

Minimum Radius of Curvature

API: 30-015-53279 **Well:** Vanadium 32 State 176H **Wellhead Location N+/S- :** 32.269354
Operator: Occidental **Area:** New Mexico **E+/W- :** -103.795350
Rig: **Type:** U-Lateral **Magnetic Declination:** 6.77
TD: 22,801' **Plane of Proposal:** 179.68

Measured Depth Ft	Drift Angle Deg	Azimuth Direction Deg	Course Length Ft	TVD Ft	Vertical Section Ft	COORDINATES		CLOSURE		Dog Leg Severity Deg/100'	Build / Drop Deg/100'	Left / Right Deg/100'
						N-S Ft	E-W Ft	Distance FT	Direction Deg			
0.00	0.00	0.00		0.0	0.00	0.00	0.00	0.00	0.00			
100	0.00	0.00	100	100.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
200	0.00	0.00	100	200.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
300	0.00	0.00	100	300.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
400	0.00	0.00	100	400.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
500	0.00	0.00	100	500.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
600	0.00	0.00	100	600.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
700	0.00	0.00	100	700.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
800	0.00	0.00	100	800.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
900	0.00	0.00	100	900.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
1000	0.00	0.00	100	1000.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
1100	0.00	0.00	100	1100.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
1200	0.00	0.00	100	1200.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
1300	0.00	0.00	100	1300.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
1400	0.00	0.00	100	1400.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
1500	0.00	0.00	100	1500.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
1600	0.00	0.00	100	1600.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
1700	0.00	0.00	100	1700.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
1800	0.00	0.00	100	1800.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
1900	0.00	0.00	100	1900.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
2000	0.00	0.00	100	2000.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
2100	0.00	0.00	100	2100.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
2200	0.00	0.00	100	2200.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
2300	0.00	0.00	100	2300.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
2400	0.00	0.00	100	2400.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
2500	0.00	0.00	100	2500.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
2600	0.00	0.00	100	2600.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
2700	0.00	0.00	100	2700.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
2800	0.00	0.00	100	2800.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
2900	0.00	0.00	100	2900.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
3000	0.00	0.00	100	3000.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
3100	0.00	0.00	100	3100.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
3200	0.00	0.00	100	3200.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
3300	0.00	0.00	100	3300.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
3400	0.00	0.00	100	3400.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
3500	0.00	0.00	100	3500.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
3600	0.00	0.00	100	3600.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
3700	0.00	0.00	100	3700.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
3800	0.00	0.00	100	3800.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
3900	0.00	0.00	100	3900.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
4000	0.00	0.00	100	4000.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
4100	0.00	0.00	100	4100.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
4200	0.00	0.00	100	4200.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
4300	0.00	0.00	100	4300.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
4400	0.00	0.00	100	4400.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
4500	0.00	0.00	100	4500.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
4600	0.00	0.00	100	4600.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
4700	0.00	0.00	100	4700.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
4800	0.00	0.00	100	4800.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
4900	0.00	0.00	100	4900.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
5000	0.00	0.00	100	5000.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
5100	0.00	0.00	100	5100.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
5200	0.00	0.00	100	5200.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
5300	0.00	0.00	100	5300.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
5400	0.00	0.00	100	5400.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
5500	0.00	0.00	100	5500.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
5600	0.00	0.00	100	5600.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
5700	0.00	0.00	100	5700.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		

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						N-S Ft	E-W Ft	Distance FT	Direction Deg			
5800	0.00	0.00	100	5800.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
5900	0.00	0.00	100	5900.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
6000	0.00	0.00	100	6000.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
6100	0.00	0.00	100	6100.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
6200	0.00	0.00	100	6200.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
6300	0.00	0.00	100	6300.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
6400	0.00	0.00	100	6400.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
6500	0.00	0.00	100	6500.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
6600	0.00	0.00	100	6600.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
6700	0.00	0.00	100	6700.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
6800	0.00	0.00	100	6800.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
6900	0.00	0.00	100	6900.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
7000	0.00	0.00	100	7000.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
7100	0.00	0.00	100	7100.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
7200	0.00	0.00	100	7200.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
7300	0.00	0.00	100	7300.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
7400	0.00	0.00	100	7400.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
7500	0.00	0.00	100	7500.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
7503	0.00	0.00	3	7503.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
7600	0.97	105.00	97	7600.0	33.07	-0.21	0.79	0.82	105.00	1.00	1.00	108.25
7700	1.97	105.00	100	7700.0	33.74	-0.88	3.27	3.39	105.00	1.00	1.00	0.00
7800	2.97	105.00	100	7799.9	34.88	-1.99	7.43	7.70	105.00	1.00	1.00	0.00
7900	3.97	105.00	100	7899.7	36.48	-3.56	13.28	13.75	105.00	1.00	1.00	0.00
8000	4.97	105.00	100	7999.4	38.54	-5.58	20.81	21.54	105.00	1.00	1.00	0.00
8100	5.97	105.00	100	8098.9	41.06	-8.04	30.02	31.07	105.00	1.00	1.00	0.00
8200	6.97	105.00	100	8198.3	44.04	-10.96	40.90	42.34	105.00	1.00	1.00	0.00
8300	7.97	105.00	100	8297.4	47.47	-14.32	53.46	55.34	105.00	1.00	1.00	0.00
8400	8.97	105.00	100	8396.3	51.36	-18.14	67.68	70.07	105.00	1.00	1.00	0.00
8500	9.97	105.00	100	8495.0	55.71	-22.39	83.58	86.52	105.00	1.00	1.00	0.00
8600	10.97	105.00	100	8593.3	60.51	-27.10	101.13	104.70	105.00	1.00	1.00	0.00
8700	11.97	105.00	100	8691.3	65.76	-32.24	120.34	124.58	105.00	1.00	1.00	0.00
8800	12.97	105.00	100	8789.0	71.47	-37.83	141.19	146.17	105.00	1.00	1.00	0.00
8900	13.97	105.00	100	8886.2	77.62	-43.86	163.69	169.47	105.00	1.00	1.00	0.00
9000	14.97	105.00	100	8983.0	84.23	-50.33	187.83	194.45	105.00	1.00	1.00	0.00
9003	15.00	105.00	3	8985.9	84.43	-50.53	188.58	195.23	105.00	1.00	1.00	0.00
9100	15.00	105.00	97	9079.6	91.06	-57.03	212.83	220.34	105.00	0.00	0.00	0.00
9200	15.00	105.00	100	9176.2	97.90	-63.73	237.83	246.22	105.00	0.00	0.00	0.00
9300	15.00	105.00	100	9272.8	104.74	-70.42	262.83	272.10	105.00	0.00	0.00	0.00
9400	15.00	105.00	100	9369.4	111.58	-77.12	287.83	297.98	105.00	0.00	0.00	0.00
9500	15.00	105.00	100	9466.0	118.42	-83.82	312.83	323.86	105.00	0.00	0.00	0.00
9600	15.00	105.00	100	9562.6	125.25	-90.52	337.83	349.75	105.00	0.00	0.00	0.00
9700	15.00	105.00	100	9659.2	132.09	-97.22	362.83	375.63	105.00	0.00	0.00	0.00
9800	15.00	105.00	100	9755.8	138.93	-103.92	387.83	401.51	105.00	0.00	0.00	0.00
9900	15.00	105.00	100	9852.4	145.77	-110.62	412.83	427.39	105.00	0.00	0.00	0.00
10000	15.00	105.00	100	9949.0	152.61	-117.32	437.83	453.27	105.00	0.00	0.00	0.00
10100	15.00	105.00	100	10045.5	159.45	-124.01	462.83	479.16	105.00	0.00	0.00	0.00
10200	15.00	105.00	100	10142.1	166.28	-130.71	487.83	505.04	105.00	0.00	0.00	0.00
10300	15.00	105.00	100	10238.7	173.12	-137.41	512.83	530.92	105.00	0.00	0.00	0.00
10400	15.00	105.00	100	10335.3	179.96	-144.11	537.83	556.80	105.00	0.00	0.00	0.00
10500	15.00	105.00	100	10431.9	186.80	-150.81	562.83	582.68	105.00	0.00	0.00	0.00
10600	15.00	105.00	100	10528.5	193.64	-157.51	587.83	608.56	105.00	0.00	0.00	0.00
10700	15.00	105.00	100	10625.1	200.48	-164.21	612.83	634.45	105.00	0.00	0.00	0.00
10800	15.00	105.00	100	10721.7	207.31	-170.91	637.83	660.33	105.00	0.00	0.00	0.00
10900	15.00	105.00	100	10818.3	214.15	-177.60	662.83	686.21	105.00	0.00	0.00	0.00
11000	15.00	105.00	100	10914.9	220.99	-184.30	687.83	712.09	105.00	0.00	0.00	0.00
11093	15.00	105.00	93	11004.7	227.35	-190.53	711.08	736.16	105.00	0.00	0.00	0.00
11100	15.20	107.58	7	11011.5	227.87	-191.04	712.83	737.99	105.00	10.02	2.86	36.86
11200	20.50	135.80	100	11106.8	244.56	-207.60	737.60	766.25	105.72	10.00	5.30	28.22

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						N-S Ft	E-W Ft	Distance FT	Direction Deg			
11300	28.38	150.91	100	11197.8	278.10	-241.01	761.42	798.65	107.56	10.00	7.88	15.11
11400	37.22	159.59	100	11281.9	327.46	-290.24	783.58	835.60	110.33	9.99	8.84	8.68
11500	46.49	165.27	100	11356.3	391.15	-353.82	803.39	877.86	113.77	10.01	9.27	5.68
11600	55.96	169.41	100	11418.9	467.24	-429.81	820.27	926.06	117.65	10.00	9.47	4.14
11700	65.53	172.71	100	11467.7	553.39	-515.90	833.70	980.41	121.75	9.99	9.57	3.30
11800	75.17	175.54	100	11501.3	647.01	-609.46	843.25	1040.44	125.86	10.00	9.64	2.83
11900	84.85	178.12	100	11518.6	745.25	-707.67	848.66	1105.00	129.82	10.01	9.68	2.58
11962	90.87	179.68	62	11520.9	807.39	-769.81	849.85	1146.67	132.17	9.99	9.68	2.51
12000	90.87	179.68	38	11520.4	845.17	-807.58	850.06	1172.52	133.53	0.00	0.00	0.00
12100	90.87	179.68	100	11518.8	945.16	-907.57	850.62	1243.88	136.86	0.00	0.00	0.00
12200	90.87	179.68	100	11517.3	1045.14	-1007.56	851.18	1318.97	139.81	0.00	0.00	0.00
12300	90.87	179.68	100	11515.8	1145.13	-1107.54	851.74	1397.18	142.44	0.00	0.00	0.00
12400	90.87	179.68	100	11514.3	1245.12	-1207.53	852.29	1478.02	144.78	0.00	0.00	0.00
12500	90.87	179.68	100	11512.8	1345.11	-1307.52	852.85	1561.08	146.88	0.00	0.00	0.00
12600	90.87	179.68	100	11511.3	1445.10	-1407.51	853.41	1646.02	148.77	0.00	0.00	0.00
12700	90.87	179.68	100	11509.7	1545.09	-1507.49	853.97	1732.57	150.47	0.00	0.00	0.00
12800	90.87	179.68	100	11508.2	1645.08	-1607.48	854.53	1820.50	152.01	0.00	0.00	0.00
12900	90.87	179.68	100	11506.7	1745.06	-1707.47	855.09	1909.61	153.40	0.00	0.00	0.00
13000	90.87	179.68	100	11505.2	1845.05	-1807.45	855.65	1999.75	154.67	0.00	0.00	0.00
13100	90.87	179.68	100	11503.7	1945.04	-1907.44	856.20	2090.79	155.83	0.00	0.00	0.00
13200	90.87	179.68	100	11502.1	2045.03	-2007.43	856.76	2182.61	156.89	0.00	0.00	0.00
13300	90.87	179.68	100	11500.6	2145.02	-2107.41	857.32	2275.12	157.86	0.00	0.00	0.00
13400	90.87	179.68	100	11499.1	2245.01	-2207.40	857.88	2368.24	158.76	0.00	0.00	0.00
13500	90.87	179.68	100	11497.6	2344.99	-2307.39	858.44	2461.90	159.59	0.00	0.00	0.00
13600	90.87	179.68	100	11496.1	2444.98	-2407.37	859.00	2556.04	160.36	0.00	0.00	0.00
13700	90.87	179.68	100	11494.6	2544.97	-2507.36	859.55	2650.60	161.08	0.00	0.00	0.00
13800	90.87	179.68	100	11493.0	2644.96	-2607.35	860.11	2745.55	161.74	0.00	0.00	0.00
13900	90.87	179.68	100	11491.5	2744.95	-2707.34	860.67	2840.85	162.36	0.00	0.00	0.00
14000	90.87	179.68	100	11490.0	2844.94	-2807.32	861.23	2936.46	162.95	0.00	0.00	0.00
14100	90.87	179.68	100	11488.5	2944.93	-2907.31	861.79	3032.35	163.49	0.00	0.00	0.00
14200	90.87	179.68	100	11487.0	3044.91	-3007.30	862.35	3128.49	164.00	0.00	0.00	0.00
14300	90.87	179.68	100	11485.4	3144.90	-3107.28	862.91	3224.87	164.48	0.00	0.00	0.00
14400	90.87	179.68	100	11483.9	3244.89	-3207.27	863.46	3321.47	164.93	0.00	0.00	0.00
14500	90.87	179.68	100	11482.4	3344.88	-3307.26	864.02	3418.26	165.36	0.00	0.00	0.00
14600	90.87	179.68	100	11480.9	3444.87	-3407.24	864.58	3515.23	165.76	0.00	0.00	0.00
14700	90.87	179.68	100	11479.4	3544.86	-3507.23	865.14	3612.36	166.14	0.00	0.00	0.00
14800	90.87	179.68	100	11477.9	3644.84	-3607.22	865.70	3709.64	166.50	0.00	0.00	0.00
14900	90.87	179.68	100	11476.3	3744.83	-3707.20	866.26	3807.07	166.85	0.00	0.00	0.00
15000	90.87	179.68	100	11474.8	3844.82	-3807.19	866.81	3904.62	167.17	0.00	0.00	0.00
15100	90.87	179.68	100	11473.3	3944.81	-3907.18	867.37	4002.30	167.48	0.00	0.00	0.00
15200	90.87	179.68	100	11471.8	4044.80	-4007.17	867.93	4100.08	167.78	0.00	0.00	0.00
15300	90.87	179.68	100	11470.3	4144.79	-4107.15	868.49	4197.97	168.06	0.00	0.00	0.00
15400	90.87	179.68	100	11468.7	4244.78	-4207.14	869.05	4295.96	168.33	0.00	0.00	0.00
15500	90.87	179.68	100	11467.2	4344.76	-4307.13	869.61	4394.04	168.59	0.00	0.00	0.00
15600	90.87	179.68	100	11465.7	4444.75	-4407.11	870.16	4492.20	168.83	0.00	0.00	0.00
15700	90.87	179.68	100	11464.2	4544.74	-4507.10	870.72	4590.44	169.07	0.00	0.00	0.00
15731	90.87	179.68	31	11463.7	4575.96	-4538.32	870.90	4621.12	169.14	0.00	0.00	0.00
15800	90.91	184.15	69	11462.6	4644.66	-4607.03	868.60	4688.20	169.32	6.50	0.06	6.50
15900	90.96	190.65	100	11461.0	4743.69	-4706.13	855.73	4783.30	169.69	6.50	0.05	6.50
16000	91.00	197.15	100	11459.3	4840.56	-4803.14	831.72	4874.62	170.18	6.50	0.04	6.50
16100	91.03	203.66	100	11457.5	4934.02	-4896.80	796.88	4961.21	170.76	6.51	0.03	6.51
16200	91.04	210.16	100	11455.7	5022.88	-4985.91	751.65	5042.25	171.43	6.50	0.01	6.50
16300	91.04	216.66	100	11453.9	5105.98	-5069.32	696.63	5116.97	172.18	6.50	0.00	6.50
16400	91.03	223.16	100	11452.1	5182.28	-5145.98	632.52	5184.70	172.99	6.50	-0.01	6.50
16500	91.00	229.66	100	11450.3	5250.77	-5214.88	560.14	5244.87	173.87	6.50	-0.03	6.50
16600	90.96	236.16	100	11448.6	5310.59	-5275.14	480.42	5296.97	174.80	6.50	-0.04	6.50
16700	90.91	242.66	100	11447.0	5360.97	-5326.00	394.40	5340.58	175.76	6.50	-0.05	6.50
16800	90.85	249.16	100	11445.4	5401.25	-5366.79	303.17	5375.34	176.77	6.50	-0.06	6.50

Minimum Radius of Curvature

API: 30-015-53279 **Well: Vanadium 32 State 176H** **Wellhead Location N+/S- : 32.269354**
Operator: Occidental **Area: New Mexico** **E+/W- : -103.795350**
Rig: **Type: U-Lateral** **Magnetic Declination: 6.77**
TD: 22,801' **Plane of Proposal: 179.68**

Measured Depth Ft	Drift Angle Deg	Azimuth Direction Deg	Course Length Ft	TVD Ft	Vertical Section Ft	COORDINATES		CLOSURE		Dog Leg Severity Deg/100'	Build / Drop Deg/100'	Left / Right Deg/100'
						N-S Ft	E-W Ft	Distance FT	Direction Deg			
16900	90.77	255.66	100	11444.0	5430.91	-5396.99	207.90	5400.99	177.79	6.50	-0.08	6.50
17000	90.69	262.16	100	11442.7	5449.59	-5416.21	109.83	5417.33	178.84	6.50	-0.08	6.50
17100	90.60	268.66	100	11441.6	5457.03	-5424.21	10.21	5424.22	179.89	6.50	-0.09	6.50
17116	90.58	269.71	16	11441.5	5457.17	-5424.44	-5.91	5424.44	180.06	6.51	-0.12	6.51
17200	90.58	269.71	84	11440.6	5457.13	-5424.86	-89.78	5425.61	180.95	0.00	0.00	0.00
17300	90.58	269.71	100	11439.6	5457.07	-5425.37	-189.77	5428.69	182.00	0.00	0.00	0.00
17355	90.58	269.71	55	11439.0	5457.04	-5425.65	-244.90	5431.17	182.58	0.00	0.00	0.00
17400	90.61	272.63	45	11438.6	5455.88	-5424.73	-289.75	5432.47	183.06	6.51	0.07	6.51
17500	90.68	279.13	100	11437.4	5445.08	-5414.49	-389.17	5428.46	184.11	6.50	0.07	6.50
17600	90.73	285.63	100	11436.2	5423.11	-5393.07	-486.78	5414.99	185.16	6.50	0.05	6.50
17700	90.78	292.13	100	11434.9	5390.25	-5360.73	-581.34	5392.16	186.19	6.50	0.05	6.50
17800	90.82	298.63	100	11433.5	5346.91	-5317.89	-671.63	5360.14	187.20	6.50	0.04	6.50
17900	90.84	305.13	100	11432.0	5293.66	-5265.11	-756.50	5319.18	188.18	6.50	0.02	6.50
18000	90.86	311.63	100	11430.6	5231.17	-5203.07	-834.84	5269.62	189.12	6.50	0.02	6.50
18100	90.86	318.13	100	11429.1	5160.26	-5132.55	-905.65	5211.84	190.01	6.50	0.00	6.50
18200	90.86	324.63	100	11427.5	5081.83	-5054.47	-968.02	5146.33	190.84	6.50	0.00	6.50
18300	90.84	331.13	100	11426.1	4996.90	-4969.83	-1021.16	5073.66	191.61	6.50	-0.02	6.50
18400	90.81	337.63	100	11424.6	4906.55	-4879.72	-1064.37	4994.45	192.30	6.50	-0.03	6.50
18500	90.77	344.13	100	11423.2	4811.94	-4785.30	-1097.11	4909.45	192.91	6.50	-0.04	6.50
18600	90.73	350.63	100	11421.9	4714.30	-4687.77	-1118.94	4819.47	193.42	6.50	-0.04	6.50
18700	90.67	357.13	100	11420.7	4614.87	-4588.41	-1129.59	4725.40	193.83	6.50	-0.06	6.50
18740	90.64	359.70	40	11420.3	4575.38	-4548.92	-1130.69	4687.33	193.96	6.50	-0.08	6.50
18800	90.64	359.70	60	11419.6	4514.89	-4488.43	-1131.00	4628.73	194.14	0.00	0.00	0.00
18900	90.64	359.70	100	11418.5	4414.90	-4388.44	-1131.53	4531.97	194.46	0.00	0.00	0.00
19000	90.64	359.70	100	11417.3	4314.90	-4288.45	-1132.05	4435.35	194.79	0.00	0.00	0.00
19100	90.64	359.70	100	11416.2	4214.91	-4188.45	-1132.57	4338.88	195.13	0.00	0.00	0.00
19200	90.64	359.70	100	11415.1	4114.92	-4088.46	-1133.10	4242.57	195.49	0.00	0.00	0.00
19300	90.64	359.70	100	11414.0	4014.92	-3988.47	-1133.62	4146.44	195.87	0.00	0.00	0.00
19400	90.64	359.70	100	11412.9	3914.93	-3888.48	-1134.15	4050.50	196.26	0.00	0.00	0.00
19500	90.64	359.70	100	11411.8	3814.94	-3788.48	-1134.67	3954.75	196.67	0.00	0.00	0.00
19600	90.64	359.70	100	11410.6	3714.94	-3688.49	-1135.19	3859.23	197.11	0.00	0.00	0.00
19700	90.64	359.70	100	11409.5	3614.95	-3588.50	-1135.72	3763.93	197.56	0.00	0.00	0.00
19800	90.64	359.70	100	11408.4	3514.95	-3488.51	-1136.24	3668.89	198.04	0.00	0.00	0.00
19900	90.64	359.70	100	11407.3	3414.96	-3388.51	-1136.76	3574.11	198.55	0.00	0.00	0.00
20000	90.64	359.70	100	11406.2	3314.97	-3288.52	-1137.29	3479.63	199.08	0.00	0.00	0.00
20100	90.64	359.70	100	11405.1	3214.97	-3188.53	-1137.81	3385.46	199.64	0.00	0.00	0.00
20200	90.64	359.70	100	11403.9	3114.98	-3088.54	-1138.33	3291.64	200.23	0.00	0.00	0.00
20300	90.64	359.70	100	11402.8	3014.99	-2988.54	-1138.86	3198.19	200.86	0.00	0.00	0.00
20400	90.64	359.70	100	11401.7	2914.99	-2888.55	-1139.38	3105.14	201.53	0.00	0.00	0.00
20500	90.64	359.70	100	11400.6	2815.00	-2788.56	-1139.90	3012.55	202.23	0.00	0.00	0.00
20600	90.64	359.70	100	11399.5	2715.00	-2688.57	-1140.43	2920.44	202.99	0.00	0.00	0.00
20700	90.64	359.70	100	11398.4	2615.01	-2588.58	-1140.95	2828.87	203.79	0.00	0.00	0.00
20800	90.64	359.70	100	11397.2	2515.02	-2488.58	-1141.48	2737.88	204.64	0.00	0.00	0.00
20900	90.64	359.70	100	11396.1	2415.02	-2388.59	-1142.00	2647.55	205.55	0.00	0.00	0.00
21000	90.64	359.70	100	11395.0	2315.03	-2288.60	-1142.52	2557.94	206.53	0.00	0.00	0.00
21100	90.64	359.70	100	11393.9	2215.04	-2188.61	-1143.05	2469.12	207.58	0.00	0.00	0.00
21200	90.64	359.70	100	11392.8	2115.04	-2088.61	-1143.57	2381.19	208.70	0.00	0.00	0.00
21300	90.64	359.70	100	11391.7	2015.05	-1988.62	-1144.09	2294.25	209.91	0.00	0.00	0.00
21400	90.64	359.70	100	11390.5	1915.05	-1888.63	-1144.62	2208.41	211.22	0.00	0.00	0.00
21500	90.64	359.70	100	11389.4	1815.06	-1788.64	-1145.14	2123.81	212.63	0.00	0.00	0.00
21600	90.64	359.70	100	11388.3	1715.07	-1688.64	-1145.66	2040.60	214.16	0.00	0.00	0.00
21700	90.64	359.70	100	11387.2	1615.07	-1588.65	-1146.19	1958.97	215.81	0.00	0.00	0.00
21800	90.64	359.70	100	11386.1	1515.08	-1488.66	-1146.71	1879.11	217.61	0.00	0.00	0.00
21900	90.64	359.70	100	11385.0	1415.09	-1388.67	-1147.23	1801.26	219.56	0.00	0.00	0.00
22000	90.64	359.70	100	11383.8	1315.09	-1288.67	-1147.76	1725.70	221.69	0.00	0.00	0.00
22100	90.64	359.70	100	11382.7	1215.10	-1188.68	-1148.28	1652.73	224.01	0.00	0.00	0.00
22200	90.64	359.70	100	11381.6	1115.10	-1088.69	-1148.81	1582.72	226.54	0.00	0.00	0.00
22300	90.64	359.70	100	11380.5	1015.11	-988.70	-1149.33	1516.07	229.30	0.00	0.00	0.00

Minimum Radius of Curvature

API: 30-015-53279 **Well:** Vanadium 32 State 176H **Wellhead Location N+/S- :** 32.269354
Operator: Occidental **Area:** New Mexico **E+/W- :** -103.795350
Rig: **Type:** U-Lateral **Magnetic Declination:** 6.77
TD: 22,801' **Plane of Proposal:** 179.68

Measured Depth Ft	Drift Angle Deg	Azimuth Direction Deg	Course Length Ft	TVD Ft	Vertical Section Ft	COORDINATES		CLOSURE		Dog Leg Severity Deg/100'	Build / Drop Deg/100'	Left / Right Deg/100'
						N-S Ft	E-W Ft	Distance FT	Direction Deg			
22400	90.64	359.70	100	11379.4	915.12	-888.70	-1149.85	1453.26	232.30	0.00	0.00	0.00
22500	90.64	359.70	100	11378.3	815.12	-788.71	-1150.38	1394.79	235.56	0.00	0.00	0.00
22600	90.64	359.70	100	11377.1	715.13	-688.72	-1150.90	1341.23	239.10	0.00	0.00	0.00
22700	90.64	359.70	100	11376.0	615.14	-588.73	-1151.42	1293.20	242.92	0.00	0.00	0.00
22800	90.64	359.70	100	11374.9	515.14	-488.73	-1151.95	1251.34	247.01	0.00	0.00	0.00
22801	90.64	359.70	1	11374.9	514.64	-488.24	-1151.95	1251.14	247.03	0.00	0.00	0.00