



Survey Report

Service Company: Wellbenders

Location: Artesia NM

Well: Ross Ranch 22 Unit #13H

Rig: Akita 20

API or UWI: 30-015-45694

Job Number: NMDG 2019 1045

State: NM

Operating Company: Percussion Petroleum

County: Eddy

Magnetic Declination: 7.31

Country: USA

Proposed Azimuth: 0.06

Comment

North Reference: GRID

Latitude: -104.479324

Longitude: 32.637213

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
136.00	0.75	75.60	136.00	0.22	0.86	75.60	0.89	0.22	0.55
227.00	0.84	71.64	226.99	0.58	2.07	74.37	2.15	0.58	0.12
318.00	1.41	82.37	317.97	0.94	3.81	76.18	3.93	0.94	0.67
408.00	2.86	79.11	407.90	1.51	7.12	78.03	7.28	1.52	1.62
499.00	5.58	80.26	498.65	2.69	13.71	78.91	13.97	2.70	2.99
590.00	7.74	85.18	589.03	3.95	24.18	80.72	24.50	3.98	2.45
681.00	8.84	87.38	679.08	4.79	37.27	82.68	37.57	4.82	1.26
773.00	8.75	88.34	770.00	5.31	51.32	84.09	51.60	5.36	0.19
863.00	8.88	88.43	858.93	5.70	65.11	85.00	65.36	5.77	0.15
953.00	9.49	88.34	947.78	6.11	79.47	85.61	79.71	6.19	0.68
1044.00	9.54	90.01	1037.53	6.32	94.51	86.17	94.72	6.42	0.31
1135.00	9.49	90.63	1127.28	6.24	109.55	86.74	109.73	6.35	0.13
1210.00	9.23	91.15	1201.28	6.05	121.75	87.16	121.90	6.18	0.36
1362.00	9.67	90.45	1351.21	5.70	146.70	87.77	146.81	5.86	0.30
1456.00	10.42	89.75	1443.77	5.68	163.10	88.01	163.20	5.85	0.81
1550.00	11.16	87.73	1536.11	6.08	180.69	88.07	180.79	6.27	0.88

MD	Inclination	Azimuth	TVD	NS	EW	CA	CD	VS	DLS
1645.00	11.03	85.44	1629.34	7.16	198.93	87.94	199.06	7.37	0.48
1740.00	10.11	84.74	1722.72	8.65	216.30	87.71	216.47	8.88	0.98
1834.00	9.80	84.39	1815.31	10.19	232.47	87.49	232.70	10.43	0.34
1928.00	9.19	83.68	1908.02	11.80	247.90	87.28	248.18	12.06	0.66
2023.00	9.49	83.77	2001.76	13.48	263.22	87.07	263.57	13.76	0.32
2117.00	9.54	84.47	2094.47	15.07	278.68	86.90	279.09	15.36	0.13
2210.00	9.93	83.95	2186.13	16.66	294.32	86.76	294.79	16.97	0.43
2257.00	10.33	77.88	2232.40	17.97	302.47	86.60	303.01	18.29	2.42
2304.00	11.25	71.29	2278.57	20.33	310.94	86.26	311.60	20.65	3.27
2351.00	11.52	65.58	2324.64	23.74	319.55	85.75	320.43	24.07	2.46
2399.00	11.43	57.14	2371.69	28.30	327.91	85.07	329.13	28.65	3.50
2446.00	11.96	47.74	2417.71	34.10	335.43	84.19	337.16	34.46	4.20
2493.00	13.80	39.12	2463.53	41.73	342.57	83.05	345.10	42.09	5.65
2540.00	15.56	32.27	2509.00	51.41	349.47	81.63	353.24	51.78	5.25
2588.00	17.49	24.62	2555.02	63.41	355.92	79.90	361.52	63.79	6.05
2635.00	19.56	18.56	2599.59	77.30	361.37	77.93	369.54	77.67	6.01
2682.00	22.46	13.72	2643.46	93.48	366.00	75.67	377.75	93.86	7.19
2729.00	25.27	10.38	2686.44	112.07	369.94	73.15	386.54	112.46	6.63
2777.00	28.88	7.31	2729.18	133.66	373.26	70.30	396.47	134.05	8.06
2824.00	32.66	4.41	2769.56	157.57	375.68	67.25	407.39	157.96	8.64
2872.00	36.57	3.09	2809.05	184.77	377.45	63.92	420.25	185.17	8.29
2919.00	39.69	2.91	2846.02	213.75	378.97	60.58	435.09	214.15	6.64
2966.00	42.90	3.09	2881.33	244.72	380.59	57.26	452.48	245.12	6.83
3013.00	46.42	3.00	2914.75	277.70	382.34	54.01	472.55	278.10	7.49
3061.00	50.20	2.30	2946.67	313.50	383.99	50.77	495.72	313.90	7.95
3108.00	54.11	2.30	2975.50	350.58	385.48	47.71	521.06	350.98	8.32
3155.00	57.71	1.77	3001.84	389.47	386.86	44.81	548.95	389.88	7.72
3202.00	59.16	1.95	3026.44	429.50	388.16	42.11	578.91	429.90	3.10
3249.00	59.65	1.86	3050.36	469.93	389.51	39.65	610.37	470.34	1.06
3296.00	60.09	2.21	3073.96	510.55	390.95	37.44	643.05	510.96	1.14
3344.00	60.62	2.65	3097.70	552.23	392.72	35.42	677.64	552.65	1.36
3438.00	63.16	1.07	3141.99	635.09	395.40	31.91	748.12	635.51	3.08
3485.00	67.16	359.66	3161.73	677.73	395.66	30.28	784.77	678.15	8.94
3533.00	71.60	359.13	3178.63	722.64	395.18	28.67	823.64	723.06	9.31
3580.00	76.09	358.25	3191.70	767.76	394.15	27.17	863.03	768.18	9.72
3627.00	79.65	357.90	3201.57	813.68	392.60	25.76	903.45	814.09	7.61
3674.00	83.43	358.25	3208.49	860.14	391.04	24.45	944.85	860.54	8.08

MD	Inclination	Azimuth	TVD	NS	EW	CA	CD	VS	DLS
3722.00	87.38	358.25	3212.33	907.95	389.58	23.22	988.00	908.36	8.23
3769.00	89.23	358.52	3213.72	954.91	388.26	22.13	1030.82	955.31	3.98
3817.00	90.29	358.08	3213.92	1002.89	386.83	21.09	1074.90	1003.29	2.39
3911.00	89.58	358.96	3214.03	1096.85	384.41	19.31	1162.26	1097.25	1.20
4006.00	90.59	359.22	3213.89	1191.84	382.90	17.81	1251.84	1192.24	1.10
4101.00	89.63	0.45	3213.71	1286.84	382.62	16.56	1342.52	1287.24	1.64
4196.00	90.24	1.33	3213.81	1381.82	384.10	15.53	1434.21	1382.22	1.13
4317.00	89.36	1.33	3214.24	1502.79	386.91	14.44	1551.80	1503.19	0.73
4411.00	90.20	1.95	3214.60	1596.75	389.60	13.71	1643.59	1597.16	1.11
4506.00	89.45	0.80	3214.89	1691.72	391.88	13.04	1736.51	1692.13	1.45
4601.00	89.98	359.92	3215.36	1786.71	392.47	12.39	1829.31	1787.12	1.08
4695.00	90.37	359.22	3215.07	1880.71	391.77	11.77	1921.08	1881.12	0.85
4790.00	89.85	358.17	3214.89	1975.68	389.61	11.16	2013.73	1976.09	1.23
4885.00	90.59	358.52	3214.53	2070.64	386.86	10.58	2106.47	2071.05	0.86
4979.00	90.77	358.61	3213.41	2164.61	384.51	10.07	2198.49	2165.01	0.21
5074.00	89.85	359.57	3212.90	2259.59	383.00	9.62	2291.82	2259.99	1.40
5168.00	90.55	0.45	3212.57	2353.59	383.02	9.24	2384.55	2353.99	1.20
5263.00	89.05	0.63	3212.90	2448.58	383.91	8.91	2478.49	2448.98	1.59
5358.00	89.76	1.24	3213.89	2543.56	385.46	8.62	2572.60	2543.96	0.99
5452.00	89.45	0.36	3214.54	2637.55	386.77	8.34	2665.76	2637.95	0.99
5547.00	90.24	0.28	3214.79	2732.55	387.30	8.07	2759.86	2732.95	0.84
5641.00	91.16	0.89	3213.64	2826.53	388.26	7.82	2853.08	2826.94	1.17
5736.00	89.76	0.01	3212.88	2921.52	389.01	7.58	2947.31	2921.93	1.74
5830.00	90.33	0.19	3212.81	3015.52	389.17	7.35	3040.53	3015.93	0.64
5924.00	90.11	359.40	3212.45	3109.52	388.84	7.13	3133.74	3109.93	0.87
6019.00	90.29	0.19	3212.11	3204.52	388.50	6.91	3227.98	3204.92	0.85
6113.00	91.74	0.89	3210.45	3298.50	389.38	6.73	3321.40	3298.90	1.71
6207.00	93.89	2.56	3205.83	3392.33	392.21	6.60	3414.93	3392.74	2.89
6298.00	93.36	1.86	3200.08	3483.08	395.71	6.48	3505.49	3483.50	0.96
6390.00	93.80	0.36	3194.33	3574.88	397.49	6.34	3596.91	3575.30	1.70
6485.00	93.14	358.69	3188.58	3669.70	396.70	6.17	3691.08	3670.11	1.89
6530.00	92.84	359.22	3186.24	3714.63	395.88	6.08	3735.67	3715.05	1.35
6576.00	90.77	359.66	3184.79	3760.60	395.43	6.00	3781.34	3761.02	4.60
6621.00	90.64	359.57	3184.23	3805.60	395.13	5.93	3826.06	3806.01	0.35
6667.00	88.09	359.48	3184.74	3851.59	394.75	5.85	3871.77	3852.00	5.55
6712.00	88.04	359.40	3186.26	3896.56	394.31	5.78	3916.46	3896.98	0.21
6757.00	87.03	358.25	3188.20	3941.51	393.39	5.70	3961.09	3941.92	3.40

MD	Inclination	Azimuth	TVD	NS	EW	CA	CD	VS	DLS
6803.00	87.60	358.25	3190.35	3987.44	391.99	5.61	4006.66	3987.85	1.24
6849.00	87.91	358.69	3192.16	4033.39	390.76	5.53	4052.27	4033.80	1.17
6940.00	88.09	0.10	3195.33	4124.33	389.80	5.40	4142.70	4124.73	1.56
7030.00	87.52	359.05	3198.78	4214.26	389.13	5.28	4232.18	4214.66	1.33
7121.00	87.78	359.40	3202.51	4305.17	387.90	5.15	4322.61	4305.57	0.48
7212.00	88.26	359.66	3205.65	4396.11	387.15	5.03	4413.13	4396.52	0.60
7303.00	88.79	359.92	3208.00	4487.08	386.82	4.93	4503.72	4487.48	0.65
7394.00	87.74	359.66	3210.75	4578.04	386.49	4.83	4594.32	4578.44	1.19
7485.00	87.82	359.92	3214.28	4668.97	386.15	4.73	4684.91	4669.37	0.30
7576.00	88.84	0.10	3216.93	4759.93	386.17	4.64	4775.57	4760.33	1.14
7667.00	89.63	0.45	3218.14	4850.92	386.61	4.56	4866.30	4851.32	0.95
7761.00	90.24	0.63	3218.25	4944.91	387.49	4.48	4960.07	4945.32	0.68
7856.00	90.11	359.57	3217.96	5039.91	387.66	4.40	5054.80	5040.32	1.12
7951.00	89.80	359.13	3218.04	5134.91	386.58	4.31	5149.44	5135.31	0.57
8046.00	88.44	358.96	3219.49	5229.88	385.00	4.21	5244.03	5230.28	1.44
8140.00	88.53	359.48	3221.98	5323.84	383.72	4.12	5337.65	5324.24	0.56
8235.00	90.02	0.63	3223.18	5418.82	383.81	4.05	5432.40	5419.22	1.98
8329.00	90.29	1.77	3222.93	5512.80	385.78	4.00	5526.28	5513.20	1.25
8423.00	88.97	0.80	3223.53	5606.77	387.89	3.96	5620.17	5607.18	1.74
8518.00	89.67	0.54	3224.66	5701.76	389.00	3.90	5715.01	5702.16	0.79
8612.00	90.46	0.10	3224.55	5795.76	389.52	3.84	5808.83	5796.16	0.96
8707.00	90.51	0.45	3223.75	5890.75	389.98	3.79	5903.65	5891.16	0.37
8801.00	90.29	0.01	3223.09	5984.75	390.36	3.73	5997.47	5985.15	0.52
8810.00	90.37	359.92	3223.04	5993.75	390.35	3.73	6006.45	5994.15	1.34

Projected Survey

MD	Inclination	Azimuth	TVD	NS	EW	CA	CD	VS	DLS
8860.00	90.37	359.92	3222.72	6043.75	390.28	3.69	6056.34	6044.15	0.00