

 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:	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه
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طرح نگهداشت و افزایش تولید ۲۷ مخزن

MECHANICAL DATA SHEETS FOR FIRE WATER STORAGE TANK

نگهداشت و افزایش تولید میدان نفتی بینک

D05	DEC.2024	AFC	V.Amjadi	M.Fakharian	M.Sadeghian	
D04	NOV.2024	AFC	V.Amjadi	M.Fakharian	M.Sadeghian	
D03	JUL.2024	IFA	V.Amjadi	M.Fakharian	M.Sadeghian	
D02	MAR.2024	IFA	H.Ghadyani	M.Fakharian	S.Faramarzpour	
D01	NOV.2022	IFA	H.Adineh	M.Fakharian	M.Mehrshad	
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: 1 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. Deleted.
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"



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GENERAL INFORMATION (TO BE COMPLETED BY PURCHASER)

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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		m ³ /hr		OUT		m ³ /hr	
10	6. MIN./MAX. OPERATING TEMPERATURE: <i>AMB.</i>									
11	7. PRODUCT STORED: <i>Fire Water Tank</i>									
12	DESIGN TEMPERATURE: <i>85</i>		°C		DESIGN SPEC. GRAVITY: <i>1</i>		AT <i>163</i>		°C	
13	8. CORROSION ALLOWANCE:		°C		VAPOR PRESSURE:		kPa			
14	SHELL:		<i>1.6</i>		mm		ROOF:		<i>1.6</i>	
15	BOTTOM:		<i>1.6</i>		mm		STRUCTURALS:		<i>-</i>	
16	9. SHELL DESIGN: BASIC STANDARD API 650		<i>YES</i>		APPENDIX A		<i>NO</i>		APPENDIX F <i>NO</i>	
17	DESIGN PRESSURE :		<i>ATM+Full water +50 mm H₂O</i>		kPa (g)		IPS-G-ME-100 <i>YES</i>		IPS-G-ME-110 <i>NO</i>	
18	10. ROOF DESIGN: BASIC STANDARD API 650		<i>YES</i>		APPENDIX G (ALUMINUM DOME)		<i>NO</i>		IPS-G-ME-110 <i>NO</i>	
19	FRANGIBLE ROOF JOINT		<i>NO</i>							
20	11. ROOF DESIGN INFORMATION:									
21	UNIFORM LIVE LOAD:		<i>1.2</i>		kPa (g)					
22	SPECIAL LOADS (PROVIDE SKETCH):				kPa (g)					
23	INSULATION LOAD:		<i>-</i>		kPa (g)					
24	MAXIMUM DESIGN ROOF TEMPERATURE:				°C					
25	GASES IN THE VAPOUR SPACE:									
26										
27										
28	12. EARTHQUAKE DESIGN :				(APPENDIX E)		ROOF TIE RODS (5.10.4.5) :			
29	SEISMIC CODE:		<i>(ASCE7-10)</i>		IMPORTANCE FACTOR		<i>1.25</i>		<i>Fa : 1</i>	
30	SITE CLASS:		<i>D</i>						<i>Fv : 1.33</i>	
31	13. WIND LOAD:		WIND CODE:		<i>(ASCE7-10)</i>		<i>Ss : 1.125</i>		<i>S1 : 0.46</i>	
32	VELOCITY:		<i>232</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>	
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 :					PIPE :				
11	A-283 GR.C					A-106 GR.B				
12	ROOF :					FLANGE :				
13	A-283 GR.C					A-105				
14	BOTTOM / ANNULAR BOTTOM :					EXT. BOLT / NUT :				
15	A-283 GR.C					A-193 GR.B7 / A-194 GR.2H				
16	FIXED INTERNALS :					INT. BOLT / NUT :				
17	C.S.					S.S.				
18	REMOVABLE INTERNALS :					-				
19	STRUCTURALS :					A-36				
20	4. NO. OF SHELL COURSES									
21	5. PLATE WIDTHS AND THICKNESSES (INCLUDING CORROSION ALLOWANCE (NOTE 11 & NOTE 1)									
22	1. 2000 / VTS		4. 2000 / VTS		7. 10.					
23	2. 2000 / VTS		5. 1500 / VTS		8. 11.					
24	3. 2000 / VTS		6. 9.		12.					
25										
26	6. TANK BOTTOM: PLATE THICKNESS VTS mm (Note 1) YES LAP BUTT SEAMS									
27	SLOPE 1 : 120 mm per meter TO YES FROM CENTER									
28	7. MINIMUM WIDTH AND THICKNESS OF BOTTOM ANNULAR PLATES (5.5) : 658 / VTS mm (Note 1)									
29	8. ROOF-TO SHELL DETAIL (FIGURE F-2 'API-650') : Detail B (Note 14)									
30	9. INTERMEDIATE WIND GIRDER (Note 18) NO TOP WIND GIRDER FOR USE AS WALKWAY : NO									
31										
32	10. ROOF TYPE : CONE (Supported by Rafter) DOME SPHERE									
33	SLOPE OR RADIUS : 1 : 10 (Note 14)									
34	11. ROOF PLATE: THICKNESS (Note 1) VTS mm YES LAP BUTT JOINT									
35	12. PAINT: (Note 6)									
36	SHELL :		EXTERIOR		YES		INTERIOR		YES	
37	SURFACE PREPARATION									
38	BOTTOM :		UNDERSIDE		YES		INTERIOR		YES	
39	SURFACE PREPARATION									
40	ROOF :		EXTERIOR				INTERIOR		YES	
41	SURFACE PREPARATION									
42	STRUCTURAL STEEL :		EXTERIOR		YES		INTERIOR		-	
43	SPECIFICATION :									
44	13. TANK BOTTOM COATING:		INTERIOR		YES		MATERIAL			
45	APPLICATION SPECIFICATION									
46	14. INSPECTION BY:		SHOP		FILED					
47	15. WELD EXAMINATION: Radiograph (extent of radiography as per IPS-G-ME-100)									
48	Supplementary liquid penetrant or ultrasonic									
49	JOINT EFFICIENCY:		As Per Code							
50	16. FILMS : PROPERTY OF									
51	17. LEAK TESTING:									
52	BOTTOM		YES		ROOF		YES		SHELL YES	
53	18. MILL TEST REPORTS: REQUIRED									
54	PLATE STRUCTURAL SHAPES									
55	19. PURCHASER'S REFERENCE DRAWING :									
56	20. TANK SIZE :		DIAMETER		13000		mm HEIGHT		9500 mm	
57	DATE OF STANDARD 650 EDITION/REVISION : 12th Edition Aug 2018									
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APPURTENANCES (TO BE COMPLETED BY MANUFACTURER AND/OR PURCHASER)

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1	1. STAIRWAY STYLE (Note 12)	YES	CIRCULAR	STRAIGHT	ANGLE TO HORIZONTAL	DEGREES
2	2. WALKWAY:		ROLLING LADDER			
3			WIDTH	mm	LENGTH	mm
4	3. DRAW -OFF SUMP:	YES	STANDARD	SPECIAL		
5	4. BOLTED DOOR SHEET :	NO	(APPENDIX A TANKS ONLY)	RAISED	FLUSH	
6	5. SCAFFOLD HITCH					
7	6. INTERNAL PIPING:		SWING LINE	SUCTION LINE		
8			HEATING COIL SURFACE AREA	m ²		
9	7. ROOF DRAIN:		HOSE	JOINTED		
10			SIPHON			
11	8. NO. AND SIZE OF SHELL MANHOLES	2 x 24"				
12	9. NO. AND SIZE OF ROOF MANHOLES	1 x 24"				
13	SHELL NOZZLES LIST (Notes 1,15,16, 22)					
14	MARK	QTY.	DESCRIPTION	PIPE	FLANGE	PROJ.
15				Size(in.)	Thk.	Sch.
16	A1	1	Inlet	3		
17						
18	B1	1	Outlet	12		
19	TL	1	Test Line	12		
20	A3	1	Inlet	3		
21	LS	1	Level Switch	2		
22	B2	1	Over Flow	3		
23	D	1	Drain	4		
24	M1/2	2	Manhole	24		
25	LT1	1	Level Transmitter	2		
26	A2	1	Pressure Relief Valve	10		
27						
28						
29	ROOF NOZZLES LIST (Notes 1, 23)					
30	MARK	QTY.	DESCRIPTION	PIPE	FLANGE	PROJ.
31				Size(in.)	Thk.	Sch.
32	V	1	Vent	8		
33	L1	1	Level Indicator	6		
34	M3	1	Roof Manhole	24		
35	LT2	1	Level Transmitter	2		
36						
37	TOTAL WEIGHT (kg) (Note 2)					
38	FABRICATION	OPERATION	HYDROSTATIC TEST	REMOVABLE STANDARD	LADDER & PLATFORM	
39	45283	1085283	1305283	200	1500	
40						
41	LOADING (Note 2)					
42	WINDSHEAR	WIND OVERTURNING MOMENT	EARTHQUAKE SHEAR	EARTHQUAKE OVERTURNING		
43	(KG)	(KG.M)	(KG)	MOMENT(Ring Wall/Slab) (KG.M)		
44	11272.3	73149.1	117511.6	375446.9	584605.7	
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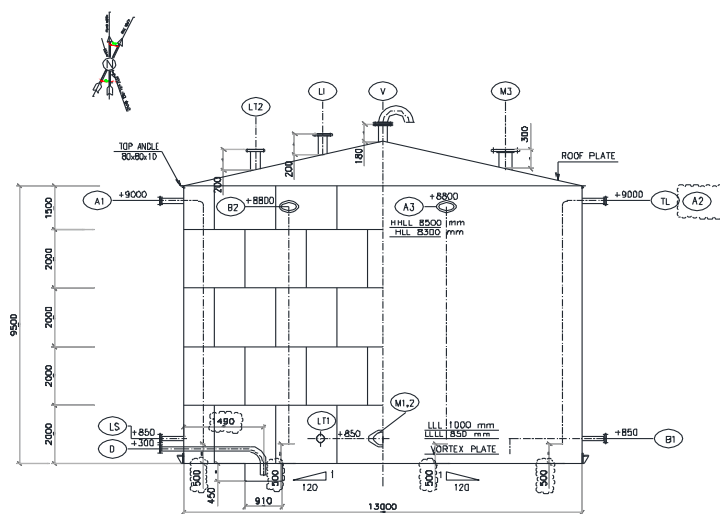
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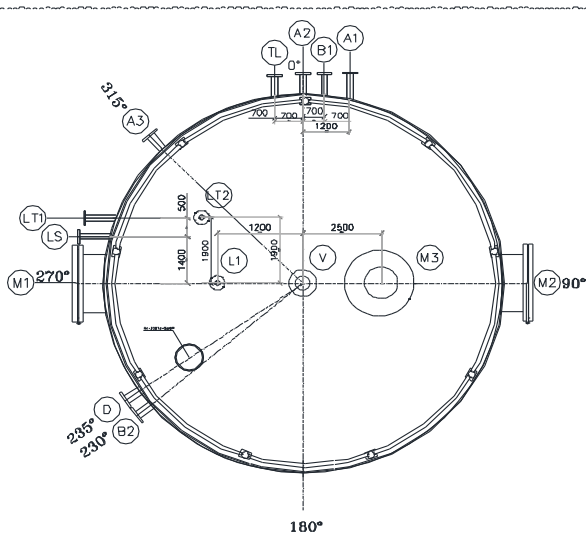
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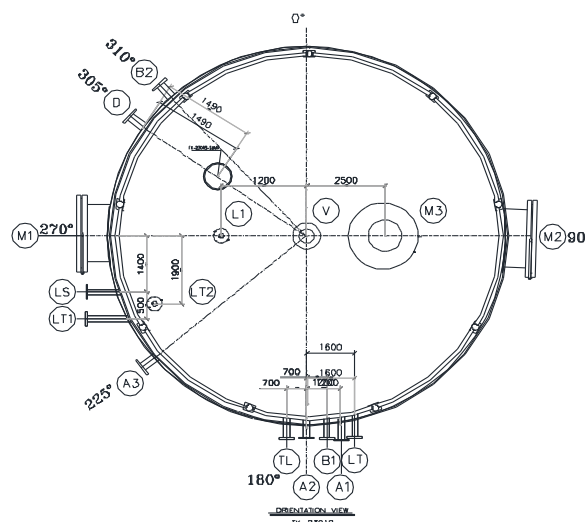
GENERAL ARRANGEMENT VIEW



ELEVATION VIEW
NOZZLES ELEVATION WILL BE FINALIZED LATER.



ORIENTATION VIEW
TK-2301A



ORIENTATION VIEW
TK-2301B