

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک						 		
	MECHANICAL DATA SHEETS FOR FIRE WATER STORAGE TANK								
شماره پیمان: ۰۵۳ - ۰۲۳ - ۹۱۸۴	پروژه BK	بسته کاری GCS	صادرکننده PEDCO	تسهیلات 120	رشته ME	نوع مدرک DT	سریال 0017	نسخه D00	شماره صفحه: ۱ از ۷

طرح نگهداشت و افزایش تولید ۲۷ مخزن

MECHANICAL DATA SHEETS FOR FIRE WATER STORAGE TANK

نگهداشت و افزایش تولید میدان نفتی بینک

D00	JUN.2022	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-708848

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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General Notes

1. 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.
2. The VENDOR/BIDDER shall design and supply the storage tank in accordance with "Specification For Atmospheric Above Ground Welded Steel Tanks", Document No.: "BK-GNRL-PEDCO-000-ME-SP-0002" and "Standard Detail Drawing For Storage Tanks",
3. Document No.: BK-GNRL-PEDCO-000-ME-DW-0002'. VENDOR/BIDDER shall provide completed datasheets with bid.
4. Tank height shall be checked based on Freeboard calculation by vendor.
5. The VENDOR/BIDDER shall be fully responsible for the complete mechanical design of the tank.
6. External and internal surface of tank shall be coated in accordance with BK-GNRL-PEDCO-000-PI-SP-0006 & BK-GNRL-PEDCO-000-PI-SP-0007 respectively.
7. All materials for pressure parts shall fulfill the impact test requirements of API-650 standard.
8. 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 and two cables per tank.
9. 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.
10. Instrument and piping nozzle flanges shall be in accordance with ASME B 16.5.
11. Minimum width of shell courses plates shall be 1.5 m.
12. 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°.
13. 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.
14. Cone roof angle and roof plates joint shall be so selected that tank roof plate thickness will not be greater than 12mm.
15. All nozzles equal / greater than 2" shall have reinforcement pad.
16. All nozzles connection weld to tank shall be with full penetration.
17. Necessity of wind girder and stiffening ring will be finalized by vendor.
18. Allowable stress of anchor bolts shall not be greater than those are recommended in API 650 standard.
19. The requirement of internal and external cathodic protection shall be considered by VENDOR.
20. Seal materials shall have enough resistance against temperature changes, expansion & contraction, fluid weight changes and etc.
21. All dimensions are in "mm" unless otherwise specified.
22. Vent size and quantity shall be specified/verified by vendor according to API 2000.
23. Projection of Horizontal and Vertical nozzles are specified from tank centerline and top of top angle (roof line) respectively.
24. For standard detail of earth lug execution refer to the project "standard detail drawing for storage tanks DOC. NO. "BK-GNRL-PEDCO-000-ME-DW-0002" and provide minimum two earthing lugs and two cables per tank.
25. 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-GNRL-PEDCO-000-ME-SP-0002"
26. Will be Finalized later.



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GENERAL INFORMATION (TO BE COMPLETED BY PURCHASER)

Rev.

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-2301 A / B</i>		NOMINAL CAPACITY: <i>1260</i>		m ³		NET WORKING CAPACITY: <i>1,040.00</i>		m ³	
8	QTY. REQ'D: <i>2 Sets</i>		OVERFILL PROTECTION (API RP 2350):							
9	5. PUMPING RATES:		IN		(Note(26))		m ³ /hr		OUT	
10	6. MIN./MAX. OPERATING TEMPERATURE:		AMB.		°C					
11	7. PRODUCT STORED:		<i>Fire Water Tank</i>				DESIGN SPEC. GRAVITY: <i>1</i>		AT <i>163</i> °C	
12	DESIGN TEMPERATURE:		85		°C		VAPOR PRESSURE:		kPa	
13	8. CORROSION ALLOWANCE:									
14	SHELL:		<i>1.6</i>		mm		ROOF:		<i>1.6</i> mm	
15	BOTTOM:		<i>1.6</i>		mm		STRUCTURALS:		- mm	
16	9. SHELL DESIGN: BASIC STANDARD API 650		<i>YES</i>		APPENDIX A		<i>YES</i>		IPS-G-ME-100 <i>YES</i> IPS-G-ME-110	
17	DESIGN PRESSURE :		<i>ATM+Full water</i>		kPa (g)					
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>	
19	APPENDIX G (ALUMINUM DOME)		<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:		-		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 Fv : 1.5</i>	
30	SITE CLASS:		<i>D</i>		SITE COEFFICIENT:		<i>1.2</i>		<i>Ss : 1.25 S1 : 0.58</i>	
31	13. WIND LOAD:									
32	VELOCITY:		<i>120</i>		km/hr		(DIRECTION: NW TO SE)			
33	PROVIDE INTERMEDIATE WIND GIRDER (5.9.7) :									
34	14. ENVIRONMENTAL EFFECTS:									
35	MAXIMUM RAINFALL				mm/year		TOTAL SNOW ACCUMULATION		mm	
36										
37	15. SIZE RESTRICTIONS:									
38	MAXIMUM DIAMETER		<i>13000</i>		mm		MAXIMUM HEIGHT		<i>9500</i> mm	
39	16. FOUNDATION TYPE:		CONCRETE RINGWALL <i>YES</i>							
40	EARTH		OTHER							
41	17. APPLICABLE STANDARDS:									
42	<i>API 650</i>		&		<i>IPS-G-ME-100 (1)</i>					
43	17. SERVICE TYPE									
44	SOUR		<i>NO</i>		NON-SOUR		<i>NO</i>			
45	LETHAL				NON-LETHAL					
46	18. NACE REQUIREMENT									
47	SSC		<i>NO</i>		HIC		<i>NO</i>			
48	REMARKS:									
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CONSTRUCTION DETAILS (TO BE COMPLETED BY MANUFACTURER AND/OR PURCHASER)

Rev.

1	1. MANUFACTURER							
2	ADDRESS:							
3	CITY:		PROV.:		POSTAL CODE:		PHONE:	
4	SERIAL NUMBER:							
5	2. FABRICATOR:							
6	ADDRESS:							
7	CITY:		PROV.:		POSTAL CODE:		PHONE:	
8	SERIAL NUMBER:							
9	3. MATERIAL SPECIFICATIONS:							
10	SHELL :		A-283 GR.C		PIPE :		A-106 GR.B	
11	ROOF :		A-283 GR.C		FLANGE :		A-105	
12	BOTTOM / ANNULAR BOTTOM :		A-283 GR.C		EXT. BOLT / NUT :		A-193 GR.B7 / A-194 GR.2H	
13	FIXED INTERNALS :		C.S.		INT. BOLT / NUT :		S.S.	
14	REMOVABLE INTERNALS : -							
15	STRUCTURALS : A-36							
16	4. NO. OF SHELL COURSES							
17	5. PLATE WIDTHS AND THICKNESSES (INCLUDING CORROSION ALLOWANCE) (NOTE 11)							
18	1. 1500		4. 1500		7. 1500		10.	
19	2. 1500		5. 1500		8.		11.	
20	3. 1500		6. 500		9.		12.	
21								
22	6. TANK BOTTOM:		PLATE THICKNESS		mm (Note 1)		YES	
23	SLOPE		1 : 120		mm per meter		TO YES FROM CENTER	
24	7. MINIMUM WIDTH AND THICKNESS OF BOTTOM ANNULAR PLATES (5.5) : - mm (Note 1)							
25	8. ROOF-TO SHELL DETAIL (FIGURE F-2 'API-650') : Detail B (Note 14)							
26	9. INTERMEDIATE WIND GIRDER (Note 18) NO TOP WIND GIRDER FOR USE AS WALKWAY :							
27								
28	10. ROOF TYPE :		YES CONE (Supported)		DOME		SPHERE	
29	SLOPE OR RADIUS :		1 : 5		(Note 14)			
30	11. ROOF PLATE: THICKNESS		(Note 1)		mm		YES LAP BUTT JOINT	
31	12. PAINT: (Note 6)							
32	SHELL :		EXTERIOR		YES		INTERIOR YES	
33	SURFACE PREPARATION							
34	BOTTOM :		UNDERSIDE		YES		INTERIOR YES	
35	SURFACE PREPARATION							
36	ROOF :		EXTERIOR				INTERIOR YES	
37	SURFACE PREPARATION							
38	STRUCTURAL STEEL :		EXTERIOR		YES		INTERIOR -	
39	SPECIFICATION :							
40	13. TANK BOTTOM COATING:		INTERIOR		YES		MATERIAL	
41	APPLICATION SPECIFICATION							
42	14. INSPECTION BY:		SHOP		FILED			
43	15. WELD EXAMINATION: Radiograph (extent of radiography as per IPS-G-ME-100)							
44	Supplementary liquid penetrant or ultrasonic							
45	JOINT EFFICIENCY: As Per Code							
46	16. FILMS : PROPERTY OF							
47	17. LEAK TESTING:							
48	BOTTOM		YES		ROOF YES		SHELL YES	
49	18. MILL TEST REPORTS: REQUIRED							
50	PLATE STRUCTURAL SHAPES							
51	19. PURCHASER'S REFERENCE DRAWING :							
52	20. TANK SIZE :		DIAMETER		13000		mm HEIGHT 9500 mm	
53	DATE OF STANDARD 650 EDITION/REVISION : 12th Edition Aug 2018							
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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	2. WALKWAY:		ROLLING LADDER			
3	3. DRAW -OFF SUMP:	YES	STANDARD	SPECIAL	LENGTH	mm
4	4. BOLTED DOOR SHEET :	NO	(APPENDIX A TANKS ONLY)	RAISED	FLUSH	
5	5. SCAFFOLD HITCH					
6	6. INTERNAL PIPING:		SWING LINE	SUCTION LINE		
7	7. ROOF DRAIN:		HOSE	JOINTED		
8	8. NO. AND SIZE OF SHELL MANHOLES	2 x 24"				
9	9. NO. AND SIZE OF ROOF MANHOLES	1 x 24"				

SHELL NOZZLES LIST (Notes 1,15,16, 22)

MARK	QTY.	DESCRIPTION	PIPE			FLANGE			PROJ. (mm)	REINF.		REMARKS
			Size(in.)	Thk.	Sch.	Type	Rate.	Face		Thk.	O.D.	
A	1	Inlet	3			WN	150 #	RF	6650			
B1	1	Outlet	12			WN	150 #	RF	6750			
TL	1	Test Line	10			WN	150 #	RF	6750			
PSV	1	Pressure Safty Valve	10			WN	150 #	RF	6750			
LS	2	Level Switch	2			WN	300 #	RF	6650			
B2	1	Over Flow	3			WN	150 #	RF	6650			
D	1	Drain	3			WN	150 #	RF	6650			
M1	2	Manhole	24			WN	150 #	RF	6800			
LT	2	Level Transmitter	2			WN	300 #	RF	6650			

ROOF NOZZLES LIST (Notes 1, 23)

MARK	QTY.	DESCRIPTION	PIPE			FLANGE			PROJ. (mm)	REINF.		REMARKS
			Size(in.)	Thk.	Sch.	Type	Rate.	Face		Thk.	O.D.	
V	1	Vent	8			WN	150 #	RF	SEE DWG			
L1	1	Level Indicator	2			WN	300 #	RF	SEE DWG			
M2	1	Roof Manhole	24			WN	150 #	RF	SEE DWG			

TOTAL WEIGHT (kg) (Note 26)

FABRICATION	OPERATION	HYDROSTATIC TEST	REMOVABLE STANDARD	LADDER & PLATFORM

LOADING (Note 26)

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



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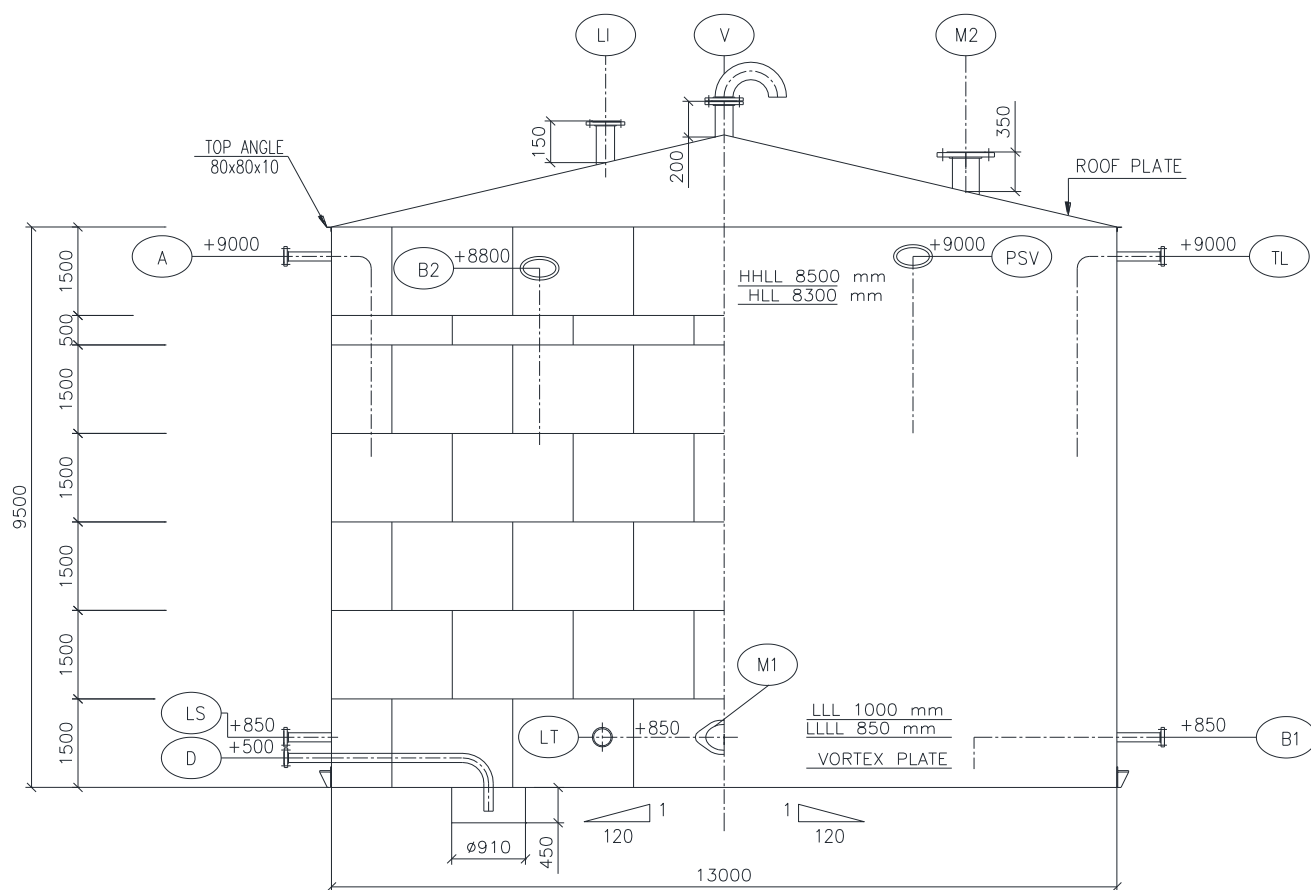
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GENERAL ARRANGEMENT VIEW



ELEVATION VIEW
NOZZLES ELEVATION WILL BE FINALIZED LATER.