



PROJECT NAME: BINAK OILFIELD DEVELOPMENT/SURFACE FACILITIES GAS COMPRESSOR STATION	
PROJECT NO.: 971020	
EPC CONTRACTOR:	EPD/EPC CONTRACTOR (GC):
  HIRGAN ENERGY - DESIGN & INSPECTION COMPANIES	 PETROIRAN DEVELOPMENT COMPANY

DRAWING TITLE:				
Process Flow Diagram (PFD)				
SCALE	SIZE	DRAWING NO.	SHEET NO.	REV.
NS	A3	BK-GCS-PEDCO-120-PR-PF-0001	1 OF 5	D08

NOTES	
1.	GAS PIG RECEIVERS ARE IN SCOPE OF PIPELINE EPC CONTRACTOR.
2.	IN SOME CASES, IT IS POSSIBLE TO ACCUMULATE SOME LIQUID IN INLET LINES. THE MAX. FLOW RATE IS 180 BARREL PER DAY.
3.	IN CASE OF PIGGING, 29800 kg/h WILL BE FLOWED TO FLARE.
4.	MAX. FLOW RATE IN PIGGING CASE WILL BE 333600 kg/h
5.	DELETED.
6.	FUEL GAS CONSUMPTION WILL BE FINALIZED AFTER RECEIVED DATA FROM DEHYDRATION PACKAGE VENDOR.

LEGEND	
	LIQUID FLOW RATE, Kg/hr
	GAS FLOW RATE, Sm ³ /h
	PRESSURE barg
	TEMPERATURE °C
	STREAM NUMBER
	MASS FLOW RATE, Kg/hr

REFERENCE DRAWING	DRG. No.
Symbol & Legend For PFD and P&ID	EK-GHRAI-PIEDCO-000-PR-PI-00
Process Basis Of Design	EK-GHRAI-PIEDCO-000-PR-DB-00

KEY PLAN

REV.	DESCRIPTION	BY	DATE	BY	DATE
		CHECKED		REV. APPR.	

اصل و کليه نسخ این نقشه و حق اقتباس متعلق به شرکت ملی مناطق نفت خیز جنوب میباشد.

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BINAK OILFIELD DEVELOPMENT SURFACE FACILITIES GAS COMPRESSOR STATION				
DATE	SCALE	DRAWING BY	CHECKED BY	PROJECT EN

NO CONSTRUCTION PERMITTED UNLESS DRAWING APPROVED						
APPROVED FOR CONSTRUCTION				BY:	DATE:	
BUDGET REF.	LOCATION	SIZE	CLASS	SERIAL NO.	SHEET	REVISION
053-073-9184	F	2	A	708777	1 OF 5	D08

SUMMER CASE																	
STREAM NUMBER	Unit	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16
Vapour Fraction		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Temperature	[C]	46.1	32.0	37.2	36.9	36.9	36.8	129.0	60.0	59.9	148.0	60.0	60.0	59.9	59.4	58.3	36.9
Pressure	[bar_g]	5.5	5.5	5.3	5.1	5.1	4.9	17.9	17.2	17.0	54.8	54.1	54.1	53.9	52.9	50.9	5.1
Molar Flow	[MMSCFD]	5.000	9.600	14.600	14.600	7.093	7.093	7.093	7.093	7.093	7.093	7.093	14.186	14.103	14.027	14.027	0.414
Mass Flow	[kg/h]	6564	11269	17833	17833	8664	8664	8664	8664	8664	8664	8664	17327	17252	17171	17171	506
Heat Flow	[kW]	-6597	-11587	-18184	-18184	-8834	-8834	-8409	-8762	-8762	-8376	-8902	-17805	-17479	-17263	-17263	-516
Molar component fraction																	
Comp Mole Frac (H2O)		0.015844	0.007433	0.010314	0.010314	0.010314	0.010314	0.010314	0.010314	0.010314	0.010314	0.010314	0.010314	0.004486	0.000222	0.000222	0.010314
Comp Mole Frac (CO2)		0.034540	0.030078	0.031606	0.031606	0.031606	0.031606	0.031606	0.031606	0.031606	0.031606	0.031606	0.031606	0.031791	0.031898	0.031898	0.031606
Comp Mole Frac (H2S)		0.028046	0.067700	0.054119	0.054119	0.054119	0.054119	0.054119	0.054119	0.054119	0.054119	0.054119	0.054119	0.054427	0.053973	0.053973	0.054119
Comp Mole Frac (Methane)		0.574395	0.672531	0.638921	0.638921	0.638921	0.638921	0.638921	0.638921	0.638921	0.638921	0.638921	0.638921	0.642692	0.646060	0.646060	0.638921
Comp Mole Frac (Ethane)		0.173785	0.118624	0.137515	0.137515	0.137515	0.137515	0.137515	0.137515	0.137515	0.137515	0.137515	0.137515	0.138327	0.139039	0.139039	0.137515
Comp Mole Frac (Propane)		0.105491	0.062637	0.077314	0.077314	0.077314	0.077314	0.077314	0.077314	0.077314	0.077314	0.077314	0.077314	0.077770	0.078135	0.078135	0.077314
Comp Mole Frac (i-Butane)		0.012694	0.006155	0.008394	0.008394	0.008394	0.008394	0.008394	0.008394	0.008394	0.008394	0.008394	0.008394	0.008444	0.008454	0.008454	0.008394
Comp Mole Frac (n-Butane)		0.029325	0.013004	0.018594	0.018594	0.018594	0.018594	0.018594	0.018594	0.018594	0.018594	0.018594	0.018594	0.018703	0.018787	0.018787	0.018594
Comp Mole Frac (i-Pentane)		0.007577	0.006651	0.006968	0.006968	0.006968	0.006968	0.006968	0.006968	0.006968	0.006968	0.006968	0.006968	0.007009	0.006999	0.006999	0.006968
Comp Mole Frac (n-Pentane)		0.004920	0.003177	0.003774	0.003774	0.003774	0.003774	0.003774	0.003774	0.003774	0.003774	0.003774	0.003774	0.003796	0.003810	0.003810	0.003774
Comp Mole Frac (n-Hexane)		0.008069	0.005757	0.006549	0.006549	0.006549	0.006549	0.006549	0.006549	0.006549	0.006549	0.006549	0.006549	0.006588	0.006623	0.006623	0.006549
Comp Mole Frac (n-Heptane)		0.002854	0.001489	0.001956	0.001956	0.001956	0.001956	0.001956	0.001956	0.001956	0.001956	0.001956	0.001956	0.001968	0.001979	0.001979	0.001956
Comp Mole Frac (n-Octane)		0.000787	0.000496	0.000596	0.000596	0.000596	0.000596	0.000596	0.000596	0.000596	0.000596	0.000596	0.000596	0.000599	0.000603	0.000603	0.000596
Comp Mole Frac (n-Nonane)		0.000295	0.000298	0.000297	0.000297	0.000297	0.000297	0.000297	0.000297	0.000297	0.000297	0.000297	0.000297	0.000299	0.000300	0.000300	0.000297
Comp Mole Frac (n-Decane)		0.000098	0.000099	0.000099	0.000099	0.000099	0.000099	0.000099	0.000099	0.000099	0.000099	0.000099	0.000099	0.000100	0.000100	0.000100	0.000099
Comp Mole Frac (n-C11)		0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Comp Mole Frac (Nitrogen)		0.001279	0.003871	0.002984	0.002984	0.002984	0.002984	0.002984	0.002984	0.002984	0.002984	0.002984	0.002984	0.003001	0.003017	0.003017	0.002984
Vapour Phase Property																	
Phase - Molar Flow	[kgmole/h]	249.0	478.1	727.1	727.2	353.3	353.3	353.3	353.3	353.3	353.3	351.2	702.4	702.4	698.7	698.7	20.6
Phase - Mass Flow	[kg/h]	6564	11269	17832	17833	8664	8664	8664	8664	8664	8664	8626	17253	17252	17171	17171	506
Phase - Heat Flow	[kW]	-6597	-11587	-18177	-18184	-8834	-8834	-8409	-8762	-8762	-8376	-8740	-17479	-17479	-17263	-17263	-516
Phase Mass Heat Capacity	[kJ/kg-C]	1.94	1.90	1.91	1.91	1.91	1.91	2.23	2.05	2.05	2.43	2.40	2.40	2.40	2.39	2.37	1.91
Phase Actual Gas Flow	[ACT_m3/h]	985.0	1813.5	2892.7	2987.7	1451.5	1501.1	604.2	504.6	510.3	205.6	145.2	290.5	291.6	295.8	307.4	84.7
Phase Std Gas Flow	[MMSCFD]	4.991	9.582	14.571	14.573	7.080	7.080	7.080	7.080	7.080	7.080	7.038	14.076	14.076	14.001	14.001	0.413
Phase Molecular Weight		26.36	23.57	24.52	24.52	24.52	24.52	24.52	24.52	24.52	24.52	24.56	24.56	24.56	24.58	24.58	24.52
Phase Mass Density	[kg/m3]	6.66	6.21	6.16	5.97	5.97	5.77	14.34	17.17	16.98	42.15	59.39	59.39	59.17	58.06	55.86	5.97
Phase Viscosity	[cP]	0.012	0.011	0.011	0.011	0.011	0.011	0.015	0.013	0.013	0.016	0.014	0.014	0.014	0.014	0.014	0.011
Phase Cp/Cv		1.225	1.261	1.246	1.246	1.246	1.245	1.220	1.275	1.274	1.272	1.462	1.462	1.461	1.456	1.448	1.246
Phase Thermal Conductivity	[W/m-K]	0.029	0.029	0.029	0.029	0.029	0.029	0.042	0.033	0.033	0.047	0.037	0.037	0.037	0.037	0.036	0.029
Phase Z Factor		0.970	0.974	0.973	0.974	0.974	0.975	0.967	0.939	0.940	0.927	0.823	0.823	0.823	0.825	0.829	0.974
Liquid Phase Property																	
Phase - Molar Flow	[kgmole/h]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phase - Mass Flow	[kg/h]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phase - Heat Flow	[kW]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phase Mass Heat Capacity	[kJ/kg-C]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phase Actual Volume Flow	[m3/h]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phase - Liq Vol Flow@Std Cond	[m3/h]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phase Molecular Weight		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phase Mass Density	[kg/m3]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phase Viscosity	[cP]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phase Thermal Conductivity	[W/m-K]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Surface Tension	[dyne/cm]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

NOTES

LEGEND

LIQUID FLOW RATE, Kg/hr

GAS FLOW RATE, Sm3/h

PRESSURE bar

TEMPERATURE °C

STREAM NUMBER

MASS FLOW RATE, Kg/hr

REFERENCE DRAWING

DRG. No.

Symbol & Legend For PFD and P&ID

BK-GNRL-PEDCO-000-PR-FI-0001

Process Basis Of Design

BK-GNRL-PEDCO-000-PR-DB-0001

KEY PLAN

REV.

DESCRIPTION

CHECKED

REV. APPR.

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NOV.2021

IPF

MARTAPAR

M.PAKHARIAN

M.MEHRSHAD

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M.PAKHARIAN

SH.GHALMAR

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003

AUG.2021

IPC

MASHEHREZIAN

M.PAKHARIAN

SH.GHALMAR

00.00

PROJECT NAME:

BINAK OILFIELD DEVELOPMENT/SURFACE FACILITIES GAS COMPRESSOR STATION

PROJECT NO.:

971020

EPC CONTRACTOR:

HURGAN ENERGY

TE

HURGAN ENERGY – DESIGN & INSPECTION COMPANIES

EPD/EPC CONTRACTOR (GC):

PETROIRAN DEVELOPMENT COMPANY

PEDCO

DRAWING TITLE:

Process Flow Diagram (PFD)

NO CONSTRUCTION PERMITTED UNLESS DRAWING APPROVED

APPROVED FOR CONSTRUCTION

BY:

DATE:

SCALE

SIZE

DRAWING NO.

SHEET NO.

REV.

BUDGET REF.

LOCATION

SIZE CLASS

SERIAL NO.

SHEET

REVISION

NS

A3

BK-GCS-PEDCO-120-PR-PF-0001

4 OF 5

D08

053-073-9184

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708777

4 OF 5

D08

(VENDOR TITLE BLOCK)**

	D08	DEC.2024	APC	MARYAPAR	M.PAKHMANIAN	M.SADROGH
	D07	APR.2023	APC	MARYAPAR	M.PAKHMANIAN	A.M.MOHRRE
	D06	JAN.2023	IPA	MARYAPAR	M.PAKHMANIAN	M.MIRFESH
	D05	SEP.2022	IPA	MARYAPAR	M.PAKHMANIAN	M.MIRFESH
	D04	MAR.2022	IPA	MARYAPAR	M.PAKHMANIAN	M.MIRFESH
	D03	JAN.2022	IPA	MARYAPAR	M.PAKHMANIAN	M.MIRFESH
	D02	NOV.2021	IPA	MARYAPAR	M.PAKHMANIAN	M.MIRFESH
	D01	OCT.2021	IPA	MARYAPAR	M.PAKHMANIAN	SH.GHALM
	D00	AUG.2021	IPC	MASGHANMEZAN	M.PAKHMANIAN	SH.GHALM
	REV.	DATE	P.O.I.S	PREP.	CHK.	APP.
	PROJECT NAME: BINAK OILFIELD DEVELOPMENT/SURFACE FACILITY GAS COMPRESSOR STATION					
	PROJECT NO.:			971020		
	EPC CONTRACTOR:			EPD/EPC CONTRACTOR (GC):		
	 HIRGAN ENERGY - DESIGN & INSPECTION COMPANIES 			 PEDCO PETROIRAN DEVELOPMENT COMPANY		
	(VENDOR TITLE BLOCK)**	DRAWING TITLE: Process Flow Diagram (PFD)				
SCALE		SIZE	DRAWING NO.		SHEET	
NS		A3	BK-GCS-PEDCO-120-PR-PF-0001		5 OF	

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REV.	DESCRIPTION	BY	DATE	BY	DATE				
		CHECKED		REV. APPR.					
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APPROVED FOR CONSTRUCTION				BY:	DATE:				
BUDGET REF.	LOCATION	SIZE	CLASS	SERIAL NO.	SHEET	REVISION			
003-073-9184	F	2	A	708777	5 OF 5	D06			