


 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک							 	
	MECHANICAL DATA SHEETS FOR SLUG CATCHER								
شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۱۸۴	پروژه: BK	بسته کاری: GCS	صادر کننده: PEDCO	تسهیلات: 120	رشته: ME	نوع مدرک: DT	سریال: 0014	نسخه: D01	شماره صفحه: ۱ از ۸

طرح نگهداشت و افزایش تولید ۲۷ مخزن

MECHANICAL DATA SHEETS FOR SLUG CATCHER

نگهداشت و افزایش تولید میدان نفتی بینک

 						
D01	SEP.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-708845

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

MECHANICAL DATA SHEETS FOR SLUG CATCHER



شماره پیمان:

۰۵۳ - ۰۷۳ - ۹۱۸۴

نسخه	سریال	نوع مدرک	رشته	تجهیزات	صادرکننده	بسته کاری	پروژه
D01	0014	DT	ME	120	PEDCO	GCS	BK

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REVISION RECORD SHEET

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1	X	X			
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General Notes

D01

- | Rev. | Notes |
|------|---|
| D01 | 1. The Asterisk * denotes information and/or confirmation required from VENDOR. The Vendor shall be fully responsible for the complete mechanical design, preparing calculation book and supply of the vessel. TJ: Confirmed |
| D01 | 2. Deleted |
| D01 | 3. VENDOR shall include for the services of a independent verification body for mechanical design, stage inspection, testing and stamping of the equipment (if possible). TJ: Confirmed |
| D01 | 4. Painting and coating (internal & external) shall be as per project 'Specification for Painting', Doc. No. BK-GNRL-PEDCO-000-PI-SP-0006 and 'Specification for Lining', Doc. No. BK-GNRL-PEDCO-000-PI-SP-0007. TJ: Confirmed |
| D01 | 5. Flanges shall comply with ASME B16.5. Nozzle bolt holes shall straddle the natural centrelines for horizontal nozzles. VENDOR to confirm maximum allowable nozzle loads and moments (RF: Raised Face, WN: Welding Neck) TJ: Confirmed |
| D01 | 6. All reinforcement pads shall have 1/4" (6mm) tell-tale hole and 1/8" (3mm) vent hole as per Standard Detail Drawing For Pressure Vessels and Heat Exchangers', Doc. No. BK-GNRL-PEDCO-000-ME-DW-0001". TJ: Confirmed |
| D01 | 7. 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 vessels to 1.5 x Safe Working Load (SWL) and shall be marked accordingly. TJ: Confirmed |
| D01 | 8. All external bolts and nuts shall be hot dip galvanized. Internal bolts and nuts shall be stainless steel. TJ: Confirmed |
| D01 | 9. Loads at support base, Shall be calculated and determined by vendor. TJ: Confirmed |
| D01 | 10. Access Ladder & Platform to be considered . TJ: Confirmed |
| D01 | 11. Deleted |
| D01 | 12. All material, corrosion allowance and their suitability for the process fluid at design pressure and temperature to be confirmed by vendor. TJ: Confirmed |
| D01 | 13. Deleted |
| D01 | 14. All nozzle locations and orientations will be finalized later. |
| D01 | 15. Instrumentation items are excluded from vendor's scope of supply. TJ: Confirmed |
| D01 | 16. Any changes in material of construction, location & orientation of the nozzles shall be confirmed by client. TJ: Confirmed |
| D01 | 17. All materials shall be new and unused. TJ: Confirmed |
| D01 | 18. Fabrication tolerances for vessel shall be in accordance with requirement of ASME code. TJ: Confirmed |
| D01 | 19. Location and number of lifting lugs on vessels shall be specified on VENDOR drawing. TJ: Confirmed |
| D01 | 20. All items shall be clearly match marked against vessel drawings to facilitate erection. TJ: Confirmed |
| D01 | 21. Deleted |
| D01 | 22. Vendor shall supply details of all welding connections and give general specification of used materials. TJ: Confirmed |
| D01 | 23. For equipment requiring PWHT, final inspection and acceptance by the CLIENT or its nominated representative shall only be undertaken against NDE after PWHT. All weldings shall be made before vessel heat treatment (if any). TJ: Confirmed |
| D01 | 24. Equipment packaging, preparation for shipment and delivery shall be in accordance with the project Packing, Marking, Transportation Procedure Doc. No. "BK-GNRL-PEDCO-000-QC-PR-0045". TJ: Confirmed |
| D01 | 25. Specified accessories and attachments shall be supplied by vendor. TJ: Confirmed |
| D01 | 26. Gasket shall be spiral wound type, graphite filled with inner ring and outer ring S.S.316. TJ: Confirmed |
| D01 | 27. Deleted |
| D01 | 28. Deleted |
| D01 | 29. Two M12 earthing bosses shall be provided on vessel support. Material of Earthing Bosses shall be S.S. 316 TJ: Confirmed |



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General Notes (Cont'd)

D01



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D01

D01

D01

30. For standard detail of Earth lug execution refer to the Project "Standard Detail Drawing For Pressure Vessels and Heat Exchangers Doc. No. BK-GNRL-PEDCO-000-ME-DW-0001". **TJ: Confirmed**
31. Elliptical heads shall be Ultrasonic Tested for lamination after forming. **TJ: RT test will be performed.**
32. The projection of equipment's nozzles should be considered as per 'Standard Detail Drawing For Pressure Vessels and Heat Exchangers', Doc. No. BK-GNRL-PEDCO-000-ME-DW-0001". **TJ: Confirmed**
33. The elevation of equipment's nozzels should be specified as follows :
I. For vertical vessels : from bottom T.L. **TJ: Confirmed**
II. For horizontal vessels : from Left T.L.
34. Nozzles and flanges shall be suitably supported and reinforced based on nozzle loads provided in project Specification for Pressure Vessels, Document No. BK-GNRL-PEDCO-000-ME-SP-0001. **TJ: Confirmed**
35. Prior to sealing the vessel for shipping and storage, the inside surface of the equipment shall be 100% visually inspected. Internal surfaces shall be clean and thoroughly dried. The CLIENT or its nominated representative shall witness the cleanliness of internal surfaces. Flange faces shall be protected by wooden or plastic dummy flanges. **TJ: Confirmed**
36. Minimum requirement for pre-commissioning, commissioning, start up and two years operation spare parts shall be in accordance with document E&C-QC-SP-1. **TJ: Confirmed**
37. Lifting Lugs / trunnions shall be provided to facilitate a single point lift. If a single point lift cannot be achieved without the use of a lifting beam, then VENDOR shall provide a suitable, certified, lifting beam. **TJ: Confirmed**
38. Design pressure specified is at top of vessels. VENDOR design shall include static head for vessels flooded with specific gravity of the handled liquid. **TJ: Confirmed**
39. VENDOR is to maximize shop fabrication based on the following transportation limits:
- Maximum weight: 96 tonnes **TJ: Confirmed**
- Maximum load per axle: 12 tonnes
- Maximum length: 50.0 m
- Maximum width: 5.0 m
- Maximum height: 5.2 m
For items with dimensions and weights greater than the road capacity specified above, VENDOR may be required to split the package into several components. **TJ: Confirmed**
40. All external attachments directly welded to the pressure part shall be the same material as vessel grade. **TJ: Confirmed**
41. All dimensions are in "mm" unless otherwise specified. **TJ: Confirmed**
42. 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. **TJ: Confirmed**
43. Deleted
44. DEMISTER specification will be finalized latter. **TJ: Confirmed**
45. Welded carbon and carbon manganese steels for vessel shall comply with the following :
Carbon content shall not exceed 0.23%. **TJ: Confirmed**
Based on the ladel analysis, below equation shall be satisfied.
$$Ceq. = C + Mn/6 + (Cr + Mo + V)/5 + (Cu + Ni)/15 < 0.42 \%$$
46. All carbon steel material shall be fully killed, fine grain treated and supplied in the normalized condition. **TJ: Confirmed**
47. Sacrificial Anode is required for the equipment. **TJ: Confirmed**

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شماره پیمان:	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: ۵ از ۸
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Mech. Data Sheet For Slug Catcher (V-2104) / sheet 1 of 4									
Rev	DATA SHEET								Rev
D01	1	Description : Inlet Gas K.O. Drum							
	2	Tag No. : V-2104			Quantity : 1			Set	
	3	Type : Pressure Vessel							
	4	Process Design Data D01							
	5	Contents	H2O-HC		Corrosive / Erosive		CO2,H2S		
	6	Operating Temp. (°C)	15.5~32		Liquid Flow (kg/h)		360078		
	7	Operating Press. (barg)	5.5		Vap. Molec. Weight (kg/kmol)		33.2		
	8	Gas Flow (kg/h)	12223		Liquid Sp. Gravity		0.85		
	9	Liquid Viscosity (cP)	0.4207		Lethal / SOUR :		SOUR		
D01	10	Mechanical Design Data (Note 1) D01							
	11	Design Temp. (°C)	85		Vessel Orientation		Horizontal		
	12	Design Press. (barg)	9		LLLL / HHLL (mm)		150 / 3414		
	13	Test Press. (barg)	Per Code & Spec Requirements.		Nor. Liquid Vol. (m³)		48 (Vol. from Bottom to NLL)		
	14	Internal Vacuum (barg)	F.V.		In. Dia. Of Boots (mm)		-		
	15	In. Dia. of Shell (mm)	4200		Boot Length (mm)		-		
	16	Tan/Tan Dim. (mm)	12600		Boot Head Type		-		
	17	Vessel Head Type	2:1 Elliptical (Note 23)		Corr. Allowance (mm)		6		
	18	Shell Wall Thk. (mm)	* TJ: 20mm		Joint Efficiency		0.85 (Shell) / 1 (Head)		
	19	Head Wall Thk. (mm)	* (After Forming) TJ: 14mm		Ambient Temp. (°C)		-		
	20	Seismic Design	Site Class : D, Code: ASCE 7-10		MDMT (°C)		5		
	21	Wind Design	Speed: 120 Km/hr (Max.), Code: ASCE 7-10		Insulation Required		NO		
	22	Materials (Note45, 46) D01							
	23	Code	ASME II / ASTM		Internal Welded Supports		A 516 Gr. 60 N		
	24	Shell	A 516 Gr. 60 N		Nozzle Necks		A 106 Gr.B N		
	25	Heads	A 516 Gr. 60 N		Pipes		A 106 Gr.B N		
	26	Lining	P3		Plates		A 516 Gr. 60 N		
27	Saddles	A 283 Gr. C		Forgings		A 105 N			
28	Wear Plate	A 516 Gr. 60 N		Flanges		A 105 N			
29	Stiffening Rings	A 516 Gr. 60 N		Fittings		A 234 Gr. WPB			
30	Gaskets	Note 26		Welded Internals		A 516 Gr. 60 N			
31	Lifting Lugs	A 516 Gr.60 N / A 283 Gr. C		External Bolts		A 193 Gr. B7 (8)			
32	Reinforcing Pads	A 516 Gr. 60N		Nuts		A 194 Gr. 2H (8)			
33	Ladder & Platform	C.S.		Internal Bolts		A193 Gr. B8M (8)			
34	Gratings	Hot Dip Galvanized C.S.		Nuts		A194 Gr. 8M (8)			
35	External Welded Clips	A 516 Gr. 60 N		Name Plate		S.S. 316			
36									
37	REFERENCE STANDARDS & DOCUMENTS								
38	Mechanical Design Code			ASME SEC. VIII, DIV. 1, IPS-D-ME-140					
39	Specification for Pressure Vessels			BK-GNRAL-PEDCO-000-ME-SP-0001					
40	Process Basis of Design			BK-GNRAL-PEDCO-000-PR-DB-0001					
41	Piping & Instrument Diagram (P&ID)			BK-GCS-PEDCO-120-PR-PI-0004					
42	Specification for Painting			BK-GNRAL-PEDCO-000-PI-SP-0006					
43	Specification for Insulation			BK-GNRAL-PEDCO-000-PI-SP-0019					
44	Specification For Material Requirements in Sour service			BK-GNRAL-PEDCO-000-PI-SP-0008					
45	Fabrication and Inspection Requirements								
46	Inspection Authority		TPI & Client						
47	Material Certification		In Accordance with BS EN 10204:2004, Type 3.1, Minimum for Pressure Containing and Attachments						
48	Hydro Test Medium		Water		Hydro Test Procedure		Yes;Per Code & Spec. Requirements		
49	Post Weld Heat Treatment		YES(PROCESS REASON)		PT		100%		
##	MT		100 % on Lifting Lug Fillet Welds		UT		Yes;Per Code & Spec. Requirements		
##	RT		100 % On T-Joints and Head Joints Butt-Welds,						
##			Spot On Shell Longitudinal and Circumferential Joints Butt-Welds,						
##			100 % On Nozzle Neck to Flange & Fabricated Nozzle Neck Longitudinal Butt-Welds,						
##	RT Report Yes; Per Code & Spec. Requir.				PT Report Yes;Per Code & Spec. Requirements				
##	MT Report Yes; Per Code & Spec. Requir.				UT Report Yes;Per Code & Spec. Requirements				
##	Fabrication Quality Control Plan (With Offer)				Yes				
##	Welding Procedure Review / Approval				Yes				
##	Surface Preparation & Coating				Per Specification for Painting: Doc. No. "BK-GNRAL-PEDCO-PI-SP-0006"				
##					Per specification For Lining: Doc. No.: BK-GNRAL-PEDCO-000-PI-SP-0007				
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احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک

MECHANICAL DATA SHEETS FOR SLUG CATCHER



شماره پیمان:

• 03 - • 73 - 9184

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Mech. Data Sheet For Slug Catcher (V-2104) / sheet 2 of 4

Rev.	ACCESSORIES , NOZZLES LIST & LOADS @ BASE													Rev.
D01 D01 D01 D01 D01 D01 D01 D01 D01 D01 D01 D01 D01	Accessories & Attachments (Note 25, 40)													
	Supporting Saddles			YES			Name Plate Bracket			D01			YES	
	Access Ladder & Platform			YES			Name Plate						YES	
	Insulation Support			NO			Earthing Lug (Note 29, 30)						YES	
	Insulation			NO			Tailing Lug						N/A	
	Insulation Cover			NO			Cathodic Protection (Sacrificial Anodes)						YES	
	Fireproofing Support			NO			Anchor Bolts						NO	
	Lifting Lugs			YES			Instrumentations						NO	
	Internal/ External Clips			YES			Skid						N/A	
	Tamplate			NO			Support Clips						YES	
	Boot			NO			Vortex Breaker						YES	
	Davit for Manhole			YES			Rung & Grip						NO	
	Internal Lining (By Painting)			YES			Heating Coil						NO	
Nozzles List (Note 1,5,6,14,32,33)													D01	
D01 D01 D01 D01 D01 D01 D01 D01 D01 D01 D01 D01 D01 D01 D01 D01 D01	Mark	Qty.	Description	Pipe			Flange			Proj. (mm)	Reinforcement		Remarks	
				Size	Thk.	Sch.	Type	Rate.	Face		Thk.	O.D.		
	A	1	Inlet	8"			WN	#150	RF	SEE DWG				
	B1	1	Gas Outlet	8"			WN	#150	RF	SEE DWG				
	B2	1	Liquid Outlet	4"			WN	#150	RF	SEE DWG				
	V1	1	Vent	4"			WN	#150	RF	SEE DWG				
	V2	1	Ventilation	8"			WN	#150	RF	SEE DWG				
	M1,2	1	Manhole	24"			WN	#150	RF	2350				
	S	1	Utility Connection	3"			WN	#300	RF	SEE DWG				
	D 1,2	2	Drain	3"			WN	#150	RF	SEE DWG				
	L 1,2	2	Stand Pipe	3"			WN	#150	RF	SEE DWG				
	L 3,4	2	Level transmitter	2"			WN	#300	RF	SEE DWG				
	PSV	1	Pressure Safety Valve	2"			WN	#150	RF	SEE DWG				
	P1	1	Pressure Gauge	2"			WN	#300	RF	SEE DWG				
	P2	1	Pressure transmitter	2"			WN	#300	RF	SEE DWG				
	T	1	Temperature gauge	2"			WN	#300	RF	SEE DWG				
	P3	1	PDIT	2"			WN	#300	RF	SEE DWG				
Wind and Seismic Loads at Base * Note(9)														
<div><div><div>M</div><div>P</div><div>T</div><div>Q</div></div><div>Load Type</div></div>	Empty Condition			Operating Condition			Testing Condition							
	Max. Shear @ Base (Kg)	Max. Moment @ Base (Kg.m)	Weight (Kg)	Max. Shear @ Base (Kg)	Max. Moment @ Base (Kg.m)	Weight (Kg)	Max. Shear @ Base (Kg)	Max. Moment @ Base (Kg.m)	Weight (Kg)					
	WIND													
	SEISMIC													



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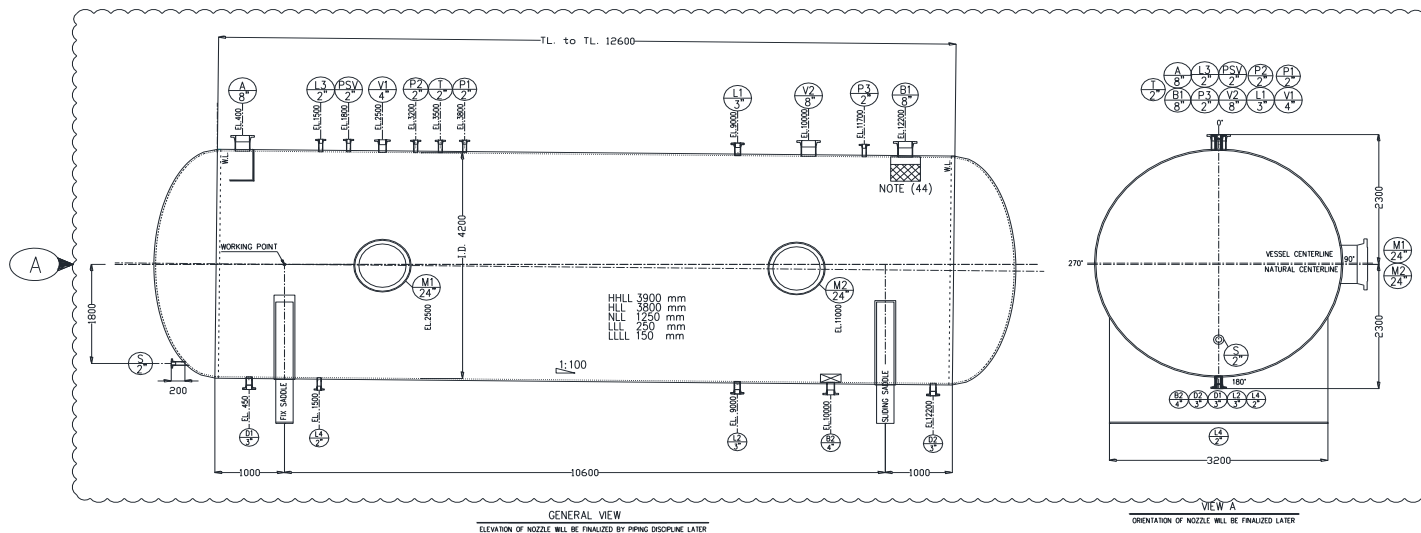
D01

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Mech. Data Sheet For Slug Catcher (V-2104) / sheet 3 of 4

Sketch

D01





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نگهداشت و افزایش تولید میدان نفتی بینک

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Mech. Data Sheet For Slug Catcher (V-2104) / sheet 4 of 4

Rev.	WEIGHT						Rev.
1	WEIGHT CONTROL DATA SHEET SI UNIT (1)						<div style="text-align: center;">D01</div> 1/1
2							
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5							
6	Service : <i>Slug Catcher</i>			Location : <i>Bushehr (Binak Oilfield)</i>			D01
7	Type :			Quotation No. :			
8	No. trains :			Serial No. :			
9	No. stages :						
10	Supplier :						
11	Manufacturer :						
12	Model :						
13							
14	Note: Information to be completed by equipment vendor.						
15							
16	Total weight (kg)(1,2)						
17	Fabrication	Erection	Operation	Hydrostatic Test	Removable internal	Ladder & Platform	
18							
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22							
23	WEIGHT AND C OF G DATA REQUIRED (9)						
24	CONDITION	WEIGHT ACCURACY %	WEIGHT (kg)	CENTER OF GRAVITY (mm)			
25				X	Y	Z	
26	Dry						
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30	SKETCH						
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52	NOTES						
53	1) All lifting points to be load tested and certified.						
54	2) Any spreader beam to be load tested and certified.						
55	3) Lifting / rigging plan for skid mounted equipment to be provided by the Vendor.						
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