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Directional Survey**

**NM OIL CONSERVATION
ARTESIA DISTRICT**

OCT 02 2018



RECEIVED
Survey Report

30-015-44948

Service Company: Wellbenders

Location: Artesia

Well: Red Lake 32 State #2H ST01

Rig: Silver Oak #1

API or UWI: 30-015-44948

Job Number: NMDG 2018-1114

State: NM

Operating Company: Percussion Petroleum LLC

County: Eddy

Magnetic Declination: 7.20

Country: USA

Proposed Azimuth: 272.25

Comment

North Reference: GRID

Latitude: 32.784483

Longitude: -104.292631

Tie-In Data

MD	Inclination	Azimuth	TVD	NS	EW
0.00	0.00	0.00	0.00	0.00	0.00

Survey Data

MD	Inclination	Azimuth	TVD	NS	EW	CA	CD	VS	DLS
58.00	0.60	48.36	58.00	0.20	0.23	48.36	0.30	-0.22	1.03
152.00	0.47	58.70	151.99	0.73	0.92	51.73	1.18	-0.89	0.17
244.00	0.29	75.01	243.99	0.99	1.47	56.19	1.77	-1.43	0.23
332.00	0.15	93.44	331.99	1.04	1.80	60.10	2.08	-1.76	0.18
430.00	0.44	233.47	429.99	0.80	1.63	63.70	1.82	-1.59	0.57
522.00	0.68	251.24	521.99	0.42	0.83	63.14	0.93	-0.81	0.32
614.00	0.90	269.89	613.98	0.24	-0.41	300.33	0.48	0.42	0.36
706.00	1.09	278.22	705.96	0.37	-2.00	280.34	2.03	2.01	0.26
798.00	1.50	275.28	797.94	0.60	-4.07	278.41	4.11	4.09	0.45
890.00	1.58	277.81	889.91	0.88	-6.52	277.72	6.58	6.55	0.11
982.00	1.56	262.47	981.87	0.89	-9.02	275.65	9.06	9.05	0.46
1073.00	1.37	248.52	1072.84	0.33	-11.26	271.69	11.27	11.26	0.44
1164.00	1.27	249.74	1163.82	-0.42	-13.22	268.20	13.23	13.19	0.11
1220.00	1.33	244.46	1219.81	-0.91	-14.39	266.38	14.42	14.34	0.24
1321.00	1.45	207.23	1320.78	-2.55	-16.03	260.95	16.23	15.92	0.89
1416.00	2.29	76.89	1415.75	-3.19	-14.73	257.78	15.07	14.59	3.59

MD	Inclination	Azimuth	TVD	NS	EW	CA	CD	VS	DLS
1511.00	5.63	70.82	1510.51	-1.23	-8.48	261.75	8.57	8.42	3.54
1605.00	8.13	65.11	1603.83	3.08	1.91	31.72	3.63	-1.78	2.75
1699.00	8.79	64.67	1696.81	8.95	14.43	58.17	16.98	-14.07	0.71
1793.00	7.65	71.79	1789.84	13.98	26.86	62.50	30.28	-26.29	1.62
1887.00	7.82	72.76	1882.99	17.83	38.91	65.38	42.81	-38.18	0.23
1980.00	8.09	71.70	1975.09	21.76	51.17	66.96	55.61	-50.28	0.33
2073.00	8.62	72.58	2067.10	25.90	64.03	67.97	69.07	-62.97	0.59
2167.00	7.30	74.16	2160.20	29.64	76.50	68.82	82.04	-75.28	1.42
2263.00	6.46	75.39	2255.50	32.67	87.59	69.55	93.49	-86.24	0.89
2356.00	6.11	74.95	2347.94	35.28	97.44	70.10	103.62	-95.98	0.38
2391.00	5.76	77.25	2382.76	36.15	100.95	70.30	107.22	-99.45	1.21
2437.00	3.96	74.70	2428.59	37.08	104.73	70.51	111.10	-103.20	3.94
2484.00	0.92	305.15	2475.56	37.72	105.99	70.41	112.50	-104.43	9.79
2531.00	6.99	275.71	2522.42	38.22	102.83	69.61	109.71	-101.25	13.20
2578.00	12.92	276.23	2568.70	39.08	94.76	67.59	102.50	-93.15	12.62
2624.00	18.37	280.28	2612.98	40.93	82.50	63.61	92.10	-80.83	12.08
2671.00	21.67	277.82	2657.13	43.44	66.61	56.89	79.52	-64.86	7.24
2717.00	26.11	274.12	2699.18	45.32	48.09	46.70	66.08	-46.28	10.18
2764.00	30.99	272.98	2740.45	46.69	25.68	28.81	53.29	-23.83	10.45
2810.00	35.43	273.16	2778.93	48.04	0.53	0.63	48.05	1.36	9.65
2857.00	37.41	274.91	2816.75	50.02	-27.30	331.37	56.98	29.25	4.76
2904.00	41.45	274.83	2853.05	52.55	-57.04	312.65	77.56	59.06	8.60
2951.00	45.98	274.12	2887.01	55.07	-89.41	301.63	105.01	91.51	9.69
2997.00	49.49	273.07	2917.94	57.20	-123.38	294.87	136.00	125.53	7.81
3044.00	52.62	272.72	2947.48	59.04	-159.89	290.27	170.44	162.08	6.68
3092.00	57.19	271.66	2975.07	60.53	-199.12	286.91	208.12	201.34	9.69
3139.00	61.36	271.84	2999.08	61.77	-239.49	284.46	247.33	241.73	8.88
3187.00	63.74	272.19	3021.20	63.27	-282.06	282.64	289.07	284.33	5.00
3234.00	68.53	272.63	3040.21	65.08	-324.99	281.32	331.44	327.30	10.23
3280.00	75.38	272.63	3054.46	67.08	-368.66	280.31	374.71	371.01	14.89
3327.00	81.76	272.45	3063.76	69.12	-414.66	279.46	420.38	417.05	13.58
3373.00	86.81	272.19	3068.34	70.97	-460.37	278.76	465.81	462.81	10.99
3420.00	89.32	272.28	3069.93	72.81	-507.31	278.17	512.51	509.78	5.34
3514.00	91.16	272.01	3069.54	76.32	-601.24	277.23	606.06	603.77	1.98
3608.00	92.35	272.45	3066.66	79.98	-695.12	276.56	699.71	697.72	1.35
3702.00	90.37	271.40	3064.43	83.14	-789.03	276.01	793.40	791.69	2.38
3794.00	91.21	271.66	3063.16	85.59	-880.99	275.55	885.14	883.67	0.96

MD	Inclination	Azimuth	TVD	NS	EW	CA	CD	VS	DLS
3889.00	89.19	270.70	3062.83	87.55	-975.97	275.13	979.88	978.65	2.35
3982.00	89.32	270.70	3064.04	88.68	-1068.95	274.74	1072.62	1071.61	0.14
4076.00	89.85	270.70	3064.72	89.83	-1162.94	274.42	1166.41	1165.57	0.56
4170.00	90.11	270.43	3064.75	90.76	-1256.94	274.13	1260.21	1259.53	0.40
4264.00	90.68	270.43	3064.10	91.47	-1350.93	273.87	1354.02	1353.48	0.61
4359.00	91.43	270.61	3062.35	92.33	-1445.91	273.65	1448.86	1448.42	0.81
4452.00	92.22	270.78	3059.39	93.46	-1538.86	273.48	1541.69	1541.34	0.87
4547.00	90.55	271.05	3057.09	94.97	-1633.81	273.33	1636.57	1636.28	1.78
4641.00	90.95	271.22	3055.86	96.83	-1727.79	273.21	1730.50	1730.26	0.46
4735.00	90.86	271.14	3054.38	98.77	-1821.75	273.10	1824.43	1824.23	0.13
4829.00	91.34	270.96	3052.58	100.49	-1915.72	273.00	1918.35	1918.19	0.55
4922.00	90.20	272.81	3051.33	103.55	-2008.66	272.95	2011.32	2011.17	2.34
5015.00	90.73	272.98	3050.57	108.25	-2101.53	272.95	2104.32	2104.16	0.60
5108.00	90.46	272.54	3049.60	112.72	-2194.42	272.94	2197.31	2197.15	0.56
5199.00	89.80	271.31	3049.40	115.78	-2285.37	272.90	2288.30	2288.15	1.53
5292.00	89.98	270.70	3049.58	117.41	-2378.35	272.83	2381.25	2381.13	0.68
5384.00	90.46	270.70	3049.22	118.54	-2470.34	272.75	2473.19	2473.09	0.52
5475.00	91.43	271.05	3047.72	119.93	-2561.32	272.68	2564.13	2564.05	1.13
5567.00	90.59	272.19	3046.10	122.53	-2653.27	272.64	2656.09	2656.03	1.54
5659.00	91.25	272.19	3044.62	126.04	-2745.19	272.63	2748.08	2748.02	0.72
5751.00	89.36	272.10	3044.13	129.49	-2837.12	272.61	2840.07	2840.01	2.06
5842.00	89.98	272.01	3044.66	132.75	-2928.06	272.60	2931.06	2931.01	0.69
5933.00	90.42	271.84	3044.34	135.80	-3019.00	272.58	3022.06	3022.01	0.52
6025.00	91.87	272.54	3042.50	139.32	-3110.92	272.56	3114.03	3113.99	1.75
6117.00	90.51	273.33	3040.59	144.03	-3202.77	272.57	3206.01	3205.96	1.71
6211.00	91.25	273.42	3039.15	149.56	-3296.60	272.60	3299.99	3299.93	0.79
6305.00	89.93	272.19	3038.18	154.16	-3390.48	272.60	3393.98	3393.91	1.92
6398.00	90.33	272.10	3037.97	157.64	-3483.41	272.59	3486.98	3486.91	0.44
6523.00	90.59	272.45	3036.97	162.60	-3608.31	272.58	3611.97	3611.91	0.35
6615.00	90.51	272.45	3036.08	166.54	-3700.22	272.58	3703.97	3703.90	0.09
6708.00	89.85	272.54	3035.79	170.59	-3793.13	272.57	3796.96	3796.90	0.72
6802.00	88.84	270.96	3036.86	173.46	-3887.08	272.56	3890.94	3890.89	1.99
6895.00	89.32	271.14	3038.36	175.16	-3980.05	272.52	3983.90	3983.86	0.55
6990.00	90.15	271.58	3038.80	177.41	-4075.02	272.49	4078.88	4078.84	0.99
7083.00	91.12	272.28	3037.77	180.55	-4167.96	272.48	4171.87	4171.83	1.29
7178.00	90.02	272.19	3036.82	184.25	-4262.88	272.47	4266.86	4266.83	1.16
7272.00	88.84	270.78	3037.76	186.69	-4356.84	272.45	4360.84	4360.81	1.96

MD	Inclination	Azimuth	TVD	NS	EW	CA	CD	VS	DLS
7366.00	89.54	270.96	3039.09	188.11	-4450.82	272.42	4454.79	4454.77	0.77
7461.00	90.29	272.10	3039.23	190.65	-4545.78	272.40	4549.78	4549.76	1.44
7557.00	89.41	270.96	3039.48	193.21	-4641.75	272.38	4645.77	4645.75	1.50
7650.00	90.20	270.52	3039.79	194.41	-4734.74	272.35	4738.73	4738.72	0.97
7744.00	90.86	271.22	3038.92	195.84	-4828.72	272.32	4832.69	4832.69	1.02
7838.00	91.47	271.66	3037.01	198.20	-4922.67	272.31	4926.66	4926.66	0.80
7931.00	92.31	272.28	3033.95	201.40	-5015.56	272.30	5019.61	5019.60	1.12
7943.00	92.57	272.28	3033.44	201.88	-5027.54	272.30	5031.60	5031.59	2.17

Projected Survey

MD	Inclination	Azimuth	TVD	NS	EW	CA	CD	VS	DLS
8010.00	92.57	272.28	3030.43	204.54	-5094.42	272.30	5098.53	5098.53	0.00