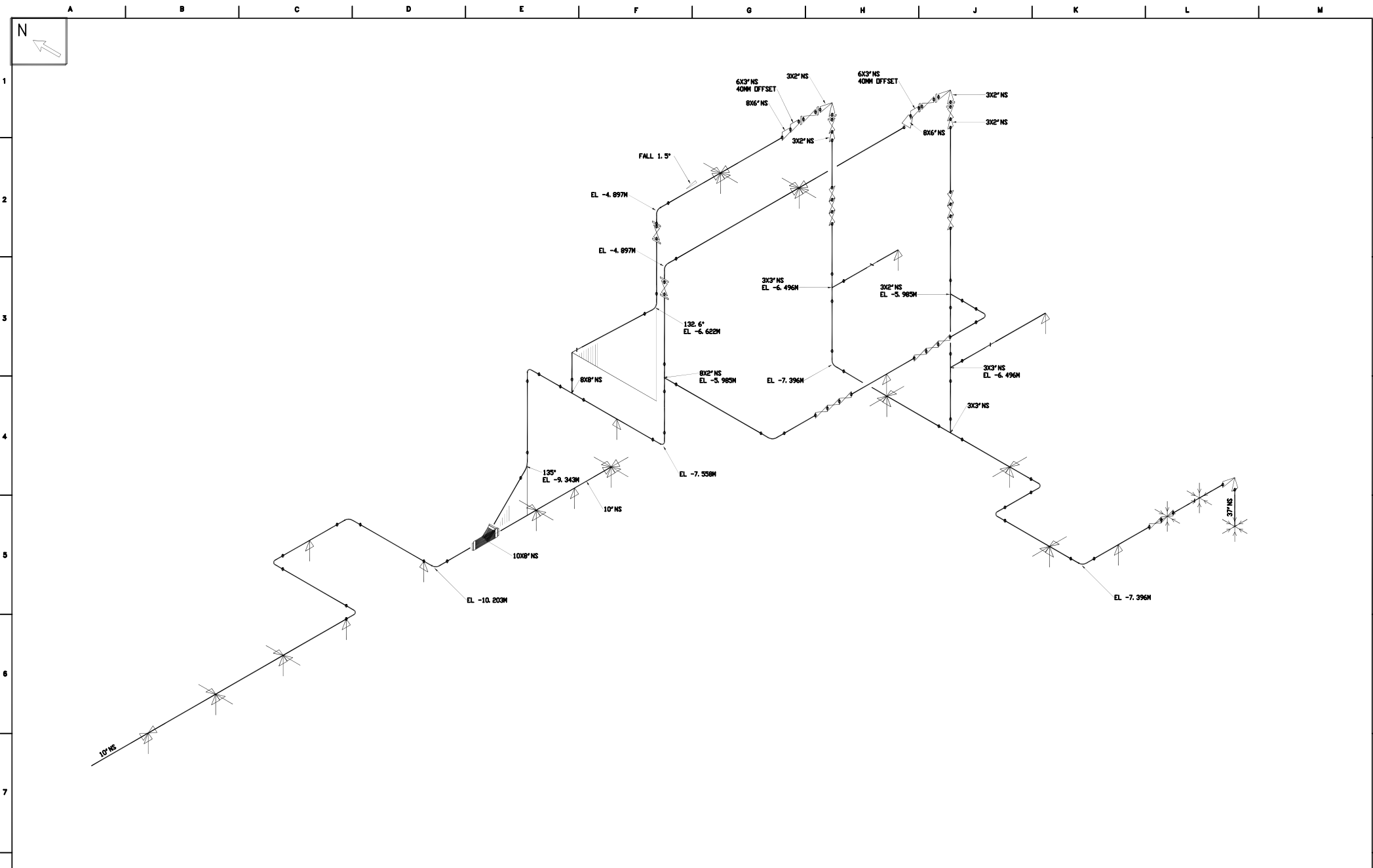
CASE 7 (SUS) WNC

Node		fa N.	fb N.	fc N.	Forces Check	ma N.m.	mb N.m.	mc N.m.	Moments Check	
300		Absolute Method								
	Limits	1779	1157	1423		461	0	705		
	2(OPE)	148	-153	579	0.407	2	425	43	0.061	
	4(OPE)	0	-150	1	0.130	2	1	42	0.060	
	6(SUS)	0	-150	0	0.130	2	0	42	0.060	
	7(SUS)	0	-144	0	0.124	1	0	42	0.060	
320		Absolute Method								
	Limits	1779	1157	1423		461	0	705		
	2(OPE)	187	-138	88	0.119	-14	-7	41	0.058	
	4(OPE)	3	-150	-4	0.130	-12	-2	47	0.067	
	6(SUS)	-1	-150	-2	0.130	-12	-1	47	0.067	
	7(SUS)	-1	-137	-2	0.118	-10	-1	43	0.061	

BNK-GCS-CN-027

LINE Nos.

1. FL-112-0027-AN07-8"-PT
2. FL-112-0025-AN07-8"-PT
3. FL-112-0026-AN07-2"-PT
4. GAS-111-0060-FN05-3"-PT
5. GAS-111-0062-FN05-3"-PT



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PIPING SPEC.		OP. TEMP.	
INSULATION SPEC.		PROJECT NO.	
INSULATION THKS.		SYSTEM	
PAINTING SPEC.		AREA	
MATERIAL		DRAWN BY	
OP. PRESSURE		E.I.DIAGRAM	



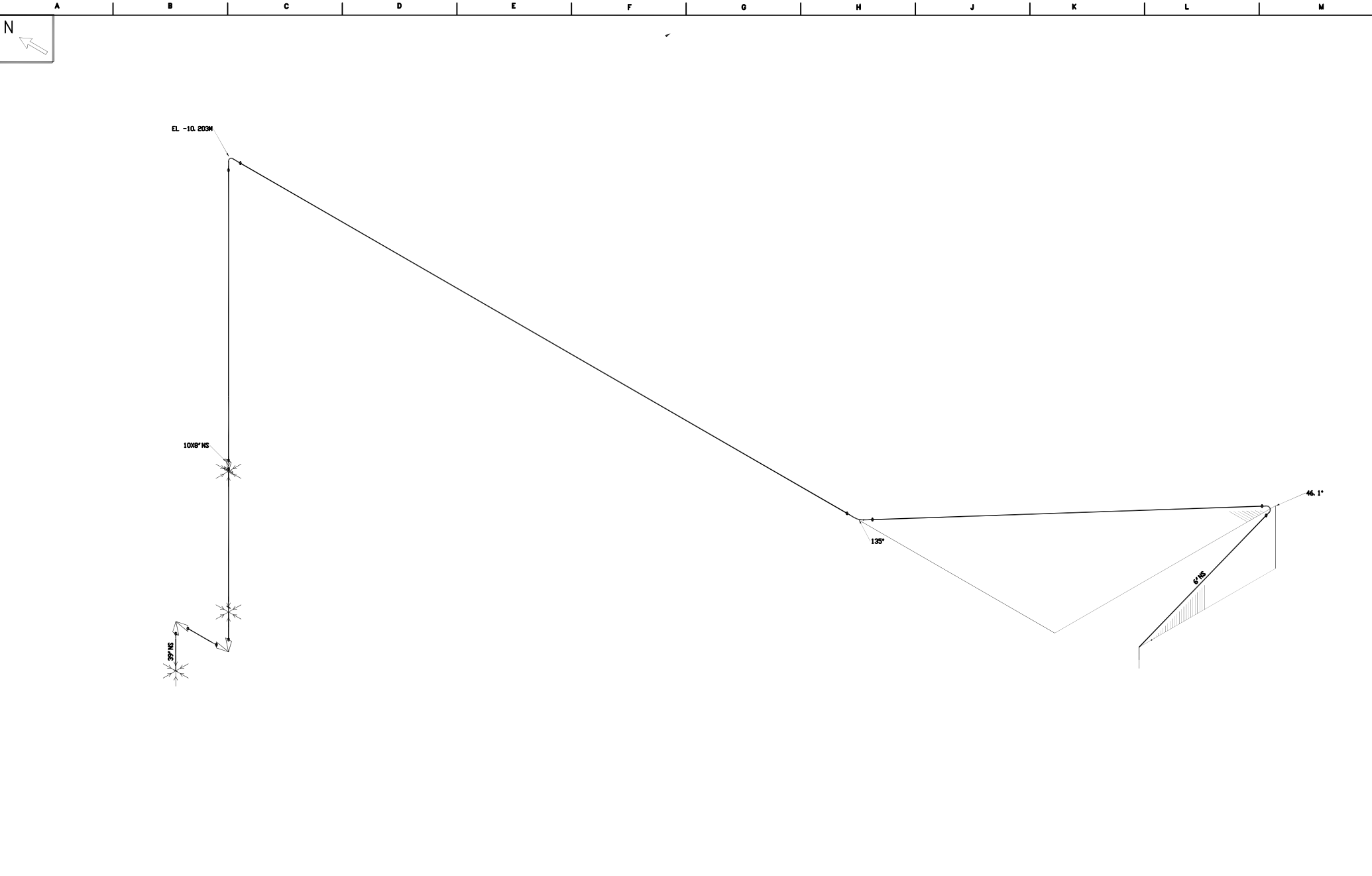
REV.

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PIPELINE REFERENCE

1 OF 5

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PIPING SPEC.		OP. TEMP.	
INSULATION SPEC.		PROJECT NO.	
INSULATION THKS.		SYSTEM	
PAINTING SPEC.		AREA	
MATERIAL		DRAWN BY	
OP. PRESSURE		E.I.DIAGRAM	



PIPELINE REFERENCE

REV.	
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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

- 1 (HYD) WW+HP
- 2 (OPE) W+T1+P1
- 3 (Alt-SUS) W+P1
- 4 (OPE) W+T2+P1
- 5 (Alt-SUS) W+P1
- 6 (OPE) W+T3+P1
- 7 (Alt-SUS) W+P1
- 8 (SUS) W+P1
- 9 (SUS) WNC
- 10 (OPE) W+T2+P1+U1
- 11 (OPE) W+T2+P1-U1
- 12 (OPE) W+T2+P1+U2
- 13 (OPE) W+T2+P1+U3
- 14 (OPE) W+T2+P1-U3
- 15 (OPE) W+T2+P1+F1
- 16 (OPE) W+T2+P1+F2
- 17 (OCC) L17=L10-L4
- 18 (OCC) L18=L11-L4
- 19 (OCC) L19=L12-L4
- 20 (OCC) L20=L13-L4
- 21 (OCC) L21=L14-L4
- 22 (OCC) L22=L15-L4
- 23 (OCC) L23=L16-L4
- 24 (OCC) L24=L17+L8
- 25 (OCC) L25=L18+L8
- 26 (OCC) L26=L19+L8
- 27 (OCC) L27=L20+L8
- 28 (OCC) L28=L21+L8
- 29 (OCC) L29=L22+L8
- 30 (OCC) L30=L23+L8
- 31 (EXP) L31=L2-L8
- 32 (EXP) L32=L4-L8
- 33 (EXP) L33=L6-L8
- 34 (EXP) L34=L2-L6
- 35 (EXP) L35=L4-L6

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INPUT LISTING

Job Description:

PROJECT:

CLIENT :

ANALYST:

NOTES :

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INPUT LISTING

File created by FEATools

CAESAR II 2018 Ver.10.00.00.7700, (Build 170726) FEB 27,2024 13:10:24

PIPE DATA

 From 10 To 20 DY= .000 mm. DZ= 92.075 mm.

PIPE

Dia= 88.900 mm. Wall= 7.620 mm. Cor= 3.0000 mm.

GENERAL

T1= 130 C T2= 60 C T3= 60 C P1= 6,200.1411 KPa PHyd= 9,300.2119 KPa
 Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 196,294,464 KPa
 EH2= 200,637,808 KPa EH3= 200,637,808 KPa EH4= 203,401,232 KPa
 EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa
 EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292
 Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000562 kg./cu.cm.
 Insul Thk= .000 mm. Insul Den= .0000000 kg./cu.cm.

RIGID Weight= 106.76 N.

RESTRAINTS

Node 10 ANC Cnode 730

UNIFORM LOAD

Vector1 in G-s X1 Dir = .26 g's Y1 Dir = .00 g's Z1 Dir = .00 g's
 Vector2 in G-s X2 Dir = .00 g's Y2 Dir = .12 g's Z2 Dir = .00 g's
 Vector3 in G-s X3 Dir = .00 g's Y3 Dir = .00 g's Z3 Dir = .26 g's

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 20 To 25 DZ= 879.000 mm.

RESTRAINTS

Node 25 +Y Mu = .30

 From 25 To 30 DZ= 564.000 mm.

BEND at "T0" end

Radius= 114.300 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 29
 Angle/Node @2= .00 28

 From 30 To 35 DX= -414.000 mm.

RESTRAINTS

Node 35 +Y Mu = .30
 Node 35 Z Gap= 3.000 mm. Mu = .30

 From 35 To 1110 DX= -2,372.000 mm.

BEND at "T0" end

Radius= 114.300 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1109
 Angle/Node @2= .00 1108

 From 1110 To 1120 DZ= -778.000 mm.

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INPUT LISTING

BEND at "TO" end

Radius= 114.300 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1119
Angle/Node @2= .00 1118

From 1120 To 40 DX= -414.000 mm.

RESTRAINTS

Node 40 +Y Mu = .30

Node 40 Z Gap= .000 mm.

From 40 To 50 DX= -2,695.000 mm.

SIF's & TEE's

Node 50 Welding Tee

From 50 To 60 DY= 900.000 mm.

From 60 To 70 DZ= -38.100 mm.

RIGID Weight= .00 N.

SIF's & TEE's

Node 70 Reinforced Tee Pad= 7.620 mm.

From 60 To 80 DY= 511.000 mm.

SIF's & TEE's

Node 80 Welding Tee

From 80 To 90 DY= 86.000 mm.

From 90 To 100 DY= 92.075 mm.

RIGID Weight= 106.76 N.

From 100 To 110 DY= 365.000 mm.

GENERAL

T3= 60 C

RIGID Weight= 591.61 N.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 110 To 120 DY= 92.075 mm.

RIGID Weight= 106.76 N.

From 120 To 130 DY= 300.000 mm.

From 130 To 140 DY= 89.000 mm.

REDUCER

Diam2= 60.325 mm. Wall2= 8.738 mm.

From 140 To 150 DY= 82.550 mm.

PIPE

Dia= 60.325 mm. Wall= 8.738 mm.

Insul Thk= .000 mm.

RIGID Weight= 57.83 N.

From 150 To 160 DY= 46.000 mm.

RIGID Weight= 57.83 N.

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INPUT LISTING

FORCES & MOMENTS

Node 160 FY1= 2,500.13 N. FZ1= -3,000.15 N.

From 160 To 170 DZ= 63.925 mm.

PIPE

Dia= 88.900 mm. Wall= 7.620 mm.

Insul Thk= .000 mm.

RIGID Weight= 106.76 N.

From 170 To 180 DZ= 92.075 mm.

RIGID Weight= 106.76 N.

From 80 To 190 DX= 352.000 mm.

PIPE

Dia= 60.325 mm. Wall= 8.738 mm.

Insul Thk= .000 mm.

BEND at "T0" end

Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 189

Angle/Node @2= .00 188

From 190 To 200 DZ= 77.000 mm.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 200 To 210 DZ= 82.550 mm.

RIGID Weight= 57.83 N.

From 210 To 220 DZ= 301.000 mm.

RIGID Weight= 311.38 N.

From 220 To 230 DZ= 82.550 mm.

RIGID Weight= 57.83 N.

From 230 To 240 DZ= 125.500 mm.

RESTRAINTS

Node 240 +Y Mu = .30

From 240 To 250 DZ= 125.500 mm.

From 250 To 260 DZ= 82.550 mm.

RIGID Weight= 57.83 N.

From 260 To 270 DZ= 297.000 mm.

RIGID Weight= 515.99 N.

From 50 To 280 DX= -566.000 mm.

PIPE

Dia= 88.900 mm. Wall= 7.620 mm.

Insul Thk= .000 mm.

RESTRAINTS

Node 280 +Y

Node 280 Z Gap= 5.000 mm. Mu = .30

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INPUT LISTING

From 280 To 290 DX= -234.000 mm.

BEND at "T0" end

Radius= 114.300 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 289

Angle/Node @2= .00 288

From 290 To 300 DY= 900.000 mm.

From 300 To 310 DZ= -38.100 mm.

RIGID Weight= .00 N.

SIF's & TEE's

Node 310 Unreinforced Tee

From 300 To 320 DY= 597.000 mm.

From 320 To 330 DY= 92.075 mm.

RIGID Weight= 106.76 N.

From 330 To 340 DY= 365.000 mm.

RIGID Weight= 591.61 N.

From 340 To 350 DY= 92.075 mm.

RIGID Weight= 106.76 N.

From 350 To 360 DY= 300.000 mm.

From 360 To 370 DY= 89.000 mm.

REDUCER

Diam2= 60.325 mm. Wall2= 8.738 mm.

From 370 To 380 DY= 82.550 mm.

PIPE

Dia= 60.325 mm. Wall= 8.738 mm.

Insul Thk= .000 mm.

RIGID Weight= 57.83 N.

From 380 To 390 DY= 46.000 mm.

RIGID Weight= 57.83 N.

FORCES & MOMENTS

Node 390 FY2= 2,500.13 N. FZ2= -3,000.15 N.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 390 To 400 DZ= 64.000 mm.

PIPE

Dia= 88.900 mm. Wall= 7.620 mm.

Insul Thk= .000 mm.

RIGID Weight= 106.76 N.

From 400 To 410 DZ= 92.075 mm.

RIGID Weight= 106.76 N.

From 180 To 420 DZ= 73.025 mm.

PIPE

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INPUT LISTING

Dia= 88.900 mm. Wall= 7.620 mm. Cor= 6.0000 mm.

GENERAL

T1= 270 C T2= 272 C T3= -28 C P1= 600.0137 KPa PHyd= 900.0205 KPa

Fluid Den= .0000015 kg./cu.cm. Insul Thk= .000 mm.

RIGID Weight= 54.49 N.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 129,638 KPa Sh2= 129,365 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 420 To 430 DY= -40.000 mm. DZ= 140.000 mm.

REDUCER

Diam2= 168.275 mm. Wall2= 10.973 mm.

From 430 To 440 DY= -25.000 mm. DZ= 153.000 mm.

PIPE

Dia= 168.275 mm. Wall= 10.973 mm.

Insul Thk= .000 mm.

REDUCER

Diam2= 219.075 mm. Wall2= 10.312 mm.

From 440 To 450 DZ= 300.000 mm.

PIPE

Dia= 219.075 mm. Wall= 10.312 mm.

Insul Thk= .000 mm.

RESTRAINTS

Node 450 +Y Mu = .30

Node 450 X Gap= 3.000 mm.

Node 450 Z

From 450 To 460 DZ= 505.000 mm.

BEND at "T0" end

Radius= 304.800 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 459

Angle/Node @2= .00 458

From 460 To 470 DY= -305.000 mm.

From 470 To 480 DY= -104.775 mm.

RIGID Weight= 177.93 N.

From 480 To 490 DY= -462.000 mm.

RIGID Weight= 2,259.70 N.

From 490 To 500 DY= -104.775 mm.

RIGID Weight= 177.93 N.

From 500 To 510 DY= -111.000 mm.

From 510 To 520 DY= -511.000 mm.

From 520 To 530 DY= -1,062.000 mm.

BEND at "T0" end

Radius= 304.800 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 529

Angle/Node @2= .00 528

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INPUT LISTING

From 530 To 540 DX= -565.000 mm.

RESTRAINTS

Node 540 +Y Mu = .30

From 540 To 550 DX= -1,171.000 mm.

SIF's & TEE's

Node 550 Welding Tee

From 550 To 560 DY= 76.200 mm.

RIGID Weight= .00 N.

From 550 To 570 DX= -419.000 mm.

BEND at "TO" end

Radius= 304.800 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 569

Angle/Node @2= .00 568

From 570 To 580 DY= -1,785.000 mm.

BEND at "TO" end

Radius= 304.800 mm. (LONG) Bend Angle= 45.000 Angle/Node @1= 22.50 579

Angle/Node @2= .00 578

From 580 To 590 DY= -860.000 mm. DZ= 860.000 mm.

From 410 To 600 DY= .000 mm. DZ= 73.025 mm.

PIPE

Dia= 88.900 mm. Wall= 7.620 mm.

Insul Thk= .000 mm.

RIGID Weight= 54.49 N.

From 600 To 610 DY= -40.000 mm. DZ= 140.000 mm.

REDUCER

Diam2= 168.275 mm. Wall2= 10.973 mm.

From 610 To 620 DY= -25.000 mm. DZ= 153.000 mm.

PIPE

Dia= 168.275 mm. Wall= 10.973 mm.

Insul Thk= .000 mm.

REDUCER

Diam2= 219.075 mm. Wall2= 10.312 mm.

From 620 To 630 DZ= 300.000 mm.

PIPE

Dia= 219.075 mm. Wall= 10.312 mm.

Insul Thk= .000 mm.

RESTRAINTS

Node 630 +Y Mu = .30

Node 630 X

Node 630 Z

From 630 To 640 DZ= 505.000 mm.

BEND at "TO" end

Radius= 304.800 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 639

Angle/Node @2= .00 638

From 640 To 650 DY= -305.000 mm.

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INPUT LISTING

From 650 To 660 DY= -104.775 mm.

RIGID Weight= 177.93 N.

From 660 To 670 DY= -462.000 mm.

RIGID Weight= 2,259.70 N.

From 670 To 680 DY= -104.775 mm.

RIGID Weight= 177.93 N.

From 680 To 690 DY= -522.000 mm.

From 690 To 700 DY= -226.000 mm.

BEND at "T0" end

Radius= 304.800 mm. (LONG) Bend Angle= 47.430 Angle/Node @1= 23.71 699

From 700 To 560 DX= -936.000 mm. DY= -859.800 mm. DZ= -.075 mm.

From 270 To 710 DX= .000 mm. DY= .000 mm. DZ= 67.000 mm.

PIPE

Dia= 60.325 mm. Wall= 8.738 mm.

Insul Thk= .000 mm.

RIGID Weight= 31.14 N.

From 710 To 720 DX= .000 mm. DY= .000 mm. DZ= 86.376 mm.

BEND at "T0" end

Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 719

Angle/Node @2= .00 718

From 720 To 510 DX= -352.000 mm. DY= .075 mm. DZ= .000 mm.

From 730 To 740 DZ= -92.075 mm.

PIPE

Dia= 88.900 mm. Wall= 7.620 mm. Cor= 3.0000 mm.

GENERAL

T1= 130 C T2= 60 C T3= 60 C P1= 6,200.1411 KPa P2= .0000 KPa

Phyd= 9,300.2119 KPa Mat= (106)A106 Grade B E= 203,401,232 KPa

EH1= 196,294,464 KPa EH2= 200,637,808 KPa EH3= 200,637,808 KPa

EH4= 203,401,232 KPa EH5= 203,401,232 KPa EH6= 203,401,232 KPa

EH7= 203,401,232 KPa EH8= 203,401,232 KPa EH9= 203,401,232 KPa

v = .292 Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000592 kg./cu.cm.

Insul Thk= .000 mm. Insul Den= .0000000 kg./cu.cm.

RIGID Weight= 106.76 N.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 740 To 750 DZ= -120.000 mm.

RESTRAINTS

Node 750 ANC Cnode 760

EQUIPMENT LIMITS

Nozzle Node = 750 Limiting Loads: A=pipe; B=ref; C=AxB; FA= 4,800.24 N.

FB= 4,800.24 N. FC= 3,600.18 N. MA= 1,080.05 N.m. MB= 720.03 N.m.

MC= 940.04 N.m. Equipment Major Direction Vector= .0000 1.0000 .0000

Interact. Mtd= Absolute

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INPUT LISTING

 From 760 To 770 DZ= -472.000 mm.

PIPE

Dia= 944.000 mm. Wall= 15.000 mm.

Insul Thk= .000 mm.

RIGID Weight= .00 N.

 From 770 To 780 DY= -2,400.000 mm.

RIGID Weight= .00 N.

RESTRAINTS

Node 780 ANC

 From 70 To 790 DZ= -300.000 mm.

PIPE

Dia= 60.325 mm. Wall= 3.912 mm. Cor= .0000 mm.

GENERAL

T1= 21 C T2= 21 C T3= 21 C P1= .0000 KPa PHyd= .0000 KPa

Mat= (102)A53 Grade B E= 203,401,232 KPa EH1= 203,401,232 KPa

EH2= 203,401,232 KPa EH3= 203,401,232 KPa EH4= 203,401,232 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000000 kg./cu.cm.

Insul Thk= .000 mm.

RESTRAINTS

Node 790 +Y K= 10 N./cm.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

 From 310 To 800 DZ= -300.000 mm.

RESTRAINTS

Node 800 +Y

 From 810 To 820 DY= 66.675 mm.

PIPE

Dia= 219.075 mm. Wall= 10.312 mm. Cor= 6.0000 mm.

GENERAL

T1= 270 C T2= 272 C T3= -28 C P1= 600.0137 KPa PHyd= 900.0205 KPa

Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 187,483,936 KPa

EH2= 187,335,024 KPa EH3= 205,934,864 KPa EH4= 203,401,232 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000015 kg./cu.cm.

Insul Thk= .000 mm. Insul Den= .0000000 kg./cu.cm.

RIGID Weight= 31.14 N.

RESTRAINTS

Node 810 ANC Cnode 900

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 129,638 KPa Sh2= 129,365 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

EQUIPMENT LIMITS

Nozzle Node = 810

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INPUT LISTING

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 11,200.56 N. FB= 11,200.56 N.
 FC= 8,400.42 N. MA= 6,720.29 N.m. MB= 4,480.19 N.m. MC= 5,820.25 N.m.
 Equipment Major Direction Vector= 1.0000 .0000 .0000
 Interact. Mtd= Absolute

 From 820 To 830 DY= 178.000 mm.

REDUCER

Diam2= 273.050 mm. Wall2= 9.271 mm.

 From 830 To 840 DY= 290.000 mm.

PIPE

Dia= 273.050 mm. Wall= 9.271 mm.
 Insul Thk= .000 mm.

 From 840 To 850 DY= 1,410.000 mm.

BEND at "T0" end

Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 849
 Angle/Node @2= .00 848

 From 850 To 860 DX= 6,200.000 mm.

BEND at "T0" end

Radius= 381.000 mm. (LONG) Bend Angle= 45.000 Angle/Node @1= 22.50 859
 Angle/Node @2= .00 858

 From 860 To 870 DX= 1,800.000 mm. DZ= -1,800.000 mm.

BEND at "T0" end

Radius= 381.000 mm. (LONG) Bend Angle= 45.000 Angle/Node @1= 22.50 869
 Angle/Node @2= .00 868

 From 870 To 880 DZ= -4,200.000 mm.

RESTRAINTS

Node 880 +Y Mu = .30
 Node 880 Z Gap= 3.000 mm.

 From 870 To 890 DY= -89.803 mm. DZ= 89.803 mm.

RIGID Weight= .00 N.

SIF's & TEE's

Node 890 Unreinforced Tee

 From 900 To 910 DY= -104.775 mm.

PIPE

Dia= 219.075 mm. Wall= 10.312 mm. Cor= 6.0000 mm.

GENERAL

T1= 270 C T2= 272 C T3= -28 C Fluid Den= .0000015 kg./cu.cm.

Insul Thk= .000 mm.

RIGID Weight= 177.93 N.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 129,638 KPa Sh2= 129,365 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 910 To 920 DY= -203.000 mm.

RESTRAINTS

Node 920 ANC Cnode 930

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INPUT LISTING

From 930 To 940 DY= -507.000 mm.

PIPE

Dia= 1,014.000 mm. Wall= 10.312 mm.

Insul Thk= .000 mm.

RIGID Weight= .00 N.

 From 940 To 950 DX= -90.000 mm.

RIGID Weight= .00 N.

 From 950 To 960 DY= -507.000 mm.

RIGID Weight= .00 N.

RESTRAINTS

Node 960 ANC

 From 890 To 970 DZ= 500.000 mm.

PIPE

Dia= 168.275 mm. Wall= 7.112 mm. Cor= .0000 mm.

GENERAL

T1= 21 C T2= 21 C T3= 21 C P1= .0000 KPa PHyd= .0000 KPa

Mat= (102)A53 Grade B E= 203,401,232 KPa EH1= 203,401,232 KPa

EH2= 203,401,232 KPa EH3= 203,401,232 KPa EH4= 203,401,232 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000000 kg./cu.cm.

Insul Thk= .000 mm.

RESTRAINTS

Node 970 +Y Mu = .30

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

 From 980 To 990 DZ= 6,000.000 mm.

PIPE

Dia= 273.050 mm. Wall= 9.271 mm. Cor= 6.0000 mm.

GENERAL

T1= 270 C T2= 272 C T3= -28 C P1= 600.0137 KPa PHyd= 900.0205 KPa

Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 187,483,936 KPa

EH2= 187,335,024 KPa EH3= 205,934,864 KPa EH4= 203,401,232 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000015 kg./cu.cm.

Insul Thk= .000 mm.

RESTRAINTS

Node 990 +Y Mu = .30

Node 990 X

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 129,638 KPa Sh2= 129,365 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

 From 990 To 590 DZ= 3,622.000 mm.

SIF's & TEE's

Node 590 Welding Tee

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INPUT LISTING

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-----
From 590 To 1010 DZ= 858.000 mm.
BEND at "T0" end
  Radius= 381.000 mm. (LONG)   Bend Angle= 90.000   Angle/Node @1= 45.00 1009
  Angle/Node @2= .00 1008
RESTRAINTS
  Node 1010 +Y   Mu = .30
-----
From 1010 To 1020 DX= -6,000.000 mm.
BEND at "T0" end
  Radius= 381.000 mm. (LONG)   Bend Angle= 90.000   Angle/Node @1= 45.00 1019
  Angle/Node @2= .00 1018
-----
From 1020 To 1030 DZ= 517.000 mm.
-----
From 1030 To 1040 DZ= 500.000 mm.
RESTRAINTS
  Node 1040 +Y   Mu = .30
-----
From 1040 To 1050 DZ= 983.000 mm.
BEND at "T0" end
  Radius= 381.000 mm. (LONG)   Bend Angle= 90.000   Angle/Node @1= 45.00 1049
  Angle/Node @2= .00 1048
-----
From 1050 To 1060 DX= 6,000.000 mm.
BEND at "T0" end
  Radius= 381.000 mm. (LONG)   Bend Angle= 90.000   Angle/Node @1= 45.00 1059
  Angle/Node @2= .00 1058
RESTRAINTS
  Node 1060 +Y   Mu = .30
-----
From 1060 To 1070 DZ= 5,520.000 mm.
RESTRAINTS
  Node 1070 +Y   Mu = .30
  Node 1070 X
-----
From 1070 To 1080 DZ= 6,000.000 mm.
RESTRAINTS
  Node 1080 +Y   Mu = .30
  Node 1080 X
-----
From 1080 To 880 DZ= 6,000.000 mm.
-----
From 980 To 1090 DZ= -3,000.000 mm.
PIPE
  Dia= 273.050 mm.   Wall= 9.271 mm.   Cor= 6.0000 mm.
GENERAL
  T1= 270 C   T2= 272 C   T3= -28 C   P1= 600.0137 KPa
  Mat= (106)A106 Grade B   E= 203,401,232 KPa   EH1= 187,483,936 KPa
  EH2= 187,335,024 KPa   EH3= 205,934,864 KPa   EH4= 203,401,232 KPa
  EH5= 203,401,232 KPa   EH6= 203,401,232 KPa   EH7= 203,401,232 KPa
  EH8= 203,401,232 KPa   EH9= 203,401,232 KPa   v = .292
  Pipe Den= .0078334 kg./cu.cm.   Fluid Den= .0000015 kg./cu.cm.
  Insul Thk= .000 mm.   Insul Den= .0000000 kg./cu.cm.
RESTRAINTS
  Node 980 +Y   Mu = .30

```

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Licensed To:: SPLM: Edit company name in <system>\company.txt

INPUT LISTING

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 129,638 KPa Sh2= 129,365 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 1090 To 1100 DZ= -3,000.000 mm.

RESTRAINTS

Node 1100 +Y Mu = .30
 Node 1100 Z Gap= 3.000 mm.
 Node 1100 X Gap= 3.000 mm.

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MATERIAL Changes:

10	20	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
730	740	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
70	790	Mat= (102)A53 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
810	820	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
890	970	Mat= (102)A53 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
980	990	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
980	1090	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.

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JOBNAME: D:\BINAK PRO\STRESS REPORT\D02\NATIVE\BNK-GCS-CN-027-D02\BNK-GCS-CN-02

ALLOWABLE STRESS Changes

10	20	B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa Sh9= 137,895 KPa Sy= 241,316 KPa
100	110	B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa Sh9= 137,895 KPa Sy= 241,316 KPa
190	200	B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa Sh9= 137,895 KPa Sy= 241,316 KPa
380	390	B31.3 (2016) Cycle Max Switch = ---

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INPUT LISTING

		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
180	420	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 129,638 KPa
		Sh2= 129,365 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
730	740	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
70	790	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
810	820	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 129,638 KPa
		Sh2= 129,365 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
900	910	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 129,638 KPa
		Sh2= 129,365 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
890	970	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
980	990	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 129,638 KPa
		Sh2= 129,365 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
980	1090	B31.3 (2016)	Cycle Max Switch = ---

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INPUT LISTING

Sc= 137,895 KPa Sh1= 129,638 KPa
 Sh2= 129,365 KPa Sh3= 137,895 KPa
 Sh4= 137,895 KPa Sh5= 137,895 KPa
 Sh6= 137,895 KPa Sh7= 137,895 KPa
 Sh8= 137,895 KPa Sh9= 137,895 KPa
 Sy= 241,316 KPa

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BEND ELEMENTS

25	30	Radius= 114.300 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 29 Angle/Node @2= .00 28
35	1110	Radius= 114.300 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1109 Angle/Node @2= .00 1108
1110	1120	Radius= 114.300 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1119 Angle/Node @2= .00 1118
80	190	Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 189 Angle/Node @2= .00 188
280	290	Radius= 114.300 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 289 Angle/Node @2= .00 288
450	460	Radius= 304.800 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 459 Angle/Node @2= .00 458
520	530	Radius= 304.800 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 529 Angle/Node @2= .00 528
550	570	Radius= 304.800 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 569 Angle/Node @2= .00 568
570	580	Radius= 304.800 mm. (LONG) Bend Angle= 45.000 Angle/Node @1= 22.50 579 Angle/Node @2= .00 578
630	640	Radius= 304.800 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 639 Angle/Node @2= .00 638
690	700	Radius= 304.800 mm. (LONG) Bend Angle= 47.430 Angle/Node @1= 23.71 699
710	720	Radius= 76.200 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 719 Angle/Node @2= .00 718
840	850	Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 849 Angle/Node @2= .00 848
850	860	Radius= 381.000 mm. (LONG) Bend Angle= 45.000 Angle/Node @1= 22.50 859 Angle/Node @2= .00 858
860	870	Radius= 381.000 mm. (LONG) Bend Angle= 45.000 Angle/Node @1= 22.50 869 Angle/Node @2= .00 868

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INPUT LISTING

590	1010	Radius= 381.000 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1009 Angle/Node @2= .00 1008
1010	1020	Radius= 381.000 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1019 Angle/Node @2= .00 1018
1040	1050	Radius= 381.000 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1049 Angle/Node @2= .00 1048
1050	1060	Radius= 381.000 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1059 Angle/Node @2= .00 1058

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RIGIDS

10	20	RIGID Weight= 106.76 N.
60	70	RIGID Weight= .00 N.
90	100	RIGID Weight= 106.76 N.
100	110	RIGID Weight= 591.61 N.
110	120	RIGID Weight= 106.76 N.
140	150	RIGID Weight= 57.83 N.
150	160	RIGID Weight= 57.83 N.
160	170	RIGID Weight= 106.76 N.
170	180	RIGID Weight= 106.76 N.
200	210	RIGID Weight= 57.83 N.
210	220	RIGID Weight= 311.38 N.
220	230	RIGID Weight= 57.83 N.
250	260	RIGID Weight= 57.83 N.
260	270	RIGID Weight= 515.99 N.
300	310	RIGID Weight= .00 N.
320	330	RIGID Weight= 106.76 N.
330	340	RIGID Weight= 591.61 N.
340	350	RIGID Weight= 106.76 N.
370	380	RIGID Weight= 57.83 N.
380	390	RIGID Weight= 57.83 N.
390	400	RIGID Weight= 106.76 N.
400	410	RIGID Weight= 106.76 N.
180	420	RIGID Weight= 54.49 N.
470	480	RIGID Weight= 177.93 N.
480	490	RIGID Weight= 2,259.70 N.
490	500	RIGID Weight= 177.93 N.
550	560	RIGID Weight= .00 N.
410	600	RIGID Weight= 54.49 N.
650	660	RIGID Weight= 177.93 N.
660	670	RIGID Weight= 2,259.70 N.
670	680	RIGID Weight= 177.93 N.
270	710	RIGID Weight= 31.14 N.
730	740	RIGID Weight= 106.76 N.
760	770	RIGID Weight= .00 N.
770	780	RIGID Weight= .00 N.
810	820	RIGID Weight= 31.14 N.
870	890	RIGID Weight= .00 N.
900	910	RIGID Weight= 177.93 N.
930	940	RIGID Weight= .00 N.

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INPUT LISTING

940 950 RIGID Weight= .00 N.
 950 960 RIGID Weight= .00 N.
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SIF's & TEE's

40 50 Node 50 Welding Tee
 60 70 Node 70 Reinforced Tee Pad= 7.620 mm.
 60 80 Node 80 Welding Tee
 300 310 Node 310 Unreinforced Tee
 540 550 Node 550 Welding Tee
 870 890 Node 890 Unreinforced Tee
 990 590 Node 590 Welding Tee
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REDUCERS

130 140 Diam2= 60.325 mm. Wall2= 8.738 mm.
 360 370 Diam2= 60.325 mm. Wall2= 8.738 mm.
 420 430 Diam2= 168.275 mm. Wall2= 10.973 mm.
 430 440 Diam2= 219.075 mm. Wall2= 10.312 mm.
 600 610 Diam2= 168.275 mm. Wall2= 10.973 mm.
 610 620 Diam2= 219.075 mm. Wall2= 10.312 mm.
 820 830 Diam2= 273.050 mm. Wall2= 9.271 mm.
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RESTRAINTS

NODE	TYPE	CNODE	STIF1	Len GAP STIF2	MU YIELD FORCE	Dir Vectors
10	ANC	730				.000 .000 .000
25	+Y				.30	.000 1.000 .000
35	+Y				.30	.000 1.000 .000
35	Z			3.00	.30	.000 .000 1.000
40	+Y				.30	.000 1.000 .000
40	Z			.00		.000 .000 1.000
240	+Y				.30	.000 1.000 .000
280	+Y					.000 1.000 .000
280	Z			5.00	.30	.000 .000 1.000
450	+Y				.30	.000 1.000 .000
450	X			3.00		1.000 .000 .000
450	Z					.000 .000 1.000
540	+Y				.30	.000 1.000 .000
630	+Y				.30	.000 1.000 .000
630	X					1.000 .000 .000
630	Z					.000 .000 1.000
750	ANC	760				.000 .000 .000
780	ANC					.000 .000 .000
790	+Y		10			.000 1.000 .000
800	+Y					.000 1.000 .000
810	ANC	900				.000 .000 .000
880	+Y				.30	.000 1.000 .000
880	Z			3.00		.000 .000 1.000
920	ANC	930				.000 .000 .000

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INPUT LISTING

960	ANC		.000	.000	.000
970	+Y	.30	.000	1.000	.000
990	+Y	.30	.000	1.000	.000
990	X		1.000	.000	.000
1010	+Y	.30	.000	1.000	.000
1040	+Y	.30	.000	1.000	.000
1060	+Y	.30	.000	1.000	.000
1070	+Y	.30	.000	1.000	.000
1070	X		1.000	.000	.000
1080	+Y	.30	.000	1.000	.000
1080	X		1.000	.000	.000
980	+Y	.30	.000	1.000	.000
1100	+Y	.30	.000	1.000	.000
1100	Z	3.00	.000	.000	1.000
1100	X	3.00	1.000	.000	.000

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EQUIPMENT LIMITS

740 750 Nozzle Node = 750

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 4,800.24 N. FB= 4,800.24 N.
 FC= 3,600.18 N. MA= 1,080.05 N.m. MB= 720.03 N.m. MC= 940.04 N.m.
 Equipment Major Direction Vector= .0000 1.0000 .0000
 Interact. Mtd= Absolute

810 820 Nozzle Node = 810

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 11,200.56 N. FB= 11,200.56 N.
 FC= 8,400.42 N. MA= 6,720.29 N.m. MB= 4,480.19 N.m. MC= 5,820.25 N.m.
 Equipment Major Direction Vector= 1.0000 .0000 .0000
 Interact. Mtd= Absolute

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FORCES AND MOMENTS

150	160	Node 160	FY1= 2,500.13 N.
			FZ1= -3,000.15 N.
380	390	Node 390	FY2= 2,500.13 N.
			FZ2= -3,000.15 N.

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UNIFORM LOAD Changes

10	20	Vector1 in G-s
		X1 Dir = .26 g's Y1 Dir = .00 g's
		Z1 Dir = .00 g's
		Vector2 in G-s
		X2 Dir = .00 g's Y2 Dir = .12 g's
		Z2 Dir = .00 g's
		Vector3 in G-s
		X3 Dir = .00 g's Y3 Dir = .00 g's

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INPUT LISTING

Z3 Dir = .26 g's

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INPUT UNITS USED...

UNITS= SI (m NOM/SCH INPUT= ON

LENGTH	inches	x	25.400	=	mm.
FORCE	pounds	x	4.448	=	N.
MASS(dynamics)	pounds	x	0.454	=	Kg.
MOMENTS(INPUT)	inch-pounds	x	0.113	=	N.m.
MOMENTS(OUTPUT)	inch-pounds	x	0.113	=	N.m.
STRESS	lbs./sq.in.	x	6.895	=	KPa
TEMP. SCALE	degrees F.	x	0.556	=	C
PRESSURE	psig	x	6.895	=	KPa
ELASTIC MODULUS	lbs./sq.in.	x	6.895	=	KPa
PIPE DENSITY	lbs./cu.in.	x	0.028	=	kg./cu.cm.
INSULATION DENS.	lbs./cu.in.	x	0.028	=	kg./cu.cm.
FLUID DENSITY	lbs./cu.in.	x	0.028	=	kg./cu.cm.
TRANSL. STIF	lbs./in.	x	1.751	=	N./cm.
ROTATIONAL STIF	in.lb./deg.	x	0.113	=	N.m./deg
UNIFORM LOAD	lb./in.	x	1.751	=	N./cm.
G LOAD	g's	x	1.000	=	g's
WIND LOAD	lbs./sq.in.	x	6.895	=	KPa
ELEVATION	inches	x	0.025	=	m.
COMPOUND LENGTH	inches	x	25.400	=	mm.
DIAMETER	inches	x	25.400	=	mm.
WALL THICKNESS	inches	x	25.400	=	mm.

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SETUP FILE PARAMETERS

```

CONNECT GEOMETRY THRU CNODES = YES
MIN ALLOWED BEND ANGLE = 5.00000
MAX ALLOWED BEND ANGLE = 95.0000
BEND LENGTH ATTACHMENT PERCENT = 1.00000
MIN ANGLE TO ADJACENT BEND PT = 5.00000
LOOP CLOSURE TOLERANCE = 25.4000 mm.
THERMAL BOWING HORZ TOLERANCE = 0.100000E-03
AUTO NODE NUMBER INCREMENT= 10.0000
Z AXIS UP= NO
USE PRESSURE STIFFENING = DEFAULT
ALPHA TOLERANCE = 0.500000E-01
RESLD-FORCE = NO
HGR DEF RESWGT STIF = 0.175127E+13 N./cm.
DECOMP SNG TOL = 0.100000E+11
BEND AXIAL SHAPE = YES
FRICT STIF = 0.175127E+07 N./cm.
FRICT NORM FORCE VAR = 0.150000
FRICT ANGLE VAR = 15.0000
FRICT SLIDE MULT = 1.00000
ROD TOLERANCE = 1.00000
ROD INC = 2.00000
INCORE NUMERICAL CHECK = NO
OUTCORE NUMERICAL CHECK = NO
DEFAULT TRANS RESTRAINT STIFF= 0.175127E+13 N./cm.
DEFAULT ROT RESTRAINT STIFF= 0.112985E+12 N.m./deg

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INPUT LISTING

```

  IGNORE SPRING HANGER STIFFNESS = NO
  MISSING MASS ZPA = EXTRACTED
  MIN WALL MILL TOLERANCE = 12.5000
  WRC-107 VERSION = MAR 79 1B1/2B1
  WRC-107 INTERPOLATION = LAST VALUE
  DEFAULT AMBIENT TEMPERATURE= 21.1111 C
  BOURDON PRESSURE= NONE
  COEFFICIENT OF FRICTION (MU) = 0.000000
  INCLUDE SPRG STIF IN HGR OPE = NO
  INCLUDE INSULATION IN HYDROTEST = NO
  REDUCED INTERSECTION = B31.1(POST1980)
  USE WRC329 NO
  NO REDUCED SIF FOR RFT AND WLT NO
  B31.1 REDUCED Z FIX = YES
  CLASS 1 BRANCH FLEX NO
  ALL STRESS CASES CORRODED = NO
  ADD TORSION IN SL STRESS = DEFAULT
  ADD F/A IN STRESS = DEFAULT
  OCCASIONAL LOAD FACTOR = 0.000000
  DEFAULT CODE = B31.3
  B31.3 SUS CASE SIF FACTOR = 0.000000
  ALLOW USERS BEND SIF = NO
  USE SCHNEIDER NO
  YIELD CRITERION STRESS = MAX 3D SHEAR
  USE PD/4T NO
  BASE H00P STRESS ON ? = ID
  EN13480 USE IN OUTPLANE SIFS= NO
  LIBERAL EXPANSION ALLOWABLE= YES
  B31.3 SEC 319.2.3C SAXIAL= Default
  B31.3 WELDING/CONTOUR TEE ISB16.9 FALSE
  PRESSURE VARIATION IN EXP CASE= DEFAULT
  IMPLEMENT B313 APP-P NO
  IMPLEMENT B313 CODE CASE 178 YES
  IGNORE B31.1/B31.3 Wc FACTOR= YES
  USE FRP SIF = YES
  USE FRP FLEX = YES
  BS 7159 Pressure Stiffening= Design Strain
  FRP Property Data File= CAESAR.FRP
  FRP Emod (axial) = 0.220632E+08 KPa
  FRP Ratio Gmod/Emod (axial) = 0.250000
  FRP Ea/Eh*Vh/a = 0.152730
  FRP Laminate Type = THREE
  FRP Alpha = 21.6000 C
  FRP Density = 0.166079E-02 kg./cu.cm.
  EXCLUDE f2 FROM UK00A BENDING = NO
  CAESAR II 2018 Ver.10.00.00.7700, (Build 170726) FEB 27, 2024 13:10:24

```

EXECUTION CONTROL PARAMETERS

```

  Rigid/ExpJt Print Flag ..... 1.000
  Bourdon Option ..... .000
  Loop Closure Flag ..... 2.000
  Thermal Bowing Delta Temp .. .000 C
  Liberal Allowable Flag ..... 1.000

```

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INPUT LISTING

Uniform Load Option 1.000

 Ambient Temperature 20.997 C
 Plastic (FRP) Alpha 21.600
 Plastic (FRP) GMOD/EMODa 250
 Plastic (FRP) Laminate Type. 3.000
 Eqn Optimizer 000
 Node Selection 000
 Eqn Ordering 000
 Collins 000
 Degree Determination 000
 User Eqn Control 000
 North Direction -X

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COORDINATE REPORT

NODE	X	Y	Z
10	-15700.080	-7395.683	7324.219
20	-15700.080	-7395.683	7416.294
25	-15700.080	-7395.683	8295.295
30	-15700.080	-7395.683	8859.295
35	-16114.080	-7395.683	8859.295
1110	-18486.080	-7395.683	8859.295
1120	-18486.080	-7395.683	8081.295
40	-18900.080	-7395.683	8081.295
50	-21595.080	-7395.683	8081.295
60	-21595.080	-6495.683	8081.295
70	-21595.080	-6495.683	8043.195
60	-21595.080	-6495.683	8081.295
80	-21595.080	-5984.683	8081.295
90	-21595.080	-5898.683	8081.295
100	-21595.080	-5806.608	8081.295
110	-21595.080	-5441.608	8081.295
120	-21595.080	-5349.533	8081.295
130	-21595.080	-5049.533	8081.295
140	-21595.080	-4960.533	8081.295
150	-21595.080	-4877.983	8081.295
160	-21595.080	-4831.983	8081.295
170	-21595.080	-4831.983	8145.220
180	-21595.080	-4831.983	8237.295
80	-21595.080	-5984.683	8081.295
190	-21243.080	-5984.683	8081.295
200	-21243.080	-5984.683	8158.295
210	-21243.080	-5984.683	8240.845
220	-21243.080	-5984.683	8541.845
230	-21243.080	-5984.683	8624.395
240	-21243.080	-5984.683	8749.895
250	-21243.080	-5984.683	8875.395
260	-21243.080	-5984.683	8957.944
270	-21243.080	-5984.683	9254.944
50	-21595.080	-7395.683	8081.295
280	-22161.080	-7395.683	8081.295
290	-22395.080	-7395.683	8081.295
300	-22395.080	-6495.683	8081.295
310	-22395.080	-6495.683	8043.195

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INPUT LISTING

300	-22395.080	-6495.683	8081.295
320	-22395.080	-5898.683	8081.295
330	-22395.080	-5806.608	8081.295
340	-22395.080	-5441.608	8081.295
350	-22395.080	-5349.533	8081.295
360	-22395.080	-5049.533	8081.295
370	-22395.080	-4960.533	8081.295
380	-22395.080	-4877.983	8081.295
390	-22395.080	-4831.983	8081.295
400	-22395.080	-4831.983	8145.295
410	-22395.080	-4831.983	8237.370
180	-21595.080	-4831.983	8237.295
420	-21595.080	-4831.983	8310.320
430	-21595.080	-4871.983	8450.320
440	-21595.080	-4896.983	8603.320
450	-21595.080	-4896.983	8903.320
460	-21595.080	-4896.983	9408.320
470	-21595.080	-5201.983	9408.320
480	-21595.080	-5306.758	9408.320
490	-21595.080	-5768.758	9408.320
500	-21595.080	-5873.533	9408.320
510	-21595.080	-5984.533	9408.320
520	-21595.080	-6495.533	9408.320
530	-21595.080	-7557.533	9408.320
540	-22160.080	-7557.533	9408.320
550	-23331.080	-7557.533	9408.320
560	-23331.080	-7481.333	9408.320
550	-23331.080	-7557.533	9408.320
570	-23750.080	-7557.533	9408.320
580	-23750.080	-9342.533	9408.320
590	-23750.080	-10202.533	10268.320
410	-22395.080	-4831.983	8237.370
600	-22395.080	-4831.983	8310.396
610	-22395.080	-4871.983	8450.396
620	-22395.080	-4896.983	8603.396
630	-22395.080	-4896.983	8903.396
640	-22395.080	-4896.983	9408.396
650	-22395.080	-5201.983	9408.396
660	-22395.080	-5306.758	9408.396
670	-22395.080	-5768.758	9408.396
680	-22395.080	-5873.533	9408.396
690	-22395.080	-6395.533	9408.396
700	-22395.080	-6621.533	9408.396
560	-23331.080	-7481.333	9408.320
270	-21243.080	-5984.683	9254.944
710	-21243.080	-5984.683	9321.944
720	-21243.080	-5984.683	9408.320
720	-21243.080	-5984.608	9408.320
510	-21595.080	-5984.533	9408.320
10	-15700.080	-7395.683	7324.219
740	-15700.080	-7395.683	7232.144
750	-15700.080	-7395.683	7112.144
770	-15700.080	-7395.683	6640.144
780	-15700.080	-9795.684	6640.144
70	-21595.080	-6495.683	8043.195
790	-21595.080	-6495.683	7743.195

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INPUT LISTING

310	-22395.080	-6495.683	8043.195
800	-22395.080	-6495.683	7743.195
810	-31750.080	-12147.208	36646.320
820	-31750.080	-12080.533	36646.320
830	-31750.080	-11902.533	36646.320
840	-31750.080	-11612.533	36646.320
850	-31750.080	-10202.533	36646.320
860	-25550.080	-10202.533	36646.320
870	-23750.080	-10202.533	34846.320
880	-23750.080	-10202.533	30646.320
870	-23750.080	-10202.533	34846.320
890	-23750.080	-10292.336	34936.125
810	-31750.080	-12147.208	36646.320
910	-31750.080	-12251.983	36646.320
920	-31750.080	-12454.983	36646.320
940	-31750.080	-12961.983	36646.320
950	-31840.080	-12961.983	36646.320
960	-31840.080	-13468.983	36646.320
890	-23750.080	-10292.336	34936.125
970	-23750.080	-10292.336	35436.125
980	-23750.080	-10202.533	646.320
990	-23750.080	-10202.533	6646.320
590	-23750.080	-10202.533	10268.320
1010	-23750.080	-10202.533	11126.320
1020	-29750.080	-10202.533	11126.320
1030	-29750.080	-10202.533	11643.320
1040	-29750.080	-10202.533	12143.320
1050	-29750.080	-10202.533	13126.320
1060	-23750.080	-10202.533	13126.320
1070	-23750.080	-10202.533	18646.320
1080	-23750.080	-10202.533	24646.320
880	-23750.080	-10202.533	30646.320
980	-23750.080	-10202.533	646.320
1090	-23750.080	-10202.533	-2353.680
1100	-23750.080	-10202.533	-5353.680

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

- 1 (HYD) WW+HP
- 2 (OPE) W+T1+P1
- 3 (Alt-SUS) W+P1
- 4 (OPE) W+T2+P1
- 5 (Alt-SUS) W+P1
- 6 (OPE) W+T3+P1
- 7 (Alt-SUS) W+P1
- 8 (SUS) W+P1
- 9 (SUS) WNC
- 10 (OPE) W+T2+P1+U1
- 11 (OPE) W+T2+P1-U1
- 12 (OPE) W+T2+P1+U2
- 13 (OPE) W+T2+P1+U3
- 14 (OPE) W+T2+P1-U3
- 15 (OPE) W+T2+P1+F1
- 16 (OPE) W+T2+P1+F2
- 17 (OCC) L17=L10-L4
- 18 (OCC) L18=L11-L4
- 19 (OCC) L19=L12-L4
- 20 (OCC) L20=L13-L4
- 21 (OCC) L21=L14-L4
- 22 (OCC) L22=L15-L4
- 23 (OCC) L23=L16-L4
- 24 (OCC) L24=L17+L8
- 25 (OCC) L25=L18+L8
- 26 (OCC) L26=L19+L8
- 27 (OCC) L27=L20+L8
- 28 (OCC) L28=L21+L8
- 29 (OCC) L29=L22+L8
- 30 (OCC) L30=L23+L8
- 31 (EXP) L31=L2-L8
- 32 (EXP) L32=L4-L8
- 33 (EXP) L33=L6-L8
- 34 (EXP) L34=L2-L6
- 35 (EXP) L35=L4-L6

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

LOAD CASE DEFINITION KEY

CASE 1 (HYD) WW+HP
CASE 2 (OPE) W+T1+P1
CASE 4 (OPE) W+T2+P1
CASE 6 (OPE) W+T3+P1
CASE 8 (SUS) W+P1
CASE 9 (SUS) WNC
CASE 10 (OPE) W+T2+P1+U1
CASE 11 (OPE) W+T2+P1-U1
CASE 12 (OPE) W+T2+P1+U2
CASE 13 (OPE) W+T2+P1+U3
CASE 14 (OPE) W+T2+P1-U3
CASE 15 (OPE) W+T2+P1+F1
CASE 16 (OPE) W+T2+P1+F2
CASE 17 (OCC) L17=L10-L4
CASE 18 (OCC) L18=L11-L4
CASE 19 (OCC) L19=L12-L4
CASE 20 (OCC) L20=L13-L4
CASE 21 (OCC) L21=L14-L4
CASE 22 (OCC) L22=L15-L4
CASE 23 (OCC) L23=L16-L4

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
10		TYPE=Rigid ANC;					
	1(HYD)	0	-143	1	-44	0	31
	2(OPE)	901	-650	-800	768	827	153
	4(OPE)	304	-304	-235	294	229	75
	6(OPE)	165	-337	11	300	213	89
	8(SUS)	0	-132	-1	-35	0	25
	9(SUS)	0	-132	-1	-35	0	24
	10(OPE)	723	-304	-223	288	660	83
	11(OPE)	-230	-304	-195	295	-334	73
	12(OPE)	354	-283	-225	293	287	75
	13(OPE)	381	-293	-95	287	327	77
	14(OPE)	244	-315	-363	300	150	74
	15(OPE)	378	-310	-237	289	318	86
	16(OPE)	281	-301	-236	294	200	73
	17(OCC)	418	-1	12	-5	431	8
	18(OCC)	-534	-0	40	1	-563	-2
	19(OCC)	50	20	10	-0	59	0
	20(OCC)	77	11	140	-7	99	2
	21(OCC)	-61	-11	-128	6	-79	-1
	22(OCC)	74	-7	-2	-5	89	11
	23(OCC)	-24	2	-1	1	-29	-2
	MAX	901/L2	-650/L2	-800/L2	768/L2	827/L2	153/L2
25		TYPE=Rigid					

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
		+Y;					
	1(HYD)	0	0	0	0	0	0
	2(OPE)	0	0	0	0	0	0
	4(OPE)	0	0	0	0	0	0
	6(OPE)	0	0	0	0	0	0
	8(SUS)	0	0	0	0	0	0
	9(SUS)	0	0	0	0	0	0
	10(OPE)	0	0	0	0	0	0
	11(OPE)	0	0	0	0	0	0
	12(OPE)	0	0	0	0	0	0
	13(OPE)	0	0	0	0	0	0
	14(OPE)	0	0	0	0	0	0
	15(OPE)	0	0	0	0	0	0
	16(OPE)	0	0	0	0	0	0
	17(OCC)	0	0	0	0	0	0
	18(OCC)	0	0	0	0	0	0
	19(OCC)	0	0	0	0	0	0
	20(OCC)	0	0	0	0	0	0
	21(OCC)	0	0	0	0	0	0
	22(OCC)	0	0	0	0	0	0
	23(OCC)	0	0	0	0	0	0
35		TYPE=Rigid +Y; Rigid Z w/gap;					
	1(HYD)	2	-605	-1	0	0	0
	2(OPE)	187	127	753	0	0	0
	4(OPE)	13	-264	78	0	0	0
	6(OPE)	23	-279	81	0	0	0
	8(SUS)	-3	-481	1	0	0	0
	9(SUS)	-3	-474	1	0	0	0
	10(OPE)	61	-286	61	0	0	0
	11(OPE)	-69	-260	36	0	0	0
	12(OPE)	19	-219	63	0	0	0
	13(OPE)	31	-277	77	0	0	0
	14(OPE)	-4	-253	76	0	0	0
	15(OPE)	31	-290	81	0	0	0
	16(OPE)	7	-260	78	0	0	0
	17(OCC)	48	-21	-18	0	0	0
	18(OCC)	-82	5	-42	0	0	0
	19(OCC)	6	45	-15	0	0	0
	20(OCC)	18	-13	-1	0	0	0
	21(OCC)	-17	11	-2	0	0	0
	22(OCC)	18	-26	3	0	0	0
	23(OCC)	-6	5	-1	0	0	0
	MAX	187/L2	-605/L1	753/L2			

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
40		TYPE=Rigid +Y; Rigid Z;					
	1(HYD)	-71	-682	12	0	0	0
	2(OPE)	-305	-1017	602	0	0	0
	4(OPE)	-266	-886	736	0	0	0
	6(OPE)	104	-570	-265	0	0	0
	8(SUS)	-70	-537	4	0	0	0
	9(SUS)	-69	-530	4	0	0	0
	10(OPE)	-58	-750	736	0	0	0
	11(OPE)	-273	-909	750	0	0	0
	12(OPE)	-234	-779	765	0	0	0
	13(OPE)	-268	-894	975	0	0	0
	14(OPE)	-260	-868	497	0	0	0
	15(OPE)	-204	-681	719	0	0	0
	16(OPE)	-279	-931	742	0	0	0
	17(OCC)	208	136	0	0	0	0
	18(OCC)	-7	-23	14	0	0	0
	19(OCC)	32	107	29	0	0	0
	20(OCC)	-2	-8	239	0	0	0
	21(OCC)	6	18	-239	0	0	0
	22(OCC)	62	205	-17	0	0	0
	23(OCC)	-13	-45	6	0	0	0
	MAX	-305/L2	-1017/L2	975/L13			
240		TYPE=Rigid +Y;					
	1(HYD)	90	-978	279	0	0	0
	2(OPE)	0	0	0	0	0	0
	4(OPE)	0	0	0	0	0	0
	6(OPE)	-0	-74	-22	0	0	0
	8(SUS)	90	-914	259	0	0	0
	9(SUS)	90	-912	259	0	0	0
	10(OPE)	0	0	0	0	0	0
	11(OPE)	0	0	0	0	0	0
	12(OPE)	0	0	0	0	0	0
	13(OPE)	0	0	0	0	0	0
	14(OPE)	0	0	0	0	0	0
	15(OPE)	0	0	0	0	0	0
	16(OPE)	0	0	0	0	0	0
	17(OCC)	0	0	0	0	0	0
	18(OCC)	0	0	0	0	0	0
	19(OCC)	0	0	0	0	0	0
	20(OCC)	0	0	0	0	0	0
	21(OCC)	0	0	0	0	0	0
	22(OCC)	0	0	0	0	0	0
	23(OCC)	0	0	0	0	0	0
	MAX	90/L1	-978/L1	279/L1			

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
280		TYPE=Rigid +Y; Rigid Z w/gap;					
	1(HYD)	0	-266	0	0	0	0
	2(OPE)	-791	-10500	2637	0	0	0
	4(OPE)	-1037	-7667	3458	0	0	0
	6(OPE)	-29	11	-103	0	0	0
	8(SUS)	0	-510	0	0	0	0
	9(SUS)	0	-502	0	0	0	0
	10(OPE)	-1044	-5453	3479	0	0	0
	11(OPE)	-1040	-9423	3467	0	0	0
	12(OPE)	-1070	-6673	3565	0	0	0
	13(OPE)	-1144	-8350	3814	0	0	0
	14(OPE)	-932	-6808	3105	0	0	0
	15(OPE)	-1011	-4642	3371	0	0	0
	16(OPE)	-1047	-5320	3491	0	0	0
	17(OCC)	-6	2214	21	0	0	0
	18(OCC)	-3	-1756	9	0	0	0
	19(OCC)	-32	995	107	0	0	0
	20(OCC)	-107	-682	356	0	0	0
	21(OCC)	106	860	-353	0	0	0
	22(OCC)	26	3026	-87	0	0	0
	23(OCC)	-10	2348	33	0	0	0
	MAX	-1144/L13	-10500/L2	3814/L13			
450		TYPE=Rigid +Y; Rigid X w/gap; Rigid Z;					
	1(HYD)	19	-4552	-260	0	0	0
	2(OPE)	557	0	-54	0	0	0
	4(OPE)	936	0	11	0	0	0
	6(OPE)	-270	-7076	-64	0	0	0
	8(SUS)	31	-4072	-189	0	0	0
	9(SUS)	31	-4057	-188	0	0	0
	10(OPE)	2569	0	-483	0	0	0
	11(OPE)	0	0	332	0	0	0
	12(OPE)	798	0	-56	0	0	0
	13(OPE)	877	0	1502	0	0	0
	14(OPE)	1020	0	-1517	0	0	0
	15(OPE)	752	0	-2779	0	0	0
	16(OPE)	998	0	-159	0	0	0
	17(OCC)	1633	0	-494	0	0	0
	18(OCC)	-936	0	321	0	0	0
	19(OCC)	-138	0	-67	0	0	0
	20(OCC)	-59	0	1490	0	0	0
	21(OCC)	84	0	-1529	0	0	0
	22(OCC)	-184	0	-2790	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	23(OCC)	62	0	-170	0	0	0
	MAX	2569/L10	-7076/L6	-2790/L22			
540		TYPE=Rigid +Y;					
	1(HYD)	-205	-5102	-396	0	0	0
	2(OPE)	0	0	0	0	0	0
	4(OPE)	0	0	0	0	0	0
	6(OPE)	0	0	0	0	0	0
	8(SUS)	-136	-3527	-346	0	0	0
	9(SUS)	-137	-3536	-347	0	0	0
	10(OPE)	0	0	0	0	0	0
	11(OPE)	0	0	0	0	0	0
	12(OPE)	0	0	0	0	0	0
	13(OPE)	0	0	0	0	0	0
	14(OPE)	0	0	0	0	0	0
	15(OPE)	0	0	0	0	0	0
	16(OPE)	0	0	0	0	0	0
	17(OCC)	0	0	0	0	0	0
	18(OCC)	0	0	0	0	0	0
	19(OCC)	0	0	0	0	0	0
	20(OCC)	0	0	0	0	0	0
	21(OCC)	0	0	0	0	0	0
	22(OCC)	0	0	0	0	0	0
	23(OCC)	0	0	0	0	0	0
	MAX	-205/L1	-5102/L1	-396/L1			
630		TYPE=Rigid +Y; Rigid X; Rigid Z;					
	1(HYD)	-294	-6906	289	0	0	0
	2(OPE)	283	0	3475	0	0	0
	4(OPE)	1305	0	2070	0	0	0
	6(OPE)	-1741	-12477	1237	0	0	0
	8(SUS)	-156	-5279	229	0	0	0
	9(SUS)	-156	-5274	229	0	0	0
	10(OPE)	3266	0	1743	0	0	0
	11(OPE)	-1104	0	2452	0	0	0
	12(OPE)	1164	0	1976	0	0	0
	13(OPE)	1166	0	3409	0	0	0
	14(OPE)	1494	0	702	0	0	0
	15(OPE)	1286	0	1847	0	0	0
	16(OPE)	1362	0	-808	0	0	0
	17(OCC)	1961	0	-328	0	0	0
	18(OCC)	-2409	0	381	0	0	0
	19(OCC)	-141	0	-95	0	0	0
	20(OCC)	-139	0	1339	0	0	0
	21(OCC)	189	0	-1368	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	22(OCC)	-19	0	-224	0	0	0
	23(OCC)	57	0	-2878	0	0	0
	MAX	3266/L10	-12477/L6	3475/L2			
750		TYPE=Rigid ANC;					
	1(HYD)	0	-277	1	6	0	31
	2(OPE)	901	-775	-800	925	1018	153
	4(OPE)	304	-429	-235	377	293	75
	6(OPE)	165	-462	11	390	248	89
	8(SUS)	0	-258	-1	12	0	25
	9(SUS)	0	-256	-1	12	0	24
	10(OPE)	755	-429	-223	372	818	83
	11(OPE)	-262	-429	-195	378	-388	73
	12(OPE)	354	-394	-225	370	363	75
	13(OPE)	381	-418	-63	368	408	77
	14(OPE)	244	-440	-395	386	202	74
	15(OPE)	378	-435	-237	374	398	86
	16(OPE)	281	-426	-236	377	259	73
	17(OCC)	451	-1	12	-5	525	8
	18(OCC)	-567	-0	40	1	-681	-2
	19(OCC)	50	35	10	-7	69	0
	20(OCC)	77	11	172	-9	115	2
	21(OCC)	-61	-11	-160	9	-91	-1
	22(OCC)	74	-7	-2	-3	105	11
	23(OCC)	-24	2	-1	0	-34	-2
	MAX	901/L2	-775/L2	-800/L2	925/L2	1018/L2	153/L2
780		TYPE=Rigid ANC;					
	1(HYD)	0	-277	1	138	0	31
	2(OPE)	901	-775	-800	-629	1443	-2010
	4(OPE)	304	-429	-235	15	437	-656
	6(OPE)	165	-462	11	636	326	-307
	8(SUS)	0	-258	-1	131	0	25
	9(SUS)	0	-256	-1	131	0	24
	10(OPE)	755	-429	-223	39	1174	-1730
	11(OPE)	-262	-429	-195	112	-512	703
	12(OPE)	354	-394	-225	15	530	-775
	13(OPE)	381	-418	-63	414	588	-838
	14(OPE)	244	-440	-395	-356	317	-511
	15(OPE)	378	-435	-237	10	577	-822
	16(OPE)	281	-426	-236	13	392	-601
	17(OCC)	451	-1	12	23	738	-1074
	18(OCC)	-567	-0	40	96	-949	1358
	19(OCC)	50	35	10	0	93	-120
	20(OCC)	77	11	172	399	151	-182
	21(OCC)	-61	-11	-160	-371	-120	145

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	22(OCC)	74	-7	-2	-5	140	-166
	23(OCC)	-24	2	-1	-3	-45	55
	MAX	901/L2	-775/L2	-800/L2	636/L6	1443/L2	-2010/L2
790		TYPE=Flex +Y;					
	1(HYD)	0	-0	0	0	0	0
	2(OPE)	0	-0	0	0	0	0
	4(OPE)	0	-1	0	0	0	0
	6(OPE)	0	0	0	0	0	0
	8(SUS)	0	-0	0	0	0	0
	9(SUS)	0	-0	0	0	0	0
	10(OPE)	0	-0	0	0	0	0
	11(OPE)	0	-1	0	0	0	0
	12(OPE)	0	-1	0	0	0	0
	13(OPE)	0	-1	0	0	0	0
	14(OPE)	0	-1	0	0	0	0
	15(OPE)	0	-0	0	0	0	0
	16(OPE)	0	-1	0	0	0	0
	17(OCC)	0	0	0	0	0	0
	18(OCC)	0	-0	0	0	0	0
	19(OCC)	0	0	0	0	0	0
	20(OCC)	0	-0	0	0	0	0
	21(OCC)	0	0	0	0	0	0
	22(OCC)	0	1	0	0	0	0
	23(OCC)	0	-0	0	0	0	0
	MAX		-1/L16				
800		TYPE=Rigid +Y;					
	1(HYD)	0	0	0	0	0	0
	2(OPE)	0	0	0	0	0	0
	4(OPE)	0	-144	0	0	0	0
	6(OPE)	0	0	0	0	0	0
	8(SUS)	0	0	0	0	0	0
	9(SUS)	0	0	0	0	0	0
	10(OPE)	0	-489	0	0	0	0
	11(OPE)	0	0	0	0	0	0
	12(OPE)	0	-165	0	0	0	0
	13(OPE)	0	-16	0	0	0	0
	14(OPE)	0	-296	0	0	0	0
	15(OPE)	0	-783	0	0	0	0
	16(OPE)	0	0	0	0	0	0
	17(OCC)	0	-345	0	0	0	0
	18(OCC)	0	144	0	0	0	0
	19(OCC)	0	-20	0	0	0	0
	20(OCC)	0	128	0	0	0	0
	21(OCC)	0	-152	0	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	22(OCC)	0	-638	0	0	0	0
	23(OCC)	0	144	0	0	0	0
	MAX		-783/L15				
810		TYPE=Rigid ANC;					
	1(HYD)	-1636	-6803	203	1335	-100	-1042
	2(OPE)	-3302	-4152	2943	4929	-8503	1140
	4(OPE)	-3333	-4154	2970	4972	-8575	1173
	6(OPE)	1423	-3558	-841	-732	2507	-3881
	8(SUS)	-888	-3702	110	725	-54	-565
	9(SUS)	-887	-3698	110	724	-54	-565
	10(OPE)	-1057	-4054	2744	4631	-8245	-2210
	11(OPE)	-5609	-4254	3195	5313	-8905	4556
	12(OPE)	-3178	-3708	2941	4858	-8545	1164
	13(OPE)	-3225	-4152	3812	6193	-8911	987
	14(OPE)	-3438	-4156	2126	3748	-8236	1353
	15(OPE)	-3326	-4154	2967	4966	-8570	1161
	16(OPE)	-3328	-4154	2968	4968	-8572	1166
	17(OCC)	2277	100	-226	-341	330	-3383
	18(OCC)	-2276	-99	225	341	-330	3382
	19(OCC)	155	446	-29	-114	30	-10
	20(OCC)	109	2	842	1221	-336	-186
	21(OCC)	-104	-1	-844	-1224	339	179
	22(OCC)	8	0	-3	-5	5	-12
	23(OCC)	5	0	-2	-3	3	-8
	MAX	-5609/L11	-6803/L1	3812/L13	6193/L13	-8911/L13	4556/L11
880		TYPE=Rigid +Y; Rigid Z w/gap;					
	1(HYD)	-256	-5585	261	0	0	0
	2(OPE)	786	-2670	5805	0	0	0
	4(OPE)	785	-2666	5718	0	0	0
	6(OPE)	-522	-3136	-1867	0	0	0
	8(SUS)	-139	-3032	141	0	0	0
	9(SUS)	-139	-3028	141	0	0	0
	10(OPE)	784	-2653	6578	0	0	0
	11(OPE)	784	-2677	5068	0	0	0
	12(OPE)	679	-2306	5419	0	0	0
	13(OPE)	773	-2626	10789	0	0	0
	14(OPE)	796	-2705	603	0	0	0
	15(OPE)	785	-2666	5782	0	0	0
	16(OPE)	785	-2665	5756	0	0	0
	17(OCC)	-1	12	860	0	0	0
	18(OCC)	-1	-11	-650	0	0	0
	19(OCC)	-106	359	-300	0	0	0
	20(OCC)	-12	40	5071	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	21(OCC)	12	-39	-5115	0	0	0
	22(OCC)	0	-0	63	0	0	0
	23(OCC)	0	0	37	0	0	0
	MAX	796/L14	-5585/L1	10789/L13			
920		TYPE=Rigid ANC;					
	1(HYD)	-1636	-7180	203	1398	-100	-538
	2(OPE)	-3302	-4435	2943	5835	-8503	2157
	4(OPE)	-3333	-4438	2970	5886	-8575	2199
	6(OPE)	1423	-3842	-841	-990	2507	-4319
	8(SUS)	-888	-3986	110	758	-54	-292
	9(SUS)	-887	-3981	110	757	-54	-292
	10(OPE)	-983	-4337	2744	5476	-8245	-1899
	11(OPE)	-5683	-4537	3195	6296	-8905	6297
	12(OPE)	-3178	-3958	2941	5763	-8545	2142
	13(OPE)	-3225	-4436	3885	7380	-8911	1980
	14(OPE)	-3438	-4439	2052	4388	-8236	2411
	15(OPE)	-3326	-4437	2967	5879	-8570	2185
	16(OPE)	-3328	-4437	2968	5882	-8572	2190
	17(OCC)	2351	100	-226	-410	330	-4099
	18(OCC)	-2349	-99	225	410	-330	4097
	19(OCC)	155	480	-29	-123	30	-57
	20(OCC)	109	2	915	1494	-336	-219
	21(OCC)	-104	-1	-917	-1498	339	212
	22(OCC)	8	0	-3	-6	5	-14
	23(OCC)	5	0	-2	-4	3	-9
	MAX	-5683/L11	-7180/L1	3885/L13	7380/L13	-8911/L13	6297/L11
960		TYPE=Rigid ANC;					
	1(HYD)	-1636	-7180	203	1603	-119	475
	2(OPE)	-3302	-4435	2943	8819	-8768	5106
	4(OPE)	-3333	-4438	2970	8897	-8842	5180
	6(OPE)	1423	-3842	-841	-1843	2582	-6108
	8(SUS)	-888	-3986	110	870	-64	249
	9(SUS)	-887	-3981	110	869	-64	249
	10(OPE)	-983	-4337	2744	8258	-8492	-1293
	11(OPE)	-5683	-4537	3195	9536	-9192	11651
	12(OPE)	-3178	-3958	2941	8745	-8810	5008
	13(OPE)	-3225	-4436	3885	11320	-9261	4850
	14(OPE)	-3438	-4439	2052	6469	-8421	5497
	15(OPE)	-3326	-4437	2967	8887	-8837	5158
	16(OPE)	-3328	-4437	2968	8891	-8839	5166
	17(OCC)	2351	100	-226	-639	350	-6473
	18(OCC)	-2349	-99	225	639	-350	6471
	19(OCC)	155	480	-29	-152	32	-171
	20(OCC)	109	2	915	2423	-419	-330

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	21(OCC)	-104	-1	-917	-2428	422	317
	22(OCC)	8	0	-3	-10	5	-22
	23(OCC)	5	0	-2	-6	3	-14
	MAX	-5683/L11	-7180/L1	3885/L13	11320/L13	-9261/L13	11651/L11
970		TYPE=Rigid +Y;					
	1(HYD)	1842	-6915	-675	0	0	0
	2(OPE)	926	-3579	544	0	0	0
	4(OPE)	926	-3579	544	0	0	0
	6(OPE)	-693	-3831	-917	0	0	0
	8(SUS)	999	-3766	-365	0	0	0
	9(SUS)	998	-3761	-365	0	0	0
	10(OPE)	962	-3690	548	0	0	0
	11(OPE)	890	-3470	540	0	0	0
	12(OPE)	809	-3126	475	0	0	0
	13(OPE)	933	-3616	553	0	0	0
	14(OPE)	919	-3544	535	0	0	0
	15(OPE)	926	-3580	544	0	0	0
	16(OPE)	926	-3580	544	0	0	0
	17(OCC)	36	-110	4	0	0	0
	18(OCC)	-36	109	-4	0	0	0
	19(OCC)	-117	453	-69	0	0	0
	20(OCC)	7	-36	9	0	0	0
	21(OCC)	-7	36	-9	0	0	0
	22(OCC)	0	-0	-0	0	0	0
	23(OCC)	0	-0	-0	0	0	0
	MAX	1842/L1	-6915/L1	-917/L6			
980		TYPE=Rigid +Y;					
	1(HYD)	-42	-7406	138	0	0	0
	2(OPE)	238	-2831	815	0	0	0
	4(OPE)	244	-2634	752	0	0	0
	6(OPE)	-370	-4410	-1270	0	0	0
	8(SUS)	-24	-4006	82	0	0	0
	9(SUS)	-24	-4001	82	0	0	0
	10(OPE)	230	-2547	729	0	0	0
	11(OPE)	217	-2703	781	0	0	0
	12(OPE)	206	-2205	629	0	0	0
	13(OPE)	256	-2704	770	0	0	0
	14(OPE)	224	-2559	734	0	0	0
	15(OPE)	234	-2642	757	0	0	0
	16(OPE)	240	-2639	754	0	0	0
	17(OCC)	-14	88	-23	0	0	0
	18(OCC)	-27	-68	30	0	0	0
	19(OCC)	-38	429	-123	0	0	0
	20(OCC)	12	-70	18	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	21(OCC)	-20	75	-17	0	0	0
	22(OCC)	-10	-7	6	0	0	0
	23(OCC)	-4	-4	3	0	0	0
	MAX	-370/L6	-7406/L1	-1270/L6			
990		TYPE=Rigid X; Rigid +Y;					
	1(HYD)	264	-6554	286	0	0	0
	2(OPE)	-1199	-10967	3290	0	0	0
	4(OPE)	-1606	-12112	3634	0	0	0
	6(OPE)	973	-1216	-365	0	0	0
	8(SUS)	150	-3633	170	0	0	0
	9(SUS)	150	-3628	170	0	0	0
	10(OPE)	1846	-12598	3779	0	0	0
	11(OPE)	-5286	-11760	3528	0	0	0
	12(OPE)	-1545	-11362	3409	0	0	0
	13(OPE)	-1993	-11679	3504	0	0	0
	14(OPE)	-1111	-12584	3775	0	0	0
	15(OPE)	-1442	-12063	3619	0	0	0
	16(OPE)	-1509	-12094	3628	0	0	0
	17(OCC)	3452	-486	146	0	0	0
	18(OCC)	-3681	352	-106	0	0	0
	19(OCC)	61	750	-225	0	0	0
	20(OCC)	-388	433	-130	0	0	0
	21(OCC)	494	-472	142	0	0	0
	22(OCC)	164	50	-15	0	0	0
	23(OCC)	96	18	-5	0	0	0
	MAX	-5286/L11	-12598/L10	3779/L10			
1010		TYPE=Rigid +Y;					
	1(HYD)	213	-6643	-408	0	0	0
	2(OPE)	-67	-779	224	0	0	0
	4(OPE)	-247	-2669	761	0	0	0
	6(OPE)	45	-437	-123	0	0	0
	8(SUS)	112	-3745	-223	0	0	0
	9(SUS)	112	-3740	-223	0	0	0
	10(OPE)	-296	-4294	1254	0	0	0
	11(OPE)	-143	-1241	344	0	0	0
	12(OPE)	-167	-1785	509	0	0	0
	13(OPE)	-231	-2492	711	0	0	0
	14(OPE)	-268	-2964	848	0	0	0
	15(OPE)	-249	-2776	795	0	0	0
	16(OPE)	-239	-2620	749	0	0	0
	17(OCC)	-49	-1626	492	0	0	0
	18(OCC)	104	1428	-418	0	0	0
	19(OCC)	80	884	-253	0	0	0
	20(OCC)	16	177	-51	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	21(OCC)	-21	-296	86	0	0	0
	22(OCC)	-2	-107	33	0	0	0
	23(OCC)	8	49	-13	0	0	0
	MAX	-296/L10	-6643/L1	1254/L10			
1040		TYPE=Rigid +Y;					
	1(HYD)	33	-7882	-8	0	0	0
	2(OPE)	-1263	-4213	-40	0	0	0
	4(OPE)	-1244	-4150	-34	0	0	0
	6(OPE)	1287	-4309	-120	0	0	0
	8(SUS)	18	-4272	-5	0	0	0
	9(SUS)	18	-4266	-5	0	0	0
	10(OPE)	-1234	-4113	-3	0	0	0
	11(OPE)	-1266	-4226	-59	0	0	0
	12(OPE)	-1089	-3631	-33	0	0	0
	13(OPE)	-1232	-4133	142	0	0	0
	14(OPE)	-1235	-4177	-211	0	0	0
	15(OPE)	-1243	-4146	-34	0	0	0
	16(OPE)	-1250	-4166	-31	0	0	0
	17(OCC)	11	37	31	0	0	0
	18(OCC)	-22	-76	-25	0	0	0
	19(OCC)	156	519	2	0	0	0
	20(OCC)	13	17	176	0	0	0
	21(OCC)	9	-27	-177	0	0	0
	22(OCC)	1	3	-0	0	0	0
	23(OCC)	-5	-16	4	0	0	0
	MAX	1287/L6	-7882/L1	-211/L14			
1060		TYPE=Rigid +Y;					
	1(HYD)	-8	-5743	36	0	0	0
	2(OPE)	-203	-3315	-973	0	0	0
	4(OPE)	-220	-3317	-971	0	0	0
	6(OPE)	141	-3050	904	0	0	0
	8(SUS)	-4	-3116	19	0	0	0
	9(SUS)	-4	-3112	19	0	0	0
	10(OPE)	-139	-3311	-983	0	0	0
	11(OPE)	-298	-3336	-955	0	0	0
	12(OPE)	-198	-2937	-859	0	0	0
	13(OPE)	-196	-3311	-974	0	0	0
	14(OPE)	-237	-3327	-970	0	0	0
	15(OPE)	-211	-3317	-972	0	0	0
	16(OPE)	-214	-3321	-973	0	0	0
	17(OCC)	81	7	-13	0	0	0
	18(OCC)	-79	-18	16	0	0	0
	19(OCC)	22	380	112	0	0	0
	20(OCC)	23	6	-3	0	0	0

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Job:: BNK-GCS-CN-027-D02

Licensed To:: SPLM: Edit company name in <system>\company.txt

RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	21(OCC)	-18	-10	1	0	0	0
	22(OCC)	9	1	-2	0	0	0
	23(OCC)	5	-4	-2	0	0	0
	MAX	-298/L11	-5743/L1	-983/L10			
1070		TYPE=Rigid X; Rigid +Y;					
	1(HYD)	-16	-6450	56	0	0	0
	2(OPE)	-1475	-3319	-996	0	0	0
	4(OPE)	-1879	-3294	-988	0	0	0
	6(OPE)	-31	-3589	1077	0	0	0
	8(SUS)	-9	-3499	30	0	0	0
	9(SUS)	-9	-3495	30	0	0	0
	10(OPE)	623	-3280	-984	0	0	0
	11(OPE)	-4410	-3293	-988	0	0	0
	12(OPE)	-2012	-2887	-866	0	0	0
	13(OPE)	-791	-3306	-992	0	0	0
	14(OPE)	-2840	-3277	-983	0	0	0
	15(OPE)	-1667	-3295	-988	0	0	0
	16(OPE)	-1737	-3291	-987	0	0	0
	17(OCC)	2502	14	4	0	0	0
	18(OCC)	-2531	1	0	0	0	0
	19(OCC)	-133	408	122	0	0	0
	20(OCC)	1087	-12	-4	0	0	0
	21(OCC)	-961	17	5	0	0	0
	22(OCC)	212	-1	-0	0	0	0
	23(OCC)	141	3	1	0	0	0
	MAX	-4410/L11	-6450/L1	1077/L6			
1080		TYPE=Rigid X; Rigid +Y;					
	1(HYD)	63	-6733	119	0	0	0
	2(OPE)	4528	-3804	-1141	0	0	0
	4(OPE)	4750	-3810	-1143	0	0	0
	6(OPE)	-350	-3608	1082	0	0	0
	8(SUS)	34	-3654	64	0	0	0
	9(SUS)	34	-3649	64	0	0	0
	10(OPE)	5609	-3815	-1145	0	0	0
	11(OPE)	3906	-3809	-1143	0	0	0
	12(OPE)	4878	-3368	-1011	0	0	0
	13(OPE)	4298	-3815	-1144	0	0	0
	14(OPE)	5141	-3807	-1142	0	0	0
	15(OPE)	4654	-3810	-1143	0	0	0
	16(OPE)	4688	-3811	-1143	0	0	0
	17(OCC)	859	-5	-1	0	0	0
	18(OCC)	-844	1	0	0	0	0
	19(OCC)	128	442	133	0	0	0
	20(OCC)	-452	-4	-1	0	0	0

CAESAR II 2018 Ver.10.00.00.7700, (Build 170726) Date: FEB 27, 2024 Time: 13:10

Job:: BNK-GCS-CN-027-D02

Licensed To:: SPLM: Edit company name in <system>\company.txt

RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	21(OCC)	391	3	1	0	0	0
	22(OCC)	-96	0	0	0	0	0
	23(OCC)	-62	-1	-0	0	0	0
	MAX	5609/L10	-6733/L1	-1145/L10			
1100		TYPE=Rigid +Y; Rigid Z w/gap; Rigid X w/gap;					
	1(HYD)	7	-2578	83	0	0	0
	2(OPE)	363	-1595	-17041	0	0	0
	4(OPE)	454	-1628	-17728	0	0	0
	6(OPE)	33	-1334	1732	0	0	0
	8(SUS)	4	-1401	49	0	0	0
	9(SUS)	4	-1399	49	0	0	0
	10(OPE)	956	-1643	-17441	0	0	0
	11(OPE)	13	-1617	-17044	0	0	0
	12(OPE)	460	-1451	-17256	0	0	0
	13(OPE)	471	-1617	-13545	0	0	0
	14(OPE)	414	-1641	-22162	0	0	0
	15(OPE)	416	-1627	-17807	0	0	0
	16(OPE)	440	-1627	-17728	0	0	0
	17(OCC)	502	-15	288	0	0	0
	18(OCC)	-440	11	685	0	0	0
	19(OCC)	7	177	473	0	0	0
	20(OCC)	17	12	4183	0	0	0
	21(OCC)	-40	-12	-4434	0	0	0
	22(OCC)	-37	1	-79	0	0	0
	23(OCC)	-13	1	1	0	0	0
	MAX	956/L10	-2578/L1	-22162/L14			

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Job:: BNK-GCS-CN-027-D02
Licensed To:: SPLM: Edit company name in <system>\company.txt

LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

- 1 (HYD) WW+HP
- 2 (OPE) W+T1+P1
- 3 (Alt-SUS) W+P1
- 4 (OPE) W+T2+P1
- 5 (Alt-SUS) W+P1
- 6 (OPE) W+T3+P1
- 7 (Alt-SUS) W+P1
- 8 (SUS) W+P1
- 9 (SUS) WNC
- 10 (OPE) W+T2+P1+U1
- 11 (OPE) W+T2+P1-U1
- 12 (OPE) W+T2+P1+U2
- 13 (OPE) W+T2+P1+U3
- 14 (OPE) W+T2+P1-U3
- 15 (OPE) W+T2+P1+F1
- 16 (OPE) W+T2+P1+F2
- 17 (OCC) L17=L10-L4
- 18 (OCC) L18=L11-L4
- 19 (OCC) L19=L12-L4
- 20 (OCC) L20=L13-L4
- 21 (OCC) L21=L14-L4
- 22 (OCC) L22=L15-L4
- 23 (OCC) L23=L16-L4
- 24 (OCC) L24=L17+L8
- 25 (OCC) L25=L18+L8
- 26 (OCC) L26=L19+L8
- 27 (OCC) L27=L20+L8
- 28 (OCC) L28=L21+L8
- 29 (OCC) L29=L22+L8
- 30 (OCC) L30=L23+L8
- 31 (EXP) L31=L2-L8
- 32 (EXP) L32=L4-L8
- 33 (EXP) L33=L6-L8
- 34 (EXP) L34=L2-L6
- 35 (EXP) L35=L4-L6

CAESAR II 2018 Ver.10.00.00.7700, (Build 170726) Date: FEB 27, 2024 Time: 13:10
 Job:: BNK-GCS-CN-027-D02
 Licensed To:: SPLM: Edit company name in <system>\company.txt

STRESS SUMMARY REPORT: Highest Stresses Mini Statement
 Various Load Cases

LOAD CASE DEFINITION KEY

CASE 1 (HYD) WW+HP
 CASE 3 (Alt-SUS) W+P1
 CASE 5 (Alt-SUS) W+P1
 CASE 7 (Alt-SUS) W+P1
 CASE 24 (OCC) L24=L17+L8
 CASE 25 (OCC) L25=L18+L8
 CASE 26 (OCC) L26=L19+L8
 CASE 27 (OCC) L27=L20+L8
 CASE 28 (OCC) L28=L21+L8
 CASE 29 (OCC) L29=L22+L8
 CASE 30 (OCC) L30=L23+L8
 CASE 31 (EXP) L31=L2-L8
 CASE 32 (EXP) L32=L4-L8
 CASE 33 (EXP) L33=L6-L8
 CASE 34 (EXP) L34=L2-L6
 CASE 35 (EXP) L35=L4-L6

Piping Code: B31.3 = B31.3 -2016, Jan 31, 2017

CODE STRESS CHECK PASSED : LOADCASE 1 (HYD) WW+HP

Highest Stresses: (	KPa	)	LOADCASE 1 (HYD) WW+HP	
Ratio (%):	41.6	@Node	890	
Code Stress:	100461.0	Allowable Stress:		241316.5
Axial Stress:	21028.2	@Node	360	
Bending Stress:	133698.0	@Node	890	
Torsion Stress:	3139.6	@Node	868	
Hoop Stress:	44951.0	@Node	25	
Max Stress Intensity:	133885.5	@Node	890	

CODE STRESS CHECK PASSED : LOADCASE 3 (Alt-SUS) W+P1

Highest Stresses: (	KPa	)	LOADCASE 3 (Alt-SUS) W+P1	
Ratio (%):	70.4	@Node	370	
Code Stress:	97114.9	Allowable Stress:		137895.1
Axial Stress:	25908.0	@Node	29	
Bending Stress:	91997.0	@Node	590	
Torsion Stress:	16987.6	@Node	420	
Hoop Stress:	53452.7	@Node	25	
Max Stress Intensity:	104315.2	@Node	590	

CODE STRESS CHECK PASSED : LOADCASE 5 (Alt-SUS) W+P1

Highest Stresses: (	KPa	)	LOADCASE 5 (Alt-SUS) W+P1	
Ratio (%):	69.7	@Node	370	
Code Stress:	96171.4	Allowable Stress:		137895.1
Axial Stress:	25625.0	@Node	50	
Bending Stress:	92266.3	@Node	590	

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
Various Load Cases

Torsion Stress:	17189.0	@Node	420
Hoop Stress:	53452.7	@Node	25
Max Stress Intensity:	104584.2	@Node	590

CODE STRESS CHECK PASSED : LOADCASE 7 (Alt-SUS) W+P1

Highest Stresses: (KPa)	LOADCASE 7 (Alt-SUS) W+P1		
Ratio (%):	41.6	@Node	600
Code Stress:	53870.6	Allowable Stress:	129365.3
Axial Stress:	26496.0	@Node	130
Bending Stress:	70856.4	@Node	890
Torsion Stress:	4650.5	@Node	868
Hoop Stress:	53452.7	@Node	25
Max Stress Intensity:	70856.7	@Node	890

CODE STRESS CHECK PASSED : LOADCASE 24 (OCC) L24=L17+L8

Highest Stresses: (KPa)	LOADCASE 24 (OCC) L24=L17+L8		
Ratio (%):	30.6	@Node	890
Code Stress:	56196.3	Allowable Stress:	183400.5
Axial Stress:	26861.4	@Node	130
Bending Stress:	74791.7	@Node	890
Torsion Stress:	4594.6	@Node	868
Hoop Stress:	53452.7	@Node	25
Max Stress Intensity:	84353.3	@Node	750

CODE STRESS CHECK PASSED : LOADCASE 25 (OCC) L25=L18+L8

Highest Stresses: (KPa)	LOADCASE 25 (OCC) L25=L18+L8		
Ratio (%):	30.6	@Node	890
Code Stress:	56181.4	Allowable Stress:	183400.5
Axial Stress:	25679.7	@Node	35
Bending Stress:	74771.8	@Node	890
Torsion Stress:	6663.5	@Node	600
Hoop Stress:	53452.7	@Node	25
Max Stress Intensity:	90759.9	@Node	750

CODE STRESS CHECK PASSED : LOADCASE 26 (OCC) L26=L19+L8

Highest Stresses: (KPa)	LOADCASE 26 (OCC) L26=L19+L8		
Ratio (%):	33.4	@Node	890
Code Stress:	61170.5	Allowable Stress:	183400.5
Axial Stress:	26337.0	@Node	130
Bending Stress:	81400.0	@Node	890
Torsion Stress:	3980.9	@Node	868
Hoop Stress:	53452.7	@Node	25
Max Stress Intensity:	81520.5	@Node	890

CODE STRESS CHECK PASSED : LOADCASE 27 (OCC) L27=L20+L8

Highest Stresses: (KPa)	LOADCASE 27 (OCC) L27=L20+L8		
Ratio (%):	30.1	@Node	890

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
Various Load Cases

Code Stress:	55136.5	Allowable Stress:	183400.5
Axial Stress:	25881.8	@Node	130
Bending Stress:	73370.0	@Node	890
Torsion Stress:	4794.8	@Node	868
Hoop Stress:	53452.7	@Node	25
Max Stress Intensity:	76902.0	@Node	80

CODE STRESS CHECK PASSED : LOADCASE 28 (OCC) L28=L21+L8

Highest Stresses: (KPa)	LOADCASE 28 (OCC) L28=L21+L8		
Ratio (%):	30.1	@Node	890
Code Stress:	55129.6	Allowable Stress:	183400.5
Axial Stress:	26418.8	@Node	130
Bending Stress:	73360.8	@Node	890
Torsion Stress:	4238.4	@Node	868
Hoop Stress:	53452.7	@Node	25
Max Stress Intensity:	77049.7	@Node	80

CODE STRESS CHECK PASSED : LOADCASE 29 (OCC) L29=L22+L8

Highest Stresses: (KPa)	LOADCASE 29 (OCC) L29=L22+L8		
Ratio (%):	29.8	@Node	890
Code Stress:	54607.9	Allowable Stress:	183400.5
Axial Stress:	27761.6	@Node	130
Bending Stress:	72675.3	@Node	890
Torsion Stress:	4517.6	@Node	868
Hoop Stress:	53452.7	@Node	25
Max Stress Intensity:	93087.5	@Node	50

CODE STRESS CHECK PASSED : LOADCASE 30 (OCC) L30=L23+L8

Highest Stresses: (KPa)	LOADCASE 30 (OCC) L30=L23+L8		
Ratio (%):	29.8	@Node	890
Code Stress:	54609.6	Allowable Stress:	183400.5
Axial Stress:	27788.9	@Node	360
Bending Stress:	72677.5	@Node	890
Torsion Stress:	4516.1	@Node	868
Hoop Stress:	53452.7	@Node	25
Max Stress Intensity:	75051.9	@Node	280

CODE STRESS CHECK PASSED : LOADCASE 31 (EXP) L31=L2-L8

Highest Stresses: (KPa)	LOADCASE 31 (EXP) L31=L2-L8		
Ratio (%):	60.8	@Node	590
Code Stress:	157936.9	Allowable Stress:	259752.6
Axial Stress:	5553.7	@Node	190
Bending Stress:	154689.4	@Node	590
Torsion Stress:	41413.2	@Node	140
Hoop Stress:	0.0	@Node	20
Max Stress Intensity:	446914.4	@Node	590

CODE STRESS CHECK PASSED : LOADCASE 32 (EXP) L32=L4-L8

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
Various Load Cases

Highest Stresses: (KPa) LOADCASE 32 (EXP) L32=L4-L8			
Ratio (%):	64.0	@Node	590
Code Stress:	166101.5	Allowable Stress:	259411.3
Axial Stress:	6678.4	@Node	190
Bending Stress:	170792.4	@Node	80
Torsion Stress:	49501.5	@Node	140
Hoop Stress:	0.0	@Node	20
Max Stress Intensity:	471559.3	@Node	590

CODE STRESS CHECK PASSED : LOADCASE 33 (EXP) L33=L6-L8

Highest Stresses: (KPa) LOADCASE 33 (EXP) L33=L6-L8			
Ratio (%):	12.1	@Node	890
Code Stress:	35099.3	Allowable Stress:	290133.6
Axial Stress:	1026.0	@Node	640
Bending Stress:	34091.1	@Node	890
Torsion Stress:	5378.3	@Node	80
Hoop Stress:	0.0	@Node	20
Max Stress Intensity:	76099.8	@Node	590

CODE STRESS CHECK PASSED : LOADCASE 34 (EXP) L34=L2-L6

Highest Stresses: (KPa) LOADCASE 34 (EXP) L34=L2-L6			
Ratio (%):	70.7	@Node	590
Code Stress:	183725.7	Allowable Stress:	259752.6
Axial Stress:	6373.0	@Node	250
Bending Stress:	180889.7	@Node	590
Torsion Stress:	43740.9	@Node	140
Hoop Stress:	0.0	@Node	20
Max Stress Intensity:	520014.3	@Node	590

CODE STRESS CHECK PASSED : LOADCASE 35 (EXP) L35=L4-L6

Highest Stresses: (KPa) LOADCASE 35 (EXP) L35=L4-L6			
Ratio (%):	74.6	@Node	590
Code Stress:	193592.0	Allowable Stress:	259411.3
Axial Stress:	7497.7	@Node	250
Bending Stress:	190113.0	@Node	590
Torsion Stress:	51829.1	@Node	140
Hoop Stress:	0.0	@Node	20
Max Stress Intensity:	546300.7	@Node	590

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Nozzle Check : Multiple 3

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Job:: BNK-GCS-CN-027-D02
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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

- 1 (HYD) WW+HP
- 2 (OPE) W+T1+P1
- 3 (Alt-SUS) W+P1
- 4 (OPE) W+T2+P1
- 5 (Alt-SUS) W+P1
- 6 (OPE) W+T3+P1
- 7 (Alt-SUS) W+P1
- 8 (SUS) W+P1
- 9 (SUS) WNC
- 10 (OPE) W+T2+P1+U1
- 11 (OPE) W+T2+P1-U1
- 12 (OPE) W+T2+P1+U2
- 13 (OPE) W+T2+P1+U3
- 14 (OPE) W+T2+P1-U3
- 15 (OPE) W+T2+P1+F1
- 16 (OPE) W+T2+P1+F2
- 17 (OCC) L17=L10-L4
- 18 (OCC) L18=L11-L4
- 19 (OCC) L19=L12-L4
- 20 (OCC) L20=L13-L4
- 21 (OCC) L21=L14-L4
- 22 (OCC) L22=L15-L4
- 23 (OCC) L23=L16-L4
- 24 (OCC) L24=L17+L8
- 25 (OCC) L25=L18+L8
- 26 (OCC) L26=L19+L8
- 27 (OCC) L27=L20+L8
- 28 (OCC) L28=L21+L8
- 29 (OCC) L29=L22+L8
- 30 (OCC) L30=L23+L8
- 31 (EXP) L31=L2-L8
- 32 (EXP) L32=L4-L8
- 33 (EXP) L33=L6-L8
- 34 (EXP) L34=L2-L6
- 35 (EXP) L35=L4-L6

CAESAR II 2018 Ver.10.00.00.7700, (Build 170726) Date: FEB 27, 2024 Time: 13:10

Job:: BNK-GCS-CN-027-D02

Licensed To:: SPLM: Edit company name in <system>\company.txt

NOZZLE CHECK REPORT: Nozzle Loads Screening

Various Load Cases

LOAD CASE DEFINITION KEY

CASE 2 (OPE) W+T1+P1

CASE 4 (OPE) W+T2+P1

CASE 6 (OPE) W+T3+P1

CASE 8 (SUS) W+P1

CASE 9 (SUS) WNC

Node		fa N.	fb N.	fc N.	Forces Check	ma N.m.	mb N.m.	mc N.m.	Moments Check	
750		Absolute Method								
	Limits	4800	4800	3600		1080	720	940		
	2(OPE)	800	-775	901	0.250	-153	1018	925	1.413	*
	4(OPE)	235	-429	304	0.089	-75	293	377	0.407	
	6(OPE)	-11	-462	165	0.096	-89	248	390	0.415	
	8(SUS)	1	-258	0	0.054	-25	0	12	0.023	
	9(SUS)	1	-256	0	0.053	-24	0	12	0.023	
810		Absolute Method								
	Limits	11201	11201	8400		6720	4480	5820		
	2(OPE)	-4152	-3302	-2943	0.371	-8503	4929	-1140	1.265	*
	4(OPE)	-4154	-3333	-2970	0.371	-8575	4972	-1173	1.276	*
	6(OPE)	-3558	1423	841	0.318	2507	-732	3881	0.667	
	8(SUS)	-3702	-888	-110	0.331	-54	725	565	0.162	
	9(SUS)	-3698	-887	-110	0.330	-54	724	565	0.162	

BNK-GCS-CN-033

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Stress sketch

Input echo

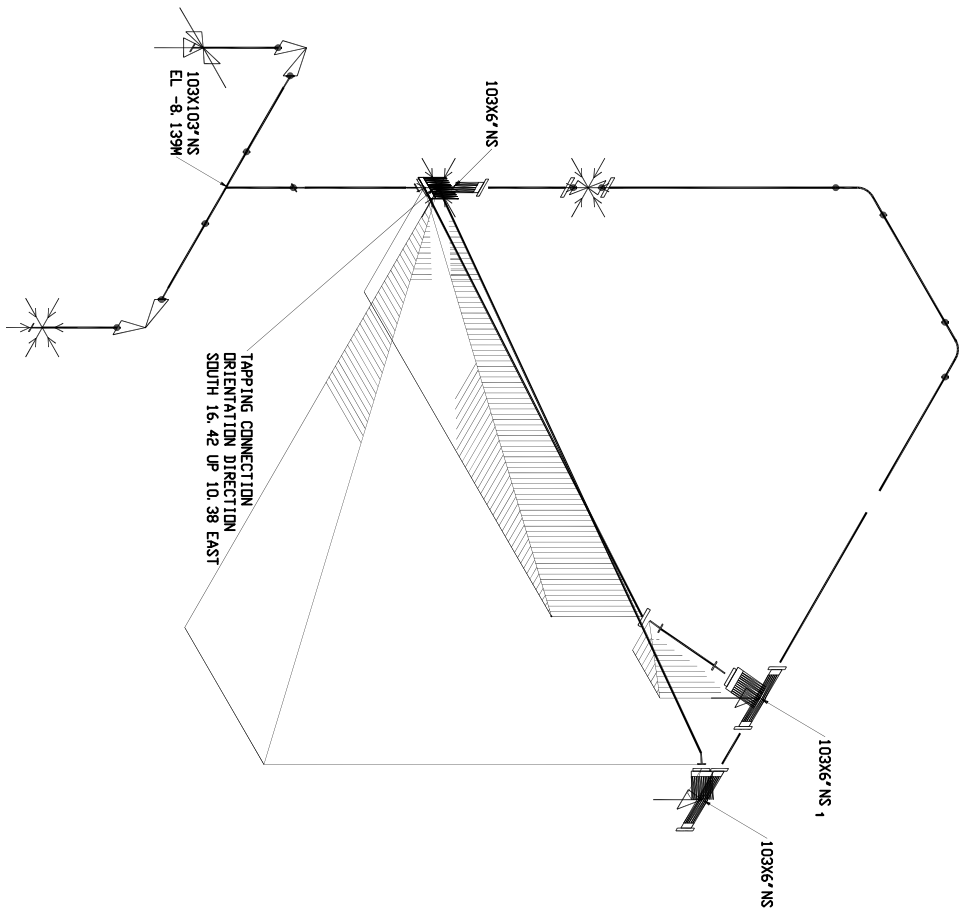
Restraint summary

Stress summary

Nozzle load Table

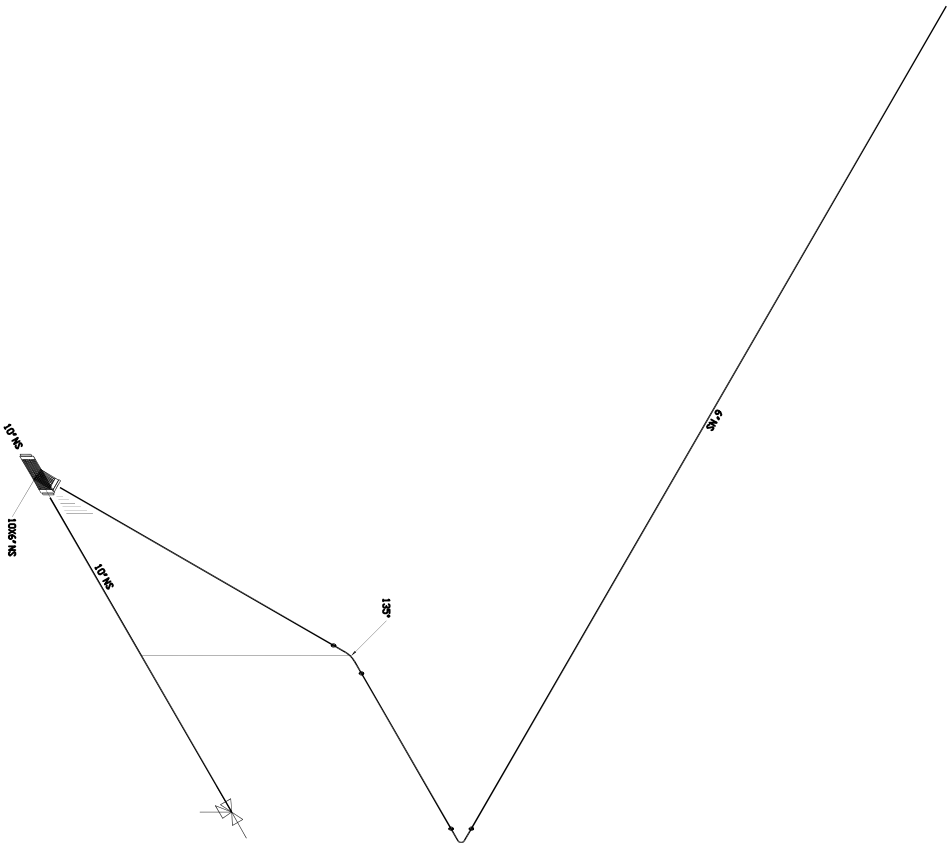
LINE NO.:

1. FL-112-0031-AN07-6"-PT

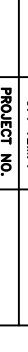


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PIPING SPEC.		OP. TEMP.		INTERGRAPH	
INSULATION SPEC.		PROJECT NO.			
INSULATION THKS.		SYSTEM			
PAINTING SPEC.		AREA			
MATERIAL		DRAWN BY		PIPELINE REFERENCE	
OP. PRESSURE		E.L. DIAGRAM			
REV.	CHANGE	27 FEB 2024 DATE	THIS DRAWING IS THE PROPERTY OF INTERGRAPH LTD AND MUST NOT BE COPIED OR LENT WITHOUT THE CONSENT OF THE COMPANY		DRG.
					1 OF 1

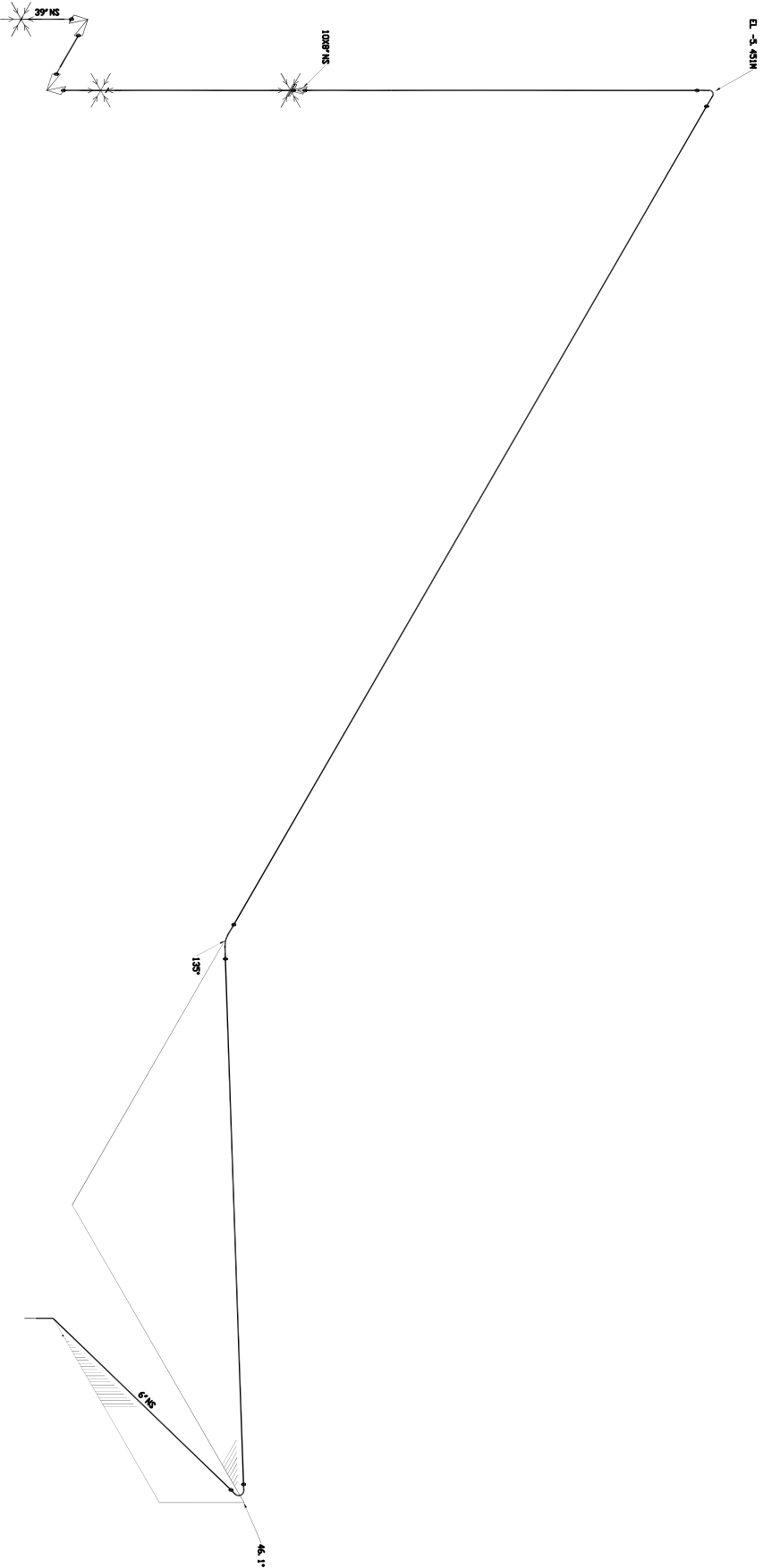


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CHECK ISOMETRIC ONLY – DO NOT ISSUE				 INTERGRAPH PIPELINE REFERENCE		REV.	
PIPING SPEC.		OP. TEMP.				DRG.	
INSULATION SPEC.		PROJECT NO.					
INSULATION THICKS.		SYSTEM					
PAINTING SPEC.		AREA					
MATERIAL		DRAWN BY					
OP. PRESSURE		E.L. DIAGRAM					
REV.		CHANGE					
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A B C D E F G H J K L M



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			PIPING SPEC.		OP. TEMP.	
			INSULATION SPEC.		PROJECT NO.	
			INSULATION THKS.		SYSTEM	
			PAINTING SPEC.		AREA	
			MATERIAL		DRAWN BY	PIPELINE REFERENCE
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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

- 1 (HYD) WW+HP
- 2 (OPE) W+T1+P1
- 3 (Alt-SUS) W+P1
- 4 (OPE) W+T2+P1
- 5 (Alt-SUS) W+P1
- 6 (OPE) W+T3+P1
- 7 (Alt-SUS) W+P1
- 8 (SUS) W+P1
- 9 (SUS) WNC
- 10 (OPE) W+T2+P1+U1
- 11 (OPE) W+T2+P1-U1
- 12 (OPE) W+T2+P1+U2
- 13 (OPE) W+T2+P1+U3
- 14 (OPE) W+T2+P1-U3
- 15 (OCC) L15=L10-L4
- 16 (OCC) L16=L11-L4
- 17 (OCC) L17=L12-L4
- 18 (OCC) L18=L13-L4
- 19 (OCC) L19=L14-L4
- 20 (OCC) L20=L15+L8
- 21 (OCC) L21=L16+L8
- 22 (OCC) L22=L17+L8
- 23 (OCC) L23=L18+L8
- 24 (OCC) L24=L19+L8
- 25 (EXP) L25=L2-L8
- 26 (EXP) L26=L4-L8
- 27 (EXP) L27=L2-L4

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INPUT LISTING

Job Description:

PROJECT:

CLIENT :

ANALYST:

NOTES :

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INPUT LISTING

File created by FEATools

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PIPE DATA

 From 10 To 20 DY= 66.675 mm.

PIPE

Dia= 219.075 mm. Wall= 10.312 mm. Cor= 6.0000 mm.

GENERAL

T1= 300 C T2= 200 C T3= 21 C P1= 550.0125 KPa PHyd= 825.0188 KPa

Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 185,250,208 KPa

EH2= 191,317,008 KPa EH3= 203,396,064 KPa EH4= 203,401,232 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000015 kg./cu.cm.

Insul Thk= .000 mm. Insul Den= .0000000 kg./cu.cm.

RIGID Weight= 31.14 N.

RESTRAINTS

Node 10 ANC Cnode 100

UNIFORM LOAD

Vector1 in G-s X1 Dir = .26 g's Y1 Dir = .00 g's Z1 Dir = .00 g's

Vector2 in G-s X2 Dir = .00 g's Y2 Dir = .12 g's Z2 Dir = .00 g's

Vector3 in G-s X3 Dir = .00 g's Y3 Dir = .00 g's Z3 Dir = .26 g's

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 125,543 KPa Sh2= 137,261 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

 From 20 To 30 DY= 178.000 mm.

REDUCER

Diam2= 273.050 mm. Wall2= 9.271 mm.

 From 30 To 40 DY= 290.000 mm.

PIPE

Dia= 273.050 mm. Wall= 9.271 mm.

Insul Thk= .000 mm.

 From 40 To 50 DY= 1,410.000 mm.

BEND at "T0" end

Radius= 381.000 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 49

Angle/Node @2= .00 48

 From 50 To 60 DX= 6,200.000 mm.

BEND at "T0" end

Radius= 381.000 mm. (LONG) Bend Angle= 45.000 Angle/Node @1= 22.50 59

Angle/Node @2= .00 58

 From 60 To 70 DX= 1,800.000 mm. DZ= -1,800.000 mm.

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INPUT LISTING

BEND at "T0" end

Radius= 381.000 mm. (LONG) Bend Angle= 45.000 Angle/Node @1= 22.50 69
 Angle/Node @2= .00 68

 From 70 To 180 DZ= -2,913.000 mm.

SIF's & TEE's

Node 180 Welding Tee

 From 180 To 80 DZ= -1,287.000 mm.

RESTRAINTS

Node 80 +Y Mu = .30

Node 80 Z Gap= 3.000 mm.

 From 70 To 90 DY= -89.803 mm. DZ= 89.803 mm.

RIGID Weight= .00 N.

SIF's & TEE's

Node 90 Unreinforced Tee

 From 100 To 110 DY= -104.775 mm.

PIPE

Dia= 219.075 mm. Wall= 10.312 mm. Cor= 6.0000 mm.

GENERAL

T1= 300 C T2= 200 C P1= 550.0125 KPa PHyd= 825.0188 KPa

Fluid Den= .0000015 kg./cu.cm. Insul Thk= .000 mm.

RIGID Weight= 177.93 N.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 125,543 KPa Sh2= 137,261 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

 From 110 To 120 DY= -203.000 mm.

RESTRAINTS

Node 120 ANC Cnode 130

 From 130 To 140 DY= -507.000 mm.

PIPE

Dia= 1,014.000 mm. Wall= 10.312 mm.

Insul Thk= .000 mm.

RIGID Weight= .00 N.

 From 140 To 150 DX= -90.000 mm.

RIGID Weight= .00 N.

 From 150 To 160 DY= -507.000 mm.

RIGID Weight= .00 N.

RESTRAINTS

Node 160 ANC

 From 90 To 170 DZ= 500.000 mm.

PIPE

Dia= 168.275 mm. Wall= 7.112 mm. Cor= .0000 mm.

GENERAL

T1= 21 C T2= 21 C P1= .0000 KPa PHyd= .0000 KPa

Mat= (102)A53 Grade B E= 203,401,232 KPa EH1= 203,401,232 KPa

EH2= 203,401,232 KPa EH3= 203,396,064 KPa EH4= 203,401,232 KPa

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INPUT LISTING

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000000 kg./cu.cm.

Insul Thk= .000 mm.

RESTRAINTS

Node 170 +Y Mu = .30

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 180 To 190 DY= 764.000 mm. DZ= -764.000 mm.

PIPE

Dia= 168.275 mm. Wall= 10.973 mm. Cor= 6.0000 mm.

GENERAL

T1= 300 C T2= 200 C P1= 550.0125 KPa PHyd= 825.0188 KPa

Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 185,250,208 KPa

EH2= 191,317,008 KPa EH3= 203,396,064 KPa EH4= 203,401,232 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000015 kg./cu.cm.

Insul Thk= .000 mm.

BEND at "T0" end

Radius= 228.600 mm. (LONG) Bend Angle= 45.000 Angle/Node @1= 22.50 189

Angle/Node @2= .00 188

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 125,543 KPa Sh2= 137,261 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 190 To 200 DZ= -524.000 mm.

BEND at "T0" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 199

Angle/Node @2= .00 198

From 200 To 280 DX= -7,105.000 mm.

RESTRAINTS

Node 280 +Y Cnode 281 Mu = .30

From 280 To 290 DX= -6,595.000 mm.

RESTRAINTS

Node 290 +Y Cnode 291 Mu = .30

From 290 To 300 DX= -500.000 mm.

BEND at "T0" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 299

Angle/Node @2= .00 298

From 300 To 310 DZ= 1,300.000 mm.

BEND at "T0" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 309

Angle/Node @2= .00 308

From 310 To 320 DY= -1,417.000 mm.

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INPUT LISTING

 From 320 To 330 DY= -92.075 mm.
 RIGID Weight= 111.21 N.

 From 330 To 340 DY= -292.000 mm.
 RIGID Weight= 1,005.30 N.
 RESTRAINTS

Node 340 ANC Cnode 341

 From 341 To 350 DY= -92.075 mm.
 RIGID Weight= 111.21 N.

 From 350 To 360 DY= -198.000 mm.
 RESTRAINTS

Node 360 ANC Cnode 361

 From 361 To 370 DY= -1,361.000 mm.
 PIPE
 Dia= 2,620.000 mm. Wall= 10.973 mm.
 Insul Thk= .000 mm.
 RIGID Weight= .00 N.

 From 361 To 291 DX= 500.000 mm. DY= 2,091.150 mm. DZ= -1,300.000 mm.
 RIGID Weight= .00 N.

 From 361 To 281 DX= 7,095.000 mm. DY= 2,091.150 mm. DZ= -1,300.000 mm.
 RIGID Weight= .00 N.

 From 370 To 380 DX= -400.000 mm.
 RIGID Weight= .00 N.

 From 380 To 390 DY= -1,310.000 mm.
 RIGID Weight= .00 N.

RESTRAINTS

Node 390 +Y Mu = .30

Node 390 Z Gap= 3.000 mm.

 From 370 To 400 DX= 5,400.000 mm.
 RIGID Weight= .00 N.

 From 400 To 410 DY= -1,010.000 mm.
 RIGID Weight= .00 N.

RESTRAINTS

Node 410 ANC

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MATERIAL Changes:

10	20	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
90	170	Mat= (102)A53 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
180	190	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.

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INPUT LISTING

JOBNAME: D:\BINAK PRO\STRESS REPORT\D02\NATIVE\BNK-GCS-CN-033-)\BNK-GCS-CN-033-

ALLOWABLE STRESS Changes

10	20	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 125,543 KPa
		Sh2= 137,261 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
100	110	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 125,543 KPa
		Sh2= 137,261 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
90	170	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
180	190	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 125,543 KPa
		Sh2= 137,261 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	

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BEND ELEMENTS

40	50	Radius= 381.000 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00 49
		Angle/Node @2= .00 48
50	60	Radius= 381.000 mm. (LONG)
		Bend Angle= 45.000 Angle/Node @1= 22.50 59
		Angle/Node @2= .00 58
60	70	Radius= 381.000 mm. (LONG)
		Bend Angle= 45.000 Angle/Node @1= 22.50 69
		Angle/Node @2= .00 68
180	190	Radius= 228.600 mm. (LONG)
		Bend Angle= 45.000 Angle/Node @1= 22.50
		189 Angle/Node @2= .00 188
190	200	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		199 Angle/Node @2= .00 198
290	300	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		299 Angle/Node @2= .00 298
300	310	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00

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INPUT LISTING

309 Angle/Node @2= .00 308

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RIGIDS

10	20	RIGID Weight= 31.14 N.
70	90	RIGID Weight= .00 N.
100	110	RIGID Weight= 177.93 N.
130	140	RIGID Weight= .00 N.
140	150	RIGID Weight= .00 N.
150	160	RIGID Weight= .00 N.
320	330	RIGID Weight= 111.21 N.
330	340	RIGID Weight= 1,005.30 N.
341	350	RIGID Weight= 111.21 N.
361	370	RIGID Weight= .00 N.
361	291	RIGID Weight= .00 N.
361	281	RIGID Weight= .00 N.
370	380	RIGID Weight= .00 N.
380	390	RIGID Weight= .00 N.
370	400	RIGID Weight= .00 N.
400	410	RIGID Weight= .00 N.

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SIF's & TEE's

70	180	Node 180 Welding Tee
70	90	Node 90 Unreinforced Tee

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REDUCERS

20	30	Diam2= 273.050 mm. Wall2= 9.271 mm.

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RESTRAINTS

NODE	TYPE	CNODE	STIF1	Len GAP STIF2	MU YIELD FORCE	Dir Vectors
10	ANC	100				.000 .000 .000
80	+Y				.30	.000 1.000 .000
80	Z			3.00		.000 .000 1.000
120	ANC	130				.000 .000 .000
160	ANC					.000 .000 .000
170	+Y				.30	.000 1.000 .000
280	+Y	281			.30	.000 1.000 .000
290	+Y	291			.30	.000 1.000 .000
340	ANC	341				.000 .000 .000
360	ANC	361				.000 .000 .000
390	+Y				.30	.000 1.000 .000
390	Z			3.00		.000 .000 1.000
410	ANC					.000 .000 .000

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INPUT LISTING

UNIFORM LOAD Changes

10

20

Vector1 in G-s

X1 Dir = .26 g's Y1 Dir = .00 g's

Z1 Dir = .00 g's

Vector2 in G-s

X2 Dir = .00 g's Y2 Dir = .12 g's

Z2 Dir = .00 g's

Vector3 in G-s

X3 Dir = .00 g's Y3 Dir = .00 g's

Z3 Dir = .26 g's

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INPUT UNITS USED...

UNITS= SI (m NOM/SCH INPUT= ON

LENGTH	inches	x	25.400	=	mm.
FORCE	pounds	x	4.448	=	N.
MASS(dynamics)	pounds	x	0.454	=	Kg.
MOMENTS(INPUT)	inch-pounds	x	0.113	=	N.m.
MOMENTS(OUTPUT)	inch-pounds	x	0.113	=	N.m.
STRESS	lbs./sq.in.	x	6.895	=	KPa
TEMP. SCALE	degrees F.	x	0.556	=	C
PRESSURE	psig	x	6.895	=	KPa
ELASTIC MODULUS	lbs./sq.in.	x	6.895	=	KPa
PIPE DENSITY	lbs./cu.in.	x	0.028	=	kg./cu.cm.
INSULATION DENS.	lbs./cu.in.	x	0.028	=	kg./cu.cm.
FLUID DENSITY	lbs./cu.in.	x	0.028	=	kg./cu.cm.
TRANSL. STIF	lbs./in.	x	1.751	=	N./cm.
ROTATIONAL STIF	in.lb./deg.	x	0.113	=	N.m./deg
UNIFORM LOAD	lb./in.	x	1.751	=	N./cm.
G LOAD	g's	x	1.000	=	g's
WIND LOAD	lbs./sq.in.	x	6.895	=	KPa
ELEVATION	inches	x	0.025	=	m.
COMPOUND LENGTH	inches	x	25.400	=	mm.
DIAMETER	inches	x	25.400	=	mm.
WALL THICKNESS	inches	x	25.400	=	mm.

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SETUP FILE PARAMETERS

```

CONNECT GEOMETRY THRU CNODES = YES
MIN ALLOWED BEND ANGLE = 5.00000
MAX ALLOWED BEND ANGLE = 95.0000
BEND LENGTH ATTACHMENT PERCENT = 1.00000
MIN ANGLE TO ADJACENT BEND PT = 5.00000
LOOP CLOSURE TOLERANCE = 25.4000 mm.
THERMAL BOWING HORZ TOLERANCE = 0.100000E-03
AUTO NODE NUMBER INCREMENT= 10.0000
Z AXIS UP= NO
USE PRESSURE STIFFENING = DEFAULT
ALPHA TOLERANCE = 0.500000E-01
RESLD-FORCE = NO
HGR DEF RESWGT STIF = 0.175127E+13 N./cm.
DECOMP SNG TOL = 0.100000E+11

```

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INPUT LISTING

```

BEND AXIAL SHAPE = YES
FRICT STIF = 0.175127E+07 N./cm.
FRICT NORM FORCE VAR = 0.150000
FRICT ANGLE VAR = 15.0000
FRICT SLIDE MULT = 1.00000
ROD TOLERANCE = 1.00000
ROD INC = 2.00000
INCORE NUMERICAL CHECK = NO
OUTCORE NUMERICAL CHECK = NO
DEFAULT TRANS RESTRAINT STIFF= 0.175127E+13 N./cm.
DEFAULT ROT RESTRAINT STIFF= 0.112985E+12 N.m./deg
IGNORE SPRING HANGER STIFFNESS = NO
MISSING MASS ZPA = EXTRACTED
MIN WALL MILL TOLERANCE = 12.5000
WRC-107 VERSION = MAR 79 1B1/2B1
WRC-107 INTERPOLATION = LAST VALUE
DEFAULT AMBIENT TEMPERATURE= 21.1111 C
BOURDON PRESSURE= NONE
COEFFICIENT OF FRICTION (MU) = 0.000000
INCLUDE SPRG STIF IN HGR OPE = NO
INCLUDE INSULATION IN HYDROTEST = NO
REDUCED INTERSECTION = B31.1(POST1980)
USE WRC329 NO
NO REDUCED SIF FOR RFT AND WLT NO
B31.1 REDUCED Z FIX = YES
CLASS 1 BRANCH FLEX NO
ALL STRESS CASES CORRODED = NO
ADD TORSION IN SL STRESS = DEFAULT
ADD F/A IN STRESS = DEFAULT
OCCASIONAL LOAD FACTOR = 0.000000
DEFAULT CODE = B31.3
B31.3 SUS CASE SIF FACTOR = 0.000000
ALLOW USERS BEND SIF = NO
USE SCHNEIDER NO
YIELD CRITERION STRESS = MAX 3D SHEAR
USE PD/4T NO
BASE HOOP STRESS ON ? = ID
EN13480 USE IN OUTPLANE SIFS= NO
LIBERAL EXPANSION ALLOWABLE= YES
B31.3 SEC 319.2.3C SAXIAL= Default
B31.3 WELDING/CONTOUR TEE ISB16.9 FALSE
PRESSURE VARIATION IN EXP CASE= DEFAULT
IMPLEMENT B313 APP-P NO
IMPLEMENT B313 CODE CASE 178 YES
IGNORE B31.1/B31.3 Wc FACTOR= YES
USE FRP SIF = YES
USE FRP FLEX = YES
BS 7159 Pressure Stiffening= Design Strain
FRP Property Data File= CAESAR.FRP
FRP Emod (axial) = 0.220632E+08 KPa
FRP Ratio Gmod/Emod (axial) = 0.250000
FRP Ea/Eh*Vh/a = 0.152730
FRP Laminate Type = THREE
FRP Alpha = 21.6000 C
FRP Density = 0.166079E-02 kg./cu.cm.
EXCLUDE f2 FROM UK00A BENDING = NO

```

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INPUT LISTING

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EXECUTION CONTROL PARAMETERS

Rigid/ExpJt Print Flag 1.000
 Bourdon Option 000
 Loop Closure Flag 2.000
 Thermal Bowing Delta Temp .. .000 C
 Liberal Allowable Flag 1.000
 Uniform Load Option 1.000

 Ambient Temperature 20.997 C
 Plastic (FRP) Alpha 21.600
 Plastic (FRP) GMOD/EMODa 250
 Plastic (FRP) Laminate Type. 3.000
 Eqn Optimizer 000
 Node Selection 000
 Eqn Ordering 000
 Collins 000
 Degree Determination 000
 User Eqn Control 000
 North Direction -X

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COORDINATE REPORT

NODE	/------(mm.)-----/		
	X	Y	Z
10	-15700.080	-7395.683	7324.219
20	-15700.080	-7329.008	7324.219
30	-15700.080	-7151.008	7324.219
40	-15700.080	-6861.008	7324.219
50	-15700.080	-5451.008	7324.219
60	-9500.080	-5451.008	7324.219
70	-7700.080	-5451.008	5524.219
180	-7700.080	-5451.008	2611.219
80	-7700.080	-5451.008	1324.219
70	-7700.080	-5451.008	5524.219
90	-7700.080	-5540.811	5614.022
10	-15700.080	-7395.683	7324.219
110	-15700.080	-7500.458	7324.219
120	-15700.080	-7703.458	7324.219
140	-15700.080	-8210.458	7324.219
150	-15790.080	-8210.458	7324.219
160	-15790.080	-8717.458	7324.219
90	-7700.080	-5540.811	5614.022
170	-7700.080	-5540.811	6114.022
180	-7700.080	-5451.008	2611.219
190	-7700.080	-4687.008	1847.219
200	-7700.080	-4687.008	1323.219
280	-14805.080	-4687.008	1323.219
290	-21400.080	-4687.008	1323.219
300	-21900.080	-4687.008	1323.219
310	-21900.080	-4687.008	2623.219
320	-21900.080	-6104.008	2623.219

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INPUT LISTING

330	-21900.080	-6196.083	2623.219
340	-21900.080	-6488.083	2623.219
350	-21900.080	-6580.159	2623.219
360	-21900.080	-6778.159	2623.219
370	-21900.080	-8139.159	2623.219
360	-21900.080	-6778.159	2623.219
290	-21400.080	-4687.008	1323.219
360	-21900.080	-6778.159	2623.219
280	-14805.080	-4687.008	1323.219
370	-21900.080	-8139.159	2623.219
380	-22300.080	-8139.159	2623.219
390	-22300.080	-9449.158	2623.219
370	-21900.080	-8139.159	2623.219
400	-16500.080	-8139.159	2623.219
410	-16500.080	-9149.158	2623.219

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

- 1 (HYD) WW+HP
- 2 (OPE) W+T1+P1
- 3 (Alt-SUS) W+P1
- 4 (OPE) W+T2+P1
- 5 (Alt-SUS) W+P1
- 6 (OPE) W+T3+P1
- 7 (Alt-SUS) W+P1
- 8 (SUS) W+P1
- 9 (SUS) WNC
- 10 (OPE) W+T2+P1+U1
- 11 (OPE) W+T2+P1-U1
- 12 (OPE) W+T2+P1+U2
- 13 (OPE) W+T2+P1+U3
- 14 (OPE) W+T2+P1-U3
- 15 (OCC) L15=L10-L4
- 16 (OCC) L16=L11-L4
- 17 (OCC) L17=L12-L4
- 18 (OCC) L18=L13-L4
- 19 (OCC) L19=L14-L4
- 20 (OCC) L20=L15+L8
- 21 (OCC) L21=L16+L8
- 22 (OCC) L22=L17+L8
- 23 (OCC) L23=L18+L8
- 24 (OCC) L24=L19+L8
- 25 (EXP) L25=L2-L8
- 26 (EXP) L26=L4-L8
- 27 (EXP) L27=L2-L4

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

LOAD CASE DEFINITION KEY

CASE 1 (HYD) WW+HP
CASE 2 (OPE) W+T1+P1
CASE 4 (OPE) W+T2+P1
CASE 6 (OPE) W+T3+P1
CASE 8 (SUS) W+P1
CASE 9 (SUS) WNC
CASE 10 (OPE) W+T2+P1+U1
CASE 11 (OPE) W+T2+P1-U1
CASE 12 (OPE) W+T2+P1+U2
CASE 13 (OPE) W+T2+P1+U3
CASE 14 (OPE) W+T2+P1-U3
CASE 15 (OCC) L15=L10-L4
CASE 16 (OCC) L16=L11-L4
CASE 17 (OCC) L17=L12-L4
CASE 18 (OCC) L18=L13-L4
CASE 19 (OCC) L19=L14-L4

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
10		TYPE=Rigid ANC;					
	1(HYD)	-1622	-6714	168	1193	-60	-929
	2(OPE)	-2260	-4059	1742	2949	-6064	-627
	4(OPE)	-1670	-3893	1005	1909	-3383	-662
	6(OPE)	-910	-3665	94	636	-39	-467
	8(SUS)	-893	-3665	92	632	-35	-493
	9(SUS)	-892	-3660	92	632	-35	-492
	10(OPE)	132	-3843	908	1756	-3243	-3330
	11(OPE)	-3617	-3952	1145	2129	-3586	2231
	12(OPE)	-1647	-3456	1004	1849	-3393	-470
	13(OPE)	-1784	-3912	2126	3541	-4726	-516
	14(OPE)	-1853	-3906	190	734	-3086	-371
	15(OCC)	1802	50	-97	-152	140	-2668
	16(OCC)	-1947	-59	140	220	-203	2893
	17(OCC)	23	437	-1	-60	-10	193
	18(OCC)	-114	-19	1121	1632	-1343	147
	19(OCC)	-183	-13	-815	-1174	298	291
	MAX	-3617/L11	-6714/L1	2126/L13	3541/L13	-6064/L2	-3330/L10
80		TYPE=Rigid +Y; Rigid Z w/gap;					
	1(HYD)	1255	-4185	-25	0	0	0
	2(OPE)	700	-2342	-2275	0	0	0
	4(OPE)	736	-2482	-1366	0	0	0
	6(OPE)	808	-2697	-32	0	0	0
	8(SUS)	809	-2697	-17	0	0	0
	9(SUS)	808	-2695	-17	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	10(OPE)	725	-2442	-1338	0	0	0
	11(OPE)	748	-2525	-1484	0	0	0
	12(OPE)	641	-2159	-1363	0	0	0
	13(OPE)	712	-2372	7	0	0	0
	14(OPE)	764	-2575	-3327	0	0	0
	15(OCC)	-11	40	29	0	0	0
	16(OCC)	12	-43	-118	0	0	0
	17(OCC)	-96	323	4	0	0	0
	18(OCC)	-25	110	1373	0	0	0
	19(OCC)	28	-94	-1960	0	0	0
	MAX	1255/L1	-4185/L1	-3327/L14			
120		TYPE=Rigid ANC;					
	1(HYD)	-1622	-7091	168	1245	-60	-429
	2(OPE)	-2260	-4342	1742	3485	-6064	69
	4(OPE)	-1670	-4176	1005	2218	-3383	-148
	6(OPE)	-910	-3949	94	665	-39	-187
	8(SUS)	-893	-3948	92	661	-35	-218
	9(SUS)	-892	-3943	92	660	-35	-218
	10(OPE)	206	-4126	908	2036	-3243	-3385
	11(OPE)	-3691	-4236	1145	2481	-3586	3359
	12(OPE)	-1647	-3706	1004	2158	-3393	37
	13(OPE)	-1784	-4195	2200	4209	-4726	33
	14(OPE)	-1853	-4190	116	778	-3086	199
	15(OCC)	1876	50	-97	-182	140	-3237
	16(OCC)	-2020	-59	140	264	-203	3507
	17(OCC)	23	471	-1	-60	-10	185
	18(OCC)	-114	-19	1195	1992	-1343	182
	19(OCC)	-183	-13	-889	-1440	298	347
	MAX	-3691/L11	-7091/L1	2200/L13	4209/L13	-6064/L2	3507/L16
160		TYPE=Rigid ANC;					
	1(HYD)	-1622	-7091	168	1415	-75	577
	2(OPE)	-2260	-4342	1742	5251	-6221	1969
	4(OPE)	-1670	-4176	1005	3237	-3474	1170
	6(OPE)	-910	-3949	94	760	-47	381
	8(SUS)	-893	-3948	92	753	-44	332
	9(SUS)	-892	-3943	92	752	-44	332
	10(OPE)	206	-4126	908	2956	-3325	-3966
	11(OPE)	-3691	-4236	1145	3642	-3689	6720
	12(OPE)	-1647	-3706	1004	3176	-3483	1374
	13(OPE)	-1784	-4195	2200	6440	-4924	1465
	14(OPE)	-1853	-4190	116	896	-3096	1701
	15(OCC)	1876	50	-97	-281	149	-5135
	16(OCC)	-2020	-59	140	406	-215	5550
	17(OCC)	23	471	-1	-61	-9	204

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	18(OCC)	-114	-19	1195	3203	-1451	295
	19(OCC)	-183	-13	-889	-2341	377	531
	MAX	-3691/L11	-7091/L1	2200/L13	6440/L13	-6221/L2	6720/L11
170		TYPE=Rigid +Y;					
	1(HYD)	1944	-7801	-39	0	0	0
	2(OPE)	1102	-3926	417	0	0	0
	4(OPE)	1164	-4076	376	0	0	0
	6(OPE)	1100	-4269	2	0	0	0
	8(SUS)	1081	-4269	-9	0	0	0
	9(SUS)	1079	-4264	-9	0	0	0
	10(OPE)	1182	-4130	371	0	0	0
	11(OPE)	1142	-4013	382	0	0	0
	12(OPE)	1016	-3561	329	0	0	0
	13(OPE)	1127	-4166	541	0	0	0
	14(OPE)	1132	-3960	362	0	0	0
	15(OCC)	18	-53	-5	0	0	0
	16(OCC)	-22	63	6	0	0	0
	17(OCC)	-147	516	-47	0	0	0
	18(OCC)	-37	-90	165	0	0	0
	19(OCC)	-32	116	-14	0	0	0
	MAX	1944/L1	-7801/L1	541/L13			
280		TYPE=Rigid +Y;					
	1(HYD)	-1025	-4778	-159	0	0	0
	2(OPE)	205	-3982	167	0	0	0
	4(OPE)	-208	-3747	-26	0	0	0
	6(OPE)	-635	-3400	-102	0	0	0
	8(SUS)	-632	-3400	-102	0	0	0
	9(SUS)	-632	-3398	-101	0	0	0
	10(OPE)	1144	-3821	77	0	0	0
	11(OPE)	-1088	-3658	-148	0	0	0
	12(OPE)	-131	-3338	-16	0	0	0
	13(OPE)	-9	-3750	1125	0	0	0
	14(OPE)	-163	-3760	-865	0	0	0
	15(OCC)	1351	-74	103	0	0	0
	16(OCC)	-880	89	-121	0	0	0
	17(OCC)	77	409	10	0	0	0
	18(OCC)	199	-2	1151	0	0	0
	19(OCC)	45	-13	-839	0	0	0
	MAX	1351/L15	-4778/L1	1151/L18			
290		TYPE=Rigid +Y;					
	1(HYD)	-335	-2461	228	0	0	0
	2(OPE)	179	-1326	-103	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	4(OPE)	1	-1514	67	0	0	0
	6(OPE)	-192	-1777	162	0	0	0
	8(SUS)	-191	-1777	161	0	0	0
	9(SUS)	-190	-1776	161	0	0	0
	10(OPE)	455	-1534	67	0	0	0
	11(OPE)	-425	-1428	-51	0	0	0
	12(OPE)	25	-1301	49	0	0	0
	13(OPE)	-11	-1443	433	0	0	0
	14(OPE)	-2	-1549	-465	0	0	0
	15(OCC)	454	-20	-1	0	0	0
	16(OCC)	-427	86	-118	0	0	0
	17(OCC)	23	213	-19	0	0	0
	18(OCC)	-12	71	365	0	0	0
	19(OCC)	-3	-35	-532	0	0	0
	MAX	455/L10	-2461/L1	-532/L19			
340		TYPE=Rigid ANC;					
	1(HYD)	-148	-2017	-175	-48	128	-117
	2(OPE)	21	-1882	44	76	24	-78
	4(OPE)	-49	-1804	-54	-9	46	-47
	6(OPE)	-105	-1709	-126	-32	93	-88
	8(SUS)	-105	-1709	-126	-32	93	-89
	9(SUS)	-105	-1709	-126	-32	93	-89
	10(OPE)	997	-1748	-105	-34	-342	-1160
	11(OPE)	-1478	-1941	144	181	702	1644
	12(OPE)	-37	-1599	-39	-6	35	-36
	13(OPE)	-124	-1875	479	283	38	59
	14(OPE)	21	-1766	-501	-189	56	-149
	15(OCC)	1046	57	-51	-24	-388	-1113
	16(OCC)	-1429	-136	198	190	657	1691
	17(OCC)	12	205	15	3	-11	11
	18(OCC)	-75	-70	533	292	-8	106
	19(OCC)	71	38	-447	-180	11	-102
	MAX	-1478/L11	-2017/L1	533/L18	292/L18	702/L11	1691/L16
360		TYPE=Rigid ANC;					
	1(HYD)	-148	-2258	-175	-99	128	-74
	2(OPE)	21	-2076	44	89	24	-84
	4(OPE)	-49	-1998	-54	-25	46	-33
	6(OPE)	-105	-1903	-126	-69	93	-58
	8(SUS)	-105	-1903	-126	-68	93	-58
	9(SUS)	-105	-1902	-126	-68	93	-58
	10(OPE)	1047	-1942	-105	-64	-342	-1458
	11(OPE)	-1529	-2134	144	223	702	2082
	12(OPE)	-37	-1769	-39	-18	35	-25
	13(OPE)	-124	-2069	529	431	38	95

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	14(OPE)	21	-1960	-551	-344	56	-155
	15(OCC)	1096	57	-51	-39	-388	-1426
	16(OCC)	-1479	-136	198	248	657	2115
	17(OCC)	12	229	15	8	-11	7
	18(OCC)	-75	-70	583	456	-8	128
	19(OCC)	71	38	-497	-318	11	-123
	MAX	-1529/L11	-2258/L1	583/L18	456/L18	702/L11	2115/L16
390		TYPE=Rigid +Y; Rigid Z w/gap;					
	1(HYD)	-117	-3337	131	0	0	0
	2(OPE)	-476692	-1588974	5	0	0	0
	4(OPE)	-294221	-980736	10	0	0	0
	6(OPE)	-958	-3201	71	0	0	0
	8(SUS)	-83	-2572	89	0	0	0
	9(SUS)	-83	-2571	89	0	0	0
	10(OPE)	-293706	-979021	1	0	0	0
	11(OPE)	-294720	-982400	18	0	0	0
	12(OPE)	-294124	-980412	8	0	0	0
	13(OPE)	-294188	-980627	10	0	0	0
	14(OPE)	-294184	-980613	6	0	0	0
	15(OCC)	514	1715	-9	0	0	0
	16(OCC)	-499	-1664	9	0	0	0
	17(OCC)	97	324	-2	0	0	0
	18(OCC)	33	109	1	0	0	0
	19(OCC)	37	123	-4	0	0	0
	MAX	-476692/L2	-1588974/L2	131/L1			
410		TYPE=Rigid ANC;					
	1(HYD)	-1391	-6159	-237	-9576	1574	3176
	2(OPE)	452045	1581590	104	-6419	-1049	-9071444
	4(OPE)	278397	973477	-22	-6808	344	-5591808
	6(OPE)	-67	-3878	-131	-6814	1080	-1206
	8(SUS)	-844	-4508	-155	-6804	930	2190
	9(SUS)	-843	-4506	-155	-6800	929	2189
	10(OPE)	280588	971725	20	-6715	-2557	-5593526
	11(OPE)	276094	975179	-56	-6857	3187	-5589987
	12(OPE)	278426	974003	-14	-5994	182	-5592006
	13(OPE)	278332	973366	1894	1073	3143	-5591739
	14(OPE)	278286	973345	-1827	-14219	-3259	-5591696
	15(OCC)	2191	-1752	42	93	-2901	-1718
	16(OCC)	-2302	1703	-34	-49	2843	1821
	17(OCC)	29	526	8	814	-162	-198
	18(OCC)	-65	-111	1917	7881	2798	69
	19(OCC)	-110	-132	-1805	-7411	-3603	113

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	MAX	452045/L2	1581590/L2	1917/L18	-14219/L14	-3603/L19	9071444/L2

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

- 1 (HYD) WW+HP
- 2 (OPE) W+T1+P1
- 3 (Alt-SUS) W+P1
- 4 (OPE) W+T2+P1
- 5 (Alt-SUS) W+P1
- 6 (OPE) W+T3+P1
- 7 (Alt-SUS) W+P1
- 8 (SUS) W+P1
- 9 (SUS) WNC
- 10 (OPE) W+T2+P1+U1
- 11 (OPE) W+T2+P1-U1
- 12 (OPE) W+T2+P1+U2
- 13 (OPE) W+T2+P1+U3
- 14 (OPE) W+T2+P1-U3
- 15 (OCC) L15=L10-L4
- 16 (OCC) L16=L11-L4
- 17 (OCC) L17=L12-L4
- 18 (OCC) L18=L13-L4
- 19 (OCC) L19=L14-L4
- 20 (OCC) L20=L15+L8
- 21 (OCC) L21=L16+L8
- 22 (OCC) L22=L17+L8
- 23 (OCC) L23=L18+L8
- 24 (OCC) L24=L19+L8
- 25 (EXP) L25=L2-L8
- 26 (EXP) L26=L4-L8
- 27 (EXP) L27=L2-L4

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement Various Load Cases

LOAD CASE DEFINITION KEY

CASE 1 (HYD) WW+HP
 CASE 3 (Alt-SUS) W+P1
 CASE 5 (Alt-SUS) W+P1
 CASE 7 (Alt-SUS) W+P1
 CASE 8 (SUS) W+P1
 CASE 9 (SUS) WNC
 CASE 20 (OCC) L20=L15+L8
 CASE 21 (OCC) L21=L16+L8
 CASE 22 (OCC) L22=L17+L8
 CASE 23 (OCC) L23=L18+L8
 CASE 24 (OCC) L24=L19+L8
 CASE 25 (EXP) L25=L2-L8
 CASE 26 (EXP) L26=L4-L8
 CASE 27 (EXP) L27=L2-L4

Piping Code: B31.3 = B31.3 -2016, Jan 31, 2017

CODE STRESS CHECK PASSED : LOADCASE 1 (HYD) WW+HP

Highest Stresses: (KPa)	LOADCASE 1 (HYD) WW+HP	
Ratio (%):	46.8	@Node 90
Code Stress:	112850.9	Allowable Stress: 241316.5
Axial Stress:	5460.1	@Node 80
Bending Stress:	150453.6	@Node 90
Torsion Stress:	2896.3	@Node 60
Hoop Stress:	11324.2	@Node 30
Max Stress Intensity:	150464.4	@Node 90

CODE STRESS CHECK PASSED : LOADCASE 3 (Alt-SUS) W+P1

Highest Stresses: (KPa)	LOADCASE 3 (Alt-SUS) W+P1	
Ratio (%):	42.9	@Node 90
Code Stress:	59194.4	Allowable Stress: 137895.1
Axial Stress:	11088.3	@Node 80
Bending Stress:	78925.7	@Node 90
Torsion Stress:	5054.9	@Node 60
Hoop Stress:	22406.4	@Node 30
Max Stress Intensity:	78925.8	@Node 90

CODE STRESS CHECK PASSED : LOADCASE 5 (Alt-SUS) W+P1

Highest Stresses: (KPa)	LOADCASE 5 (Alt-SUS) W+P1	
Ratio (%):	42.9	@Node 90
Code Stress:	59205.5	Allowable Stress: 137895.1
Axial Stress:	11087.9	@Node 80
Bending Stress:	78940.5	@Node 90
Torsion Stress:	5043.8	@Node 60
Hoop Stress:	22406.4	@Node 30

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
 Various Load Cases

Max Stress Intensity: 78940.6 @Node 90

CODE STRESS CHECK PASSED : LOADCASE 7 (Alt-SUS) W+P1

Highest Stresses: (KPa) LOADCASE 7 (Alt-SUS) W+P1
 Ratio (%): 44.8 @Node 90
 Code Stress: 61718.7 Allowable Stress: 137895.1
 Axial Stress: 11061.8 @Node 80
 Bending Stress: 82287.9 @Node 90
 Torsion Stress: 4299.5 @Node 60
 Hoop Stress: 22406.4 @Node 30
 Max Stress Intensity: 82290.7 @Node 90

CODE STRESS CHECK PASSED : LOADCASE 8 (SUS) W+P1

Highest Stresses: (KPa) LOADCASE 8 (SUS) W+P1
 Ratio (%): 44.8 @Node 90
 Code Stress: 61724.4 Allowable Stress: 137895.1
 Axial Stress: 11061.6 @Node 80
 Bending Stress: 82295.7 @Node 90
 Torsion Stress: 4294.6 @Node 60
 Hoop Stress: 22406.4 @Node 30
 Max Stress Intensity: 82298.3 @Node 90

CODE STRESS CHECK PASSED : LOADCASE 9 (SUS) WNC

Highest Stresses: (KPa) LOADCASE 9 (SUS) WNC
 Ratio (%): 44.7 @Node 90
 Code Stress: 61648.4 Allowable Stress: 137895.1
 Axial Stress: 1355.3 @Node 120
 Bending Stress: 82194.4 @Node 90
 Torsion Stress: 4289.5 @Node 60
 Hoop Stress: 0.0 @Node 20
 Max Stress Intensity: 82197.1 @Node 90

CODE STRESS CHECK PASSED : LOADCASE 20 (OCC) L20=L15+L8

Highest Stresses: (KPa) LOADCASE 20 (OCC) L20=L15+L8
 Ratio (%): 40.6 @Node 180
 Code Stress: 67866.4 Allowable Stress: 166972.5
 Axial Stress: 11276.7 @Node 50
 Bending Stress: 85126.4 @Node 180
 Torsion Stress: 4683.3 @Node 60
 Hoop Stress: 22406.4 @Node 30
 Max Stress Intensity: 90447.7 @Node 180

CODE STRESS CHECK PASSED : LOADCASE 21 (OCC) L21=L16+L8

Highest Stresses: (KPa) LOADCASE 21 (OCC) L21=L16+L8
 Ratio (%): 40.5 @Node 180
 Code Stress: 67675.2 Allowable Stress: 166972.5
 Axial Stress: 11018.1 @Node 80

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
 Various Load Cases

Bending Stress:	84805.3	@Node	180
Torsion Stress:	4489.0	@Node	180
Hoop Stress:	22406.4	@Node	30
Max Stress Intensity:	90221.8	@Node	180

CODE STRESS CHECK PASSED : LOADCASE 22 (OCC) L22=L17+L8

Highest Stresses: (KPa)	LOADCASE 22 (OCC) L22=L17+L8		
Ratio (%):	37.6	@Node	90
Code Stress:	68963.1	Allowable Stress:	183400.5
Axial Stress:	11063.2	@Node	80
Bending Stress:	91943.5	@Node	90
Torsion Stress:	3766.8	@Node	60
Hoop Stress:	22406.4	@Node	30
Max Stress Intensity:	91949.0	@Node	90

CODE STRESS CHECK PASSED : LOADCASE 23 (OCC) L23=L18+L8

Highest Stresses: (KPa)	LOADCASE 23 (OCC) L23=L18+L8		
Ratio (%):	36.4	@Node	180
Code Stress:	60810.0	Allowable Stress:	166972.5
Axial Stress:	11558.3	@Node	80
Bending Stress:	84012.4	@Node	90
Torsion Stress:	4875.0	@Node	60
Hoop Stress:	22406.4	@Node	30
Max Stress Intensity:	84057.7	@Node	90

CODE STRESS CHECK PASSED : LOADCASE 24 (OCC) L24=L19+L8

Highest Stresses: (KPa)	LOADCASE 24 (OCC) L24=L19+L8		
Ratio (%):	37.5	@Node	180
Code Stress:	62625.1	Allowable Stress:	166972.5
Axial Stress:	10739.3	@Node	70
Bending Stress:	84538.3	@Node	90
Torsion Stress:	4091.2	@Node	60
Hoop Stress:	22406.4	@Node	30
Max Stress Intensity:	84547.9	@Node	90

CODE STRESS CHECK PASSED : LOADCASE 25 (EXP) L25=L2-L8

Highest Stresses: (KPa)	LOADCASE 25 (EXP) L25=L2-L8		
Ratio (%):	9.0	@Node	50
Code Stress:	27600.3	Allowable Stress:	305204.1
Axial Stress:	294.3	@Node	80
Bending Stress:	27362.1	@Node	50
Torsion Stress:	8939.3	@Node	20
Hoop Stress:	0.0	@Node	20
Max Stress Intensity:	73224.0	@Node	50

CODE STRESS CHECK PASSED : LOADCASE 26 (EXP) L26=L4-L8

Highest Stresses: (KPa) LOADCASE 26 (EXP) L26=L4-L8

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement

Various Load Cases

Ratio (%):	4.9	@Node	50	
Code Stress:	15680.5	Allowable Stress:		319851.3
Axial Stress:	176.2	@Node	80	
Bending Stress:	15546.2	@Node	50	
Torsion Stress:	4964.5	@Node	20	
Hoop Stress:	0.0	@Node	20	
Max Stress Intensity:	41600.7	@Node	50	

CODE STRESS CHECK PASSED : LOADCASE 27 (EXP) L27=L2-L4

Highest Stresses: (KPa)	LOADCASE 27 (EXP) L27=L2-L4			
Ratio (%):	3.9	@Node	50	
Code Stress:	11943.8	Allowable Stress:		304411.4
Axial Stress:	122.1	@Node	68	
Bending Stress:	11840.0	@Node	50	
Torsion Stress:	3974.8	@Node	20	
Hoop Stress:	0.0	@Node	20	
Max Stress Intensity:	31687.0	@Node	50	

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

- 1 (HYD) WW+HP
- 2 (OPE) W+T1+P1
- 3 (Alt-SUS) W+P1
- 4 (OPE) W+T2+P1
- 5 (Alt-SUS) W+P1
- 6 (OPE) W+T3+P1
- 7 (Alt-SUS) W+P1
- 8 (SUS) W+P1
- 9 (SUS) WNC
- 10 (OPE) W+T2+P1+U1
- 11 (OPE) W+T2+P1-U1
- 12 (OPE) W+T2+P1+U2
- 13 (OPE) W+T2+P1+U3
- 14 (OPE) W+T2+P1-U3
- 15 (OCC) L15=L10-L4
- 16 (OCC) L16=L11-L4
- 17 (OCC) L17=L12-L4
- 18 (OCC) L18=L13-L4
- 19 (OCC) L19=L14-L4
- 20 (OCC) L20=L15+L8
- 21 (OCC) L21=L16+L8
- 22 (OCC) L22=L17+L8
- 23 (OCC) L23=L18+L8
- 24 (OCC) L24=L19+L8
- 25 (EXP) L25=L2-L8
- 26 (EXP) L26=L4-L8
- 27 (EXP) L27=L2-L4

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NOZZLE CHECK REPORT: Nozzle Loads Screening
Various Load Cases

LOAD CASE DEFINITION KEY

CASE 2 (OPE) W+T1+P1
CASE 4 (OPE) W+T2+P1
CASE 6 (OPE) W+T3+P1
CASE 8 (SUS) W+P1
CASE 9 (SUS) WNC

Report Contains No Data to Display

BNK-GCS-CN-035

Table of contents:

Line no.

Stress sketch

Input echo

Restraint summary

Stress summary

Nozzle load Table

LINE NO.:

1.GAS-111-0031A-AN05-8"-ET

2.GAS-111-0036A-CN05-6"-PT

3.GAS-111-0032A-CN05-2"-PT

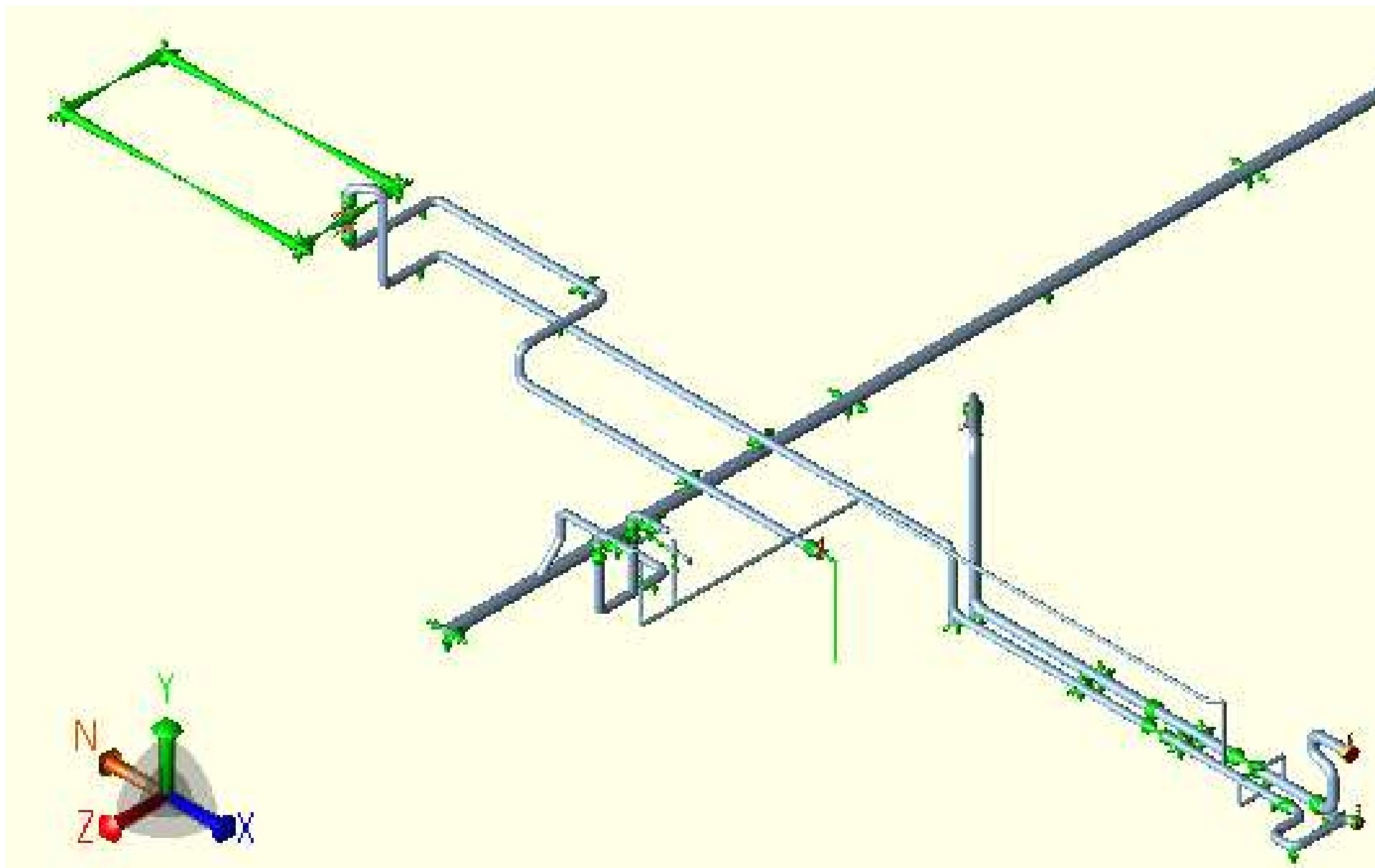
4.GAS-111-0033A-CN05-2"-PT

5.FL-112-0015A-AN07-2"-PT

6.FL-112-0014A-AN07-6"-PT

7.FL-112-0016A-AN07-6"-PT

8.GAS-111-0037A-CS00-6"-NP



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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

1 (HGR) CASE NOT ACTIVE
2 (HGR) CASE NOT ACTIVE
3 (HYD) WW+HP+H
4 (OPE) W+T1+P1+H
5 (Alt-SUS) W+P1+H
6 (OPE) W+T2+P1+H
7 (Alt-SUS) W+P1+H
8 (OPE) W+T3+P1+H
9 (Alt-SUS) W+P1+H
10 (OPE) W+T4+P1+H
11 (Alt-SUS) W+P1+H
12 (SUS) W+P1+H
13 (SUS) WNC+H
14 (OPE) W+T1+P1+H+U1
15 (OPE) W+T1+P1+H-U1
16 (OPE) W+T1+P1+H+U2
17 (OPE) W+T1+P1+H+U3
18 (OPE) W+T1+P1+H-U3
19 (OPE) W+T1+P1+H+F1
20 (OPE) W+T1+P1+H+F2
21 (OCC) L21=L14-L4
22 (OCC) L22=L15-L4
23 (OCC) L23=L16-L4
24 (OCC) L24=L17-L4
25 (OCC) L25=L18-L4
26 (OCC) L26=L19-L4
27 (OCC) L27=L20-L4
28 (OCC) L28=L21+L11
29 (OCC) L29=L22+L11
30 (OCC) L30=L23+L11
31 (OCC) L31=L24+L11
32 (OCC) L32=L25+L11
33 (OCC) L33=L26+L11
34 (OCC) L34=L27+L11
35 (EXP) L35=L4-L11
36 (EXP) L36=L6-L11
37 (EXP) L37=L8-L11
38 (EXP) L38=L6-L8
39 (OPE) L39=L4, L6, L8
40 (OCC) L40=L21, L22, L23, L24

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Job Description:

PROJECT:

CLIENT :

ANALYST:

NOTES :

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INPUT LISTING

File created by FEATools

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PIPE DATA

From 20 To 40 DX= -.105 m.

PIPE

Dia= 21.907 cm. Wall= .635 cm. Cor= .3000 cm.

Element Name= FLANGE_FLG_150

GENERAL

T1= 20 C T2= 85 C T3= 21 C P1= 900.0205 KPa PHyd= 1,350.0308 KPa

Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 203,452,944 KPa

EH2= 199,086,608 KPa EH3= 203,401,232 KPa EH4= 203,401,232 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000058 kg./cu.cm.

Insul Thk= .000 cm. Insul Den= .0000000 kg./cu.cm.

RIGID Weight= 177.93 N.

RESTRAINTS

Node 20 ANC

UNIFORM LOAD

Vector1 in G-s X1 Dir = .26 g's Y1 Dir = .00 g's Z1 Dir = .00 g's

Vector2 in G-s X2 Dir = .00 g's Y2 Dir = .12 g's Z2 Dir = .00 g's

Vector3 in G-s X3 Dir = .00 g's Y3 Dir = .00 g's Z3 Dir = .26 g's

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

EQUIPMENT LIMITS

Nozzle Node = 20 Limiting Loads: A=pipe; B=ref; C=AxB; FA= 9,600.48 N.

FB= 9,600.48 N. FC= 7,200.36 N. MA= 5,760.24 N.m. MB= 3,840.16 N.m.

MC= 4,990.21 N.m. Equipment Major Direction Vector= .0000 1.0000 .0000

Interact. Mtd= Absolute

From 40 To 60 DX= -1.065 m.

BEND at "TO" end

Radius= 30.480 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 59

Angle/Node @2= .00 58

From 60 To 80 DY= -.610 m.

BEND at "TO" end

Radius= 30.480 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 79

From 80 To 100 DX= .610 m.

BEND at "TO" end

Radius= 30.480 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 99

From 100 To 120 DY= -.871 m.

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INPUT LISTING

From 120 To 140 DY= -.305 m.

RIGID Weight= .00 N.

From 140 To 160 DY= -.200 m.

PIPE

Dia= 16.827 cm. Wall= .711 cm.

GENERAL

T1= 21 C T2= 21 C P1= .0000 KPa PHyd= .0000 KPa

Fluid Den= .0000000 kg./cu.cm. Insul Thk= .000 cm.

RESTRAINTS

Node 160 -X Mu = .30

Node 160 Z

Node 121 +Y Mu = .10

Node 160 X Cnode 121

HANGERS

Hanger Node = 160 Hanger Connecting Node = 121

Available Space = -100.0000 cm. Allowed Load Variation = 25.0000

No. Hangers = 0.0 Short Range Flag = -1 User Operating Load = .00 N.

Free Node = 0 Free Node = 0 Free Code = 0.0 Spring Rate = .00 N./cm.

Theoretical Cold Load = .00 N.

SIF's & TEE's

Node 140 Unreinforced Tee

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 120 To 180 DY= -.305 m.

PIPE

Dia= 21.907 cm. Wall= .635 cm.

GENERAL

T1= 36 C T2= 85 C P1= 900.0205 KPa PHyd= 1,350.0308 KPa

Fluid Den= .0000058 kg./cu.cm. Insul Thk= .000 cm.

DOUBLE FLANGED BEND at "TO" end

Radius= 30.480 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 179

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 180 To 200 DX= -.305 m.

From 200 To 220 DX= -.105 m.

Element Name= FLANGE_FLG_300

RIGID Weight= 177.93 N.

From 220 To 240 DX= -.105 m.

Element Name= FLANGE_FLG_300

RIGID Weight= 177.93 N.

From 240 To 260 DX= -.700 m.

From 260 To 280 DX= -.248 m.

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INPUT LISTING

SIF's & TEE's

Node 280 Weldolet

From 280 To 300 DX= -.500 m.

RESTRAINTS

Node 300 +Y Mu = .30

From 300 To 320 DX= -.200 m.

From 320 To 340 DX= -.105 m.

Element Name= FLANGE_FLG_300

RIGID Weight= 177.93 N.

From 340 To 360 DX= -.573 m.

Element Name= GATE_NOFLG_300

RIGID Weight= 1,023.41 N.

From 360 To 380 DX= -.105 m.

Element Name= FLANGE_FLG_300

RIGID Weight= 177.93 N.

From 380 To 400 DX= -1.000 m.

RESTRAINTS

Node 400 Y Mu = .30

Node 400 Z

From 400 To 420 DX= -1.288 m.

From 420 To 440 DX= -.105 m.

Element Name= FLANGE_FLG_300

RIGID Weight= 177.93 N.

From 440 To 460 DX= -.105 m.

Element Name= FLANGE_FLG_300

RIGID Weight= 177.93 N.

From 460 To 480 DX= -1.500 m.

RESTRAINTS

Node 480 Y Mu = .30

Node 480 Z

From 480 To 500 DX= -3.805 m.

SINGLE FLANGED BEND at "TO" end

Radius= 30.480 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 499

Angle/Node @2= .00 498

From 500 To 520 DY= .305 m.

From 520 To 540 DY= -.305 m.

RIGID Weight= .00 N.

From 540 To 560 DY= -.300 m.

PIPE

Dia= 16.827 cm. Wall= .711 cm.

GENERAL

T1= 21 C T2= 21 C P1= .0000 KPa PHyd= .0000 KPa

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INPUT LISTING

Fluid Den= .0000000 kg./cu.cm. Insul Thk= .000 cm.

RESTRAINTS

Node 560 +Y Mu = .30

Node 560 Z

SIF's & TEE's

Node 540 Unreinforced Tee

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 520 To 580 DY= 3.935 m.

PIPE

Dia= 21.907 cm. Wall= .635 cm.

GENERAL

T1= 36 C T2= 85 C P1= 900.0205 KPa PHyd= 1,350.0308 KPa

Fluid Den= .0000058 kg./cu.cm. Insul Thk= .000 cm.

BEND at "TO" end

Radius= 30.480 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 579

Angle/Node @2= .00 578

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 580 To 600 DX= -.354 m. DZ= -.354 m.

From 600 To 620 DX= -.354 m. DZ= -.354 m.

From 620 To 640 DY= -.084 m.

RIGID Weight= .00 N.

From 640 To 660 DY= -.300 m.

PIPE

Dia= 11.430 cm. Wall= .602 cm.

GENERAL

T1= 21 C T2= 21 C P1= .0000 KPa PHyd= .0000 KPa

Fluid Den= .0000000 kg./cu.cm. Insul Thk= .000 cm.

RESTRAINTS

Node 660 +Y Cnode 800 Mu = .30

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 620 To 680 DX= -.543 m. DZ= -.543 m.

PIPE

Dia= 21.907 cm. Wall= .635 cm.

GENERAL

T1= 36 C T2= 85 C P1= 900.0205 KPa PHyd= 1,350.0308 KPa

Fluid Den= .0000058 kg./cu.cm. Insul Thk= .000 cm.

BEND at "TO" end

Radius= 30.480 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 679

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Angle/Node @2= .00 678

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 680 To 700 DY= -.305 m.

 From 700 To 720 DY= -.105 m.

Element Name= FLANGE_FLG_300

RIGID Weight= 177.93 N.

RESTRAINTS

Node 720 ANC Cnode 740

 From 740 To 760 DY= -.105 m.

Element Name= FLANGE_FLG_300

RIGID Weight= 177.93 N.

 From 760 To 780 DY= -.181 m.

RESTRAINTS

Node 780 ANC Cnode 820

EQUIPMENT LIMITS

Nozzle Node = 780 Limiting Loads: A=pipe; B=ref; C=AxB; FA= 9,600.48 N.
 FB= 9,600.48 N. FC= 7,200.36 N. MA= 5,760.24 N.m. MB= 3,840.16 N.m.
 MC= 4,990.21 N.m. Equipment Major Direction Vector= .0000 .0000 1.0000
 Interact. Mtd= Absolute

 From 780 To 800 DX= .543 m. DY= .313 m. DZ= .543 m.

RIGID Weight= .00 N.

 From 820 To 840 DY= -3.065 m.

PIPE

Dia= 91.440 cm. Wall= 1.500 cm.

GENERAL

Mat= (383)A516 70 E= 203,401,232 KPa EH1= 202,155,536 KPa
 EH2= 199,086,608 KPa EH3= 203,401,232 KPa EH4= 203,401,232 KPa
 EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa
 EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292
 Pipe Den= .0078334 kg./cu.cm. Insul Thk= .000 cm.

RIGID Weight= .00 N.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 160,648 KPa
 Sh1= 160,648 KPa Sh2= 160,062 KPa Sh3= 160,648 KPa Sh4= 160,648 KPa
 Sh5= 160,648 KPa Sh6= 160,648 KPa Sh7= 160,648 KPa Sh8= 160,648 KPa
 Sh9= 160,648 KPa Sy= 262,001 KPa

 From 840 To 860 DY= -1.200 m.

PIPE

Dia= 91.440 cm. Wall= 1.200 cm.

Insul Thk= .000 cm.

RIGID Weight= .00 N.

RESTRAINTS

Node 860 ANC

 From 280 To 880 DY= .743 m.

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PIPE

Dia= 6.032 cm. Wall= .874 cm.

GENERAL

Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 202,155,536 KPa

EH2= 199,086,608 KPa EH3= 203,401,232 KPa EH4= 203,401,232 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm. Insul Thk= .000 cm.

BEND at "TO" end

Radius= 7.620 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 879

Angle/Node @2= .00 878

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 880 To 900 DZ= .510 m.

From 900 To 910 DZ= .067 m.

Element Name= BALL_FLG_600

GENERAL

T1= 125 C T2= 155 C P1= 1,900.0433 KPa PHyd= 3,300.0752 KPa

Fluid Den= .0000430 kg./cu.cm.

RIGID Weight= 31.14 N.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,819 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 910 To 920 DZ= .301 m.

RIGID Weight= 66.72 N.

From 920 To 930 DZ= .275 m.

PIPE

Dia= 6.032 cm. Wall= .554 cm. Element Name= CHECK_FLG_150

GENERAL

P1= 2,200.0500 KPa Fluid Den= .0000154 kg./cu.cm. Insul Thk= .000 cm.

RIGID Weight= 355.86 N.

From 930 To 940 DZ= .073 m.

RIGID Weight= 44.48 N.

From 940 To 960 DZ= .077 m.

SINGLE FLANGED BEND at "TO" end

Radius= 7.620 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 959

Angle/Node @2= .00 958

From 960 To 980 DY= -.652 m.

BEND at "TO" end

Radius= 7.620 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 979

Angle/Node @2= .00 978

From 980 To 1000 DZ= -.077 m.

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From 1000 To 1020 DZ= -.621 m.
  Element Name= CHECK_FLG_600
-----
From 1020 To 1040 DX= .300 m.
PIPE
  Dia= 16.827 cm. Wall= .711 cm.
GENERAL
  Fluid Den= .0000154 kg./cu.cm. Insul Thk= .000 cm.
RESTRAINTS
  Node 1040 +Y Mu = .30
ALLOWABLE STRESSES
  B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
  Sh1= 137,895 KPa Sh2= 137,819 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
  Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
  Sh9= 137,895 KPa Sy= 241,316 KPa
-----
From 1040 To 1060 DX= .318 m.
-----
From 1060 To 1080 DX= .102 m.
  Element Name= FLG.PR_FLG_150
RIGID Weight= 191.27 N.
-----
From 1080 To 1100 DX= .102 m.
  Element Name= FLG.PR_FLG_150
RIGID Weight= 191.27 N.
-----
From 1100 To 1120 DX= .390 m.
BEND at "TO" end
  Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1119
  Angle/Node @2= .00 1118
-----
From 1120 To 1140 DZ= 1.000 m.
BEND at "TO" end
  Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1139
  Angle/Node @2= .00 1138
-----
From 1140 To 1160 DX= .466 m.
-----
From 1160 To 1180 DX= .233 m.
BEND at "TO" end
  Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1179
  Angle/Node @2= .00 1178
RESTRAINTS
  Node 1180 -X Mu = .30
  Node 1180 +Y Mu = .30
-----
From 1180 To 1200 DZ= -1.600 m.
BEND at "TO" end
  Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1199
  Angle/Node @2= .00 1198
-----
From 1200 To 1220 DX= .229 m.
-----
From 1220 To 1240 DX= .102 m.
  Element Name= FLANGE_FLG_600
RIGID Weight= 191.27 N.

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RESTRAINTS

Node 1240 ANC

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,819 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

EQUIPMENT LIMITS

Nozzle Node = 1240

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 7,200.36 N. FB= 7,200.36 N.

FC= 5,400.27 N. MA= 3,240.14 N.m. MB= 2,160.09 N.m. MC= 2,810.12 N.m.

Equipment Major Direction Vector= .0000 1.0000 .0000

Interact. Mtd= Absolute

From 1020 To 1260 DX= -1.208 m.

SIF's & TEE's

Node 1260 Weldolet

From 1260 To 1280 DX= -1.275 m.

RESTRAINTS

Node 1280 Y Mu = .30

Node 1280 Z

From 1280 To 1300 DX= -.368 m.

From 1300 To 1320 DX= -.102 m.

Element Name= FLANGE_FLG_600

RIGID Weight= 191.27 N.

From 1320 To 1340 DX= -.453 m.

Element Name= CHECK_NOFLG_600

RIGID Weight= 1,850.46 N.

From 1340 To 1360 DX= -.102 m.

Element Name= FLANGE_NOFLG_600

RIGID Weight= 191.27 N.

From 1360 To 1380 DX= -1.973 m.

RESTRAINTS

Node 1380 Y Mu = .30

Node 1380 Z

From 1380 To 1400 DX= -3.826 m.

SINGLE FLANGED BEND at "TO" end

Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1399

Angle/Node @2= .00 1398

From 1400 To 1420 DY= .229 m.

From 1420 To 1440 DY= -.229 m.

RIGID Weight= .00 N.

From 1440 To 1460 DY= -.300 m.

PIPE

Dia= 11.430 cm. Wall= .602 cm.

GENERAL

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T1= 21 C T2= 21 C P1= .0000 KPa PHyd= .0000 KPa
 Fluid Den= .0000000 kg./cu.cm. Insul Thk= .000 cm.

RESTRAINTS

Node 1460 +Y Mu = .30
 Node 1460 Z

SIF's & TEE's

Node 1440 Unreinforced Tee

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 1420 To 1480 DY= 1.455 m.

PIPE

Dia= 16.827 cm. Wall= 1.097 cm.

GENERAL

T1= 125 C T2= 155 C P1= 1,900.0433 KPa PHyd= 3,300.0752 KPa
 Fluid Den= .0000154 kg./cu.cm. Insul Thk= 4.000 cm.

BEND at "TO" end

Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1479
 Angle/Node @2= .00 1478

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,819 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 1480 To 1500 DX= -5.760 m.

RESTRAINTS

Node 1500 +Y
 Node 1500 Z

 From 1500 To 1520 DX= -6.000 m.

RESTRAINTS

Node 1520 +Y Mu = .30

 From 1520 To 1540 DX= -3.570 m.

BEND at "TO" end

Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1539
 Angle/Node @2= .00 1538

 From 1540 To 1560 DZ= .600 m.

RESTRAINTS

Node 1560 +Y Mu = .30

 From 1560 To 1580 DZ= 1.117 m.

BEND at "TO" end

Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1579
 Angle/Node @2= .00 1578

 From 1580 To 1600 DY= 2.487 m.

BEND at "TO" end

Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1599
 Angle/Node @2= .00 1598

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From 1600 To 1620 DX= -.618 m. DZ= .432 m.
BEND at "TO" end
  Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1619
  Angle/Node @2= .00 1618
-----
From 1620 To 1640 DY= -.229 m.
-----
From 1640 To 1660 DY= -.102 m.
  Element Name= FLANGE_NOFLG_600
RIGID Weight= 191.27 N.
-----
From 1660 To 1680 DY= -.102 m.
  Element Name= FLANGE_NOFLG_600
RIGID Weight= 191.27 N.
-----
From 1680 To 1700 DY= -.127 m.
RESTRAINTS
  Node 1700 ANC Cnode 1720
EQUIPMENT LIMITS
  Nozzle Node = 1700
  Limiting Loads: A=pipe; B=ref; C=AxB; FA= 15,090.75 N. FB= 15,090.75 N.
  FC= 12,000.60 N. MA= 9,150.39 N.m. MB= 4,890.21 N.m. MC= 6,420.27 N.m.
  Equipment Major Direction Vector= .0000 .0000 1.0000
  Interact. Mtd= Absolute
-----
From 1720 To 1740 DY= -.240 m.
GENERAL
  P1= 2,200.0500 KPa
RIGID Weight= .00 N.
-----
From 1740 To 1760 DY= -.240 m.
RIGID Weight= .00 N.
-----
From 1780 To 1800 DY= -.127 m.
GENERAL
  T1= 60 C
RESTRAINTS
  Node 1780 ANC Cnode 1760
ALLOWABLE STRESSES
  B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
  Sh1= 137,895 KPa Sh2= 137,819 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
  Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
  Sh9= 137,895 KPa Sy= 241,316 KPa
EQUIPMENT LIMITS
  Nozzle Node = 1780
  Limiting Loads: A=pipe; B=ref; C=AxB; FA= 15,090.75 N. FB= 15,090.75 N.
  FC= 12,000.60 N. MA= 9,150.39 N.m. MB= 4,890.21 N.m. MC= 6,420.27 N.m.
  Equipment Major Direction Vector= .0000 .0000 1.0000
  Interact. Mtd= Absolute
-----
From 1800 To 1820 DY= -.102 m.
  Element Name= FLANGE_NOFLG_150
RIGID Weight= 191.27 N.
-----
From 1740 To 1840 DZ= 1.500 m.
GENERAL

```

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T1= 142 C    T2= 175 C
RIGID Weight= 2,250.11 N.
RESTRAINTS
  Node 1840 Y Mu = .10
  Node 1840 X Mu = .30
  Node 1840 Z Gap= .600 cm.
ALLOWABLE STRESSES
  B31.3 (2016)      Cycle Max Switch = --- Sc= 137,895 KPa
  Sh1= 137,895 KPa  Sh2= 137,571 KPa  Sh3= 137,895 KPa  Sh4= 137,895 KPa
  Sh5= 137,895 KPa  Sh6= 137,895 KPa  Sh7= 137,895 KPa  Sh8= 137,895 KPa
  Sh9= 137,895 KPa  Sy= 241,316 KPa
-----
From 1840 To 1860 DX= -7.035 m.
RIGID Weight=10,500.52 N.
RESTRAINTS
  Node 1860 Y Mu = .10
  Node 1860 Z Gap= .600 cm. Mu = .30
-----
From 1860 To 1880 DZ= -3.000 m.
RIGID Weight= 4,500.22 N.
RESTRAINTS
  Node 1880 Y Mu = .10
  Node 1880 Z Gap= .600 cm.
-----
From 1880 To 1900 DX= 7.035 m.
RIGID Weight=10,500.52 N.
RESTRAINTS
  Node 1900 Y Mu = .10
  Node 1900 X
  Node 1900 Z Gap= .600 cm.
-----
From 1900 To 1740 DZ= 1.500 m.
RIGID Weight= 2,250.11 N.
-----
From 1820 To 1920 DY= -.102 m.
PIPE
  Dia= 16.827 cm. Wall= .340 cm. Cor= .0000 cm.
  Element Name= FLANGE_NOFLG_150
GENERAL
  T1= 60 C    T2= 155 C    Mat= (165)A312 TP316L    E= 195,127,520 KPa
  EH1= 192,364,096 KPa  EH2= 185,780,080 KPa  EH3= 195,127,520 KPa
  EH4= 195,127,520 KPa  EH5= 195,127,520 KPa  EH6= 195,127,520 KPa
  EH7= 195,127,520 KPa  EH8= 195,127,520 KPa  EH9= 195,127,520 KPa
  v = .292 Pipe Den= .0080272 kg./cu.cm. Fluid Den= .0000183 kg./cu.cm.
  Insul Thk= .000 cm.
RIGID Weight= 191.27 N.
ALLOWABLE STRESSES
  B31.3 (2016)      Cycle Max Switch = --- Sc= 115,142 KPa
  Sh1= 115,142 KPa  Sh2= 114,386 KPa  Sh3= 115,142 KPa  Sh4= 115,142 KPa
  Sh5= 115,142 KPa  Sh6= 115,142 KPa  Sh7= 115,142 KPa  Sh8= 115,142 KPa
  Sh9= 115,142 KPa  Sy= 172,369 KPa
-----
From 1920 To 1940 DY= -.229 m.
GENERAL
  P1= 2,200.0500 KPa Fluid Den= .0000183 kg./cu.cm.
SINGLE FLANGED BEND at "TO" end

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      Radius= 22.860 cm. (LONG)      Bend Angle= 89.714      Angle/Node @1= 44.86 1939
-----
From 1940 To 1960 DY= -.011 m.  DZ= -2.257 m.
RESTRAINTS
      Node 1960 +Y Mu = .30
-----
From 1960 To 1980 DY= -.002 m.  DZ= -.350 m.
BEND at "TO" end
      Radius= 22.860 cm. (LONG)      Bend Angle= 90.000      Angle/Node @1= 45.00 1979
      Angle/Node @2= .00 1978
-----
From 1980 To 2000 DX= 4.441 m.
RESTRAINTS
      Node 2000 +Y Mu = .30
      Node 2000 Z Gap= .300 cm. Mu = .30
-----
From 2020 To 2030 DZ= -1.560 m.
PIPE
      Dia= 27.305 cm. Wall= .927 cm. Cor= .6000 cm.
GENERAL
      T1= 30 C T2= 85 C T4= 200 C P1= 550.0125 KPa PHyd= 825.0188 KPa
      Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 202,660,192 KPa
      EH2= 199,086,608 KPa EH3= 203,401,232 KPa EH4= 191,317,008 KPa
      EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa
      EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292
      Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000015 kg./cu.cm.
      Insul Thk= .000 cm.
SIF's & TEE's
      Node 2020 <No Type Specified> SIF(in)= 2.080 SIF(out)= 2.460
ALLOWABLE STRESSES
      B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
      Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,261 KPa
      Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
      Sh9= 137,895 KPa Sy= 241,316 KPa
-----
From 2030 To 2040 DZ= -3.313 m.
RESTRAINTS
      Node 2040 +Y Mu = .30
-----
From 2020 To 2060 DZ= 1.126 m.
RESTRAINTS
      Node 2060 +Y Mu = .30
      Node 2060 X Gap= .300 cm. Mu = .30
      Node 2060 Z
SIF's & TEE's
      Node 2020 <No Type Specified> SIF(in)= 2.080 SIF(out)= 2.460
-----
From 1260 To 2140 DY= 1.780 m.
PIPE
      Dia= 6.032 cm. Wall= .874 cm. Cor= .3000 cm.
GENERAL
      T1= 125 C T2= 155 C T4= 21 C P1= 2,200.0500 KPa PHyd= 3,300.0752 KPa
      Fluid Den= .0000154 kg./cu.cm. Insul Thk= .000 cm.
BEND at "TO" end
      Radius= 7.620 cm. (LONG)      Bend Angle= 90.000      Angle/Node @1= 45.00 2139
      Angle/Node @2= .00 2138

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ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,819 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 2140 To 2160 DX= -.240 m. DZ= .240 m.

BEND at "TO" end

Radius= 7.620 cm. (LONG) Bend Angle= 45.000 Angle/Node @1= 22.50 2159
 Angle/Node @2= .00 2158

 From 2160 To 2180 DX= -4.032 m.

RESTRAINTS

Node 2180 +Y
 Node 2180 Z Gap= .300 cm.

 From 2180 To 2190 DX= -6.000 m.

RESTRAINTS

Node 2190 +Y Mu = .30

 From 2190 To 2200 DX= -.388 m.

BEND at "TO" end

Radius= 7.620 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 2199
 Angle/Node @2= .00 2198

 From 2200 To 2220 DZ= 2.350 m.

RESTRAINTS

Node 2220 +Y Mu = .30
 Node 2220 X Gap= .300 cm.

 From 2220 To 2280 DZ= 3.176 m.

SIF's & TEE's

Node 2280 Welding Tee

 From 2280 To 2290 DX= .000 m. DZ= .500 m.

 From 2280 To 2320 DY= .190 m.

RESTRAINTS

Node 2320 +Y

 From 2320 To 2330 DY= .738 m.

SIF's & TEE's

Node 2330 Welding Tee

 From 2330 To 2340 DY= .086 m.

 From 2340 To 2346 DY= .073 m.

Element Name= GATE_FLG_600

RIGID Weight= 44.48 N.

 From 2346 To 2352 DY= .212 m.

RIGID Weight= 258.00 N.

 From 2352 To 2360 DY= .073 m.

RIGID Weight= 44.48 N.

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INPUT LISTING

From 2360 To 2380 DY= .250 m.

From 2380 To 2400 DY= .090 m.

REDUCER

Diam2= 4.826 cm. Wall2= .714 cm.

From 2400 To 2410 DY= .071 m.

PIPE

Dia= 4.826 cm. Wall= .714 cm.

Insul Thk= .000 cm.

RIGID Weight= 40.03 N.

From 2410 To 2420 DY= .067 m.

RIGID Weight= 50.00 N.

FORCES & MOMENTS

Node 2420 FY1= 1,000.05 N. FZ1= -2,000.10 N.

From 2420 To 2430 DX= -.046 m. DZ= .000 m.

PIPE

Dia= 8.890 cm. Wall= .762 cm.

Insul Thk= .000 cm.

RIGID Weight= 71.17 N.

From 2430 To 2440 DX= -.082 m. DZ= .000 m.

RIGID Weight= 71.17 N.

From 2440 To 2460 DX= -.073 m.

PIPE

Cor= .6000 cm. Element Name= FLANGE_FLG_150

GENERAL

T1= 30 C T2= 85 C T3= 21 C T4= 200 C P1= 750.0171 KPa

Phyd= 825.0188 KPa Fluid Den= .0000015 kg./cu.cm.

RIGID Weight= 54.49 N.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,261 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 2460 To 2480 DX= -.140 m. DY= -.040 m.

REDUCER

Diam2= 16.827 cm. Wall2= 1.097 cm.

From 2480 To 2500 DX= -.354 m.

PIPE

Dia= 16.827 cm. Wall= 1.097 cm.

Insul Thk= .000 cm.

RESTRAINTS

Node 2500 +Y Mu = .30

Node 2500 Z

Node 2500 X

From 2500 To 2520 DX= -.583 m. DZ= .000 m.

SINGLE FLANGED BEND at "TO" end

Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 2519

Angle/Node @2= .00 2518

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INPUT LISTING

 From 2520 To 2540 DY= -.229 m.

From 2540 To 2546 DY= -.092 m.
 Element Name= BALL_FLG_150
 RIGID Weight= 111.21 N.

From 2546 To 2552 DY= -.276 m.
 RIGID Weight= 1,005.30 N.

From 2552 To 2560 DY= -.092 m.
 RIGID Weight= 111.21 N.

From 2560 To 2570 DY= -.194 m.

From 2570 To 2580 DY= -1.208 m.
 SIF's & TEE's
 Node 2580 Welding Tee

From 2580 To 2600 DX= .000 m. DZ= -.680 m.
 RESTRAINTS
 Node 2600 +Y Mu = .30

From 2290 To 2300 DZ= .500 m.
 PIPE

Dia= 6.032 cm. Wall= .554 cm. Cor= .3000 cm.
 GENERAL
 T1= 125 C T2= 155 C T4= 21 C P1= 2,200.0500 KPa PHyd= 3,300.0752 KPa
 Fluid Den= .0000154 kg./cu.cm. Insul Thk= .000 cm.
 BEND at "TO" end
 Radius= 7.620 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 2301
 Angle/Node @2= .00 2302

ALLOWABLE STRESSES
 B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,819 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

From 2300 To 2620 DY= .190 m.

PIPE
 Dia= 6.032 cm. Wall= .874 cm. Cor= .3000 cm.

GENERAL
 T1= 125 C T2= 155 C P1= 2,200.0500 KPa PHyd= 3,300.0752 KPa
 Fluid Den= .0000154 kg./cu.cm. Insul Thk= .000 cm.

RESTRAINTS
 Node 2620 +Y

ALLOWABLE STRESSES
 B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,819 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

From 2620 To 2640 DY= .823 m.

From 2640 To 2646 DY= .073 m.
 Element Name= GATE_FLG_600

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INPUT LISTING

RIGID Weight= 44.48 N.

 From 2646 To 2652 DY= .212 m.

RIGID Weight= 258.00 N.

 From 2652 To 2660 DY= .073 m.

RIGID Weight= 44.48 N.

 From 2660 To 2680 DY= .250 m.

 From 2680 To 2700 DY= .059 m.

REDUCER

Diam2= 4.826 cm. Wall2= .714 cm.

 From 2700 To 2710 DY= .071 m.

PIPE

Dia= 4.826 cm. Wall= .714 cm.

Insul Thk= .000 cm.

RIGID Weight= 40.03 N.

 From 2710 To 2720 DY= .064 m.

RIGID Weight= 80.07 N.

FORCES & MOMENTS

Node 2720 FX2= 2,000.10 N. FY2= 1,000.05 N. FZ2= .00 N.

 From 2720 To 2730 DX= -.046 m.

PIPE

Dia= 8.890 cm. Wall= .549 cm.

Insul Thk= .000 cm.

RIGID Weight= 71.17 N.

 From 2730 To 2740 DX= -.083 m.

RIGID Weight= 71.17 N.

 From 2740 To 2760 DX= -.073 m. DZ= .000 m.

PIPE

Dia= 8.890 cm. Wall= .762 cm. Cor= .6000 cm.

Element Name= FLANGE_FLG_150

GENERAL

T1= 30 C T2= 85 C T3= 21 C T4= 200 C P1= 550.0125 KPa

PHyd= 825.0188 KPa Fluid Den= .0000015 kg./cu.cm. Insul Thk= .000 cm.

RIGID Weight= 54.49 N.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,261 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

 From 2760 To 2780 DX= -.140 m. DY= -.040 m.

REDUCER

Diam2= 16.827 cm. Wall2= 1.097 cm.

 From 2780 To 2800 DX= -.354 m. DZ= .000 m.

PIPE

Dia= 16.827 cm. Wall= 1.097 cm.

Insul Thk= .000 cm.

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INPUT LISTING

RESTRAINTS

Node 2800 +Y
 Node 2800 Z
 Node 2800 X

 From 2800 To 2820 DX= -.583 m.

SINGLE FLANGED BEND at "TO" end

Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 2819
 Angle/Node @2= .00 2818

 From 2820 To 2840 DY= -.229 m.

 From 2840 To 2846 DY= -.092 m.

Element Name= BALL_FLG_150

RIGID Weight= 111.21 N.

 From 2846 To 2852 DY= -.276 m.

RIGID Weight= 1,005.30 N.

 From 2852 To 2860 DY= -.092 m.

RIGID Weight= 111.21 N.

 From 2860 To 2880 DY= -1.402 m.

BEND at "TO" end

Radius= 22.860 cm. (LONG) Bend Angle= 92.005 Angle/Node @1= 46.00 2879
 Angle/Node @2= .00 2878

 From 2880 To 2580 DX= .001 m. DY= .035 m. DZ= -1.000 m.

 From 2600 To 2920 DZ= -.379 m.

BEND at "TO" end

Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 2919
 Angle/Node @2= .00 2918

 From 2920 To 2940 DX= -3.185 m. DY= -.006 m.

BEND at "TO" end

Radius= 22.860 cm. (LONG) Bend Angle= 89.885 Angle/Node @1= 44.94 2939
 Angle/Node @2= .00 2938

 From 2940 To 2980 DY= -.723 m.

BEND at "TO" end

Radius= 22.860 cm. (LONG) Bend Angle= 45.040 Angle/Node @1= 22.52 2979
 Angle/Node @2= .00 2978

 From 2980 To 2030 DY= -.710 m. DZ= .711 m.

SIF's & TEE's

Node 2030 <No Type Specified> SIF(in)= 2.660 SIF(out)= 3.160

 From 2330 To 3000 DX= .000 m. DZ= -.077 m.

PIPE

Dia= 6.032 cm. Wall= .554 cm. Cor= .3000 cm.

GENERAL

T1= 125 C T2= 155 C T4= 21 C P1= 2,200.0500 KPa PHyd= 3,300.0752 KPa

Fluid Den= .0000154 kg./cu.cm. Insul Thk= .000 cm.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

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INPUT LISTING

Sh1= 137,895 KPa Sh2= 137,819 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 3000 To 3020 DZ= -.073 m.

PIPE

Dia= 6.032 cm. Wall= .554 cm.

Insul Thk= .000 cm.

RIGID Weight= 44.48 N.

 From 3020 To 3040 DY= .000 m. DZ= -.187 m.

RIGID Weight= 209.07 N.

 From 3040 To 3060 DY= .000 m. DZ= -.073 m.

RIGID Weight= 44.48 N.

 From 3060 To 3080 DY= .000 m. DZ= -.077 m.

Element Name= BALL_FLG_600

BEND at "TO" end

Radius= 7.620 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 3079

Angle/Node @2= .00 3078

 From 3080 To 3100 DX= -.377 m. DY= .000 m.

RESTRAINTS

Node 3100 +Y Mu = .30

 From 3100 To 3120 DX= -.100 m. DZ= .000 m.

RESTRAINTS

Node 3120 X

Node 3120 Z

 From 3120 To 3140 DX= -.307 m.

 From 3140 To 3146 DX= -.073 m. DZ= .000 m.

Element Name= GLOBE_FLG_600

RIGID Weight= 44.48 N.

 From 3146 To 3152 DX= -.276 m. DZ= .000 m.

RIGID Weight= 458.17 N.

 From 3152 To 3160 DX= -.067 m. DZ= .000 m.

PIPE

Dia= 6.032 cm. Wall= .874 cm. Cor= .6000 cm.

GENERAL

T1= 30 C T2= 85 C T4= 200 C Fluid Den= .0000015 kg./cu.cm.

Insul Thk= .000 cm.

RIGID Weight= 31.14 N.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,261 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

 From 3160 To 3180 DX= -.077 m. DZ= .000 m.

PIPE

Cor= .6000 cm.

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INPUT LISTING

GENERAL

T1= 30 C T2= 85 C P1= 750.0171 KPa PHyd= 825.0188 KPa

Fluid Den= .0000015 kg./cu.cm.

BEND at "TO" end

Radius= 7.620 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 3179

Angle/Node @2= .00 3178

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,261 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

 From 3180 To 2570 DZ= .487 m.

SIF's & TEE's

Node 2570 Welding Tee

 From 2040 To 3960 DZ= -6.000 m.

PIPE

Dia= 27.305 cm. Wall= .927 cm.

Insul Thk= .000 cm.

RESTRAINTS

Node 3960 +Y Mu = .30

Node 3960 X Gap= .300 cm.

 From 3960 To 3980 DZ= -6.000 m.

RESTRAINTS

Node 3980 +Y Mu = .30

 From 3980 To 4000 DZ= -6.000 m.

RESTRAINTS

Node 4000 +Y Mu = .30

Node 4000 X Gap= .300 cm.

 From 4000 To 4020 DZ= -6.000 m.

RESTRAINTS

Node 4020 +Y Mu = .30

 From 4020 To 4040 DZ= -6.000 m.

RESTRAINTS

Node 4040 +Y Mu = .30

Node 4040 X Gap= .300 cm.

 From 4040 To 4060 DZ= -6.000 m.

RESTRAINTS

Node 4060 +Y Mu = .30

 From 4060 To 4080 DZ= -6.000 m.

RESTRAINTS

Node 4080 +Y Mu = .30

Node 4080 X Gap= .300 cm.

 From 2000 To 4100 DX= .695 m.

PIPE

Dia= 16.827 cm. Wall= .340 cm. Cor= .0000 cm.

GENERAL

T1= 60 C T2= 155 C T4= 21 C P1= 2,200.0500 KPa PHyd= 3,300.0752 KPa

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INPUT LISTING

Mat= (165)A312 TP316L E= 195,127,520 KPa EH1= 192,364,096 KPa
 EH2= 185,780,080 KPa EH3= 195,127,520 KPa EH4= 195,127,520 KPa
 EH5= 195,127,520 KPa EH6= 195,127,520 KPa EH7= 195,127,520 KPa
 EH8= 195,127,520 KPa EH9= 195,127,520 KPa v = .292
 Pipe Den= .0080272 kg./cu.cm. Fluid Den= .0000183 kg./cu.cm.
 Insul Thk= .000 cm.

BEND at "TO" end

Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 4099
 Angle/Node @2= .00 4098

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 115,142 KPa
 Sh1= 115,142 KPa Sh2= 114,386 KPa Sh3= 115,142 KPa Sh4= 115,142 KPa
 Sh5= 115,142 KPa Sh6= 115,142 KPa Sh7= 115,142 KPa Sh8= 115,142 KPa
 Sh9= 115,142 KPa Sy= 172,369 KPa

 From 4100 To 4120 DY= -.013 m. DZ= 2.602 m.

BEND at "TO" end

Radius= 22.860 cm. (LONG) Bend Angle= 89.714 Angle/Node @1= 44.86 4119
 Angle/Node @2= .00 4118

RESTRAINTS

Node 4120 +Y Mu = .30

 From 4120 To 4140 DY= -.830 m.

BEND at "TO" end

Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 4139
 Angle/Node @2= .00 4138

 From 4140 To 4160 DX= 5.050 m.

RESTRAINTS

Node 4160 +Y Mu = .30

Node 4160 Z Mu = .30

 From 4160 To 4180 DX= 3.596 m.

 From 4180 To 4200 DX= .102 m.

Element Name= FLANGE_FLG_300

RIGID Weight= 191.27 N.

RESTRAINTS

Node 4200 ANC Cnode 4220

 From 4220 To 4240 DX= .102 m.

Element Name= FLANGE_FLG_300

RIGID Weight= 191.27 N.

 From 4240 To 4260 DX= .150 m.

RESTRAINTS

Node 4260 ANC Cnode 4261

EQUIPMENT LIMITS

Nozzle Node = 4260

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 8,400.42 N. FB= 8,400.42 N.

FC= 6,300.31 N. MA= 3,780.16 N.m. MB= 2,520.11 N.m. MC= 3,280.14 N.m.

Equipment Major Direction Vector= .0000 1.0000 .0000

Interact. Mtd= Absolute

 From 4261 To 4280 DX= .459 m.

PIPE

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INPUT LISTING

Dia= 91.948 cm. Wall= 1.200 cm.

Insul Thk= .000 cm.

RIGID Weight= .00 N.

 From 4280 To 4300 DY= -1.300 m.

RIGID Weight= .00 N.

 From 4300 To 4310 DY= -1.000 m.

RIGID Weight= .00 N.

 From 4310 To 4320 DY= -.300 m.

GENERAL

T1= 21 C T2= 21 C

RIGID Weight= .00 N.

RESTRAINTS

Node 4320 ANC

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 115,142 KPa

Sh1= 115,142 KPa Sh2= 115,142 KPa Sh3= 115,142 KPa Sh4= 115,142 KPa

Sh5= 115,142 KPa Sh6= 115,142 KPa Sh7= 115,142 KPa Sh8= 115,142 KPa

Sh9= 115,142 KPa Sy= 172,369 KPa

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MATERIAL Changes:

20	40	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
820	840	Mat= (383)A516 70 E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
280	880	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
1820	1920	Mat= (165)A312 TP316L E= 195,127,520 KPa v = .292 Density= .0080 kg./cu.cm.
2020	2030	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
2000	4100	Mat= (165)A312 TP316L E= 195,127,520 KPa v = .292 Density= .0080 kg./cu.cm.

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ALLOWABLE STRESS Changes

20	40	B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa Sh9= 137,895 KPa Sy= 241,316 KPa
140	160	B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa Sh9= 137,895 KPa Sy= 241,316 KPa

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INPUT LISTING

120	180	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
540	560	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
520	580	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
640	660	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
620	680	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
820	840	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 160,648 KPa	Sh1= 160,648 KPa
		Sh2= 160,062 KPa	Sh3= 160,648 KPa
		Sh4= 160,648 KPa	Sh5= 160,648 KPa
		Sh6= 160,648 KPa	Sh7= 160,648 KPa
		Sh8= 160,648 KPa	Sh9= 160,648 KPa
		Sy= 262,001 KPa	
280	880	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
900	910	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,819 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	

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INPUT LISTING

1020	1040	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,819 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
1220	1240	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,819 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
1440	1460	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
1420	1480	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,819 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
1780	1800	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,819 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
1740	1840	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,571 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
1820	1920	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 115,142 KPa	Sh1= 115,142 KPa
		Sh2= 114,386 KPa	Sh3= 115,142 KPa
		Sh4= 115,142 KPa	Sh5= 115,142 KPa
		Sh6= 115,142 KPa	Sh7= 115,142 KPa
		Sh8= 115,142 KPa	Sh9= 115,142 KPa
		Sy= 172,369 KPa	
2020	2030	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,261 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	

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INPUT LISTING

1260	2140	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,819 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
2440	2460	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,261 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
2290	2300	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,819 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
2300	2620	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,819 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
2740	2760	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,261 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
2330	3000	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,819 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
3152	3160	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,261 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
3160	3180	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,261 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	

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INPUT LISTING

2000	4100	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 115,142 KPa	Sh1= 115,142 KPa
		Sh2= 114,386 KPa	Sh3= 115,142 KPa
		Sh4= 115,142 KPa	Sh5= 115,142 KPa
		Sh6= 115,142 KPa	Sh7= 115,142 KPa
		Sh8= 115,142 KPa	Sh9= 115,142 KPa
		Sy= 172,369 KPa	
4310	4320	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 115,142 KPa	Sh1= 115,142 KPa
		Sh2= 115,142 KPa	Sh3= 115,142 KPa
		Sh4= 115,142 KPa	Sh5= 115,142 KPa
		Sh6= 115,142 KPa	Sh7= 115,142 KPa
		Sh8= 115,142 KPa	Sh9= 115,142 KPa
		Sy= 172,369 KPa	

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BEND ELEMENTS

40	60	Radius= 30.480 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00 59
		Angle/Node @2= .00 58
60	80	Radius= 30.480 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00 79
80	100	Radius= 30.480 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00 99
120	180	Radius= 30.480 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		179
480	500	Radius= 30.480 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		499 Angle/Node @2= .00 498
520	580	Radius= 30.480 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		579 Angle/Node @2= .00 578
620	680	Radius= 30.480 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		679 Angle/Node @2= .00 678
280	880	Radius= 7.620 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		879 Angle/Node @2= .00 878
940	960	Radius= 7.620 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		959 Angle/Node @2= .00 958
960	980	Radius= 7.620 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		979 Angle/Node @2= .00 978
1100	1120	Radius= 22.860 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1119 Angle/Node @2= .00 1118
1120	1140	Radius= 22.860 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1139 Angle/Node @2= .00 1138
1160	1180	Radius= 22.860 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1179 Angle/Node @2= .00 1178

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INPUT LISTING

1180	1200	Radius= 22.860 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1199 Angle/Node @2= .00 1198
1380	1400	Radius= 22.860 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1399 Angle/Node @2= .00 1398
1420	1480	Radius= 22.860 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1479 Angle/Node @2= .00 1478
1520	1540	Radius= 22.860 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1539 Angle/Node @2= .00 1538
1560	1580	Radius= 22.860 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1579 Angle/Node @2= .00 1578
1580	1600	Radius= 22.860 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1599 Angle/Node @2= .00 1598
1600	1620	Radius= 22.860 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1619 Angle/Node @2= .00 1618
1920	1940	Radius= 22.860 cm. (LONG)
		Bend Angle= 89.714 Angle/Node @1= 44.86
		1939
1960	1980	Radius= 22.860 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1979 Angle/Node @2= .00 1978
1260	2140	Radius= 7.620 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		2139 Angle/Node @2= .00 2138
2140	2160	Radius= 7.620 cm. (LONG)
		Bend Angle= 45.000 Angle/Node @1= 22.50
		2159 Angle/Node @2= .00 2158
2190	2200	Radius= 7.620 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		2199 Angle/Node @2= .00 2198
2500	2520	Radius= 22.860 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		2519 Angle/Node @2= .00 2518
2290	2300	Radius= 7.620 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		2301 Angle/Node @2= .00 2302
2800	2820	Radius= 22.860 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		2819 Angle/Node @2= .00 2818
2860	2880	Radius= 22.860 cm. (LONG)
		Bend Angle= 92.005 Angle/Node @1= 46.00
		2879 Angle/Node @2= .00 2878
2600	2920	Radius= 22.860 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		2919 Angle/Node @2= .00 2918
2920	2940	Radius= 22.860 cm. (LONG)
		Bend Angle= 89.885 Angle/Node @1= 44.94
		2939 Angle/Node @2= .00 2938
2940	2980	Radius= 22.860 cm. (LONG)
		Bend Angle= 45.040 Angle/Node @1= 22.52

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3060	3080	2979 Angle/Node @2= .00 2978 Radius= 7.620 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
3160	3180	3079 Angle/Node @2= .00 3078 Radius= 7.620 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
2000	4100	3179 Angle/Node @2= .00 3178 Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
4100	4120	4099 Angle/Node @2= .00 4098 Radius= 22.860 cm. (LONG) Bend Angle= 89.714 Angle/Node @1= 44.86
4120	4140	4119 Angle/Node @2= .00 4118 Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
		4139 Angle/Node @2= .00 4138

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RIGIDS

20	40	RIGID Weight= 177.93 N.
120	140	RIGID Weight= .00 N.
200	220	RIGID Weight= 177.93 N.
220	240	RIGID Weight= 177.93 N.
320	340	RIGID Weight= 177.93 N.
340	360	RIGID Weight= 1,023.41 N.
360	380	RIGID Weight= 177.93 N.
420	440	RIGID Weight= 177.93 N.
440	460	RIGID Weight= 177.93 N.
520	540	RIGID Weight= .00 N.
620	640	RIGID Weight= .00 N.
700	720	RIGID Weight= 177.93 N.
740	760	RIGID Weight= 177.93 N.
780	800	RIGID Weight= .00 N.
820	840	RIGID Weight= .00 N.
840	860	RIGID Weight= .00 N.
900	910	RIGID Weight= 31.14 N.
910	920	RIGID Weight= 66.72 N.
920	930	RIGID Weight= 355.86 N.
930	940	RIGID Weight= 44.48 N.
1060	1080	RIGID Weight= 191.27 N.
1080	1100	RIGID Weight= 191.27 N.
1220	1240	RIGID Weight= 191.27 N.
1300	1320	RIGID Weight= 191.27 N.
1320	1340	RIGID Weight= 1,850.46 N.
1340	1360	RIGID Weight= 191.27 N.
1420	1440	RIGID Weight= .00 N.
1640	1660	RIGID Weight= 191.27 N.
1660	1680	RIGID Weight= 191.27 N.
1720	1740	RIGID Weight= .00 N.
1740	1760	RIGID Weight= .00 N.
1800	1820	RIGID Weight= 191.27 N.
1740	1840	RIGID Weight= 2,250.11 N.
1840	1860	RIGID Weight=10,500.52 N.
1860	1880	RIGID Weight= 4,500.22 N.

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INPUT LISTING

1880	1900	RIGID	Weight=10,500.52 N.
1900	1740	RIGID	Weight= 2,250.11 N.
1820	1920	RIGID	Weight= 191.27 N.
2340	2346	RIGID	Weight= 44.48 N.
2346	2352	RIGID	Weight= 258.00 N.
2352	2360	RIGID	Weight= 44.48 N.
2400	2410	RIGID	Weight= 40.03 N.
2410	2420	RIGID	Weight= 50.00 N.
2420	2430	RIGID	Weight= 71.17 N.
2430	2440	RIGID	Weight= 71.17 N.
2440	2460	RIGID	Weight= 54.49 N.
2540	2546	RIGID	Weight= 111.21 N.
2546	2552	RIGID	Weight= 1,005.30 N.
2552	2560	RIGID	Weight= 111.21 N.
2640	2646	RIGID	Weight= 44.48 N.
2646	2652	RIGID	Weight= 258.00 N.
2652	2660	RIGID	Weight= 44.48 N.
2700	2710	RIGID	Weight= 40.03 N.
2710	2720	RIGID	Weight= 80.07 N.
2720	2730	RIGID	Weight= 71.17 N.
2730	2740	RIGID	Weight= 71.17 N.
2740	2760	RIGID	Weight= 54.49 N.
2840	2846	RIGID	Weight= 111.21 N.
2846	2852	RIGID	Weight= 1,005.30 N.
2852	2860	RIGID	Weight= 111.21 N.
3000	3020	RIGID	Weight= 44.48 N.
3020	3040	RIGID	Weight= 209.07 N.
3040	3060	RIGID	Weight= 44.48 N.
3140	3146	RIGID	Weight= 44.48 N.
3146	3152	RIGID	Weight= 458.17 N.
3152	3160	RIGID	Weight= 31.14 N.
4180	4200	RIGID	Weight= 191.27 N.
4220	4240	RIGID	Weight= 191.27 N.
4261	4280	RIGID	Weight= .00 N.
4280	4300	RIGID	Weight= .00 N.
4300	4310	RIGID	Weight= .00 N.
4310	4320	RIGID	Weight= .00 N.

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SIF's & TEE's

140	160	Node 140	Unreinforced Tee
260	280	Node 280	Weldolet
540	560	Node 540	Unreinforced Tee
1020	1260	Node 1260	Weldolet
1440	1460	Node 1440	Unreinforced Tee
2020	2030	Node 2020	<No Type Specified> SIF(in)= 2.080 SIF(out)= 2.460
2020	2060	Node 2020	<No Type Specified> SIF(in)= 2.080 SIF(out)= 2.460
2220	2280	Node 2280	Welding Tee
2320	2330	Node 2330	Welding Tee
2570	2580	Node 2580	Welding Tee
2980	2030	Node 2030	<No Type Specified> SIF(in)= 2.660 SIF(out)= 3.160

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INPUT LISTING

3180 2570 Node 2570 Welding Tee
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REDUCERS

2380 2400 Diam2= 4.826 cm. Wall2= .714 cm.
2460 2480 Diam2= 16.827 cm. Wall2= 1.097 cm.
2680 2700 Diam2= 4.826 cm. Wall2= .714 cm.
2760 2780 Diam2= 16.827 cm. Wall2= 1.097 cm.
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RESTRAINTS

NODE	TYPE	CNODE	STIF1	Len GAP STIF2	MU YIELD FORCE	Dir Vectors
20	ANC					.000 .000 .000
160	-X				.30	1.000 .000 .000
160	Z					.000 .000 1.000
121	+Y				.10	.000 1.000 .000
160	X	121				1.000 .000 .000
300	+Y				.30	.000 1.000 .000
400	Y				.30	.000 1.000 .000
400	Z					.000 .000 1.000
480	Y				.30	.000 1.000 .000
480	Z					.000 .000 1.000
560	+Y				.30	.000 1.000 .000
560	Z					.000 .000 1.000
660	+Y	800			.30	.000 1.000 .000
720	ANC	740				.000 .000 .000
780	ANC	820				.000 .000 .000
860	ANC					.000 .000 .000
1040	+Y				.30	.000 1.000 .000
1180	-X				.30	1.000 .000 .000
1180	+Y				.30	.000 1.000 .000
1240	ANC					.000 .000 .000
1280	Y				.30	.000 1.000 .000
1280	Z					.000 .000 1.000
1380	Y				.30	.000 1.000 .000
1380	Z					.000 .000 1.000
1460	+Y				.30	.000 1.000 .000
1460	Z					.000 .000 1.000
1500	+Y					.000 1.000 .000
1500	Z					.000 .000 1.000
1520	+Y				.30	.000 1.000 .000
1560	+Y				.30	.000 1.000 .000
1700	ANC	1720				.000 .000 .000
1780	ANC	1760				.000 .000 .000
1840	Y				.10	.000 1.000 .000
1840	X				.30	1.000 .000 .000
1840	Z			.60		.000 .000 1.000
1860	Y				.10	.000 1.000 .000
1860	Z			.60	.30	.000 .000 1.000
1880	Y				.10	.000 1.000 .000
1880	Z			.60		.000 .000 1.000
1900	Y				.10	.000 1.000 .000

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INPUT LISTING

1900	X			1.000	.000	.000
1900	Z	.60		.000	.000	1.000
1960	+Y		.30	.000	1.000	.000
2000	+Y		.30	.000	1.000	.000
2000	Z	.30	.30	.000	.000	1.000
2040	+Y		.30	.000	1.000	.000
2060	+Y		.30	.000	1.000	.000
2060	X	.30	.30	1.000	.000	.000
2060	Z			.000	.000	1.000
2180	+Y			.000	1.000	.000
2180	Z	.30		.000	.000	1.000
2190	+Y		.30	.000	1.000	.000
2220	+Y		.30	.000	1.000	.000
2220	X	.30		1.000	.000	.000
2320	+Y			.000	1.000	.000
2500	+Y		.30	.000	1.000	.000
2500	Z			.000	.000	1.000
2500	X			1.000	.000	.000
2600	+Y		.30	.000	1.000	.000
2620	+Y			.000	1.000	.000
2800	+Y			.000	1.000	.000
2800	Z			.000	.000	1.000
2800	X			1.000	.000	.000
3100	+Y		.30	.000	1.000	.000
3120	X			1.000	.000	.000
3120	Z			.000	.000	1.000
3960	+Y		.30	.000	1.000	.000
3960	X	.30		1.000	.000	.000
3980	+Y		.30	.000	1.000	.000
4000	+Y		.30	.000	1.000	.000
4000	X	.30		1.000	.000	.000
4020	+Y		.30	.000	1.000	.000
4040	+Y		.30	.000	1.000	.000
4040	X	.30		1.000	.000	.000
4060	+Y		.30	.000	1.000	.000
4080	+Y		.30	.000	1.000	.000
4080	X	.30		1.000	.000	.000
4120	+Y		.30	.000	1.000	.000
4160	+Y		.30	.000	1.000	.000
4160	Z		.30	.000	.000	1.000
4200	ANC	4220		.000	.000	.000
4260	ANC	4261		.000	.000	.000
4320	ANC			.000	.000	.000

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HANGER CONTROL AND LOCATION DATA

No. of Hanger Design Load Cases = 1
 Actual Cold Load Flag = 0.0
 Short Range Spring Flag = 1
 Allowed Load Variation (%) = 25.0000
 Default Hanger Table = 5

140

160

Hanger Node = 160
 Hanger Connecting Node = 121
 Available Space = -100.0000 cm.

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INPUT LISTING

Allowed Load Variation = 25.0000
 No. Hangers = 0.0 Short Range Flag = -1
 User Operating Load = .00 N. Free Node = 0
 Free Node = 0 Free Code = 0.0
 Spring Rate = .00 N./cm.
 Theoretical Cold Load = .00 N.

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EQUIPMENT LIMITS

20 40 Nozzle Node = 20

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 9,600.48 N. FB= 9,600.48 N.
 FC= 7,200.36 N. MA= 5,760.24 N.m. MB= 3,840.16 N.m. MC= 4,990.21 N.m.
 Equipment Major Direction Vector= .0000 1.0000 .0000
 Interact. Mtd= Absolute
 760 780 Nozzle Node = 780

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 9,600.48 N. FB= 9,600.48 N.
 FC= 7,200.36 N. MA= 5,760.24 N.m. MB= 3,840.16 N.m. MC= 4,990.21 N.m.
 Equipment Major Direction Vector= .0000 .0000 1.0000
 Interact. Mtd= Absolute
 1220 1240 Nozzle Node = 1240

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 7,200.36 N. FB= 7,200.36 N.
 FC= 5,400.27 N. MA= 3,240.14 N.m. MB= 2,160.09 N.m. MC= 2,810.12 N.m.
 Equipment Major Direction Vector= .0000 1.0000 .0000
 Interact. Mtd= Absolute
 1680 1700 Nozzle Node = 1700

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 15,090.75 N. FB= 15,090.75 N.
 FC= 12,000.60 N. MA= 9,150.39 N.m. MB= 4,890.21 N.m. MC= 6,420.27 N.m.
 Equipment Major Direction Vector= .0000 .0000 1.0000
 Interact. Mtd= Absolute
 1780 1800 Nozzle Node = 1780

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 15,090.75 N. FB= 15,090.75 N.
 FC= 12,000.60 N. MA= 9,150.39 N.m. MB= 4,890.21 N.m. MC= 6,420.27 N.m.
 Equipment Major Direction Vector= .0000 .0000 1.0000
 Interact. Mtd= Absolute
 4240 4260 Nozzle Node = 4260

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 8,400.42 N. FB= 8,400.42 N.
 FC= 6,300.31 N. MA= 3,780.16 N.m. MB= 2,520.11 N.m. MC= 3,280.14 N.m.
 Equipment Major Direction Vector= .0000 1.0000 .0000
 Interact. Mtd= Absolute

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FORCES AND MOMENTS

2410	2420	Node 2420	FY1= 1,000.05 N.
			FZ1= -2,000.10 N.
2710	2720	Node 2720	FX2= 2,000.10 N.
			FY2= 1,000.05 N. FZ2= .00 N.

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UNIFORM LOAD Changes

20	40	Vector1 in G-s
		X1 Dir = .26 g's Y1 Dir = .00 g's
		Z1 Dir = .00 g's
		Vector2 in G-s
		X2 Dir = .00 g's Y2 Dir = .12 g's
		Z2 Dir = .00 g's
		Vector3 in G-s
		X3 Dir = .00 g's Y3 Dir = .00 g's
		Z3 Dir = .26 g's

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INPUT UNITS USED...

UNITS=	SI	NOM/SCH	INPUT=	ON		
LENGTH		inches	x	2.540	=	cm.
FORCE		pounds	x	4.448	=	N.
MASS (dynamics)		pounds	x	0.454	=	Kg.
MOMENTS (INPUT)		inch-pounds	x	0.113	=	N.m.
MOMENTS (OUTPUT)		inch-pounds	x	0.113	=	N.m.
STRESS		lbs./sq.in.	x	6.895	=	KPa
TEMP. SCALE		degrees F.	x	0.556	=	C
PRESSURE		psig	x	6.895	=	KPa
ELASTIC MODULUS		lbs./sq.in.	x	6.895	=	KPa
PIPE DENSITY		lbs./cu.in.	x	0.028	=	kg./cu.cm.
INSULATION DENS.		lbs./cu.in.	x	0.028	=	kg./cu.cm.
FLUID DENSITY		lbs./cu.in.	x	0.028	=	kg./cu.cm.
TRANSL. STIF		lbs./in.	x	1.751	=	N./cm.
ROTATIONAL STIF		in.lb./deg.	x	0.113	=	N.m./deg
UNIFORM LOAD		lb./in.	x	1.751	=	N./cm.
G LOAD		g's	x	1.000	=	g's
WIND LOAD		lbs./sq.in.	x	6.895	=	KPa
ELEVATION		inches	x	0.025	=	m.
COMPOUND LENGTH		inches	x	0.025	=	m.
DIAMETER		inches	x	2.540	=	cm.
WALL THICKNESS		inches	x	2.540	=	cm.

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SETUP FILE PARAMETERS

CONNECT GEOMETRY THRU CNODES =	YES
MIN ALLOWED BEND ANGLE =	5.00000
MAX ALLOWED BEND ANGLE =	95.0000
BEND LENGTH ATTACHMENT PERCENT =	1.00000
MIN ANGLE TO ADJACENT BEND PT =	5.00000

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LOOP CLOSURE TOLERANCE =          2.54000      cm.
THERMAL BOWING HORZ TOLERANCE =    0.100000E-03
AUTO NODE NUMBER INCREMENT=        10.0000
Z AXIS UP=                          NO
USE PRESSURE STIFFENING =          DEFAULT
ALPHA TOLERANCE =                  0.500000E-01
RESLD-FORCE =                      NO
HGR DEF RESWGT STIF =              0.175127E+13 N./cm.
DECOMP SNG TOL =                   0.100000E+11
BEND AXIAL SHAPE =                 YES
FRICT STIF =                       0.175127E+07 N./cm.
FRICT NORM FORCE VAR =              0.150000
FRICT ANGLE VAR =                  15.0000
FRICT SLIDE MULT =                 1.00000
ROD TOLERANCE =                    1.00000
ROD INC =                          2.00000
INCORE NUMERICAL CHECK =           NO
OUTCORE NUMERICAL CHECK =          NO
DEFAULT TRANS RESTRAINT STIFF=     0.175127E+13      N./cm.
DEFAULT ROT RESTRAINT STIFF=       0.112985E+12      N.m./deg
IGNORE SPRING HANGER STIFFNESS =   NO
MISSING MASS ZPA =                 EXTRACTED
MIN WALL MILL TOLERANCE =          12.5000
WRC-107 VERSION =                  MAR 79 1B1/2B1
WRC-107 INTERPOLATION =            LAST VALUE
DEFAULT AMBIENT TEMPERATURE=       21.1111      C
BOURDON PRESSURE=                  NONE
COEFFICIENT OF FRICTION (MU) =     0.000000
INCLUDE SPRG STIF IN HGR OPE =     NO
INCLUDE INSULATION IN HYDROTEST =  NO
REDUCED INTERSECTION =             B31.1 (POST1980)
USE WRC329                          NO
NO REDUCED SIF FOR RFT AND WLT     NO
B31.1 REDUCED Z FIX =              YES
CLASS 1 BRANCH FLEX                NO
ALL STRESS CASES CORRODED =        NO
ADD TORSION IN SL STRESS =          DEFAULT
ADD F/A IN STRESS =                DEFAULT
OCCASIONAL LOAD FACTOR =           0.000000
DEFAULT CODE =                     B31.3
B31.3 SUS CASE SIF FACTOR =        0.000000
ALLOW USERS BEND SIF =             NO
USE SCHNEIDER                      NO
YIELD CRITERION STRESS =           MAX 3D SHEAR
USE PD/4T                          NO
BASE HOOP STRESS ON ? =            ID
EN13480 USE IN OUTPLANE SIFS=      NO
LIBERAL EXPANSION ALLOWABLE=       YES
B31.3 SEC 319.2.3C SAXIAL=         Default
B31.3 WELDING/CONTOUR TEE ISB16.9 FALSE
PRESSURE VARIATION IN EXP CASE=    DEFAULT
IMPLEMENT B313 APP-P               NO
IMPLEMENT B313 CODE CASE 178       YES
IGNORE B31.1/B31.3 Wc FACTOR=      YES
USE FRP SIF =                      YES
USE FRP FLEX =                     YES

```

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BS 7159 Pressure Stiffening= Design Strain
 FRP Property Data File= CAESAR.FRP
 FRP Emod (axial) = 0.220632E+08 KPa
 FRP Ratio Gmod/Emod (axial) = 0.250000
 FRP Ea/Eh*Vh/a = 0.152730
 FRP Laminate Type = THREE
 FRP Alpha = 21.6000 C
 FRP Density = 0.166079E-02 kg./cu.cm.
 EXCLUDE f2 FROM UKOOA BENDING = NO
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EXECUTION CONTROL PARAMETERS

Rigid/ExpJt Print Flag 1.000
 Bourdon Option 000
 Loop Closure Flag 2.000
 Thermal Bowing Delta Temp .. .000 C
 Liberal Allowable Flag 1.000
 Uniform Load Option 1.000

 Ambient Temperature 20.997 C
 Plastic (FRP) Alpha 21.600
 Plastic (FRP) GMOD/EMODa 250
 Plastic (FRP) Laminate Type. 3.000
 Eqn Optimizer 000
 Node Selection 000
 Eqn Ordering 000
 Collins 000
 Degree Determination 000
 User Eqn Control 000
 North Direction -X
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COORDINATE REPORT

/----- (cm.) -----/

NODE	X	Y	Z
20	655.300	-532.935	706.010
40	644.823	-532.935	706.010
60	538.344	-532.935	706.010
80	538.344	-593.935	706.010
100	599.344	-593.935	706.010
120	599.344	-681.025	706.010
140	599.344	-711.525	706.010
160	599.344	-731.525	706.010
120	599.344	-681.025	706.010
180	599.344	-711.525	706.010
200	568.844	-711.525	706.010
220	558.367	-711.525	706.010
240	547.890	-711.525	706.010
260	477.890	-711.525	706.010
280	453.100	-711.525	706.010
300	403.100	-711.525	706.010
320	383.100	-711.525	706.010
340	372.622	-711.525	706.010

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360	315.322	-711.525	706.010
380	304.845	-711.525	706.010
400	204.845	-711.525	706.010
420	76.065	-711.525	706.010
440	65.587	-711.525	706.010
460	55.110	-711.525	706.010
480	-94.890	-711.525	706.010
500	-475.370	-711.525	706.010
520	-475.370	-681.025	706.010
540	-475.370	-711.525	706.010
560	-475.370	-741.525	706.010
520	-475.370	-681.025	706.010
580	-475.370	-287.525	706.010
600	-510.726	-287.525	670.655
620	-546.081	-287.525	635.299
640	-546.081	-295.925	635.299
660	-546.081	-325.925	635.299
620	-546.081	-287.525	635.299
680	-600.387	-287.525	580.994
700	-600.387	-318.025	580.994
720	-600.387	-328.503	580.994
760	-600.387	-338.980	580.994
780	-600.387	-357.120	580.994
780	-600.387	-357.220	580.994
660	-546.081	-325.925	635.299
780	-600.387	-357.120	580.994
840	-600.387	-663.620	580.994
860	-600.387	-783.620	580.994
280	453.100	-711.525	706.010
880	453.100	-637.235	706.010
900	453.100	-637.235	757.010
910	453.100	-637.235	763.677
920	453.100	-637.235	793.777
930	453.100	-637.235	821.277
940	453.100	-637.235	828.580
960	453.100	-637.235	836.280
980	453.100	-702.475	836.280
1000	453.100	-702.475	828.580
1020	453.100	-702.475	766.480
1040	483.100	-702.475	766.480
1060	514.900	-702.475	766.480
1080	525.060	-702.475	766.480
1100	535.219	-702.475	766.480
1120	574.259	-702.475	766.480
1140	574.259	-702.475	866.480
1160	620.833	-702.475	866.480
1180	644.120	-702.475	866.480
1200	644.120	-702.475	706.480
1220	667.020	-702.475	706.480
1240	677.180	-702.475	706.480
1020	453.100	-702.475	766.480
1260	332.306	-702.475	766.480
1280	204.845	-702.475	766.480
1300	168.045	-702.475	766.480
1320	157.885	-702.475	766.480
1340	112.585	-702.475	766.480

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1360	102.425	-702.475	766.480
1380	-94.875	-702.475	766.480
1400	-477.475	-702.475	766.480
1420	-477.475	-679.575	766.480
1440	-477.475	-702.475	766.480
1460	-477.475	-732.475	766.480
1420	-477.475	-679.575	766.480
1480	-477.475	-534.075	766.480
1500	-1053.475	-534.075	766.480
1520	-1653.475	-534.075	766.480
1540	-2010.475	-534.075	766.480
1560	-2010.475	-534.075	826.480
1580	-2010.475	-534.075	938.180
1600	-2010.475	-285.325	938.180
1620	-2072.275	-285.325	981.380
1640	-2072.275	-308.225	981.380
1660	-2072.275	-318.385	981.380
1680	-2072.275	-328.545	981.380
1700	-2072.275	-341.245	981.380
1740	-2072.275	-365.245	981.380
1780	-2072.275	-389.245	981.380
1800	-2072.275	-401.945	981.380
1820	-2072.275	-412.105	981.380
1740	-2072.275	-365.245	981.380
1840	-2072.275	-365.245	1131.380
1860	-2775.775	-365.245	1131.380
1880	-2775.775	-365.245	831.380
1900	-2072.275	-365.245	831.380
1740	-2072.275	-365.245	981.380
1820	-2072.275	-412.105	981.380
1920	-2072.275	-422.265	981.380
1940	-2072.275	-445.165	981.380
1960	-2072.275	-446.290	755.680
1980	-2072.275	-446.465	720.680
2000	-1628.175	-446.465	720.680
2020	-1180.097	-696.486	1464.280
2030	-1180.097	-696.486	1308.280
2040	-1180.097	-696.486	976.980
2020	-1180.097	-696.486	1464.280
2060	-1180.097	-696.486	1576.880
1260	332.306	-702.475	766.480
2140	332.306	-524.475	766.480
2160	308.306	-524.475	790.480
2180	-94.894	-524.475	790.480
2190	-694.894	-524.475	790.480
2200	-733.694	-524.475	790.480
2220	-733.694	-524.475	1025.480
2280	-733.694	-524.475	1343.080
2290	-733.694	-524.475	1393.080
2280	-733.694	-524.475	1343.080
2320	-733.694	-505.475	1343.080
2330	-733.694	-431.675	1343.080
2340	-733.694	-423.075	1343.080
2346	-733.694	-415.773	1343.080
2352	-733.694	-394.573	1343.080
2360	-733.694	-387.270	1343.080

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2380	-733.694	-362.270	1343.080
2400	-733.694	-353.270	1343.080
2410	-733.694	-346.126	1343.080
2420	-733.694	-339.426	1343.080
2430	-738.294	-339.426	1343.080
2440	-746.494	-339.426	1343.080
2460	-753.797	-339.426	1343.080
2480	-767.797	-343.396	1343.080
2500	-803.247	-343.396	1343.080
2520	-861.597	-343.396	1343.080
2540	-861.597	-366.296	1343.080
2546	-861.597	-375.504	1343.080
2552	-861.597	-403.104	1343.080
2560	-861.597	-412.311	1343.080
2570	-861.597	-431.711	1343.080
2580	-861.597	-552.511	1343.080
2600	-861.597	-552.511	1275.080
2290	-733.694	-524.475	1393.080
2300	-733.694	-524.475	1443.080
2620	-733.694	-505.475	1443.080
2640	-733.694	-423.175	1443.080
2646	-733.694	-415.873	1443.080
2652	-733.694	-394.673	1443.080
2660	-733.694	-387.370	1443.080
2680	-733.694	-362.370	1443.080
2700	-733.694	-356.470	1443.080
2710	-733.694	-349.326	1443.080
2720	-733.694	-342.926	1443.080
2730	-738.294	-342.926	1443.080
2740	-746.549	-342.926	1443.080
2760	-753.852	-342.926	1443.080
2780	-767.852	-346.896	1443.080
2800	-803.302	-346.896	1443.080
2820	-861.652	-346.896	1443.080
2840	-861.652	-369.796	1443.080
2846	-861.652	-379.004	1443.080
2852	-861.652	-406.604	1443.080
2860	-861.652	-415.811	1443.080
2880	-861.652	-556.011	1443.080
2880	-861.652	-556.011	1443.080
2580	-861.597	-552.511	1343.080
2600	-861.597	-552.511	1275.080
2920	-861.597	-552.511	1237.180
2940	-1180.097	-553.148	1237.180
2980	-1180.097	-625.486	1237.180
2030	-1180.097	-696.486	1308.280
2330	-733.694	-431.675	1343.080
3000	-733.694	-431.675	1335.380
3020	-733.694	-431.675	1328.078
3040	-733.694	-431.675	1309.378
3060	-733.694	-431.675	1302.075
3080	-733.694	-431.675	1294.375
3100	-771.394	-431.675	1294.375
3120	-781.394	-431.675	1294.375
3140	-812.094	-431.675	1294.375
3146	-819.397	-431.675	1294.375

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3152	-846.997	-431.675	1294.375
3160	-853.664	-431.675	1294.375
3180	-861.364	-431.675	1294.375
3180	-861.597	-431.711	1294.380
2570	-861.597	-431.711	1343.080
2040	-1180.097	-696.486	976.980
3960	-1180.097	-696.486	376.980
3980	-1180.097	-696.486	-223.020
4000	-1180.097	-696.486	-823.020
4020	-1180.097	-696.486	-1423.020
4040	-1180.097	-696.486	-2023.020
4060	-1180.097	-696.486	-2623.020
4080	-1180.097	-696.486	-3223.020
2000	-1628.175	-446.465	720.680
4100	-1558.645	-446.465	720.680
4120	-1558.645	-447.765	980.880
4140	-1558.645	-530.765	980.880
4160	-1053.645	-530.765	980.880
4180	-694.045	-530.765	980.880
4200	-683.885	-530.765	980.880
4240	-673.725	-530.765	980.880
4260	-658.725	-530.765	980.880
4280	-612.825	-530.765	980.880
4300	-612.825	-660.765	980.880
4310	-612.825	-760.765	980.880
4320	-612.825	-790.765	980.880

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

1 (HGR) CASE NOT ACTIVE
 2 (HGR) CASE NOT ACTIVE
 3 (HYD) WW+HP+H
 4 (OPE) W+T1+P1+H
 5 (Alt-SUS) W+P1+H
 6 (OPE) W+T2+P1+H
 7 (Alt-SUS) W+P1+H
 8 (OPE) W+T3+P1+H
 9 (Alt-SUS) W+P1+H
 10 (OPE) W+T4+P1+H
 11 (Alt-SUS) W+P1+H
 12 (SUS) W+P1+H
 13 (SUS) WNC+H
 14 (OPE) W+T1+P1+H+U1
 15 (OPE) W+T1+P1+H-U1
 16 (OPE) W+T1+P1+H+U2
 17 (OPE) W+T1+P1+H+U3
 18 (OPE) W+T1+P1+H-U3
 19 (OPE) W+T1+P1+H+F1
 20 (OPE) W+T1+P1+H+F2
 21 (OCC) L21=L14-L4
 22 (OCC) L22=L15-L4
 23 (OCC) L23=L16-L4
 24 (OCC) L24=L17-L4
 25 (OCC) L25=L18-L4
 26 (OCC) L26=L19-L4
 27 (OCC) L27=L20-L4
 28 (OCC) L28=L21+L11
 29 (OCC) L29=L22+L11
 30 (OCC) L30=L23+L11
 31 (OCC) L31=L24+L11
 32 (OCC) L32=L25+L11
 33 (OCC) L33=L26+L11
 34 (OCC) L34=L27+L11
 35 (EXP) L35=L4-L11
 36 (EXP) L36=L6-L11
 37 (EXP) L37=L8-L11
 38 (EXP) L38=L6-L8
 39 (OPE) L39=L4, L6, L8
 40 (OCC) L40=L21, L22, L23, L24

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

LOAD CASE DEFINITION KEY

CASE 3 (HYD) WW+HP+H

CASE 4 (OPE) W+T1+P1+H

CASE 6 (OPE) W+T2+P1+H

CASE 8 (OPE) W+T3+P1+H

CASE 10 (OPE) W+T4+P1+H

CASE 12 (SUS) W+P1+H

CASE 13 (SUS) WNC+H

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
20		TYPE=Rigid ANC;					
	3(HYD)	-286	-950	79	-31	66	427
	4(OPE)	375	-802	-73	32	-76	649
	6(OPE)	677	2731	-69	33	-81	-2375
	8(OPE)	-148	-560	72	-28	60	227
	10(OPE)	-148	-560	73	-28	60	227
	12(SUS)	-148	-560	72	-28	60	227
	13(SUS)	-149	-553	72	-28	60	221
	MAX	677/L6	2731/L6	79/L3	33/L6	-81/L6	-2375/L6
121		TYPE=Rigid +Y;					
	3(HYD)	-156	-2118	0	0	0	0
	4(OPE)	0	-1170	0	0	0	0
	6(OPE)	0	-1183	0	0	0	0
	8(OPE)	-79	-1170	0	0	0	0
	10(OPE)	-79	-1170	0	0	0	0
	12(SUS)	-79	-1170	0	0	0	0
	13(SUS)	-79	-1170	0	0	0	0
	MAX	-156/L3	-2118/L3				
160		TYPE=Rigid Z; Rigid -X; Rigid X; Prog Design VSH;					
	3(HYD)	-156	-2118	-35	0	0	0
	4(OPE)	2106	-715	-140	0	0	0
	6(OPE)	3921	-2359	-246	0	0	0
	8(OPE)	-79	-1170	-32	0	0	0
	10(OPE)	-79	-1170	-32	0	0	0
	12(SUS)	-79	-1170	-32	0	0	0
	13(SUS)	-79	-1170	-32	0	0	0
	MAX	3921/L6	-2359/L6	-246/L6			
300		TYPE=Rigid +Y;					

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	3(HYD)	188	-2443	148	0	0	0
	4(OPE)	-610	-2048	-70	0	0	0
	6(OPE)	-1573	-5246	-57	0	0	0
	8(OPE)	97	-1780	135	0	0	0
	10(OPE)	97	-1781	135	0	0	0
	12(SUS)	97	-1780	135	0	0	0
	13(SUS)	97	-1774	135	0	0	0
	MAX	-1573/L6	-5246/L6	148/L3			
400		TYPE=Rigid Z; Rigid Y;					
	3(HYD)	124	-1971	-12	0	0	0
	4(OPE)	-302	-1006	-125	0	0	0
	6(OPE)	-236	785	-260	0	0	0
	8(OPE)	64	-1245	-12	0	0	0
	10(OPE)	64	-1245	-12	0	0	0
	12(SUS)	64	-1245	-12	0	0	0
	13(SUS)	64	-1241	-12	0	0	0
	MAX	-302/L4	-1971/L3	-260/L6			
480		TYPE=Rigid Z; Rigid Y;					
	3(HYD)	51	-2688	-5	0	0	0
	4(OPE)	-507	-1690	76	0	0	0
	6(OPE)	-829	-2763	236	0	0	0
	8(OPE)	27	-1403	-2	0	0	0
	10(OPE)	27	-1403	-2	0	0	0
	12(SUS)	27	-1403	-2	0	0	0
	13(SUS)	27	-1395	-2	0	0	0
	MAX	-829/L6	-2763/L6	236/L6			
560		TYPE=Rigid Z; Rigid +Y;					
	3(HYD)	8	-3989	-2	0	0	0
	4(OPE)	-660	-2198	-5	0	0	0
	6(OPE)	-631	-2102	-36	0	0	0
	8(OPE)	5	-2008	-4	0	0	0
	10(OPE)	5	-2008	-4	0	0	0
	12(SUS)	5	-2008	-4	0	0	0
	13(SUS)	5	-1996	-4	0	0	0
	MAX	-660/L4	-3989/L3	-36/L6			
660		TYPE=Rigid +Y;					
	3(HYD)	37	-961	-78	0	0	0
	4(OPE)	0	0	0	0	0	0
	6(OPE)	0	0	0	0	0	0
	8(OPE)	14	-496	-35	0	0	0
	10(OPE)	14	-496	-35	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	12(SUS)	14	-496	-35	0	0	0
	13(SUS)	14	-493	-35	0	0	0
	MAX	37/L3	-961/L3	-78/L3			
720		TYPE=Rigid ANC;					
	3(HYD)	31	-423	85	31	3	-13
	4(OPE)	-260	-390	-29	-141	-213	-157
	6(OPE)	-1068	200	-92	-733	-903	-605
	8(OPE)	19	-283	41	15	1	-7
	10(OPE)	19	-283	41	15	1	-7
	12(SUS)	19	-283	41	15	1	-7
	13(SUS)	19	-282	41	15	1	-7
	MAX	-1068/L6	-423/L3	-92/L6	-733/L6	-903/L6	-605/L6
780		TYPE=Rigid ANC;					
	3(HYD)	68	-1714	6	553	65	-556
	4(OPE)	-260	-628	-29	-149	-213	-82
	6(OPE)	-1068	-38	-92	-759	-903	-300
	8(OPE)	34	-1016	6	286	28	-287
	10(OPE)	34	-1016	6	286	28	-287
	12(SUS)	34	-1016	6	286	28	-287
	13(SUS)	33	-1012	6	284	28	-285
	MAX	-1068/L6	-1714/L3	-92/L6	-759/L6	-903/L6	-556/L3
860		TYPE=Rigid ANC;					
	3(HYD)	68	-1714	6	580	65	-846
	4(OPE)	-260	-628	-29	-271	-213	1026
	6(OPE)	-1068	-38	-92	-1153	-903	4256
	8(OPE)	34	-1016	6	312	28	-430
	10(OPE)	34	-1016	6	312	28	-430
	12(SUS)	34	-1016	6	312	28	-430
	13(SUS)	33	-1012	6	310	28	-427
	MAX	-1068/L6	-1714/L3	-92/L6	-1153/L6	-903/L6	4256/L6
1040		TYPE=Rigid +Y;					
	3(HYD)	108	-1928	-178	0	0	0
	4(OPE)	356	-1389	-217	0	0	0
	6(OPE)	342	-1346	-215	0	0	0
	8(OPE)	100	-1385	-163	0	0	0
	10(OPE)	100	-1384	-163	0	0	0
	12(SUS)	100	-1385	-163	0	0	0
	13(SUS)	100	-1376	-162	0	0	0
	MAX	356/L4	-1928/L3	-217/L4			

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
1180		TYPE=Rigid +Y; Rigid - X;					
	3(HYD)	10	-1203	7	0	0	0
	4(OPE)	8271	-1284	2866	0	0	0
	6(OPE)	9868	-1468	3401	0	0	0
	8(OPE)	10	-819	6	0	0	0
	10(OPE)	10	-821	6	0	0	0
	12(SUS)	10	-819	6	0	0	0
	13(SUS)	10	-813	6	0	0	0
	MAX	9868/L6	-1468/L6	3401/L6			
1240		TYPE=Rigid ANC;					
	3(HYD)	-6	-369	10	-72	2	228
	4(OPE)	642	7	-795	-174	178	234
	6(OPE)	819	105	-1172	-218	197	265
	8(OPE)	-5	-255	10	-61	2	159
	10(OPE)	-5	-254	10	-62	2	159
	12(SUS)	-5	-255	10	-61	2	159
	13(SUS)	-5	-253	9	-61	2	158
	MAX	819/L6	-369/L3	-1172/L6	-218/L6	197/L6	265/L6
1280		TYPE=Rigid Z; Rigid Y;					
	3(HYD)	168	-3329	-36	0	0	0
	4(OPE)	-658	-2195	-2469	0	0	0
	6(OPE)	-611	-2036	-2908	0	0	0
	8(OPE)	157	-2809	-32	0	0	0
	10(OPE)	157	-2809	-32	0	0	0
	12(SUS)	157	-2809	-32	0	0	0
	13(SUS)	157	-2801	-32	0	0	0
	MAX	-658/L4	-3329/L3	-2908/L6			
1380		TYPE=Rigid Z; Rigid Y;					
	3(HYD)	303	-2209	34	0	0	0
	4(OPE)	-1074	-3579	1096	0	0	0
	6(OPE)	-1231	-4105	1335	0	0	0
	8(OPE)	284	-1529	29	0	0	0
	10(OPE)	284	-1529	29	0	0	0
	12(SUS)	284	-1529	29	0	0	0
	13(SUS)	283	-1518	29	0	0	0
	MAX	-1231/L6	-4105/L6	1335/L6			
1460		TYPE=Rigid Z; Rigid +Y;					
	3(HYD)	-115	-3119	-38	0	0	0
	4(OPE)	-652	-2173	-256	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	6(OPE)	-644	-2148	-301	0	0	0
	8(OPE)	-119	-2314	-31	0	0	0
	10(OPE)	-119	-2314	-32	0	0	0
	12(SUS)	-119	-2314	-31	0	0	0
	13(SUS)	-119	-2299	-31	0	0	0
	MAX	-652/L4	-3119/L3	-301/L6			
1500		TYPE=Rigid Z; Rigid +Y;					
	3(HYD)	0	-3721	35	0	0	0
	4(OPE)	0	-1141	-433	0	0	0
	6(OPE)	0	-642	-680	0	0	0
	8(OPE)	0	-2982	29	0	0	0
	10(OPE)	0	-2982	29	0	0	0
	12(SUS)	0	-2982	29	0	0	0
	13(SUS)	0	-2966	29	0	0	0
	MAX		-3721/L3	-680/L6			
1520		TYPE=Rigid +Y;					
	3(HYD)	-153	-3023	-26	0	0	0
	4(OPE)	-1203	-4345	-502	0	0	0
	6(OPE)	-1366	-4968	-596	0	0	0
	8(OPE)	-175	-2425	-22	0	0	0
	10(OPE)	-175	-2425	-22	0	0	0
	12(SUS)	-175	-2425	-22	0	0	0
	13(SUS)	-175	-2412	-22	0	0	0
	MAX	-1366/L6	-4968/L6	-596/L6			
1560		TYPE=Rigid +Y;					
	3(HYD)	-421	-1865	40	0	0	0
	4(OPE)	-775	-2607	-103	0	0	0
	6(OPE)	-828	-2788	-116	0	0	0
	8(OPE)	-330	-1485	40	0	0	0
	10(OPE)	-330	-1485	40	0	0	0
	12(SUS)	-330	-1485	40	0	0	0
	13(SUS)	-328	-1476	40	0	0	0
	MAX	-828/L6	-2788/L6	-116/L6			
1700		TYPE=Rigid ANC;					
	3(HYD)	149	-2106	-29	-354	-65	-635
	4(OPE)	-4448	804	1075	2171	4212	-3393
	6(OPE)	-5996	1473	1310	2985	5781	-4471
	8(OPE)	117	-1767	-30	-287	-47	-525
	10(OPE)	117	-1767	-30	-287	-47	-525
	12(SUS)	117	-1767	-30	-287	-47	-525
	13(SUS)	116	-1759	-30	-285	-46	-523

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	MAX	-5996/L6	-2106/L3	1310/L6	2985/L6	5781/L6	-4471/L6
1780		TYPE=Rigid ANC;					
	3(HYD)	10	-864	-209	58	-38	-154
	4(OPE)	-249	-536	-92	125	533	-124
	6(OPE)	-1121	-418	-28	246	2146	-381
	8(OPE)	-11	-605	-81	23	-3	-82
	10(OPE)	-11	-605	-81	23	-3	-82
	12(SUS)	-11	-605	-81	23	-3	-82
	13(SUS)	-12	-600	-79	22	-2	-80
	MAX	-1121/L6	-864/L3	-209/L3	246/L6	2146/L6	-381/L6
1840		TYPE=Rigid X; Rigid Z w/gap; Rigid Y;					
	3(HYD)	52	-9785	-125	0	0	0
	4(OPE)	51	-8850	900	0	0	0
	6(OPE)	-491	-8872	1034	0	0	0
	8(OPE)	39	-9074	-61	0	0	0
	10(OPE)	39	-9074	-61	0	0	0
	12(SUS)	39	-9074	-61	0	0	0
	13(SUS)	39	-9055	-60	0	0	0
	MAX	-491/L6	-9785/L3	1034/L6			
1860		TYPE=Rigid Z w/gap; Rigid Y;					
	3(HYD)	0	-8271	-2	0	0	0
	4(OPE)	-711	-7731	303	0	0	0
	6(OPE)	-703	-7641	298	0	0	0
	8(OPE)	0	-7885	-1	0	0	0
	10(OPE)	0	-7885	-1	0	0	0
	12(SUS)	0	-7885	-1	0	0	0
	13(SUS)	0	-7872	-1	0	0	0
	MAX	-711/L4	-8271/L3	303/L4			
1880		TYPE=Rigid Z w/gap; Rigid Y;					
	3(HYD)	-0	-8267	-2	0	0	0
	4(OPE)	-777	-7769	-1	0	0	0
	6(OPE)	-769	-7692	-2	0	0	0
	8(OPE)	-0	-7881	-1	0	0	0
	10(OPE)	-0	-7881	-1	0	0	0
	12(SUS)	-0	-7881	-1	0	0	0
	13(SUS)	-0	-7869	-1	0	0	0
	MAX	-777/L4	-8267/L3	-2/L6			

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
1900		TYPE=Rigid X; Rigid Z w/gap; Rigid Y;					
	3(HYD)	107	-9957	-110	0	0	0
	4(OPE)	-3120	-7095	88	0	0	0
	6(OPE)	-5065	-6453	124	0	0	0
	8(OPE)	66	-9245	-50	0	0	0
	10(OPE)	66	-9245	-50	0	0	0
	12(SUS)	66	-9245	-50	0	0	0
	13(SUS)	65	-9226	-49	0	0	0
	MAX	-5065/L6	-9957/L3	124/L6			
1960		TYPE=Rigid +Y;					
	3(HYD)	27	-1225	217	0	0	0
	4(OPE)	-146	-520	55	0	0	0
	6(OPE)	-147	-505	-37	0	0	0
	8(OPE)	94	-517	84	0	0	0
	10(OPE)	94	-517	84	0	0	0
	12(SUS)	94	-517	84	0	0	0
	13(SUS)	95	-504	82	0	0	0
	MAX	-147/L6	-1225/L3	217/L3			
2000		TYPE=Rigid Z w/gap; Rigid +Y;					
	3(HYD)	-43	-1467	-71	0	0	0
	4(OPE)	22	-618	-184	0	0	0
	6(OPE)	-116	-619	-543	0	0	0
	8(OPE)	-85	-614	-28	0	0	0
	10(OPE)	-85	-614	-28	0	0	0
	12(SUS)	-85	-614	-28	0	0	0
	13(SUS)	-86	-598	-28	0	0	0
	MAX	-116/L6	-1467/L3	-543/L6			
2040		TYPE=Rigid +Y;					
	3(HYD)	125	-8630	34	0	0	0
	4(OPE)	-5	-4984	-1495	0	0	0
	6(OPE)	-340	-5370	-1575	0	0	0
	8(OPE)	69	-4917	24	0	0	0
	10(OPE)	-597	-5843	-1648	0	0	0
	12(SUS)	69	-4917	24	0	0	0
	13(SUS)	69	-4912	24	0	0	0
	MAX	-597/L10	-8630/L3	-1648/L10			

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RESTRAINT SUMMARY REPORT: Loads On Restraints
Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
2060		TYPE=Rigid X w/gap; Rigid Z; Rigid +Y;					
	3(HYD)	29	-3244	188	0	0	0
	4(OPE)	-84	-2137	8788	0	0	0
	6(OPE)	-699	-2329	8495	0	0	0
	8(OPE)	12	-1887	135	0	0	0
	10(OPE)	-1186	-2503	7781	0	0	0
	12(SUS)	12	-1887	135	0	0	0
	13(SUS)	12	-1885	135	0	0	0
	MAX	-1186/L10	-3244/L3	8788/L4			
2180		TYPE=Rigid Z w/gap; Rigid +Y;					
	3(HYD)	0	-759	0	0	0	0
	4(OPE)	0	-625	-7	0	0	0
	6(OPE)	0	-609	-25	0	0	0
	8(OPE)	0	-673	0	0	0	0
	10(OPE)	0	-673	0	0	0	0
	12(SUS)	0	-673	0	0	0	0
	13(SUS)	0	-672	0	0	0	0
	MAX		-759/L3	-25/L6			
2190		TYPE=Rigid +Y;					
	3(HYD)	-40	-486	22	0	0	0
	4(OPE)	-106	-438	-78	0	0	0
	6(OPE)	-108	-438	-76	0	0	0
	8(OPE)	-35	-431	18	0	0	0
	10(OPE)	-20	-469	-3	0	0	0
	12(SUS)	-35	-431	18	0	0	0
	13(SUS)	-35	-431	18	0	0	0
	MAX	-108/L6	-486/L3	-78/L4			
2220		TYPE=Rigid X w/gap; Rigid +Y;					
	3(HYD)	-11	-351	-5	0	0	0
	4(OPE)	-178	-311	-75	0	0	0
	6(OPE)	-300	-315	-79	0	0	0
	8(OPE)	-9	-310	9	0	0	0
	10(OPE)	-50	-181	21	0	0	0
	12(SUS)	-9	-310	9	0	0	0
	13(SUS)	-9	-309	9	0	0	0
	MAX	-300/L6	-351/L3	-79/L6			

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
2320		TYPE=Rigid +Y;					
	3(HYD)	0	0	0	0	0	0
	4(OPE)	0	-4490	0	0	0	0
	6(OPE)	0	-3838	0	0	0	0
	8(OPE)	0	0	0	0	0	0
	10(OPE)	0	0	0	0	0	0
	12(SUS)	0	0	0	0	0	0
	13(SUS)	0	0	0	0	0	0
	MAX		-4490/L4				
2500		TYPE=Rigid Z; Rigid X; Rigid +Y;					
	3(HYD)	-456	-4033	248	0	0	0
	4(OPE)	-4305	0	1630	0	0	0
	6(OPE)	-3706	0	1816	0	0	0
	8(OPE)	-326	-3512	181	0	0	0
	10(OPE)	2122	0	2605	0	0	0
	12(SUS)	-326	-3512	181	0	0	0
	13(SUS)	-326	-3510	181	0	0	0
	MAX	-4305/L4	-4033/L3	2605/L10			
2600		TYPE=Rigid +Y;					
	3(HYD)	723	-2573	-271	0	0	0
	4(OPE)	544	-1854	116	0	0	0
	6(OPE)	525	-2404	-494	0	0	0
	8(OPE)	525	-1844	-174	0	0	0
	10(OPE)	-106	-7554	-2264	0	0	0
	12(SUS)	525	-1844	-174	0	0	0
	13(SUS)	525	-1843	-174	0	0	0
	MAX	723/L3	-7554/L10	-2264/L10			
2620		TYPE=Rigid +Y;					
	3(HYD)	0	0	0	0	0	0
	4(OPE)	0	-2139	0	0	0	0
	6(OPE)	0	-1910	0	0	0	0
	8(OPE)	0	0	0	0	0	0
	10(OPE)	0	-120	0	0	0	0
	12(SUS)	0	0	0	0	0	0
	13(SUS)	0	0	0	0	0	0
	MAX		-2139/L4				
2800		TYPE=Rigid Z; Rigid X; Rigid +Y;					
	3(HYD)	-265	-3638	67	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	4(OPE)	-527	0	498	0	0	0
	6(OPE)	-629	0	793	0	0	0
	8(OPE)	-205	-3110	49	0	0	0
	10(OPE)	-19	0	1558	0	0	0
	12(SUS)	-205	-3110	49	0	0	0
	13(SUS)	-205	-3109	49	0	0	0
	MAX	-629/L6	-3638/L3	1558/L10			
3100		TYPE=Rigid +Y;					
	3(HYD)	-0	-497	-149	0	0	0
	4(OPE)	33	-182	-44	0	0	0
	6(OPE)	0	0	0	0	0	0
	8(OPE)	-0	-491	-147	0	0	0
	10(OPE)	0	0	0	0	0	0
	12(SUS)	-0	-491	-147	0	0	0
	13(SUS)	-0	-491	-147	0	0	0
	MAX	33/L4	-497/L3	-149/L3			
3120		TYPE=Rigid Z; Rigid X;					
	3(HYD)	-41	0	-205	0	0	0
	4(OPE)	4442	0	-2666	0	0	0
	6(OPE)	4939	0	-2674	0	0	0
	8(OPE)	-2	0	-124	0	0	0
	10(OPE)	76	0	-1601	0	0	0
	12(SUS)	-2	0	-124	0	0	0
	13(SUS)	-2	0	-124	0	0	0
	MAX	4939/L6		-2674/L6			
3960		TYPE=Rigid X w/gap; Rigid +Y;					
	3(HYD)	-25	-6031	15	0	0	0
	4(OPE)	3	-3194	-958	0	0	0
	6(OPE)	-46	-3110	-932	0	0	0
	8(OPE)	-14	-3221	11	0	0	0
	10(OPE)	-351	-3010	-898	0	0	0
	12(SUS)	-14	-3221	11	0	0	0
	13(SUS)	-14	-3217	11	0	0	0
	MAX	-351/L10	-6031/L3	-958/L4			
3980		TYPE=Rigid +Y;					
	3(HYD)	6	-6670	7	0	0	0
	4(OPE)	0	-3641	-1092	0	0	0
	6(OPE)	-7	-3663	-1099	0	0	0
	8(OPE)	3	-3634	5	0	0	0
	10(OPE)	-31	-3689	-1106	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	12(SUS)	3	-3634	5	0	0	0
	13(SUS)	3	-3629	5	0	0	0
	MAX	-31/L10	-6670/L3	-1106/L10			
4000		TYPE=Rigid X w/gap; Rigid +Y;					
	3(HYD)	-2	-6482	3	0	0	0
	4(OPE)	-0	-3512	-1054	0	0	0
	6(OPE)	3	-3506	-1052	0	0	0
	8(OPE)	-1	-3514	2	0	0	0
	10(OPE)	-2	-3499	-1050	0	0	0
	12(SUS)	-1	-3514	2	0	0	0
	13(SUS)	-1	-3510	2	0	0	0
	MAX	3/L6	-6482/L3	-1054/L4			
4020		TYPE=Rigid +Y;					
	3(HYD)	0	-6603	1	0	0	0
	4(OPE)	-0	-3585	-1076	0	0	0
	6(OPE)	3	-3587	-1076	0	0	0
	8(OPE)	0	-3585	1	0	0	0
	10(OPE)	6	-3589	-1077	0	0	0
	12(SUS)	0	-3585	1	0	0	0
	13(SUS)	0	-3580	1	0	0	0
	MAX	6/L10	-6603/L3	-1077/L10			
4040		TYPE=Rigid X w/gap; Rigid +Y;					
	3(HYD)	-0	-6300	1	0	0	0
	4(OPE)	-0	-3419	-1026	0	0	0
	6(OPE)	2	-3419	-1026	0	0	0
	8(OPE)	-0	-3419	0	0	0	0
	10(OPE)	6	-3418	-1025	0	0	0
	12(SUS)	-0	-3419	0	0	0	0
	13(SUS)	-0	-3415	0	0	0	0
	MAX	6/L10	-6300/L3	-1026/L4			
4060		TYPE=Rigid +Y;					
	3(HYD)	0	-7404	0	0	0	0
	4(OPE)	0	-4018	-1206	0	0	0
	6(OPE)	1	-4019	-1206	0	0	0
	8(OPE)	0	-4018	0	0	0	0
	10(OPE)	6	-4019	-1206	0	0	0
	12(SUS)	0	-4018	0	0	0	0
	13(SUS)	0	-4013	0	0	0	0
	MAX	6/L10	-7404/L3	-1206/L10			

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
4080		TYPE=Rigid X w/gap; Rigid +Y;					
	3(HYD)	-0	-2578	0	0	0	0
	4(OPE)	0	-1399	-420	0	0	0
	6(OPE)	-0	-1399	-420	0	0	0
	8(OPE)	-0	-1399	0	0	0	0
	10(OPE)	2	-1399	-420	0	0	0
	12(SUS)	-0	-1399	0	0	0	0
	13(SUS)	-0	-1397	0	0	0	0
	MAX	2/L10	-2578/L3	-420/L4			
4120		TYPE=Rigid +Y;					
	3(HYD)	422	-1405	2	0	0	0
	4(OPE)	-179	-618	47	0	0	0
	6(OPE)	-224	-768	56	0	0	0
	8(OPE)	177	-589	0	0	0	0
	10(OPE)	177	-589	0	0	0	0
	12(SUS)	177	-589	0	0	0	0
	13(SUS)	172	-574	0	0	0	0
	MAX	422/L3	-1405/L3	56/L6			
4160		TYPE=Rigid Z; Rigid +Y;					
	3(HYD)	-294	-1735	6	0	0	0
	4(OPE)	-266	-626	262	0	0	0
	6(OPE)	-342	-192	948	0	0	0
	8(OPE)	-126	-730	2	0	0	0
	10(OPE)	-126	-730	2	0	0	0
	12(SUS)	-126	-730	2	0	0	0
	13(SUS)	-123	-711	2	0	0	0
	MAX	-342/L6	-1735/L3	948/L6			
4200		TYPE=Rigid ANC;					
	3(HYD)	-118	-649	-3	-10	-4	184
	4(OPE)	823	-511	-109	51	-127	469
	6(OPE)	1842	-927	-394	202	-458	1565
	8(OPE)	-47	-373	-1	-4	-2	77
	10(OPE)	-47	-373	-1	-4	-2	77
	12(SUS)	-47	-373	-1	-4	-2	77
	13(SUS)	-45	-368	-1	-4	-2	75
	MAX	1842/L6	-927/L6	-394/L6	202/L6	-458/L6	1565/L6
4260		TYPE=Rigid ANC;					
	3(HYD)	-118	-912	-3	-10	-5	394

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	4(OPE)	823	-724	-109	51	-154	638
	6(OPE)	1842	-1140	-394	202	-557	1838
	8(OPE)	-47	-587	-1	-4	-2	211
	10(OPE)	-47	-587	-1	-4	-2	211
	12(SUS)	-47	-587	-1	-4	-2	211
	13(SUS)	-45	-580	-1	-4	-2	208
	MAX	1842/L6	-1140/L6	-394/L6	202/L6	-557/L6	1838/L6
4320		TYPE=Rigid ANC;					
	3(HYD)	-118	-912	-3	-18	-6	1120
	4(OPE)	823	-724	-109	-233	-204	-1171
	6(OPE)	1842	-1140	-394	-823	-738	-2427
	8(OPE)	-47	-587	-1	-8	-3	602
	10(OPE)	-47	-587	-1	-8	-3	602
	12(SUS)	-47	-587	-1	-8	-3	602
	13(SUS)	-45	-580	-1	-8	-2	593
	MAX	1842/L6	-1140/L6	-394/L6	-823/L6	-738/L6	-2427/L6

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS 2
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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

1 (HGR) CASE NOT ACTIVE
 2 (HGR) CASE NOT ACTIVE
 3 (HYD) WW+HP+H
 4 (OPE) W+T1+P1+H
 5 (Alt-SUS) W+P1+H
 6 (OPE) W+T2+P1+H
 7 (Alt-SUS) W+P1+H
 8 (OPE) W+T3+P1+H
 9 (Alt-SUS) W+P1+H
 10 (OPE) W+T4+P1+H
 11 (Alt-SUS) W+P1+H
 12 (SUS) W+P1+H
 13 (SUS) WNC+H
 14 (OPE) W+T1+P1+H+U1
 15 (OPE) W+T1+P1+H-U1
 16 (OPE) W+T1+P1+H+U2
 17 (OPE) W+T1+P1+H+U3
 18 (OPE) W+T1+P1+H-U3
 19 (OPE) W+T1+P1+H+F1
 20 (OPE) W+T1+P1+H+F2
 21 (OCC) L21=L14-L4
 22 (OCC) L22=L15-L4
 23 (OCC) L23=L16-L4
 24 (OCC) L24=L17-L4
 25 (OCC) L25=L18-L4
 26 (OCC) L26=L19-L4
 27 (OCC) L27=L20-L4
 28 (OCC) L28=L21+L11
 29 (OCC) L29=L22+L11
 30 (OCC) L30=L23+L11
 31 (OCC) L31=L24+L11
 32 (OCC) L32=L25+L11
 33 (OCC) L33=L26+L11
 34 (OCC) L34=L27+L11
 35 (EXP) L35=L4-L11
 36 (EXP) L36=L6-L11
 37 (EXP) L37=L8-L11
 38 (EXP) L38=L6-L8
 39 (OPE) L39=L4, L6, L8
 40 (OCC) L40=L21, L22, L23, L24

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**STRESS SUMMARY REPORT: Highest Stresses Mini Statement
 Various Load Cases**

LOAD CASE DEFINITION KEY

CASE 3 (HYD) WW+HP+H
 CASE 12 (SUS) W+P1+H
 CASE 13 (SUS) WNC+H
 CASE 28 (OCC) L28=L21+L11
 CASE 29 (OCC) L29=L22+L11
 CASE 30 (OCC) L30=L23+L11
 CASE 31 (OCC) L31=L24+L11
 CASE 32 (OCC) L32=L25+L11
 CASE 33 (OCC) L33=L26+L11
 CASE 34 (OCC) L34=L27+L11
 CASE 35 (EXP) L35=L4-L11
 CASE 36 (EXP) L36=L6-L11
 CASE 37 (EXP) L37=L8-L11
 CASE 38 (EXP) L38=L6-L8

Piping Code: B31.3 = B31.3 -2016, Jan 31, 2017

CODE STRESS CHECK PASSED : LOADCASE 3 (HYD) WW+HP+H

Highest Stresses: (	KPa	)	LOADCASE 3 (HYD) WW+HP+H	
Ratio (%):	28.5	@Node	4160	
Code Stress:	49101.3	Allowable Stress:		172368.9
Axial Stress:	38860.8	@Node	4120	
Bending Stress:	29449.1	@Node	280	
Torsion Stress:	1901.1	@Node	2200	
Hoop Stress:	78278.3	@Node	1939	
Max Stress Intensity:	83292.6	@Node	1978	

CODE STRESS CHECK PASSED : LOADCASE 12 (SUS) W+P1+H

Highest Stresses: (	KPa	)	LOADCASE 12 (SUS) W+P1+H	
Ratio (%):	31.8	@Node	1020	
Code Stress:	43809.0	Allowable Stress:		137819.5
Axial Stress:	25776.1	@Node	4120	
Bending Stress:	50949.9	@Node	280	
Torsion Stress:	4165.2	@Node	2460	
Hoop Stress:	52185.5	@Node	1939	
Max Stress Intensity:	55518.2	@Node	1978	

CODE STRESS CHECK PASSED : LOADCASE 13 (SUS) WNC+H

Highest Stresses: (	KPa	)	LOADCASE 13 (SUS) WNC+H	
Ratio (%):	27.9	@Node	280	
Code Stress:	38427.8	Allowable Stress:		137895.1
Axial Stress:	2177.4	@Node	1460	
Bending Stress:	50868.9	@Node	280	
Torsion Stress:	4166.0	@Node	2460	
Hoop Stress:	0.0	@Node	40	
Max Stress Intensity:	51145.1	@Node	280	

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement Various Load Cases

CODE STRESS CHECK PASSED : LOADCASE 28 (OCC) L28=L21+L11

Highest Stresses: (KPa)	LOADCASE 28 (OCC)	L28=L21+L11
Ratio (%):	55.1	@Node 2400
Code Stress:	101012.9	Allowable Stress: 183299.9
Axial Stress:	25761.3	@Node 4120
Bending Stress:	97999.1	@Node 1260
Torsion Stress:	28622.1	@Node 2460
Hoop Stress:	52185.5	@Node 1939
Max Stress Intensity:	103195.4	@Node 1260

CODE STRESS CHECK PASSED : LOADCASE 29 (OCC) L29=L22+L11

Highest Stresses: (KPa)	LOADCASE 29 (OCC)	L29=L22+L11
Ratio (%):	54.0	@Node 2400
Code Stress:	98930.5	Allowable Stress: 183299.9
Axial Stress:	25904.7	@Node 4260
Bending Stress:	111643.6	@Node 280
Torsion Stress:	23707.0	@Node 2460
Hoop Stress:	52185.5	@Node 1939
Max Stress Intensity:	115527.4	@Node 280

CODE STRESS CHECK PASSED : LOADCASE 30 (OCC) L30=L23+L11

Highest Stresses: (KPa)	LOADCASE 30 (OCC)	L30=L23+L11
Ratio (%):	51.1	@Node 2400
Code Stress:	93751.6	Allowable Stress: 183299.9
Axial Stress:	25742.1	@Node 4120
Bending Stress:	87015.6	@Node 2400
Torsion Stress:	22496.2	@Node 2460
Hoop Stress:	52185.5	@Node 1939
Max Stress Intensity:	93642.6	@Node 2400

CODE STRESS CHECK PASSED : LOADCASE 31 (OCC) L31=L24+L11

Highest Stresses: (KPa)	LOADCASE 31 (OCC)	L31=L24+L11
Ratio (%):	51.8	@Node 2400
Code Stress:	94984.4	Allowable Stress: 183299.9
Axial Stress:	25766.5	@Node 4120
Bending Stress:	92753.6	@Node 280
Torsion Stress:	25500.4	@Node 2460
Hoop Stress:	52185.5	@Node 1939
Max Stress Intensity:	94875.5	@Node 2400

CODE STRESS CHECK PASSED : LOADCASE 32 (OCC) L32=L25+L11

Highest Stresses: (KPa)	LOADCASE 32 (OCC)	L32=L25+L11
Ratio (%):	51.8	@Node 2400
Code Stress:	94863.7	Allowable Stress: 183299.9
Axial Stress:	25772.0	@Node 4120
Bending Stress:	85827.6	@Node 2400
Torsion Stress:	25330.7	@Node 2460

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
Various Load Cases

Hoop Stress: 52185.5 @Node 1939
 Max Stress Intensity: 94754.7 @Node 2400

CODE STRESS CHECK PASSED : LOADCASE 33 (OCC) L33=L26+L11

Highest Stresses: (KPa) LOADCASE 33 (OCC) L33=L26+L11
 Ratio (%): 71.1 @Node 2400
 Code Stress: 130240.5 Allowable Stress: 183299.9
 Axial Stress: 25766.2 @Node 4120
 Bending Stress: 119518.5 @Node 2400
 Torsion Stress: 36432.7 @Node 2460
 Hoop Stress: 52185.5 @Node 1939
 Max Stress Intensity: 130131.5 @Node 2400

CODE STRESS CHECK PASSED : LOADCASE 34 (OCC) L34=L27+L11

Highest Stresses: (KPa) LOADCASE 34 (OCC) L34=L27+L11
 Ratio (%): 47.8 @Node 2400
 Code Stress: 87542.2 Allowable Stress: 183299.9
 Axial Stress: 25766.2 @Node 4120
 Bending Stress: 81059.2 @Node 2400
 Torsion Stress: 25032.3 @Node 2460
 Hoop Stress: 52185.5 @Node 1939
 Max Stress Intensity: 87433.2 @Node 2400

CODE STRESS CHECK PASSED : LOADCASE 35 (EXP) L35=L4-L11

Highest Stresses: (KPa) LOADCASE 35 (EXP) L35=L4-L11
 Ratio (%): 31.9 @Node 2570
 Code Stress: 92877.8 Allowable Stress: 290890.4
 Axial Stress: 4635.7 @Node 3140
 Bending Stress: 91267.0 @Node 2570
 Torsion Stress: 15261.3 @Node 1619
 Hoop Stress: 0.0 @Node 40
 Max Stress Intensity: 204089.0 @Node 2570

CODE STRESS CHECK PASSED : LOADCASE 36 (EXP) L36=L6-L11

Highest Stresses: (KPa) LOADCASE 36 (EXP) L36=L6-L11
 Ratio (%): 34.6 @Node 2570
 Code Stress: 100607.0 Allowable Stress: 290890.4
 Axial Stress: 5035.2 @Node 3140
 Bending Stress: 99077.4 @Node 2570
 Torsion Stress: 20821.4 @Node 1619
 Hoop Stress: 0.0 @Node 40
 Max Stress Intensity: 221295.4 @Node 2570

CODE STRESS CHECK PASSED : LOADCASE 37 (EXP) L37=L8-L11

Highest Stresses: (KPa) LOADCASE 37 (EXP) L37=L8-L11
 Ratio (%): 18.7 @Node 2400
 Code Stress: 48334.0 Allowable Stress: 258165.3
 Axial Stress: 2897.1 @Node 2700

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
Various Load Cases

Bending Stress:	48134.0	@Node	2400
Torsion Stress:	5554.2	@Node	2460
Hoop Stress:	0.0	@Node	40
Max Stress Intensity:	68947.1	@Node	2400

CODE STRESS CHECK PASSED : LOADCASE 38 (EXP) L38=L6-L8

Highest Stresses: (KPa)	LOADCASE 38 (EXP) L38=L6-L8	
Ratio (%):	29.7	@Node 2570
Code Stress:	86492.3	Allowable Stress: 290890.4
Axial Stress:	4913.4	@Node 3140
Bending Stress:	84420.1	@Node 2570
Torsion Stress:	20821.4	@Node 1619
Hoop Stress:	0.0	@Node 40
Max Stress Intensity:	189940.2	@Node 2570

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Stress Summary : Multiple 3

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

1 (HGR) CASE NOT ACTIVE
 2 (HGR) CASE NOT ACTIVE
 3 (HYD) WW+HP+H
 4 (OPE) W+T1+P1+H
 5 (Alt-SUS) W+P1+H
 6 (OPE) W+T2+P1+H
 7 (Alt-SUS) W+P1+H
 8 (OPE) W+T3+P1+H
 9 (Alt-SUS) W+P1+H
 10 (OPE) W+T4+P1+H
 11 (Alt-SUS) W+P1+H
 12 (SUS) W+P1+H
 13 (SUS) WNC+H
 14 (OPE) W+T1+P1+H+U1
 15 (OPE) W+T1+P1+H-U1
 16 (OPE) W+T1+P1+H+U2
 17 (OPE) W+T1+P1+H+U3
 18 (OPE) W+T1+P1+H-U3
 19 (OPE) W+T1+P1+H+F1
 20 (OPE) W+T1+P1+H+F2
 21 (OCC) L21=L14-L4
 22 (OCC) L22=L15-L4
 23 (OCC) L23=L16-L4
 24 (OCC) L24=L17-L4
 25 (OCC) L25=L18-L4
 26 (OCC) L26=L19-L4
 27 (OCC) L27=L20-L4
 28 (OCC) L28=L21+L11
 29 (OCC) L29=L22+L11
 30 (OCC) L30=L23+L11
 31 (OCC) L31=L24+L11
 32 (OCC) L32=L25+L11
 33 (OCC) L33=L26+L11
 34 (OCC) L34=L27+L11
 35 (EXP) L35=L4-L11
 36 (EXP) L36=L6-L11
 37 (EXP) L37=L8-L11
 38 (EXP) L38=L6-L8
 39 (OPE) L39=L4, L6, L8
 40 (OCC) L40=L21, L22, L23, L24

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**STRESS SUMMARY REPORT: Highest Stresses Mini Statement
 Various Load Cases**

LOAD CASE DEFINITION KEY

CASE 3 (HYD) WW+HP+H
 CASE 12 (SUS) W+P1+H
 CASE 13 (SUS) WNC+H
 CASE 28 (OCC) L28=L21+L11
 CASE 29 (OCC) L29=L22+L11
 CASE 30 (OCC) L30=L23+L11
 CASE 31 (OCC) L31=L24+L11
 CASE 32 (OCC) L32=L25+L11
 CASE 33 (OCC) L33=L26+L11
 CASE 34 (OCC) L34=L27+L11
 CASE 35 (EXP) L35=L4-L11
 CASE 36 (EXP) L36=L6-L11
 CASE 37 (EXP) L37=L8-L11
 CASE 38 (EXP) L38=L6-L8

Piping Code: B31.3 = B31.3 -2016, Jan 31, 2017

CODE STRESS CHECK PASSED : LOADCASE 3 (HYD) WW+HP+H

Highest Stresses: (KPa)	LOADCASE 3 (HYD) WW+HP+H	
Ratio (%):	28.5 @Node 4160	
Code Stress:	49101.3	Allowable Stress: 172368.9
Axial Stress:	38860.8 @Node 4120	
Bending Stress:	29449.1 @Node 280	
Torsion Stress:	1901.1 @Node 2200	
Hoop Stress:	78278.3 @Node 1939	
Max Stress Intensity:	83292.6 @Node 1978	

CODE STRESS CHECK PASSED : LOADCASE 12 (SUS) W+P1+H

Highest Stresses: (KPa)	LOADCASE 12 (SUS) W+P1+H	
Ratio (%):	31.8 @Node 1020	
Code Stress:	43809.0	Allowable Stress: 137819.5
Axial Stress:	25776.1 @Node 4120	
Bending Stress:	50949.9 @Node 280	
Torsion Stress:	4165.2 @Node 2460	
Hoop Stress:	52185.5 @Node 1939	
Max Stress Intensity:	55518.2 @Node 1978	

CODE STRESS CHECK PASSED : LOADCASE 13 (SUS) WNC+H

Highest Stresses: (KPa)	LOADCASE 13 (SUS) WNC+H	
Ratio (%):	27.9 @Node 280	
Code Stress:	38427.8	Allowable Stress: 137895.1
Axial Stress:	2177.4 @Node 1460	
Bending Stress:	50868.9 @Node 280	
Torsion Stress:	4166.0 @Node 2460	
Hoop Stress:	0.0 @Node 40	
Max Stress Intensity:	51145.1 @Node 280	

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement Various Load Cases

CODE STRESS CHECK PASSED : LOADCASE 28 (OCC) L28=L21+L11

Highest Stresses: (	KPa	)	LOADCASE 28 (OCC) L28=L21+L11	
Ratio (%):	55.1	@Node	2400	
Code Stress:	101012.9	Allowable Stress:		183299.9
Axial Stress:	25761.3	@Node	4120	
Bending Stress:	97999.1	@Node	1260	
Torsion Stress:	28622.1	@Node	2460	
Hoop Stress:	52185.5	@Node	1939	
Max Stress Intensity:	103195.4	@Node	1260	

CODE STRESS CHECK PASSED : LOADCASE 29 (OCC) L29=L22+L11

Highest Stresses: (	KPa	)	LOADCASE 29 (OCC) L29=L22+L11	
Ratio (%):	54.0	@Node	2400	
Code Stress:	98930.5	Allowable Stress:		183299.9
Axial Stress:	25904.7	@Node	4260	
Bending Stress:	111643.6	@Node	280	
Torsion Stress:	23707.0	@Node	2460	
Hoop Stress:	52185.5	@Node	1939	
Max Stress Intensity:	115527.4	@Node	280	

CODE STRESS CHECK PASSED : LOADCASE 30 (OCC) L30=L23+L11

Highest Stresses: (	KPa	)	LOADCASE 30 (OCC) L30=L23+L11	
Ratio (%):	51.1	@Node	2400	
Code Stress:	93751.6	Allowable Stress:		183299.9
Axial Stress:	25742.1	@Node	4120	
Bending Stress:	87015.6	@Node	2400	
Torsion Stress:	22496.2	@Node	2460	
Hoop Stress:	52185.5	@Node	1939	
Max Stress Intensity:	93642.6	@Node	2400	

CODE STRESS CHECK PASSED : LOADCASE 31 (OCC) L31=L24+L11

Highest Stresses: (	KPa	)	LOADCASE 31 (OCC) L31=L24+L11	
Ratio (%):	51.8	@Node	2400	
Code Stress:	94984.4	Allowable Stress:		183299.9
Axial Stress:	25766.5	@Node	4120	
Bending Stress:	92753.6	@Node	280	
Torsion Stress:	25500.4	@Node	2460	
Hoop Stress:	52185.5	@Node	1939	
Max Stress Intensity:	94875.5	@Node	2400	

CODE STRESS CHECK PASSED : LOADCASE 32 (OCC) L32=L25+L11

Highest Stresses: (	KPa	)	LOADCASE 32 (OCC) L32=L25+L11	
Ratio (%):	51.8	@Node	2400	
Code Stress:	94863.7	Allowable Stress:		183299.9
Axial Stress:	25772.0	@Node	4120	
Bending Stress:	85827.6	@Node	2400	
Torsion Stress:	25330.7	@Node	2460	

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Various Load Cases

Hoop Stress: 52185.5 @Node 1939
 Max Stress Intensity: 94754.7 @Node 2400

CODE STRESS CHECK PASSED : LOADCASE 33 (OCC) L33=L26+L11

Highest Stresses: (KPa) LOADCASE 33 (OCC) L33=L26+L11
 Ratio (%): 71.1 @Node 2400
 Code Stress: 130240.5 Allowable Stress: 183299.9
 Axial Stress: 25766.2 @Node 4120
 Bending Stress: 119518.5 @Node 2400
 Torsion Stress: 36432.7 @Node 2460
 Hoop Stress: 52185.5 @Node 1939
 Max Stress Intensity: 130131.5 @Node 2400

CODE STRESS CHECK PASSED : LOADCASE 34 (OCC) L34=L27+L11

Highest Stresses: (KPa) LOADCASE 34 (OCC) L34=L27+L11
 Ratio (%): 47.8 @Node 2400
 Code Stress: 87542.2 Allowable Stress: 183299.9
 Axial Stress: 25766.2 @Node 4120
 Bending Stress: 81059.2 @Node 2400
 Torsion Stress: 25032.3 @Node 2460
 Hoop Stress: 52185.5 @Node 1939
 Max Stress Intensity: 87433.2 @Node 2400

CODE STRESS CHECK PASSED : LOADCASE 35 (EXP) L35=L4-L11

Highest Stresses: (KPa) LOADCASE 35 (EXP) L35=L4-L11
 Ratio (%): 31.9 @Node 2570
 Code Stress: 92877.8 Allowable Stress: 290890.4
 Axial Stress: 4635.7 @Node 3140
 Bending Stress: 91267.0 @Node 2570
 Torsion Stress: 15261.3 @Node 1619
 Hoop Stress: 0.0 @Node 40
 Max Stress Intensity: 204089.0 @Node 2570

CODE STRESS CHECK PASSED : LOADCASE 36 (EXP) L36=L6-L11

Highest Stresses: (KPa) LOADCASE 36 (EXP) L36=L6-L11
 Ratio (%): 34.6 @Node 2570
 Code Stress: 100607.0 Allowable Stress: 290890.4
 Axial Stress: 5035.2 @Node 3140
 Bending Stress: 99077.4 @Node 2570
 Torsion Stress: 20821.4 @Node 1619
 Hoop Stress: 0.0 @Node 40
 Max Stress Intensity: 221295.4 @Node 2570

CODE STRESS CHECK PASSED : LOADCASE 37 (EXP) L37=L8-L11

Highest Stresses: (KPa) LOADCASE 37 (EXP) L37=L8-L11
 Ratio (%): 18.7 @Node 2400
 Code Stress: 48334.0 Allowable Stress: 258165.3
 Axial Stress: 2897.1 @Node 2700

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
Various Load Cases

Bending Stress:	48134.0	@Node	2400
Torsion Stress:	5554.2	@Node	2460
Hoop Stress:	0.0	@Node	40
Max Stress Intensity:	68947.1	@Node	2400

CODE STRESS CHECK PASSED : LOADCASE 38 (EXP) L38=L6-L8

Highest Stresses: (KPa)	LOADCASE 38 (EXP) L38=L6-L8	
Ratio (%):	29.7	@Node 2570
Code Stress:	86492.3	Allowable Stress: 290890.4
Axial Stress:	4913.4	@Node 3140
Bending Stress:	84420.1	@Node 2570
Torsion Stress:	20821.4	@Node 1619
Hoop Stress:	0.0	@Node 40
Max Stress Intensity:	189940.2	@Node 2570

BNK-GCS-CN-036

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Line no.

Stress sketch

Input echo

Restraint summary

Stress summary

Nozzle load Table

LINE NO.:

1.GAS-111-0031B-AN05-8"-ET

2.GAS-111-0036B-CN05-6"-PT

3.GAS-111-0032B-CN05-2"-PT

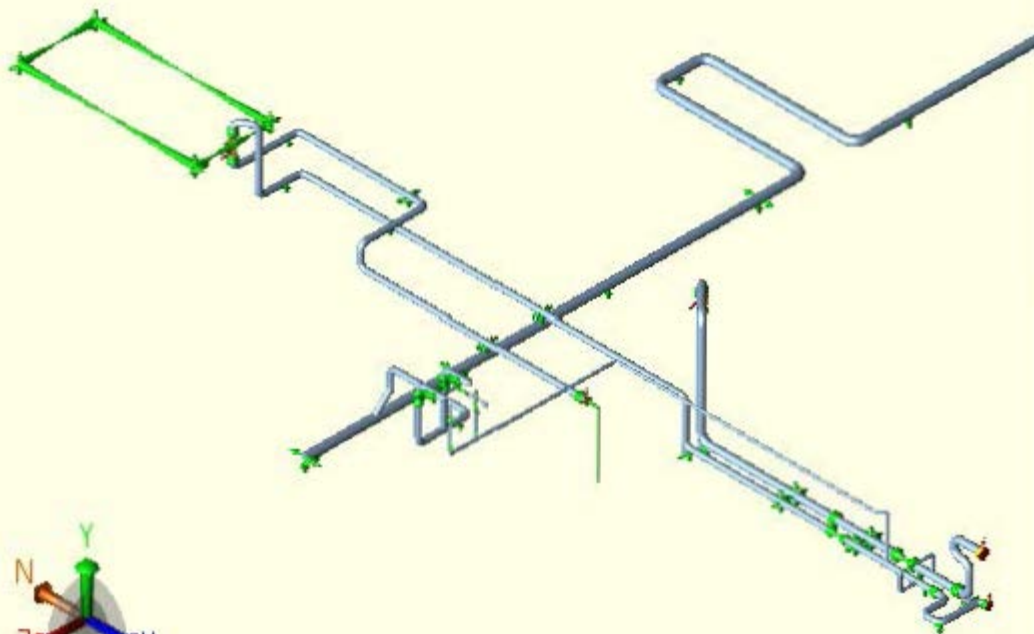
4.GAS-111-0033B-CN05-2"-PT

5.FL-112-0015B-AN07-2"-PT

6.FL-112-0014B-AN07-6"-PT

7.FL-112-0016B-AN07-6"-PT

8.GAS-111-0037B-CS00-6"-NP



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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

1 (HGR) CASE NOT ACTIVE
 2 (HGR) CASE NOT ACTIVE
 3 (HYD) WW+HP+H
 4 (OPE) W+T1+P1+H
 5 (Alt-SUS) W+P1+H
 6 (OPE) W+T2+P1+H
 7 (Alt-SUS) W+P1+H
 8 (OPE) W+T3+P1+H
 9 (Alt-SUS) W+P1+H
 10 (OPE) W+T4+P1+H
 11 (Alt-SUS) W+P1+H
 12 (SUS) W+P1+H
 13 (SUS) WNC+H
 14 (OPE) W+T1+P1+H+U1
 15 (OPE) W+T1+P1+H-U1
 16 (OPE) W+T1+P1+H+U2
 17 (OPE) W+T1+P1+H+U3
 18 (OPE) W+T1+P1+H-U3
 19 (OPE) W+T1+P1+H+F1
 20 (OPE) W+T1+P1+H+F2
 21 (OCC) L21=L14-L4
 22 (OCC) L22=L15-L4
 23 (OCC) L23=L16-L4
 24 (OCC) L24=L17-L4
 25 (OCC) L25=L18-L4
 26 (OCC) L26=L19-L4
 27 (OCC) L27=L20-L4
 28 (OCC) L28=L21+L11
 29 (OCC) L29=L22+L11
 30 (OCC) L30=L23+L11
 31 (OCC) L31=L24+L11
 32 (OCC) L32=L25+L11
 33 (OCC) L33=L26+L11
 34 (OCC) L34=L27+L11
 35 (EXP) L35=L4-L11
 36 (EXP) L36=L6-L11
 37 (EXP) L37=L8-L11
 38 (EXP) L38=L6-L8
 39 (OPE) L39=L4, L6, L8
 40 (OCC) L40=L21, L22, L23, L24

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Job Description:

PROJECT:

CLIENT :

ANALYST:

NOTES :

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INPUT LISTING

File created by FEATools

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PIPE DATA

 From 20 To 40 DX= -.105 m.

PIPE

Dia= 21.907 cm. Wall= .635 cm. Cor= .3000 cm.

Element Name= FLANGE_FLG_150

GENERAL

T1= 20 C T2= 85 C T3= 21 C P1= 900.0205 KPa PHyd= 1,350.0308 KPa

Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 203,452,944 KPa

EH2= 199,086,608 KPa EH3= 203,401,232 KPa EH4= 203,401,232 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000058 kg./cu.cm.

Insul Thk= .000 cm. Insul Den= .0000000 kg./cu.cm.

RIGID Weight= 177.93 N.

RESTRAINTS

Node 20 ANC

UNIFORM LOAD

Vector1 in G-s X1 Dir = .26 g's Y1 Dir = .00 g's Z1 Dir = .00 g's

Vector2 in G-s X2 Dir = .00 g's Y2 Dir = .12 g's Z2 Dir = .00 g's

Vector3 in G-s X3 Dir = .00 g's Y3 Dir = .00 g's Z3 Dir = .26 g's

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

EQUIPMENT LIMITS

Nozzle Node = 20 Limiting Loads: A=pipe; B=ref; C=AxB; FA= 9,600.48 N.

FB= 9,600.48 N. FC= 7,200.36 N. MA= 5,760.24 N.m. MB= 3,840.16 N.m.

MC= 4,990.21 N.m. Equipment Major Direction Vector= .0000 1.0000 .0000

Interact. Mtd= Absolute

 From 40 To 60 DX= -1.065 m.

BEND at "TO" end

Radius= 30.480 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 59

Angle/Node @2= .00 58

 From 60 To 80 DY= -.610 m.

BEND at "TO" end

Radius= 30.480 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 79

 From 80 To 100 DX= .610 m.

BEND at "TO" end

Radius= 30.480 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 99

 From 100 To 120 DY= -.871 m.

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INPUT LISTING

From 120 To 140 DY= -.305 m.

RIGID Weight= .00 N.

From 140 To 160 DY= -.200 m.

PIPE

Dia= 16.827 cm. Wall= .711 cm.

GENERAL

T1= 21 C T2= 21 C P1= .0000 KPa PHyd= .0000 KPa

Fluid Den= .0000000 kg./cu.cm. Insul Thk= .000 cm.

RESTRAINTS

Node 160 -X Mu = .30

Node 160 Z

Node 121 +Y Mu = .10

Node 160 X Cnode 121

HANGERS

Hanger Node = 160 Hanger Connecting Node = 121

Available Space = -100.0000 cm. Allowed Load Variation = 25.0000

No. Hangers = 0.0 Short Range Flag = -1 User Operating Load = .00 N.

Free Node = 0 Free Node = 0 Free Code = 0.0 Spring Rate = .00 N./cm.

Theoretical Cold Load = .00 N.

SIF's & TEE's

Node 140 Unreinforced Tee

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 120 To 180 DY= -.305 m.

PIPE

Dia= 21.907 cm. Wall= .635 cm.

GENERAL

T1= 36 C T2= 85 C P1= 900.0205 KPa PHyd= 1,350.0308 KPa

Fluid Den= .0000058 kg./cu.cm. Insul Thk= .000 cm.

DOUBLE FLANGED BEND at "TO" end

Radius= 30.480 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 179

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 180 To 200 DX= -.305 m.

From 200 To 220 DX= -.105 m.

Element Name= FLANGE_FLG_300

RIGID Weight= 177.93 N.

From 220 To 240 DX= -.105 m.

Element Name= FLANGE_FLG_300

RIGID Weight= 177.93 N.

From 240 To 260 DX= -.700 m.

From 260 To 280 DX= -.248 m.

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INPUT LISTING

SIF's & TEE's

Node 280 Weldolet

 From 280 To 300 DX= -.500 m.

RESTRAINTS

Node 300 +Y Mu = .30

 From 300 To 320 DX= -.200 m.

 From 320 To 340 DX= -.105 m.

Element Name= FLANGE_FLG_300

RIGID Weight= 177.93 N.

 From 340 To 360 DX= -.573 m.

Element Name= GATE_NOFLG_300

RIGID Weight= 1,023.41 N.

 From 360 To 380 DX= -.105 m.

Element Name= FLANGE_FLG_300

RIGID Weight= 177.93 N.

 From 380 To 400 DX= -1.000 m.

RESTRAINTS

Node 400 Y Mu = .30

Node 400 Z

 From 400 To 420 DX= -1.288 m.

 From 420 To 440 DX= -.105 m.

Element Name= FLANGE_FLG_300

RIGID Weight= 177.93 N.

 From 440 To 460 DX= -.105 m.

Element Name= FLANGE_FLG_300

RIGID Weight= 177.93 N.

 From 460 To 480 DX= -1.500 m.

RESTRAINTS

Node 480 Y Mu = .30

Node 480 Z

 From 480 To 500 DX= -3.805 m.

SINGLE FLANGED BEND at "TO" end

Radius= 30.480 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 499

Angle/Node @2= .00 498

 From 500 To 520 DY= .305 m.

 From 520 To 540 DY= -.305 m.

RIGID Weight= .00 N.

 From 540 To 560 DY= -.300 m.

PIPE

Dia= 16.827 cm. Wall= .711 cm.

GENERAL

T1= 21 C T2= 21 C P1= .0000 KPa PHyd= .0000 KPa

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INPUT LISTING

```

Fluid Den= .0000000 kg./cu.cm.    Insul Thk= .000 cm.
RESTRAINTS
  Node 560 +Y    Mu = .30
  Node 560 Z
SIF's & TEE's
  Node 540 Unreinforced Tee
ALLOWABLE STRESSES
  B31.3 (2016)      Cycle Max Switch = ---    Sc= 137,895 KPa
  Sh1= 137,895 KPa  Sh2= 137,895 KPa  Sh3= 137,895 KPa  Sh4= 137,895 KPa
  Sh5= 137,895 KPa  Sh6= 137,895 KPa  Sh7= 137,895 KPa  Sh8= 137,895 KPa
  Sh9= 137,895 KPa  Sy= 241,316 KPa
-----
From 520 To 580 DY= 3.935 m.
PIPE
  Dia= 21.907 cm.    Wall= .635 cm.
GENERAL
  T1= 36 C    T2= 85 C    P1= 900.0205 KPa    PHyd= 1,350.0308 KPa
  Fluid Den= .0000058 kg./cu.cm.    Insul Thk= .000 cm.
BEND at "TO" end
  Radius= 30.480 cm. (LONG)    Bend Angle= 90.000    Angle/Node @1= 45.00 579
  Angle/Node @2= .00 578
ALLOWABLE STRESSES
  B31.3 (2016)      Cycle Max Switch = ---    Sc= 137,895 KPa
  Sh1= 137,895 KPa  Sh2= 137,895 KPa  Sh3= 137,895 KPa  Sh4= 137,895 KPa
  Sh5= 137,895 KPa  Sh6= 137,895 KPa  Sh7= 137,895 KPa  Sh8= 137,895 KPa
  Sh9= 137,895 KPa  Sy= 241,316 KPa
-----
From 580 To 600 DX= -.354 m.    DZ= -.354 m.
-----
From 600 To 620 DX= -.354 m.    DZ= -.354 m.
-----
From 620 To 640 DY= -.084 m.
RIGID Weight= .00 N.
-----
From 640 To 660 DY= -.300 m.
PIPE
  Dia= 11.430 cm.    Wall= .602 cm.
GENERAL
  T1= 21 C    T2= 21 C    P1= .0000 KPa    PHyd= .0000 KPa
  Fluid Den= .0000000 kg./cu.cm.    Insul Thk= .000 cm.
RESTRAINTS
  Node 660 +Y    Cnode 800    Mu = .30
ALLOWABLE STRESSES
  B31.3 (2016)      Cycle Max Switch = ---    Sc= 137,895 KPa
  Sh1= 137,895 KPa  Sh2= 137,895 KPa  Sh3= 137,895 KPa  Sh4= 137,895 KPa
  Sh5= 137,895 KPa  Sh6= 137,895 KPa  Sh7= 137,895 KPa  Sh8= 137,895 KPa
  Sh9= 137,895 KPa  Sy= 241,316 KPa
-----
From 620 To 680 DX= -.543 m.    DZ= -.543 m.
PIPE
  Dia= 21.907 cm.    Wall= .635 cm.
GENERAL
  T1= 36 C    T2= 85 C    P1= 900.0205 KPa    PHyd= 1,350.0308 KPa
  Fluid Den= .0000058 kg./cu.cm.    Insul Thk= .000 cm.
BEND at "TO" end
  Radius= 30.480 cm. (LONG)    Bend Angle= 90.000    Angle/Node @1= 45.00 679

```

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Angle/Node @2= .00 678

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 680 To 700 DY= -.305 m.

 From 700 To 720 DY= -.105 m.

Element Name= FLANGE_FLG_300

RIGID Weight= 177.93 N.

RESTRAINTS

Node 720 ANC Cnode 740

 From 740 To 760 DY= -.105 m.

Element Name= FLANGE_FLG_300

RIGID Weight= 177.93 N.

 From 760 To 780 DY= -.181 m.

RESTRAINTS

Node 780 ANC Cnode 820

EQUIPMENT LIMITS

Nozzle Node = 780 Limiting Loads: A=pipe; B=ref; C=AxB; FA= 9,600.48 N.
 FB= 9,600.48 N. FC= 7,200.36 N. MA= 5,760.24 N.m. MB= 3,840.16 N.m.
 MC= 4,990.21 N.m. Equipment Major Direction Vector= .0000 .0000 1.0000
 Interact. Mtd= Absolute

 From 780 To 800 DX= .543 m. DY= .313 m. DZ= .543 m.

RIGID Weight= .00 N.

 From 820 To 840 DY= -3.065 m.

PIPE

Dia= 91.440 cm. Wall= 1.500 cm.

GENERAL

Mat= (383)A516 70 E= 203,401,232 KPa EH1= 202,155,536 KPa
 EH2= 199,086,608 KPa EH3= 203,401,232 KPa EH4= 203,401,232 KPa
 EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa
 EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292
 Pipe Den= .0078334 kg./cu.cm. Insul Thk= .000 cm.

RIGID Weight= .00 N.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 160,648 KPa
 Sh1= 160,648 KPa Sh2= 160,062 KPa Sh3= 160,648 KPa Sh4= 160,648 KPa
 Sh5= 160,648 KPa Sh6= 160,648 KPa Sh7= 160,648 KPa Sh8= 160,648 KPa
 Sh9= 160,648 KPa Sy= 262,001 KPa

 From 840 To 860 DY= -1.200 m.

PIPE

Dia= 91.440 cm. Wall= 1.200 cm.

Insul Thk= .000 cm.

RIGID Weight= .00 N.

RESTRAINTS

Node 860 ANC

 From 280 To 880 DY= .743 m.

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PIPE

Dia= 6.032 cm. Wall= .874 cm.

GENERAL

Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 202,155,536 KPa

EH2= 199,086,608 KPa EH3= 203,401,232 KPa EH4= 203,401,232 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm. Insul Thk= .000 cm.

BEND at "TO" end

Radius= 7.620 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 879

Angle/Node @2= .00 878

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 880 To 900 DZ= .510 m.

From 900 To 910 DZ= .067 m.

Element Name= BALL_FLG_600

GENERAL

T1= 125 C T2= 155 C P1= 1,900.0433 KPa PHyd= 3,300.0752 KPa

Fluid Den= .0000430 kg./cu.cm.

RIGID Weight= 31.14 N.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,819 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 910 To 920 DZ= .301 m.

RIGID Weight= 66.72 N.

From 920 To 930 DZ= .275 m.

PIPE

Dia= 6.032 cm. Wall= .554 cm. Element Name= CHECK_FLG_150

GENERAL

P1= 2,200.0500 KPa Fluid Den= .0000154 kg./cu.cm. Insul Thk= .000 cm.

RIGID Weight= 355.86 N.

From 930 To 940 DZ= .073 m.

RIGID Weight= 44.48 N.

From 940 To 960 DZ= .077 m.

SINGLE FLANGED BEND at "TO" end

Radius= 7.620 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 959

Angle/Node @2= .00 958

From 960 To 980 DY= -.652 m.

BEND at "TO" end

Radius= 7.620 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 979

Angle/Node @2= .00 978

From 980 To 1000 DZ= -.077 m.

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From 1000 To 1020 DZ= -.621 m.
  Element Name= CHECK_FLG_600
-----
From 1020 To 1040 DX= .300 m.
PIPE
  Dia= 16.827 cm. Wall= .711 cm.
GENERAL
  Fluid Den= .0000154 kg./cu.cm. Insul Thk= .000 cm.
RESTRAINTS
  Node 1040 +Y Mu = .30
ALLOWABLE STRESSES
  B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
  Sh1= 137,895 KPa Sh2= 137,819 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
  Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
  Sh9= 137,895 KPa Sy= 241,316 KPa
-----
From 1040 To 1060 DX= .318 m.
-----
From 1060 To 1080 DX= .102 m.
  Element Name= FLG.PR_FLG_150
RIGID Weight= 191.27 N.
-----
From 1080 To 1100 DX= .102 m.
  Element Name= FLG.PR_FLG_150
RIGID Weight= 191.27 N.
-----
From 1100 To 1120 DX= .390 m.
BEND at "TO" end
  Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1119
  Angle/Node @2= .00 1118
-----
From 1120 To 1140 DZ= 1.000 m.
BEND at "TO" end
  Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1139
  Angle/Node @2= .00 1138
-----
From 1140 To 1160 DX= .466 m.
-----
From 1160 To 1180 DX= .233 m.
BEND at "TO" end
  Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1179
  Angle/Node @2= .00 1178
RESTRAINTS
  Node 1180 -X Mu = .30
  Node 1180 +Y Mu = .30
-----
From 1180 To 1200 DZ= -1.600 m.
BEND at "TO" end
  Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1199
  Angle/Node @2= .00 1198
-----
From 1200 To 1220 DX= .229 m.
-----
From 1220 To 1240 DX= .102 m.
  Element Name= FLANGE_FLG_600
RIGID Weight= 191.27 N.

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RESTRAINTS

Node 1240 ANC

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,819 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

EQUIPMENT LIMITS

Nozzle Node = 1240
 Limiting Loads: A=pipe; B=ref; C=AxB; FA= 7,200.36 N. FB= 7,200.36 N.
 FC= 5,400.27 N. MA= 3,240.14 N.m. MB= 2,160.09 N.m. MC= 2,810.12 N.m.
 Equipment Major Direction Vector= .0000 1.0000 .0000
 Interact. Mtd= Absolute

 From 1020 To 1260 DX= -1.208 m.

SIF's & TEE's

Node 1260 Weldolet

 From 1260 To 1280 DX= -1.275 m.

RESTRAINTS

Node 1280 Y Mu = .30

Node 1280 Z

 From 1280 To 1300 DX= -.368 m.

 From 1300 To 1320 DX= -.102 m.

Element Name= FLANGE_FLG_600

RIGID Weight= 191.27 N.

 From 1320 To 1340 DX= -.453 m.

Element Name= CHECK_NOFLG_600

RIGID Weight= 1,850.46 N.

 From 1340 To 1360 DX= -.102 m.

Element Name= FLANGE_NOFLG_600

RIGID Weight= 191.27 N.

 From 1360 To 1380 DX= -1.973 m.

RESTRAINTS

Node 1380 Y Mu = .30

Node 1380 Z

 From 1380 To 1400 DX= -3.826 m.

SINGLE FLANGED BEND at "TO" end

Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1399

Angle/Node @2= .00 1398

 From 1400 To 1420 DY= .229 m.

 From 1420 To 1440 DY= -.229 m.

RIGID Weight= .00 N.

 From 1440 To 1460 DY= -.300 m.

PIPE

Dia= 11.430 cm. Wall= .602 cm.

GENERAL

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T1= 21 C T2= 21 C P1= .0000 KPa PHyd= .0000 KPa
 Fluid Den= .0000000 kg./cu.cm. Insul Thk= .000 cm.

RESTRAINTS

Node 1460 +Y Mu = .30
 Node 1460 Z

SIF's & TEE's

Node 1440 Unreinforced Tee

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 1420 To 1480 DY= 1.455 m.

PIPE

Dia= 16.827 cm. Wall= 1.097 cm.

GENERAL

T1= 125 C T2= 155 C P1= 1,900.0433 KPa PHyd= 3,300.0752 KPa
 Fluid Den= .0000154 kg./cu.cm. Insul Thk= 4.000 cm.

BEND at "TO" end

Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1479
 Angle/Node @2= .00 1478

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,819 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 1480 To 1500 DX= -5.760 m.

RESTRAINTS

Node 1500 +Y
 Node 1500 Z

 From 1500 To 1520 DX= -6.000 m.

RESTRAINTS

Node 1520 +Y Mu = .30

 From 1520 To 1540 DX= -3.570 m.

BEND at "TO" end

Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1539
 Angle/Node @2= .00 1538

 From 1540 To 1560 DZ= .600 m.

RESTRAINTS

Node 1560 +Y Mu = .30

 From 1560 To 1580 DZ= 1.117 m.

BEND at "TO" end

Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1579
 Angle/Node @2= .00 1578

 From 1580 To 1600 DY= 2.487 m.

BEND at "TO" end

Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1599
 Angle/Node @2= .00 1598

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From 1600 To 1620 DX= -.618 m. DZ= .432 m.
BEND at "TO" end
  Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1619
  Angle/Node @2= .00 1618
-----
From 1620 To 1640 DY= -.229 m.
-----
From 1640 To 1660 DY= -.102 m.
  Element Name= FLANGE_NOFLG_600
RIGID Weight= 191.27 N.
-----
From 1660 To 1680 DY= -.102 m.
  Element Name= FLANGE_NOFLG_600
RIGID Weight= 191.27 N.
-----
From 1680 To 1700 DY= -.127 m.
RESTRAINTS
  Node 1700 ANC Cnode 1720
EQUIPMENT LIMITS
  Nozzle Node = 1700
  Limiting Loads: A=pipe; B=ref; C=AxB; FA= 15,090.75 N. FB= 15,090.75 N.
  FC= 12,000.60 N. MA= 9,150.39 N.m. MB= 4,890.21 N.m. MC= 6,420.27 N.m.
  Equipment Major Direction Vector= .0000 .0000 1.0000
  Interact. Mtd= Absolute
-----
From 1720 To 1740 DY= -.240 m.
GENERAL
  P1= 2,200.0500 KPa
RIGID Weight= .00 N.
-----
From 1740 To 1760 DY= -.240 m.
RIGID Weight= .00 N.
-----
From 1780 To 1800 DY= -.127 m.
GENERAL
  T1= 60 C
RESTRAINTS
  Node 1780 ANC Cnode 1760
ALLOWABLE STRESSES
  B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
  Sh1= 137,895 KPa Sh2= 137,819 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
  Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
  Sh9= 137,895 KPa Sy= 241,316 KPa
EQUIPMENT LIMITS
  Nozzle Node = 1780
  Limiting Loads: A=pipe; B=ref; C=AxB; FA= 15,090.75 N. FB= 15,090.75 N.
  FC= 12,000.60 N. MA= 9,150.39 N.m. MB= 4,890.21 N.m. MC= 6,420.27 N.m.
  Equipment Major Direction Vector= .0000 .0000 1.0000
  Interact. Mtd= Absolute
-----
From 1800 To 1820 DY= -.102 m.
  Element Name= FLANGE_NOFLG_150
RIGID Weight= 191.27 N.
-----
From 1740 To 1840 DZ= 1.500 m.
GENERAL

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T1= 142 C    T2= 175 C
RIGID Weight= 2,250.11 N.
RESTRAINTS
  Node 1840 Y Mu = .10
  Node 1840 X Mu = .30
  Node 1840 Z Gap= .600 cm.
ALLOWABLE STRESSES
  B31.3 (2016)      Cycle Max Switch = --- Sc= 137,895 KPa
  Sh1= 137,895 KPa  Sh2= 137,571 KPa  Sh3= 137,895 KPa  Sh4= 137,895 KPa
  Sh5= 137,895 KPa  Sh6= 137,895 KPa  Sh7= 137,895 KPa  Sh8= 137,895 KPa
  Sh9= 137,895 KPa  Sy= 241,316 KPa
-----
From 1840 To 1860 DX= -7.035 m.
RIGID Weight=10,500.52 N.
RESTRAINTS
  Node 1860 Y Mu = .10
  Node 1860 Z Gap= .600 cm. Mu = .30
-----
From 1860 To 1880 DZ= -3.000 m.
RIGID Weight= 4,500.22 N.
RESTRAINTS
  Node 1880 Y Mu = .10
  Node 1880 Z Gap= .600 cm.
-----
From 1880 To 1900 DX= 7.035 m.
RIGID Weight=10,500.52 N.
RESTRAINTS
  Node 1900 Y Mu = .10
  Node 1900 X
  Node 1900 Z Gap= .600 cm.
-----
From 1900 To 1740 DZ= 1.500 m.
RIGID Weight= 2,250.11 N.
-----
From 1820 To 1920 DY= -.102 m.
PIPE
  Dia= 16.827 cm. Wall= .340 cm. Cor= .0000 cm.
  Element Name= FLANGE_NOFLG_150
GENERAL
  T1= 60 C    T2= 155 C    Mat= (165)A312 TP316L    E= 195,127,520 KPa
  EH1= 192,364,096 KPa  EH2= 185,780,080 KPa  EH3= 195,127,520 KPa
  EH4= 195,127,520 KPa  EH5= 195,127,520 KPa  EH6= 195,127,520 KPa
  EH7= 195,127,520 KPa  EH8= 195,127,520 KPa  EH9= 195,127,520 KPa
  v = .292 Pipe Den= .0080272 kg./cu.cm. Fluid Den= .0000183 kg./cu.cm.
  Insul Thk= .000 cm.
RIGID Weight= 191.27 N.
ALLOWABLE STRESSES
  B31.3 (2016)      Cycle Max Switch = --- Sc= 115,142 KPa
  Sh1= 115,142 KPa  Sh2= 114,386 KPa  Sh3= 115,142 KPa  Sh4= 115,142 KPa
  Sh5= 115,142 KPa  Sh6= 115,142 KPa  Sh7= 115,142 KPa  Sh8= 115,142 KPa
  Sh9= 115,142 KPa  Sy= 172,369 KPa
-----
From 1920 To 1940 DY= -.229 m.
GENERAL
  P1= 2,200.0500 KPa Fluid Den= .0000183 kg./cu.cm.
SINGLE FLANGED BEND at "TO" end

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    Radius= 22.860 cm. (LONG)    Bend Angle= 89.714    Angle/Node @1= 44.86 1939
-----
From 1940 To 1960 DY= -.011 m.  DZ= -2.257 m.
RESTRAINTS
    Node 1960 +Y    Mu = .30
-----
From 1960 To 1980 DY= -.002 m.  DZ= -.350 m.
BEND at "TO" end
    Radius= 22.860 cm. (LONG)    Bend Angle= 90.000    Angle/Node @1= 45.00 1979
    Angle/Node @2= .00 1978
-----
From 1980 To 2000 DX= 4.441 m.
RESTRAINTS
    Node 2000 +Y    Mu = .30
    Node 2000 Z    Gap= .300 cm.    Mu = .30
-----
From 2020 To 2030 DZ= -1.687 m.
PIPE
    Dia= 27.305 cm.    Wall= .927 cm.    Cor= .6000 cm.
GENERAL
    T1= 30 C    T2= 85 C    T4= 200 C    P1= 550.0125 KPa    PHyd= 825.0188 KPa
    Mat= (106)A106 Grade B    E= 203,401,232 KPa    EH1= 202,660,192 KPa
    EH2= 199,086,608 KPa    EH3= 203,401,232 KPa    EH4= 191,317,008 KPa
    EH5= 203,401,232 KPa    EH6= 203,401,232 KPa    EH7= 203,401,232 KPa
    EH8= 203,401,232 KPa    EH9= 203,401,232 KPa    v = .292
    Pipe Den= .0078334 kg./cu.cm.    Fluid Den= .0000015 kg./cu.cm.
    Insul Thk= .000 cm.
SIF's & TEE's
    Node 2020 <No Type Specified>    SIF(in)= 2.080    SIF(out)= 2.460
ALLOWABLE STRESSES
    B31.3 (2016)    Cycle Max Switch = ---    Sc= 137,895 KPa
    Sh1= 137,895 KPa    Sh2= 137,895 KPa    Sh3= 137,895 KPa    Sh4= 137,261 KPa
    Sh5= 137,895 KPa    Sh6= 137,895 KPa    Sh7= 137,895 KPa    Sh8= 137,895 KPa
    Sh9= 137,895 KPa    Sy= 241,316 KPa
-----
From 2030 To 2040 DZ= -3.313 m.
RESTRAINTS
    Node 2040 +Y    Mu = .30
    Node 2040 X    Gap= .300 cm.
-----
From 2020 To 2060 DZ= 1.000 m.
RESTRAINTS
    Node 2060 +Y    Mu = .30
    Node 2060 X    Gap= .300 cm.    Mu = .30
    Node 2060 Z
SIF's & TEE's
    Node 2020 <No Type Specified>    SIF(in)= 2.080    SIF(out)= 2.460
-----
From 1260 To 2140 DY= 1.780 m.
PIPE
    Dia= 6.032 cm.    Wall= .874 cm.    Cor= .3000 cm.
GENERAL
    T1= 125 C    T2= 155 C    T4= 21 C    P1= 2,200.0500 KPa    PHyd= 3,300.0752 KPa
    Fluid Den= .0000154 kg./cu.cm.    Insul Thk= .000 cm.
BEND at "TO" end
    Radius= 7.620 cm. (LONG)    Bend Angle= 90.000    Angle/Node @1= 45.00 2139
  
```

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Angle/Node @2= .00 2138
ALLOWABLE STRESSES
  B31.3 (2016)      Cycle Max Switch = ---   Sc= 137,895 KPa
  Sh1= 137,895 KPa  Sh2= 137,819 KPa   Sh3= 137,895 KPa   Sh4= 137,895 KPa
  Sh5= 137,895 KPa  Sh6= 137,895 KPa   Sh7= 137,895 KPa   Sh8= 137,895 KPa
  Sh9= 137,895 KPa  Sy= 241,316 KPa

-----
From 2140 To 2160 DX= -.240 m.  DZ= .240 m.
BEND at "TO" end
  Radius= 7.620 cm. (LONG)   Bend Angle= 45.000   Angle/Node @1= 22.50 2159
  Angle/Node @2= .00 2158

-----
From 2160 To 2180 DX= -4.032 m.
RESTRAINTS
  Node 2180 +Y
  Node 2180 Z   Gap= .300 cm.

-----
From 2180 To 2190 DX= -6.000 m.
RESTRAINTS
  Node 2190 +Y   Mu = .30

-----
From 2190 To 2200 DX= -.388 m.
BEND at "TO" end
  Radius= 7.620 cm. (LONG)   Bend Angle= 90.000   Angle/Node @1= 45.00 2199
  Angle/Node @2= .00 2198

-----
From 2200 To 2220 DZ= 2.350 m.
RESTRAINTS
  Node 2220 +Y   Mu = .30
  Node 2220 X   Gap= .300 cm.

-----
From 2220 To 2280 DZ= 3.176 m.
SIF's & TEE's
  Node 2280 Welding Tee

-----
From 2280 To 2290 DX= .000 m.  DZ= .500 m.

-----
From 2280 To 2320 DY= .190 m.
RESTRAINTS
  Node 2320 +Y

-----
From 2320 To 2330 DY= .738 m.
SIF's & TEE's
  Node 2330 Welding Tee

-----
From 2330 To 2340 DY= .086 m.

-----
From 2340 To 2346 DY= .073 m.
  Element Name= GATE_FLG_600
RIGID Weight= 44.48 N.

-----
From 2346 To 2352 DY= .212 m.
RIGID Weight= 258.00 N.

-----
From 2352 To 2360 DY= .073 m.
RIGID Weight= 44.48 N.

```

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INPUT LISTING

 From 2360 To 2380 DY= .250 m.

From 2380 To 2400 DY= .090 m.

REDUCER

Diam2= 4.826 cm. Wall2= .714 cm.

From 2400 To 2410 DY= .071 m.

PIPE

Dia= 4.826 cm. Wall= .714 cm.

Insul Thk= .000 cm.

RIGID Weight= 40.03 N.

From 2410 To 2420 DY= .067 m.

RIGID Weight= 50.00 N.

FORCES & MOMENTS

Node 2420 FY1= 1,000.05 N. FZ1= -2,000.10 N.

From 2420 To 2430 DX= -.046 m. DZ= .000 m.

PIPE

Dia= 8.890 cm. Wall= .762 cm.

Insul Thk= .000 cm.

RIGID Weight= 71.17 N.

From 2430 To 2440 DX= -.082 m. DZ= .000 m.

RIGID Weight= 71.17 N.

From 2440 To 2460 DX= -.073 m.

PIPE

Cor= .6000 cm. Element Name= FLANGE_FLG_150

GENERAL

T1= 30 C T2= 85 C T3= 21 C T4= 200 C P1= 750.0171 KPa

Phyd= 825.0188 KPa Fluid Den= .0000015 kg./cu.cm.

RIGID Weight= 54.49 N.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,261 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 2460 To 2480 DX= -.140 m. DY= -.040 m.

REDUCER

Diam2= 16.827 cm. Wall2= 1.097 cm.

From 2480 To 2500 DX= -.354 m.

PIPE

Dia= 16.827 cm. Wall= 1.097 cm.

Insul Thk= .000 cm.

RESTRAINTS

Node 2500 +Y Mu = .30

Node 2500 Z

Node 2500 X

From 2500 To 2520 DX= -.583 m. DZ= .000 m.

SINGLE FLANGED BEND at "TO" end

Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 2519

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INPUT LISTING

Angle/Node @2= .00 2518

 From 2520 To 2540 DY= -.229 m.

From 2540 To 2546 DY= -.092 m.

Element Name= BALL_FLG_150

RIGID Weight= 111.21 N.

From 2546 To 2552 DY= -.276 m.

RIGID Weight= 1,005.30 N.

From 2552 To 2560 DY= -.092 m.

RIGID Weight= 111.21 N.

From 2560 To 2570 DY= -.194 m.

From 2570 To 2580 DY= -1.208 m.

SIF's & TEE's

Node 2580 Welding Tee

From 2580 To 2600 DX= .000 m. DZ= -.680 m.

RESTRAINTS

Node 2600 +Y Mu = .30

From 2290 To 2300 DZ= .500 m.

PIPE

Dia= 6.032 cm. Wall= .554 cm. Cor= .3000 cm.

GENERAL

T1= 125 C T2= 155 C T4= 21 C P1= 2,200.0500 KPa PHyd= 3,300.0752 KPa

Fluid Den= .0000154 kg./cu.cm. Insul Thk= .000 cm.

BEND at "TO" end

Radius= 7.620 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 2301

Angle/Node @2= .00 2302

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,819 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 2300 To 2620 DY= .190 m.

PIPE

Dia= 6.032 cm. Wall= .874 cm. Cor= .3000 cm.

GENERAL

T1= 125 C T2= 155 C P1= 2,200.0500 KPa PHyd= 3,300.0752 KPa

Fluid Den= .0000154 kg./cu.cm. Insul Thk= .000 cm.

RESTRAINTS

Node 2620 +Y

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,819 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 2620 To 2640 DY= .823 m.

From 2640 To 2646 DY= .073 m.

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INPUT LISTING

```

  Element Name= GATE_FLG_600
RIGID Weight= 44.48 N.
-----
From 2646 To 2652 DY= .212 m.
RIGID Weight= 258.00 N.
-----
From 2652 To 2660 DY= .073 m.
RIGID Weight= 44.48 N.
-----
From 2660 To 2680 DY= .250 m.
-----
From 2680 To 2700 DY= .059 m.
REDUCER
  Diam2= 4.826 cm. Wall2= .714 cm.
-----
From 2700 To 2710 DY= .071 m.
PIPE
  Dia= 4.826 cm. Wall= .714 cm.
  Insul Thk= .000 cm.
RIGID Weight= 40.03 N.
-----
From 2710 To 2720 DY= .064 m.
RIGID Weight= 80.07 N.
FORCES & MOMENTS
  Node 2720 FX2= 2,000.10 N. FY2= 1,000.05 N. FZ2= .00 N.
-----
From 2720 To 2730 DX= -.046 m.
PIPE
  Dia= 8.890 cm. Wall= .549 cm.
  Insul Thk= .000 cm.
RIGID Weight= 71.17 N.
-----
From 2730 To 2740 DX= -.083 m.
RIGID Weight= 71.17 N.
-----
From 2740 To 2760 DX= -.073 m. DZ= .000 m.
PIPE
  Dia= 8.890 cm. Wall= .762 cm. Cor= .6000 cm.
  Element Name= FLANGE_FLG_150
GENERAL
  T1= 30 C T2= 85 C T3= 21 C T4= 200 C P1= 550.0125 KPa
  PHyd= 825.0188 KPa Fluid Den= .0000015 kg./cu.cm. Insul Thk= .000 cm.
RIGID Weight= 54.49 N.
ALLOWABLE STRESSES
  B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
  Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,261 KPa
  Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
  Sh9= 137,895 KPa Sy= 241,316 KPa
-----
From 2760 To 2780 DX= -.140 m. DY= -.040 m.
REDUCER
  Diam2= 16.827 cm. Wall2= 1.097 cm.
-----
From 2780 To 2800 DX= -.354 m. DZ= .000 m.
PIPE
  Dia= 16.827 cm. Wall= 1.097 cm.

```

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INPUT LISTING

Insul Thk= .000 cm.

RESTRAINTS

Node 2800 +Y

Node 2800 Z

Node 2800 X

From 2800 To 2820 DX= -.583 m.

SINGLE FLANGED BEND at "TO" end

Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 2819

Angle/Node @2= .00 2818

From 2820 To 2840 DY= -.229 m.

From 2840 To 2846 DY= -.092 m.

Element Name= BALL_FLG_150

RIGID Weight= 111.21 N.

From 2846 To 2852 DY= -.276 m.

RIGID Weight= 1,005.30 N.

From 2852 To 2860 DY= -.092 m.

RIGID Weight= 111.21 N.

From 2860 To 2880 DY= -1.402 m.

BEND at "TO" end

Radius= 22.860 cm. (LONG) Bend Angle= 92.005 Angle/Node @1= 46.00 2879

Angle/Node @2= .00 2878

From 2880 To 2580 DX= .001 m. DY= .035 m. DZ= -1.000 m.

From 2600 To 2920 DZ= -.379 m.

BEND at "TO" end

Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 2919

Angle/Node @2= .00 2918

From 2920 To 2940 DX= -3.185 m. DY= -.006 m.

BEND at "TO" end

Radius= 22.860 cm. (LONG) Bend Angle= 89.885 Angle/Node @1= 44.94 2939

Angle/Node @2= .00 2938

From 2940 To 2980 DY= -.723 m.

BEND at "TO" end

Radius= 22.860 cm. (LONG) Bend Angle= 45.040 Angle/Node @1= 22.52 2979

Angle/Node @2= .00 2978

From 2980 To 2030 DY= -.710 m. DZ= .711 m.

SIF's & TEE's

Node 2030 <No Type Specified> SIF(in)= 2.660 SIF(out)= 3.160

From 2330 To 3000 DX= .000 m. DZ= -.077 m.

PIPE

Dia= 6.032 cm. Wall= .554 cm. Cor= .3000 cm.

GENERAL

T1= 125 C T2= 155 C T4= 21 C P1= 2,200.0500 KPa PHyd= 3,300.0752 KPa

Fluid Den= .0000154 kg./cu.cm. Insul Thk= .000 cm.

ALLOWABLE STRESSES

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INPUT LISTING

```

    B31.3 (2016)          Cycle Max Switch = ---    Sc= 137,895 KPa
    Sh1= 137,895 KPa      Sh2= 137,819 KPa      Sh3= 137,895 KPa      Sh4= 137,895 KPa
    Sh5= 137,895 KPa      Sh6= 137,895 KPa      Sh7= 137,895 KPa      Sh8= 137,895 KPa
    Sh9= 137,895 KPa      Sy= 241,316 KPa
-----
From 3000 To 3020 DZ= -.073 m.
PIPE
    Dia= 6.032 cm.      Wall= .554 cm.
    Insul Thk= .000 cm.
RIGID Weight= 44.48 N.
-----
From 3020 To 3040 DY= .000 m.  DZ= -.187 m.
RIGID Weight= 209.07 N.
-----
From 3040 To 3060 DY= .000 m.  DZ= -.073 m.
RIGID Weight= 44.48 N.
-----
From 3060 To 3080 DY= .000 m.  DZ= -.077 m.
    Element Name= BALL_FLG_600
BEND at "TO" end
    Radius= 7.620 cm. (LONG)  Bend Angle= 90.000  Angle/Node @1= 45.00 3079
    Angle/Node @2= .00 3078
-----
From 3080 To 3100 DX= -.377 m.  DY= .000 m.
RESTRAINTS
    Node 3100 +Y  Mu = .30
-----
From 3100 To 3120 DX= -.100 m.  DZ= .000 m.
RESTRAINTS
    Node 3120 X
    Node 3120 Z
-----
From 3120 To 3140 DX= -.307 m.
-----
From 3140 To 3146 DX= -.073 m.  DZ= .000 m.
    Element Name= GLOBE_FLG_600
RIGID Weight= 44.48 N.
-----
From 3146 To 3152 DX= -.276 m.  DZ= .000 m.
RIGID Weight= 458.17 N.
-----
From 3152 To 3160 DX= -.067 m.  DZ= .000 m.
PIPE
    Dia= 6.032 cm.      Wall= .874 cm.      Cor= .6000 cm.
GENERAL
    T1= 30 C  T2= 85 C  T4= 200 C  Fluid Den= .0000015 kg./cu.cm.
    Insul Thk= .000 cm.
RIGID Weight= 31.14 N.
ALLOWABLE STRESSES
    B31.3 (2016)          Cycle Max Switch = ---    Sc= 137,895 KPa
    Sh1= 137,895 KPa      Sh2= 137,895 KPa      Sh3= 137,895 KPa      Sh4= 137,261 KPa
    Sh5= 137,895 KPa      Sh6= 137,895 KPa      Sh7= 137,895 KPa      Sh8= 137,895 KPa
    Sh9= 137,895 KPa      Sy= 241,316 KPa
-----
From 3160 To 3180 DX= -.077 m.  DZ= .000 m.
PIPE

```

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INPUT LISTING

```

Cor= .6000 cm.
GENERAL
  T1= 30 C   T2= 85 C   P1= 750.0171 KPa   PHyd= 825.0188 KPa
  Fluid Den= .0000015 kg./cu.cm.
BEND at "TO" end
  Radius= 7.620 cm. (LONG)   Bend Angle= 90.000   Angle/Node @1= 45.00 3179
  Angle/Node @2= .00 3178
ALLOWABLE STRESSES
  B31.3 (2016)      Cycle Max Switch = ---   Sc= 137,895 KPa
  Sh1= 137,895 KPa   Sh2= 137,895 KPa   Sh3= 137,895 KPa   Sh4= 137,261 KPa
  Sh5= 137,895 KPa   Sh6= 137,895 KPa   Sh7= 137,895 KPa   Sh8= 137,895 KPa
  Sh9= 137,895 KPa   Sy= 241,316 KPa
-----
From 3180 To 2570 DZ= .487 m.
SIF's & TEE's
  Node 2570   Welding Tee
-----
From 2040 To 3960 DZ= -6.000 m.
PIPE
  Dia= 27.305 cm.   Wall= .927 cm.
  Insul Thk= .000 cm.
RESTRAINTS
  Node 3960   +Y   Mu = .30
-----
From 3960 To 3980 DZ= -6.000 m.
RESTRAINTS
  Node 3980   +Y   Mu = .30
  Node 3980   X   Gap= .300 cm.
-----
From 3980 To 4000 DZ= -1.825 m.
BEND at "TO" end
  Radius= 38.100 cm. (LONG)   Bend Angle= 90.000   Angle/Node @1= 45.00 3999
  Angle/Node @2= .00 3998
-----
From 4000 To 4020 DX= -6.000 m.   DZ= .000 m.
BEND at "TO" end
  Radius= 38.100 cm. (LONG)   Bend Angle= 90.000   Angle/Node @1= 45.00 4019
  Angle/Node @2= .00 4018
-----
From 4020 To 4040 DZ= -1.000 m.
RESTRAINTS
  Node 4040   +Y   Mu = .30
-----
From 4040 To 4060 DZ= -1.000 m.
BEND at "TO" end
  Radius= 38.100 cm. (LONG)   Bend Angle= 90.000   Angle/Node @1= 45.00 4059
  Angle/Node @2= .00 4058
-----
From 4060 To 4066 DX= 6.000 m.   DY= .000 m.   DZ= .000 m.
BEND at "TO" end
  Radius= 38.100 cm. (LONG)   Bend Angle= 90.000   Angle/Node @1= 45.00 4065
  Angle/Node @2= .00 4064
-----
From 4066 To 4072 DZ= -2.174 m.
RESTRAINTS
  Node 4072   +Y   Mu = .30

```

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INPUT LISTING

 From 4072 To 4080 DZ= -6.000 m.

RESTRAINTS

Node 4080 +Y Mu = .30
 Node 4080 X Gap= .300 cm.
 Node 4080 Z Gap= .300 cm.

From 2000 To 4100 DX= .695 m.

PIPE

Dia= 16.827 cm. Wall= .340 cm. Cor= .0000 cm.

GENERAL

T1= 60 C T2= 155 C T4= 21 C P1= 2,200.0500 KPa PHyd= 3,300.0752 KPa
 Mat= (165)A312 TP316L E= 195,127,520 KPa EH1= 192,364,096 KPa
 EH2= 185,780,080 KPa EH3= 195,127,520 KPa EH4= 195,127,520 KPa
 EH5= 195,127,520 KPa EH6= 195,127,520 KPa EH7= 195,127,520 KPa
 EH8= 195,127,520 KPa EH9= 195,127,520 KPa v = .292
 Pipe Den= .0080272 kg./cu.cm. Fluid Den= .0000183 kg./cu.cm.
 Insul Thk= .000 cm.

BEND at "TO" end

Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 4099
 Angle/Node @2= .00 4098

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 115,142 KPa
 Sh1= 115,142 KPa Sh2= 114,386 KPa Sh3= 115,142 KPa Sh4= 115,142 KPa
 Sh5= 115,142 KPa Sh6= 115,142 KPa Sh7= 115,142 KPa Sh8= 115,142 KPa
 Sh9= 115,142 KPa Sy= 172,369 KPa

From 4100 To 4120 DY= -.013 m. DZ= 2.602 m.

BEND at "TO" end

Radius= 22.860 cm. (LONG) Bend Angle= 89.714 Angle/Node @1= 44.86 4119
 Angle/Node @2= .00 4118

RESTRAINTS

Node 4120 +Y Mu = .30

From 4120 To 4140 DY= -.830 m.

BEND at "TO" end

Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 4139
 Angle/Node @2= .00 4138

From 4140 To 4160 DX= 5.050 m.

RESTRAINTS

Node 4160 +Y Mu = .30
 Node 4160 Z Mu = .30

From 4160 To 4180 DX= 3.596 m.

From 4180 To 4200 DX= .102 m.

Element Name= FLANGE_FLG_300

RIGID Weight= 191.27 N.

RESTRAINTS

Node 4200 ANC Cnode 4220

From 4220 To 4240 DX= .102 m.

Element Name= FLANGE_FLG_300

RIGID Weight= 191.27 N.

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INPUT LISTING

From 4240 To 4260 DX= .150 m.

RESTRAINTS

Node 4260 ANC Cnode 4261

EQUIPMENT LIMITS

Nozzle Node = 4260

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 8,400.42 N. FB= 8,400.42 N.
 FC= 6,300.31 N. MA= 3,780.16 N.m. MB= 2,520.11 N.m. MC= 3,280.14 N.m.
 Equipment Major Direction Vector= .0000 1.0000 .0000
 Interact. Mtd= Absolute

 From 4261 To 4280 DX= .459 m.

PIPE

Dia= 91.948 cm. Wall= 1.200 cm.

Insul Thk= .000 cm.

RIGID Weight= .00 N.

 From 4280 To 4300 DY= -1.300 m.

RIGID Weight= .00 N.

 From 4300 To 4310 DY= -1.000 m.

RIGID Weight= .00 N.

 From 4310 To 4320 DY= -.300 m.

GENERAL

T1= 21 C T2= 21 C

RIGID Weight= .00 N.

RESTRAINTS

Node 4320 ANC

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 115,142 KPa
 Sh1= 115,142 KPa Sh2= 115,142 KPa Sh3= 115,142 KPa Sh4= 115,142 KPa
 Sh5= 115,142 KPa Sh6= 115,142 KPa Sh7= 115,142 KPa Sh8= 115,142 KPa
 Sh9= 115,142 KPa Sy= 172,369 KPa

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MATERIAL Changes:

20	40	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
820	840	Mat= (383)A516 70 E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
280	880	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
1820	1920	Mat= (165)A312 TP316L E= 195,127,520 KPa v = .292 Density= .0080 kg./cu.cm.
2020	2030	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
2000	4100	Mat= (165)A312 TP316L E= 195,127,520 KPa v = .292 Density= .0080 kg./cu.cm.

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ALLOWABLE STRESS Changes

20	40	B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa Sh1= 137,895 KPa

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INPUT LISTING

		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
140	160	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
120	180	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
540	560	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
520	580	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
640	660	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
620	680	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
820	840	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 160,648 KPa	Sh1= 160,648 KPa
		Sh2= 160,062 KPa	Sh3= 160,648 KPa
		Sh4= 160,648 KPa	Sh5= 160,648 KPa
		Sh6= 160,648 KPa	Sh7= 160,648 KPa
		Sh8= 160,648 KPa	Sh9= 160,648 KPa
		Sy= 262,001 KPa	
280	880	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa

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INPUT LISTING

		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
900	910	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,819 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
1020	1040	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,819 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
1220	1240	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,819 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
1440	1460	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
1420	1480	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,819 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
1780	1800	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,819 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
1740	1840	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,571 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
1820	1920	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 115,142 KPa	Sh1= 115,142 KPa

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INPUT LISTING

		Sh2= 114,386 KPa	Sh3= 115,142 KPa
		Sh4= 115,142 KPa	Sh5= 115,142 KPa
		Sh6= 115,142 KPa	Sh7= 115,142 KPa
		Sh8= 115,142 KPa	Sh9= 115,142 KPa
		Sy= 172,369 KPa	
2020	2030	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,261 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
1260	2140	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,819 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
2440	2460	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,261 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
2290	2300	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,819 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
2300	2620	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,819 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
2740	2760	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,261 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
2330	3000	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,819 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
3152	3160	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa

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INPUT LISTING

		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,261 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
3160	3180	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,261 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
2000	4100	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 115,142 KPa	Sh1= 115,142 KPa
		Sh2= 114,386 KPa	Sh3= 115,142 KPa
		Sh4= 115,142 KPa	Sh5= 115,142 KPa
		Sh6= 115,142 KPa	Sh7= 115,142 KPa
		Sh8= 115,142 KPa	Sh9= 115,142 KPa
		Sy= 172,369 KPa	
4310	4320	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 115,142 KPa	Sh1= 115,142 KPa
		Sh2= 115,142 KPa	Sh3= 115,142 KPa
		Sh4= 115,142 KPa	Sh5= 115,142 KPa
		Sh6= 115,142 KPa	Sh7= 115,142 KPa
		Sh8= 115,142 KPa	Sh9= 115,142 KPa
		Sy= 172,369 KPa	

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BEND ELEMENTS

40	60	Radius= 30.480 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00 59
		Angle/Node @2= .00 58
60	80	Radius= 30.480 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00 79
80	100	Radius= 30.480 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00 99
120	180	Radius= 30.480 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		179
480	500	Radius= 30.480 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		499 Angle/Node @2= .00 498
520	580	Radius= 30.480 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		579 Angle/Node @2= .00 578
620	680	Radius= 30.480 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		679 Angle/Node @2= .00 678
280	880	Radius= 7.620 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		879 Angle/Node @2= .00 878
940	960	Radius= 7.620 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		959 Angle/Node @2= .00 958

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INPUT LISTING

960	980	Radius= 7.620 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		979 Angle/Node @2= .00 978
1100	1120	Radius= 22.860 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1119 Angle/Node @2= .00 1118
1120	1140	Radius= 22.860 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1139 Angle/Node @2= .00 1138
1160	1180	Radius= 22.860 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1179 Angle/Node @2= .00 1178
1180	1200	Radius= 22.860 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1199 Angle/Node @2= .00 1198
1380	1400	Radius= 22.860 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1399 Angle/Node @2= .00 1398
1420	1480	Radius= 22.860 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1479 Angle/Node @2= .00 1478
1520	1540	Radius= 22.860 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1539 Angle/Node @2= .00 1538
1560	1580	Radius= 22.860 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1579 Angle/Node @2= .00 1578
1580	1600	Radius= 22.860 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1599 Angle/Node @2= .00 1598
1600	1620	Radius= 22.860 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1619 Angle/Node @2= .00 1618
1920	1940	Radius= 22.860 cm. (LONG)
		Bend Angle= 89.714 Angle/Node @1= 44.86
		1939
1960	1980	Radius= 22.860 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		1979 Angle/Node @2= .00 1978
1260	2140	Radius= 7.620 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		2139 Angle/Node @2= .00 2138
2140	2160	Radius= 7.620 cm. (LONG)
		Bend Angle= 45.000 Angle/Node @1= 22.50
		2159 Angle/Node @2= .00 2158
2190	2200	Radius= 7.620 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		2199 Angle/Node @2= .00 2198
2500	2520	Radius= 22.860 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		2519 Angle/Node @2= .00 2518
2290	2300	Radius= 7.620 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		2301 Angle/Node @2= .00 2302
2800	2820	Radius= 22.860 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00

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INPUT LISTING

2860	2880	2819 Angle/Node @2= .00 2818 Radius= 22.860 cm. (LONG) Bend Angle= 92.005 Angle/Node @1= 46.00
2600	2920	2879 Angle/Node @2= .00 2878 Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
2920	2940	2919 Angle/Node @2= .00 2918 Radius= 22.860 cm. (LONG) Bend Angle= 89.885 Angle/Node @1= 44.94
2940	2980	2939 Angle/Node @2= .00 2938 Radius= 22.860 cm. (LONG) Bend Angle= 45.040 Angle/Node @1= 22.52
3060	3080	2979 Angle/Node @2= .00 2978 Radius= 7.620 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
3160	3180	3079 Angle/Node @2= .00 3078 Radius= 7.620 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
3980	4000	3179 Angle/Node @2= .00 3178 Radius= 38.100 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
4000	4020	3999 Angle/Node @2= .00 3998 Radius= 38.100 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
4040	4060	4019 Angle/Node @2= .00 4018 Radius= 38.100 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
4060	4066	4059 Angle/Node @2= .00 4058 Radius= 38.100 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
2000	4100	4065 Angle/Node @2= .00 4064 Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
4100	4120	4099 Angle/Node @2= .00 4098 Radius= 22.860 cm. (LONG) Bend Angle= 89.714 Angle/Node @1= 44.86
4120	4140	4119 Angle/Node @2= .00 4118 Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
		4139 Angle/Node @2= .00 4138

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RIGIDS

20	40	RIGID Weight= 177.93 N.
120	140	RIGID Weight= .00 N.
200	220	RIGID Weight= 177.93 N.
220	240	RIGID Weight= 177.93 N.
320	340	RIGID Weight= 177.93 N.
340	360	RIGID Weight= 1,023.41 N.
360	380	RIGID Weight= 177.93 N.
420	440	RIGID Weight= 177.93 N.
440	460	RIGID Weight= 177.93 N.
520	540	RIGID Weight= .00 N.
620	640	RIGID Weight= .00 N.

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INPUT LISTING

700	720	RIGID	Weight= 177.93 N.
740	760	RIGID	Weight= 177.93 N.
780	800	RIGID	Weight= .00 N.
820	840	RIGID	Weight= .00 N.
840	860	RIGID	Weight= .00 N.
900	910	RIGID	Weight= 31.14 N.
910	920	RIGID	Weight= 66.72 N.
920	930	RIGID	Weight= 355.86 N.
930	940	RIGID	Weight= 44.48 N.
1060	1080	RIGID	Weight= 191.27 N.
1080	1100	RIGID	Weight= 191.27 N.
1220	1240	RIGID	Weight= 191.27 N.
1300	1320	RIGID	Weight= 191.27 N.
1320	1340	RIGID	Weight= 1,850.46 N.
1340	1360	RIGID	Weight= 191.27 N.
1420	1440	RIGID	Weight= .00 N.
1640	1660	RIGID	Weight= 191.27 N.
1660	1680	RIGID	Weight= 191.27 N.
1720	1740	RIGID	Weight= .00 N.
1740	1760	RIGID	Weight= .00 N.
1800	1820	RIGID	Weight= 191.27 N.
1740	1840	RIGID	Weight= 2,250.11 N.
1840	1860	RIGID	Weight=10,500.52 N.
1860	1880	RIGID	Weight= 4,500.22 N.
1880	1900	RIGID	Weight=10,500.52 N.
1900	1740	RIGID	Weight= 2,250.11 N.
1820	1920	RIGID	Weight= 191.27 N.
2340	2346	RIGID	Weight= 44.48 N.
2346	2352	RIGID	Weight= 258.00 N.
2352	2360	RIGID	Weight= 44.48 N.
2400	2410	RIGID	Weight= 40.03 N.
2410	2420	RIGID	Weight= 50.00 N.
2420	2430	RIGID	Weight= 71.17 N.
2430	2440	RIGID	Weight= 71.17 N.
2440	2460	RIGID	Weight= 54.49 N.
2540	2546	RIGID	Weight= 111.21 N.
2546	2552	RIGID	Weight= 1,005.30 N.
2552	2560	RIGID	Weight= 111.21 N.
2640	2646	RIGID	Weight= 44.48 N.
2646	2652	RIGID	Weight= 258.00 N.
2652	2660	RIGID	Weight= 44.48 N.
2700	2710	RIGID	Weight= 40.03 N.
2710	2720	RIGID	Weight= 80.07 N.
2720	2730	RIGID	Weight= 71.17 N.
2730	2740	RIGID	Weight= 71.17 N.
2740	2760	RIGID	Weight= 54.49 N.
2840	2846	RIGID	Weight= 111.21 N.
2846	2852	RIGID	Weight= 1,005.30 N.
2852	2860	RIGID	Weight= 111.21 N.
3000	3020	RIGID	Weight= 44.48 N.
3020	3040	RIGID	Weight= 209.07 N.
3040	3060	RIGID	Weight= 44.48 N.
3140	3146	RIGID	Weight= 44.48 N.
3146	3152	RIGID	Weight= 458.17 N.
3152	3160	RIGID	Weight= 31.14 N.
4180	4200	RIGID	Weight= 191.27 N.

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INPUT LISTING

4220	4240	RIGID	Weight= 191.27 N.
4261	4280	RIGID	Weight= .00 N.
4280	4300	RIGID	Weight= .00 N.
4300	4310	RIGID	Weight= .00 N.
4310	4320	RIGID	Weight= .00 N.

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SIF's & TEE's

140	160	Node 140	Unreinforced Tee
260	280	Node 280	Weldolet
540	560	Node 540	Unreinforced Tee
1020	1260	Node 1260	Weldolet
1440	1460	Node 1440	Unreinforced Tee
2020	2030	Node 2020	<No Type Specified>
		SIF(in)= 2.080	SIF(out)= 2.460
2020	2060	Node 2020	<No Type Specified>
		SIF(in)= 2.080	SIF(out)= 2.460
2220	2280	Node 2280	Welding Tee
2320	2330	Node 2330	Welding Tee
2570	2580	Node 2580	Welding Tee
2980	2030	Node 2030	<No Type Specified>
		SIF(in)= 2.660	SIF(out)= 3.160
3180	2570	Node 2570	Welding Tee

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REDUCERS

2380	2400	Diam2= 4.826 cm.	Wall2= .714 cm.
2460	2480	Diam2= 16.827 cm.	Wall2= 1.097 cm.
2680	2700	Diam2= 4.826 cm.	Wall2= .714 cm.
2760	2780	Diam2= 16.827 cm.	Wall2= 1.097 cm.

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RESTRAINTS

NODE	TYPE	CNODE	STIF1	Len GAP STIF2	MU YIELD FORCE	Dir Vectors
20	ANC					.000 .000 .000
160	-X				.30	1.000 .000 .000
160	Z					.000 .000 1.000
121	+Y				.10	.000 1.000 .000
160	X	121				1.000 .000 .000
300	+Y				.30	.000 1.000 .000
400	Y				.30	.000 1.000 .000
400	Z					.000 .000 1.000
480	Y				.30	.000 1.000 .000
480	Z					.000 .000 1.000
560	+Y				.30	.000 1.000 .000
560	Z					.000 .000 1.000
660	+Y	800			.30	.000 1.000 .000
720	ANC	740				.000 .000 .000
780	ANC	820				.000 .000 .000
860	ANC					.000 .000 .000

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Job:: BNK-GCS-CN-036-00

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INPUT LISTING

1040	+Y		.30	.000	1.000	.000
1180	-X		.30	1.000	.000	.000
1180	+Y		.30	.000	1.000	.000
1240	ANC			.000	.000	.000
1280	Y		.30	.000	1.000	.000
1280	Z			.000	.000	1.000
1380	Y		.30	.000	1.000	.000
1380	Z			.000	.000	1.000
1460	+Y		.30	.000	1.000	.000
1460	Z			.000	.000	1.000
1500	+Y			.000	1.000	.000
1500	Z			.000	.000	1.000
1520	+Y		.30	.000	1.000	.000
1560	+Y		.30	.000	1.000	.000
1700	ANC	1720		.000	.000	.000
1780	ANC	1760		.000	.000	.000
1840	Y		.10	.000	1.000	.000
1840	X		.30	1.000	.000	.000
1840	Z	.60		.000	.000	1.000
1860	Y		.10	.000	1.000	.000
1860	Z	.60	.30	.000	.000	1.000
1880	Y		.10	.000	1.000	.000
1880	Z	.60		.000	.000	1.000
1900	Y		.10	.000	1.000	.000
1900	X			1.000	.000	.000
1900	Z	.60		.000	.000	1.000
1960	+Y		.30	.000	1.000	.000
2000	+Y		.30	.000	1.000	.000
2000	Z	.30	.30	.000	.000	1.000
2040	+Y		.30	.000	1.000	.000
2040	X	.30		1.000	.000	.000
2060	+Y		.30	.000	1.000	.000
2060	X	.30	.30	1.000	.000	.000
2060	Z			.000	.000	1.000
2180	+Y			.000	1.000	.000
2180	Z	.30		.000	.000	1.000
2190	+Y		.30	.000	1.000	.000
2220	+Y		.30	.000	1.000	.000
2220	X	.30		1.000	.000	.000
2320	+Y			.000	1.000	.000
2500	+Y		.30	.000	1.000	.000
2500	Z			.000	.000	1.000
2500	X			1.000	.000	.000
2600	+Y		.30	.000	1.000	.000
2620	+Y			.000	1.000	.000
2800	+Y			.000	1.000	.000
2800	Z			.000	.000	1.000
2800	X			1.000	.000	.000
3100	+Y		.30	.000	1.000	.000
3120	X			1.000	.000	.000
3120	Z			.000	.000	1.000
3960	+Y		.30	.000	1.000	.000
3980	+Y		.30	.000	1.000	.000
3980	X	.30		1.000	.000	.000
4040	+Y		.30	.000	1.000	.000
4072	+Y		.30	.000	1.000	.000

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INPUT LISTING

4080	+Y			.30	.000	1.000	.000
4080	X		.30		1.000	.000	.000
4080	Z		.30		.000	.000	1.000
4120	+Y			.30	.000	1.000	.000
4160	+Y			.30	.000	1.000	.000
4160	Z			.30	.000	.000	1.000
4200	ANC	4220			.000	.000	.000
4260	ANC	4261			.000	.000	.000
4320	ANC				.000	.000	.000

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HANGER CONTROL AND LOCATION DATA

No. of Hanger Design Load Cases = 1
 Actual Cold Load Flag = 0.0
 Short Range Spring Flag = 1
 Allowed Load Variation (%) = 25.0000
 Default Hanger Table = 5

140	160	Hanger Node = 160
		Hanger Connecting Node = 121
		Available Space = -100.0000 cm.
		Allowed Load Variation = 25.0000
		No. Hangers = 0.0 Short Range Flag = -1
		User Operating Load = .00 N. Free Node = 0
		Free Node = 0 Free Code = 0.0
		Spring Rate = .00 N./cm.
		Theoretical Cold Load = .00 N.

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EQUIPMENT LIMITS

20	40	Nozzle Node = 20
Limiting Loads: A=pipe; B=ref; C=AxB; FA= 9,600.48 N. FB= 9,600.48 N.		
FC= 7,200.36 N. MA= 5,760.24 N.m. MB= 3,840.16 N.m. MC= 4,990.21 N.m.		
Equipment Major Direction Vector= .0000 1.0000 .0000		
Interact. Mtd= Absolute		
760	780	Nozzle Node = 780
Limiting Loads: A=pipe; B=ref; C=AxB; FA= 9,600.48 N. FB= 9,600.48 N.		
FC= 7,200.36 N. MA= 5,760.24 N.m. MB= 3,840.16 N.m. MC= 4,990.21 N.m.		
Equipment Major Direction Vector= .0000 .0000 1.0000		
Interact. Mtd= Absolute		
1220	1240	Nozzle Node = 1240
Limiting Loads: A=pipe; B=ref; C=AxB; FA= 7,200.36 N. FB= 7,200.36 N.		
FC= 5,400.27 N. MA= 3,240.14 N.m. MB= 2,160.09 N.m. MC= 2,810.12 N.m.		
Equipment Major Direction Vector= .0000 1.0000 .0000		
Interact. Mtd= Absolute		
1680	1700	Nozzle Node = 1700

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INPUT LISTING

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 15,090.75 N. FB= 15,090.75 N.
 FC= 12,000.60 N. MA= 9,150.39 N.m. MB= 4,890.21 N.m. MC= 6,420.27 N.m.
 Equipment Major Direction Vector= .0000 .0000 1.0000
 Interact. Mtd= Absolute
 1780 1800 Nozzle Node = 1780

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 15,090.75 N. FB= 15,090.75 N.
 FC= 12,000.60 N. MA= 9,150.39 N.m. MB= 4,890.21 N.m. MC= 6,420.27 N.m.
 Equipment Major Direction Vector= .0000 .0000 1.0000
 Interact. Mtd= Absolute
 4240 4260 Nozzle Node = 4260

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 8,400.42 N. FB= 8,400.42 N.
 FC= 6,300.31 N. MA= 3,780.16 N.m. MB= 2,520.11 N.m. MC= 3,280.14 N.m.
 Equipment Major Direction Vector= .0000 1.0000 .0000
 Interact. Mtd= Absolute
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FORCES AND MOMENTS

2410 2420 Node 2420 FY1= 1,000.05 N.
 FZ1= -2,000.10 N.
 2710 2720 Node 2720 FX2= 2,000.10 N.
 FY2= 1,000.05 N. FZ2= .00 N.
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UNIFORM LOAD Changes

20 40 Vector1 in G-s
 X1 Dir = .26 g's Y1 Dir = .00 g's
 Z1 Dir = .00 g's
 Vector2 in G-s
 X2 Dir = .00 g's Y2 Dir = .12 g's
 Z2 Dir = .00 g's
 Vector3 in G-s
 X3 Dir = .00 g's Y3 Dir = .00 g's
 Z3 Dir = .26 g's
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INPUT UNITS USED...

UNITS= SI NOM/SCH INPUT= ON
 LENGTH inches x 2.540 = cm.
 FORCE pounds x 4.448 = N.
 MASS (dynamics) pounds x 0.454 = Kg.
 MOMENTS (INPUT) inch-pounds x 0.113 = N.m.
 MOMENTS (OUTPUT) inch-pounds x 0.113 = N.m.
 STRESS lbs./sq.in. x 6.895 = KPa
 TEMP. SCALE degrees F. x 0.556 = C
 PRESSURE psig x 6.895 = KPa

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INPUT LISTING

ELASTIC MODULUS	lbs./sq.in.	x	6.895	=	KPa
PIPE DENSITY	lbs./cu.in.	x	0.028	=	kg./cu.cm.
INSULATION DENS.	lbs./cu.in.	x	0.028	=	kg./cu.cm.
FLUID DENSITY	lbs./cu.in.	x	0.028	=	kg./cu.cm.
TRANSL. STIF	lbs./in.	x	1.751	=	N./cm.
ROTATIONAL STIF	in.lb./deg.	x	0.113	=	N.m./deg
UNIFORM LOAD	lb./in.	x	1.751	=	N./cm.
G LOAD	g's	x	1.000	=	g's
WIND LOAD	lbs./sq.in.	x	6.895	=	KPa
ELEVATION	inches	x	0.025	=	m.
COMPOUND LENGTH	inches	x	0.025	=	m.
DIAMETER	inches	x	2.540	=	cm.
WALL THICKNESS	inches	x	2.540	=	cm.

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SETUP FILE PARAMETERS

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CONNECT GEOMETRY THRU CNODES =      YES
MIN ALLOWED BEND ANGLE =              5.00000
MAX ALLOWED BEND ANGLE =              95.0000
BEND LENGTH ATTACHMENT PERCENT =      1.00000
MIN ANGLE TO ADJACENT BEND PT =       5.00000
LOOP CLOSURE TOLERANCE =              2.54000      cm.
THERMAL BOWING HORZ TOLERANCE =       0.100000E-03
AUTO NODE NUMBER INCREMENT=          10.0000
Z AXIS UP=                           NO
USE PRESSURE STIFFENING =             DEFAULT
ALPHA TOLERANCE =                    0.500000E-01
RESLD-FORCE =                        NO
HGR DEF RESWGT STIF =                 0.175127E+13 N./cm.
DECOMP SNG TOL =                     0.100000E+11
BEND AXIAL SHAPE =                    YES
FRICT STIF =                         0.175127E+07 N./cm.
FRICT NORM FORCE VAR =                 0.150000
FRICT ANGLE VAR =                     15.0000
FRICT SLIDE MULT =                    1.00000
ROD TOLERANCE =                       1.00000
ROD INC =                             2.00000
INCORE NUMERICAL CHECK =              NO
OUTCORE NUMERICAL CHECK =             NO
DEFAULT TRANS RESTRAINT STIFF=        0.175127E+13      N./cm.
DEFAULT ROT RESTRAINT STIFF=          0.112985E+12      N.m./deg
IGNORE SPRING HANGER STIFFNESS =      NO
MISSING MASS ZPA =                    EXTRACTED
MIN WALL MILL TOLERANCE =              12.5000
WRC-107 VERSION =                     MAR 79 1B1/2B1
WRC-107 INTERPOLATION =               LAST VALUE
DEFAULT AMBIENT TEMPERATURE=          21.1111      C
BOURDON PRESSURE=                     NONE
COEFFICIENT OF FRICTION (MU) =        0.000000
INCLUDE SPRG STIF IN HGR OPE =        NO
INCLUDE INSULATION IN HYDROTEST =     NO
REDUCED INTERSECTION =                B31.1 (POST1980)
USE WRC329                            NO
NO REDUCED SIF FOR RFT AND WLT        NO
B31.1 REDUCED Z FIX =                 YES

```


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INPUT LISTING

CLASS 1 BRANCH FLEX	NO	
ALL STRESS CASES CORRODED =	NO	
ADD TORSION IN SL STRESS =	DEFAULT	
ADD F/A IN STRESS =	DEFAULT	
OCCASIONAL LOAD FACTOR =	0.000000	
DEFAULT CODE =	B31.3	
B31.3 SUS CASE SIF FACTOR =	0.000000	
ALLOW USERS BEND SIF =	NO	
USE SCHNEIDER	NO	
YIELD CRITERION STRESS =	MAX 3D SHEAR	
USE PD/4T	NO	
BASE HOOP STRESS ON ? =	ID	
EN13480 USE IN OUTPLANE SIFS=	NO	
LIBERAL EXPANSION ALLOWABLE=	YES	
B31.3 SEC 319.2.3C SAXIAL=	Default	
B31.3 WELDING/CONTOUR TEE ISB16.9	FALSE	
PRESSURE VARIATION IN EXP CASE=	DEFAULT	
IMPLEMENT B313 APP-P	NO	
IMPLEMENT B313 CODE CASE 178	YES	
IGNORE B31.1/B31.3 Wc FACTOR=	YES	
USE FRP SIF =	YES	
USE FRP FLEX =	YES	
BS 7159 Pressure Stiffening=	Design Strain	
FRP Property Data File=	CAESAR.FRP	
FRP Emod (axial) =	0.220632E+08	KPa
FRP Ratio Gmod/Emod (axial) =	0.250000	
FRP Ea/Eh*Vh/a =	0.152730	
FRP Laminate Type =	THREE	
FRP Alpha =	21.6000	C
FRP Density =	0.166079E-02	kg./cu.cm.
EXCLUDE f2 FROM UKOOA BENDING =	NO	

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EXECUTION CONTROL PARAMETERS

Rigid/ExpJt Print Flag	1.000
Bourdon Option	.000
Loop Closure Flag	2.000
Thermal Bowing Delta Temp ..	.000 C
Liberal Allowable Flag	1.000
Uniform Load Option	1.000
Ambient Temperature	20.997 C
Plastic (FRP) Alpha	21.600
Plastic (FRP) GMOD/EMODa ...	.250
Plastic (FRP) Laminate Type.	3.000
Eqn Optimizer	.000
Node Selection	.000
Eqn Ordering	.000
Collins	.000
Degree Determination	.000
User Eqn Control	.000
North Direction	-X

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INPUT LISTING

COORDINATE REPORT

```

/----- (cm.) -----/
NODE      X      Y      Z
  20      655.300    -532.935    706.010
  40      644.823    -532.935    706.010
  60      538.344    -532.935    706.010
  80      538.344    -593.935    706.010
 100      599.344    -593.935    706.010
 120      599.344    -681.025    706.010
 140      599.344    -711.525    706.010
 160      599.344    -731.525    706.010
 120      599.344    -681.025    706.010
 180      599.344    -711.525    706.010
 200      568.844    -711.525    706.010
 220      558.367    -711.525    706.010
 240      547.890    -711.525    706.010
 260      477.890    -711.525    706.010
 280      453.100    -711.525    706.010
 300      403.100    -711.525    706.010
 320      383.100    -711.525    706.010
 340      372.622    -711.525    706.010
 360      315.322    -711.525    706.010
 380      304.845    -711.525    706.010
 400      204.845    -711.525    706.010
 420        76.065    -711.525    706.010
 440        65.587    -711.525    706.010
 460        55.110    -711.525    706.010
 480       -94.890    -711.525    706.010
 500     -475.370    -711.525    706.010
 520     -475.370    -681.025    706.010
 540     -475.370    -711.525    706.010
 560     -475.370    -741.525    706.010
 520     -475.370    -681.025    706.010
 580     -475.370    -287.525    706.010
 600     -510.726    -287.525    670.655
 620     -546.081    -287.525    635.299
 640     -546.081    -295.925    635.299
 660     -546.081    -325.925    635.299
 620     -546.081    -287.525    635.299
 680     -600.387    -287.525    580.994
 700     -600.387    -318.025    580.994
 720     -600.387    -328.503    580.994
 760     -600.387    -338.980    580.994
 780     -600.387    -357.120    580.994
 780     -600.387    -357.220    580.994
 660     -546.081    -325.925    635.299
 780     -600.387    -357.120    580.994
 840     -600.387    -663.620    580.994
 860     -600.387    -783.620    580.994
 280      453.100    -711.525    706.010
 880      453.100    -637.235    706.010
 900      453.100    -637.235    757.010
 910      453.100    -637.235    763.677
 920      453.100    -637.235    793.777
 930      453.100    -637.235    821.277

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INPUT LISTING

940	453.100	-637.235	828.580
960	453.100	-637.235	836.280
980	453.100	-702.475	836.280
1000	453.100	-702.475	828.580
1020	453.100	-702.475	766.480
1040	483.100	-702.475	766.480
1060	514.900	-702.475	766.480
1080	525.060	-702.475	766.480
1100	535.219	-702.475	766.480
1120	574.259	-702.475	766.480
1140	574.259	-702.475	866.480
1160	620.833	-702.475	866.480
1180	644.120	-702.475	866.480
1200	644.120	-702.475	706.480
1220	667.020	-702.475	706.480
1240	677.180	-702.475	706.480
1020	453.100	-702.475	766.480
1260	332.306	-702.475	766.480
1280	204.845	-702.475	766.480
1300	168.045	-702.475	766.480
1320	157.885	-702.475	766.480
1340	112.585	-702.475	766.480
1360	102.425	-702.475	766.480
1380	-94.875	-702.475	766.480
1400	-477.475	-702.475	766.480
1420	-477.475	-679.575	766.480
1440	-477.475	-702.475	766.480
1460	-477.475	-732.475	766.480
1420	-477.475	-679.575	766.480
1480	-477.475	-534.075	766.480
1500	-1053.475	-534.075	766.480
1520	-1653.475	-534.075	766.480
1540	-2010.475	-534.075	766.480
1560	-2010.475	-534.075	826.480
1580	-2010.475	-534.075	938.180
1600	-2010.475	-285.325	938.180
1620	-2072.275	-285.325	981.380
1640	-2072.275	-308.225	981.380
1660	-2072.275	-318.385	981.380
1680	-2072.275	-328.545	981.380
1700	-2072.275	-341.245	981.380
1740	-2072.275	-365.245	981.380
1780	-2072.275	-389.245	981.380
1800	-2072.275	-401.945	981.380
1820	-2072.275	-412.105	981.380
1740	-2072.275	-365.245	981.380
1840	-2072.275	-365.245	1131.380
1860	-2775.775	-365.245	1131.380
1880	-2775.775	-365.245	831.380
1900	-2072.275	-365.245	831.380
1740	-2072.275	-365.245	981.380
1820	-2072.275	-412.105	981.380
1920	-2072.275	-422.265	981.380
1940	-2072.275	-445.165	981.380
1960	-2072.275	-446.290	755.680
1980	-2072.275	-446.465	720.680

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INPUT LISTING

2000	-1628.175	-446.465	720.680
2020	-1180.097	-696.486	1476.980
2030	-1180.097	-696.486	1308.280
2040	-1180.097	-696.486	976.980
2020	-1180.097	-696.486	1476.980
2060	-1180.097	-696.486	1576.980
1260	332.306	-702.475	766.480
2140	332.306	-524.475	766.480
2160	308.306	-524.475	790.480
2180	-94.894	-524.475	790.480
2190	-694.894	-524.475	790.480
2200	-733.694	-524.475	790.480
2220	-733.694	-524.475	1025.480
2280	-733.694	-524.475	1343.080
2290	-733.694	-524.475	1393.080
2280	-733.694	-524.475	1343.080
2320	-733.694	-505.475	1343.080
2330	-733.694	-431.675	1343.080
2340	-733.694	-423.075	1343.080
2346	-733.694	-415.773	1343.080
2352	-733.694	-394.573	1343.080
2360	-733.694	-387.270	1343.080
2380	-733.694	-362.270	1343.080
2400	-733.694	-353.270	1343.080
2410	-733.694	-346.126	1343.080
2420	-733.694	-339.426	1343.080
2430	-738.294	-339.426	1343.080
2440	-746.494	-339.426	1343.080
2460	-753.797	-339.426	1343.080
2480	-767.797	-343.396	1343.080
2500	-803.247	-343.396	1343.080
2520	-861.597	-343.396	1343.080
2540	-861.597	-366.296	1343.080
2546	-861.597	-375.504	1343.080
2552	-861.597	-403.104	1343.080
2560	-861.597	-412.311	1343.080
2570	-861.597	-431.711	1343.080
2580	-861.597	-552.511	1343.080
2600	-861.597	-552.511	1275.080
2290	-733.694	-524.475	1393.080
2300	-733.694	-524.475	1443.080
2620	-733.694	-505.475	1443.080
2640	-733.694	-423.175	1443.080
2646	-733.694	-415.873	1443.080
2652	-733.694	-394.673	1443.080
2660	-733.694	-387.370	1443.080
2680	-733.694	-362.370	1443.080
2700	-733.694	-356.470	1443.080
2710	-733.694	-349.326	1443.080
2720	-733.694	-342.926	1443.080
2730	-738.294	-342.926	1443.080
2740	-746.549	-342.926	1443.080
2760	-753.852	-342.926	1443.080
2780	-767.852	-346.896	1443.080
2800	-803.302	-346.896	1443.080
2820	-861.652	-346.896	1443.080

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INPUT LISTING

2840	-861.652	-369.796	1443.080
2846	-861.652	-379.004	1443.080
2852	-861.652	-406.604	1443.080
2860	-861.652	-415.811	1443.080
2880	-861.652	-556.011	1443.080
2880	-861.652	-556.011	1443.080
2580	-861.597	-552.511	1343.080
2600	-861.597	-552.511	1275.080
2920	-861.597	-552.511	1237.180
2940	-1180.097	-553.148	1237.180
2980	-1180.097	-625.486	1237.180
2030	-1180.097	-696.486	1308.280
2330	-733.694	-431.675	1343.080
3000	-733.694	-431.675	1335.380
3020	-733.694	-431.675	1328.078
3040	-733.694	-431.675	1309.378
3060	-733.694	-431.675	1302.075
3080	-733.694	-431.675	1294.375
3100	-771.394	-431.675	1294.375
3120	-781.394	-431.675	1294.375
3140	-812.094	-431.675	1294.375
3146	-819.397	-431.675	1294.375
3152	-846.997	-431.675	1294.375
3160	-853.664	-431.675	1294.375
3180	-861.364	-431.675	1294.375
3180	-861.597	-431.711	1294.380
2570	-861.597	-431.711	1343.080
2040	-1180.097	-696.486	976.980
3960	-1180.097	-696.486	376.980
3980	-1180.097	-696.486	-223.020
4000	-1180.097	-696.486	-405.520
4020	-1780.097	-696.486	-405.520
4040	-1780.097	-696.486	-505.520
4060	-1780.097	-696.486	-605.520
4066	-1180.097	-696.486	-605.520
4072	-1180.097	-696.486	-822.920
4080	-1180.097	-696.486	-1422.920
2000	-1628.175	-446.465	720.680
4100	-1558.645	-446.465	720.680
4120	-1558.645	-447.765	980.880
4140	-1558.645	-530.765	980.880
4160	-1053.645	-530.765	980.880
4180	-694.045	-530.765	980.880
4200	-683.885	-530.765	980.880
4240	-673.725	-530.765	980.880
4260	-658.725	-530.765	980.880
4280	-612.825	-530.765	980.880
4300	-612.825	-660.765	980.880
4310	-612.825	-760.765	980.880
4320	-612.825	-790.765	980.880

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

1 (HGR) CASE NOT ACTIVE
 2 (HGR) CASE NOT ACTIVE
 3 (HYD) WW+HP+H
 4 (OPE) W+T1+P1+H
 5 (Alt-SUS) W+P1+H
 6 (OPE) W+T2+P1+H
 7 (Alt-SUS) W+P1+H
 8 (OPE) W+T3+P1+H
 9 (Alt-SUS) W+P1+H
 10 (OPE) W+T4+P1+H
 11 (Alt-SUS) W+P1+H
 12 (SUS) W+P1+H
 13 (SUS) WNC+H
 14 (OPE) W+T1+P1+H+U1
 15 (OPE) W+T1+P1+H-U1
 16 (OPE) W+T1+P1+H+U2
 17 (OPE) W+T1+P1+H+U3
 18 (OPE) W+T1+P1+H-U3
 19 (OPE) W+T1+P1+H+F1
 20 (OPE) W+T1+P1+H+F2
 21 (OCC) L21=L14-L4
 22 (OCC) L22=L15-L4
 23 (OCC) L23=L16-L4
 24 (OCC) L24=L17-L4
 25 (OCC) L25=L18-L4
 26 (OCC) L26=L19-L4
 27 (OCC) L27=L20-L4
 28 (OCC) L28=L21+L11
 29 (OCC) L29=L22+L11
 30 (OCC) L30=L23+L11
 31 (OCC) L31=L24+L11
 32 (OCC) L32=L25+L11
 33 (OCC) L33=L26+L11
 34 (OCC) L34=L27+L11
 35 (EXP) L35=L4-L11
 36 (EXP) L36=L6-L11
 37 (EXP) L37=L8-L11
 38 (EXP) L38=L6-L8
 39 (OPE) L39=L4, L6, L8
 40 (OCC) L40=L21, L22, L23, L24

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

LOAD CASE DEFINITION KEY

CASE 3 (HYD) WW+HP+H

CASE 4 (OPE) W+T1+P1+H

CASE 6 (OPE) W+T2+P1+H

CASE 8 (OPE) W+T3+P1+H

CASE 10 (OPE) W+T4+P1+H

CASE 12 (SUS) W+P1+H

CASE 13 (SUS) WNC+H

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
20		TYPE=Rigid ANC;					
	3(HYD)	-286	-950	79	-31	66	427
	4(OPE)	375	-802	-73	32	-76	649
	6(OPE)	677	2731	-69	33	-81	-2375
	8(OPE)	-148	-560	72	-28	60	227
	10(OPE)	-148	-560	73	-28	60	227
	12(SUS)	-148	-560	72	-28	60	227
	13(SUS)	-149	-553	72	-28	60	221
	MAX	677/L6	2731/L6	79/L3	33/L6	-81/L6	-2375/L6
121		TYPE=Rigid +Y;					
	3(HYD)	-156	-2118	0	0	0	0
	4(OPE)	0	-1170	0	0	0	0
	6(OPE)	0	-1183	0	0	0	0
	8(OPE)	-79	-1170	0	0	0	0
	10(OPE)	-79	-1170	0	0	0	0
	12(SUS)	-79	-1170	0	0	0	0
	13(SUS)	-79	-1170	0	0	0	0
	MAX	-156/L3	-2118/L3				
160		TYPE=Rigid Z; Rigid -X; Rigid X; Prog Design VSH;					
	3(HYD)	-156	-2118	-35	0	0	0
	4(OPE)	2106	-715	-140	0	0	0
	6(OPE)	3921	-2359	-246	0	0	0
	8(OPE)	-79	-1170	-32	0	0	0
	10(OPE)	-79	-1170	-32	0	0	0
	12(SUS)	-79	-1170	-32	0	0	0
	13(SUS)	-79	-1170	-32	0	0	0
	MAX	3921/L6	-2359/L6	-246/L6			
300		TYPE=Rigid +Y;					

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	3(HYD)	188	-2443	148	0	0	0
	4(OPE)	-610	-2048	-70	0	0	0
	6(OPE)	-1573	-5246	-57	0	0	0
	8(OPE)	97	-1780	135	0	0	0
	10(OPE)	97	-1781	135	0	0	0
	12(SUS)	97	-1780	135	0	0	0
	13(SUS)	97	-1774	135	0	0	0
	MAX	-1573/L6	-5246/L6	148/L3			
400		TYPE=Rigid Z; Rigid Y;					
	3(HYD)	124	-1971	-12	0	0	0
	4(OPE)	-302	-1006	-125	0	0	0
	6(OPE)	-236	785	-260	0	0	0
	8(OPE)	64	-1245	-12	0	0	0
	10(OPE)	64	-1245	-12	0	0	0
	12(SUS)	64	-1245	-12	0	0	0
	13(SUS)	64	-1241	-12	0	0	0
	MAX	-302/L4	-1971/L3	-260/L6			
480		TYPE=Rigid Z; Rigid Y;					
	3(HYD)	51	-2688	-5	0	0	0
	4(OPE)	-507	-1690	76	0	0	0
	6(OPE)	-829	-2763	236	0	0	0
	8(OPE)	27	-1403	-2	0	0	0
	10(OPE)	27	-1403	-2	0	0	0
	12(SUS)	27	-1403	-2	0	0	0
	13(SUS)	27	-1395	-2	0	0	0
	MAX	-829/L6	-2763/L6	236/L6			
560		TYPE=Rigid Z; Rigid +Y;					
	3(HYD)	8	-3989	-2	0	0	0
	4(OPE)	-660	-2198	-5	0	0	0
	6(OPE)	-631	-2102	-36	0	0	0
	8(OPE)	5	-2008	-4	0	0	0
	10(OPE)	5	-2008	-4	0	0	0
	12(SUS)	5	-2008	-4	0	0	0
	13(SUS)	5	-1996	-4	0	0	0
	MAX	-660/L4	-3989/L3	-36/L6			
660		TYPE=Rigid +Y;					
	3(HYD)	37	-961	-78	0	0	0
	4(OPE)	0	0	0	0	0	0
	6(OPE)	0	0	0	0	0	0
	8(OPE)	14	-496	-35	0	0	0
	10(OPE)	14	-496	-35	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	12(SUS)	14	-496	-35	0	0	0
	13(SUS)	14	-493	-35	0	0	0
	MAX	37/L3	-961/L3	-78/L3			
720		TYPE=Rigid ANC;					
	3(HYD)	31	-423	85	31	3	-13
	4(OPE)	-260	-390	-29	-141	-213	-157
	6(OPE)	-1068	200	-92	-733	-903	-605
	8(OPE)	19	-283	41	15	1	-7
	10(OPE)	19	-283	41	15	1	-7
	12(SUS)	19	-283	41	15	1	-7
	13(SUS)	19	-282	41	15	1	-7
	MAX	-1068/L6	-423/L3	-92/L6	-733/L6	-903/L6	-605/L6
780		TYPE=Rigid ANC;					
	3(HYD)	68	-1714	6	553	65	-556
	4(OPE)	-260	-628	-29	-149	-213	-82
	6(OPE)	-1068	-38	-92	-759	-903	-300
	8(OPE)	34	-1016	6	286	28	-287
	10(OPE)	34	-1016	6	286	28	-287
	12(SUS)	34	-1016	6	286	28	-287
	13(SUS)	33	-1012	6	284	28	-285
	MAX	-1068/L6	-1714/L3	-92/L6	-759/L6	-903/L6	-556/L3
860		TYPE=Rigid ANC;					
	3(HYD)	68	-1714	6	580	65	-846
	4(OPE)	-260	-628	-29	-271	-213	1026
	6(OPE)	-1068	-38	-92	-1153	-903	4256
	8(OPE)	34	-1016	6	312	28	-430
	10(OPE)	34	-1016	6	312	28	-430
	12(SUS)	34	-1016	6	312	28	-430
	13(SUS)	33	-1012	6	310	28	-427
	MAX	-1068/L6	-1714/L3	-92/L6	-1153/L6	-903/L6	4256/L6
1040		TYPE=Rigid +Y;					
	3(HYD)	108	-1928	-178	0	0	0
	4(OPE)	356	-1389	-217	0	0	0
	6(OPE)	342	-1345	-215	0	0	0
	8(OPE)	100	-1385	-163	0	0	0
	10(OPE)	100	-1384	-163	0	0	0
	12(SUS)	100	-1385	-163	0	0	0
	13(SUS)	100	-1376	-162	0	0	0
	MAX	356/L4	-1928/L3	-217/L4			

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
1180		TYPE=Rigid +Y; Rigid - X;					
	3(HYD)	10	-1203	7	0	0	0
	4(OPE)	8271	-1284	2867	0	0	0
	6(OPE)	9867	-1469	3401	0	0	0
	8(OPE)	10	-819	6	0	0	0
	10(OPE)	10	-820	6	0	0	0
	12(SUS)	10	-819	6	0	0	0
	13(SUS)	10	-813	6	0	0	0
	MAX	9867/L6	-1469/L6	3401/L6			
1240		TYPE=Rigid ANC;					
	3(HYD)	-6	-369	10	-72	2	228
	4(OPE)	642	7	-795	-174	178	234
	6(OPE)	819	105	-1172	-218	197	265
	8(OPE)	-5	-255	10	-61	2	159
	10(OPE)	-5	-254	10	-62	2	159
	12(SUS)	-5	-255	10	-61	2	159
	13(SUS)	-5	-253	9	-61	2	158
	MAX	819/L6	-369/L3	-1172/L6	-218/L6	197/L6	265/L6
1280		TYPE=Rigid Z; Rigid Y;					
	3(HYD)	168	-3329	-36	0	0	0
	4(OPE)	-658	-2194	-2469	0	0	0
	6(OPE)	-611	-2037	-2908	0	0	0
	8(OPE)	157	-2809	-32	0	0	0
	10(OPE)	157	-2809	-32	0	0	0
	12(SUS)	157	-2809	-32	0	0	0
	13(SUS)	157	-2801	-32	0	0	0
	MAX	-658/L4	-3329/L3	-2908/L6			
1380		TYPE=Rigid Z; Rigid Y;					
	3(HYD)	303	-2209	34	0	0	0
	4(OPE)	-1074	-3579	1096	0	0	0
	6(OPE)	-1231	-4105	1335	0	0	0
	8(OPE)	284	-1529	29	0	0	0
	10(OPE)	284	-1529	29	0	0	0
	12(SUS)	284	-1529	29	0	0	0
	13(SUS)	283	-1518	29	0	0	0
	MAX	-1231/L6	-4105/L6	1335/L6			
1460		TYPE=Rigid Z; Rigid +Y;					
	3(HYD)	-115	-3119	-38	0	0	0
	4(OPE)	-652	-2173	-256	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

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	6(OPE)	-644	-2148	-301	0	0	0
	8(OPE)	-119	-2314	-31	0	0	0
	10(OPE)	-119	-2314	-32	0	0	0
	12(SUS)	-119	-2314	-31	0	0	0
	13(SUS)	-119	-2299	-31	0	0	0
	MAX	-652/L4	-3119/L3	-301/L6			
1500		TYPE=Rigid Z; Rigid +Y;					
	3(HYD)	0	-3721	35	0	0	0
	4(OPE)	0	-1141	-433	0	0	0
	6(OPE)	0	-642	-680	0	0	0
	8(OPE)	0	-2982	29	0	0	0
	10(OPE)	0	-2982	29	0	0	0
	12(SUS)	0	-2982	29	0	0	0
	13(SUS)	0	-2966	29	0	0	0
	MAX		-3721/L3	-680/L6			
1520		TYPE=Rigid +Y;					
	3(HYD)	-153	-3023	-26	0	0	0
	4(OPE)	-1203	-4345	-502	0	0	0
	6(OPE)	-1366	-4968	-596	0	0	0
	8(OPE)	-175	-2425	-22	0	0	0
	10(OPE)	-175	-2425	-22	0	0	0
	12(SUS)	-175	-2425	-22	0	0	0
	13(SUS)	-175	-2412	-22	0	0	0
	MAX	-1366/L6	-4968/L6	-596/L6			
1560		TYPE=Rigid +Y;					
	3(HYD)	-421	-1865	40	0	0	0
	4(OPE)	-775	-2607	-103	0	0	0
	6(OPE)	-828	-2788	-116	0	0	0
	8(OPE)	-330	-1485	40	0	0	0
	10(OPE)	-330	-1485	40	0	0	0
	12(SUS)	-330	-1485	40	0	0	0
	13(SUS)	-328	-1476	40	0	0	0
	MAX	-828/L6	-2788/L6	-116/L6			
1700		TYPE=Rigid ANC;					
	3(HYD)	149	-2106	-29	-354	-65	-635
	4(OPE)	-4448	804	1075	2171	4212	-3393
	6(OPE)	-5996	1473	1310	2985	5781	-4471
	8(OPE)	117	-1767	-30	-287	-47	-525
	10(OPE)	117	-1767	-30	-287	-47	-525
	12(SUS)	117	-1767	-30	-287	-47	-525
	13(SUS)	116	-1759	-30	-285	-46	-523

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Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	MAX	-5996/L6	-2106/L3	1310/L6	2985/L6	5781/L6	-4471/L6
1780		TYPE=Rigid ANC;					
	3(HYD)	10	-864	-209	58	-38	-154
	4(OPE)	-249	-536	-92	125	533	-124
	6(OPE)	-1121	-418	-28	246	2146	-381
	8(OPE)	-11	-605	-81	23	-3	-82
	10(OPE)	-11	-605	-81	23	-3	-82
	12(SUS)	-11	-605	-81	23	-3	-82
	13(SUS)	-12	-600	-79	22	-2	-80
	MAX	-1121/L6	-864/L3	-209/L3	246/L6	2146/L6	-381/L6
1840		TYPE=Rigid X; Rigid Z w/gap; Rigid Y;					
	3(HYD)	52	-9785	-125	0	0	0
	4(OPE)	51	-8850	900	0	0	0
	6(OPE)	-491	-8872	1034	0	0	0
	8(OPE)	39	-9074	-61	0	0	0
	10(OPE)	39	-9074	-61	0	0	0
	12(SUS)	39	-9074	-61	0	0	0
	13(SUS)	39	-9055	-60	0	0	0
	MAX	-491/L6	-9785/L3	1034/L6			
1860		TYPE=Rigid Z w/gap; Rigid Y;					
	3(HYD)	0	-8271	-2	0	0	0
	4(OPE)	-711	-7731	303	0	0	0
	6(OPE)	-703	-7641	298	0	0	0
	8(OPE)	0	-7885	-1	0	0	0
	10(OPE)	0	-7885	-1	0	0	0
	12(SUS)	0	-7885	-1	0	0	0
	13(SUS)	0	-7872	-1	0	0	0
	MAX	-711/L4	-8271/L3	303/L4			
1880		TYPE=Rigid Z w/gap; Rigid Y;					
	3(HYD)	-0	-8267	-2	0	0	0
	4(OPE)	-777	-7769	-1	0	0	0
	6(OPE)	-769	-7692	-2	0	0	0
	8(OPE)	-0	-7881	-1	0	0	0
	10(OPE)	-0	-7881	-1	0	0	0
	12(SUS)	-0	-7881	-1	0	0	0
	13(SUS)	-0	-7869	-1	0	0	0
	MAX	-777/L4	-8267/L3	-2/L6			

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
1900		TYPE=Rigid X; Rigid Z w/gap; Rigid Y;					
	3(HYD)	107	-9957	-110	0	0	0
	4(OPE)	-3120	-7095	88	0	0	0
	6(OPE)	-5065	-6453	124	0	0	0
	8(OPE)	66	-9245	-50	0	0	0
	10(OPE)	66	-9245	-50	0	0	0
	12(SUS)	66	-9245	-50	0	0	0
	13(SUS)	65	-9226	-49	0	0	0
	MAX	-5065/L6	-9957/L3	124/L6			
1960		TYPE=Rigid +Y;					
	3(HYD)	27	-1225	217	0	0	0
	4(OPE)	-146	-520	55	0	0	0
	6(OPE)	-147	-505	-37	0	0	0
	8(OPE)	94	-517	84	0	0	0
	10(OPE)	94	-517	84	0	0	0
	12(SUS)	94	-517	84	0	0	0
	13(SUS)	95	-504	82	0	0	0
	MAX	-147/L6	-1225/L3	217/L3			
2000		TYPE=Rigid Z w/gap; Rigid +Y;					
	3(HYD)	-43	-1467	-71	0	0	0
	4(OPE)	22	-618	-184	0	0	0
	6(OPE)	-116	-619	-543	0	0	0
	8(OPE)	-85	-614	-28	0	0	0
	10(OPE)	-85	-614	-28	0	0	0
	12(SUS)	-85	-614	-28	0	0	0
	13(SUS)	-86	-598	-28	0	0	0
	MAX	-116/L6	-1467/L3	-543/L6			
2040		TYPE=Rigid X w/gap; Rigid +Y;					
	3(HYD)	221	-8847	37	0	0	0
	4(OPE)	-1	-5100	-1530	0	0	0
	6(OPE)	-160	-5424	-1619	0	0	0
	8(OPE)	131	-5034	26	0	0	0
	10(OPE)	-338	-6133	-1808	0	0	0
	12(SUS)	131	-5034	26	0	0	0
	13(SUS)	131	-5029	26	0	0	0
	MAX	-338/L10	-8847/L3	-1808/L10			

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
2060		TYPE=Rigid X w/gap; Rigid Z; Rigid +Y;					
	3(HYD)	66	-3220	202	0	0	0
	4(OPE)	-68	-2124	4713	0	0	0
	6(OPE)	-680	-2266	5709	0	0	0
	8(OPE)	38	-1873	141	0	0	0
	10(OPE)	-1590	-2532	7642	0	0	0
	12(SUS)	38	-1873	141	0	0	0
	13(SUS)	38	-1871	141	0	0	0
	MAX	-1590/L10	-3220/L3	7642/L10			
2180		TYPE=Rigid Z w/gap; Rigid +Y;					
	3(HYD)	0	-759	0	0	0	0
	4(OPE)	0	-625	-7	0	0	0
	6(OPE)	0	-609	-25	0	0	0
	8(OPE)	0	-673	0	0	0	0
	10(OPE)	0	-673	0	0	0	0
	12(SUS)	0	-673	0	0	0	0
	13(SUS)	0	-672	0	0	0	0
	MAX		-759/L3	-25/L6			
2190		TYPE=Rigid +Y;					
	3(HYD)	-40	-486	21	0	0	0
	4(OPE)	-106	-438	-78	0	0	0
	6(OPE)	-108	-438	-76	0	0	0
	8(OPE)	-35	-431	18	0	0	0
	10(OPE)	-25	-472	25	0	0	0
	12(SUS)	-35	-431	18	0	0	0
	13(SUS)	-35	-431	18	0	0	0
	MAX	-108/L6	-486/L3	-78/L4			
2220		TYPE=Rigid X w/gap; Rigid +Y;					
	3(HYD)	-11	-350	-11	0	0	0
	4(OPE)	-178	-311	-75	0	0	0
	6(OPE)	-304	-315	-79	0	0	0
	8(OPE)	-9	-310	6	0	0	0
	10(OPE)	-41	-174	32	0	0	0
	12(SUS)	-9	-310	6	0	0	0
	13(SUS)	-9	-309	6	0	0	0
	MAX	-304/L6	-350/L3	-79/L6			

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
2320		TYPE=Rigid +Y;					
	3(HYD)	0	0	0	0	0	0
	4(OPE)	0	-4516	0	0	0	0
	6(OPE)	0	-3837	0	0	0	0
	8(OPE)	0	0	0	0	0	0
	10(OPE)	0	0	0	0	0	0
	12(SUS)	0	0	0	0	0	0
	13(SUS)	0	0	0	0	0	0
	MAX		-4516/L4				
2500		TYPE=Rigid Z; Rigid X; Rigid +Y;					
	3(HYD)	-378	-4108	225	0	0	0
	4(OPE)	-4293	0	1613	0	0	0
	6(OPE)	-3635	0	1780	0	0	0
	8(OPE)	-298	-3546	171	0	0	0
	10(OPE)	1879	0	2641	0	0	0
	12(SUS)	-298	-3546	171	0	0	0
	13(SUS)	-298	-3543	171	0	0	0
	MAX	-4293/L4	-4108/L3	2641/L10			
2600		TYPE=Rigid +Y;					
	3(HYD)	645	-2522	-328	0	0	0
	4(OPE)	529	-1805	116	0	0	0
	6(OPE)	573	-2533	-499	0	0	0
	8(OPE)	503	-1811	-206	0	0	0
	10(OPE)	151	-7464	-2234	0	0	0
	12(SUS)	503	-1811	-206	0	0	0
	13(SUS)	502	-1810	-206	0	0	0
	MAX	645/L3	-7464/L10	-2234/L10			
2620		TYPE=Rigid +Y;					
	3(HYD)	0	0	0	0	0	0
	4(OPE)	0	-2152	0	0	0	0
	6(OPE)	0	-1867	0	0	0	0
	8(OPE)	0	0	0	0	0	0
	10(OPE)	0	0	0	0	0	0
	12(SUS)	0	0	0	0	0	0
	13(SUS)	0	0	0	0	0	0
	MAX		-2152/L4				
2800		TYPE=Rigid Z; Rigid X; Rigid +Y;					
	3(HYD)	-242	-3574	72	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	4(OPE)	-530	0	492	0	0	0
	6(OPE)	-596	0	795	0	0	0
	8(OPE)	-196	-3092	50	0	0	0
	10(OPE)	36	0	1607	0	0	0
	12(SUS)	-196	-3092	50	0	0	0
	13(SUS)	-196	-3091	50	0	0	0
	MAX	-596/L6	-3574/L3	1607/L10			
3100		TYPE=Rigid +Y;					
	3(HYD)	-0	-516	-155	0	0	0
	4(OPE)	32	-180	-43	0	0	0
	6(OPE)	0	0	0	0	0	0
	8(OPE)	-0	-497	-149	0	0	0
	10(OPE)	0	0	0	0	0	0
	12(SUS)	-0	-497	-149	0	0	0
	13(SUS)	-0	-497	-149	0	0	0
	MAX	32/L4	-516/L3	-155/L3			
3120		TYPE=Rigid Z; Rigid X;					
	3(HYD)	-267	0	-80	0	0	0
	4(OPE)	4374	0	-2646	0	0	0
	6(OPE)	4759	0	-2581	0	0	0
	8(OPE)	-85	0	-93	0	0	0
	10(OPE)	761	0	-1518	0	0	0
	12(SUS)	-85	0	-93	0	0	0
	13(SUS)	-85	0	-93	0	0	0
	MAX	4759/L6		-2646/L4			
3960		TYPE=Rigid +Y;					
	3(HYD)	-45	-5215	18	0	0	0
	4(OPE)	83	-2758	-823	0	0	0
	6(OPE)	196	-2715	-791	0	0	0
	8(OPE)	-27	-2781	12	0	0	0
	10(OPE)	78	-2623	-783	0	0	0
	12(SUS)	-27	-2781	12	0	0	0
	13(SUS)	-27	-2777	12	0	0	0
	MAX	196/L6	-5215/L3	-823/L4			
3980		TYPE=Rigid X w/gap; Rigid +Y;					
	3(HYD)	16	-9175	11	0	0	0
	4(OPE)	485	-4985	-1415	0	0	0
	6(OPE)	282	-4933	-1453	0	0	0
	8(OPE)	10	-4990	8	0	0	0
	10(OPE)	-12	-4822	-1446	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	12(SUS)	10	-4990	8	0	0	0
	13(SUS)	10	-4984	8	0	0	0
	MAX	485/L4	-9175/L3	-1453/L6			
4040		TYPE=Rigid +Y;					
	3(HYD)	-8	-8309	-1	0	0	0
	4(OPE)	-1353	-4515	-50	0	0	0
	6(OPE)	-1292	-4559	-449	0	0	0
	8(OPE)	-5	-4508	-0	0	0	0
	10(OPE)	-1284	-4656	-550	0	0	0
	12(SUS)	-5	-4508	-0	0	0	0
	13(SUS)	-5	-4502	-0	0	0	0
	MAX	-1353/L4	-8309/L3	-550/L10			
4072		TYPE=Rigid +Y;					
	3(HYD)	2	-10013	0	0	0	0
	4(OPE)	766	-5434	83	0	0	0
	6(OPE)	465	-5441	1565	0	0	0
	8(OPE)	1	-5434	0	0	0	0
	10(OPE)	-371	-5455	1594	0	0	0
	12(SUS)	1	-5434	0	0	0	0
	13(SUS)	1	-5427	0	0	0	0
	MAX	766/L4	-10013/L3	1594/L10			
4080		TYPE=Rigid X w/gap; Rigid Z w/gap; Rigid +Y;					
	3(HYD)	-0	-1940	0	0	0	0
	4(OPE)	-113	-1052	-295	0	0	0
	6(OPE)	130	-1045	-2367	0	0	0
	8(OPE)	-0	-1053	0	0	0	0
	10(OPE)	924	-1031	-4760	0	0	0
	12(SUS)	-0	-1053	0	0	0	0
	13(SUS)	-0	-1052	0	0	0	0
	MAX	924/L10	-1940/L3	-4760/L10			
4120		TYPE=Rigid +Y;					
	3(HYD)	422	-1405	2	0	0	0
	4(OPE)	-179	-618	47	0	0	0
	6(OPE)	-224	-768	56	0	0	0
	8(OPE)	177	-589	0	0	0	0
	10(OPE)	177	-589	0	0	0	0
	12(SUS)	177	-589	0	0	0	0
	13(SUS)	172	-574	0	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	MAX	422/L3	-1405/L3	56/L6			
4160		TYPE=Rigid Z; Rigid +Y;					
	3(HYD)	-294	-1735	6	0	0	0
	4(OPE)	-266	-626	262	0	0	0
	6(OPE)	-342	-192	948	0	0	0
	8(OPE)	-126	-730	2	0	0	0
	10(OPE)	-126	-730	2	0	0	0
	12(SUS)	-126	-730	2	0	0	0
	13(SUS)	-123	-711	2	0	0	0
	MAX	-342/L6	-1735/L3	948/L6			
4200		TYPE=Rigid ANC;					
	3(HYD)	-118	-649	-3	-10	-4	184
	4(OPE)	823	-511	-109	51	-127	469
	6(OPE)	1842	-927	-394	202	-458	1565
	8(OPE)	-47	-373	-1	-4	-2	77
	10(OPE)	-47	-373	-1	-4	-2	77
	12(SUS)	-47	-373	-1	-4	-2	77
	13(SUS)	-45	-368	-1	-4	-2	75
	MAX	1842/L6	-927/L6	-394/L6	202/L6	-458/L6	1565/L6
4260		TYPE=Rigid ANC;					
	3(HYD)	-118	-912	-3	-10	-5	394
	4(OPE)	823	-724	-109	51	-154	638
	6(OPE)	1842	-1140	-394	202	-557	1838
	8(OPE)	-47	-587	-1	-4	-2	211
	10(OPE)	-47	-587	-1	-4	-2	211
	12(SUS)	-47	-587	-1	-4	-2	211
	13(SUS)	-45	-580	-1	-4	-2	208
	MAX	1842/L6	-1140/L6	-394/L6	202/L6	-557/L6	1838/L6
4320		TYPE=Rigid ANC;					
	3(HYD)	-118	-912	-3	-18	-6	1120
	4(OPE)	823	-724	-109	-233	-204	-1171
	6(OPE)	1842	-1140	-394	-823	-738	-2427
	8(OPE)	-47	-587	-1	-8	-3	602
	10(OPE)	-47	-587	-1	-8	-3	602
	12(SUS)	-47	-587	-1	-8	-3	602
	13(SUS)	-45	-580	-1	-8	-2	593
	MAX	1842/L6	-1140/L6	-394/L6	-823/L6	-738/L6	-2427/L6

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS 2
Stress Summary : Multiple 3

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

1 (HGR) CASE NOT ACTIVE
 2 (HGR) CASE NOT ACTIVE
 3 (HYD) WW+HP+H
 4 (OPE) W+T1+P1+H
 5 (Alt-SUS) W+P1+H
 6 (OPE) W+T2+P1+H
 7 (Alt-SUS) W+P1+H
 8 (OPE) W+T3+P1+H
 9 (Alt-SUS) W+P1+H
 10 (OPE) W+T4+P1+H
 11 (Alt-SUS) W+P1+H
 12 (SUS) W+P1+H
 13 (SUS) WNC+H
 14 (OPE) W+T1+P1+H+U1
 15 (OPE) W+T1+P1+H-U1
 16 (OPE) W+T1+P1+H+U2
 17 (OPE) W+T1+P1+H+U3
 18 (OPE) W+T1+P1+H-U3
 19 (OPE) W+T1+P1+H+F1
 20 (OPE) W+T1+P1+H+F2
 21 (OCC) L21=L14-L4
 22 (OCC) L22=L15-L4
 23 (OCC) L23=L16-L4
 24 (OCC) L24=L17-L4
 25 (OCC) L25=L18-L4
 26 (OCC) L26=L19-L4
 27 (OCC) L27=L20-L4
 28 (OCC) L28=L21+L11
 29 (OCC) L29=L22+L11
 30 (OCC) L30=L23+L11
 31 (OCC) L31=L24+L11
 32 (OCC) L32=L25+L11
 33 (OCC) L33=L26+L11
 34 (OCC) L34=L27+L11
 35 (EXP) L35=L4-L11
 36 (EXP) L36=L6-L11
 37 (EXP) L37=L8-L11
 38 (EXP) L38=L6-L8
 39 (OPE) L39=L4, L6, L8
 40 (OCC) L40=L21, L22, L23, L24

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement Various Load Cases

LOAD CASE DEFINITION KEY

CASE 3 (HYD) WW+HP+H
 CASE 12 (SUS) W+P1+H
 CASE 13 (SUS) WNC+H
 CASE 28 (OCC) L28=L21+L11
 CASE 29 (OCC) L29=L22+L11
 CASE 30 (OCC) L30=L23+L11
 CASE 31 (OCC) L31=L24+L11
 CASE 32 (OCC) L32=L25+L11
 CASE 33 (OCC) L33=L26+L11
 CASE 34 (OCC) L34=L27+L11
 CASE 35 (EXP) L35=L4-L11
 CASE 36 (EXP) L36=L6-L11
 CASE 37 (EXP) L37=L8-L11
 CASE 38 (EXP) L38=L6-L8

Piping Code: B31.3 = B31.3 -2016, Jan 31, 2017

CODE STRESS CHECK PASSED : LOADCASE 3 (HYD) WW+HP+H

Highest Stresses: (KPa)	LOADCASE 3 (HYD) WW+HP+H	
Ratio (%):	28.5	@Node 4160
Code Stress:	49101.3	Allowable Stress: 172368.9
Axial Stress:	38860.8	@Node 4120
Bending Stress:	29449.1	@Node 280
Torsion Stress:	1891.7	@Node 2200
Hoop Stress:	78278.3	@Node 1939
Max Stress Intensity:	83292.6	@Node 1978

CODE STRESS CHECK PASSED : LOADCASE 12 (SUS) W+P1+H

Highest Stresses: (KPa)	LOADCASE 12 (SUS) W+P1+H	
Ratio (%):	31.8	@Node 1020
Code Stress:	43809.0	Allowable Stress: 137819.5
Axial Stress:	25776.1	@Node 4120
Bending Stress:	50949.9	@Node 280
Torsion Stress:	4046.4	@Node 2460
Hoop Stress:	52185.5	@Node 1939
Max Stress Intensity:	55518.2	@Node 1978

CODE STRESS CHECK PASSED : LOADCASE 13 (SUS) WNC+H

Highest Stresses: (KPa)	LOADCASE 13 (SUS) WNC+H	
Ratio (%):	27.9	@Node 280
Code Stress:	38427.7	Allowable Stress: 137895.1
Axial Stress:	2177.4	@Node 1460
Bending Stress:	50868.9	@Node 280
Torsion Stress:	4047.2	@Node 2460
Hoop Stress:	0.0	@Node 40
Max Stress Intensity:	51145.1	@Node 280

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement Various Load Cases

CODE STRESS CHECK PASSED : LOADCASE 28 (OCC) L28=L21+L11

Highest Stresses: (KPa)	LOADCASE 28 (OCC)	L28=L21+L11
Ratio (%):	68.5	@Node 2400
Code Stress:	125495.4	Allowable Stress: 183299.9
Axial Stress:	25761.3	@Node 4120
Bending Stress:	145817.4	@Node 2570
Torsion Stress:	36930.3	@Node 2460
Hoop Stress:	52185.5	@Node 1939
Max Stress Intensity:	152179.5	@Node 2570

CODE STRESS CHECK PASSED : LOADCASE 29 (OCC) L29=L22+L11

Highest Stresses: (KPa)	LOADCASE 29 (OCC)	L29=L22+L11
Ratio (%):	67.3	@Node 2400
Code Stress:	123399.9	Allowable Stress: 183299.9
Axial Stress:	25904.7	@Node 4260
Bending Stress:	134363.4	@Node 2570
Torsion Stress:	31699.9	@Node 2460
Hoop Stress:	52185.5	@Node 1939
Max Stress Intensity:	140502.3	@Node 2570

CODE STRESS CHECK PASSED : LOADCASE 30 (OCC) L30=L23+L11

Highest Stresses: (KPa)	LOADCASE 30 (OCC)	L30=L23+L11
Ratio (%):	64.4	@Node 2400
Code Stress:	117986.3	Allowable Stress: 183299.9
Axial Stress:	25742.1	@Node 4120
Bending Stress:	115019.2	@Node 2570
Torsion Stress:	30841.7	@Node 2460
Hoop Stress:	52185.5	@Node 1939
Max Stress Intensity:	120885.6	@Node 2570

CODE STRESS CHECK PASSED : LOADCASE 31 (OCC) L31=L24+L11

Highest Stresses: (KPa)	LOADCASE 31 (OCC)	L31=L24+L11
Ratio (%):	65.2	@Node 2400
Code Stress:	119511.1	Allowable Stress: 183299.9
Axial Stress:	25766.5	@Node 4120
Bending Stress:	119668.7	@Node 2570
Torsion Stress:	33741.3	@Node 2460
Hoop Stress:	52185.5	@Node 1939
Max Stress Intensity:	125941.4	@Node 2570

CODE STRESS CHECK PASSED : LOADCASE 32 (OCC) L32=L25+L11

Highest Stresses: (KPa)	LOADCASE 32 (OCC)	L32=L25+L11
Ratio (%):	65.2	@Node 2400
Code Stress:	119518.6	Allowable Stress: 183299.9
Axial Stress:	25772.0	@Node 4120
Bending Stress:	124704.5	@Node 2570
Torsion Stress:	34078.6	@Node 2460

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
Various Load Cases

Hoop Stress: 52185.5 @Node 1939
 Max Stress Intensity: 131040.5 @Node 2570

CODE STRESS CHECK PASSED : LOADCASE 33 (OCC) L33=L26+L11

Highest Stresses: (KPa) LOADCASE 33 (OCC) L33=L26+L11
 Ratio (%): 84.4 @Node 2400
 Code Stress: 154681.4 Allowable Stress: 183299.9
 Axial Stress: 25766.2 @Node 4120
 Bending Stress: 148973.2 @Node 2570
 Torsion Stress: 44721.3 @Node 2460
 Hoop Stress: 52185.5 @Node 1939
 Max Stress Intensity: 154834.8 @Node 2570

CODE STRESS CHECK PASSED : LOADCASE 34 (OCC) L34=L27+L11

Highest Stresses: (KPa) LOADCASE 34 (OCC) L34=L27+L11
 Ratio (%): 61.0 @Node 2400
 Code Stress: 111748.3 Allowable Stress: 183299.9
 Axial Stress: 25766.2 @Node 4120
 Bending Stress: 112902.3 @Node 2570
 Torsion Stress: 33369.1 @Node 2460
 Hoop Stress: 52185.5 @Node 1939
 Max Stress Intensity: 118599.0 @Node 2570

CODE STRESS CHECK PASSED : LOADCASE 35 (EXP) L35=L4-L11

Highest Stresses: (KPa) LOADCASE 35 (EXP) L35=L4-L11
 Ratio (%): 47.3 @Node 2570
 Code Stress: 119794.7 Allowable Stress: 253211.4
 Axial Stress: 5992.5 @Node 3140
 Bending Stress: 117635.1 @Node 2570
 Torsion Stress: 15261.1 @Node 1619
 Hoop Stress: 0.0 @Node 40
 Max Stress Intensity: 263169.6 @Node 2570

CODE STRESS CHECK PASSED : LOADCASE 36 (EXP) L36=L6-L11

Highest Stresses: (KPa) LOADCASE 36 (EXP) L36=L6-L11
 Ratio (%): 49.8 @Node 2570
 Code Stress: 125993.8 Allowable Stress: 253211.4
 Axial Stress: 6279.6 @Node 3140
 Bending Stress: 123988.8 @Node 2570
 Torsion Stress: 20821.6 @Node 1619
 Hoop Stress: 0.0 @Node 40
 Max Stress Intensity: 277037.3 @Node 2570

CODE STRESS CHECK PASSED : LOADCASE 37 (EXP) L37=L8-L11

Highest Stresses: (KPa) LOADCASE 37 (EXP) L37=L8-L11
 Ratio (%): 28.0 @Node 2400
 Code Stress: 65404.7 Allowable Stress: 233752.2
 Axial Stress: 1460.8 @Node 3140

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**STRESS SUMMARY REPORT: Highest Stresses Mini Statement
 Various Load Cases**

Bending Stress:	63197.6	@Node	2400
Torsion Stress:	7747.0	@Node	2460
Hoop Stress:	0.0	@Node	40
Max Stress Intensity:	99622.3	@Node	2570

CODE STRESS CHECK PASSED : LOADCASE 38 (EXP) L38=L6-L8

Highest Stresses: (KPa)	LOADCASE 38 (EXP) L38=L6-L8	
Ratio (%):	33.6	@Node 2570
Code Stress:	85165.3	Allowable Stress: 253211.4
Axial Stress:	4818.8	@Node 3140
Bending Stress:	83142.9	@Node 2570
Torsion Stress:	20821.6	@Node 1619
Hoop Stress:	0.0	@Node 40
Max Stress Intensity:	187032.3	@Node 2570

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

1 (HGR) CASE NOT ACTIVE
2 (HGR) CASE NOT ACTIVE
3 (HYD) WW+HP+H
4 (OPE) W+T1+P1+H
5 (Alt-SUS) W+P1+H
6 (OPE) W+T2+P1+H
7 (Alt-SUS) W+P1+H
8 (OPE) W+T3+P1+H
9 (Alt-SUS) W+P1+H
10 (OPE) W+T4+P1+H
11 (Alt-SUS) W+P1+H
12 (SUS) W+P1+H
13 (SUS) WNC+H
14 (OPE) W+T1+P1+H+U1
15 (OPE) W+T1+P1+H-U1
16 (OPE) W+T1+P1+H+U2
17 (OPE) W+T1+P1+H+U3
18 (OPE) W+T1+P1+H-U3
19 (OPE) W+T1+P1+H+F1
20 (OPE) W+T1+P1+H+F2
21 (OCC) L21=L14-L4
22 (OCC) L22=L15-L4
23 (OCC) L23=L16-L4
24 (OCC) L24=L17-L4
25 (OCC) L25=L18-L4
26 (OCC) L26=L19-L4
27 (OCC) L27=L20-L4
28 (OCC) L28=L21+L11
29 (OCC) L29=L22+L11
30 (OCC) L30=L23+L11
31 (OCC) L31=L24+L11
32 (OCC) L32=L25+L11
33 (OCC) L33=L26+L11
34 (OCC) L34=L27+L11
35 (EXP) L35=L4-L11
36 (EXP) L36=L6-L11
37 (EXP) L37=L8-L11
38 (EXP) L38=L6-L8
39 (OPE) L39=L4, L6, L8
40 (OCC) L40=L21, L22, L23, L24

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NOZZLE CHECK REPORT: Nozzle Loads Screening

Various Load Cases

LOAD CASE DEFINITION KEY

CASE 4 (OPE) W+T1+P1+H

CASE 12 (SUS) W+P1+H

CASE 13 (SUS) WNC+H

Node		fa N.	fb N.	fc N.	Forces Check	ma N.m.	mb N.m.	mc N.m.	Moments Check	
20		Absolute Method								
	Limits	9600	9600	7200		5760	3840	4990		
	4(OPE)	-375	-802	73	0.084	-32	-76	-649	0.130	
	12(SUS)	148	-560	-72	0.058	28	60	-227	0.045	
	13(SUS)	149	-553	-72	0.058	28	60	-221	0.044	
780		Absolute Method								
	Limits	9600	9600	7200		5760	3840	4990		
	4(OPE)	628	-29	260	0.065	213	-82	149	0.037	
	12(SUS)	1016	6	-34	0.106	-28	-287	-286	0.075	
	13(SUS)	1012	6	-33	0.105	-28	-285	-284	0.074	
1240		Absolute Method								
	Limits	7200	7200	5400		3240	2160	2810		
	4(OPE)	642	7	-795	0.147	-174	178	234	0.083	
	12(SUS)	-5	-255	10	0.035	-61	2	159	0.057	
	13(SUS)	-5	-253	9	0.035	-61	2	158	0.056	
1700		Absolute Method								
	Limits	15091	15091	12001		9150	4890	6420		
	4(OPE)	-804	1075	4448	0.371	-4212	-3393	-2171	0.694	
	12(SUS)	1767	-30	-117	0.117	47	-525	287	0.107	
	13(SUS)	1759	-30	-116	0.117	46	-523	285	0.107	

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NOZZLE CHECK REPORT: Nozzle Loads Screening

Various Load Cases

Node		fa N.	fb N.	fc N.	Forces Check	ma N.m.	mb N.m.	mc N.m.	Moments Check	
1780		Absolute Method								
	Limits	15091	15091	12001		9150	4890	6420		
	4(OPE)	536	-92	249	0.035	-533	-124	-125	0.058	
	12(SUS)	605	-81	11	0.040	3	-82	-23	0.017	
	13(SUS)	600	-79	12	0.040	2	-80	-22	0.016	
4260		Absolute Method								
	Limits	8400	8400	6300		3780	2520	3280		
	4(OPE)	823	-724	-109	0.098	51	-154	638	0.194	
	12(SUS)	-47	-587	-1	0.070	-4	-2	211	0.064	
	13(SUS)	-45	-580	-1	0.069	-4	-2	208	0.063	

BNK-GCS-CN-037

Table of contents:

Line no.

Stress sketch

Input echo

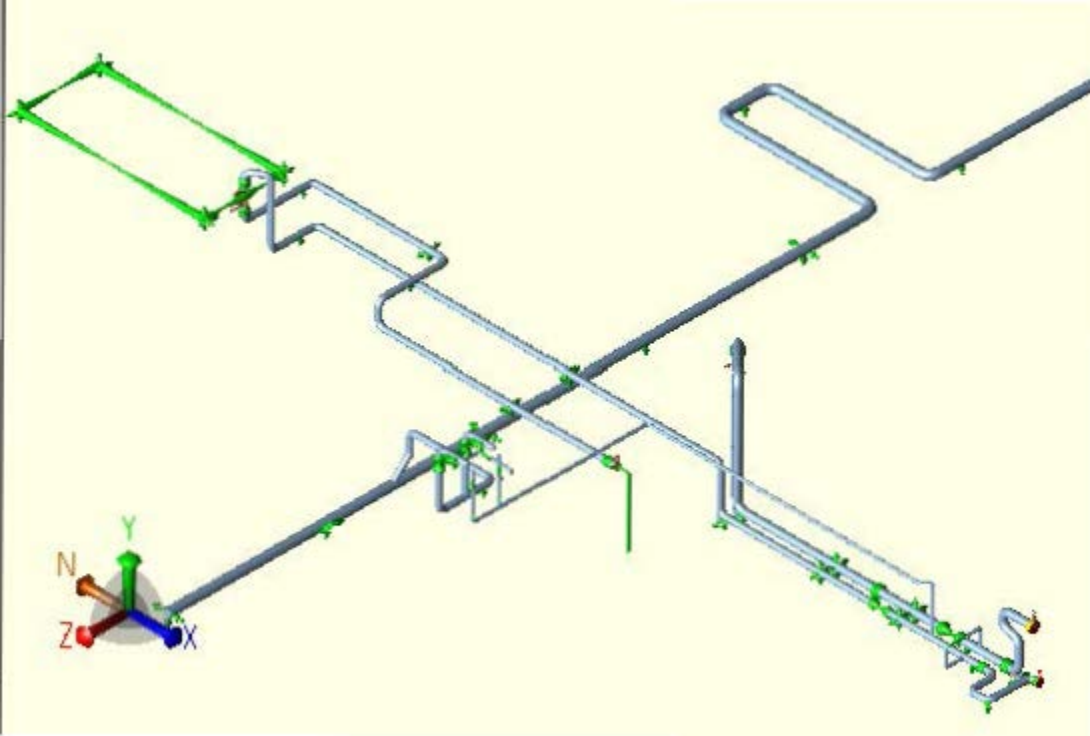
Restraint summary

Stress summary

Nozzle load Table

LINE NO.:

1. GAS-111-0031C-AN05-8"-ET
2. GAS-111-0036C-CN05-6"-PT
3. GAS-111-0032C-CN05-2"-PT
4. GAS-111-0033C-CN05-2"-PT
5. FL-112-0015C-AN07-2"-PT
6. FL-112-0014C-AN07-6"-PT
7. FL-112-0016C-AN07-6"-PT
8. GAS-111-0037C-CS00-6"-NP



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1 (HGR) CASE NOT ACTIVE
 2 (HGR) CASE NOT ACTIVE
 3 (HYD) WW+HP+H
 4 (OPE) W+T1+P1+H
 5 (Alt-SUS) W+P1+H
 6 (OPE) W+T2+P1+H
 7 (Alt-SUS) W+P1+H
 8 (OPE) W+T3+P1+H
 9 (Alt-SUS) W+P1+H
 10 (OPE) W+T4+P1+H
 11 (Alt-SUS) W+P1+H
 12 (SUS) W+P1+H
 13 (SUS) WNC+H
 14 (OPE) W+T1+P1+H+U1
 15 (OPE) W+T1+P1+H-U1
 16 (OPE) W+T1+P1+H+U2
 17 (OPE) W+T1+P1+H+U3
 18 (OPE) W+T1+P1+H-U3
 19 (OPE) W+T1+P1+H+F1
 20 (OPE) W+T1+P1+H+F2
 21 (OCC) L21=L14-L4
 22 (OCC) L22=L15-L4
 23 (OCC) L23=L16-L4
 24 (OCC) L24=L17-L4
 25 (OCC) L25=L18-L4
 26 (OCC) L26=L19-L4
 27 (OCC) L27=L20-L4
 28 (OCC) L28=L21+L11
 29 (OCC) L29=L22+L11
 30 (OCC) L30=L23+L11
 31 (OCC) L31=L24+L11
 32 (OCC) L32=L25+L11
 33 (OCC) L33=L26+L11
 34 (OCC) L34=L27+L11
 35 (EXP) L35=L4-L11
 36 (EXP) L36=L6-L11
 37 (EXP) L37=L8-L11
 38 (EXP) L38=L6-L8
 39 (OPE) L39=L4, L6, L8
 40 (OCC) L40=L21, L22, L23, L24

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INPUT LISTING

Job Description:

PROJECT:

CLIENT :

ANALYST:

NOTES :

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INPUT LISTING

File created by FEATools

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PIPE DATA

 From 20 To 40 DX= -.105 m.

PIPE

Dia= 21.907 cm. Wall= .635 cm. Cor= .3000 cm.

Element Name= FLANGE_FLG_150

GENERAL

T1= 20 C T2= 85 C T3= 21 C P1= 900.0205 KPa PHyd= 1,350.0308 KPa

Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 203,452,944 KPa

EH2= 199,086,608 KPa EH3= 203,401,232 KPa EH4= 203,401,232 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm. Fluid Den= .0000058 kg./cu.cm.

Insul Thk= .000 cm. Insul Den= .0000000 kg./cu.cm.

RIGID Weight= 177.93 N.

RESTRAINTS

Node 20 ANC

UNIFORM LOAD

Vector1 in G-s X1 Dir = .26 g's Y1 Dir = .00 g's Z1 Dir = .00 g's

Vector2 in G-s X2 Dir = .00 g's Y2 Dir = .12 g's Z2 Dir = .00 g's

Vector3 in G-s X3 Dir = .00 g's Y3 Dir = .00 g's Z3 Dir = .26 g's

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

EQUIPMENT LIMITS

Nozzle Node = 20 Limiting Loads: A=pipe; B=ref; C=AxB; FA= 9,600.48 N.

FB= 9,600.48 N. FC= 7,200.36 N. MA= 5,760.24 N.m. MB= 3,840.16 N.m.

MC= 4,990.21 N.m. Equipment Major Direction Vector= .0000 1.0000 .0000

Interact. Mtd= Absolute

 From 40 To 60 DX= -1.065 m.

BEND at "TO" end

Radius= 30.480 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 59

Angle/Node @2= .00 58

 From 60 To 80 DY= -.610 m.

BEND at "TO" end

Radius= 30.480 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 79

 From 80 To 100 DX= .610 m.

BEND at "TO" end

Radius= 30.480 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 99

 From 100 To 120 DY= -.871 m.

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INPUT LISTING

From 120 To 140 DY= -.305 m.

RIGID Weight= .00 N.

From 140 To 160 DY= -.200 m.

PIPE

Dia= 16.827 cm. Wall= .711 cm.

GENERAL

T1= 21 C T2= 21 C P1= .0000 KPa PHyd= .0000 KPa

Fluid Den= .0000000 kg./cu.cm. Insul Thk= .000 cm.

RESTRAINTS

Node 160 -X Mu = .30

Node 160 Z

Node 121 +Y Mu = .10

Node 160 X Cnode 121

HANGERS

Hanger Node = 160 Hanger Connecting Node = 121

Available Space = -100.0000 cm. Allowed Load Variation = 25.0000

No. Hangers = 0.0 Short Range Flag = -1 User Operating Load = .00 N.

Free Node = 0 Free Node = 0 Free Code = 0.0 Spring Rate = .00 N./cm.

Theoretical Cold Load = .00 N.

SIF's & TEE's

Node 140 Unreinforced Tee

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 120 To 180 DY= -.305 m.

PIPE

Dia= 21.907 cm. Wall= .635 cm.

GENERAL

T1= 36 C T2= 85 C P1= 900.0205 KPa PHyd= 1,350.0308 KPa

Fluid Den= .0000058 kg./cu.cm. Insul Thk= .000 cm.

DOUBLE FLANGED BEND at "TO" end

Radius= 30.480 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 179

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 180 To 200 DX= -.305 m.

From 200 To 220 DX= -.105 m.

Element Name= FLANGE_FLG_300

RIGID Weight= 177.93 N.

From 220 To 240 DX= -.105 m.

Element Name= FLANGE_FLG_300

RIGID Weight= 177.93 N.

From 240 To 260 DX= -.700 m.

From 260 To 280 DX= -.248 m.

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INPUT LISTING

SIF's & TEE's

Node 280 Weldolet

From 280 To 300 DX= -.500 m.

RESTRAINTS

Node 300 +Y Mu = .30

From 300 To 320 DX= -.200 m.

From 320 To 340 DX= -.105 m.

Element Name= FLANGE_FLG_300

RIGID Weight= 177.93 N.

From 340 To 360 DX= -.573 m.

Element Name= GATE_NOFLG_300

RIGID Weight= 1,023.41 N.

From 360 To 380 DX= -.105 m.

Element Name= FLANGE_FLG_300

RIGID Weight= 177.93 N.

From 380 To 400 DX= -1.000 m.

RESTRAINTS

Node 400 Y Mu = .30

Node 400 Z

From 400 To 420 DX= -1.288 m.

From 420 To 440 DX= -.105 m.

Element Name= FLANGE_FLG_300

RIGID Weight= 177.93 N.

From 440 To 460 DX= -.105 m.

Element Name= FLANGE_FLG_300

RIGID Weight= 177.93 N.

From 460 To 480 DX= -1.500 m.

RESTRAINTS

Node 480 Y Mu = .30

Node 480 Z

From 480 To 500 DX= -3.805 m.

SINGLE FLANGED BEND at "TO" end

Radius= 30.480 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 499

Angle/Node @2= .00 498

From 500 To 520 DY= .305 m.

From 520 To 540 DY= -.305 m.

RIGID Weight= .00 N.

From 540 To 560 DY= -.300 m.

PIPE

Dia= 16.827 cm. Wall= .711 cm.

GENERAL

T1= 21 C T2= 21 C P1= .0000 KPa PHyd= .0000 KPa

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INPUT LISTING

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Fluid Den= .0000000 kg./cu.cm.    Insul Thk= .000 cm.
RESTRAINTS
  Node 560 +Y    Mu = .30
  Node 560 Z
SIF's & TEE's
  Node 540 Unreinforced Tee
ALLOWABLE STRESSES
  B31.3 (2016)      Cycle Max Switch = ---    Sc= 137,895 KPa
  Sh1= 137,895 KPa  Sh2= 137,895 KPa  Sh3= 137,895 KPa  Sh4= 137,895 KPa
  Sh5= 137,895 KPa  Sh6= 137,895 KPa  Sh7= 137,895 KPa  Sh8= 137,895 KPa
  Sh9= 137,895 KPa  Sy= 241,316 KPa
-----
From 520 To 580 DY= 3.935 m.
PIPE
  Dia= 21.907 cm.    Wall= .635 cm.
GENERAL
  T1= 36 C    T2= 85 C    P1= 900.0205 KPa    PHyd= 1,350.0308 KPa
  Fluid Den= .0000058 kg./cu.cm.    Insul Thk= .000 cm.
BEND at "TO" end
  Radius= 30.480 cm. (LONG)    Bend Angle= 90.000    Angle/Node @1= 45.00 579
  Angle/Node @2= .00 578
ALLOWABLE STRESSES
  B31.3 (2016)      Cycle Max Switch = ---    Sc= 137,895 KPa
  Sh1= 137,895 KPa  Sh2= 137,895 KPa  Sh3= 137,895 KPa  Sh4= 137,895 KPa
  Sh5= 137,895 KPa  Sh6= 137,895 KPa  Sh7= 137,895 KPa  Sh8= 137,895 KPa
  Sh9= 137,895 KPa  Sy= 241,316 KPa
-----
From 580 To 600 DX= -.354 m.    DZ= -.354 m.
-----
From 600 To 620 DX= -.354 m.    DZ= -.354 m.
-----
From 620 To 640 DY= -.084 m.
RIGID Weight= .00 N.
-----
From 640 To 660 DY= -.300 m.
PIPE
  Dia= 11.430 cm.    Wall= .602 cm.
GENERAL
  T1= 21 C    T2= 21 C    P1= .0000 KPa    PHyd= .0000 KPa
  Fluid Den= .0000000 kg./cu.cm.    Insul Thk= .000 cm.
RESTRAINTS
  Node 660 +Y    Cnode 800    Mu = .30
ALLOWABLE STRESSES
  B31.3 (2016)      Cycle Max Switch = ---    Sc= 137,895 KPa
  Sh1= 137,895 KPa  Sh2= 137,895 KPa  Sh3= 137,895 KPa  Sh4= 137,895 KPa
  Sh5= 137,895 KPa  Sh6= 137,895 KPa  Sh7= 137,895 KPa  Sh8= 137,895 KPa
  Sh9= 137,895 KPa  Sy= 241,316 KPa
-----
From 620 To 680 DX= -.543 m.    DZ= -.543 m.
PIPE
  Dia= 21.907 cm.    Wall= .635 cm.
GENERAL
  T1= 36 C    T2= 85 C    P1= 900.0205 KPa    PHyd= 1,350.0308 KPa
  Fluid Den= .0000058 kg./cu.cm.    Insul Thk= .000 cm.
BEND at "TO" end
  Radius= 30.480 cm. (LONG)    Bend Angle= 90.000    Angle/Node @1= 45.00 679

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INPUT LISTING

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Angle/Node @2= .00 678
ALLOWABLE STRESSES
  B31.3 (2016)      Cycle Max Switch = ---   Sc= 137,895 KPa
  Sh1= 137,895 KPa  Sh2= 137,895 KPa  Sh3= 137,895 KPa  Sh4= 137,895 KPa
  Sh5= 137,895 KPa  Sh6= 137,895 KPa  Sh7= 137,895 KPa  Sh8= 137,895 KPa
  Sh9= 137,895 KPa  Sy= 241,316 KPa
-----
From 680 To 700 DY= -.305 m.
-----
From 700 To 720 DY= -.105 m.
  Element Name= FLANGE_FLG_300
RIGID Weight= 177.93 N.
RESTRAINTS
  Node 720 ANC Cnode 740
-----
From 740 To 760 DY= -.105 m.
  Element Name= FLANGE_FLG_300
RIGID Weight= 177.93 N.
-----
From 760 To 780 DY= -.181 m.
RESTRAINTS
  Node 780 ANC Cnode 820
EQUIPMENT LIMITS
  Nozzle Node = 780 Limiting Loads: A=pipe; B=ref; C=AxB; FA= 9,600.48 N.
  FB= 9,600.48 N. FC= 7,200.36 N. MA= 5,760.24 N.m. MB= 3,840.16 N.m.
  MC= 4,990.21 N.m. Equipment Major Direction Vector= .0000 .0000 1.0000
  Interact. Mtd= Absolute
-----
From 780 To 800 DX= .543 m. DY= .313 m. DZ= .543 m.
RIGID Weight= .00 N.
-----
From 820 To 840 DY= -3.065 m.
PIPE
  Dia= 91.440 cm. Wall= 1.500 cm.
GENERAL
  Mat= (383)A516 70 E= 203,401,232 KPa EH1= 202,155,536 KPa
  EH2= 199,086,608 KPa EH3= 203,401,232 KPa EH4= 203,401,232 KPa
  EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa
  EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292
  Pipe Den= .0078334 kg./cu.cm. Insul Thk= .000 cm.
RIGID Weight= .00 N.
ALLOWABLE STRESSES
  B31.3 (2016)      Cycle Max Switch = ---   Sc= 160,648 KPa
  Sh1= 160,648 KPa  Sh2= 160,062 KPa  Sh3= 160,648 KPa  Sh4= 160,648 KPa
  Sh5= 160,648 KPa  Sh6= 160,648 KPa  Sh7= 160,648 KPa  Sh8= 160,648 KPa
  Sh9= 160,648 KPa  Sy= 262,001 KPa
-----
From 840 To 860 DY= -1.200 m.
PIPE
  Dia= 91.440 cm. Wall= 1.200 cm.
  Insul Thk= .000 cm.
RIGID Weight= .00 N.
RESTRAINTS
  Node 860 ANC
-----
From 280 To 880 DY= .743 m.

```


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PIPE

Dia= 6.032 cm. Wall= .874 cm.

GENERAL

Mat= (106)A106 Grade B E= 203,401,232 KPa EH1= 202,155,536 KPa

EH2= 199,086,608 KPa EH3= 203,401,232 KPa EH4= 203,401,232 KPa

EH5= 203,401,232 KPa EH6= 203,401,232 KPa EH7= 203,401,232 KPa

EH8= 203,401,232 KPa EH9= 203,401,232 KPa v = .292

Pipe Den= .0078334 kg./cu.cm. Insul Thk= .000 cm.

BEND at "TO" end

Radius= 7.620 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 879

Angle/Node @2= .00 878

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 880 To 900 DZ= .510 m.

From 900 To 910 DZ= .067 m.

Element Name= BALL_FLG_600

GENERAL

T1= 125 C T2= 155 C P1= 1,900.0433 KPa PHyd= 3,300.0752 KPa

Fluid Den= .0000430 kg./cu.cm.

RIGID Weight= 31.14 N.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,819 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 910 To 920 DZ= .301 m.

RIGID Weight= 66.72 N.

From 920 To 930 DZ= .275 m.

PIPE

Dia= 6.032 cm. Wall= .554 cm. Element Name= CHECK_FLG_150

GENERAL

P1= 2,200.0500 KPa Fluid Den= .0000154 kg./cu.cm. Insul Thk= .000 cm.

RIGID Weight= 355.86 N.

From 930 To 940 DZ= .073 m.

RIGID Weight= 44.48 N.

From 940 To 960 DZ= .077 m.

SINGLE FLANGED BEND at "TO" end

Radius= 7.620 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 959

Angle/Node @2= .00 958

From 960 To 980 DY= -.652 m.

BEND at "TO" end

Radius= 7.620 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 979

Angle/Node @2= .00 978

From 980 To 1000 DZ= -.077 m.

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From 1000 To 1020 DZ= -.621 m.
  Element Name= CHECK_FLG_600
-----
From 1020 To 1040 DX= .300 m.
PIPE
  Dia= 16.827 cm. Wall= .711 cm.
GENERAL
  Fluid Den= .0000154 kg./cu.cm. Insul Thk= .000 cm.
RESTRAINTS
  Node 1040 +Y Mu = .30
ALLOWABLE STRESSES
  B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
  Sh1= 137,895 KPa Sh2= 137,819 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
  Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
  Sh9= 137,895 KPa Sy= 241,316 KPa
-----
From 1040 To 1060 DX= .318 m.
-----
From 1060 To 1080 DX= .102 m.
  Element Name= FLG.PR_FLG_150
RIGID Weight= 191.27 N.
-----
From 1080 To 1100 DX= .102 m.
  Element Name= FLG.PR_FLG_150
RIGID Weight= 191.27 N.
-----
From 1100 To 1120 DX= .390 m.
BEND at "TO" end
  Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1119
  Angle/Node @2= .00 1118
-----
From 1120 To 1140 DZ= 1.000 m.
BEND at "TO" end
  Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1139
  Angle/Node @2= .00 1138
-----
From 1140 To 1160 DX= .466 m.
-----
From 1160 To 1180 DX= .233 m.
BEND at "TO" end
  Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1179
  Angle/Node @2= .00 1178
RESTRAINTS
  Node 1180 -X Mu = .30
  Node 1180 +Y Mu = .30
-----
From 1180 To 1200 DZ= -1.600 m.
BEND at "TO" end
  Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1199
  Angle/Node @2= .00 1198
-----
From 1200 To 1220 DX= .229 m.
-----
From 1220 To 1240 DX= .102 m.
  Element Name= FLANGE_FLG_600
RIGID Weight= 191.27 N.

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RESTRAINTS

Node 1240 ANC

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,819 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

EQUIPMENT LIMITS

Nozzle Node = 1240

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 7,200.36 N. FB= 7,200.36 N.

FC= 5,400.27 N. MA= 3,240.14 N.m. MB= 2,160.09 N.m. MC= 2,810.12 N.m.

Equipment Major Direction Vector= .0000 1.0000 .0000

Interact. Mtd= Absolute

From 1020 To 1260 DX= -1.208 m.

SIF's & TEE's

Node 1260 Weldolet

From 1260 To 1280 DX= -1.275 m.

RESTRAINTS

Node 1280 Y Mu = .30

Node 1280 Z

From 1280 To 1300 DX= -.368 m.

From 1300 To 1320 DX= -.102 m.

Element Name= FLANGE_FLG_600

RIGID Weight= 191.27 N.

From 1320 To 1340 DX= -.453 m.

Element Name= CHECK_NOFLG_600

RIGID Weight= 1,850.46 N.

From 1340 To 1360 DX= -.102 m.

Element Name= FLANGE_NOFLG_600

RIGID Weight= 191.27 N.

From 1360 To 1380 DX= -1.973 m.

RESTRAINTS

Node 1380 Y Mu = .30

Node 1380 Z

From 1380 To 1400 DX= -3.826 m.

SINGLE FLANGED BEND at "TO" end

Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1399

Angle/Node @2= .00 1398

From 1400 To 1420 DY= .229 m.

From 1420 To 1440 DY= -.229 m.

RIGID Weight= .00 N.

From 1440 To 1460 DY= -.300 m.

PIPE

Dia= 11.430 cm. Wall= .602 cm.

GENERAL

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T1= 21 C T2= 21 C P1= .0000 KPa PHyd= .0000 KPa
 Fluid Den= .0000000 kg./cu.cm. Insul Thk= .000 cm.

RESTRAINTS

Node 1460 +Y Mu = .30
 Node 1460 Z

SIF's & TEE's

Node 1440 Unreinforced Tee

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 1420 To 1480 DY= 1.455 m.

PIPE

Dia= 16.827 cm. Wall= 1.097 cm.

GENERAL

T1= 125 C T2= 155 C P1= 1,900.0433 KPa PHyd= 3,300.0752 KPa
 Fluid Den= .0000154 kg./cu.cm. Insul Thk= 4.000 cm.

BEND at "TO" end

Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1479
 Angle/Node @2= .00 1478

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,819 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 1480 To 1500 DX= -5.760 m.

RESTRAINTS

Node 1500 +Y
 Node 1500 Z

 From 1500 To 1520 DX= -6.000 m.

RESTRAINTS

Node 1520 +Y Mu = .30

 From 1520 To 1540 DX= -3.570 m.

BEND at "TO" end

Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1539
 Angle/Node @2= .00 1538

 From 1540 To 1560 DZ= .600 m.

RESTRAINTS

Node 1560 +Y Mu = .30

 From 1560 To 1580 DZ= 1.117 m.

BEND at "TO" end

Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1579
 Angle/Node @2= .00 1578

 From 1580 To 1600 DY= 2.487 m.

BEND at "TO" end

Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1599
 Angle/Node @2= .00 1598

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From 1600 To 1620 DX= -.618 m. DZ= .432 m.
BEND at "TO" end
    Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 1619
    Angle/Node @2= .00 1618
-----
From 1620 To 1640 DY= -.229 m.
-----
From 1640 To 1660 DY= -.102 m.
    Element Name= FLANGE_NOFLG_600
RIGID Weight= 191.27 N.
-----
From 1660 To 1680 DY= -.102 m.
    Element Name= FLANGE_NOFLG_600
RIGID Weight= 191.27 N.
-----
From 1680 To 1700 DY= -.127 m.
RESTRAINTS
    Node 1700 ANC Cnode 1720
EQUIPMENT LIMITS
    Nozzle Node = 1700
    Limiting Loads: A=pipe; B=ref; C=AxB; FA= 15,090.75 N. FB= 15,090.75 N.
    FC= 12,000.60 N. MA= 9,150.39 N.m. MB= 4,890.21 N.m. MC= 6,420.27 N.m.
    Equipment Major Direction Vector= .0000 .0000 1.0000
    Interact. Mtd= Absolute
-----
From 1720 To 1740 DY= -.240 m.
GENERAL
    P1= 2,200.0500 KPa
RIGID Weight= .00 N.
-----
From 1740 To 1760 DY= -.240 m.
RIGID Weight= .00 N.
-----
From 1780 To 1800 DY= -.127 m.
GENERAL
    T1= 60 C
RESTRAINTS
    Node 1780 ANC Cnode 1760
ALLOWABLE STRESSES
    B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
    Sh1= 137,895 KPa Sh2= 137,819 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
    Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
    Sh9= 137,895 KPa Sy= 241,316 KPa
EQUIPMENT LIMITS
    Nozzle Node = 1780
    Limiting Loads: A=pipe; B=ref; C=AxB; FA= 15,090.75 N. FB= 15,090.75 N.
    FC= 12,000.60 N. MA= 9,150.39 N.m. MB= 4,890.21 N.m. MC= 6,420.27 N.m.
    Equipment Major Direction Vector= .0000 .0000 1.0000
    Interact. Mtd= Absolute
-----
From 1800 To 1820 DY= -.102 m.
    Element Name= FLANGE_NOFLG_150
RIGID Weight= 191.27 N.
-----
From 1740 To 1840 DZ= 1.500 m.
GENERAL

```

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T1= 142 C    T2= 175 C
RIGID Weight= 2,250.11 N.
RESTRAINTS
  Node 1840 Y Mu = .10
  Node 1840 X Mu = .30
  Node 1840 Z Gap= .600 cm.
ALLOWABLE STRESSES
  B31.3 (2016)      Cycle Max Switch = --- Sc= 137,895 KPa
  Sh1= 137,895 KPa  Sh2= 137,571 KPa  Sh3= 137,895 KPa  Sh4= 137,895 KPa
  Sh5= 137,895 KPa  Sh6= 137,895 KPa  Sh7= 137,895 KPa  Sh8= 137,895 KPa
  Sh9= 137,895 KPa  Sy= 241,316 KPa
-----
From 1840 To 1860 DX= -7.035 m.
RIGID Weight=10,500.52 N.
RESTRAINTS
  Node 1860 Y Mu = .10
  Node 1860 Z Gap= .600 cm. Mu = .30
-----
From 1860 To 1880 DZ= -3.000 m.
RIGID Weight= 4,500.22 N.
RESTRAINTS
  Node 1880 Y Mu = .10
  Node 1880 Z Gap= .600 cm.
-----
From 1880 To 1900 DX= 7.035 m.
RIGID Weight=10,500.52 N.
RESTRAINTS
  Node 1900 Y Mu = .10
  Node 1900 X
  Node 1900 Z Gap= .600 cm.
-----
From 1900 To 1740 DZ= 1.500 m.
RIGID Weight= 2,250.11 N.
-----
From 1820 To 1920 DY= -.102 m.
PIPE
  Dia= 16.827 cm. Wall= .340 cm. Cor= .0000 cm.
  Element Name= FLANGE_NOFLG_150
GENERAL
  T1= 60 C T2= 155 C Mat= (165)A312 TP316L E= 195,127,520 KPa
  EH1= 192,364,096 KPa EH2= 185,780,080 KPa EH3= 195,127,520 KPa
  EH4= 195,127,520 KPa EH5= 195,127,520 KPa EH6= 195,127,520 KPa
  EH7= 195,127,520 KPa EH8= 195,127,520 KPa EH9= 195,127,520 KPa
  v = .292 Pipe Den= .0080272 kg./cu.cm. Fluid Den= .0000183 kg./cu.cm.
  Insul Thk= .000 cm.
RIGID Weight= 191.27 N.
ALLOWABLE STRESSES
  B31.3 (2016)      Cycle Max Switch = --- Sc= 115,142 KPa
  Sh1= 115,142 KPa  Sh2= 114,386 KPa  Sh3= 115,142 KPa  Sh4= 115,142 KPa
  Sh5= 115,142 KPa  Sh6= 115,142 KPa  Sh7= 115,142 KPa  Sh8= 115,142 KPa
  Sh9= 115,142 KPa  Sy= 172,369 KPa
-----
From 1920 To 1940 DY= -.229 m.
GENERAL
  P1= 2,200.0500 KPa Fluid Den= .0000183 kg./cu.cm.
SINGLE FLANGED BEND at "TO" end

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      Radius= 22.860 cm. (LONG)      Bend Angle= 89.714      Angle/Node @1= 44.86 1939
-----
From 1940 To 1960 DY= -.011 m.  DZ= -2.257 m.
RESTRAINTS
      Node 1960 +Y      Mu = .30
-----
From 1960 To 1980 DY= -.002 m.  DZ= -.350 m.
BEND at "TO" end
      Radius= 22.860 cm. (LONG)      Bend Angle= 90.000      Angle/Node @1= 45.00 1979
      Angle/Node @2= .00 1978
-----
From 1980 To 2000 DX= 4.441 m.
RESTRAINTS
      Node 2000 +Y      Mu = .30
      Node 2000 Z      Gap= .300 cm.      Mu = .30
-----
From 2020 To 2030 DZ= -2.452 m.
PIPE
      Dia= 27.305 cm.      Wall= .927 cm.      Cor= .6000 cm.
GENERAL
      T1= 30 C      T2= 85 C      T4= 200 C      P1= 550.0125 KPa      PHyd= 825.0188 KPa
      Mat= (106)A106 Grade B      E= 203,401,232 KPa      EH1= 202,660,192 KPa
      EH2= 199,086,608 KPa      EH3= 203,401,232 KPa      EH4= 191,317,008 KPa
      EH5= 203,401,232 KPa      EH6= 203,401,232 KPa      EH7= 203,401,232 KPa
      EH8= 203,401,232 KPa      EH9= 203,401,232 KPa      v = .292
      Pipe Den= .0078334 kg./cu.cm.      Fluid Den= .0000015 kg./cu.cm.
      Insul Thk= .000 cm.
RESTRAINTS
      Node 2020 +Y
      Node 2020 Z      Gap= .300 cm.
SIF's & TEE's
      Node 2020 <No Type Specified>      SIF(in)= 2.080      SIF(out)= 2.460
ALLOWABLE STRESSES
      B31.3 (2016)      Cycle Max Switch = ---      Sc= 137,895 KPa
      Sh1= 137,895 KPa      Sh2= 137,895 KPa      Sh3= 137,895 KPa      Sh4= 137,261 KPa
      Sh5= 137,895 KPa      Sh6= 137,895 KPa      Sh7= 137,895 KPa      Sh8= 137,895 KPa
      Sh9= 137,895 KPa      Sy= 241,316 KPa
-----
From 2030 To 2040 DZ= -3.548 m.
RESTRAINTS
      Node 2040 +Y      Mu = .30
      Node 2040 X      Gap= .300 cm.
-----
From 2020 To 2060 DZ= 6.000 m.
RESTRAINTS
      Node 2060 +Y      Mu = .30
      Node 2060 X      Gap= .300 cm.
SIF's & TEE's
      Node 2020 <No Type Specified>      SIF(in)= 2.080      SIF(out)= 2.460
-----
From 1260 To 2140 DY= 1.780 m.
PIPE
      Dia= 6.032 cm.      Wall= .874 cm.      Cor= .3000 cm.
GENERAL
      T1= 125 C      T2= 155 C      T4= 21 C      P1= 2,200.0500 KPa      PHyd= 3,300.0752 KPa
      Fluid Den= .0000154 kg./cu.cm.      Insul Thk= .000 cm.

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BEND at "TO" end
 Radius= 7.620 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 2139
 Angle/Node @2= .00 2138

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
 Sh1= 137,895 KPa Sh2= 137,819 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
 Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
 Sh9= 137,895 KPa Sy= 241,316 KPa

 From 2140 To 2160 DX= -.240 m. DZ= .240 m.

BEND at "TO" end
 Radius= 7.620 cm. (LONG) Bend Angle= 45.000 Angle/Node @1= 22.50 2159
 Angle/Node @2= .00 2158

 From 2160 To 2180 DX= -4.032 m.

RESTRAINTS

Node 2180 +Y
 Node 2180 Z Gap= .300 cm.

 From 2180 To 2190 DX= -6.000 m.

RESTRAINTS

Node 2190 +Y Mu = .30

 From 2190 To 2200 DX= -.388 m.

BEND at "TO" end
 Radius= 7.620 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 2199
 Angle/Node @2= .00 2198

 From 2200 To 2220 DZ= 2.350 m.

RESTRAINTS

Node 2220 +Y Mu = .30
 Node 2220 X Gap= .300 cm.

 From 2220 To 2280 DZ= 3.176 m.

SIF's & TEE's

Node 2280 Welding Tee

 From 2280 To 2290 DX= .000 m. DZ= .500 m.

 From 2280 To 2320 DY= .190 m.

RESTRAINTS

Node 2320 +Y

 From 2320 To 2330 DY= .738 m.

SIF's & TEE's

Node 2330 Welding Tee

 From 2330 To 2340 DY= .086 m.

 From 2340 To 2346 DY= .073 m.

Element Name= GATE_FLG_600

RIGID Weight= 44.48 N.

 From 2346 To 2352 DY= .212 m.

RIGID Weight= 258.00 N.

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From 2352 To 2360 DY= .073 m.
RIGID Weight= 44.48 N.
-----
From 2360 To 2380 DY= .250 m.
-----
From 2380 To 2400 DY= .090 m.
REDUCER
  Diam2= 4.826 cm. Wall2= .714 cm.
-----
From 2400 To 2410 DY= .071 m.
PIPE
  Dia= 4.826 cm. Wall= .714 cm.
  Insul Thk= .000 cm.
RIGID Weight= 40.03 N.
-----
From 2410 To 2420 DY= .067 m.
RIGID Weight= 50.00 N.
FORCES & MOMENTS
  Node 2420 FY1= 1,000.05 N. FZ1= -2,000.10 N.
-----
From 2420 To 2430 DX= -.046 m. DZ= .000 m.
PIPE
  Dia= 8.890 cm. Wall= .762 cm.
  Insul Thk= .000 cm.
RIGID Weight= 71.17 N.
-----
From 2430 To 2440 DX= -.082 m. DZ= .000 m.
RIGID Weight= 71.17 N.
-----
From 2440 To 2460 DX= -.073 m.
PIPE
  Cor= .6000 cm. Element Name= FLANGE_FLG_150
GENERAL
  T1= 30 C T2= 85 C T3= 21 C T4= 200 C P1= 750.0171 KPa
  Phyd= 825.0188 KPa Fluid Den= .0000015 kg./cu.cm.
RIGID Weight= 54.49 N.
ALLOWABLE STRESSES
  B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
  Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,261 KPa
  Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
  Sh9= 137,895 KPa Sy= 241,316 KPa
-----
From 2460 To 2480 DX= -.140 m. DY= -.040 m.
REDUCER
  Diam2= 16.827 cm. Wall2= 1.097 cm.
-----
From 2480 To 2500 DX= -.354 m.
PIPE
  Dia= 16.827 cm. Wall= 1.097 cm.
  Insul Thk= .000 cm.
RESTRAINTS
  Node 2500 +Y Mu = .30
  Node 2500 Z
  Node 2500 X
-----
From 2500 To 2520 DX= -.583 m. DZ= .000 m.

```

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INPUT LISTING

```

SINGLE FLANGED BEND at "TO" end
  Radius= 22.860 cm. (LONG)   Bend Angle= 90.000   Angle/Node @1= 45.00 2519
  Angle/Node @2= .00 2518
-----
From 2520 To 2540 DY= -.229 m.
-----
From 2540 To 2546 DY= -.092 m.
  Element Name= BALL_FLG_150
RIGID Weight= 111.21 N.
-----
From 2546 To 2552 DY= -.276 m.
RIGID Weight= 1,005.30 N.
-----
From 2552 To 2560 DY= -.092 m.
RIGID Weight= 111.21 N.
-----
From 2560 To 2570 DY= -.194 m.
-----
From 2570 To 2580 DY= -1.208 m.
SIF's & TEE's
  Node 2580 Welding Tee
-----
From 2580 To 2600 DX= .000 m. DZ= -.680 m.
RESTRAINTS
  Node 2600 +Y Mu = .30
-----
From 2290 To 2300 DZ= .500 m.
PIPE
  Dia= 6.032 cm. Wall= .554 cm. Cor= .3000 cm.
GENERAL
  T1= 125 C T2= 155 C T4= 21 C P1= 2,200.0500 KPa PHyd= 3,300.0752 KPa
  Fluid Den= .0000154 kg./cu.cm. Insul Thk= .000 cm.
BEND at "TO" end
  Radius= 7.620 cm. (LONG)   Bend Angle= 90.000   Angle/Node @1= 45.00 2301
  Angle/Node @2= .00 2302
ALLOWABLE STRESSES
  B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
  Sh1= 137,895 KPa Sh2= 137,819 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
  Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
  Sh9= 137,895 KPa Sy= 241,316 KPa
-----
From 2300 To 2620 DY= .190 m.
PIPE
  Dia= 6.032 cm. Wall= .874 cm. Cor= .3000 cm.
GENERAL
  T1= 125 C T2= 155 C P1= 2,200.0500 KPa PHyd= 3,300.0752 KPa
  Fluid Den= .0000154 kg./cu.cm. Insul Thk= .000 cm.
RESTRAINTS
  Node 2620 +Y
ALLOWABLE STRESSES
  B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa
  Sh1= 137,895 KPa Sh2= 137,819 KPa Sh3= 137,895 KPa Sh4= 137,895 KPa
  Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa
  Sh9= 137,895 KPa Sy= 241,316 KPa
-----
From 2620 To 2640 DY= .823 m.

```

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 From 2640 To 2646 DY= .073 m.

Element Name= GATE_FLG_600

RIGID Weight= 44.48 N.

From 2646 To 2652 DY= .212 m.

RIGID Weight= 258.00 N.

From 2652 To 2660 DY= .073 m.

RIGID Weight= 44.48 N.

From 2660 To 2680 DY= .250 m.

From 2680 To 2700 DY= .059 m.

REDUCER

Diam2= 4.826 cm. Wall2= .714 cm.

From 2700 To 2710 DY= .071 m.

PIPE

Dia= 4.826 cm. Wall= .714 cm.

Insul Thk= .000 cm.

RIGID Weight= 40.03 N.

From 2710 To 2720 DY= .064 m.

RIGID Weight= 80.07 N.

FORCES & MOMENTS

Node 2720 FX2= 2,000.10 N. FY2= 1,000.05 N. FZ2= .00 N.

From 2720 To 2730 DX= -.046 m.

PIPE

Dia= 8.890 cm. Wall= .549 cm.

Insul Thk= .000 cm.

RIGID Weight= 71.17 N.

From 2730 To 2740 DX= -.083 m.

RIGID Weight= 71.17 N.

From 2740 To 2760 DX= -.073 m. DZ= .000 m.

PIPE

Dia= 8.890 cm. Wall= .762 cm. Cor= .6000 cm.

Element Name= FLANGE_FLG_150

GENERAL

T1= 30 C T2= 85 C T3= 21 C T4= 200 C P1= 550.0125 KPa

Phyd= 825.0188 KPa Fluid Den= .0000015 kg./cu.cm. Insul Thk= .000 cm.

RIGID Weight= 54.49 N.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,261 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

From 2760 To 2780 DX= -.140 m. DY= -.040 m.

REDUCER

Diam2= 16.827 cm. Wall2= 1.097 cm.

From 2780 To 2800 DX= -.354 m. DZ= .000 m.

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INPUT LISTING

PIPE

Dia= 16.827 cm. Wall= 1.097 cm.

Insul Thk= .000 cm.

RESTRAINTS

Node 2800 +Y

Node 2800 Z

Node 2800 X

 From 2800 To 2820 DX= -.583 m.

SINGLE FLANGED BEND at "TO" end

Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 2819

Angle/Node @2= .00 2818

 From 2820 To 2840 DY= -.229 m.

 From 2840 To 2846 DY= -.092 m.

Element Name= BALL_FLG_150

RIGID Weight= 111.21 N.

 From 2846 To 2852 DY= -.276 m.

RIGID Weight= 1,005.30 N.

 From 2852 To 2860 DY= -.092 m.

RIGID Weight= 111.21 N.

 From 2860 To 2880 DY= -1.402 m.

BEND at "TO" end

Radius= 22.860 cm. (LONG) Bend Angle= 92.005 Angle/Node @1= 46.00 2879

Angle/Node @2= .00 2878

 From 2880 To 2580 DX= .001 m. DY= .035 m. DZ= -1.000 m.

 From 2600 To 2920 DZ= -.379 m.

BEND at "TO" end

Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 2919

Angle/Node @2= .00 2918

 From 2920 To 2940 DX= -3.185 m. DY= -.006 m.

BEND at "TO" end

Radius= 22.860 cm. (LONG) Bend Angle= 89.885 Angle/Node @1= 44.94 2939

Angle/Node @2= .00 2938

 From 2940 To 2980 DY= -.723 m.

BEND at "TO" end

Radius= 22.860 cm. (LONG) Bend Angle= 45.040 Angle/Node @1= 22.52 2979

Angle/Node @2= .00 2978

 From 2980 To 2030 DY= -.710 m. DZ= .711 m.

SIF's & TEE's

Node 2030 <No Type Specified> SIF(in)= 2.660 SIF(out)= 3.160

 From 2330 To 3000 DX= .000 m. DZ= -.077 m.

PIPE

Dia= 6.032 cm. Wall= .554 cm. Cor= .3000 cm.

GENERAL

T1= 125 C T2= 155 C T4= 21 C P1= 2,200.0500 KPa PHyd= 3,300.0752 KPa

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INPUT LISTING

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Fluid Den= .0000154 kg./cu.cm.    Insul Thk= .000 cm.
ALLOWABLE STRESSES
  B31.3 (2016)      Cycle Max Switch = ---    Sc= 137,895 KPa
  Sh1= 137,895 KPa  Sh2= 137,819 KPa    Sh3= 137,895 KPa    Sh4= 137,895 KPa
  Sh5= 137,895 KPa  Sh6= 137,895 KPa    Sh7= 137,895 KPa    Sh8= 137,895 KPa
  Sh9= 137,895 KPa  Sy= 241,316 KPa
-----
From 3000 To 3020 DZ= -.073 m.
PIPE
  Dia= 6.032 cm.    Wall= .554 cm.
  Insul Thk= .000 cm.
RIGID Weight= 44.48 N.
-----
From 3020 To 3040 DY= .000 m.    DZ= -.187 m.
RIGID Weight= 209.07 N.
-----
From 3040 To 3060 DY= .000 m.    DZ= -.073 m.
RIGID Weight= 44.48 N.
-----
From 3060 To 3080 DY= .000 m.    DZ= -.077 m.
  Element Name= BALL_FLG_600
BEND at "TO" end
  Radius= 7.620 cm. (LONG)    Bend Angle= 90.000    Angle/Node @1= 45.00 3079
  Angle/Node @2= .00 3078
-----
From 3080 To 3100 DX= -.377 m.    DY= .000 m.
RESTRAINTS
  Node 3100 +Y    Mu = .30
-----
From 3100 To 3120 DX= -.100 m.    DZ= .000 m.
RESTRAINTS
  Node 3120 X
  Node 3120 Z
-----
From 3120 To 3140 DX= -.307 m.
-----
From 3140 To 3146 DX= -.073 m.    DZ= .000 m.
  Element Name= GLOBE_FLG_600
RIGID Weight= 44.48 N.
-----
From 3146 To 3152 DX= -.276 m.    DZ= .000 m.
RIGID Weight= 458.17 N.
-----
From 3152 To 3160 DX= -.067 m.    DZ= .000 m.
PIPE
  Dia= 6.032 cm.    Wall= .874 cm.    Cor= .6000 cm.
GENERAL
  T1= 30 C    T2= 85 C    T4= 200 C    Fluid Den= .0000015 kg./cu.cm.
  Insul Thk= .000 cm.
RIGID Weight= 31.14 N.
ALLOWABLE STRESSES
  B31.3 (2016)      Cycle Max Switch = ---    Sc= 137,895 KPa
  Sh1= 137,895 KPa  Sh2= 137,895 KPa    Sh3= 137,895 KPa    Sh4= 137,261 KPa
  Sh5= 137,895 KPa  Sh6= 137,895 KPa    Sh7= 137,895 KPa    Sh8= 137,895 KPa
  Sh9= 137,895 KPa  Sy= 241,316 KPa
-----

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From 3160 To 3180 DX= -.077 m. DZ= .000 m.

PIPE

Cor= .6000 cm.

GENERAL

T1= 30 C T2= 85 C P1= 750.0171 KPa PHyd= 825.0188 KPa

Fluid Den= .0000015 kg./cu.cm.

BEND at "TO" end

Radius= 7.620 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 3179

Angle/Node @2= .00 3178

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 137,895 KPa

Sh1= 137,895 KPa Sh2= 137,895 KPa Sh3= 137,895 KPa Sh4= 137,261 KPa

Sh5= 137,895 KPa Sh6= 137,895 KPa Sh7= 137,895 KPa Sh8= 137,895 KPa

Sh9= 137,895 KPa Sy= 241,316 KPa

 From 3180 To 2570 DZ= .487 m.

SIF's & TEE's

Node 2570 Welding Tee

 From 2040 To 3960 DZ= -6.000 m.

PIPE

Dia= 27.305 cm. Wall= .927 cm.

Insul Thk= .000 cm.

RESTRAINTS

Node 3960 +Y Mu = .30

 From 3960 To 3970 DZ= -3.000 m.

 From 3970 To 3980 DZ= -3.000 m.

RESTRAINTS

Node 3980 +Y Mu = .30

Node 3980 X Gap= .300 cm.

 From 3980 To 4000 DZ= -2.750 m.

BEND at "TO" end

Radius= 38.100 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 3999

Angle/Node @2= .00 3998

 From 4000 To 4020 DX= -6.000 m. DZ= .000 m.

BEND at "TO" end

Radius= 38.100 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 4019

Angle/Node @2= .00 4018

 From 4020 To 4040 DZ= -1.000 m.

RESTRAINTS

Node 4040 +Y Mu = .30

 From 4040 To 4060 DZ= -1.000 m.

BEND at "TO" end

Radius= 38.100 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 4059

Angle/Node @2= .00 4058

 From 4060 To 4066 DX= 6.000 m. DY= .000 m. DZ= .000 m.

BEND at "TO" end

Radius= 38.100 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 4065

Angle/Node @2= .00 4064

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INPUT LISTING

 From 4066 To 4072 DZ= -1.250 m.

RESTRAINTS

Node 4072 +Y Mu = .30

From 4072 To 4080 DZ= -6.000 m.

RESTRAINTS

Node 4080 +Y Mu = .30
 Node 4080 X Gap= .300 cm.
 Node 4080 Z Gap= .300 cm.

From 2000 To 4100 DX= .695 m.

PIPE

Dia= 16.827 cm. Wall= .340 cm. Cor= .0000 cm.

GENERAL

T1= 60 C T2= 155 C T4= 21 C P1= 2,200.0500 KPa PHyd= 3,300.0752 KPa
 Mat= (165)A312 TP316L E= 195,127,520 KPa EH1= 192,364,096 KPa
 EH2= 185,780,080 KPa EH3= 195,127,520 KPa EH4= 195,127,520 KPa
 EH5= 195,127,520 KPa EH6= 195,127,520 KPa EH7= 195,127,520 KPa
 EH8= 195,127,520 KPa EH9= 195,127,520 KPa v = .292
 Pipe Den= .0080272 kg./cu.cm. Fluid Den= .0000183 kg./cu.cm.
 Insul Thk= .000 cm.

BEND at "TO" end

Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 4099
 Angle/Node @2= .00 4098

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 115,142 KPa
 Sh1= 115,142 KPa Sh2= 114,386 KPa Sh3= 115,142 KPa Sh4= 115,142 KPa
 Sh5= 115,142 KPa Sh6= 115,142 KPa Sh7= 115,142 KPa Sh8= 115,142 KPa
 Sh9= 115,142 KPa Sy= 172,369 KPa

From 4100 To 4120 DY= -.013 m. DZ= 2.602 m.

BEND at "TO" end

Radius= 22.860 cm. (LONG) Bend Angle= 89.714 Angle/Node @1= 44.86 4119
 Angle/Node @2= .00 4118

RESTRAINTS

Node 4120 +Y Mu = .30

From 4120 To 4140 DY= -.830 m.

BEND at "TO" end

Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 4139
 Angle/Node @2= .00 4138

From 4140 To 4160 DX= 5.050 m.

RESTRAINTS

Node 4160 +Y Mu = .30
 Node 4160 Z Mu = .30

From 4160 To 4180 DX= 3.596 m.

From 4180 To 4200 DX= .102 m.

Element Name= FLANGE_FLG_300

RIGID Weight= 191.27 N.

RESTRAINTS

Node 4200 ANC Cnode 4220

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INPUT LISTING

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From 4220 To 4240 DX= .102 m.
  Element Name= FLANGE_FLG_300
RIGID Weight= 191.27 N.
-----
From 4240 To 4260 DX= .150 m.
RESTRAINTS
  Node 4260 ANC Cnode 4261
EQUIPMENT LIMITS
  Nozzle Node = 4260
  Limiting Loads: A=pipe; B=ref; C=AxB; FA= 8,400.42 N. FB= 8,400.42 N.
  FC= 6,300.31 N. MA= 3,780.16 N.m. MB= 2,520.11 N.m. MC= 3,280.14 N.m.
  Equipment Major Direction Vector= .0000 1.0000 .0000
  Interact. Mtd= Absolute
-----
From 4261 To 4280 DX= .459 m.
PIPE
  Dia= 91.948 cm. Wall= 1.200 cm.
  Insul Thk= .000 cm.
RIGID Weight= .00 N.
-----
From 4280 To 4300 DY= -1.300 m.
RIGID Weight= .00 N.
-----
From 4300 To 4310 DY= -1.000 m.
RIGID Weight= .00 N.
-----
From 4310 To 4320 DY= -.300 m.
GENERAL
  T1= 21 C T2= 21 C
RIGID Weight= .00 N.
RESTRAINTS
  Node 4320 ANC
ALLOWABLE STRESSES
  B31.3 (2016) Cycle Max Switch = --- Sc= 115,142 KPa
  Sh1= 115,142 KPa Sh2= 115,142 KPa Sh3= 115,142 KPa Sh4= 115,142 KPa
  Sh5= 115,142 KPa Sh6= 115,142 KPa Sh7= 115,142 KPa Sh8= 115,142 KPa
  Sh9= 115,142 KPa Sy= 172,369 KPa
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MATERIAL Changes:

20	40	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
820	840	Mat= (383)A516 70 E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
280	880	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
1820	1920	Mat= (165)A312 TP316L E= 195,127,520 KPa v = .292 Density= .0080 kg./cu.cm.
2020	2030	Mat= (106)A106 Grade B E= 203,401,232 KPa v = .292 Density= .0078 kg./cu.cm.
2000	4100	Mat= (165)A312 TP316L E= 195,127,520 KPa v = .292 Density= .0080 kg./cu.cm.

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ALLOWABLE STRESS Changes

20	40	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
140	160	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
120	180	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
540	560	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
520	580	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
640	660	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
620	680	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
820	840	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 160,648 KPa	Sh1= 160,648 KPa
		Sh2= 160,062 KPa	Sh3= 160,648 KPa
		Sh4= 160,648 KPa	Sh5= 160,648 KPa
		Sh6= 160,648 KPa	Sh7= 160,648 KPa

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		Sh8= 160,648 KPa	Sh9= 160,648 KPa
		Sy= 262,001 KPa	
280	880	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
900	910	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,819 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
1020	1040	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,819 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
1220	1240	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,819 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
1440	1460	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
1420	1480	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,819 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
1780	1800	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,819 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
1740	1840	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,571 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa

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INPUT LISTING

		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
1820	1920	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 115,142 KPa	Sh1= 115,142 KPa
		Sh2= 114,386 KPa	Sh3= 115,142 KPa
		Sh4= 115,142 KPa	Sh5= 115,142 KPa
		Sh6= 115,142 KPa	Sh7= 115,142 KPa
		Sh8= 115,142 KPa	Sh9= 115,142 KPa
		Sy= 172,369 KPa	
2020	2030	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,261 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
1260	2140	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,819 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
2440	2460	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,261 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
2290	2300	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,819 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
2300	2620	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,819 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
2740	2760	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,261 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
2330	3000	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,819 KPa	Sh3= 137,895 KPa
		Sh4= 137,895 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa

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INPUT LISTING

		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
3152	3160	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,261 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
3160	3180	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 137,895 KPa	Sh1= 137,895 KPa
		Sh2= 137,895 KPa	Sh3= 137,895 KPa
		Sh4= 137,261 KPa	Sh5= 137,895 KPa
		Sh6= 137,895 KPa	Sh7= 137,895 KPa
		Sh8= 137,895 KPa	Sh9= 137,895 KPa
		Sy= 241,316 KPa	
2000	4100	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 115,142 KPa	Sh1= 115,142 KPa
		Sh2= 114,386 KPa	Sh3= 115,142 KPa
		Sh4= 115,142 KPa	Sh5= 115,142 KPa
		Sh6= 115,142 KPa	Sh7= 115,142 KPa
		Sh8= 115,142 KPa	Sh9= 115,142 KPa
		Sy= 172,369 KPa	
4310	4320	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 115,142 KPa	Sh1= 115,142 KPa
		Sh2= 115,142 KPa	Sh3= 115,142 KPa
		Sh4= 115,142 KPa	Sh5= 115,142 KPa
		Sh6= 115,142 KPa	Sh7= 115,142 KPa
		Sh8= 115,142 KPa	Sh9= 115,142 KPa
		Sy= 172,369 KPa	

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BEND ELEMENTS

40	60	Radius= 30.480 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00 59
		Angle/Node @2= .00 58
60	80	Radius= 30.480 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00 79
80	100	Radius= 30.480 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00 99
120	180	Radius= 30.480 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		179
480	500	Radius= 30.480 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		499 Angle/Node @2= .00 498
520	580	Radius= 30.480 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		579 Angle/Node @2= .00 578
620	680	Radius= 30.480 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		679 Angle/Node @2= .00 678
280	880	Radius= 7.620 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00

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INPUT LISTING

940	960	879 Angle/Node @2= .00 878 Radius= 7.620 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
960	980	959 Angle/Node @2= .00 958 Radius= 7.620 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
1100	1120	979 Angle/Node @2= .00 978 Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
1120	1140	1119 Angle/Node @2= .00 1118 Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
1160	1180	1139 Angle/Node @2= .00 1138 Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
1180	1200	1179 Angle/Node @2= .00 1178 Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
1380	1400	1199 Angle/Node @2= .00 1198 Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
1420	1480	1399 Angle/Node @2= .00 1398 Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
1520	1540	1479 Angle/Node @2= .00 1478 Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
1560	1580	1539 Angle/Node @2= .00 1538 Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
1580	1600	1579 Angle/Node @2= .00 1578 Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
1600	1620	1599 Angle/Node @2= .00 1598 Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
1920	1940	1619 Angle/Node @2= .00 1618 Radius= 22.860 cm. (LONG) Bend Angle= 89.714 Angle/Node @1= 44.86
1960	1980	1939 Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
1260	2140	1979 Angle/Node @2= .00 1978 Radius= 7.620 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
2140	2160	2139 Angle/Node @2= .00 2138 Radius= 7.620 cm. (LONG) Bend Angle= 45.000 Angle/Node @1= 22.50
2190	2200	2159 Angle/Node @2= .00 2158 Radius= 7.620 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
2500	2520	2199 Angle/Node @2= .00 2198 Radius= 22.860 cm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00
2290	2300	2519 Angle/Node @2= .00 2518 Radius= 7.620 cm. (LONG)

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INPUT LISTING

		Bend Angle= 90.000 Angle/Node @1= 45.00
		2301 Angle/Node @2= .00 2302
2800	2820	Radius= 22.860 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		2819 Angle/Node @2= .00 2818
2860	2880	Radius= 22.860 cm. (LONG)
		Bend Angle= 92.005 Angle/Node @1= 46.00
		2879 Angle/Node @2= .00 2878
2600	2920	Radius= 22.860 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		2919 Angle/Node @2= .00 2918
2920	2940	Radius= 22.860 cm. (LONG)
		Bend Angle= 89.885 Angle/Node @1= 44.94
		2939 Angle/Node @2= .00 2938
2940	2980	Radius= 22.860 cm. (LONG)
		Bend Angle= 45.040 Angle/Node @1= 22.52
		2979 Angle/Node @2= .00 2978
3060	3080	Radius= 7.620 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		3079 Angle/Node @2= .00 3078
3160	3180	Radius= 7.620 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		3179 Angle/Node @2= .00 3178
3980	4000	Radius= 38.100 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		3999 Angle/Node @2= .00 3998
4000	4020	Radius= 38.100 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		4019 Angle/Node @2= .00 4018
4040	4060	Radius= 38.100 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		4059 Angle/Node @2= .00 4058
4060	4066	Radius= 38.100 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		4065 Angle/Node @2= .00 4064
2000	4100	Radius= 22.860 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		4099 Angle/Node @2= .00 4098
4100	4120	Radius= 22.860 cm. (LONG)
		Bend Angle= 89.714 Angle/Node @1= 44.86
		4119 Angle/Node @2= .00 4118
4120	4140	Radius= 22.860 cm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		4139 Angle/Node @2= .00 4138

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RIGIDS

20	40	RIGID Weight= 177.93 N.
120	140	RIGID Weight= .00 N.
200	220	RIGID Weight= 177.93 N.
220	240	RIGID Weight= 177.93 N.
320	340	RIGID Weight= 177.93 N.
340	360	RIGID Weight= 1,023.41 N.
360	380	RIGID Weight= 177.93 N.

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INPUT LISTING

420	440	RIGID	Weight= 177.93 N.
440	460	RIGID	Weight= 177.93 N.
520	540	RIGID	Weight= .00 N.
620	640	RIGID	Weight= .00 N.
700	720	RIGID	Weight= 177.93 N.
740	760	RIGID	Weight= 177.93 N.
780	800	RIGID	Weight= .00 N.
820	840	RIGID	Weight= .00 N.
840	860	RIGID	Weight= .00 N.
900	910	RIGID	Weight= 31.14 N.
910	920	RIGID	Weight= 66.72 N.
920	930	RIGID	Weight= 355.86 N.
930	940	RIGID	Weight= 44.48 N.
1060	1080	RIGID	Weight= 191.27 N.
1080	1100	RIGID	Weight= 191.27 N.
1220	1240	RIGID	Weight= 191.27 N.
1300	1320	RIGID	Weight= 191.27 N.
1320	1340	RIGID	Weight= 1,850.46 N.
1340	1360	RIGID	Weight= 191.27 N.
1420	1440	RIGID	Weight= .00 N.
1640	1660	RIGID	Weight= 191.27 N.
1660	1680	RIGID	Weight= 191.27 N.
1720	1740	RIGID	Weight= .00 N.
1740	1760	RIGID	Weight= .00 N.
1800	1820	RIGID	Weight= 191.27 N.
1740	1840	RIGID	Weight= 2,250.11 N.
1840	1860	RIGID	Weight=10,500.52 N.
1860	1880	RIGID	Weight= 4,500.22 N.
1880	1900	RIGID	Weight=10,500.52 N.
1900	1740	RIGID	Weight= 2,250.11 N.
1820	1920	RIGID	Weight= 191.27 N.
2340	2346	RIGID	Weight= 44.48 N.
2346	2352	RIGID	Weight= 258.00 N.
2352	2360	RIGID	Weight= 44.48 N.
2400	2410	RIGID	Weight= 40.03 N.
2410	2420	RIGID	Weight= 50.00 N.
2420	2430	RIGID	Weight= 71.17 N.
2430	2440	RIGID	Weight= 71.17 N.
2440	2460	RIGID	Weight= 54.49 N.
2540	2546	RIGID	Weight= 111.21 N.
2546	2552	RIGID	Weight= 1,005.30 N.
2552	2560	RIGID	Weight= 111.21 N.
2640	2646	RIGID	Weight= 44.48 N.
2646	2652	RIGID	Weight= 258.00 N.
2652	2660	RIGID	Weight= 44.48 N.
2700	2710	RIGID	Weight= 40.03 N.
2710	2720	RIGID	Weight= 80.07 N.
2720	2730	RIGID	Weight= 71.17 N.
2730	2740	RIGID	Weight= 71.17 N.
2740	2760	RIGID	Weight= 54.49 N.
2840	2846	RIGID	Weight= 111.21 N.
2846	2852	RIGID	Weight= 1,005.30 N.
2852	2860	RIGID	Weight= 111.21 N.
3000	3020	RIGID	Weight= 44.48 N.
3020	3040	RIGID	Weight= 209.07 N.
3040	3060	RIGID	Weight= 44.48 N.

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3140	3146	RIGID	Weight= 44.48 N.
3146	3152	RIGID	Weight= 458.17 N.
3152	3160	RIGID	Weight= 31.14 N.
4180	4200	RIGID	Weight= 191.27 N.
4220	4240	RIGID	Weight= 191.27 N.
4261	4280	RIGID	Weight= .00 N.
4280	4300	RIGID	Weight= .00 N.
4300	4310	RIGID	Weight= .00 N.
4310	4320	RIGID	Weight= .00 N.

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SIF's & TEE's

140	160	Node 140	Unreinforced Tee
260	280	Node 280	Weldolet
540	560	Node 540	Unreinforced Tee
1020	1260	Node 1260	Weldolet
1440	1460	Node 1440	Unreinforced Tee
2020	2030	Node 2020	<No Type Specified>
		SIF(in)= 2.080	SIF(out)= 2.460
2020	2060	Node 2020	<No Type Specified>
		SIF(in)= 2.080	SIF(out)= 2.460
2220	2280	Node 2280	Welding Tee
2320	2330	Node 2330	Welding Tee
2570	2580	Node 2580	Welding Tee
2980	2030	Node 2030	<No Type Specified>
		SIF(in)= 2.660	SIF(out)= 3.160
3180	2570	Node 2570	Welding Tee

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REDUCERS

2380	2400	Diam2= 4.826 cm.	Wall2= .714 cm.
2460	2480	Diam2= 16.827 cm.	Wall2= 1.097 cm.
2680	2700	Diam2= 4.826 cm.	Wall2= .714 cm.
2760	2780	Diam2= 16.827 cm.	Wall2= 1.097 cm.

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RESTRAINTS

NODE	TYPE	CNODE	STIF1	Len GAP STIF2	MU YIELD FORCE	Dir Vectors
20	ANC					.000 .000 .000
160	-X				.30	1.000 .000 .000
160	Z					.000 .000 1.000
121	+Y				.10	.000 1.000 .000
160	X	121				1.000 .000 .000
300	+Y				.30	.000 1.000 .000
400	Y				.30	.000 1.000 .000
400	Z					.000 .000 1.000
480	Y				.30	.000 1.000 .000
480	Z					.000 .000 1.000
560	+Y				.30	.000 1.000 .000
560	Z					.000 .000 1.000

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660	+Y	800		.30	.000	1.000	.000
720	ANC	740			.000	.000	.000
780	ANC	820			.000	.000	.000
860	ANC				.000	.000	.000
1040	+Y			.30	.000	1.000	.000
1180	-X			.30	1.000	.000	.000
1180	+Y			.30	.000	1.000	.000
1240	ANC				.000	.000	.000
1280	Y			.30	.000	1.000	.000
1280	Z				.000	.000	1.000
1380	Y			.30	.000	1.000	.000
1380	Z				.000	.000	1.000
1460	+Y			.30	.000	1.000	.000
1460	Z				.000	.000	1.000
1500	+Y				.000	1.000	.000
1500	Z				.000	.000	1.000
1520	+Y			.30	.000	1.000	.000
1560	+Y			.30	.000	1.000	.000
1700	ANC	1720			.000	.000	.000
1780	ANC	1760			.000	.000	.000
1840	Y			.10	.000	1.000	.000
1840	X			.30	1.000	.000	.000
1840	Z		.60		.000	.000	1.000
1860	Y			.10	.000	1.000	.000
1860	Z		.60	.30	.000	.000	1.000
1880	Y			.10	.000	1.000	.000
1880	Z		.60		.000	.000	1.000
1900	Y			.10	.000	1.000	.000
1900	X				1.000	.000	.000
1900	Z		.60		.000	.000	1.000
1960	+Y			.30	.000	1.000	.000
2000	+Y			.30	.000	1.000	.000
2000	Z		.30	.30	.000	.000	1.000
2020	+Y				.000	1.000	.000
2020	Z		.30		.000	.000	1.000
2040	+Y			.30	.000	1.000	.000
2040	X		.30		1.000	.000	.000
2060	+Y			.30	.000	1.000	.000
2060	X		.30		1.000	.000	.000
2180	+Y				.000	1.000	.000
2180	Z		.30		.000	.000	1.000
2190	+Y			.30	.000	1.000	.000
2220	+Y			.30	.000	1.000	.000
2220	X		.30		1.000	.000	.000
2320	+Y				.000	1.000	.000
2500	+Y			.30	.000	1.000	.000
2500	Z				.000	.000	1.000
2500	X				1.000	.000	.000
2600	+Y			.30	.000	1.000	.000
2620	+Y				.000	1.000	.000
2800	+Y				.000	1.000	.000
2800	Z				.000	.000	1.000
2800	X				1.000	.000	.000
3100	+Y			.30	.000	1.000	.000
3120	X				1.000	.000	.000
3120	Z				.000	.000	1.000

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3960	+Y		.30	.000	1.000	.000
3980	+Y		.30	.000	1.000	.000
3980	X		.30	1.000	.000	.000
4040	+Y		.30	.000	1.000	.000
4072	+Y		.30	.000	1.000	.000
4080	+Y		.30	.000	1.000	.000
4080	X		.30	1.000	.000	.000
4080	Z		.30	.000	.000	1.000
4120	+Y		.30	.000	1.000	.000
4160	+Y		.30	.000	1.000	.000
4160	Z		.30	.000	.000	1.000
4200	ANC	4220		.000	.000	.000
4260	ANC	4261		.000	.000	.000
4320	ANC			.000	.000	.000

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HANGER CONTROL AND LOCATION DATA

No. of Hanger Design Load Cases = 1
 Actual Cold Load Flag = 0.0
 Short Range Spring Flag = 1
 Allowed Load Variation (%) = 25.0000
 Default Hanger Table = 5

140	160	Hanger Node = 160
		Hanger Connecting Node = 121
		Available Space = -100.0000 cm.
		Allowed Load Variation = 25.0000
		No. Hangers = 0.0 Short Range Flag = -1
		User Operating Load = .00 N. Free Node = 0
		Free Node = 0 Free Code = 0.0
		Spring Rate = .00 N./cm.
		Theoretical Cold Load = .00 N.

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EQUIPMENT LIMITS

20	40	Nozzle Node = 20

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 9,600.48 N. FB= 9,600.48 N.
 FC= 7,200.36 N. MA= 5,760.24 N.m. MB= 3,840.16 N.m. MC= 4,990.21 N.m.
 Equipment Major Direction Vector= .0000 1.0000 .0000
 Interact. Mtd= Absolute

760	780	Nozzle Node = 780

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 9,600.48 N. FB= 9,600.48 N.
 FC= 7,200.36 N. MA= 5,760.24 N.m. MB= 3,840.16 N.m. MC= 4,990.21 N.m.
 Equipment Major Direction Vector= .0000 .0000 1.0000
 Interact. Mtd= Absolute

1220	1240	Nozzle Node = 1240

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INPUT LISTING

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 7,200.36 N. FB= 7,200.36 N.
 FC= 5,400.27 N. MA= 3,240.14 N.m. MB= 2,160.09 N.m. MC= 2,810.12 N.m.
 Equipment Major Direction Vector= .0000 1.0000 .0000
 Interact. Mtd= Absolute
 1680 1700 Nozzle Node = 1700

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 15,090.75 N. FB= 15,090.75 N.
 FC= 12,000.60 N. MA= 9,150.39 N.m. MB= 4,890.21 N.m. MC= 6,420.27 N.m.
 Equipment Major Direction Vector= .0000 .0000 1.0000
 Interact. Mtd= Absolute
 1780 1800 Nozzle Node = 1780

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 15,090.75 N. FB= 15,090.75 N.
 FC= 12,000.60 N. MA= 9,150.39 N.m. MB= 4,890.21 N.m. MC= 6,420.27 N.m.
 Equipment Major Direction Vector= .0000 .0000 1.0000
 Interact. Mtd= Absolute
 4240 4260 Nozzle Node = 4260

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 8,400.42 N. FB= 8,400.42 N.
 FC= 6,300.31 N. MA= 3,780.16 N.m. MB= 2,520.11 N.m. MC= 3,280.14 N.m.
 Equipment Major Direction Vector= .0000 1.0000 .0000
 Interact. Mtd= Absolute
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FORCES AND MOMENTS

2410 2420 Node 2420 FY1= 1,000.05 N.
 FZ1= -2,000.10 N.
 2710 2720 Node 2720 FX2= 2,000.10 N.
 FY2= 1,000.05 N. FZ2= .00 N.
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UNIFORM LOAD Changes

20 40 Vector1 in G-s
 X1 Dir = .26 g's Y1 Dir = .00 g's
 Z1 Dir = .00 g's
 Vector2 in G-s
 X2 Dir = .00 g's Y2 Dir = .12 g's
 Z2 Dir = .00 g's
 Vector3 in G-s
 X3 Dir = .00 g's Y3 Dir = .00 g's
 Z3 Dir = .26 g's
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INPUT UNITS USED...

UNITS= SI NOM/SCH INPUT= ON
 LENGTH inches x 2.540 = cm.
 FORCE pounds x 4.448 = N.
 MASS (dynamics) pounds x 0.454 = Kg.

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INPUT LISTING

MOMENTS (INPUT)	inch-pounds	x	0.113	=	N.m.
MOMENTS (OUTPUT)	inch-pounds	x	0.113	=	N.m.
STRESS	lbs./sq.in.	x	6.895	=	KPa
TEMP. SCALE	degrees F.	x	0.556	=	C
PRESSURE	psig	x	6.895	=	KPa
ELASTIC MODULUS	lbs./sq.in.	x	6.895	=	KPa
PIPE DENSITY	lbs./cu.in.	x	0.028	=	kg./cu.cm.
INSULATION DENS.	lbs./cu.in.	x	0.028	=	kg./cu.cm.
FLUID DENSITY	lbs./cu.in.	x	0.028	=	kg./cu.cm.
TRANSL. STIF	lbs./in.	x	1.751	=	N./cm.
ROTATIONAL STIF	in.lb./deg.	x	0.113	=	N.m./deg
UNIFORM LOAD	lb./in.	x	1.751	=	N./cm.
G LOAD	g's	x	1.000	=	g's
WIND LOAD	lbs./sq.in.	x	6.895	=	KPa
ELEVATION	inches	x	0.025	=	m.
COMPOUND LENGTH	inches	x	0.025	=	m.
DIAMETER	inches	x	2.540	=	cm.
WALL THICKNESS	inches	x	2.540	=	cm.

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SETUP FILE PARAMETERS

```

-----
CONNECT GEOMETRY THRU CNODES =      YES
MIN ALLOWED BEND ANGLE =             5.00000
MAX ALLOWED BEND ANGLE =             95.0000
BEND LENGTH ATTACHMENT PERCENT =     1.00000
MIN ANGLE TO ADJACENT BEND PT =      5.00000
LOOP CLOSURE TOLERANCE =             2.54000      cm.
THERMAL BOWING HORZ TOLERANCE =      0.100000E-03
AUTO NODE NUMBER INCREMENT=         10.0000
Z AXIS UP=                           NO
USE PRESSURE STIFFENING =             DEFAULT
ALPHA TOLERANCE =                    0.500000E-01
RESLD-FORCE =                         NO
HGR DEF RESWGT STIF =                 0.175127E+13 N./cm.
DECOMP SNG TOL =                     0.100000E+11
BEND AXIAL SHAPE =                    YES
FRICT STIF =                         0.175127E+07 N./cm.
FRICT NORM FORCE VAR =                 0.150000
FRICT ANGLE VAR =                     15.0000
FRICT SLIDE MULT =                    1.00000
ROD TOLERANCE =                       1.00000
ROD INC =                             2.00000
INCORE NUMERICAL CHECK =              NO
OUTCORE NUMERICAL CHECK =             NO
DEFAULT TRANS RESTRAINT STIFF=        0.175127E+13      N./cm.
DEFAULT ROT RESTRAINT STIFF=          0.112985E+12      N.m./deg
IGNORE SPRING HANGER STIFFNESS =      NO
MISSING MASS ZPA =                    EXTRACTED
MIN WALL MILL TOLERANCE =             12.5000
WRC-107 VERSION =                     MAR 79 1B1/2B1
WRC-107 INTERPOLATION =               LAST VALUE
DEFAULT AMBIENT TEMPERATURE=          21.1111      C
BOURDON PRESSURE=                     NONE
COEFFICIENT OF FRICTION (MU) =        0.000000
INCLUDE SPRG STIF IN HGR OPE =        NO

```

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INPUT LISTING

```

INCLUDE INSULATION IN HYDROTEST = NO
REDUCED INTERSECTION = B31.1 (POST1980)
USE WRC329 NO
NO REDUCED SIF FOR RFT AND WLT NO
B31.1 REDUCED Z FIX = YES
CLASS 1 BRANCH FLEX NO
ALL STRESS CASES CORRODED = NO
ADD TORSION IN SL STRESS = DEFAULT
ADD F/A IN STRESS = DEFAULT
OCCASIONAL LOAD FACTOR = 0.000000
DEFAULT CODE = B31.3
B31.3 SUS CASE SIF FACTOR = 0.000000
ALLOW USERS BEND SIF = NO
USE SCHNEIDER NO
YIELD CRITERION STRESS = MAX 3D SHEAR
USE PD/4T NO
BASE HOOP STRESS ON ? = ID
EN13480 USE IN OUTPLANE SIFS= NO
LIBERAL EXPANSION ALLOWABLE= YES
B31.3 SEC 319.2.3C SAXIAL= Default
B31.3 WELDING/CONTOUR TEE ISB16.9 FALSE
PRESSURE VARIATION IN EXP CASE= DEFAULT
IMPLEMENT B313 APP-P NO
IMPLEMENT B313 CODE CASE 178 YES
IGNORE B31.1/B31.3 Wc FACTOR= YES
USE FRP SIF = YES
USE FRP FLEX = YES
BS 7159 Pressure Stiffening= Design Strain
FRP Property Data File= CAESAR.FRP
FRP Emod (axial) = 0.220632E+08 KPa
FRP Ratio Gmod/Emod (axial) = 0.250000
FRP Ea/Eh*Vh/a = 0.152730
FRP Laminate Type = THREE
FRP Alpha = 21.6000 C
FRP Density = 0.166079E-02 kg./cu.cm.
EXCLUDE f2 FROM UKOOA BENDING = NO
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```

EXECUTION CONTROL PARAMETERS

```

Rigid/ExpJt Print Flag ..... 1.000
Bourdon Option ..... .000
Loop Closure Flag ..... 2.000
Thermal Bowing Delta Temp .. .000 C
Liberal Allowable Flag ..... 1.000
Uniform Load Option ..... 1.000

Ambient Temperature ..... 20.997 C
Plastic (FRP) Alpha ..... 21.600
Plastic (FRP) GMOD/EMODa ... .250
Plastic (FRP) Laminate Type. 3.000
Eqn Optimizer ..... .000
Node Selection ..... .000
Eqn Ordering ..... .000

```

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INPUT LISTING

Collins 000
 Degree Determination 000
 User Eqn Control 000
 North Direction -X
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COORDINATE REPORT

/----- (cm.) -----/			
NODE	X	Y	Z
20	655.300	-532.935	706.010
40	644.823	-532.935	706.010
60	538.344	-532.935	706.010
80	538.344	-593.935	706.010
100	599.344	-593.935	706.010
120	599.344	-681.025	706.010
140	599.344	-711.525	706.010
160	599.344	-731.525	706.010
120	599.344	-681.025	706.010
180	599.344	-711.525	706.010
200	568.844	-711.525	706.010
220	558.367	-711.525	706.010
240	547.890	-711.525	706.010
260	477.890	-711.525	706.010
280	453.100	-711.525	706.010
300	403.100	-711.525	706.010
320	383.100	-711.525	706.010
340	372.622	-711.525	706.010
360	315.322	-711.525	706.010
380	304.845	-711.525	706.010
400	204.845	-711.525	706.010
420	76.065	-711.525	706.010
440	65.587	-711.525	706.010
460	55.110	-711.525	706.010
480	-94.890	-711.525	706.010
500	-475.370	-711.525	706.010
520	-475.370	-681.025	706.010
540	-475.370	-711.525	706.010
560	-475.370	-741.525	706.010
520	-475.370	-681.025	706.010
580	-475.370	-287.525	706.010
600	-510.726	-287.525	670.655
620	-546.081	-287.525	635.299
640	-546.081	-295.925	635.299
660	-546.081	-325.925	635.299
620	-546.081	-287.525	635.299
680	-600.387	-287.525	580.994
700	-600.387	-318.025	580.994
720	-600.387	-328.503	580.994
760	-600.387	-338.980	580.994
780	-600.387	-357.120	580.994
780	-600.387	-357.220	580.994
660	-546.081	-325.925	635.299
780	-600.387	-357.120	580.994
840	-600.387	-663.620	580.994
860	-600.387	-783.620	580.994
280	453.100	-711.525	706.010

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INPUT LISTING

880	453.100	-637.235	706.010
900	453.100	-637.235	757.010
910	453.100	-637.235	763.677
920	453.100	-637.235	793.777
930	453.100	-637.235	821.277
940	453.100	-637.235	828.580
960	453.100	-637.235	836.280
980	453.100	-702.475	836.280
1000	453.100	-702.475	828.580
1020	453.100	-702.475	766.480
1040	483.100	-702.475	766.480
1060	514.900	-702.475	766.480
1080	525.060	-702.475	766.480
1100	535.219	-702.475	766.480
1120	574.259	-702.475	766.480
1140	574.259	-702.475	866.480
1160	620.833	-702.475	866.480
1180	644.120	-702.475	866.480
1200	644.120	-702.475	706.480
1220	667.020	-702.475	706.480
1240	677.180	-702.475	706.480
1020	453.100	-702.475	766.480
1260	332.306	-702.475	766.480
1280	204.845	-702.475	766.480
1300	168.045	-702.475	766.480
1320	157.885	-702.475	766.480
1340	112.585	-702.475	766.480
1360	102.425	-702.475	766.480
1380	-94.875	-702.475	766.480
1400	-477.475	-702.475	766.480
1420	-477.475	-679.575	766.480
1440	-477.475	-702.475	766.480
1460	-477.475	-732.475	766.480
1420	-477.475	-679.575	766.480
1480	-477.475	-534.075	766.480
1500	-1053.475	-534.075	766.480
1520	-1653.475	-534.075	766.480
1540	-2010.475	-534.075	766.480
1560	-2010.475	-534.075	826.480
1580	-2010.475	-534.075	938.180
1600	-2010.475	-285.325	938.180
1620	-2072.275	-285.325	981.380
1640	-2072.275	-308.225	981.380
1660	-2072.275	-318.385	981.380
1680	-2072.275	-328.545	981.380
1700	-2072.275	-341.245	981.380
1740	-2072.275	-365.245	981.380
1780	-2072.275	-389.245	981.380
1800	-2072.275	-401.945	981.380
1820	-2072.275	-412.105	981.380
1740	-2072.275	-365.245	981.380
1840	-2072.275	-365.245	1131.380
1860	-2775.775	-365.245	1131.380
1880	-2775.775	-365.245	831.380
1900	-2072.275	-365.245	831.380
1740	-2072.275	-365.245	981.380

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INPUT LISTING

1820	-2072.275	-412.105	981.380
1920	-2072.275	-422.265	981.380
1940	-2072.275	-445.165	981.380
1960	-2072.275	-446.290	755.680
1980	-2072.275	-446.465	720.680
2000	-1628.175	-446.465	720.680
2020	-1180.097	-696.486	1553.480
2030	-1180.097	-696.486	1308.280
2040	-1180.097	-696.486	953.480
2020	-1180.097	-696.486	1553.480
2060	-1180.097	-696.486	2153.480
1260	332.306	-702.475	766.480
2140	332.306	-524.475	766.480
2160	308.306	-524.475	790.480
2180	-94.894	-524.475	790.480
2190	-694.894	-524.475	790.480
2200	-733.694	-524.475	790.480
2220	-733.694	-524.475	1025.480
2280	-733.694	-524.475	1343.080
2290	-733.694	-524.475	1393.080
2280	-733.694	-524.475	1343.080
2320	-733.694	-505.475	1343.080
2330	-733.694	-431.675	1343.080
2340	-733.694	-423.075	1343.080
2346	-733.694	-415.773	1343.080
2352	-733.694	-394.573	1343.080
2360	-733.694	-387.270	1343.080
2380	-733.694	-362.270	1343.080
2400	-733.694	-353.270	1343.080
2410	-733.694	-346.126	1343.080
2420	-733.694	-339.426	1343.080
2430	-738.294	-339.426	1343.080
2440	-746.494	-339.426	1343.080
2460	-753.797	-339.426	1343.080
2480	-767.797	-343.396	1343.080
2500	-803.247	-343.396	1343.080
2520	-861.597	-343.396	1343.080
2540	-861.597	-366.296	1343.080
2546	-861.597	-375.504	1343.080
2552	-861.597	-403.104	1343.080
2560	-861.597	-412.311	1343.080
2570	-861.597	-431.711	1343.080
2580	-861.597	-552.511	1343.080
2600	-861.597	-552.511	1275.080
2290	-733.694	-524.475	1393.080
2300	-733.694	-524.475	1443.080
2620	-733.694	-505.475	1443.080
2640	-733.694	-423.175	1443.080
2646	-733.694	-415.873	1443.080
2652	-733.694	-394.673	1443.080
2660	-733.694	-387.370	1443.080
2680	-733.694	-362.370	1443.080
2700	-733.694	-356.470	1443.080
2710	-733.694	-349.326	1443.080
2720	-733.694	-342.926	1443.080
2730	-738.294	-342.926	1443.080

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INPUT LISTING

2740	-746.549	-342.926	1443.080
2760	-753.852	-342.926	1443.080
2780	-767.852	-346.896	1443.080
2800	-803.302	-346.896	1443.080
2820	-861.652	-346.896	1443.080
2840	-861.652	-369.796	1443.080
2846	-861.652	-379.004	1443.080
2852	-861.652	-406.604	1443.080
2860	-861.652	-415.811	1443.080
2880	-861.652	-556.011	1443.080
2880	-861.652	-556.011	1443.080
2580	-861.597	-552.511	1343.080
2600	-861.597	-552.511	1275.080
2920	-861.597	-552.511	1237.180
2940	-1180.097	-553.148	1237.180
2980	-1180.097	-625.486	1237.180
2030	-1180.097	-696.486	1308.280
2330	-733.694	-431.675	1343.080
3000	-733.694	-431.675	1335.380
3020	-733.694	-431.675	1328.078
3040	-733.694	-431.675	1309.378
3060	-733.694	-431.675	1302.075
3080	-733.694	-431.675	1294.375
3100	-771.394	-431.675	1294.375
3120	-781.394	-431.675	1294.375
3140	-812.094	-431.675	1294.375
3146	-819.397	-431.675	1294.375
3152	-846.997	-431.675	1294.375
3160	-853.664	-431.675	1294.375
3180	-861.364	-431.675	1294.375
3180	-861.597	-431.711	1294.380
2570	-861.597	-431.711	1343.080
2040	-1180.097	-696.486	953.480
3960	-1180.097	-696.486	353.480
3970	-1180.097	-696.486	53.480
3980	-1180.097	-696.486	-246.520
4000	-1180.097	-696.486	-521.520
4020	-1780.097	-696.486	-521.520
4040	-1780.097	-696.486	-621.520
4060	-1780.097	-696.486	-721.520
4066	-1180.097	-696.486	-721.520
4072	-1180.097	-696.486	-846.520
4080	-1180.097	-696.486	-1446.520
2000	-1628.175	-446.465	720.680
4100	-1558.645	-446.465	720.680
4120	-1558.645	-447.765	980.880
4140	-1558.645	-530.765	980.880
4160	-1053.645	-530.765	980.880
4180	-694.045	-530.765	980.880
4200	-683.885	-530.765	980.880
4240	-673.725	-530.765	980.880
4260	-658.725	-530.765	980.880
4280	-612.825	-530.765	980.880
4300	-612.825	-660.765	980.880
4310	-612.825	-760.765	980.880
4320	-612.825	-790.765	980.880

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

1 (HGR) CASE NOT ACTIVE
 2 (HGR) CASE NOT ACTIVE
 3 (HYD) WW+HP+H
 4 (OPE) W+T1+P1+H
 5 (Alt-SUS) W+P1+H
 6 (OPE) W+T2+P1+H
 7 (Alt-SUS) W+P1+H
 8 (OPE) W+T3+P1+H
 9 (Alt-SUS) W+P1+H
 10 (OPE) W+T4+P1+H
 11 (Alt-SUS) W+P1+H
 12 (SUS) W+P1+H
 13 (SUS) WNC+H
 14 (OPE) W+T1+P1+H+U1
 15 (OPE) W+T1+P1+H-U1
 16 (OPE) W+T1+P1+H+U2
 17 (OPE) W+T1+P1+H+U3
 18 (OPE) W+T1+P1+H-U3
 19 (OPE) W+T1+P1+H+F1
 20 (OPE) W+T1+P1+H+F2
 21 (OCC) L21=L14-L4
 22 (OCC) L22=L15-L4
 23 (OCC) L23=L16-L4
 24 (OCC) L24=L17-L4
 25 (OCC) L25=L18-L4
 26 (OCC) L26=L19-L4
 27 (OCC) L27=L20-L4
 28 (OCC) L28=L21+L11
 29 (OCC) L29=L22+L11
 30 (OCC) L30=L23+L11
 31 (OCC) L31=L24+L11
 32 (OCC) L32=L25+L11
 33 (OCC) L33=L26+L11
 34 (OCC) L34=L27+L11
 35 (EXP) L35=L4-L11
 36 (EXP) L36=L6-L11
 37 (EXP) L37=L8-L11
 38 (EXP) L38=L6-L8
 39 (OPE) L39=L4, L6, L8
 40 (OCC) L40=L21, L22, L23, L24

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

LOAD CASE DEFINITION KEY

CASE 3 (HYD) WW+HP+H
CASE 4 (OPE) W+T1+P1+H
CASE 6 (OPE) W+T2+P1+H
CASE 8 (OPE) W+T3+P1+H
CASE 10 (OPE) W+T4+P1+H
CASE 12 (SUS) W+P1+H
CASE 13 (SUS) WNC+H

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
20		TYPE=Rigid ANC;					
	3(HYD)	-286	-950	79	-31	66	427
	4(OPE)	375	-802	-73	32	-76	649
	6(OPE)	677	2731	-69	33	-81	-2375
	8(OPE)	-148	-560	72	-28	60	227
	10(OPE)	-148	-560	72	-28	60	227
	12(SUS)	-148	-560	72	-28	60	227
	13(SUS)	-149	-553	72	-28	60	221
	MAX	677/L6	2731/L6	79/L3	33/L6	-81/L6	-2375/L6
121		TYPE=Rigid +Y;					
	3(HYD)	-156	-2118	0	0	0	0
	4(OPE)	0	-1170	0	0	0	0
	6(OPE)	0	-1183	0	0	0	0
	8(OPE)	-79	-1170	0	0	0	0
	10(OPE)	-79	-1170	0	0	0	0
	12(SUS)	-79	-1170	0	0	0	0
	13(SUS)	-79	-1170	0	0	0	0
	MAX	-156/L3	-2118/L3				
160		TYPE=Rigid Z; Rigid -X; Rigid X; Prog Design VSH;					
	3(HYD)	-156	-2118	-35	0	0	0
	4(OPE)	2107	-715	-140	0	0	0
	6(OPE)	3921	-2359	-246	0	0	0
	8(OPE)	-79	-1170	-32	0	0	0
	10(OPE)	-79	-1170	-32	0	0	0
	12(SUS)	-79	-1170	-32	0	0	0
	13(SUS)	-79	-1170	-32	0	0	0
	MAX	3921/L6	-2359/L6	-246/L6			
300		TYPE=Rigid +Y;					

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	3(HYD)	188	-2443	148	0	0	0
	4(OPE)	-610	-2048	-70	0	0	0
	6(OPE)	-1573	-5246	-57	0	0	0
	8(OPE)	97	-1780	135	0	0	0
	10(OPE)	97	-1781	135	0	0	0
	12(SUS)	97	-1780	135	0	0	0
	13(SUS)	97	-1774	135	0	0	0
	MAX	-1573/L6	-5246/L6	148/L3			
400		TYPE=Rigid Z; Rigid Y;					
	3(HYD)	124	-1971	-12	0	0	0
	4(OPE)	-302	-1006	-126	0	0	0
	6(OPE)	-236	785	-261	0	0	0
	8(OPE)	64	-1245	-12	0	0	0
	10(OPE)	64	-1245	-12	0	0	0
	12(SUS)	64	-1245	-12	0	0	0
	13(SUS)	64	-1241	-12	0	0	0
	MAX	-302/L4	-1971/L3	-261/L6			
480		TYPE=Rigid Z; Rigid Y;					
	3(HYD)	51	-2688	-5	0	0	0
	4(OPE)	-507	-1690	76	0	0	0
	6(OPE)	-829	-2763	236	0	0	0
	8(OPE)	27	-1403	-2	0	0	0
	10(OPE)	27	-1403	-2	0	0	0
	12(SUS)	27	-1403	-2	0	0	0
	13(SUS)	27	-1395	-2	0	0	0
	MAX	-829/L6	-2763/L6	236/L6			
560		TYPE=Rigid Z; Rigid +Y;					
	3(HYD)	8	-3989	-2	0	0	0
	4(OPE)	-660	-2198	-5	0	0	0
	6(OPE)	-631	-2102	-36	0	0	0
	8(OPE)	5	-2008	-4	0	0	0
	10(OPE)	5	-2008	-4	0	0	0
	12(SUS)	5	-2008	-4	0	0	0
	13(SUS)	5	-1996	-4	0	0	0
	MAX	-660/L4	-3989/L3	-36/L6			
660		TYPE=Rigid +Y;					
	3(HYD)	37	-961	-78	0	0	0
	4(OPE)	0	0	0	0	0	0
	6(OPE)	0	0	0	0	0	0
	8(OPE)	14	-496	-35	0	0	0
	10(OPE)	14	-496	-35	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	12(SUS)	14	-496	-35	0	0	0
	13(SUS)	14	-493	-35	0	0	0
	MAX	37/L3	-961/L3	-78/L3			
720		TYPE=Rigid ANC;					
	3(HYD)	31	-423	85	31	3	-13
	4(OPE)	-260	-390	-29	-141	-213	-157
	6(OPE)	-1068	200	-92	-733	-902	-605
	8(OPE)	19	-283	41	15	1	-7
	10(OPE)	19	-283	41	15	1	-7
	12(SUS)	19	-283	41	15	1	-7
	13(SUS)	19	-282	41	15	1	-7
	MAX	-1068/L6	-423/L3	-92/L6	-733/L6	-902/L6	-605/L6
780		TYPE=Rigid ANC;					
	3(HYD)	68	-1714	6	553	65	-556
	4(OPE)	-260	-628	-29	-149	-213	-82
	6(OPE)	-1068	-38	-92	-759	-902	-300
	8(OPE)	34	-1016	6	286	28	-287
	10(OPE)	34	-1016	6	286	28	-287
	12(SUS)	34	-1016	6	286	28	-287
	13(SUS)	33	-1012	6	284	28	-285
	MAX	-1068/L6	-1714/L3	-92/L6	-759/L6	-902/L6	-556/L3
860		TYPE=Rigid ANC;					
	3(HYD)	68	-1714	6	580	65	-846
	4(OPE)	-260	-628	-29	-271	-213	1026
	6(OPE)	-1068	-38	-92	-1153	-902	4256
	8(OPE)	34	-1016	6	312	28	-430
	10(OPE)	34	-1016	6	312	28	-430
	12(SUS)	34	-1016	6	312	28	-430
	13(SUS)	33	-1012	6	310	28	-427
	MAX	-1068/L6	-1714/L3	-92/L6	-1153/L6	-902/L6	4256/L6
1040		TYPE=Rigid +Y;					
	3(HYD)	108	-1928	-178	0	0	0
	4(OPE)	357	-1395	-218	0	0	0
	6(OPE)	343	-1349	-215	0	0	0
	8(OPE)	100	-1385	-163	0	0	0
	10(OPE)	100	-1385	-162	0	0	0
	12(SUS)	100	-1385	-163	0	0	0
	13(SUS)	100	-1376	-162	0	0	0
	MAX	357/L4	-1928/L3	-218/L4			

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
1180		TYPE=Rigid +Y; Rigid - X;					
	3(HYD)	10	-1203	7	0	0	0
	4(OPE)	8276	-1283	2868	0	0	0
	6(OPE)	9876	-1468	3403	0	0	0
	8(OPE)	10	-819	6	0	0	0
	10(OPE)	10	-820	6	0	0	0
	12(SUS)	10	-819	6	0	0	0
	13(SUS)	10	-813	6	0	0	0
	MAX	9876/L6	-1468/L6	3403/L6			
1240		TYPE=Rigid ANC;					
	3(HYD)	-6	-369	10	-72	2	228
	4(OPE)	642	7	-793	-174	179	234
	6(OPE)	820	106	-1176	-218	196	265
	8(OPE)	-5	-255	10	-61	2	159
	10(OPE)	-5	-254	9	-61	2	159
	12(SUS)	-5	-255	10	-61	2	159
	13(SUS)	-5	-253	9	-61	2	158
	MAX	820/L6	-369/L3	-1176/L6	-218/L6	196/L6	265/L6
1280		TYPE=Rigid Z; Rigid Y;					
	3(HYD)	168	-3329	-36	0	0	0
	4(OPE)	-657	-2191	-2470	0	0	0
	6(OPE)	-610	-2034	-2913	0	0	0
	8(OPE)	157	-2809	-32	0	0	0
	10(OPE)	158	-2809	-33	0	0	0
	12(SUS)	157	-2809	-32	0	0	0
	13(SUS)	157	-2801	-32	0	0	0
	MAX	-657/L4	-3329/L3	-2913/L6			
1380		TYPE=Rigid Z; Rigid Y;					
	3(HYD)	303	-2209	34	0	0	0
	4(OPE)	-1074	-3579	1096	0	0	0
	6(OPE)	-1231	-4104	1336	0	0	0
	8(OPE)	284	-1529	29	0	0	0
	10(OPE)	285	-1529	29	0	0	0
	12(SUS)	284	-1529	29	0	0	0
	13(SUS)	283	-1518	29	0	0	0
	MAX	-1231/L6	-4104/L6	1336/L6			
1460		TYPE=Rigid Z; Rigid +Y;					
	3(HYD)	-115	-3119	-38	0	0	0
	4(OPE)	-652	-2173	-256	0	0	0

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Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	6(OPE)	-644	-2148	-302	0	0	0
	8(OPE)	-119	-2314	-31	0	0	0
	10(OPE)	-119	-2314	-32	0	0	0
	12(SUS)	-119	-2314	-31	0	0	0
	13(SUS)	-119	-2299	-31	0	0	0
	MAX	-652/L4	-3119/L3	-302/L6			
1500		TYPE=Rigid Z; Rigid +Y;					
	3(HYD)	0	-3721	35	0	0	0
	4(OPE)	0	-1141	-433	0	0	0
	6(OPE)	0	-642	-680	0	0	0
	8(OPE)	0	-2982	29	0	0	0
	10(OPE)	0	-2982	29	0	0	0
	12(SUS)	0	-2982	29	0	0	0
	13(SUS)	0	-2966	29	0	0	0
	MAX		-3721/L3	-680/L6			
1520		TYPE=Rigid +Y;					
	3(HYD)	-153	-3023	-26	0	0	0
	4(OPE)	-1203	-4345	-502	0	0	0
	6(OPE)	-1366	-4967	-596	0	0	0
	8(OPE)	-175	-2425	-22	0	0	0
	10(OPE)	-175	-2425	-22	0	0	0
	12(SUS)	-175	-2425	-22	0	0	0
	13(SUS)	-175	-2412	-22	0	0	0
	MAX	-1366/L6	-4967/L6	-596/L6			
1560		TYPE=Rigid +Y;					
	3(HYD)	-421	-1865	40	0	0	0
	4(OPE)	-775	-2608	-103	0	0	0
	6(OPE)	-828	-2788	-116	0	0	0
	8(OPE)	-330	-1485	40	0	0	0
	10(OPE)	-330	-1485	40	0	0	0
	12(SUS)	-330	-1485	40	0	0	0
	13(SUS)	-328	-1476	40	0	0	0
	MAX	-828/L6	-2788/L6	-116/L6			
1700		TYPE=Rigid ANC;					
	3(HYD)	149	-2106	-29	-354	-65	-635
	4(OPE)	-4448	804	1075	2171	4212	-3392
	6(OPE)	-5996	1473	1310	2984	5780	-4471
	8(OPE)	117	-1767	-30	-287	-47	-525
	10(OPE)	117	-1767	-30	-287	-47	-525
	12(SUS)	117	-1767	-30	-287	-47	-525
	13(SUS)	116	-1759	-30	-285	-46	-523

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Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	MAX	-5996/L6	-2106/L3	1310/L6	2984/L6	5780/L6	-4471/L6
1780		TYPE=Rigid ANC;					
	3(HYD)	10	-864	-209	58	-38	-154
	4(OPE)	-249	-536	-92	125	533	-124
	6(OPE)	-1121	-418	-28	245	2146	-381
	8(OPE)	-11	-605	-81	23	-3	-82
	10(OPE)	-11	-605	-81	23	-3	-82
	12(SUS)	-11	-605	-81	23	-3	-82
	13(SUS)	-12	-600	-79	22	-2	-80
	MAX	-1121/L6	-864/L3	-209/L3	245/L6	2146/L6	-381/L6
1840		TYPE=Rigid X; Rigid Z w/gap; Rigid Y;					
	3(HYD)	52	-9785	-125	0	0	0
	4(OPE)	51	-8850	900	0	0	0
	6(OPE)	-491	-8872	1034	0	0	0
	8(OPE)	39	-9074	-61	0	0	0
	10(OPE)	39	-9074	-61	0	0	0
	12(SUS)	39	-9074	-61	0	0	0
	13(SUS)	39	-9055	-60	0	0	0
	MAX	-491/L6	-9785/L3	1034/L6			
1860		TYPE=Rigid Z w/gap; Rigid Y;					
	3(HYD)	0	-8271	-2	0	0	0
	4(OPE)	-711	-7731	303	0	0	0
	6(OPE)	-703	-7641	298	0	0	0
	8(OPE)	0	-7885	-1	0	0	0
	10(OPE)	0	-7885	-1	0	0	0
	12(SUS)	0	-7885	-1	0	0	0
	13(SUS)	0	-7872	-1	0	0	0
	MAX	-711/L4	-8271/L3	303/L4			
1880		TYPE=Rigid Z w/gap; Rigid Y;					
	3(HYD)	-0	-8267	-2	0	0	0
	4(OPE)	-777	-7769	-1	0	0	0
	6(OPE)	-769	-7692	-2	0	0	0
	8(OPE)	-0	-7881	-1	0	0	0
	10(OPE)	-0	-7881	-1	0	0	0
	12(SUS)	-0	-7881	-1	0	0	0
	13(SUS)	-0	-7869	-1	0	0	0
	MAX	-777/L4	-8267/L3	-2/L6			

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Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
1900		TYPE=Rigid X; Rigid Z w/gap; Rigid Y;					
	3(HYD)	107	-9957	-110	0	0	0
	4(OPE)	-3120	-7095	88	0	0	0
	6(OPE)	-5065	-6453	124	0	0	0
	8(OPE)	66	-9245	-50	0	0	0
	10(OPE)	66	-9245	-50	0	0	0
	12(SUS)	66	-9245	-50	0	0	0
	13(SUS)	65	-9226	-49	0	0	0
	MAX	-5065/L6	-9957/L3	124/L6			
1960		TYPE=Rigid +Y;					
	3(HYD)	27	-1225	217	0	0	0
	4(OPE)	-146	-520	55	0	0	0
	6(OPE)	-147	-505	-37	0	0	0
	8(OPE)	94	-517	84	0	0	0
	10(OPE)	94	-517	84	0	0	0
	12(SUS)	94	-517	84	0	0	0
	13(SUS)	95	-504	82	0	0	0
	MAX	-147/L6	-1225/L3	217/L3			
2000		TYPE=Rigid Z w/gap; Rigid +Y;					
	3(HYD)	-43	-1467	-71	0	0	0
	4(OPE)	22	-618	-184	0	0	0
	6(OPE)	-116	-619	-543	0	0	0
	8(OPE)	-85	-614	-28	0	0	0
	10(OPE)	-85	-614	-28	0	0	0
	12(SUS)	-85	-614	-28	0	0	0
	13(SUS)	-86	-598	-28	0	0	0
	MAX	-116/L6	-1467/L3	-543/L6			
2020		TYPE=Rigid Z w/gap; Rigid +Y;					
	3(HYD)	0	-8385	0	0	0	0
	4(OPE)	0	-5038	0	0	0	0
	6(OPE)	0	-5149	4557	0	0	0
	8(OPE)	0	-4749	0	0	0	0
	10(OPE)	0	-5451	6595	0	0	0
	12(SUS)	0	-4749	0	0	0	0
	13(SUS)	0	-4743	0	0	0	0
	MAX		-8385/L3	6595/L10			

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Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
2040		TYPE=Rigid X w/gap; Rigid +Y;					
	3(HYD)	0	-7831	88	0	0	0
	4(OPE)	-182	-4486	1333	0	0	0
	6(OPE)	-670	-4749	-1257	0	0	0
	8(OPE)	7	-4430	64	0	0	0
	10(OPE)	-845	-5162	-1491	0	0	0
	12(SUS)	7	-4430	64	0	0	0
	13(SUS)	7	-4425	64	0	0	0
	MAX	-845/L10	-7831/L3	-1491/L10			
2060		TYPE=Rigid X w/gap; Rigid +Y;					
	3(HYD)	-8	-2459	77	0	0	0
	4(OPE)	-20	-1284	385	0	0	0
	6(OPE)	-137	-1261	353	0	0	0
	8(OPE)	-5	-1310	56	0	0	0
	10(OPE)	-466	-1215	359	0	0	0
	12(SUS)	-5	-1310	56	0	0	0
	13(SUS)	-5	-1308	56	0	0	0
	MAX	-466/L10	-2459/L3	385/L4			
2180		TYPE=Rigid Z w/gap; Rigid +Y;					
	3(HYD)	0	-759	0	0	0	0
	4(OPE)	0	-624	-6	0	0	0
	6(OPE)	0	-608	-25	0	0	0
	8(OPE)	0	-673	0	0	0	0
	10(OPE)	0	-672	0	0	0	0
	12(SUS)	0	-673	0	0	0	0
	13(SUS)	0	-672	0	0	0	0
	MAX		-759/L3	-25/L6			
2190		TYPE=Rigid +Y;					
	3(HYD)	-40	-486	21	0	0	0
	4(OPE)	-105	-438	-79	0	0	0
	6(OPE)	-107	-438	-76	0	0	0
	8(OPE)	-35	-431	18	0	0	0
	10(OPE)	-34	-472	61	0	0	0
	12(SUS)	-35	-431	18	0	0	0
	13(SUS)	-35	-431	18	0	0	0
	MAX	-107/L6	-486/L3	-79/L4			

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
2220		TYPE=Rigid X w/gap; Rigid +Y;					
	3(HYD)	-10	-350	10	0	0	0
	4(OPE)	-175	-311	-75	0	0	0
	6(OPE)	-299	-315	-80	0	0	0
	8(OPE)	-9	-309	17	0	0	0
	10(OPE)	-32	-185	45	0	0	0
	12(SUS)	-9	-309	17	0	0	0
	13(SUS)	-9	-309	17	0	0	0
	MAX	-299/L6	-350/L3	-80/L6			
2320		TYPE=Rigid +Y;					
	3(HYD)	0	0	0	0	0	0
	4(OPE)	0	-4426	0	0	0	0
	6(OPE)	0	-3726	0	0	0	0
	8(OPE)	0	0	0	0	0	0
	10(OPE)	0	0	0	0	0	0
	12(SUS)	0	0	0	0	0	0
	13(SUS)	0	0	0	0	0	0
	MAX		-4426/L4				
2500		TYPE=Rigid Z; Rigid X; Rigid +Y;					
	3(HYD)	-385	-3972	238	0	0	0
	4(OPE)	-4123	0	1670	0	0	0
	6(OPE)	-3185	0	1883	0	0	0
	8(OPE)	-291	-3465	180	0	0	0
	10(OPE)	2442	0	2256	0	0	0
	12(SUS)	-291	-3465	180	0	0	0
	13(SUS)	-291	-3463	180	0	0	0
	MAX	-4123/L4	-3972/L3	2256/L10			
2600		TYPE=Rigid +Y;					
	3(HYD)	698	-2468	-248	0	0	0
	4(OPE)	532	-1927	226	0	0	0
	6(OPE)	316	-3083	-236	0	0	0
	8(OPE)	518	-1797	-151	0	0	0
	10(OPE)	-96	-7743	-2321	0	0	0
	12(SUS)	518	-1797	-151	0	0	0
	13(SUS)	517	-1796	-151	0	0	0
	MAX	698/L3	-7743/L10	-2321/L10			
2620		TYPE=Rigid +Y;					
	3(HYD)	0	0	0	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	4(OPE)	0	-2012	0	0	0	0
	6(OPE)	0	-1456	0	0	0	0
	8(OPE)	0	0	0	0	0	0
	10(OPE)	0	0	0	0	0	0
	12(SUS)	0	0	0	0	0	0
	13(SUS)	0	0	0	0	0	0
	MAX		-2012/L4				
2800		TYPE=Rigid Z; Rigid X; Rigid +Y;					
	3(HYD)	-280	-3677	61	0	0	0
	4(OPE)	-389	0	523	0	0	0
	6(OPE)	-176	0	878	0	0	0
	8(OPE)	-213	-3133	47	0	0	0
	10(OPE)	379	0	1557	0	0	0
	12(SUS)	-213	-3133	47	0	0	0
	13(SUS)	-213	-3132	47	0	0	0
	MAX	-389/L4	-3677/L3	1557/L10			
3100		TYPE=Rigid +Y;					
	3(HYD)	-0	-495	-149	0	0	0
	4(OPE)	37	-214	-53	0	0	0
	6(OPE)	0	0	0	0	0	0
	8(OPE)	-0	-489	-147	0	0	0
	10(OPE)	0	0	0	0	0	0
	12(SUS)	-0	-489	-147	0	0	0
	13(SUS)	-0	-488	-146	0	0	0
	MAX	37/L4	-495/L3	-149/L3			
3120		TYPE=Rigid Z; Rigid X;					
	3(HYD)	51	0	-177	0	0	0
	4(OPE)	4186	0	-2614	0	0	0
	6(OPE)	3938	0	-2454	0	0	0
	8(OPE)	71	0	-133	0	0	0
	10(OPE)	-757	0	-819	0	0	0
	12(SUS)	71	0	-133	0	0	0
	13(SUS)	71	0	-133	0	0	0
	MAX	4186/L4		-2614/L4			
3960		TYPE=Rigid +Y;					
	3(HYD)	6	-4440	42	0	0	0
	4(OPE)	-60	-2358	330	0	0	0
	6(OPE)	199	-2324	-668	0	0	0
	8(OPE)	2	-2371	31	0	0	0
	10(OPE)	105	-2270	-673	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	12(SUS)	2	-2371	31	0	0	0
	13(SUS)	2	-2368	31	0	0	0
	MAX	199/L6	-4440/L3	-673/L10			
3980		TYPE=Rigid X w/gap; Rigid +Y;					
	3(HYD)	-2	-10688	25	0	0	0
	4(OPE)	568	-5803	-1646	0	0	0
	6(OPE)	419	-5775	-1681	0	0	0
	8(OPE)	-1	-5809	18	0	0	0
	10(OPE)	106	-5725	-1714	0	0	0
	12(SUS)	-1	-5809	18	0	0	0
	13(SUS)	-1	-5802	18	0	0	0
	MAX	568/L4	-10688/L3	-1714/L10			
4040		TYPE=Rigid +Y;					
	3(HYD)	1	-8353	0	0	0	0
	4(OPE)	-1359	-4539	83	0	0	0
	6(OPE)	-1298	-4563	-433	0	0	0
	8(OPE)	0	-4532	0	0	0	0
	10(OPE)	-1260	-4605	-567	0	0	0
	12(SUS)	0	-4532	0	0	0	0
	13(SUS)	0	-4527	0	0	0	0
	MAX	-1359/L4	-8353/L3	-567/L10			
4072		TYPE=Rigid +Y;					
	3(HYD)	-0	-8605	0	0	0	0
	4(OPE)	1161	-4670	170	0	0	0
	6(OPE)	376	-4673	1351	0	0	0
	8(OPE)	-0	-4669	0	0	0	0
	10(OPE)	-461	-4678	1326	0	0	0
	12(SUS)	-0	-4669	0	0	0	0
	13(SUS)	-0	-4664	0	0	0	0
	MAX	1161/L4	-8605/L3	1351/L6			
4080		TYPE=Rigid X w/gap; Rigid Z w/gap; Rigid +Y;					
	3(HYD)	0	-2602	0	0	0	0
	4(OPE)	-114	-1411	-408	0	0	0
	6(OPE)	170	-1407	-2026	0	0	0
	8(OPE)	0	-1412	0	0	0	0
	10(OPE)	944	-1400	-4235	0	0	0
	12(SUS)	0	-1412	0	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints
 Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	13(SUS)	0	-1410	0	0	0	0
	MAX	944/L10	-2602/L3	-4235/L10			
4120		TYPE=Rigid +Y;					
	3(HYD)	422	-1405	2	0	0	0
	4(OPE)	-179	-618	47	0	0	0
	6(OPE)	-224	-768	56	0	0	0
	8(OPE)	177	-589	0	0	0	0
	10(OPE)	177	-589	0	0	0	0
	12(SUS)	177	-589	0	0	0	0
	13(SUS)	172	-574	0	0	0	0
	MAX	422/L3	-1405/L3	56/L6			
4160		TYPE=Rigid Z; Rigid +Y;					
	3(HYD)	-294	-1735	6	0	0	0
	4(OPE)	-266	-626	262	0	0	0
	6(OPE)	-342	-192	948	0	0	0
	8(OPE)	-126	-730	2	0	0	0
	10(OPE)	-126	-730	2	0	0	0
	12(SUS)	-126	-730	2	0	0	0
	13(SUS)	-123	-711	2	0	0	0
	MAX	-342/L6	-1735/L3	948/L6			
4200		TYPE=Rigid ANC;					
	3(HYD)	-118	-649	-3	-10	-4	184
	4(OPE)	823	-511	-109	51	-127	469
	6(OPE)	1842	-927	-394	202	-458	1565
	8(OPE)	-47	-373	-1	-4	-2	77
	10(OPE)	-47	-373	-1	-4	-2	77
	12(SUS)	-47	-373	-1	-4	-2	77
	13(SUS)	-45	-368	-1	-4	-2	75
	MAX	1842/L6	-927/L6	-394/L6	202/L6	-458/L6	1565/L6
4260		TYPE=Rigid ANC;					
	3(HYD)	-118	-912	-3	-10	-5	394
	4(OPE)	823	-724	-109	51	-154	638
	6(OPE)	1842	-1140	-394	202	-557	1838
	8(OPE)	-47	-587	-1	-4	-2	211
	10(OPE)	-47	-587	-1	-4	-2	211
	12(SUS)	-47	-587	-1	-4	-2	211
	13(SUS)	-45	-580	-1	-4	-2	208
	MAX	1842/L6	-1140/L6	-394/L6	202/L6	-557/L6	1838/L6
4320		TYPE=Rigid ANC;					

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	3(HYD)	-118	-912	-3	-18	-6	1120
	4(OPE)	823	-724	-109	-233	-204	-1171
	6(OPE)	1842	-1140	-394	-823	-738	-2427
	8(OPE)	-47	-587	-1	-8	-3	602
	10(OPE)	-47	-587	-1	-8	-3	602
	12(SUS)	-47	-587	-1	-8	-3	602
	13(SUS)	-45	-580	-1	-8	-2	593
	MAX	1842/L6	-1140/L6	-394/L6	-823/L6	-738/L6	-2427/L6

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

1 (HGR) CASE NOT ACTIVE
 2 (HGR) CASE NOT ACTIVE
 3 (HYD) WW+HP+H
 4 (OPE) W+T1+P1+H
 5 (Alt-SUS) W+P1+H
 6 (OPE) W+T2+P1+H
 7 (Alt-SUS) W+P1+H
 8 (OPE) W+T3+P1+H
 9 (Alt-SUS) W+P1+H
 10 (OPE) W+T4+P1+H
 11 (Alt-SUS) W+P1+H
 12 (SUS) W+P1+H
 13 (SUS) WNC+H
 14 (OPE) W+T1+P1+H+U1
 15 (OPE) W+T1+P1+H-U1
 16 (OPE) W+T1+P1+H+U2
 17 (OPE) W+T1+P1+H+U3
 18 (OPE) W+T1+P1+H-U3
 19 (OPE) W+T1+P1+H+F1
 20 (OPE) W+T1+P1+H+F2
 21 (OCC) L21=L14-L4
 22 (OCC) L22=L15-L4
 23 (OCC) L23=L16-L4
 24 (OCC) L24=L17-L4
 25 (OCC) L25=L18-L4
 26 (OCC) L26=L19-L4
 27 (OCC) L27=L20-L4
 28 (OCC) L28=L21+L11
 29 (OCC) L29=L22+L11
 30 (OCC) L30=L23+L11
 31 (OCC) L31=L24+L11
 32 (OCC) L32=L25+L11
 33 (OCC) L33=L26+L11
 34 (OCC) L34=L27+L11
 35 (EXP) L35=L4-L11
 36 (EXP) L36=L6-L11
 37 (EXP) L37=L8-L11
 38 (EXP) L38=L6-L8
 39 (OPE) L39=L4, L6, L8
 40 (OCC) L40=L21, L22, L23, L24

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**STRESS SUMMARY REPORT: Highest Stresses Mini Statement
 Various Load Cases**

LOAD CASE DEFINITION KEY

CASE 3 (HYD) WW+HP+H
 CASE 12 (SUS) W+P1+H
 CASE 13 (SUS) WNC+H
 CASE 28 (OCC) L28=L21+L11
 CASE 29 (OCC) L29=L22+L11
 CASE 30 (OCC) L30=L23+L11
 CASE 31 (OCC) L31=L24+L11
 CASE 32 (OCC) L32=L25+L11
 CASE 33 (OCC) L33=L26+L11
 CASE 34 (OCC) L34=L27+L11
 CASE 35 (EXP) L35=L4-L11
 CASE 36 (EXP) L36=L6-L11
 CASE 37 (EXP) L37=L8-L11
 CASE 38 (EXP) L38=L6-L8

Piping Code: B31.3 = B31.3 -2016, Jan 31, 2017

CODE STRESS CHECK PASSED : LOADCASE 3 (HYD) WW+HP+H

Highest Stresses: (KPa)	LOADCASE 3 (HYD) WW+HP+H	
Ratio (%):	28.5	@Node 4160
Code Stress:	49101.3	Allowable Stress: 172368.9
Axial Stress:	38860.8	@Node 4120
Bending Stress:	29449.2	@Node 280
Torsion Stress:	1889.1	@Node 2200
Hoop Stress:	78278.3	@Node 1939
Max Stress Intensity:	83292.6	@Node 1978

CODE STRESS CHECK PASSED : LOADCASE 12 (SUS) W+P1+H

Highest Stresses: (KPa)	LOADCASE 12 (SUS) W+P1+H	
Ratio (%):	33.6	@Node 3980
Code Stress:	46123.2	Allowable Stress: 137261.0
Axial Stress:	25776.1	@Node 4120
Bending Stress:	50950.0	@Node 280
Torsion Stress:	3802.7	@Node 2460
Hoop Stress:	52185.5	@Node 1939
Max Stress Intensity:	55518.2	@Node 1978

CODE STRESS CHECK PASSED : LOADCASE 13 (SUS) WNC+H

Highest Stresses: (KPa)	LOADCASE 13 (SUS) WNC+H	
Ratio (%):	27.9	@Node 280
Code Stress:	38427.8	Allowable Stress: 137895.1
Axial Stress:	2177.4	@Node 1460
Bending Stress:	50869.0	@Node 280
Torsion Stress:	3804.7	@Node 2460
Hoop Stress:	0.0	@Node 40
Max Stress Intensity:	51145.2	@Node 280

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
Various Load Cases

CODE STRESS CHECK PASSED : LOADCASE 28 (OCC) L28=L21+L11

Highest Stresses: (KPa) LOADCASE 28 (OCC) L28=L21+L11
 Ratio (%): 72.7 @Node 2570
 Code Stress: 132771.1 Allowable Stress: 182557.2
 Axial Stress: 25761.3 @Node 4120
 Bending Stress: 164153.8 @Node 2570
 Torsion Stress: 32751.3 @Node 2460
 Hoop Stress: 52185.5 @Node 1939
 Max Stress Intensity: 170912.8 @Node 2570

CODE STRESS CHECK PASSED : LOADCASE 29 (OCC) L29=L22+L11

Highest Stresses: (KPa) LOADCASE 29 (OCC) L29=L22+L11
 Ratio (%): 64.5 @Node 2570
 Code Stress: 117699.8 Allowable Stress: 182557.2
 Axial Stress: 25904.7 @Node 4260
 Bending Stress: 144664.2 @Node 2570
 Torsion Stress: 27566.0 @Node 2460
 Hoop Stress: 52185.5 @Node 1939
 Max Stress Intensity: 151049.1 @Node 2570

CODE STRESS CHECK PASSED : LOADCASE 30 (OCC) L30=L23+L11

Highest Stresses: (KPa) LOADCASE 30 (OCC) L30=L23+L11
 Ratio (%): 58.5 @Node 2400
 Code Stress: 107209.7 Allowable Stress: 183299.9
 Axial Stress: 25742.1 @Node 4120
 Bending Stress: 98794.0 @Node 2570
 Torsion Stress: 26224.7 @Node 2460
 Hoop Stress: 52185.5 @Node 1939
 Max Stress Intensity: 106120.0 @Node 2400

CODE STRESS CHECK PASSED : LOADCASE 31 (OCC) L31=L24+L11

Highest Stresses: (KPa) LOADCASE 31 (OCC) L31=L24+L11
 Ratio (%): 59.0 @Node 2400
 Code Stress: 108220.3 Allowable Stress: 183299.9
 Axial Stress: 25766.5 @Node 4120
 Bending Stress: 116900.5 @Node 2570
 Torsion Stress: 30925.2 @Node 2460
 Hoop Stress: 52185.5 @Node 1939
 Max Stress Intensity: 123190.3 @Node 2570

CODE STRESS CHECK PASSED : LOADCASE 32 (OCC) L32=L25+L11

Highest Stresses: (KPa) LOADCASE 32 (OCC) L32=L25+L11
 Ratio (%): 65.8 @Node 2570
 Code Stress: 120155.0 Allowable Stress: 182557.2
 Axial Stress: 25772.0 @Node 4120
 Bending Stress: 147512.2 @Node 2570
 Torsion Stress: 28587.9 @Node 2460

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
Various Load Cases

Hoop Stress:	52185.5	@Node	1939
Max Stress Intensity:	154297.6	@Node	2570

CODE STRESS CHECK PASSED : LOADCASE 33 (OCC) L33=L26+L11

Highest Stresses: (KPa)	LOADCASE 33 (OCC)	L33=L26+L11	
Ratio (%):	78.2	@Node	2400
Code Stress:	143382.6	Allowable Stress:	183299.9
Axial Stress:	25766.2	@Node	4120
Bending Stress:	135723.1	@Node	2570
Torsion Stress:	40129.8	@Node	2460
Hoop Stress:	52185.5	@Node	1939
Max Stress Intensity:	142293.0	@Node	2400

CODE STRESS CHECK PASSED : LOADCASE 34 (OCC) L34=L27+L11

Highest Stresses: (KPa)	LOADCASE 34 (OCC)	L34=L27+L11	
Ratio (%):	55.1	@Node	2400
Code Stress:	101021.8	Allowable Stress:	183299.9
Axial Stress:	25766.2	@Node	4120
Bending Stress:	96309.1	@Node	2570
Torsion Stress:	28746.6	@Node	2460
Hoop Stress:	52185.5	@Node	1939
Max Stress Intensity:	101967.4	@Node	2570

CODE STRESS CHECK PASSED : LOADCASE 35 (EXP) L35=L4-L11

Highest Stresses: (KPa)	LOADCASE 35 (EXP)	L35=L4-L11	
Ratio (%):	41.2	@Node	2570
Code Stress:	109033.5	Allowable Stress:	264729.5
Axial Stress:	5587.0	@Node	3140
Bending Stress:	106890.8	@Node	2570
Torsion Stress:	15260.2	@Node	1619
Hoop Stress:	0.0	@Node	40
Max Stress Intensity:	239446.7	@Node	2570

CODE STRESS CHECK PASSED : LOADCASE 36 (EXP) L36=L6-L11

Highest Stresses: (KPa)	LOADCASE 36 (EXP)	L36=L6-L11	
Ratio (%):	38.9	@Node	2570
Code Stress:	103060.1	Allowable Stress:	264729.5
Axial Stress:	5268.8	@Node	3140
Bending Stress:	101218.2	@Node	2570
Torsion Stress:	20819.5	@Node	1619
Hoop Stress:	0.0	@Node	40
Max Stress Intensity:	226507.9	@Node	2570

CODE STRESS CHECK PASSED : LOADCASE 37 (EXP) L37=L8-L11

Highest Stresses: (KPa)	LOADCASE 37 (EXP)	L37=L8-L11	
Ratio (%):	23.8	@Node	2400
Code Stress:	58179.3	Allowable Stress:	244867.8
Axial Stress:	1371.1	@Node	3140

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
Various Load Cases

Bending Stress:	55840.7	@Node	2400
Torsion Stress:	7061.3	@Node	2400
Hoop Stress:	0.0	@Node	40
Max Stress Intensity:	89243.3	@Node	2570

CODE STRESS CHECK PASSED : LOADCASE 38 (EXP) L38=L6-L8

Highest Stresses: (KPa)	LOADCASE 38 (EXP) L38=L6-L8		
Ratio (%):	26.7	@Node	1118
Code Stress:	85980.4	Allowable Stress:	322041.3
Axial Stress:	3897.7	@Node	3140
Bending Stress:	82916.7	@Node	1118
Torsion Stress:	20819.5	@Node	1619
Hoop Stress:	0.0	@Node	40
Max Stress Intensity:	146958.7	@Node	2570

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS 2
Nozzle Check : Multiple 3

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

1 (HGR) CASE NOT ACTIVE
2 (HGR) CASE NOT ACTIVE
3 (HYD) WW+HP+H
4 (OPE) W+T1+P1+H
5 (Alt-SUS) W+P1+H
6 (OPE) W+T2+P1+H
7 (Alt-SUS) W+P1+H
8 (OPE) W+T3+P1+H
9 (Alt-SUS) W+P1+H
10 (OPE) W+T4+P1+H
11 (Alt-SUS) W+P1+H
12 (SUS) W+P1+H
13 (SUS) WNC+H
14 (OPE) W+T1+P1+H+U1
15 (OPE) W+T1+P1+H-U1
16 (OPE) W+T1+P1+H+U2
17 (OPE) W+T1+P1+H+U3
18 (OPE) W+T1+P1+H-U3
19 (OPE) W+T1+P1+H+F1
20 (OPE) W+T1+P1+H+F2
21 (OCC) L21=L14-L4
22 (OCC) L22=L15-L4
23 (OCC) L23=L16-L4
24 (OCC) L24=L17-L4
25 (OCC) L25=L18-L4
26 (OCC) L26=L19-L4
27 (OCC) L27=L20-L4
28 (OCC) L28=L21+L11
29 (OCC) L29=L22+L11
30 (OCC) L30=L23+L11
31 (OCC) L31=L24+L11
32 (OCC) L32=L25+L11
33 (OCC) L33=L26+L11
34 (OCC) L34=L27+L11
35 (EXP) L35=L4-L11
36 (EXP) L36=L6-L11
37 (EXP) L37=L8-L11
38 (EXP) L38=L6-L8
39 (OPE) L39=L4, L6, L8
40 (OCC) L40=L21, L22, L23, L24

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NOZZLE CHECK REPORT: Nozzle Loads Screening

Various Load Cases

LOAD CASE DEFINITION KEY

CASE 4 (OPE) W+T1+P1+H

CASE 12 (SUS) W+P1+H

CASE 13 (SUS) WNC+H

Node		fa N.	fb N.	fc N.	Forces Check	ma N.m.	mb N.m.	mc N.m.	Moments Check	
20		Absolute Method								
	Limits	9600	9600	7200		5760	3840	4990		
	4(OPE)	-375	-802	73	0.084	-32	-76	-649	0.130	
	12(SUS)	148	-560	-72	0.058	28	60	-227	0.045	
	13(SUS)	149	-553	-72	0.058	28	60	-221	0.044	
780		Absolute Method								
	Limits	9600	9600	7200		5760	3840	4990		
	4(OPE)	628	-29	260	0.065	213	-82	149	0.037	
	12(SUS)	1016	6	-34	0.106	-28	-287	-286	0.075	
	13(SUS)	1012	6	-33	0.105	-28	-285	-284	0.074	
1240		Absolute Method								
	Limits	7200	7200	5400		3240	2160	2810		
	4(OPE)	642	7	-793	0.147	-174	179	234	0.083	
	12(SUS)	-5	-255	10	0.035	-61	2	159	0.057	
	13(SUS)	-5	-253	9	0.035	-61	2	158	0.056	
1700		Absolute Method								
	Limits	15091	15091	12001		9150	4890	6420		
	4(OPE)	-804	1075	4448	0.371	-4212	-3392	-2171	0.694	
	12(SUS)	1767	-30	-117	0.117	47	-525	287	0.107	
	13(SUS)	1759	-30	-116	0.117	46	-523	285	0.107	

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NOZZLE CHECK REPORT: Nozzle Loads Screening

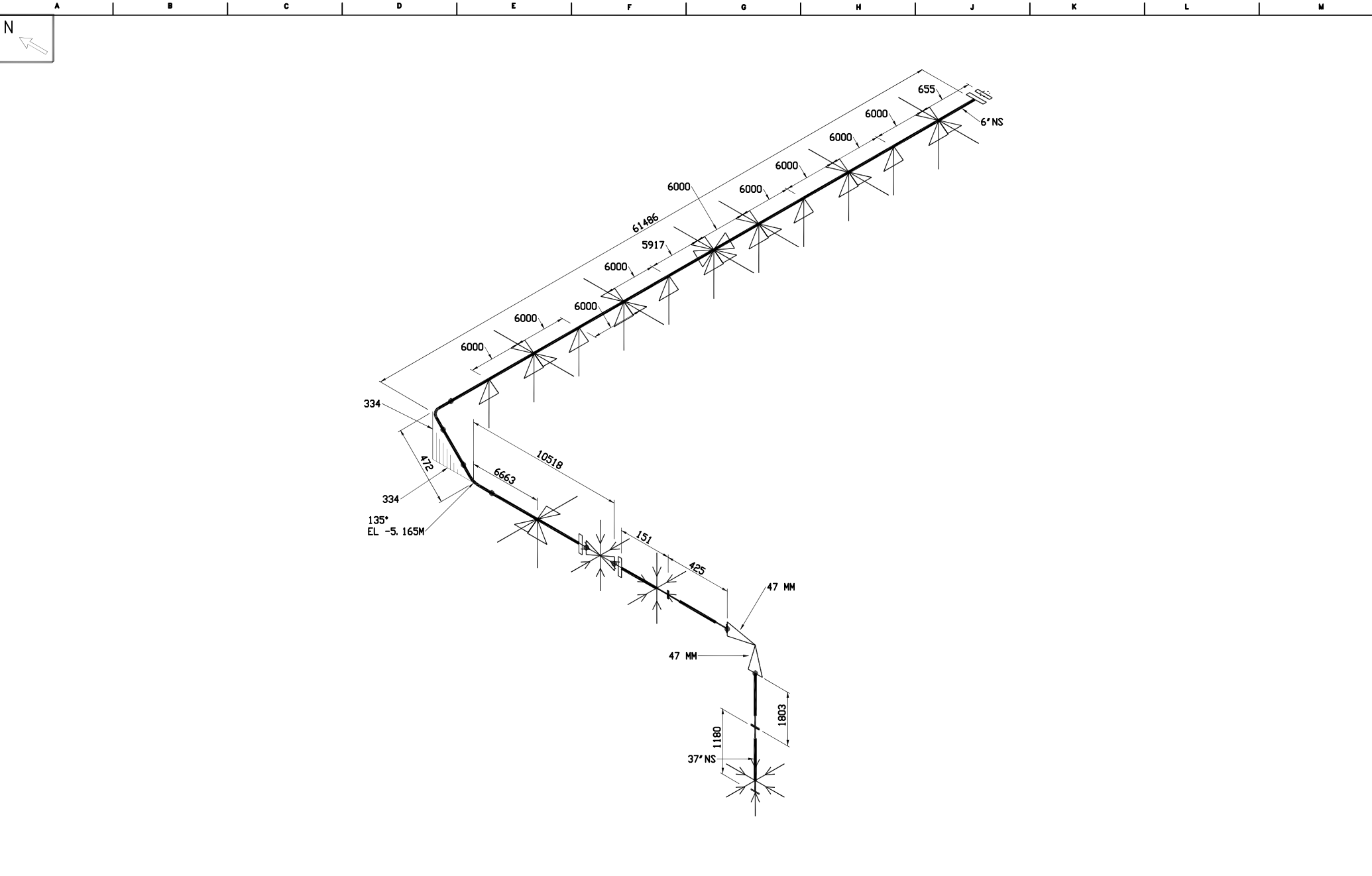
Various Load Cases

Node		fa N.	fb N.	fc N.	Forces Check	ma N.m.	mb N.m.	mc N.m.	Moments Check	
1780		Absolute Method								
	Limits	15091	15091	12001		9150	4890	6420		
	4(OPE)	536	-92	249	0.035	-533	-124	-125	0.058	
	12(SUS)	605	-81	11	0.040	3	-82	-23	0.017	
	13(SUS)	600	-79	12	0.040	2	-80	-22	0.016	
4260		Absolute Method								
	Limits	8400	8400	6300		3780	2520	3280		
	4(OPE)	823	-724	-109	0.098	51	-154	638	0.194	
	12(SUS)	-47	-587	-1	0.070	-4	-2	211	0.064	
	13(SUS)	-45	-580	-1	0.069	-4	-2	208	0.063	

BNK-GCS-CN-038

LINE Nos.

1. GAS-111-0059-FS00-6"-IS



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INSULATION SPEC.		PROJECT NO.	
INSULATION THKS.		SYSTEM	
PAINTING SPEC.		AREA	
MATERIAL		DRAWN BY	
OP. PRESSURE		E.L.DIAGRAM	



PIPELINE REFERENCE

REV.	
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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

- 1 (HYD) WW+HP
- 2 (OPE) W+T1+P1
- 3 (Alt-SUS) W+P1
- 4 (OPE) W+T2+P1
- 5 (Alt-SUS) W+P1
- 6 (SUS) W+P1
- 7 (SUS) WNC
- 8 (OPE) W+T2+P1+U1
- 9 (OPE) W+T2+P1-U1
- 10 (OPE) W+T2+P1+U2
- 11 (OPE) W+T2+P1-U2
- 12 (OPE) W+T2+P1+U3
- 13 (OCC) L13=L8-L2
- 14 (OCC) L14=L9-L2
- 15 (OCC) L15=L10-L2
- 16 (OCC) L16=L11-L2
- 17 (OCC) L17=L12-L2
- 18 (OCC) L18=L13+L6
- 19 (OCC) L19=L14+L6
- 20 (OCC) L20=L15+L6
- 21 (OCC) L21=L16+L6
- 22 (OCC) L22=L17+L6
- 23 (EXP) L23=L2-L6
- 24 (EXP) L24=L4-L6
- 25 (EXP) L25=L2-L4

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INPUT LISTING

Job Description:

PROJECT:

CLIENT :

ANALYST:

NOTES :

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INPUT LISTING

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PIPE DATA

 From 10 To 20 DX= .000 mm. DZ= 142.875 mm.

PIPE

Dia= 168.275 mm. Wall= 7.112 mm. Cor= .0000 mm.

GENERAL

T1= 175 C T2= 60 C P1= 6,200.1411 KPa PHyd= 9,300.2119 KPa
 Mat= (165)A312 TP316L E= 195,127,520 KPa EH1= 184,539,120 KPa
 EH2= 192,364,096 KPa EH3= 195,127,520 KPa EH4= 195,127,520 KPa
 EH5= 195,127,520 KPa EH6= 195,127,520 KPa EH7= 195,127,520 KPa
 EH8= 195,127,520 KPa EH9= 195,127,520 KPa v = .292
 Pipe Den= .0080272 kg./cu.cm. Fluid Den= .0000596 kg./cu.cm.
 Insul Thk= 40.000 mm. Insul Den= .0001362 kg./cu.cm.

RIGID Weight= 524.89 N.

UNIFORM LOAD

Vector1 in G-s X1 Dir = .26 g's Y1 Dir = .00 g's Z1 Dir = .00 g's
 Vector2 in G-s X2 Dir = .00 g's Y2 Dir = .12 g's Z2 Dir = .00 g's
 Vector3 in G-s X3 Dir = .00 g's Y3 Dir = .00 g's Z3 Dir = .26 g's

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 115,142 KPa
 Sh1= 111,904 KPa Sh2= 115,142 KPa Sh3= 115,142 KPa Sh4= 115,142 KPa
 Sh5= 115,142 KPa Sh6= 115,142 KPa Sh7= 115,142 KPa Sh8= 115,142 KPa
 Sh9= 115,142 KPa Sy= 172,369 KPa

 From 20 To 30 DZ= 142.875 mm.

PIPE

Cor= .0000 mm.

GENERAL

P1= 6,200.1411 KPa PHyd= 9,300.2119 KPa

RIGID Weight= 524.89 N.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 115,142 KPa
 Sh1= 111,904 KPa Sh2= 115,142 KPa Sh3= 115,142 KPa Sh4= 115,142 KPa
 Sh5= 115,142 KPa Sh6= 115,142 KPa Sh7= 115,142 KPa Sh8= 115,142 KPa
 Sh9= 115,142 KPa Sy= 172,369 KPa

 From 30 To 40 DZ= 369.000 mm.

PIPE

Dia= 168.275 mm. Wall= 7.112 mm. Cor= .0000 mm.

GENERAL

P1= 6,200.1411 KPa PHyd= 9,300.2119 KPa Mat= (165)A312 TP316L
 E= 195,127,520 KPa EH1= 184,539,120 KPa EH2= 192,364,096 KPa
 EH3= 195,127,520 KPa EH4= 195,127,520 KPa EH5= 195,127,520 KPa
 EH6= 195,127,520 KPa EH7= 195,127,520 KPa EH8= 195,127,520 KPa
 EH9= 195,127,520 KPa v = .292 Pipe Den= .0080272 kg./cu.cm.
 Fluid Den= .0000596 kg./cu.cm. Insul Thk= 40.000 mm.

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INPUT LISTING

Insul Den= .0001362 kg./cu.cm.

RESTRAINTS

Node 40 +Y Mu = .30

Node 40 X Gap= 15.000 mm.

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 115,142 KPa

Sh1= 111,904 KPa Sh2= 115,142 KPa Sh3= 115,142 KPa Sh4= 115,142 KPa

Sh5= 115,142 KPa Sh6= 115,142 KPa Sh7= 115,142 KPa Sh8= 115,142 KPa

Sh9= 115,142 KPa Sy= 172,369 KPa

From 40 To 50 DZ= 424.000 mm.

From 50 To 60 DZ= 5,576.000 mm.

RESTRAINTS

Node 60 +Y

From 60 To 70 DZ= 2,000.000 mm.

From 70 To 80 DZ= 4,000.000 mm.

RESTRAINTS

Node 80 +Y Mu = .30

Node 80 X Gap= 3.000 mm. Mu = .30

From 80 To 90 DZ= 6,000.000 mm.

RESTRAINTS

Node 90 +Y Mu = .30

From 90 To 100 DZ= 6,000.000 mm.

RESTRAINTS

Node 100 +Y Mu = .30

Node 100 X Gap= 3.000 mm. Mu = .30

From 100 To 110 DZ= 6,000.000 mm.

RESTRAINTS

Node 110 +Y Mu = .30

Node 110 X Gap= 3.000 mm. Mu = .30

Node 110 Z Gap= 3.000 mm. Mu = .30

From 110 To 120 DZ= 341.000 mm.

PIPE

Dia= 168.275 mm. Wall= 7.112 mm. Cor= .0000 mm.

GENERAL

P1= 6,200.1411 KPa PHyd= 9,300.2119 KPa Mat= (165)A312 TP316L

E= 195,127,520 KPa EH1= 184,539,120 KPa EH2= 192,364,096 KPa

EH3= 195,127,520 KPa EH4= 195,127,520 KPa EH5= 195,127,520 KPa

EH6= 195,127,520 KPa EH7= 195,127,520 KPa EH8= 195,127,520 KPa

EH9= 195,127,520 KPa v = .292 Pipe Den= .0080272 kg./cu.cm.

Fluid Den= .0000596 kg./cu.cm. Insul Thk= 40.000 mm.

Insul Den= .0001362 kg./cu.cm.

UNIFORM LOAD

Vector1 in G-s X1 Dir = .26 g's Y1 Dir = .00 g's Z1 Dir = .00 g's

Vector2 in G-s X2 Dir = .00 g's Y2 Dir = .12 g's Z2 Dir = .00 g's

Vector3 in G-s X3 Dir = .00 g's Y3 Dir = .00 g's Z3 Dir = .26 g's

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 115,142 KPa

Sh1= 111,904 KPa Sh2= 115,142 KPa Sh3= 115,142 KPa Sh4= 115,142 KPa

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INPUT LISTING

Sh5= 115,142 KPa Sh6= 115,142 KPa Sh7= 115,142 KPa Sh8= 115,142 KPa
Sh9= 115,142 KPa Sy= 172,369 KPa

From 120 To 130 DZ= 5,576.000 mm.

RESTRAINTS

Node 130 +Y Mu = .30

From 130 To 140 DZ= 2,000.000 mm.

From 140 To 150 DZ= 4,000.000 mm.

RESTRAINTS

Node 150 +Y Mu = .30

Node 150 X Gap= 3.000 mm. Mu = .30

From 150 To 160 DZ= 6,000.000 mm.

RESTRAINTS

Node 160 +Y Mu = .30

From 160 To 170 DZ= 6,000.000 mm.

RESTRAINTS

Node 170 +Y Mu = .30

Node 170 X Gap= 3.000 mm. Mu = .30

From 170 To 180 DZ= 6,000.000 mm.

RESTRAINTS

Node 180 +Y Mu = .30

From 180 To 190 DZ= 1,200.000 mm.

BEND at "T0" end

Radius= 228.600 mm. (LONG) Bend Angle= 90.000 Angle/Node @1= 45.00 189

Angle/Node @2= .00 188

From 190 To 200 DX= 334.000 mm. DY= -334.000 mm.

BEND at "T0" end

Radius= 228.600 mm. (LONG) Bend Angle= 45.000 Angle/Node @1= 22.50 199

Angle/Node @2= .00 198

From 200 To 205 DX= 816.000 mm.

From 205 To 210 DX= 5,847.000 mm.

RESTRAINTS

Node 210 +Y Mu = .30

Node 210 Z Gap= 3.000 mm. Mu = .30

From 210 To 220 DX= 3,100.000 mm.

From 220 To 230 DX= 127.000 mm.

RIGID Weight= 364.75 N.

From 230 To 240 DX= 628.000 mm.

RIGID Weight= 3,576.37 N.

RESTRAINTS

Node 240 ANC Cnode 250

From 250 To 260 DX= 127.000 mm.

RIGID Weight= 364.75 N.

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INPUT LISTING

From 260 To 270 DX= 151.000 mm.

RESTRAINTS

Node 270 ANC Cnode 271

EQUIPMENT LIMITS

Nozzle Node = 270 Limiting Loads: A=pipe; B=ref; C=AxB; FA= 9,600.48 N.
FB= 9,600.48 N. FC= 7,200.36 N. MA= 4,320.18 N.m. MB= 2,880.12 N.m.
MC= 3,740.16 N.m. Equipment Major Direction Vector= .0000 1.0000 .0000
Interact. Mtd= Absolute

From 271 To 280 DX= 472.000 mm.

PIPE

Dia= 944.000 mm. Wall= 7.112 mm.

Insul Thk= 40.000 mm.

RIGID Weight= .00 N.

From 280 To 290 DY= -1,850.000 mm.

RIGID Weight= .00 N.

From 290 To 300 DY= -1,180.000 mm.

PIPE

Dia= 944.000 mm. Wall= 7.112 mm.

GENERAL

T1= 21 C T2= 21 C P1= .0000 KPa PHyd= .0000 KPa

Fluid Den= .0000000 kg./cu.cm. Insul Thk= .000 mm.

Insul Den= .0000000 kg./cu.cm.

RIGID Weight= .00 N.

RESTRAINTS

Node 300 ANC

ALLOWABLE STRESSES

B31.3 (2016) Cycle Max Switch = --- Sc= 115,142 KPa

Sh1= 115,142 KPa Sh2= 115,142 KPa Sh3= 115,142 KPa Sh4= 115,142 KPa

Sh5= 115,142 KPa Sh6= 115,142 KPa Sh7= 115,142 KPa Sh8= 115,142 KPa

Sh9= 115,142 KPa Sy= 172,369 KPa

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MATERIAL Changes:

10	20	Mat= (165)A312 TP316L E= 195,127,520 KPa
		v = .292 Density= .0080 kg./cu.cm.

30	40	Mat= (165)A312 TP316L E= 195,127,520 KPa
		v = .292 Density= .0080 kg./cu.cm.

110	120	Mat= (165)A312 TP316L E= 195,127,520 KPa
		v = .292 Density= .0080 kg./cu.cm.

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JOBNAME: D:\BINAK PRO\STRESS REPORT\D02\NATIVE\BNK-GCS-CN-038-D02\BNK-GCS-CN-03

ALLOWABLE STRESS Changes

10	20	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 115,142 KPa	Sh1= 111,904 KPa
		Sh2= 115,142 KPa	Sh3= 115,142 KPa
		Sh4= 115,142 KPa	Sh5= 115,142 KPa
		Sh6= 115,142 KPa	Sh7= 115,142 KPa
		Sh8= 115,142 KPa	Sh9= 115,142 KPa
		Sy= 172,369 KPa	

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INPUT LISTING

20	30	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 115,142 KPa	Sh1= 111,904 KPa
		Sh2= 115,142 KPa	Sh3= 115,142 KPa
		Sh4= 115,142 KPa	Sh5= 115,142 KPa
		Sh6= 115,142 KPa	Sh7= 115,142 KPa
		Sh8= 115,142 KPa	Sh9= 115,142 KPa
		Sy= 172,369 KPa	
30	40	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 115,142 KPa	Sh1= 111,904 KPa
		Sh2= 115,142 KPa	Sh3= 115,142 KPa
		Sh4= 115,142 KPa	Sh5= 115,142 KPa
		Sh6= 115,142 KPa	Sh7= 115,142 KPa
		Sh8= 115,142 KPa	Sh9= 115,142 KPa
		Sy= 172,369 KPa	
110	120	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 115,142 KPa	Sh1= 111,904 KPa
		Sh2= 115,142 KPa	Sh3= 115,142 KPa
		Sh4= 115,142 KPa	Sh5= 115,142 KPa
		Sh6= 115,142 KPa	Sh7= 115,142 KPa
		Sh8= 115,142 KPa	Sh9= 115,142 KPa
		Sy= 172,369 KPa	
290	300	B31.3 (2016)	Cycle Max Switch = ---
		Sc= 115,142 KPa	Sh1= 115,142 KPa
		Sh2= 115,142 KPa	Sh3= 115,142 KPa
		Sh4= 115,142 KPa	Sh5= 115,142 KPa
		Sh6= 115,142 KPa	Sh7= 115,142 KPa
		Sh8= 115,142 KPa	Sh9= 115,142 KPa
		Sy= 172,369 KPa	

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BEND ELEMENTS

180	190	Radius= 228.600 mm. (LONG)
		Bend Angle= 90.000 Angle/Node @1= 45.00
		189 Angle/Node @2= .00 188
190	200	Radius= 228.600 mm. (LONG)
		Bend Angle= 45.000 Angle/Node @1= 22.50
		199 Angle/Node @2= .00 198

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RIGIDS

10	20	RIGID Weight= 524.89 N.
20	30	RIGID Weight= 524.89 N.
220	230	RIGID Weight= 364.75 N.
230	240	RIGID Weight= 3,576.37 N.
250	260	RIGID Weight= 364.75 N.
271	280	RIGID Weight= .00 N.
280	290	RIGID Weight= .00 N.
290	300	RIGID Weight= .00 N.

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RESTRAINTS

Len	MU	
GAP	YIELD	Dir

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INPUT LISTING

NODE	TYPE	CNODE	STIF1	STIF2	FORCE	Vectors		
40	+Y				.30	.000	1.000	.000
40	X			15.00		1.000	.000	.000
60	+Y					.000	1.000	.000
80	+Y				.30	.000	1.000	.000
80	X			3.00	.30	1.000	.000	.000
90	+Y				.30	.000	1.000	.000
100	+Y				.30	.000	1.000	.000
100	X			3.00	.30	1.000	.000	.000
110	+Y				.30	.000	1.000	.000
110	X			3.00	.30	1.000	.000	.000
110	Z			3.00	.30	.000	.000	1.000
130	+Y				.30	.000	1.000	.000
150	+Y				.30	.000	1.000	.000
150	X			3.00	.30	1.000	.000	.000
160	+Y				.30	.000	1.000	.000
170	+Y				.30	.000	1.000	.000
170	X			3.00	.30	1.000	.000	.000
180	+Y				.30	.000	1.000	.000
210	+Y				.30	.000	1.000	.000
210	Z			3.00	.30	.000	.000	1.000
240	ANC	250				.000	.000	.000
270	ANC	271				.000	.000	.000
300	ANC					.000	.000	.000

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EQUIPMENT LIMITS

260 270 Nozzle Node = 270

Limiting Loads: A=pipe; B=ref; C=AxB; FA= 9,600.48 N. FB= 9,600.48 N.
 FC= 7,200.36 N. MA= 4,320.18 N.m. MB= 2,880.12 N.m. MC= 3,740.16 N.m.
 Equipment Major Direction Vector= .0000 1.0000 .0000
 Interact. Mtd= Absolute

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UNIFORM LOAD Changes

10 20

Vector1 in G-s
 X1 Dir = .26 g's Y1 Dir = .00 g's
 Z1 Dir = .00 g's
 Vector2 in G-s
 X2 Dir = .00 g's Y2 Dir = .12 g's
 Z2 Dir = .00 g's
 Vector3 in G-s
 X3 Dir = .00 g's Y3 Dir = .00 g's
 Z3 Dir = .26 g's

110 120

Vector1 in G-s
 X1 Dir = .26 g's Y1 Dir = .00 g's
 Z1 Dir = .00 g's
 Vector2 in G-s
 X2 Dir = .00 g's Y2 Dir = .12 g's

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INPUT LISTING

Z2 Dir = .00 g's

Vector3 in G-s

X3 Dir = .00 g's Y3 Dir = .00 g's

Z3 Dir = .26 g's

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INPUT UNITS USED...

UNITS= SI (m NOM/SCH INPUT= ON

LENGTH	inches	x	25.400	=	mm.
FORCE	pounds	x	4.448	=	N.
MASS(dynamics)	pounds	x	0.454	=	Kg.
MOMENTS(INPUT)	inch-pounds	x	0.113	=	N.m.
MOMENTS(OUTPUT)	inch-pounds	x	0.113	=	N.m.
STRESS	lbs./sq.in.	x	6.895	=	KPa
TEMP. SCALE	degrees F.	x	0.556	=	C
PRESSURE	psig	x	6.895	=	KPa
ELASTIC MODULUS	lbs./sq.in.	x	6.895	=	KPa
PIPE DENSITY	lbs./cu.in.	x	0.028	=	kg./cu.cm.
INSULATION DENS.	lbs./cu.in.	x	0.028	=	kg./cu.cm.
FLUID DENSITY	lbs./cu.in.	x	0.028	=	kg./cu.cm.
TRANSL. STIF	lbs./in.	x	1.751	=	N./cm.
ROTATIONAL STIF	in.lb./deg.	x	0.113	=	N.m./deg
UNIFORM LOAD	lb./in.	x	1.751	=	N./cm.
G LOAD	g's	x	1.000	=	g's
WIND LOAD	lbs./sq.in.	x	6.895	=	KPa
ELEVATION	inches	x	0.025	=	m.
COMPOUND LENGTH	inches	x	25.400	=	mm.
DIAMETER	inches	x	25.400	=	mm.
WALL THICKNESS	inches	x	25.400	=	mm.

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SETUP FILE PARAMETERS

```

CONNECT GEOMETRY THRU CNODES = YES
MIN ALLOWED BEND ANGLE = 5.00000
MAX ALLOWED BEND ANGLE = 95.0000
BEND LENGTH ATTACHMENT PERCENT = 1.00000
MIN ANGLE TO ADJACENT BEND PT = 5.00000
LOOP CLOSURE TOLERANCE = 25.4000 mm.
THERMAL BOWING HORZ TOLERANCE = 0.100000E-03
AUTO NODE NUMBER INCREMENT= 10.0000
Z AXIS UP= NO
USE PRESSURE STIFFENING = DEFAULT
ALPHA TOLERANCE = 0.500000E-01
RESLD-FORCE = NO
HGR DEF RESWGT STIF = 0.175127E+13 N./cm.
DECOMP SNG TOL = 0.100000E+11
BEND AXIAL SHAPE = YES
FRICT STIF = 0.175127E+07 N./cm.
FRICT NORM FORCE VAR = 0.150000
FRICT ANGLE VAR = 15.0000
FRICT SLIDE MULT = 1.00000
ROD TOLERANCE = 1.00000
ROD INC = 2.00000
INCORE NUMERICAL CHECK = NO

```

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```

OUTCORE NUMERICAL CHECK = NO
DEFAULT TRANS RESTRAINT STIFF= 0.175127E+13 N./cm.
DEFAULT ROT RESTRAINT STIFF= 0.112985E+12 N.m./deg
IGNORE SPRING HANGER STIFFNESS = NO
MISSING MASS ZPA = EXTRACTED
MIN WALL MILL TOLERANCE = 12.5000
WRC-107 VERSION = MAR 79 1B1/2B1
WRC-107 INTERPOLATION = LAST VALUE
DEFAULT AMBIENT TEMPERATURE= 21.1111 C
BOURDON PRESSURE= NONE
COEFFICIENT OF FRICTION (MU) = 0.000000
INCLUDE SPRG STIF IN HGR OPE = NO
INCLUDE INSULATION IN HYDROTEST = NO
REDUCED INTERSECTION = B31.1(POST1980)
USE WRC329 NO
NO REDUCED SIF FOR RFT AND WLT NO
B31.1 REDUCED Z FIX = YES
CLASS 1 BRANCH FLEX NO
ALL STRESS CASES CORRODED = NO
ADD TORSION IN SL STRESS = DEFAULT
ADD F/A IN STRESS = DEFAULT
OCCASIONAL LOAD FACTOR = 0.000000
DEFAULT CODE = B31.3
B31.3 SUS CASE SIF FACTOR = 0.000000
ALLOW USERS BEND SIF = NO
USE SCHNEIDER NO
YIELD CRITERION STRESS = MAX 3D SHEAR
USE PD/4T NO
BASE HOOP STRESS ON ? = ID
EN13480 USE IN OUTPLANE SIFS= NO
LIBERAL EXPANSION ALLOWABLE= YES
B31.3 SEC 319.2.3C SAXIAL= Default
B31.3 WELDING/CONTOUR TEE ISB16.9 FALSE
PRESSURE VARIATION IN EXP CASE= DEFAULT
IMPLEMENT B313 APP-P NO
IMPLEMENT B313 CODE CASE 178 YES
IGNORE B31.1/B31.3 Wc FACTOR= YES
USE FRP SIF = YES
USE FRP FLEX = YES
BS 7159 Pressure Stiffening= Design Strain
FRP Property Data File= CAESAR.FRP
FRP Emod (axial) = 0.220632E+08 KPa
FRP Ratio Gmod/Emod (axial) = 0.250000
FRP Ea/Eh*Vh/a = 0.152730
FRP Laminate Type = THREE
FRP Alpha = 21.6000 C
FRP Density = 0.166079E-02 kg./cu.cm.
EXCLUDE f2 FROM UK00A BENDING = NO
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```

EXECUTION CONTROL PARAMETERS

```

Rigid/ExpJt Print Flag ..... 1.000
Bourdon Option ..... .000

```


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```

Loop Closure Flag ..... 2.000
Thermal Bowing Delta Temp .. .000 C
Liberal Allowable Flag ..... 1.000
Uniform Load Option ..... 1.000

Ambient Temperature ..... 20.997 C
Plastic (FRP) Alpha ..... 21.600
Plastic (FRP) GMOD/EMODa ... .250
Plastic (FRP) Laminate Type. 3.000
Eqn Optimizer ..... .000
Node Selection ..... .000
Eqn Ordering ..... .000
Collins ..... .000
Degree Determination ..... .000
User Eqn Control ..... .000
North Direction ..... -X

```

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COORDINATE REPORT

```

/------(mm.)-----/
NODE      X          Y          Z
10      -17845.879    -4831.209    14357.777
20      -17845.879    -4831.209    14500.652
30      -17845.879    -4831.209    14643.527
40      -17845.879    -4831.209    15012.527
50      -17845.879    -4831.209    15436.527
60      -17845.879    -4831.209    21012.527
70      -17845.879    -4831.209    23012.527
80      -17845.879    -4831.209    27012.527
90      -17845.879    -4831.209    33012.527
100     -17845.879    -4831.209    39012.527
110     -17845.879    -4831.209    45012.527
120     -17845.879    -4831.209    45353.527
130     -17845.879    -4831.209    50929.527
140     -17845.879    -4831.209    52929.527
150     -17845.879    -4831.209    56929.527
160     -17845.879    -4831.209    62929.527
170     -17845.879    -4831.209    68929.531
180     -17845.879    -4831.209    74929.531
190     -17845.879    -4831.209    76129.531
200     -17511.879    -5165.209    76129.531
205     -16695.879    -5165.209    76129.531
210     -10848.879    -5165.209    76129.531
220      -7748.879    -5165.209    76129.531
230      -7621.879    -5165.209    76129.531
240      -6993.879    -5165.209    76129.531
260      -6866.879    -5165.209    76129.531
270      -6715.879    -5165.209    76129.531
280      -6243.879    -5165.209    76129.531
290      -6243.879    -7015.209    76129.531
300      -6243.879    -8195.209    76129.531

```

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS 2
Restraint Summary : Multiple.....3

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

- 1 (HYD) WW+HP
- 2 (OPE) W+T1+P1
- 3 (Alt-SUS) W+P1
- 4 (OPE) W+T2+P1
- 5 (Alt-SUS) W+P1
- 6 (SUS) W+P1
- 7 (SUS) WNC
- 8 (OPE) W+T2+P1+U1
- 9 (OPE) W+T2+P1-U1
- 10 (OPE) W+T2+P1+U2
- 11 (OPE) W+T2+P1-U2
- 12 (OPE) W+T2+P1+U3
- 13 (OCC) L13=L8-L2
- 14 (OCC) L14=L9-L2
- 15 (OCC) L15=L10-L2
- 16 (OCC) L16=L11-L2
- 17 (OCC) L17=L12-L2
- 18 (OCC) L18=L13+L6
- 19 (OCC) L19=L14+L6
- 20 (OCC) L20=L15+L6
- 21 (OCC) L21=L16+L6
- 22 (OCC) L22=L17+L6
- 23 (EXP) L23=L2-L6
- 24 (EXP) L24=L4-L6
- 25 (EXP) L25=L2-L4

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

LOAD CASE DEFINITION KEY

CASE 1 (HYD) WW+HP
CASE 2 (OPE) W+T1+P1
CASE 4 (OPE) W+T2+P1
CASE 6 (SUS) W+P1
CASE 7 (SUS) WNC
CASE 8 (OPE) W+T2+P1+U1
CASE 9 (OPE) W+T2+P1-U1
CASE 10 (OPE) W+T2+P1+U2
CASE 11 (OPE) W+T2+P1-U2
CASE 12 (OPE) W+T2+P1+U3
CASE 13 (OCC) L13=L8-L2
CASE 14 (OCC) L14=L9-L2
CASE 15 (OCC) L15=L10-L2
CASE 16 (OCC) L16=L11-L2
CASE 17 (OCC) L17=L12-L2

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
40		TYPE=Rigid +Y; Rigid X w/gap;					
	1(HYD)	-0	-2503	0	0	0	0
	2(OPE)	-0	-2092	-627	0	0	0
	4(OPE)	0	-2092	-627	0	0	0
	6(SUS)	-0	-2092	0	0	0	0
	7(SUS)	-0	-2058	0	0	0	0
	8(OPE)	681	-2092	-510	0	0	0
	9(OPE)	-686	-2092	-502	0	0	0
	10(OPE)	0	-1841	-552	0	0	0
	11(OPE)	-0	-2343	-703	0	0	0
	12(OPE)	-0	-2092	-627	0	0	0
	13(OCC)	681	0	118	0	0	0
	14(OCC)	-686	0	125	0	0	0
	15(OCC)	0	251	75	0	0	0
	16(OCC)	0	-251	-75	0	0	0
	17(OCC)	0	0	0	0	0	0
	MAX	-686/L9	-2503/L1	-703/L11			
60		TYPE=Rigid +Y;					
	1(HYD)	0	-3011	0	0	0	0
	2(OPE)	0	-2087	0	0	0	0
	4(OPE)	0	-2087	0	0	0	0
	6(SUS)	0	-2087	0	0	0	0
	7(SUS)	0	-2014	0	0	0	0
	8(OPE)	0	-2087	0	0	0	0
	9(OPE)	0	-2087	0	0	0	0
	10(OPE)	0	-1837	0	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	11(OPE)	0	-2338	0	0	0	0
	12(OPE)	0	-2087	0	0	0	0
	13(OCC)	0	-0	0	0	0	0
	14(OCC)	0	-0	0	0	0	0
	15(OCC)	0	250	0	0	0	0
	16(OCC)	0	-250	0	0	0	0
	17(OCC)	0	-0	0	0	0	0
	MAX		-3011/L1				
80		TYPE=Rigid +Y; Rigid X w/gap;					
	1(HYD)	0	-2740	0	0	0	0
	2(OPE)	0	-1946	-584	0	0	0
	4(OPE)	0	-1946	-584	0	0	0
	6(SUS)	0	-1946	0	0	0	0
	7(SUS)	0	-1883	0	0	0	0
	8(OPE)	1152	-1946	-878	0	0	0
	9(OPE)	-1118	-1946	-863	0	0	0
	10(OPE)	0	-1713	-514	0	0	0
	11(OPE)	0	-2180	-654	0	0	0
	12(OPE)	0	-1946	-584	0	0	0
	13(OCC)	1152	0	-294	0	0	0
	14(OCC)	-1118	0	-279	0	0	0
	15(OCC)	-0	234	70	0	0	0
	16(OCC)	-0	-234	-70	0	0	0
	17(OCC)	-0	0	0	0	0	0
	MAX	1152/L8	-2740/L1	-878/L8			
90		TYPE=Rigid +Y;					
	1(HYD)	-0	-2810	0	0	0	0
	2(OPE)	1	-1982	-595	0	0	0
	4(OPE)	-0	-1982	-595	0	0	0
	6(SUS)	-0	-1982	0	0	0	0
	7(SUS)	-0	-1917	0	0	0	0
	8(OPE)	177	-1982	-568	0	0	0
	9(OPE)	-186	-1982	-565	0	0	0
	10(OPE)	-0	-1745	-523	0	0	0
	11(OPE)	0	-2220	-666	0	0	0
	12(OPE)	0	-1982	-595	0	0	0
	13(OCC)	176	-0	27	0	0	0
	14(OCC)	-186	-0	30	0	0	0
	15(OCC)	-1	238	71	0	0	0
	16(OCC)	-0	-238	-71	0	0	0
	17(OCC)	-0	-0	-0	0	0	0
	MAX	-186/L14	-2810/L1	-666/L11			

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
100		TYPE=Rigid +Y; Rigid X w/gap;					
	1(HYD)	0	-2800	0	0	0	0
	2(OPE)	1	-1979	-594	0	0	0
	4(OPE)	-0	-1978	-594	0	0	0
	6(SUS)	0	-1978	0	0	0	0
	7(SUS)	0	-1913	0	0	0	0
	8(OPE)	623	-1978	-645	0	0	0
	9(OPE)	-562	-1978	-601	0	0	0
	10(OPE)	-0	-1741	-522	0	0	0
	11(OPE)	-0	-2216	-665	0	0	0
	12(OPE)	-1	-1978	-594	0	0	0
	13(OCC)	622	0	-51	0	0	0
	14(OCC)	-564	0	-7	0	0	0
	15(OCC)	-2	238	71	0	0	0
	16(OCC)	-1	-237	-71	0	0	0
	17(OCC)	-3	0	0	0	0	0
	MAX	623/L8	-2800/L1	-665/L11			
110		TYPE=Rigid +Y; Rigid X w/gap; Rigid Z w/gap;					
	1(HYD)	-1	-2773	0	0	0	0
	2(OPE)	-924	-1958	-3650	0	0	0
	4(OPE)	-2	-1959	-588	0	0	0
	6(SUS)	-0	-1959	0	0	0	0
	7(SUS)	-0	-1894	0	0	0	0
	8(OPE)	430	-1959	-400	0	0	0
	9(OPE)	-492	-1959	-321	0	0	0
	10(OPE)	-2	-1724	-517	0	0	0
	11(OPE)	-39	-2194	-779	0	0	0
	12(OPE)	-556	-1959	4920	0	0	0
	13(OCC)	1354	-1	3249	0	0	0
	14(OCC)	432	-0	3329	0	0	0
	15(OCC)	922	235	3132	0	0	0
	16(OCC)	885	-236	2871	0	0	0
	17(OCC)	368	-1	8569	0	0	0
	MAX	1354/L13	-2773/L1	8569/L17			
130		TYPE=Rigid +Y;					
	1(HYD)	2	-2774	0	0	0	0
	2(OPE)	9	-1962	588	0	0	0
	4(OPE)	9	-1960	588	0	0	0
	6(SUS)	2	-1960	0	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	7(SUS)	2	-1895	0	0	0	0
	8(OPE)	537	-1960	239	0	0	0
	9(OPE)	-491	-1960	324	0	0	0
	10(OPE)	10	-1725	517	0	0	0
	11(OPE)	6	-2195	659	0	0	0
	12(OPE)	8	-1960	588	0	0	0
	13(OCC)	528	2	-349	0	0	0
	14(OCC)	-500	2	-265	0	0	0
	15(OCC)	1	237	-71	0	0	0
	16(OCC)	-2	-233	70	0	0	0
	17(OCC)	-1	2	-1	0	0	0
	MAX	537/L8	-2774/L1	659/L11			
150		TYPE=Rigid +Y; Rigid X w/gap;					
	1(HYD)	-9	-2796	1	0	0	0
	2(OPE)	216	-1967	633	0	0	0
	4(OPE)	20	-1974	592	0	0	0
	6(SUS)	-6	-1975	1	0	0	0
	7(SUS)	-6	-1910	1	0	0	0
	8(OPE)	695	-1975	610	0	0	0
	9(OPE)	-677	-1974	637	0	0	0
	10(OPE)	18	-1737	521	0	0	0
	11(OPE)	24	-2211	663	0	0	0
	12(OPE)	17	-1975	592	0	0	0
	13(OCC)	478	-7	-23	0	0	0
	14(OCC)	-893	-6	5	0	0	0
	15(OCC)	-198	230	-112	0	0	0
	16(OCC)	-192	-244	30	0	0	0
	17(OCC)	-199	-8	-40	0	0	0
	MAX	-893/L14	-2796/L1	663/L11			
160		TYPE=Rigid +Y;					
	1(HYD)	34	-2825	4	0	0	0
	2(OPE)	103	-2023	598	0	0	0
	4(OPE)	-10	-1998	599	0	0	0
	6(SUS)	24	-1995	3	0	0	0
	7(SUS)	23	-1929	3	0	0	0
	8(OPE)	353	-1996	484	0	0	0
	9(OPE)	-234	-1999	552	0	0	0
	10(OPE)	-9	-1759	528	0	0	0
	11(OPE)	-14	-2237	671	0	0	0
	12(OPE)	-5	-1995	598	0	0	0
	13(OCC)	251	27	-115	0	0	0
	14(OCC)	-337	24	-46	0	0	0
	15(OCC)	-111	264	-71	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	16(OCC)	-117	-214	73	0	0	0
	17(OCC)	-107	29	0	0	0	0
	MAX	353/L8	-2825/L1	671/L11			
170		TYPE=Rigid +Y; Rigid X w/gap;					
	1(HYD)	-127	-2685	12	0	0	0
	2(OPE)	-1566	-1794	999	0	0	0
	4(OPE)	-188	-1887	576	0	0	0
	6(SUS)	-89	-1898	9	0	0	0
	7(SUS)	-86	-1835	8	0	0	0
	8(OPE)	342	-1894	612	0	0	0
	9(OPE)	-1061	-1885	830	0	0	0
	10(OPE)	-192	-1659	513	0	0	0
	11(OPE)	-150	-2117	617	0	0	0
	12(OPE)	-219	-1901	599	0	0	0
	13(OCC)	1908	-101	-387	0	0	0
	14(OCC)	505	-91	-169	0	0	0
	15(OCC)	1374	135	-486	0	0	0
	16(OCC)	1416	-324	-382	0	0	0
	17(OCC)	1347	-107	-400	0	0	0
	MAX	1908/L13	-2685/L1	999/L2			
180		TYPE=Rigid +Y;					
	1(HYD)	726	-3392	39	0	0	0
	2(OPE)	-283	-2526	703	0	0	0
	4(OPE)	-256	-2388	669	0	0	0
	6(SUS)	508	-2392	27	0	0	0
	7(SUS)	490	-2312	27	0	0	0
	8(OPE)	-235	-2360	668	0	0	0
	9(OPE)	-280	-2405	665	0	0	0
	10(OPE)	-231	-2107	589	0	0	0
	11(OPE)	-320	-2668	734	0	0	0
	12(OPE)	-222	-2381	679	0	0	0
	13(OCC)	48	166	-35	0	0	0
	14(OCC)	3	122	-38	0	0	0
	15(OCC)	53	419	-114	0	0	0
	16(OCC)	-37	-141	31	0	0	0
	17(OCC)	62	145	-24	0	0	0
	MAX	726/L1	-3392/L1	734/L11			
210		TYPE=Rigid +Y; Rigid Z w/gap;					
	1(HYD)	-578	-3654	-111	0	0	0
	2(OPE)	-2042	-1271	5668	0	0	0

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	4(OPE)	-523	-2348	472	0	0	0
	6(SUS)	-481	-2627	-78	0	0	0
	7(SUS)	-473	-2545	-75	0	0	0
	8(OPE)	-534	-2387	477	0	0	0
	9(OPE)	-538	-2325	444	0	0	0
	10(OPE)	-446	-2024	412	0	0	0
	11(OPE)	-656	-2674	462	0	0	0
	12(OPE)	-680	-2340	1178	0	0	0
	13(OCC)	1509	-1116	-5191	0	0	0
	14(OCC)	1505	-1054	-5224	0	0	0
	15(OCC)	1597	-753	-5256	0	0	0
	16(OCC)	1386	-1403	-5207	0	0	0
	17(OCC)	1362	-1069	-4490	0	0	0
	MAX	-2042/L2	-3654/L1	5668/L2			
240		TYPE=Rigid ANC;					
	1(HYD)	-48	-3801	54	111	82	408
	2(OPE)	3661	-5060	-3376	532	-3908	4511
	4(OPE)	962	-4047	-111	163	881	1448
	6(SUS)	43	-3756	38	78	57	536
	7(SUS)	51	-3751	37	76	56	545
	8(OPE)	3226	-4031	-80	174	913	1428
	9(OPE)	-1158	-4056	-101	158	810	1459
	10(OPE)	866	-3600	-73	151	963	1390
	11(OPE)	1212	-4493	-176	167	550	1506
	12(OPE)	1090	-4052	871	150	1217	1456
	13(OCC)	-435	1029	3296	-358	4822	-3083
	14(OCC)	-4819	1004	3275	-374	4719	-3052
	15(OCC)	-2795	1460	3303	-382	4872	-3121
	16(OCC)	-2449	567	3200	-366	4459	-3005
	17(OCC)	-2571	1008	4248	-382	5126	-3055
	MAX	-4819/L14	-5060/L2	4248/L17	532/L2	5126/L17	4511/L2
270		TYPE=Rigid ANC;					
	1(HYD)	-48	-4259	54	111	97	1553
	2(OPE)	3661	-5484	-3376	532	-4847	6002
	4(OPE)	962	-4471	-111	163	851	2657
	6(SUS)	43	-4180	38	78	68	1664
	7(SUS)	51	-4172	37	76	66	1672
	8(OPE)	3336	-4455	-80	174	891	2633
	9(OPE)	-1268	-4480	-101	158	782	2671
	10(OPE)	866	-3973	-73	151	943	2465
	11(OPE)	1212	-4968	-176	167	501	2850
	12(OPE)	1090	-4475	982	150	1482	2666
	13(OCC)	-325	1029	3296	-358	5738	-3369
	14(OCC)	-4929	1004	3275	-374	5629	-3331

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RESTRAINT SUMMARY REPORT: Loads On Restraints

Various Load Cases

Node	Load Case	FX N.	FY N.	FZ N.	MX N.m.	MY N.m.	MZ N.m.
	15(OCC)	-2795	1511	3303	-382	5790	-3537
	16(OCC)	-2449	516	3200	-366	5348	-3152
	17(OCC)	-2571	1008	4358	-382	6329	-3336
	MAX	-4929/L14	-5484/L2	4358/L17	532/L2	6329/L17	6002/L2
300		TYPE=Rigid ANC;					
	1(HYD)	-48	-4259	54	275	123	3707
	2(OPE)	3661	-5484	-3376	-9697	-6440	-2503
	4(OPE)	962	-4471	-111	-174	798	1853
	6(SUS)	43	-4180	38	193	86	3505
	7(SUS)	51	-4172	37	186	83	3488
	8(OPE)	3336	-4455	-80	-69	853	-5373
	9(OPE)	-1268	-4480	-101	-148	735	8626
	10(OPE)	866	-3973	-73	-71	908	1716
	11(OPE)	1212	-4968	-176	-366	418	1521
	12(OPE)	1090	-4475	982	3124	1945	1475
	13(OCC)	-325	1029	3296	9628	7293	-2869
	14(OCC)	-4929	1004	3275	9549	7175	11130
	15(OCC)	-2795	1511	3303	9626	7349	4220
	16(OCC)	-2449	516	3200	9331	6859	4024
	17(OCC)	-2571	1008	4358	12822	8385	3979
	MAX	-4929/L14	-5484/L2	4358/L17	12822/L17	8385/L17	11130/L14

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS 2
Stress Summary : Multiple 3

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

- 1 (HYD) WW+HP
- 2 (OPE) W+T1+P1
- 3 (Alt-SUS) W+P1
- 4 (OPE) W+T2+P1
- 5 (Alt-SUS) W+P1
- 6 (SUS) W+P1
- 7 (SUS) WNC
- 8 (OPE) W+T2+P1+U1
- 9 (OPE) W+T2+P1-U1
- 10 (OPE) W+T2+P1+U2
- 11 (OPE) W+T2+P1-U2
- 12 (OPE) W+T2+P1+U3
- 13 (OCC) L13=L8-L2
- 14 (OCC) L14=L9-L2
- 15 (OCC) L15=L10-L2
- 16 (OCC) L16=L11-L2
- 17 (OCC) L17=L12-L2
- 18 (OCC) L18=L13+L6
- 19 (OCC) L19=L14+L6
- 20 (OCC) L20=L15+L6
- 21 (OCC) L21=L16+L6
- 22 (OCC) L22=L17+L6
- 23 (EXP) L23=L2-L6
- 24 (EXP) L24=L4-L6
- 25 (EXP) L25=L2-L4

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
 Various Load Cases

LOAD CASE DEFINITION KEY

CASE 1 (HYD) WW+HP
 CASE 3 (Alt-SUS) W+P1
 CASE 5 (Alt-SUS) W+P1
 CASE 6 (SUS) W+P1
 CASE 7 (SUS) WNC
 CASE 18 (OCC) L18=L13+L6
 CASE 19 (OCC) L19=L14+L6
 CASE 20 (OCC) L20=L15+L6
 CASE 21 (OCC) L21=L16+L6
 CASE 22 (OCC) L22=L17+L6
 CASE 23 (EXP) L23=L2-L6
 CASE 24 (EXP) L24=L4-L6
 CASE 25 (EXP) L25=L2-L4

Piping Code: B31.3 = B31.3 -2016, Jan 31, 2017

CODE STRESS CHECK PASSED : LOADCASE 1 (HYD) WW+HP

Highest Stresses: (	KPa	)	LOADCASE 1 (HYD) WW+HP	
Ratio (%):	38.0	@Node	210	
Code Stress:	65531.8	Allowable Stress:		172368.9
Axial Stress:	48515.6	@Node	190	
Bending Stress:	17213.2	@Node	210	
Torsion Stress:	437.4	@Node	189	
Hoop Stress:	100724.6	@Node	40	
Max Stress Intensity:	114883.4	@Node	210	

CODE STRESS CHECK PASSED : LOADCASE 3 (Alt-SUS) W+P1

Highest Stresses: (	KPa	)	LOADCASE 3 (Alt-SUS) W+P1	
Ratio (%):	39.6	@Node	210	
Code Stress:	44272.2	Allowable Stress:		111903.8
Axial Stress:	32267.8	@Node	190	
Bending Stress:	12171.6	@Node	210	
Torsion Stress:	291.6	@Node	200	
Hoop Stress:	67149.7	@Node	40	
Max Stress Intensity:	76589.4	@Node	210	

CODE STRESS CHECK PASSED : LOADCASE 5 (Alt-SUS) W+P1

Highest Stresses: (	KPa	)	LOADCASE 5 (Alt-SUS) W+P1	
Ratio (%):	39.6	@Node	210	
Code Stress:	44267.4	Allowable Stress:		111903.8
Axial Stress:	32269.2	@Node	190	
Bending Stress:	12164.9	@Node	210	
Torsion Stress:	292.8	@Node	200	
Hoop Stress:	67149.7	@Node	40	
Max Stress Intensity:	76589.4	@Node	210	

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
Various Load Cases

CODE STRESS CHECK PASSED : LOADCASE 6 (SUS) W+P1

Highest Stresses: (	KPa	)	LOADCASE 6 (SUS) W+P1	
Ratio (%):	39.4	@Node	270	
Code Stress:	44045.3	Allowable Stress:		111903.8
Axial Stress:	32356.7	@Node	190	
Bending Stress:	11960.5	@Node	270	
Torsion Stress:	306.8	@Node	189	
Hoop Stress:	67149.7	@Node	40	
Max Stress Intensity:	76589.2	@Node	210	

CODE STRESS CHECK PASSED : LOADCASE 7 (SUS) WNC

Highest Stresses: (	KPa	)	LOADCASE 7 (SUS) WNC	
Ratio (%):	10.8	@Node	270	
Code Stress:	12043.5	Allowable Stress:		111903.8
Axial Stress:	254.5	@Node	190	
Bending Stress:	12017.1	@Node	270	
Torsion Stress:	296.4	@Node	189	
Hoop Stress:	0.0	@Node	20	
Max Stress Intensity:	12043.5	@Node	270	

CODE STRESS CHECK PASSED : LOADCASE 18 (OCC) L18=L13+L6

Highest Stresses: (	KPa	)	LOADCASE 18 (OCC) L18=L13+L6	
Ratio (%):	68.1	@Node	210	
Code Stress:	101428.3	Allowable Stress:		148832.1
Axial Stress:	32915.3	@Node	120	
Bending Stress:	73258.0	@Node	188	
Torsion Stress:	13057.1	@Node	190	
Hoop Stress:	67149.7	@Node	40	
Max Stress Intensity:	148349.1	@Node	188	

CODE STRESS CHECK PASSED : LOADCASE 19 (OCC) L19=L14+L6

Highest Stresses: (	KPa	)	LOADCASE 19 (OCC) L19=L14+L6	
Ratio (%):	68.6	@Node	210	
Code Stress:	102042.8	Allowable Stress:		148832.1
Axial Stress:	33450.0	@Node	270	
Bending Stress:	78128.9	@Node	188	
Torsion Stress:	14252.3	@Node	190	
Hoop Stress:	67149.7	@Node	40	
Max Stress Intensity:	153239.9	@Node	188	

CODE STRESS CHECK PASSED : LOADCASE 20 (OCC) L20=L15+L6

Highest Stresses: (	KPa	)	LOADCASE 20 (OCC) L20=L15+L6	
Ratio (%):	68.1	@Node	210	
Code Stress:	101398.2	Allowable Stress:		148832.1
Axial Stress:	32968.0	@Node	120	
Bending Stress:	77425.8	@Node	188	

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement
 Various Load Cases

Torsion Stress:	14047.9	@Node	190
Hoop Stress:	67149.7	@Node	40
Max Stress Intensity:	152531.3	@Node	188

CODE STRESS CHECK PASSED : LOADCASE 21 (OCC) L21=L16+L6

Highest Stresses: (KPa)	LOADCASE 21 (OCC) L21=L16+L6		
Ratio (%):	68.4	@Node	210
Code Stress:	101741.6	Allowable Stress:	148832.1
Axial Stress:	32842.2	@Node	189
Bending Stress:	78342.1	@Node	188
Torsion Stress:	14145.3	@Node	190
Hoop Stress:	67149.7	@Node	40
Max Stress Intensity:	153450.7	@Node	188

CODE STRESS CHECK PASSED : LOADCASE 22 (OCC) L22=L17+L6

Highest Stresses: (KPa)	LOADCASE 22 (OCC) L22=L17+L6		
Ratio (%):	65.0	@Node	210
Code Stress:	96723.8	Allowable Stress:	148832.1
Axial Stress:	33641.1	@Node	110
Bending Stress:	76486.2	@Node	188
Torsion Stress:	13701.6	@Node	190
Hoop Stress:	67149.7	@Node	40
Max Stress Intensity:	151651.6	@Node	188

CODE STRESS CHECK PASSED : LOADCASE 23 (EXP) L23=L2-L6

Highest Stresses: (KPa)	LOADCASE 23 (EXP) L23=L2-L6		
Ratio (%):	37.4	@Node	188
Code Stress:	93478.9	Allowable Stress:	250188.9
Axial Stress:	1668.8	@Node	120
Bending Stress:	92830.2	@Node	188
Torsion Stress:	17327.9	@Node	190
Hoop Stress:	0.0	@Node	20
Max Stress Intensity:	93478.9	@Node	188

CODE STRESS CHECK PASSED : LOADCASE 24 (EXP) L24=L4-L6

Highest Stresses: (KPa)	LOADCASE 24 (EXP) L24=L4-L6		
Ratio (%):	7.3	@Node	189
Code Stress:	18474.4	Allowable Stress:	254000.7
Axial Stress:	899.5	@Node	120
Bending Stress:	17861.4	@Node	188
Torsion Stress:	3639.8	@Node	190
Hoop Stress:	0.0	@Node	20
Max Stress Intensity:	18474.4	@Node	189

CODE STRESS CHECK PASSED : LOADCASE 25 (EXP) L25=L2-L4

Highest Stresses: (KPa)	LOADCASE 25 (EXP) L25=L2-L4		
Ratio (%):	30.2	@Node	188

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STRESS SUMMARY REPORT: Highest Stresses Mini Statement

Various Load Cases

Code Stress:	75504.3	Allowable Stress:	250188.9
Axial Stress:	769.2	@Node	120
Bending Stress:	74970.1	@Node	188
Torsion Stress:	13688.0	@Node	190
Hoop Stress:	0.0	@Node	20
Max Stress Intensity:	75504.3	@Node	188

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LISTING OF STATIC LOAD CASES FOR THIS ANALYSIS

- 1 (HYD) WW+HP
- 2 (OPE) W+T1+P1
- 3 (Alt-SUS) W+P1
- 4 (OPE) W+T2+P1
- 5 (Alt-SUS) W+P1
- 6 (SUS) W+P1
- 7 (SUS) WNC
- 8 (OPE) W+T2+P1+U1
- 9 (OPE) W+T2+P1-U1
- 10 (OPE) W+T2+P1+U2
- 11 (OPE) W+T2+P1-U2
- 12 (OPE) W+T2+P1+U3
- 13 (OCC) L13=L8-L2
- 14 (OCC) L14=L9-L2
- 15 (OCC) L15=L10-L2
- 16 (OCC) L16=L11-L2
- 17 (OCC) L17=L12-L2
- 18 (OCC) L18=L13+L6
- 19 (OCC) L19=L14+L6
- 20 (OCC) L20=L15+L6
- 21 (OCC) L21=L16+L6
- 22 (OCC) L22=L17+L6
- 23 (EXP) L23=L2-L6
- 24 (EXP) L24=L4-L6
- 25 (EXP) L25=L2-L4

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NOZZLE CHECK REPORT: Nozzle Loads Screening

Various Load Cases

LOAD CASE DEFINITION KEY

CASE 2 (OPE) W+T1+P1

CASE 4 (OPE) W+T2+P1

CASE 6 (SUS) W+P1

CASE 7 (SUS) WNC

Node		fa N.	fb N.	fc N.	Forces Check	ma N.m.	mb N.m.	mc N.m.	Moments Check	
270		Absolute Method								
	Limits	9600	9600	7200		4320	2880	3740		
	2(OPE)	3661	-5484	-3376	0.571	532	-4847	6002	1.683	*
	4(OPE)	962	-4471	-111	0.466	163	851	2657	0.710	
	6(SUS)	43	-4180	38	0.435	78	68	1664	0.445	
	7(SUS)	51	-4172	37	0.435	76	66	1672	0.447	