



NISOC

نگهداشت و افزایش تولید میدان نفتی بینک
سطح الارض

احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک

MECHANICAL DATA SHEETS FOR LEAN GLYCOL STORAGE TANK



شماره پیمان:

۰۵۳ - ۰۷۳ - ۹۱۸۴

پروژه

بسته کاری

صادر کننده

تسهیلات

رشته

نوع مدرک

سریال

نسخه

BK

GCS

PEDCO

120

ME

DT

0016

D03

شماره صفحه: ۱ از ۷

طرح نگهداشت و افزایش تولید ۲۷ مخزن

MECHANICAL DATA SHEETS FOR LEAN GLYCOL STORAGE TANK

نگهداشت و افزایش تولید میدان نفتی بینک

Rev.	Date	Purpose of Issue / Status	Prepared by:	Checked by:	Approved by:	CLIENT Approval
D03	APR.2024	AFC	H.Ghadyani	M.Fakharian	S.Faramarzpour	
D02	AUG.2023	IFA	H.Ghadyani	M.Fakharian	M.A.Mohseni	
D01	DEC.2021	IFA	H.Adineh	M.Fakharian	M.Mehrshad	
D00	NOV.2021	IFC	H.Adineh	M.Fakharian	M.Mehrshad	

Class: : 1

CLIENT Doc. Number: F0Z-708847

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



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نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	پروژه
D03	0016	DT	ME	120	PEDCO	GCS	BK

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REVISION RECORD SHEET

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3	X	X	X	X	
4	X	X	X	X	
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General Notes

- The asterisk * denotes information and/or confirmation required from vendor. the vendor shall be fully responsible for design and supply of the tank. the tank shall be supplied in accordance with project "Specification For Atmospheric Above Ground Welded Steel Tanks.
- To be finalized/specified by VENDOR.
- The VENDOR/BIDDER shall design and supply the storage tank in accordance with "Specification For Atmospheric Above Ground Welded Steel Tanks" , Document No.: "BK-GNRRAL-PEDCO-000-ME-SP-0002" and "Standard Detail Drawing For Storage Tanks", Document No.: BK-GNRRAL-PEDCO-000-ME-DW-0002'. VENDOR/BIDDER shall provide completed datasheets with bid.
- Tank height shall be checked based on Freeboard calculation by vendor.
- The VENDOR/BIDDER shall be fully responsible for the complete mechanical design of the tank.
- External and internal surface of tank shall be coated in accordance with BK-GNRRAL-PEDCO-000-PI-SP-0006 & BK-GNRRAL-PEDCO-000-PI-SP-0007 respectively.
- All materials fc APR.2024 AFC
- For standard detail of earth lug execution refer to the project "standard detail drawing for storage tanks Doc. NO. "BK-GNERL-PEDCO-000-ME-DW-0002" and provide minimum two earthing terminals.
- Manways shall be supplied complete with blind flange, external grab handles, internal grab handle and ladder rungs, nuts, bolting, gasket and proof load test davits. Davits shall be proof load tested on the vessel to 1.5 x Safe Working Load (SWL) and shall be marked accordingly.
- Instrument and piping nozzle flanges shall be in accordance with ASME B 16.5.
- Minimum width of shell courses plates shall be 1.5 m.
- Stairways shall meet the requirements of for IPS-G-ME-100 (Sec. 3.8.10), IPS-D-CE-141 & IPS-D-CE-142 and IPS-E-SF-400. The angle of stairways to horizontal plane shall not exceed 45°.
- Stand pipe connections on equipment shall be at least 3", 150# and for instruments installation on the stand pipe at least 2", 300# flanges shall be considered as per BK-GNRRAL-PEDCO-000-IN-SP-0001.
- If any imposed load (by nozzles or their connections) causes high local stress in any part of shell and roof, the subjected component shall be investigated according to appendix 'P' of API Std. 650.
- Cone roof angle and roof plates joint shall be so selected that tank roof plate thickness will not be greater than 12mm.
- All nozzles equal / greater than 2" shall have reinforcement pad.
- All nozzles connection weld to tank shall be with full penetration.
- Necessity of wind girder and stiffening ring will be finalized by vendor.
- Allowable stress of anchor bolts shall not be greater than those are recommended in API 650 standard.
- The requirement of internal and external cathodic protection shall be considered by VENDOR.
- Seal materials shall have enough resistance against temperature changes, expansion & contraction, fluid weight changes and etc.
- Will be specified later.
- All dimensions are in "mm" unless otherwise specified.
- Vent size and quantity shall be specified/verified by vendor according to API 2000.
- Projection of Horizontal and Vertical nozzles are specified from tank centerline and top of top angle (roof line) respectively.
- For standard detail of earth lug execution refer to the project "standard detail drawing for storage tanks DOC. NO. "BK-GNRRAL-PEDCO-000-ME-DW-0002" and provide minimum two earthing terminals and two cables per tank.
- All actual thicknesses shall be checked and calculated by vendor under mechanical guarantee accordingly.
- All nozzle loads shall not be less than specified values in the "Specification For Atmospheric Above Ground Welded Steel Tanks" , Welded Steel Tanks" , Document No.: "BK-GNRRAL-PEDCO-000-ME-SP-0002"



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GENERAL INFORMATION (TO BE COMPLETED BY PURCHASER)

Rev.

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1	1. PURCHASER / AGENT: <i>NISOC</i>							
2	ADDRESS:							
3	CITY:	<i>Bushehr</i>	PROV.:	POSTAL CODE:	PHONE:			
4	2. USER:							
5	3. ERECTION SITE:		NAME OF PLANT: <i>Binak</i>					
6	LOCATION: <i>BINAK, 20 km NORTHWEST of GENAVEH CITY</i>							
7	4. TANK NO. <i>TK-2102</i>	NOMINAL CAPACITY:	<i>62</i>	m ³	NET WORKING CAPACITY:	<i>44</i>	m ³	
8	QTY. REQ'D: <i>1 Sets</i>	OVERFILL PROTECTION (API RP 2350):					m	
9	5. PUMPING RATES:	IN	<i>3.3</i>	(Note(22))	m ³ /hr	OUT	<i>5.5</i>	
							(Note(22)) m ³ /hr	
10	6. MIN./MAX. OPERATING TEMPERATURE:		<i>AMB.</i>					°C
								OPERATING PRESSURE <i>0.01-0.05 barg</i>
11	7. PRODUCT STORED: <i>Lean Glycol Storage Tank</i>				DESIGN SPEC. GRAVITY:	<i>1.1</i>	AT <i>163</i>	
							°C	
12	DESIGN TEMPERATURE:		<i>85</i>		°C	VAPOR PRESSURE:		
						kPa		
13	8. CORROSION ALLOWANCE:							
14	SHELL:		<i>3.2</i>		mm	ROOF:	<i>1.6</i>	
							mm	
15	BOTTOM:		<i>3.2</i>		mm	STRUCTURALS:	-	
							mm	
16	9. SHELL DESIGN: BASIC STANDARD API 650							
				<i>YES</i>	APPENDIX A	<i>YES</i>	APPENDIX F	
				<i>YES</i>	APPENDIX F	<i>YES</i>	IPS-G-ME-100	
				<i>YES</i>	IPS-G-ME-100	<i>YES</i>	IPS-G-ME-110	
17	DESIGN PRESSURE : <i>Full of Liquid +160 mbarg /-7mbarg</i>							
18	10. ROOF DESIGN: BASIC STANDARD API 650							
				<i>YES</i>	IPS-G-ME-100	<i>YES</i>	IPS-G-ME-110	
				<i>NO</i>		<i>NO</i>		
19	APR.2024		APF AFC		<i>NO</i>			
20			FRANGIBLE ROOF JOINT		<i>NO</i>			
21	11. ROOF DESIGN INFORMATION:							
22	UNIFORM LIVE LOAD:		<i>1.2</i>		kPa (g)			
23	SPECIAL LOADS (PROVIDE SKETCH):				kPa (g)			
24	INSULATION LOAD:		<i>-</i>		kPa (g)			
25	MAXIMUM DESIGN ROOF TEMPERATURE:				°C			
26	GASES IN THE VAPOUR SPACE:							
27								
28	12. EARTHQUAKE DESIGN :							
				(APPENDIX E)	ROOF TIE RODS (5.10.4.5) :			
29	SEISMIC ZONE:		<i>(ASCE7-10)</i>		IMPORTANCE FACTOR	<i>1.25</i>	<i>Fa : 1</i>	
							<i>Fv : 1.33</i>	
30	SITE CLASS:		<i>D</i>		SITE COEFFICIENT:	<i>Ss : 1.125</i>		
						<i>SI : 0.46</i>		
31	13. WIND LOAD:							
32	WIND CODE:		<i>(ASCE7-10)</i>					
33	VELOCITY:		<i>232</i>		km/hr	(DIRECTION: NW TO SE)		
34	PROVIDE INTERMEDIATE WIND GIRDER (5.9.7) :							
35	14. ENVIRONMENTAL EFFECTS:							
36	MAXIMUM RAINFALL				mm/year	TOTAL SNOW ACCUMULATION	mm	
37	15. SIZE RESTRICTIONS:							
38	MAXIMUM DIAMETER		<i>4000</i>		mm	MAXIMUM HEIGHT	<i>5000</i>	
							mm	
39	16. FOUNDATION TYPE:							
40	EARTH			CONCRETE RINGWALL			<i>YES</i>	
41							OTHER	
42	17. APPLICABLE STANDARDS:							
43	<i>API 650</i>		&		<i>IPS-G-ME-100 (1)</i>			
44	17. SERVICE TYPE							
45	<i>NO</i>		SOUR		<i>NO</i>		NON-SOUR	
							NON-LETHAL	
46	18. NACE REQUIREMENT							
47	<i>NO</i>		SSC		<i>NO</i>		HIC	
48	19. THE PROJECT DOCUMENTS :							
49	<i>Mechanical Design Criteria</i>			<i>BK-GNRAL-PEDCO-000-ME-DC-0001</i>				
50	<i>Specification For field fabricated Large Welded Low Pressure Storage Tanks</i>			<i>BK-GCS-PEDCO-120-ME-SP-0010</i>				
51	<i>Piping Corrosion Study & Material Selection Report</i>			<i>BK-GCS-PEDCO-120-PI-RT-0001</i>				
52	<i>Process Basis of Design</i>			<i>BK-GNRAL-PEDCO-000-PR-DB-0001</i>				
53	<i>Process Design Criteria</i>			<i>BK-GNRAL-PEDCO-000-PR-DC-0001</i>				
54	<i>P&ID</i>			<i>BK-GCS-PEDCO-120-PR-PI-0014</i>				
55	<i>Specification for Painting</i>			<i>BK-GNRAL-PEDCO-000-PI-SP-0006</i>				
56	<i>Specification for Insulation</i>			<i>BK-GNRAL-PEDCO-000-PI-SP-0019</i>				
57	<i>Specification for Lining</i>			<i>BK-GNRAL-PEDCO-000-PI-SP-0007</i>				
58	REMARKS:							
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۰۵۳ - ۰۷۳ - ۹۱۸۴

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APPURTENANCES (TO BE COMPLETED BY MANUFACTURER AND/OR PURCHASER)

1	1. STAIRWAY STYLE (Note 12)	YES	CIRCULAR	STRAIGHT	ANGLE TO HORIZONTAL	DEGREES
2	ROLLING LADDER					
3	2. WALKWAY:	WIDTH		mm	LENGTH	mm
4	3. DRAW -OFF SUMP:	YES	STANDARD	SPECIAL		
5	4. BOLTED DOOR SHEET :	NO	(APPENDIX A TANKS ONLY)		RAISED	FLUSH
6	5. SCAFFOLD HITCH					
7	6. INTERNAL PIPING:			SWING LINE	SUCTION LINE	
8	HEATING COIL SURFACE AREA					m ²
9	7. ROOF DRAIN:	HOSE		JOINTED		
10	SIPHON					
11	8. NO. AND SIZE OF SHELL MANHOLES 1x 24"					
12	9. NO. AND SIZE OF ROOF MANHOLES 1 x 20"					

SHELL NOZZLES LIST (Notes 1,2,16,17 , 24 , 27 & 28)

MARK	QTY.	DESCRIPTION	PIPE			FLANGE			PROJ. (mm)	REINF.		REMARKS
			Size(in.)	Thk.	Sch.	Type	Rate.	Face		Thk.	O.D.	
A	1	Inlet	2			WN	150 #	RF	2150			
B1	1	Outlet	2			WN	150 #	RF	2150			
M1	1	Manhole	24			WN	150 #	RF	2500			
LI,2	APR.2024	Stand Pipe	3			WN	150 #	RF	2180			
L3,4	2	Level Transmitter	2			WN	300 #	RF	2150			
CC	2	Corrosion Coupon	2			WN	300 #	RF	2150			
S	1	Utility Connection	2			WN	150 #	RF	2150			
D	1	Drain	2			WN	150 #	RF	2150			
B2	1	Outlet to Glycol Regeneration Package	2			WN	150 #	RF	2150			
PT	1	Pressure Transmitter	2			WN	300 #	RF	2150			

ROOF NOZZLES LIST (Notes 1, 2&27)

MARK	QTY.	DESCRIPTION	PIPE			FLANGE			PROJ. (mm)	REINF.		REMARKS
			Size(in.)	Thk.	Sch.	Type	Rate.	Face		Thk.	O.D.	
V1	1	Vent	6			WN	150 #	RF	See DWG			With Flame Arrestor
V2	1	Gauge Hatch	(By Vendor)			WN	150 #	RF				
M2	1	Roof Manhole	20			WN	150 #	RF				
PVSV 1,2	2	Pressure Vacume Safy Valve	(By Vendor)			WN	150 #	RF				
S.H.	1	Safety Hatch	8			WN	150 #	RF				
N	1	Blanketing	(By Vendor)			WN	150 #	RF				

TOTAL WEIGHT (kg) (Note 2)

FABRICATION	OPERATION	HYDROSTATIC TEST	REMOVABLE STANDARD	LADDER & PLATFORM

LOADING (Note 2)

WINDSHEAR (KG)	WIND OVERTURNING MOMENT (KG.M)	EARTHQUAKE SHEAR (KG)	EARTHQUAKE OVERTURNING MOMENT (KG.M)

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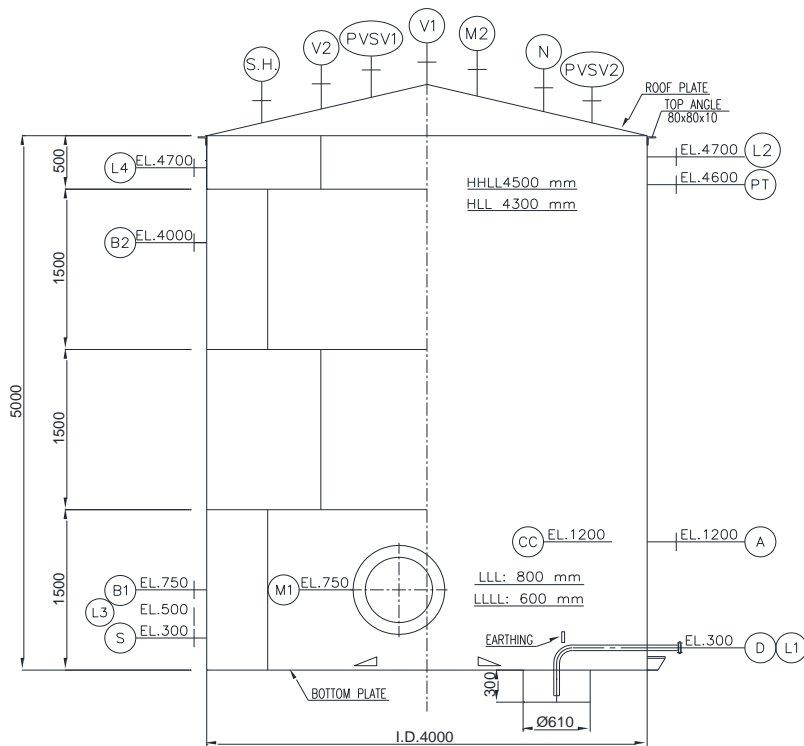
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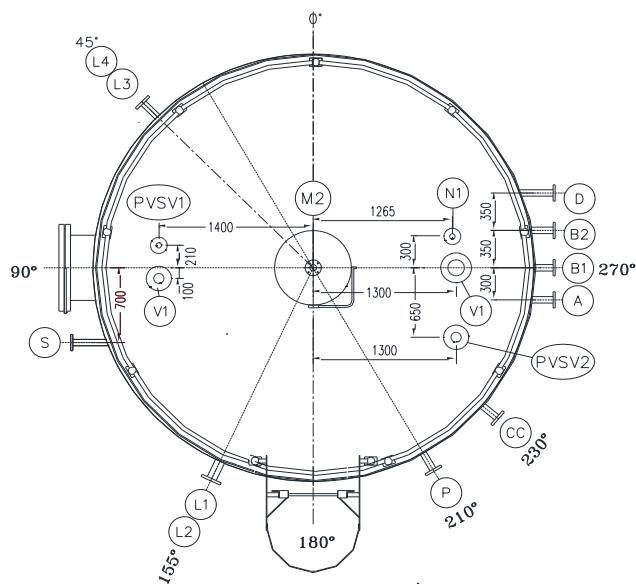
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GENERAL ARRANGEMENT VIEW



ELEVATION VIEW



ORIENTATION VIEW

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