



NISOC

نگهداشت و افزایش تولید میدان نفتی بینک
فعالیت های رو زمینی در بسته های کاری تحت الارض

ساخت موقعیت چاه، تأسیسات سرچاهی، خطوط جریانی، تسهیلات
برق رسانی مربوط به موقعیت W007S و توسعه چندراهه کلاستر بینک



شماره پیمان:

053-073-9184

DATA SHEETS FOR OIL SUMP PUMP - EXTENSION OF BINAK B/C MANIFOLD

نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادر کننده	بسته کاری	پروژه
D03	0001	DT	ME	110	PEDCO	W007S	BK

شماره صفحه: 1 از 5

طرح نگهداشت و افزایش تولید 27 مخزن

DATA SHEETS FOR OIL SUMP PUMP - EXTENSION OF BINAK B/C MANIFOLD (P-1701)

نگهداشت و افزایش تولید میدان نفتی بینک

D03	OCT. 2022	IFA	H. Adineh	M. Fakharian	M.Mehrshad	
D02	AUG. 2022	IFA	H. Adineh	M. Fakharian	M.Mehrshad	
D01	APR. 2022	IFA	H. Adineh	M. Fakharian	M.Mehrshad	
D00	DEC. 2021	IFC	H. Adineh	M. Fakharian	M.Mehrshad	
Rev.	Date	Purpose of Issue / Status	Prepared by:	Checked by:	Approved by:	CLIENT Approval

Class: 2 CLIENT Doc. Number: F0Z-707933

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
فعالیت های رو زمینی در بسته های کاری تحت الارض

ساخت موقعیت چاه، تأسیسات سرچاهی، خطوط جریانی، تسهیلات
برق رسانی مربوط به موقعیت W007S و توسعه چندراهه کلاستر بینک



شماره پیمان:

053-073-9184

DATA SHEETS FOR OIL SUMP PUMP - EXTENSION OF BINAK B/C MANIFOLD

نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	پروژه
D03	0001	DT	ME	110	PEDCO	W007S	BK

شماره صفحه: 2 از 5

REVISION RECORD SHEET

page	D00	D01	D02	D03	D04
1		x	x	x	
2		x	x	x	
3		x	x	x	
4		x	x		
5		x	x		
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					
32					
33					
34					
35					
36					
37					
38					
39					
40					
41					
42					
43					
44					
45					
46					
47					
48					
49					
50					
51					
52					
53					
54					
55					
56					
57					
58					
59					
60					
61					
62					
63					
64					

page	D00	D01	D02	D03	D04
65					
66					
67					
68					
69					
70					
71					
72					
73					
74					
75					
76					
77					
78					
79					
80					
81					
82					
83					
84					
85					
86					
87					
88					
89					
90					
91					
92					
93					
94					
95					
96					
97					
98					
99					
100					
101					
102					
103					
104					
105					
106					
107					
108					
109					
110					
111					
112					
113					
114					
115					
116					
117					
118					
119					
120					
121					
122					
123					
124					
125					
126					
127					
128					



NISOC

نگهداشت و افزایش تولید میدان نفتی بینک
فعالیت های رو زمینی در بسته های کاری تحت الارض

ساخت موقعیت چاه، تأسیسات سرچاهی، خطوط جریانی، تسهیلات
برق رسانی مربوط به موقعیت W007S و توسعه چندراهه کلاستر بینک



شماره پیمان:

053-073-9184

DATA SHEETS FOR OIL SUMP PUMP - EXTENSION OF BINAK B/C MANIFOLD

پروژه	بسته کاری	صادرکننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه
BK	W007S	PEDCO	110	ME	DT	0001	D03

شماره صفحه: 3 از 5

GENERAL NOTES

1 Design Conditions:

Min./Max Design Temp. °CMax.Design Press.(barg)

-5 / 85

14.1

2 For electrical motor descriptions, refer to 'Specification For LV Electro Motors' Doc. No. BK-GNRL-PEDCO-000-EL-SP-0010.

3 Vendor shall fill in the blanks and return the completed data sheet along with Motor data sheet, "Doc. No.: BK-GCS-PEDCO-120-EL-DT-0008 & 0009 with his proposal.

4 Vendor shall submit ITP (Inspection & Testing Plan) with his proposal.

5 The motors,pump coupling and pump accessories shall be supplied from the project's approved vendor list (A.V.L.).

6 Vendor is requested to confirm the material, or propose appropriate alternative.

7. Mechanical seal data sheet shall fill in by vendor as per API 682. Pump Manufacturer shall supply all instrumentation for mechanical seals as per API 682 4th Edition and project requirements.

8. NPSH test shall be done & witnessed if the margin of NPSHr & NPSHa is less than 1.

9. The Tie-in flanges shall conform to B-16.5.

10. Supplier to indicate which minimum flow pumps can achieve.

11. Pumps shall be designed, fabricated, tested, and inspected in accordance with the requirements of ISO 5199 latest edition.

12. Pump starts automatically with open delivery valve.

13. Electrical motor shall be rated for the end of curve.

14. The discharge line is 3".

15. The material shall be in compliance with NACE MR0175/ISO15156 and Specification For Material Requirements in Sour service Document No. BK-GNRL-PEDCO-000-PI-SP-0008.

16. Based on project instrumentation specification, these equipments are classified as Type B (Connected to DCS/ESD): Centrifugal Pump Package

17 Ultrasonic Test shall be performed for forged shaft.

18 For pumps with vacuum suction pressure the minimum NPSH margin shall be 2 m. for other pumps the minimum NPSH margin shall be 1 m.

19 Couplings shall be dry, flexible and spacer type.

20 Bearing temperature shall be measured during mechanical run test.

21 For site conditions refer to Process basis of design document; Doc.No: BK-GNRL-PEDCO-000-PR-DB-0001.

22 Power Factor, efficiency, frequent, voltage, frequent variation and voltage variation of motor shall be specified by vendor in data sheet.

23 Minimum Design Metal Tem (MDMT) = -5

24 Vendor to provide the pump with mentioned flow rate or minimum available flow rate at market.

25 Max. allow. Sound press. Level =85 dBA.

26 Allowable external forces and moments on nozzle should be conformed to Spec. No.: BK-GCS-PEDCO-120-ME-SP-0004.

27 All drain and vents (If any) to be manifolded, valved and routed to the skid edge.

28 Density (kg/m3): 850~970 .

29 Pumping temperature (°c); min: -5 max: 50

30 H2S Concentration (ppm) : 10.8

31 Hydraulic Power (KW): 5.27

32 Maximum allowable pressure at shut-off is 14.1 barg. also ISO 5199 standard shall be followed by vendor for MAWP and hydrotest pressure.

D03

33 Estimated BHP is 17.57 kW considering 30% efficiency.

34 For P&ID refer to " P&ID - Extension of Binak B/C Manifold; BK-W007S-PEDCO-110-PR-PI-0001.

		نگهداشت و افزایش تولید میدان نفتی بینک فعالیت های رو زمینی در بسته های کاری تحت الارض ساخت موقعیت چاه، تأسیسات سرچاهی، خطوط جریانی، تسهیلات برق رسانی مربوط به موقعیت W007S و توسعه چندراهه کلاستر بینک									
شماره پیمان:		DATA SHEETS FOR OIL SUMP PUMP - EXTENSION OF BINAK B/C MANIFOLD								شماره صفحه: 4 از 5	
053-073-9184		پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه		
		BK	W007S	PEDCO	110	ME	DT	0001	D03		
ISO Std. 5199 CENTRIFUGAL PUMP DATA SHEET (SI UNIT)											
Corporate name		Centrifugal pump Data sheet								Rev.:	
NISOC										Data:	
										Name:	
Plant:	BINAK GCS					Service:		OIL SUMP PUMP			
						Ref. Standards:		ISO 5199, IPS-M-PM-115			
						Ref. Spec. No.:		BK-GCS-PEDCO-120-ME-SP-0004			
	No. req.	Pump type	Eq. API-610 Type		Mfr. serial No.	Kind of driver		Drive, type, size		Item No.	
Operation	1	Vertical	VSI (VTC)			Motor		LV Induction Electric Motor		P-1701	
Standby											
Drawings	Installation dimension					Pump weight				Pump Content	
	Assembly pump					Customer		Enquiry No.		Date	
	Assembly shaft seal							Order No.		Date	
	Piping	Auxiliary system					Supplier		Proposal No.		Date
	Shaft seal							Contract No.		Date	
Test (Note 4)	Material (Note 15)	Hydrostatic	Inspection		Perform.	NPSH (Note 8)		Sound Level		Final inspection	Approved documents
Refer.	ISO 5199	ISO 5199	ISO 5199		ISO 5199	ISO 5199				ISO 5199	ISO 5199
Withn. by	Certified	Witnessed	Witnessed		Witnessed	Witnessed		(Note 25)		Certified	Certified
Operating Condition											
Liquid	Oil/HC				rated	16.50	m³/h	NPSH at rated flow		Plant- NPSHA	2.40 m
Solids	Type			Flow	normal	15.00	m³/h			Pump- NPSH3	m
	%of mass				min.		m³/h	Pump speed rated			rpm
Corrosion by			Minimum flow required				m³/h	Pump efficiency rated			%
Op. Temp. (Min./Max.)	-5 / 50	°C		Inlet gauge pressure	min.	0.00	barg	Pump power input rated (Note 2)			kW
pH-value at T _{op}				max.		0.30	barg	Pump power input		rated impeller dia.	kW
Density at T _{op}	970	kg/m³		Outlet gage pressure rated		11.50	barg			max. impeller dia.	kW
Vapour press. at Max. T	0.8	bara		Differential pressure rated		11.50	bar	Electric. Driver power output rated			kW
Kinematic vis. at T _{op}	9.5	cP		Total head rated		120.90	m	Steam turbine power output rated			kW
Specific heat at T _{op}			J/Kg.K	Shut-off head			m	Performance curve No.			
Construction Features											
Design	14.1	barg		Max. allowable work press (Note 32)		By Vendor	barg	Cooling water condition		N.A.	
Number of Stages			Test pressure			1.5 MAWP	barg	Cooling (C) Series (s)		N.A.	
Self priming			Inlet Flange		Size/Position Rating/facing			Heating (H), Parallel (p)		C	H
Impeller diameter	max	mm		Outlet Flange	Size/Position Rating/facing (Note 14)	3" / Up		Bearing			
	rated	mm				Seal Chamber					
	min	mm				Cooler for seal flush					
Pump length vertical pumps			Vent connection				Oil cooler				
Barrel dia. vertical pumps			Drain connection				Flush		Liquid		Quantity
Casing split			Shaft seal manufacture				Lantern ring				
Casing seal type			Type, size (Note 7)		Mech. Seal		Mechanical ring				
Impeller type			Flush plan		31 (VTC)		Gland/Seal plate				
Casing support			Material code				Coupling (Note 19)		Manufacture		
Rotation(looking from driver)			Soft packing ring dimension				Type, Size				
Axial thrust reduction by			Rad. Bearing		Type			Diameter max		mm	
Total clearance	Impeller	mm		Axial. Bearing	Size			Spacer length		mm	
	Bal. Drum	mm		Line shaft bearing			Baseplate				
	Shaft bushes	mm		Bearing bracket No.			Anchor bolts supplied by		Vendor		
	Wear plate	mm		Lubrication			Driver		Supplied by		Vendor
Wall thickness rot sheath / stat. cas			Lubrication device				Mounted by		Vendor		
Site and Utility Data (Notes 21,22)											
Location	Partial sides		Outdoor	Unheated		Site data:		Elevation		m	Barometer
Winterization REQ'D		Tropicalization REQ'D				Range of ambient temps: MIN/MAX				-5/50	°C
Unusual condition	Dust		Fumes	Others		Relative humidity: MIN/MAX				0/100	%
Driver	Volt.	400	Hertz	50	Phase	3	Max Voltage Variation (Note 22)				± 5%
Type of protection							Max Frequency Variation (Note 22)				± 2%
Temperature rise class / Insulation class							Max Volt. and Frequency Variation together				± 5%
Electric Area Classification	Zone 1, IIB, T3						Starting Method				D.O.L. Open Discharge Valve



ساخت موقعیت چاه، تأسیسات سرچاهی، خطوط جریانی، تسهیلات
برق‌رسانی مربوط به موقعیت W007S و توسعه چندراهه کلاستر بینک



شماره صفحه: 5 از 5

شماره پیمان:

DATA SHEETS FOR OIL SUMP PUMP - EXTENSION OF BINAK B/C MANIFOLD

053-073-9184

۵۰

صادرکننده

سهیلات

--	--

مدرك

تسمو فال

تسمو فال

نسخه

نسخه

ISO Std. 5199 CENTRIFUGAL PUMP DATA SHEET (SI UNIT)

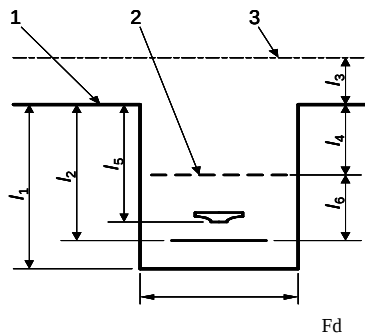
Material (VTC)

API class	S-6 (According to API-610)	(Notes 6,15)					
Casing		Bearing bush		Mecan. Seal	Gland plate & gasket		
Discharge casing		Balance disc-drum			Rotor ring	Inner/outer	
Suction casing		Bal. counter disc-drum bus.			Static ring	Inner/outer	
Stage casing		Contrain.shell / Stat.casing			Spring or bellow		
Suction impeller		Rotor sheath / can			Seal metal parts		
Impeller		Magnet material			Rotary & Static ring seats		
Diffuser		Barrel		Stuffing box	Gland Plate		
Wear ring casing		Column pipe			Soft packing ring		
Wear ring impeller		Bearing bracket			Lantern ring		
Wear plate / lining		Motor stool		Shaft sleeve			
Case bush		Coupling		Throat bush			
Casing gaskets		Coupling guard		Paint	According to "Specification for Painting"; Doc. No. BK-GNRL-PEDCO-000-PI-SP-0006		
Shaft		Base plate					

Sump Arrangement

Sump Dimensions:

Grade Elevation	1		m
Low Liquid Level	2	0.1	m
C.L. Of Discharge	3		m
Sump Depth	l_1	3	m
Pump Length	l_2		m
Grade to Disch.	l_3		m
Grade to Low Liquid Level	l_4		m
Grade to 1st Stg Impl'r.	l_5		m
Submergence Req'd	l_6		m
Sump Diameter	Fd		m



Remarks

P&ID - Extension of Binak B/C Manifold; BK-W007S-PEDCO-110-PR-PI-0001.

Customer		Supplier	
Prepared (Data / Dep/ Signature)	Checked (Data / Dep/ Sign.)	Prepared (Data / Dep/ Signature)	Checked (Data / Dep/ Sign.)