

HOBBS OCD

NOV 15 2017

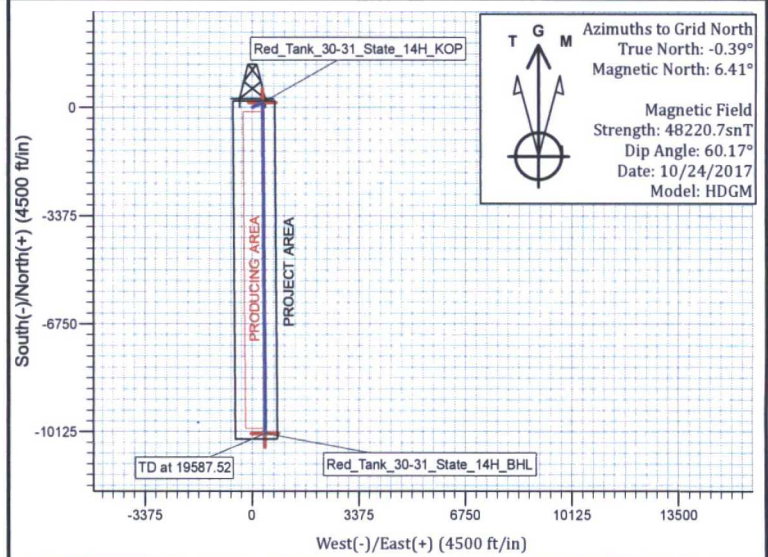
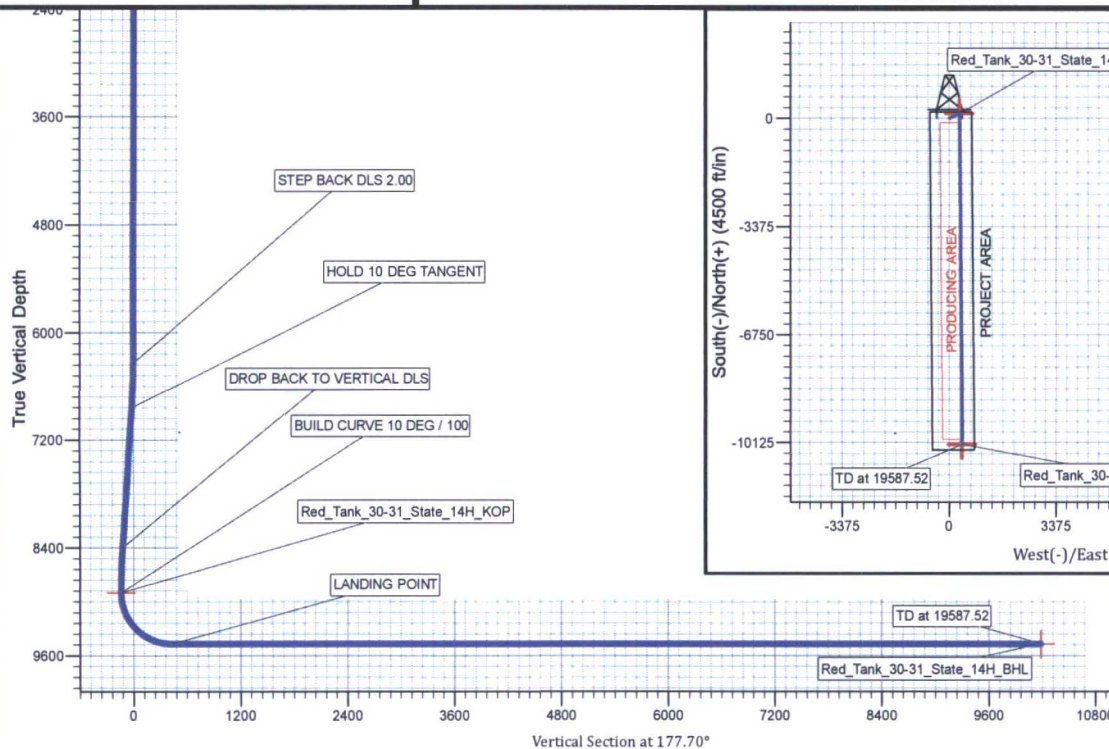
RECEIVED



Project: PRD NM DIRECTIONAL PLANS (NAD 1983)
Site: RED TANK 30-31 STATE
Well: RED TANK 30-31 STATE 14H
Wellbore: WB00
Design: Permitting Plan

WELL DETAILS: RED TANK 30-31 STATE 14H

Ground Level: 3662.50
+N/-S +E/-W Northing Easting Latitude Longitude
0.00 0.00 498931.08 766095.00 32° 22' 10.307471 N 103° 36' 19.277314 W
Datum @ 3689.00ft



PROJECT DETAILS: NM DIRECTIONAL PLANS (NAD 1983)

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone
System Datum: Mean Sea Level

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
2	6345.00	0.00	0.00	6345.00	0.00	0.00	0.00	0.00	0.00		STEP BACK DLS 2.00
3	6844.82	10.00	65.22	6842.29	18.23	39.49	2.00	65.22	-16.63		HOLD 10 DEG TANGENT
4	8430.35	10.00	65.22	8403.75	133.59	289.37	0.00	0.00	-121.89		DROP BACK TO VERTICAL DLS
5	8930.18	0.00	179.56	8901.04	151.82	328.86	2.00	180.00	-138.52		BUILD CURVE 10 DEG / 100
6	9830.18	90.00	179.56	9474.00	-421.13	333.25	10.00	179.56	434.14		LANDING POINT
7	19587.52	90.00	179.56	9474.00	-10178.19	408.04	0.00	0.00	10186.36		TD at 19587.52

Oxy Planning Report

Database: HOPSP
Company: ENGINEERING DESIGNS
Project: PRD NM DIRECTIONAL PLANS (NAD 1983)
Site: RED TANK 30-31 STATE
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Design: Permitting Plan

Local Co-ordinate Reference: Well RED TANK 30-31 STATE 14H
TVD Reference: Datum @ 3689.00ft
MD Reference: Datum @ 3689.00ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Project	PRD NM DIRECTIONAL PLANS (NAD 1983)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone	Using geodetic scale factor	

Site	RED TANK 30-31 STATE			
Site Position:		Northing:	498,933.39 usft	Latitude: 32° 22' 10.302032 N
From:	Map	Easting:	766,514.99 usft	Longitude: 103° 36' 14.380295 W
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence: 0.39 °

Well	RED TANK 30-31 STATE 14H			
Well Position	+N/-S	-2.31 ft	Northing:	498,931.08 usft
	+E/-W	-420.00 ft	Easting:	766,095.00 usft
Position Uncertainty	0.00 ft		Wellhead Elevation:	0.00 ft
			Ground Level:	3,662.50 ft

Wellbore	WB00				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	10/24/2017	6.80	60.17	48,221

Design	Permitting Plan			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	177.70

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
6,345.00	0.00	0.00	6,345.00	0.00	0.00	0.00	0.00	0.00	0.00	
6,844.82	10.00	65.22	6,842.29	18.23	39.49	2.00	2.00	0.00	65.22	
8,430.35	10.00	65.22	8,403.75	133.59	289.37	0.00	0.00	0.00	0.00	
8,930.18	0.00	179.56	8,901.04	151.82	328.86	2.00	-2.00	0.00	180.00	Red_Tank_30-31_S
9,830.18	90.00	179.56	9,474.00	-421.13	333.25	10.00	10.00	0.00	179.56	
19,587.53	90.00	179.56	9,474.00	-10,178.19	408.04	0.00	0.00	0.00	0.00	Red_Tank_30-31_S

Oxy

Planning Report

Database: HOPSPP
Company: ENGINEERING DESIGNS
Project: PRD NM DIRECTIONAL PLANS (NAD 1983)
Site: RED TANK 30-31 STATE
Well: RED TANK 30-31 STATE 14H
Wellbore: WB00
Design: Permitting Plan

Local Co-ordinate Reference: Well RED TANK 30-31 STATE 14H
TVD Reference: Datum @ 3689.00ft
MD Reference: Datum @ 3689.00ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00
4,900.00	0.00	0.00	4,900.00	0.00	0.00	0.00	0.00	0.00	0.00
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00
5,100.00	0.00	0.00	5,100.00	0.00	0.00	0.00	0.00	0.00	0.00
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.00	0.00	0.00
5,300.00	0.00	0.00	5,300.00	0.00	0.00	0.00	0.00	0.00	0.00

Oxy

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Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,400.00	0.00	0.00	5,400.00	0.00	0.00	0.00	0.00	0.00	0.00
5,500.00	0.00	0.00	5,500.00	0.00	0.00	0.00	0.00	0.00	0.00
5,600.00	0.00	0.00	5,600.00	0.00	0.00	0.00	0.00	0.00	0.00
5,700.00	0.00	0.00	5,700.00	0.00	0.00	0.00	0.00	0.00	0.00
5,800.00	0.00	0.00	5,800.00	0.00	0.00	0.00	0.00	0.00	0.00
5,900.00	0.00	0.00	5,900.00	0.00	0.00	0.00	0.00	0.00	0.00
6,000.00	0.00	0.00	6,000.00	0.00	0.00	0.00	0.00	0.00	0.00
6,100.00	0.00	0.00	6,100.00	0.00	0.00	0.00	0.00	0.00	0.00
6,200.00	0.00	0.00	6,200.00	0.00	0.00	0.00	0.00	0.00	0.00
6,300.00	0.00	0.00	6,300.00	0.00	0.00	0.00	0.00	0.00	0.00
6,345.00	0.00	0.00	6,345.00	0.00	0.00	0.00	0.00	0.00	0.00
6,400.00	1.10	65.22	6,400.00	0.22	0.48	-0.20	2.00	2.00	0.00
6,500.00	3.10	65.22	6,499.92	1.76	3.81	-1.60	2.00	2.00	0.00
6,600.00	5.10	65.22	6,599.66	4.75	10.30	-4.34	2.00	2.00	0.00
6,700.00	7.10	65.22	6,699.09	9.21	19.94	-8.40	2.00	2.00	0.00
6,800.00	9.10	65.22	6,798.09	15.11	32.74	-13.79	2.00	2.00	0.00
6,844.82	10.00	65.22	6,842.29	18.23	39.49	-16.63	2.00	2.00	0.00
6,900.00	10.00	65.22	6,896.63	22.24	48.18	-20.30	0.00	0.00	0.00
7,000.00	10.00	65.22	6,995.11	29.52	63.94	-26.93	0.00	0.00	0.00
7,100.00	10.00	65.22	7,093.59	36.79	79.70	-33.57	0.00	0.00	0.00
7,200.00	10.00	65.22	7,192.08	44.07	95.46	-40.21	0.00	0.00	0.00
7,300.00	10.00	65.22	7,290.56	51.35	111.23	-46.85	0.00	0.00	0.00
7,400.00	10.00	65.22	7,389.04	58.62	126.99	-53.49	0.00	0.00	0.00
7,500.00	10.00	65.22	7,487.52	65.90	142.75	-60.13	0.00	0.00	0.00
7,600.00	10.00	65.22	7,586.00	73.17	158.51	-66.76	0.00	0.00	0.00
7,700.00	10.00	65.22	7,684.49	80.45	174.27	-73.40	0.00	0.00	0.00
7,800.00	10.00	65.22	7,782.97	87.72	190.03	-80.04	0.00	0.00	0.00
7,900.00	10.00	65.22	7,881.45	95.00	205.79	-86.68	0.00	0.00	0.00
8,000.00	10.00	65.22	7,979.93	102.28	221.55	-93.32	0.00	0.00	0.00
8,100.00	10.00	65.22	8,078.41	109.55	237.31	-99.96	0.00	0.00	0.00
8,200.00	10.00	65.22	8,176.89	116.83	253.07	-106.60	0.00	0.00	0.00
8,300.00	10.00	65.22	8,275.38	124.10	268.83	-113.23	0.00	0.00	0.00
8,400.00	10.00	65.22	8,373.86	131.38	284.59	-119.87	0.00	0.00	0.00
8,430.35	10.00	65.22	8,403.75	133.59	289.37	-121.89	0.00	0.00	0.00
8,500.00	8.60	65.22	8,472.48	138.30	299.59	-126.19	2.00	-2.00	0.00
8,600.00	6.60	65.22	8,571.60	143.85	311.61	-131.25	2.00	-2.00	0.00
8,700.00	4.60	65.22	8,671.11	147.94	320.47	-134.99	2.00	-2.00	0.00
8,800.00	2.60	65.22	8,770.91	150.58	326.18	-137.39	2.00	-2.00	0.00
8,900.00	0.60	65.22	8,870.87	151.75	328.72	-138.46	2.00	-2.00	0.00
8,930.18	0.00	179.56	8,901.04	151.82	328.86	-138.52	2.00	-2.00	0.00
9,000.00	6.98	179.56	8,970.69	147.57	328.89	-134.27	10.00	10.00	0.00
9,100.00	16.98	179.56	9,068.39	126.83	329.05	-113.55	10.00	10.00	0.00
9,200.00	26.98	179.56	9,161.00	89.45	329.34	-76.18	10.00	10.00	0.00
9,300.00	36.98	179.56	9,245.72	36.55	329.75	-23.31	10.00	10.00	0.00
9,400.00	46.98	179.56	9,319.96	-30.25	330.26	43.46	10.00	10.00	0.00
9,500.00	56.98	179.56	9,381.47	-108.93	330.86	122.10	10.00	10.00	0.00
9,600.00	66.98	179.56	9,428.38	-197.10	331.54	210.22	10.00	10.00	0.00
9,700.00	76.98	179.56	9,459.28	-292.07	332.26	305.15	10.00	10.00	0.00
9,800.00	86.98	179.56	9,473.21	-390.96	333.02	403.99	10.00	10.00	0.00
9,830.18	90.00	179.56	9,474.00	-421.13	333.25	434.14	10.00	10.00	0.00
9,900.00	90.00	179.56	9,474.00	-490.95	333.79	503.92	0.00	0.00	0.00
10,000.00	90.00	179.56	9,474.00	-590.94	334.56	603.87	0.00	0.00	0.00
10,100.00	90.00	179.56	9,474.00	-690.94	335.32	703.82	0.00	0.00	0.00
10,200.00	90.00	179.56	9,474.00	-790.94	336.09	803.77	0.00	0.00	0.00

Oxy

Planning Report

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Project: PRD NM DIRECTIONAL PLANS (NAD 1983)
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Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
10,300.00	90.00	179.56	9,474.00	-890.94	336.85	903.71	0.00	0.00	0.00
10,400.00	90.00	179.56	9,474.00	-990.93	337.62	1,003.66	0.00	0.00	0.00
10,500.00	90.00	179.56	9,474.00	-1,090.93	338.39	1,103.61	0.00	0.00	0.00
10,600.00	90.00	179.56	9,474.00	-1,190.93	339.15	1,203.56	0.00	0.00	0.00
10,700.00	90.00	179.56	9,474.00	-1,290.92	339.92	1,303.50	0.00	0.00	0.00
10,800.00	90.00	179.56	9,474.00	-1,390.92	340.69	1,403.45	0.00	0.00	0.00
10,900.00	90.00	179.56	9,474.00	-1,490.92	341.45	1,503.40	0.00	0.00	0.00
11,000.00	90.00	179.56	9,474.00	-1,590.91	342.22	1,603.35	0.00	0.00	0.00
11,100.00	90.00	179.56	9,474.00	-1,690.91	342.99	1,703.29	0.00	0.00	0.00
11,200.00	90.00	179.56	9,474.00	-1,790.91	343.75	1,803.24	0.00	0.00	0.00
11,300.00	90.00	179.56	9,474.00	-1,890.91	344.52	1,903.19	0.00	0.00	0.00
11,400.00	90.00	179.56	9,474.00	-1,990.90	345.29	2,003.14	0.00	0.00	0.00
11,500.00	90.00	179.56	9,474.00	-2,090.90	346.05	2,103.08	0.00	0.00	0.00
11,600.00	90.00	179.56	9,474.00	-2,190.90	346.82	2,203.03	0.00	0.00	0.00
11,700.00	90.00	179.56	9,474.00	-2,290.89	347.59	2,302.98	0.00	0.00	0.00
11,800.00	90.00	179.56	9,474.00	-2,390.89	348.35	2,402.93	0.00	0.00	0.00
11,900.00	90.00	179.56	9,474.00	-2,490.89	349.12	2,502.87	0.00	0.00	0.00
12,000.00	90.00	179.56	9,474.00	-2,590.89	349.89	2,602.82	0.00	0.00	0.00
12,100.00	90.00	179.56	9,474.00	-2,690.88	350.65	2,702.77	0.00	0.00	0.00
12,200.00	90.00	179.56	9,474.00	-2,790.88	351.42	2,802.72	0.00	0.00	0.00
12,300.00	90.00	179.56	9,474.00	-2,890.88	352.18	2,902.66	0.00	0.00	0.00
12,400.00	90.00	179.56	9,474.00	-2,990.87	352.95	3,002.61	0.00	0.00	0.00
12,500.00	90.00	179.56	9,474.00	-3,090.87	353.72	3,102.56	0.00	0.00	0.00
12,600.00	90.00	179.56	9,474.00	-3,190.87	354.48	3,202.51	0.00	0.00	0.00
12,700.00	90.00	179.56	9,474.00	-3,290.86	355.25	3,302.45	0.00	0.00	0.00
12,800.00	90.00	179.56	9,474.00	-3,390.86	356.02	3,402.40	0.00	0.00	0.00
12,900.00	90.00	179.56	9,474.00	-3,490.86	356.78	3,502.35	0.00	0.00	0.00
13,000.00	90.00	179.56	9,474.00	-3,590.86	357.55	3,602.30	0.00	0.00	0.00
13,100.00	90.00	179.56	9,474.00	-3,690.85	358.32	3,702.24	0.00	0.00	0.00
13,200.00	90.00	179.56	9,474.00	-3,790.85	359.08	3,802.19	0.00	0.00	0.00
13,300.00	90.00	179.56	9,474.00	-3,890.85	359.85	3,902.14	0.00	0.00	0.00
13,400.00	90.00	179.56	9,474.00	-3,990.84	360.62	4,002.09	0.00	0.00	0.00
13,500.00	90.00	179.56	9,474.00	-4,090.84	361.38	4,102.03	0.00	0.00	0.00
13,600.00	90.00	179.56	9,474.00	-4,190.84	362.15	4,201.98	0.00	0.00	0.00
13,700.00	90.00	179.56	9,474.00	-4,290.84	362.92	4,301.93	0.00	0.00	0.00
13,800.00	90.00	179.56	9,474.00	-4,390.83	363.68	4,401.88	0.00	0.00	0.00
13,900.00	90.00	179.56	9,474.00	-4,490.83	364.45	4,501.82	0.00	0.00	0.00
14,000.00	90.00	179.56	9,474.00	-4,590.83	365.22	4,601.77	0.00	0.00	0.00
14,100.00	90.00	179.56	9,474.00	-4,690.82	365.98	4,701.72	0.00	0.00	0.00
14,200.00	90.00	179.56	9,474.00	-4,790.82	366.75	4,801.67	0.00	0.00	0.00
14,300.00	90.00	179.56	9,474.00	-4,890.82	367.51	4,901.61	0.00	0.00	0.00
14,400.00	90.00	179.56	9,474.00	-4,990.81	368.28	5,001.56	0.00	0.00	0.00
14,500.00	90.00	179.56	9,474.00	-5,090.81	369.05	5,101.51	0.00	0.00	0.00
14,600.00	90.00	179.56	9,474.00	-5,190.81	369.81	5,201.46	0.00	0.00	0.00
14,700.00	90.00	179.56	9,474.00	-5,290.81	370.58	5,301.40	0.00	0.00	0.00
14,800.00	90.00	179.56	9,474.00	-5,390.80	371.35	5,401.35	0.00	0.00	0.00
14,900.00	90.00	179.56	9,474.00	-5,490.80	372.11	5,501.30	0.00	0.00	0.00
15,000.00	90.00	179.56	9,474.00	-5,590.80	372.88	5,601.25	0.00	0.00	0.00
15,100.00	90.00	179.56	9,474.00	-5,690.79	373.65	5,701.19	0.00	0.00	0.00
15,200.00	90.00	179.56	9,474.00	-5,790.79	374.41	5,801.14	0.00	0.00	0.00
15,300.00	90.00	179.56	9,474.00	-5,890.79	375.18	5,901.09	0.00	0.00	0.00
15,400.00	90.00	179.56	9,474.00	-5,990.79	375.95	6,001.04	0.00	0.00	0.00
15,500.00	90.00	179.56	9,474.00	-6,090.78	376.71	6,100.98	0.00	0.00	0.00
15,600.00	90.00	179.56	9,474.00	-6,190.78	377.48	6,200.93	0.00	0.00	0.00

Oxy Planning Report

Database: HOPSP
Company: ENGINEERING DESIGNS
Project: PRD NM DIRECTIONAL PLANS (NAD 1983)
Site: RED TANK 30-31 STATE
Well: RED TANK 30-31 STATE 14H
Wellbore: WB00
Design: Permitting Plan

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:

Well RED TANK 30-31 STATE 14H
Datum @ 3689.00ft
Datum @ 3689.00ft
Grid
Minimum Curvature

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
15,700.00	90.00	179.56	9,474.00	-6,290.78	378.25	6,300.88	0.00	0.00	0.00
15,800.00	90.00	179.56	9,474.00	-6,390.77	379.01	6,400.83	0.00	0.00	0.00
15,900.00	90.00	179.56	9,474.00	-6,490.77	379.78	6,500.77	0.00	0.00	0.00
16,000.00	90.00	179.56	9,474.00	-6,590.77	380.55	6,600.72	0.00	0.00	0.00
16,100.00	90.00	179.56	9,474.00	-6,690.76	381.31	6,700.67	0.00	0.00	0.00
16,200.00	90.00	179.56	9,474.00	-6,790.76	382.08	6,800.62	0.00	0.00	0.00
16,300.00	90.00	179.56	9,474.00	-6,890.76	382.85	6,900.56	0.00	0.00	0.00
16,400.00	90.00	179.56	9,474.00	-6,990.76	383.61	7,000.51	0.00	0.00	0.00
16,500.00	90.00	179.56	9,474.00	-7,090.75	384.38	7,100.46	0.00	0.00	0.00
16,600.00	90.00	179.56	9,474.00	-7,190.75	385.14	7,200.41	0.00	0.00	0.00
16,700.00	90.00	179.56	9,474.00	-7,290.75	385.91	7,300.35	0.00	0.00	0.00
16,800.00	90.00	179.56	9,474.00	-7,390.74	386.68	7,400.30	0.00	0.00	0.00
16,900.00	90.00	179.56	9,474.00	-7,490.74	387.44	7,500.25	0.00	0.00	0.00
17,000.00	90.00	179.56	9,474.00	-7,590.74	388.21	7,600.20	0.00	0.00	0.00
17,100.00	90.00	179.56	9,474.00	-7,690.74	388.98	7,700.14	0.00	0.00	0.00
17,200.00	90.00	179.56	9,474.00	-7,790.73	389.74	7,800.09	0.00	0.00	0.00
17,300.00	90.00	179.56	9,474.00	-7,890.73	390.51	7,900.04	0.00	0.00	0.00
17,400.00	90.00	179.56	9,474.00	-7,990.73	391.28	7,999.99	0.00	0.00	0.00
17,500.00	90.00	179.56	9,474.00	-8,090.72	392.04	8,099.93	0.00	0.00	0.00
17,600.00	90.00	179.56	9,474.00	-8,190.72	392.81	8,199.88	0.00	0.00	0.00
17,700.00	90.00	179.56	9,474.00	-8,290.72	393.58	8,299.83	0.00	0.00	0.00
17,800.00	90.00	179.56	9,474.00	-8,390.71	394.34	8,399.78	0.00	0.00	0.00
17,900.00	90.00	179.56	9,474.00	-8,490.71	395.11	8,499.72	0.00	0.00	0.00
18,000.00	90.00	179.56	9,474.00	-8,590.71	395.88	8,599.67	0.00	0.00	0.00
18,100.00	90.00	179.56	9,474.00	-8,690.71	396.64	8,699.62	0.00	0.00	0.00
18,200.00	90.00	179.56	9,474.00	-8,790.70	397.41	8,799.57	0.00	0.00	0.00
18,300.00	90.00	179.56	9,474.00	-8,890.70	398.18	8,899.51	0.00	0.00	0.00
18,400.00	90.00	179.56	9,474.00	-8,990.70	398.94	8,999.46	0.00	0.00	0.00
18,500.00	90.00	179.56	9,474.00	-9,090.69	399.71	9,099.41	0.00	0.00	0.00
18,600.00	90.00	179.56	9,474.00	-9,190.69	400.47	9,199.36	0.00	0.00	0.00
18,700.00	90.00	179.56	9,474.00	-9,290.69	401.24	9,299.30	0.00	0.00	0.00
18,800.00	90.00	179.56	9,474.00	-9,390.69	402.01	9,399.25	0.00	0.00	0.00
18,900.00	90.00	179.56	9,474.00	-9,490.68	402.77	9,499.20	0.00	0.00	0.00
19,000.00	90.00	179.56	9,474.00	-9,590.68	403.54	9,599.15	0.00	0.00	0.00
19,100.00	90.00	179.56	9,474.00	-9,690.68	404.31	9,699.09	0.00	0.00	0.00
19,200.00	90.00	179.56	9,474.00	-9,790.67	405.07	9,799.04	0.00	0.00	0.00
19,300.00	90.00	179.56	9,474.00	-9,890.67	405.84	9,898.99	0.00	0.00	0.00
19,400.00	90.00	179.56	9,474.00	-9,990.67	406.61	9,998.94	0.00	0.00	0.00
19,500.00	90.00	179.56	9,474.00	-10,090.67	407.37	10,098.88	0.00	0.00	0.00
19,587.53	90.00	179.56	9,474.00	-10,178.19	408.04	10,186.36	0.00	0.00	0.00

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Red_Tank_30-31_Stat - plan hits target center - Point	0.00	0.00	8,901.04	151.82	328.86	499,082.89	766,423.85	32° 22' 11.787484 N	103° 36' 15.431058
Red_Tank_30-31_Stat - plan hits target center - Point	0.00	0.00	9,474.00	-10,178.19	408.04	488,753.25	766,503.03	32° 20' 29.569798 N	103° 36' 15.328086

Oxy

Planning Report

Database: HOPSPP
Company: ENGINEERING DESIGNS
Project: PRD NM DIRECTIONAL PLANS (NAD 1983)
Site: RED TANK 30-31 STATE
Well: RED TANK 30-31 STATE 14H
Wellbore: WB00
Design: Permitting Plan

Local Co-ordinate Reference: Well RED TANK 30-31 STATE 14H
TVD Reference: Datum @ 3689.00ft
MD Reference: Datum @ 3689.00ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
6,345.00	6,345.00	0.00	0.00	STEP BACK DLS 2.00
6,844.82	6,842.29	18.23	39.49	HOLD 10 DEG TANGENT
8,430.35	8,403.75	133.59	289.37	DROP BACK TO VERTICAL DLS
8,930.18	8,901.04	151.82	328.86	BUILD CURVE 10 DEG / 100
9,830.18	9,474.00	-421.13	333.25	LANDING POINT
19,587.53	9,474.00	-10,178.19	408.04	TD at 19587.52