

Minimum Radius of Curvature

API: 30-015-53277 Well: Vanadium 32 State 005H Wellhead Location N+/S- : 32.269759
 Operator: Occidental Area: New Mexico E+/W- : -103.797303
 Rig: Type: U-Lateral Magnetic Declination: 6.78
 TD: 22,221' 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		
4282	0.00	0.00	82	4282.0	32.85	0.00	0.00	0.00	#DIV/0!	0.00		
4300	0.18	97.40	18	4300.0	32.85	0.00	0.03	0.03	97.40	1.00	1.00	541.11
4400	1.18	97.40	100	4400.0	33.01	-0.16	1.20	1.22	97.40	1.00	1.00	0.00
4500	2.18	97.40	100	4499.9	33.41	-0.53	4.11	4.15	97.40	1.00	1.00	0.00
4600	3.18	97.40	100	4599.8	34.03	-1.14	8.75	8.82	97.40	1.00	1.00	0.00
4700	4.18	97.40	100	4699.6	34.90	-1.96	15.11	15.24	97.40	1.00	1.00	0.00
4800	5.18	97.40	100	4799.3	35.99	-3.01	23.20	23.40	97.40	1.00	1.00	0.00
4900	6.18	97.40	100	4898.8	37.32	-4.29	33.02	33.30	97.40	1.00	1.00	0.00
5000	7.18	97.40	100	4998.1	38.88	-5.79	44.55	44.93	97.40	1.00	1.00	0.00
5100	8.18	97.40	100	5097.2	40.68	-7.51	57.81	58.29	97.40	1.00	1.00	0.00
5200	9.18	97.40	100	5196.1	42.71	-9.45	72.77	73.38	97.40	1.00	1.00	0.00
5300	10.18	97.40	100	5294.7	44.97	-11.62	89.45	90.20	97.40	1.00	1.00	0.00
5400	11.18	97.40	100	5392.9	47.46	-14.00	107.83	108.73	97.40	1.00	1.00	0.00
5500	12.18	97.40	100	5490.8	50.17	-16.61	127.90	128.98	97.40	1.00	1.00	0.00
5600	13.18	97.40	100	5588.4	53.12	-19.44	149.67	150.93	97.40	1.00	1.00	0.00

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TD: 22,221' **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			
5682	14.00	97.40	82	5667.8	55.70	-21.91	168.71	170.13	97.40	1.00	1.00	0.00
5700	14.00	97.40	18	5685.6	56.30	-22.48	173.10	174.55	97.40	0.00	0.00	0.00
5800	14.00	97.40	100	5782.6	59.55	-25.60	197.09	198.74	97.40	0.00	0.00	0.00
5900	14.00	97.40	100	5879.6	62.80	-28.71	221.08	222.93	97.40	0.00	0.00	0.00
6000	14.00	97.40	100	5976.7	66.05	-31.83	245.07	247.13	97.40	0.00	0.00	0.00
6100	14.00	97.40	100	6073.7	69.30	-34.94	269.06	271.32	97.40	0.00	0.00	0.00
6200	14.00	97.40	100	6170.7	72.55	-38.06	293.05	295.51	97.40	0.00	0.00	0.00
6300	14.00	97.40	100	6267.8	75.80	-41.18	317.04	319.70	97.40	0.00	0.00	0.00
6400	14.00	97.40	100	6364.8	79.05	-44.29	341.03	343.89	97.40	0.00	0.00	0.00
6500	14.00	97.40	100	6461.8	82.29	-47.41	365.02	368.09	97.40	0.00	0.00	0.00
6600	14.00	97.40	100	6558.8	85.54	-50.52	389.01	392.28	97.40	0.00	0.00	0.00
6700	14.00	97.40	100	6655.9	88.79	-53.64	413.00	416.47	97.40	0.00	0.00	0.00
6800	14.00	97.40	100	6752.9	92.04	-56.76	436.99	440.66	97.40	0.00	0.00	0.00
6900	14.00	97.40	100	6849.9	95.29	-59.87	460.98	464.86	97.40	0.00	0.00	0.00
7000	14.00	97.40	100	6947.0	98.54	-62.99	484.97	489.05	97.40	0.00	0.00	0.00
7100	14.00	97.40	100	7044.0	101.79	-66.10	508.97	513.24	97.40	0.00	0.00	0.00
7200	14.00	97.40	100	7141.0	105.04	-69.22	532.96	537.43	97.40	0.00	0.00	0.00
7300	14.00	97.40	100	7238.0	108.29	-72.33	556.95	561.62	97.40	0.00	0.00	0.00
7400	14.00	97.40	100	7335.1	111.54	-75.45	580.94	585.82	97.40	0.00	0.00	0.00
7500	14.00	97.40	100	7432.1	114.79	-78.57	604.93	610.01	97.40	0.00	0.00	0.00
7600	14.00	97.40	100	7529.1	118.04	-81.68	628.92	634.20	97.40	0.00	0.00	0.00
7700	14.00	97.40	100	7626.2	121.29	-84.80	652.91	658.39	97.40	0.00	0.00	0.00
7800	14.00	97.40	100	7723.2	124.54	-87.91	676.90	682.59	97.40	0.00	0.00	0.00
7900	14.00	97.40	100	7820.2	127.79	-91.03	700.89	706.78	97.40	0.00	0.00	0.00
8000	14.00	97.40	100	7917.3	131.04	-94.15	724.88	730.97	97.40	0.00	0.00	0.00
8100	14.00	97.40	100	8014.3	134.29	-97.26	748.87	755.16	97.40	0.00	0.00	0.00
8200	14.00	97.40	100	8111.3	137.54	-100.38	772.86	779.35	97.40	0.00	0.00	0.00
8300	14.00	97.40	100	8208.3	140.79	-103.49	796.85	803.55	97.40	0.00	0.00	0.00
8400	14.00	97.40	100	8305.4	144.04	-106.61	820.84	827.74	97.40	0.00	0.00	0.00
8500	14.00	97.40	100	8402.4	147.29	-109.72	844.84	851.93	97.40	0.00	0.00	0.00
8600	14.00	97.40	100	8499.4	150.54	-112.84	868.83	876.12	97.40	0.00	0.00	0.00
8700	14.00	97.40	100	8596.5	153.79	-115.96	892.82	900.32	97.40	0.00	0.00	0.00
8800	14.00	97.40	100	8693.5	157.04	-119.07	916.81	924.51	97.40	0.00	0.00	0.00
8900	14.00	97.40	100	8790.5	160.29	-122.19	940.80	948.70	97.40	0.00	0.00	0.00
9000	14.00	97.40	100	8887.6	163.54	-125.30	964.79	972.89	97.40	0.00	0.00	0.00
9100	14.00	97.40	100	8984.6	166.79	-128.42	988.78	997.08	97.40	0.00	0.00	0.00
9200	14.00	97.40	100	9081.6	170.04	-131.54	1012.77	1021.28	97.40	0.00	0.00	0.00
9300	14.00	97.40	100	9178.6	173.29	-134.65	1036.76	1045.47	97.40	0.00	0.00	0.00
9400	14.00	97.40	100	9275.7	176.54	-137.77	1060.75	1069.66	97.40	0.00	0.00	0.00
9500	14.00	97.40	100	9372.7	179.79	-140.88	1084.74	1093.85	97.40	0.00	0.00	0.00
9600	14.00	97.40	100	9469.7	183.04	-144.00	1108.73	1118.04	97.40	0.00	0.00	0.00
9679	14.00	97.40	79	9546.5	185.61	-146.47	1127.72	1137.20	97.40	0.00	0.00	0.00
9700	14.41	105.73	21	9566.7	186.67	-147.49	1132.72	1142.28	97.42	10.00	1.97	39.97
9800	19.56	135.73	100	9662.5	202.20	-162.89	1156.44	1167.86	98.02	10.00	5.15	30.00
9900	27.45	151.40	100	9754.2	234.63	-195.20	1179.22	1195.27	99.40	10.00	7.89	15.67
10000	36.33	160.17	100	9839.1	282.97	-243.42	1200.35	1224.79	101.46	10.00	8.88	8.77
10100	45.63	165.81	100	9914.5	345.75	-306.10	1219.21	1257.05	104.09	10.00	9.30	5.64
10200	55.13	169.89	100	9978.3	421.07	-381.33	1235.22	1292.74	107.16	10.00	9.50	4.08
10300	64.73	173.11	100	10028.3	506.63	-466.82	1247.87	1332.33	110.51	9.99	9.60	3.22
10400	74.40	175.85	100	10063.2	599.83	-559.97	1256.80	1375.91	114.02	10.00	9.67	2.74
10500	84.10	178.34	100	10081.8	697.86	-657.97	1261.74	1423.00	117.54	10.00	9.70	2.49
10556	89.48	179.68	56	10084.9	753.25	-713.36	1262.70	1450.27	119.46	9.99	9.69	2.41
10600	89.48	179.68	44	10085.3	797.74	-757.85	1262.95	1472.88	120.97	0.00	0.00	0.00
10700	89.48	179.68	100	10086.2	897.74	-857.84	1263.51	1527.20	124.17	0.00	0.00	0.00
10800	89.48	179.68	100	10087.2	997.73	-957.84	1264.06	1585.97	127.15	0.00	0.00	0.00
10900	89.48	179.68	100	10088.1	1097.73	-1057.83	1264.62	1648.72	129.91	0.00	0.00	0.00
11000	89.48	179.68	100	10089.0	1197.72	-1157.83	1265.18	1715.01	132.46	0.00	0.00	0.00
11100	89.48	179.68	100	10089.9	1297.72	-1257.82	1265.74	1784.44	134.82	0.00	0.00	0.00

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						N-S Ft	E-W Ft	Distance FT	Direction Deg			
11200	89.48	179.68	100	10090.8	1397.72	-1357.82	1266.30	1856.66	137.00	0.00	0.00	0.00
11300	89.48	179.68	100	10091.7	1497.71	-1457.81	1266.86	1931.36	139.01	0.00	0.00	0.00
11400	89.48	179.68	100	10092.6	1597.71	-1557.80	1267.42	2008.26	140.87	0.00	0.00	0.00
11500	89.48	179.68	100	10093.5	1697.70	-1657.80	1267.97	2087.12	142.59	0.00	0.00	0.00
11600	89.48	179.68	100	10094.4	1797.70	-1757.79	1268.53	2167.72	144.18	0.00	0.00	0.00
11700	89.48	179.68	100	10095.3	1897.70	-1857.79	1269.09	2249.88	145.66	0.00	0.00	0.00
11800	89.48	179.68	100	10096.2	1997.69	-1957.78	1269.65	2333.44	147.04	0.00	0.00	0.00
11900	89.48	179.68	100	10097.1	2097.69	-2057.78	1270.21	2418.24	148.31	0.00	0.00	0.00
12000	89.48	179.68	100	10098.0	2197.68	-2157.77	1270.77	2504.16	149.51	0.00	0.00	0.00
12100	89.48	179.68	100	10099.0	2297.68	-2257.76	1271.32	2591.09	150.62	0.00	0.00	0.00
12200	89.48	179.68	100	10099.9	2397.67	-2357.76	1271.88	2678.94	151.66	0.00	0.00	0.00
12300	89.48	179.68	100	10100.8	2497.67	-2457.75	1272.44	2767.61	152.63	0.00	0.00	0.00
12400	89.48	179.68	100	10101.7	2597.67	-2557.75	1273.00	2857.03	153.54	0.00	0.00	0.00
12500	89.48	179.68	100	10102.6	2697.66	-2657.74	1273.56	2947.12	154.40	0.00	0.00	0.00
12600	89.48	179.68	100	10103.5	2797.66	-2757.74	1274.12	3037.84	155.20	0.00	0.00	0.00
12700	89.48	179.68	100	10104.4	2897.65	-2857.73	1274.68	3129.12	155.96	0.00	0.00	0.00
12800	89.48	179.68	100	10105.3	2997.65	-2957.73	1275.23	3220.93	156.68	0.00	0.00	0.00
12900	89.48	179.68	100	10106.2	3097.65	-3057.72	1275.79	3313.20	157.35	0.00	0.00	0.00
13000	89.48	179.68	100	10107.1	3197.64	-3157.71	1276.35	3405.91	157.99	0.00	0.00	0.00
13100	89.48	179.68	100	10108.0	3297.64	-3257.71	1276.91	3499.02	158.60	0.00	0.00	0.00
13200	89.48	179.68	100	10108.9	3397.63	-3357.70	1277.47	3592.50	159.17	0.00	0.00	0.00
13300	89.48	179.68	100	10109.8	3497.63	-3457.70	1278.03	3686.33	159.71	0.00	0.00	0.00
13400	89.48	179.68	100	10110.8	3597.63	-3557.69	1278.58	3780.47	160.23	0.00	0.00	0.00
13500	89.48	179.68	100	10111.7	3697.62	-3657.69	1279.14	3874.90	160.72	0.00	0.00	0.00
13600	89.48	179.68	100	10112.6	3797.62	-3757.68	1279.70	3969.61	161.19	0.00	0.00	0.00
13700	89.48	179.68	100	10113.5	3897.61	-3857.67	1280.26	4064.57	161.64	0.00	0.00	0.00
13800	89.48	179.68	100	10114.4	3997.61	-3957.67	1280.82	4159.76	162.07	0.00	0.00	0.00
13900	89.48	179.68	100	10115.3	4097.60	-4057.66	1281.38	4255.18	162.47	0.00	0.00	0.00
14000	89.48	179.68	100	10116.2	4197.60	-4157.66	1281.94	4350.80	162.86	0.00	0.00	0.00
14100	89.48	179.68	100	10117.1	4297.60	-4257.65	1282.49	4446.62	163.24	0.00	0.00	0.00
14200	89.48	179.68	100	10118.0	4397.59	-4357.65	1283.05	4542.61	163.59	0.00	0.00	0.00
14300	89.48	179.68	100	10118.9	4497.59	-4457.64	1283.61	4638.77	163.94	0.00	0.00	0.00
14400	89.48	179.68	100	10119.8	4597.58	-4557.63	1284.17	4735.09	164.26	0.00	0.00	0.00
14500	89.48	179.68	100	10120.7	4697.58	-4657.63	1284.73	4831.57	164.58	0.00	0.00	0.00
14526	89.48	179.68	26	10121.0	4723.09	-4683.14	1284.87	4856.20	164.66	0.00	0.00	0.00
14600	89.65	184.51	74	10121.5	4797.49	-4757.55	1282.15	4927.29	164.92	6.49	0.23	6.48
14700	89.88	191.01	100	10121.9	4896.44	-4856.58	1268.65	5019.55	165.36	6.50	0.23	6.50
14800	90.11	197.51	100	10122.0	4993.17	-4953.45	1244.03	5107.28	165.90	6.50	0.23	6.50
14900	90.35	204.00	100	10121.6	5086.43	-5046.91	1208.62	5189.61	166.53	6.49	0.24	6.49
15000	90.57	210.50	100	10120.7	5175.02	-5135.76	1162.85	5265.76	167.24	6.50	0.22	6.50
15100	90.79	217.00	100	10119.6	5257.81	-5218.86	1107.33	5335.04	168.02	6.50	0.22	6.50
15200	91.00	223.49	100	10118.0	5333.73	-5295.14	1042.77	5396.84	168.86	6.49	0.21	6.49
15300	91.19	229.99	100	10116.1	5401.80	-5363.62	970.00	5450.62	169.75	6.50	0.19	6.50
15400	91.37	236.49	100	10113.8	5461.15	-5423.42	889.94	5495.95	170.68	6.50	0.18	6.50
15500	91.54	242.99	100	10111.3	5511.02	-5473.77	803.64	5532.45	171.65	6.50	0.17	6.50
15600	91.68	249.49	100	10108.5	5550.76	-5514.02	712.21	5559.83	172.64	6.50	0.14	6.50
15700	91.80	255.99	100	10105.5	5579.87	-5543.66	616.80	5577.87	173.65	6.50	0.12	6.50
15800	91.90	262.50	100	10102.2	5597.96	-5562.30	518.66	5586.43	174.67	6.51	0.10	6.51
15900	91.97	269.00	100	10098.8	5604.81	-5569.71	419.05	5585.45	175.70	6.50	0.07	6.50
15911	91.98	269.71	11	10098.5	5604.87	-5569.83	408.14	5584.76	175.81	6.50	0.09	6.50
16000	91.98	269.71	89	10095.4	5604.82	-5570.28	319.11	5579.41	176.72	0.00	0.00	0.00
16100	91.98	269.71	100	10091.9	5604.77	-5570.79	219.17	5575.09	177.75	0.00	0.00	0.00
16200	91.98	269.71	100	10088.5	5604.72	-5571.29	119.23	5572.57	178.77	0.00	0.00	0.00
16300	91.98	269.71	100	10085.0	5604.67	-5571.80	19.29	5571.83	179.80	0.00	0.00	0.00
16400	91.98	269.71	100	10081.6	5604.61	-5572.30	-80.64	5572.89	180.83	0.00	0.00	0.00
16500	91.98	269.71	100	10078.1	5604.56	-5572.81	-180.58	5575.73	181.86	0.00	0.00	0.00
16600	91.98	269.71	100	10074.7	5604.51	-5573.31	-280.52	5580.37	182.88	0.00	0.00	0.00
16700	91.98	269.71	100	10071.2	5604.46	-5573.82	-380.46	5586.79	183.90	0.00	0.00	0.00

Minimum Radius of Curvature

API: 30-015-53277 **Well: Vanadium 32 State 005H** **Wellhead Location N+/S- : 32.269759**
Operator: Occidental **Area: New Mexico** **E+/W- : -103.797303**
Rig: **Type: U-Lateral** **Magnetic Declination: 6.78**
TD: 22,221' **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			
16769	91.98	269.71	69	10068.8	5604.42	-5574.17	-449.34	5592.25	184.61	0.00	0.00	0.00
16800	92.14	271.73	31	10067.7	5603.86	-5573.78	-480.40	5594.44	184.93	6.52	0.51	6.50
16900	92.62	278.21	100	10063.5	5594.65	-5565.13	-579.88	5595.26	185.95	6.49	0.48	6.48
17000	93.07	284.71	100	10058.6	5574.27	-5545.30	-677.71	5586.56	186.97	6.51	0.45	6.50
17100	93.48	291.20	100	10052.9	5542.99	-5514.54	-772.64	5568.40	187.98	6.49	0.41	6.49
17200	93.85	297.71	100	10046.5	5501.19	-5473.25	-863.43	5540.93	188.96	6.51	0.37	6.51
17300	94.17	304.21	100	10039.5	5449.42	-5421.96	-948.93	5504.37	189.93	6.49	0.32	6.50
17400	94.43	310.73	100	10032.0	5388.35	-5361.33	-1028.03	5459.00	190.85	6.51	0.26	6.52
17500	94.64	317.24	100	10024.0	5318.76	-5292.14	-1099.72	5405.19	191.74	6.49	0.21	6.51
17600	94.79	323.76	100	10015.8	5241.55	-5215.28	-1163.07	5343.40	192.57	6.50	0.15	6.52
17700	94.87	330.29	100	10007.4	5157.70	-5131.73	-1217.28	5274.13	193.34	6.51	0.08	6.53
17800	94.89	336.81	100	9998.9	5068.30	-5042.57	-1261.64	5198.01	194.05	6.50	0.02	6.52
17900	94.85	343.33	100	9990.4	4974.49	-4948.95	-1295.58	5115.73	194.67	6.50	-0.04	6.52
18000	94.75	349.86	100	9982.0	4877.48	-4852.07	-1318.67	5028.07	195.20	6.51	-0.10	6.53
18100	94.59	356.38	100	9973.8	4778.52	-4753.18	-1330.60	4935.91	195.64	6.50	-0.16	6.52
18151	94.48	359.70	51	9969.8	4727.70	-4702.36	-1332.34	4887.47	195.82	6.49	-0.22	6.51
18200	94.48	359.70	49	9966.0	4678.86	-4653.52	-1332.60	4840.57	195.98	0.00	0.00	0.00
18300	94.48	359.70	100	9958.2	4579.16	-4553.83	-1333.12	4744.95	196.32	0.00	0.00	0.00
18400	94.48	359.70	100	9950.4	4479.47	-4454.14	-1333.64	4649.51	196.67	0.00	0.00	0.00
18500	94.48	359.70	100	9942.5	4379.77	-4354.44	-1334.16	4554.25	197.03	0.00	0.00	0.00
18600	94.48	359.70	100	9934.7	4280.08	-4254.75	-1334.68	4459.18	197.42	0.00	0.00	0.00
18700	94.48	359.70	100	9926.9	4180.38	-4155.06	-1335.21	4364.32	197.81	0.00	0.00	0.00
18800	94.48	359.70	100	9919.1	4080.69	-4055.36	-1335.73	4269.68	198.23	0.00	0.00	0.00
18900	94.48	359.70	100	9911.3	3980.99	-3955.67	-1336.25	4175.27	198.67	0.00	0.00	0.00
19000	94.48	359.70	100	9903.5	3881.30	-3855.98	-1336.77	4081.12	199.12	0.00	0.00	0.00
19100	94.48	359.70	100	9895.7	3781.61	-3756.28	-1337.29	3987.23	199.60	0.00	0.00	0.00
19200	94.48	359.70	100	9887.9	3681.91	-3656.59	-1337.82	3893.64	200.10	0.00	0.00	0.00
19300	94.48	359.70	100	9880.1	3582.22	-3556.90	-1338.34	3800.35	200.62	0.00	0.00	0.00
19400	94.48	359.70	100	9872.2	3482.52	-3457.20	-1338.86	3707.40	201.17	0.00	0.00	0.00
19500	94.48	359.70	100	9864.4	3382.83	-3357.51	-1339.38	3614.81	201.75	0.00	0.00	0.00
19600	94.48	359.70	100	9856.6	3283.13	-3257.82	-1339.90	3522.60	202.36	0.00	0.00	0.00
19631	94.48	359.70	31	9854.2	3252.22	-3226.90	-1340.07	3494.09	202.55	0.00	0.00	0.00
19700	93.45	359.70	69	9849.4	3183.39	-3158.08	-1340.43	3430.78	203.00	1.49	-1.49	0.00
19800	91.95	359.70	100	9844.7	3083.51	-3058.20	-1340.95	3339.27	203.68	1.50	-1.50	0.00
19900	90.45	359.70	100	9842.6	2983.53	-2958.22	-1341.47	3248.17	204.39	1.50	-1.50	0.00
20000	90.43	359.70	100	9841.9	2883.54	-2858.23	-1342.00	3157.60	205.15	0.02	-0.02	0.00
20100	90.43	359.70	100	9841.1	2783.54	-2758.23	-1342.52	3067.60	205.95	0.00	0.00	0.00
20200	90.43	359.70	100	9840.4	2683.54	-2658.23	-1343.04	2978.25	206.80	0.00	0.00	0.00
20300	90.43	359.70	100	9839.6	2583.54	-2558.24	-1343.57	2889.60	207.71	0.00	0.00	0.00
20400	90.43	359.70	100	9838.9	2483.55	-2458.24	-1344.09	2801.70	208.67	0.00	0.00	0.00
20500	90.43	359.70	100	9838.1	2383.55	-2358.25	-1344.61	2714.65	209.69	0.00	0.00	0.00
20600	90.43	359.70	100	9837.4	2283.55	-2258.25	-1345.14	2628.52	210.78	0.00	0.00	0.00
20700	90.43	359.70	100	9836.6	2183.56	-2158.26	-1345.66	2543.40	211.94	0.00	0.00	0.00
20800	90.43	359.70	100	9835.9	2083.56	-2058.26	-1346.19	2459.40	213.19	0.00	0.00	0.00
20900	90.43	359.70	100	9835.1	1983.56	-1958.26	-1346.71	2376.64	214.52	0.00	0.00	0.00
21000	90.43	359.70	100	9834.4	1883.56	-1858.27	-1347.23	2295.26	215.94	0.00	0.00	0.00
21100	90.43	359.70	100	9833.6	1783.57	-1758.27	-1347.76	2215.39	217.47	0.00	0.00	0.00
21200	90.43	359.70	100	9832.8	1683.57	-1658.28	-1348.28	2137.23	219.11	0.00	0.00	0.00
21300	90.43	359.70	100	9832.1	1583.57	-1558.28	-1348.80	2060.95	220.88	0.00	0.00	0.00
21400	90.43	359.70	100	9831.3	1483.58	-1458.29	-1349.33	1986.78	222.78	0.00	0.00	0.00
21500	90.43	359.70	100	9830.6	1383.58	-1358.29	-1349.85	1914.95	224.82	0.00	0.00	0.00
21600	90.43	359.70	100	9829.8	1283.58	-1258.29	-1350.37	1845.76	227.02	0.00	0.00	0.00
21700	90.43	359.70	100	9829.1	1183.58	-1158.30	-1350.90	1779.49	229.39	0.00	0.00	0.00
21800	90.43	359.70	100	9828.3	1083.59	-1058.30	-1351.42	1716.49	231.94	0.00	0.00	0.00
21900	90.43	359.70	100	9827.6	983.59	-958.31	-1351.94	1657.14	234.67	0.00	0.00	0.00
22000	90.43	359.70	100	9826.8	883.59	-858.31	-1352.47	1601.83	237.60	0.00	0.00	0.00
22100	90.43	359.70	100	9826.1	783.60	-758.31	-1352.99	1551.01	240.73	0.00	0.00	0.00
22200	90.43	359.70	100	9825.3	683.60	-658.32	-1353.52	1505.12	244.06	0.00	0.00	0.00

Minimum Radius of Curvature

API: 30-015-53277 **Well:** Vanadium 32 State 005H **Wellhead Location N+/S- :** 32.269759
Operator: Occidental **Area:** New Mexico **E+/W- :** -103.797303
Rig: **Type:** U-Lateral **Magnetic Declination:** 6.78
TD: 22,221' **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			
22221	90.43	359.70	21	9825.2	662.14	-636.86	-1353.63	1495.96	244.80	0.00	0.00	0.00