

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک						 		
	PROCESS DATA SHEETS FOR GAS COMPRESSORS PACKAGES								
شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۱۸۴	پروژه BK	بسته کاری GCS	صادر کننده PEDCO	تسهیلات 120	رشته PR	نوع مدرک DT	سریال 0030	نسخه D05	شماره صفحه: ۱ از ۵

طرح نگهداشت و افزایش تولید ۲۷ مخزن

PROCESS DATA SHEETS FOR GAS COMPRESSORS PACKAGES

نگهداشت و افزایش تولید میدان نفتی بینک

D05	NOV.2022	AFC	M.Aryafar	M.Fakharian	M.Mehrshad	
D04	SEP.2022	IFA	M.Aryafar	M.Fakharian	M.Mehrshad	
D03	AUG.2022	IFA	M.Aryafar	M.Fakharian	M.Mehrshad	
D02	MAR.2022	IFA	M.Aryafar	M.Fakharian	M.Mehrshad	
D01	DEC.2021	IFA	M.Aryafar	M.Fakharian	M.Mehrshad	
D00	NOV.2021	IFC	M.Aryafar	M.Fakharian	M.Mehrshad	
Rev.	Date	Purpose of Issue / Status	Prepared by:	Checked by:	Approved by:	CLIENT Approval

Class: 2	COMPANY Doc. Number: F0Z-708774
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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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نگهداشت و افزایش تولید میدان نفتی بینک
سطح الارض

احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک

PROCESS DATA SHEETS FOR GAS COMPRESSORS PACKAGES



شماره پیمان:

۰۵۳ - ۰۷۳ - ۹۱۸۴

نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	پروژه
D05	0030	DT	PR	120	PEDCO	GCS	BK

شماره صفحه: ۲ از ۵

REVISION RECORD SHEET

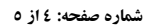
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3	X	X	X	X	X	X	X
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 NISOC		نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک PROCESS DATA SHEETS FOR GAS COMPRESSORS PACKAGES						 شرکت توسعه و بهره‌برداری HIRGAN ENERGY TS			
شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۱۸۴		پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: ۵ از ۵	
		BK	GCS	PEDCO	120	PR	DT	0030	D05		
1	REV										
2		GENERAL DATA									
3		Item (Note 13)					No. of Main / Stand By Units (Note 13)				
4		Service Sour Gas					Type of Driver Electrical				
5		Equipment ☒ Compressor ☐ Expander ☐ Compressor & Expander									
6		General Type ☐ Centrifugal ☒ Reciprocating ☐ Axial									
7		Operation ☒ Continuous ☐ Discontinuous ☐ Other									
8		Installation ☐ Indoor ☒ Outdoor ☐ Other									
9		CHARACTERISTICS OF GAS									
10		Gas Handled									
11		Corrosive Compounds					Yes / No Yes				
12		Toxicity of Gas					Yes / No Yes				
13		Presence of Solids or Mist					Yes / No No				
14		PROCESS OPERATING DATA									
15		Operating Case			Summer			Winter			
16		Stage			1st stage		2nd stage		1st stage 2nd stage		
17		Mass Flow Rate	☒ Wet ☐ Dry	kg/h	8664		8664		7585 7585		
18		Certified Point			X			X			
19		Inlet Conditions			Summer			Winter			
20		Stage			1st stage		2nd stage		1st stage 2nd stage		
21		Flow Rate	Nm³/h		7918		7918		7887 7887		
22			Am³/h		1501		479		1411 485		
23		Pressure (Note 2)	barg		4.9		18.1		4.9 18.1		
24		Temperature	°C		36.8		59.9		18.9 59.9		
25		Compressibility Factor			0.975		0.936		0.977 0.951		
26		Specific Heat Ratio	CP/CV		1.245		1.278		1.280 1.295		
27		Relative Humidity	%								
28		Dew Point	°C								
29		Discharge Conditions			Summer			Winter			
30		Stage			1st stage		2nd stage		1st stage 2nd stage		
31		Pressure	barg		19.0		54.8		19.0 54.8		
32		Temperature (Estimated)	°C		124.8		142.3		113.1 149.5		
33		Compressibility Factor			0.964		0.923		0.970 0.948		
34		Specific Heat Ratio	CP/CV		1.225		1.278		1.253 1.281		
35		Brake HP (Estimated)	Kw		484.3		436.5		463.4 448.3		
36		Polytropic Efficiency	%		85.0		85.0		85.0 85.0		
37		DESIGN DATA			1st stage			2nd stage			
38											
39		Design Temperature (SUC / DISCH.)	°C		155			175			
40		Design Pressure (SUC / DISCH.)	barg		22			62			
41		MECHANICAL DATA									
42		Gas Contamination Allowed			Yes / No			No			
43		Internal Lubrication for Reciprocating Compressor			Lube or Non Lube			Lube			
44		Internal Lubrication for Rotary Compressor			Dry Screw or Flooded Screw			NA			
45		Allowable Leakage at Shaft Seal			Yes / No			No			
46		Buffer Gas Type / Start-up Gas Type						(Note 16) N2/-			
47		Automatic Sequence for Start-up / Shut-down			Yes / No			Yes			
48		Reacceleration Required			Yes / No			NA			
49	05	Settling Out Pressure			barg			20(Note 12)			
50		Safety Valve Set Pressure (Inlet / Discharge)			barg			(Note 12)			
51		Material in Contact with Gas Handled (Minimum Requirement)			-			-			
52		Casing Corrosion Allowance (Minimum)			-			-			
53		Suction Line (Diameter / Rating)			8"			150#		6" 300#	
54		Sidestream Line (Diameter / Rating)									
55		Discharge Line (Diameter / Rating)			6"			300#		6" 600#	



احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک



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شماره صفحه: ۴ از ۵

56	REV	PROCESS CONTROL									
57		Centrifugal / Axial									
58		Method									
59		☐ Suction Throttling	From			To					
60		☐ Discharge Throttling	From			To					
61		☐ Discharge Blow-off	From			To					
62		☐ Cooled By-pass	From			To					
63		☐ Speed Variation	From			To					
64		☐ Variable Guide Vanes									
65		Control Type	☐ Manual			☐ Automatic					
66		Control Signal Source	☐ Electrical			☐ Pneumatic			☐ Other		
67		Anti-Surge / Bypass Recycle	☐ Manual			☐ Automatic			☐ Other		
68		Reciprocating									
69		Capacity Control									
70		By	☐ MFG's Cap. Control	☐ Purchasers Bypass	☒ Both	☐ Other	(Note 14)	□□□□□□□□□□□□□□□□			
71		For	☐ Part Load Cond	☐ Start-up Only	☒ Both	☐ Other					
72		Number of Steps	☐ One		☐ Three	☒ Five	☐ Other				
73		Manual Control from Local Panel for									
74		Manual Control from Control Room for									
75		Automatic Control for									
76		Control Signal Source	☒ Electrical			☐ Pneumatic			☐ Other		
77		Rotary									
78		Method									
79		☐ Bypass Control	☐ Manual			☐ Automatic			From	To	
80		☐ Variable Speed Drive							From	To	
81		☐ Slide Valves									
82		GAS ANALYSIS									
83		Other Conditions									
84		Component	☒ Mol%	☐ Mass%	Normal	Summer st1	Summer st2	Winter st1	Winter st2		
85		H2O				1.0314	1.0314	0.3638	0.363775		
86		CO2				3.1606	3.1606	2.5202	2.520235		
87		H2S				5.4119	5.4119	4.7056	4.705553		
88		Methane				63.8921	63.8921	73.9809	73.980864		
89		Ethane				13.7515	13.7515	11.4249	11.424943		
90		Propane				7.7314	7.7314	4.7371	4.737086		
91		i-Butane				0.8394	0.8394	0.3942	0.394247		
92		n-Butane				1.8594	1.8594	0.8130	0.812964		
93		i-Pentane				0.6968	0.6968	0.3066	0.306573		
94		n-Pentane				0.3774	0.3774	0.1450	0.144980		
95		n-Hexane				0.6549	0.6549	0.2224	0.222399		
96		n-Heptane				0.1956	0.1956	0.0542	0.054218		
97		n-Octane				0.0596	0.0596	0.0149	0.014939		
98		n-Nonane				0.0297	0.0297	0.0071	0.007099		
99		n-Decane				0.0099	0.0099	0.0000	0.000000		
100		n-C11				0.0000	0.0000	0.0000	0.000000		
101		Nitrogen				0.2984	0.2984	0.3101	0.310125		
102											
103		Corrosive Agents				H2S/CO2	H2S/CO2	H2S/CO2	H2S/CO2		
104		Total				100.00	100.00	100.00	100.00		
105		AVG. Mol. Wt				24.52	24.52	21.56	21.56		



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سطح الارض

احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک

PROCESS DATA SHEETS FOR GAS COMPRESSORS PACKAGES



شماره پیمان:

۰۵۳ - ۰۷۳ - ۹۱۸۴

نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادر کننده	پسته کاری	پروژه
D05	0030	DT	PR	120	PEDCO	GCS	BK

شماره صفحه: ۵ از ۵

Note	REV	
1		Following items to be confirmed / specified by vendor
		- Discharge tempreture
		- Specification of strainer at compressor suction line
		- Max. pressure drop across strainer
2		Suction pressure is specified at upstream of strainer.
3		Nitrogen for seal gas is available.For nitrogen Operating Conditions Refer to "Process Basis Of Design; Doc. No.BK-GNRAL-PEDCO-000-PR-DB-0001".
4		Deleted.
5		Deleted.
6		For available utilities, refer to "Process Basis Of Design; Doc. No.BK-GNRAL-PEDCO-000-PR-DB-0001".
7		Manufacturer to consider in design the risk of hydrate formation.
8		Process turndown is 35% of Winter Case Flowrate.
9		Requirement of start-up (auto / manual, local / remote with permissives from main control room and local technical room) shall be considered.
10		0.9 bar pressure drop between stages has been considered (inter air cooler, suction scrubber and relevant piping).
11		Inlet gas are in water saturated condition.
12		To be finalized by vendor.
13		Train 1 are including C 2101 A (as Stage 1) and C 2102 A (as Stage 2).
		Train 2 are including C 2101 B (as Stage 1) and C 2102 B (as Stage 2).
		Train 3 are including C 2101 C (as Stage 1) and C 2102 C (as Stage 2).
		<u>2 trains as operating+1 train as stand-by</u>
14		<u>Spill Back Valve to be supplied by Vendor.</u>
15		Site Condition:
		Min .Absolut air temperature(°C): 5 °C
		Max .Absolut air temperature(°C): 50 °C
		Humidity Maximum Range (%): 0 ~ 100
		Elevation from sea level ~ 12.5 m
16		For intermediate partition purge, N2 gas has been considered as inert buffer purge gas