Schlumberger

OXY

Borehole:	Well:	Field:	Structure:
Original Borehole	Oxy Pure Gold MDP1 29-17 Federal Com 2H	NM Eddy County (NAD 83)	Oxy Pure Gold MDP1 29-17 Federal Com 2H

Gravity & Magnetic Parameters

Model: IFR1 Dip: 59.993° Date: 25-Apr-2019
MagDec: 6.862° FS: 47974.7nT Gravity FS: 998.453mgn (9.80665 Based)

Surface Location NAD83 New Mexico State Plane, Eastern Zone, US Feet

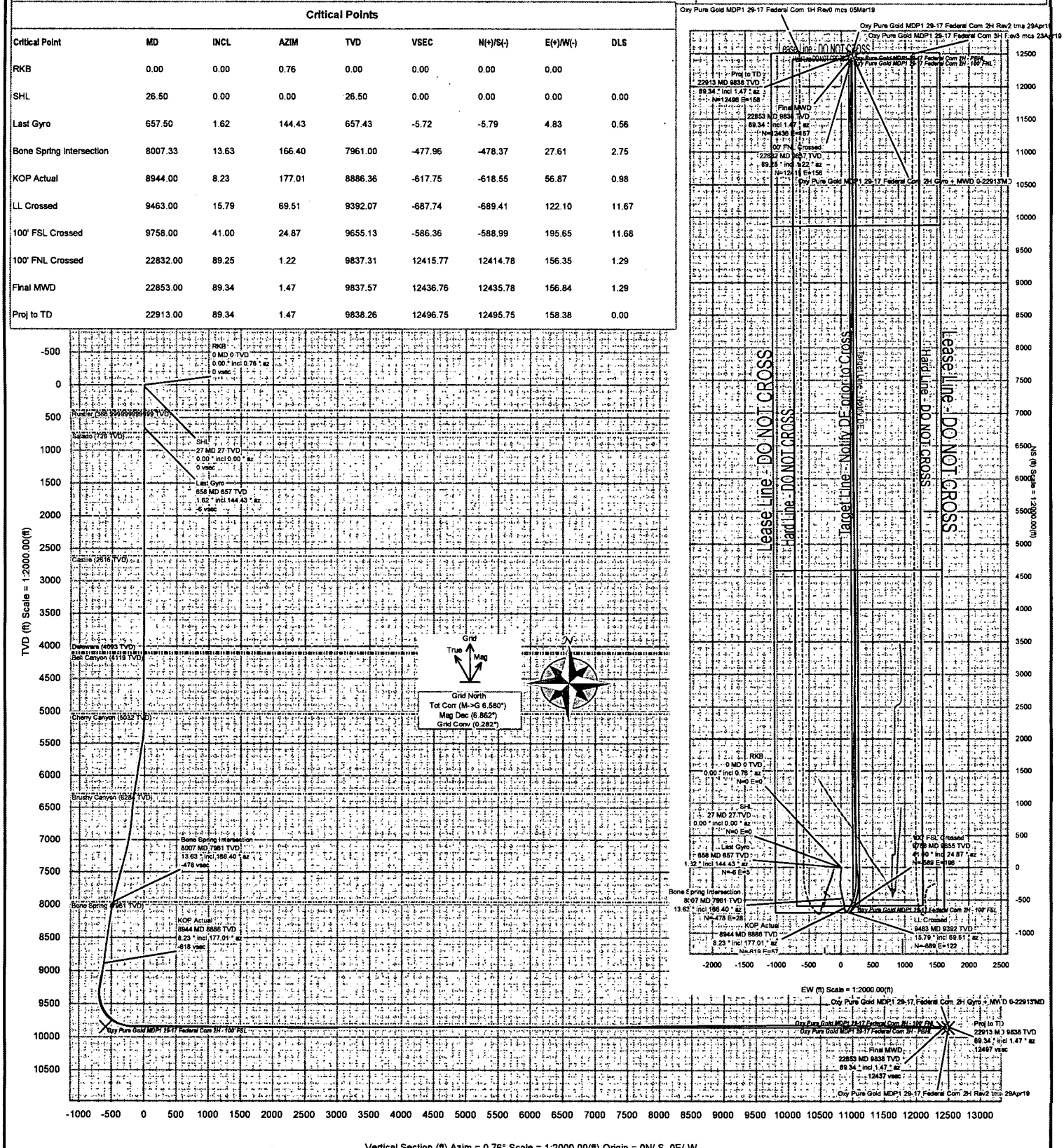
Lat: N 32 16 12.26 Northing: 462387.68ftUS Grid Conv: 0.2821°
Lon: W 103 48 18.15 Easting: 704620.79ftUS Scale Fact: 0.99993963

Miscellaneous

Slot: Oxy Pure Gold MDP1 29-17 Federal Com 2H TVD Ref: RKB=26.5'(3374.9ft above MSL)
Plan: Oxy Pure Gold MDP1 29-17 Federal Com 2H Gyro + MWD 0-22913'MD

Critical Points

Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS
RKB	0.00	0.00	0.76	0.00	0.00	0.00	0.00	
SHL	26.50	0.00	0.00	26.50	0.00	0.00	0.00	0.00
Last Gyro	657.50	1.62	144.43	657.43	-5.72	-5.79	4.83	0.56
Bone Spring Intersection	8007.33	13.63	166.40	7961.00	-477.96	-478.37	27.61	2.75
KOP Actual	8944.00	8.23	177.01	8886.36	-617.75	-618.55	56.87	0.98
LL Crossed	9463.00	15.79	69.51	9392.07	-687.74	-689.41	122.10	11.67
100' FSL Crossed	9758.00	41.00	24.87	9655.13	-586.36	-588.99	195.65	11.68
100' FNL Crossed	22832.00	89.25	1.22	9837.31	12415.77	12414.78	156.35	1.29
Final MWD	22853.00	89.34	1.47	9837.57	12436.76	12435.78	156.84	1.29
Proj to TD	22913.00	89.34	1.47	9838.26	12496.75	12495.75	158.38	0.00



Vertical Section (ft) Azim = 0.76° Scale = 1:2000.00(ft) Origin = 0N/-S, 0E/-W

Schlumberger

Oxy Pure Gold MDP1 29-17 Federal Com 2H Gyro + MWD 0-22913'MD
Survey Geodetic Report
(Def Survey)

Report Date:	May 13, 2019 - 04:23 PM	**Survey / DLS Computation:**	Minimum Curvature / Lubinski
Client:	OXY	**Vertical Section Azimuth:**	0.756 ° (Grid North)
Field:	NM Eddy County (NAD 83)	**Vertical Section Origin:**	0.000 ft, 0.000 ft
Structure / Slot:	Oxy Pure Gold MDP1 29-17 Federal Com 2H / Oxy Pure Gold MDP1 29-17 Federal Com 2H	**TVD Reference Datum:**	RKB=26.5'
Well:	Oxy Pure Gold MDP1 29-17 Federal Com 2H	**TVD Reference Elevation:**	3374.900 ft above MSL
Borehole:	Original Borehole	**Seabed / Ground Elevation:**	3348.400 ft above MSL
UWI / API#:	Unknown / 30-015-45646	**Magnetic Declination:**	6.862 °
Survey Name:	Oxy Pure Gold MDP1 29-17 Federal Com 2H Gyro + MWD 0-22913'MD	**Total Gravity Field Strength:**	998.4525mgn (9.80665 Based)
Survey Date:	April 10, 2019	**Gravity Model:**	GARM
Tort / AHD / DDI / ERD Ratio:	317.836 ° / 13984.766 ft / 7.014 / 1.419	**Total Magnetic Field Strength:**	47974.700 nT
Coordinate Reference System:	NAD83 New Mexico State Plane, Eastern Zone, US Feet	**Magnetic Dip Angle:**	59.993 °
Location Lat / Long:	N 32° 16' 12.26460", W 103° 48' 18.14973"	**Declination Date:**	April 25, 2019
Location Grid N/E Y/X:	N 462387.663 ftUS, E 704620.790 ftUS	**Magnetic Declination Model:**	IFR1
CRS Grid Convergence Angle:	0.2821 °	**North Reference:**	Grid North
Grid Scale Factor:	0.99993963	**Grid Convergence Used:**	0.2821 °
Version / Patch:	2.10.753.0	**Total Corr Mag North->Grid North:**	6.5799 °
		Local Coord Referenced To:	Well Head

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
RKB	0.00	0.00	0.76	0.00	0.00	0.00	0.00	N/A	462387.66	704620.79	N 32 16 12.26	W 103 48 18.15
SHL	26.50	0.00	0.00	26.50	0.00	0.00	0.00	0.00	462387.66	704620.79	N 32 16 12.26	W 103 48 18.15
	94.40	0.22	106.56	94.40	-0.04	-0.04	0.12	0.32	462387.63	704620.91	N 32 16 12.26	W 103 48 18.15
	181.90	0.12	149.75	181.90	-0.16	-0.16	0.33	0.18	462387.50	704621.12	N 32 16 12.26	W 103 48 18.15
	271.40	0.27	156.31	271.40	-0.43	-0.44	0.46	0.17	462387.22	704621.25	N 32 16 12.26	W 103 48 18.14
	366.10	0.69	143.59	366.10	-1.09	-1.10	0.89	0.45	462386.56	704621.68	N 32 16 12.25	W 103 48 18.14
	460.60	1.05	139.61	460.58	-2.20	-2.22	1.79	0.39	462385.44	704622.58	N 32 16 12.24	W 103 48 18.13
	555.20	1.36	136.82	555.16	-3.66	-3.70	3.12	0.33	462383.97	704623.91	N 32 16 12.23	W 103 48 18.11
	650.00	1.65	143.41	649.93	-5.55	-5.61	4.70	0.36	462382.05	704625.49	N 32 16 12.21	W 103 48 18.10
Last Gyro	657.50	1.62	144.43	657.43	-5.72	-5.79	4.83	0.56	462381.88	704625.62	N 32 16 12.21	W 103 48 18.09
	773.00	0.98	154.07	772.90	-7.92	-8.00	6.21	0.58	462379.66	704627.00	N 32 16 12.19	W 103 48 18.08
	864.00	0.17	296.51	863.89	-8.56	-8.64	6.43	1.23	462379.02	704627.22	N 32 16 12.18	W 103 48 18.08
	955.00	0.16	150.50	954.89	-8.61	-8.69	6.37	0.35	462378.97	704627.16	N 32 16 12.18	W 103 48 18.08
	1045.00	0.22	313.70	1044.89	-8.60	-8.68	6.31	0.42	462378.98	704627.10	N 32 16 12.18	W 103 48 18.08
	1136.00	0.13	240.49	1135.89	-8.53	-8.61	6.09	0.24	462379.05	704626.88	N 32 16 12.18	W 103 48 18.08
	1226.00	0.18	131.40	1225.89	-8.68	-8.76	6.11	0.28	462378.91	704626.90	N 32 16 12.18	W 103 48 18.08
	1317.00	0.16	131.18	1316.89	-8.85	-8.94	6.31	0.02	462378.73	704627.10	N 32 16 12.18	W 103 48 18.08
	1408.00	0.18	1.50	1407.89	-8.79	-8.88	6.41	0.34	462378.79	704627.20	N 32 16 12.18	W 103 48 18.08
	1503.00	0.13	90.56	1502.89	-8.64	-8.73	6.53	0.23	462378.94	704627.31	N 32 16 12.18	W 103 48 18.07
	1691.00	0.16	57.56	1690.89	-8.50	-8.59	6.96	0.05	462379.07	704627.75	N 32 16 12.18	W 103 48 18.07
	1786.00	0.18	18.45	1785.89	-8.28	-8.38	7.12	0.12	462379.29	704627.91	N 32 16 12.18	W 103 48 18.07
	1880.00	0.11	99.76	1879.89	-8.16	-8.25	7.25	0.21	462379.41	704628.04	N 32 16 12.18	W 103 48 18.07
	2069.00	0.16	264.64	2068.89	-8.21	-8.31	7.17	0.14	462379.36	704627.96	N 32 16 12.18	W 103 48 18.07
	2163.00	0.11	234.35	2162.89	-8.28	-8.37	6.97	0.09	462379.29	704627.76	N 32 16 12.18	W 103 48 18.07
	2258.00	0.11	302.27	2257.89	-8.29	-8.38	6.82	0.13	462379.29	704627.61	N 32 16 12.18	W 103 48 18.07
	2352.00	0.16	9.66	2351.89	-8.11	-8.20	6.76	0.17	462379.46	704627.55	N 32 16 12.18	W 103 48 18.07
	2447.00	0.11	138.76	2446.89	-8.05	-8.14	6.84	0.26	462379.53	704627.63	N 32 16 12.18	W 103 48 18.07
	2541.00	0.13	145.77	2540.89	-8.20	-8.29	6.96	0.03	462379.37	704627.75	N 32 16 12.18	W 103 48 18.07
	2635.00	0.22	104.08	2634.89	-8.33	-8.42	7.20	0.16	462379.24	704627.99	N 32 16 12.18	W 103 48 18.07
	2730.00	0.22	207.30	2729.89	-8.53	-8.63	7.29	0.36	462379.03	704628.08	N 32 16 12.18	W 103 48 18.07
	2824.00	0.13	323.12	2823.89	-8.61	-8.71	7.14	0.32	462378.96	704627.93	N 32 16 12.18	W 103 48 18.07
	2918.00	0.23	307.07	2917.89	-8.42	-8.51	6.93	0.12	462379.16	704627.72	N 32 16 12.18	W 103 48 18.07
	3013.00	0.22	264.26	3012.89	-8.32	-8.41	6.60	0.17	462379.25	704627.39	N 32 16 12.18	W 103 48 18.07
	3107.00	0.15	260.00	3106.89	-8.37	-8.45	6.30	0.08	462379.21	704627.09	N 32 16 12.18	W 103 48 18.08
	3202.00	0.46	26.84	3201.89	-8.05	-8.13	6.35	0.59	462379.53	704627.14	N 32 16 12.18	W 103 48 18.08
	3296.00	0.30	121.93	3295.88	-7.84	-7.92	6.72	0.61	462379.74	704627.51	N 32 16 12.19	W 103 48 18.07
	3391.00	0.23	156.82	3390.88	-8.14	-8.23	7.01	0.18	462379.43	704627.80	N 32 16 12.18	W 103 48 18.07
	3485.00	0.27	218.91	3484.88	-8.48	-8.58	6.95	0.28	462379.09	704627.74	N 32 16 12.18	W 103 48 18.07
	3580.00	0.21	262.79	3579.88	-8.69	-8.77	6.63	0.20	462378.89	704627.42	N 32 16 12.18	W 103 48 18.07
	3674.00	0.25	223.22	3673.88	-8.86	-8.94	6.32	0.17	462378.72	704627.11	N 32 16 12.18	W 103 48 18.08
	3769.00	0.29	214.13	3768.88	-9.21	-9.29	6.04	0.06	462378.37	704626.83	N 32 16 12.17	W 103 48 18.08
	3863.00	0.26	168.13	3862.88	-9.62	-9.70	5.95	0.23	462377.96	704626.74	N 32 16 12.17	W 103 48 18.08
	3957.00	0.16	227.68	3956.88	-9.92	-10.00	5.90	0.24	462377.67	704626.69	N 32 16 12.17	W 103 48 18.08
	4082.00	0.16	145.93	4081.88	-10.18	-10.26	5.87	0.17	462377.40	704626.66	N 32 16 12.16	W 103 48 18.08
	4253.00	0.11	217.78	4252.88	-10.51	-10.59	5.90	0.10	462377.08	704626.69	N 32 16 12.16	W 103 48 18.08
	4413.00	0.11	348.81	4412.88	-10.48	-10.56	5.78	0.13	462377.11	704626.57	N 32 16 12.16	W 103 48 18.08
	4601.00	0.13	358.05	4600.88	-10.09	-10.17	5.74	0.01	462377.50	704626.53	N 32 16 12.16	W 103 48 18.08
	4696.00	0.05	17.97	4695.88	-9.94	-10.02	5.75	0.09	462377.64	704626.54	N 32 16 12.17	W 103 48 18.08
	4790.00	0.08	328.87	4789.88	-9.85	-9.92	5.73	0.06	462377.74	704626.51	N 32 16 12.17	W 103 48 18.08
	4979.00	0.11	18.83	4978.88	-9.56	-9.64	5.72	0.04	462378.02	704626.51	N 32 16 12.17	W 103 48 18.08
	5073.00	0.11	330.20	5072.88	-9.40	-9.48	5.70	0.10	462378.19	704626.49	N 32 16 12.17	W 103 48 18.08
	5168.00	0.06	309.17	5167.88	-9.29	-9.37	5.62	0.06	462378.30	704626.41	N 32 16 12.17	W 103 48 18.08
	5356.00	5.66	186.90	5355.57	-18.46	-18.52	4.42	3.03	462369.15	704625.21	N 32 16 12.08	W 103 48 18.10
	5545.00	8.72	190.82	5543.07	-41.83	-41.85	0.61	1.64	462345.82	704621.40	N 32 16 11.85	W 103 48 18.14
	5639.00	9.15	188.00	5635.92	-56.26	-56.25	-1.76	0.65	462331.42	704619.03	N 32 16 11.71	W 103 48 18.17
	5733.00	8.98	186.09	5728.75	-70.98	-70.94	-3.58	0.37	462316.73	704617.21	N 32 16 11.56	W 103 48 18.20
	5922.00	8.90	185.49	5915.46	-100.24	-100.16	-6.55	0.07	462287.51	704614.25	N 32 16 11.27	W 103 48 18.23
	6016.00	9.10	185.13	6008.30	-114.90	-114.80	-7.91	0.22	462272.87	704612.89	N 32 16 11.13	W 103 48 18.25
	6111.00	8.99	181.65	6102.12	-129.81	-129.71	-8.79	0.59	462257.97	704612.00	N 32 16 10.98	W 103 48 18.26
	6299.00	8.79	176.89	6287.86	-158.83	-158.73	-8.43	0.41	462228.94	704612.36	N 32 16 10.69	W 103 48 18.26
	6394.00	6.96	179.79	6381.96	-171.83	-171.74	-8.02	1.97	462215.94	704612.77	N 32 16 10.57	W 103 48 18.25
	6488.00	4.74	183.53	6475.47	-181.40	-181.31	-8.24	2.40	462206.36	704612.55	N 32 16 10.47	W 103 48 18.26
	6582.00	4.12	190.71	6569.19	-188.61	-188.50	-9.10	0.88	462199.17	704611.69	N 32 16 10.40	W 103 48 18.27
	6771.00	6.61	188.85	6757.34	-206.07	-205.93	-12.04	1.32	462181.75	704608.75	N 32 16 10.23	W 103 48 18.30
	6866.00	8.12	186.92	6851.56	-218.15	-217.99	-13.69	1.61	462169.69	704607.10	N 32 16 10.11	W 103 48 18.32
	6961.00	9.87	183.67	6945.39	-232.95	-232.78	-15.02	1.92	462154.90	704605.77	N 32 16 9.96	W 103 48 18.34
	7055.00	10.87	180.36	7037.85	-249.86	-249.68	-15.59	1.24	462138.00	704605.20	N 32 16 9.79	W 103 48 18.35
	7149.00	12.45	177.25	7129.91	-268.84	-268.67	-15.16	1.81	462119.01	704605.63	N 32 16 9.61	W 103 48 18.34
	7244.00	14.15	174.17	7222.36	-290.60	-290.45	-13.49	1.94	462097.23	704607.30	N 32 16 9.39	W 103 48 18.32
	7338.00	14.59	171.28	7313.42	-313.69	-313.58	-10.53	0.90	462074.10	704610.26	N 32 16 9.16	W 103 48 18.29
	7527.00	15.16	165.81	7496.09	-361.05	-361.07	-0.86	0.80	462026.61	704619.93	N 32 16 8.69	W 103 48 18.18
	7715.00	14.81	166.31	7677.70	-408.07	-408.25	10.85	0.20	461979.44	704631.64	N 32 16 8.22	W 103 48 18.05
	7812.00	14.42	166.75	7771.56	-431.80	-432.05	16.56	0.42	461955.64	704637.34	N 32 16 7.99	W 103 48 17.98
	8000.00	13.83	166.40	7953.88	-476.28	-476.68	27.20	0.32	461911.01	704647.99	N 32 16 7.55	W 103 48 17.86
Bone Spring Intersection	*8007.33*	*13.63*	*166.40*	*7961.00*	*-477.96*	*-478.37*	*27.61*	*2.75*	*461909.32*	*704648.40*	*N 32 16 7.53*	*W 103 48 17.86*
	8189.00	8.63	166.44	8139.19	-511.93	-512.44	35.85	2.75	461875.25	704656.63	N 32 16 7.19	W 103 48 17.76

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	8283.00	9.23	167.06	8232.05	-526.08	-526.65	39.19	0.65	461861.05	704659.98	N 32 16 7.05	W 103 48 17.72
	8377.00	8.23	166.41	8324.96	-539.93	-540.53	42.46	1.07	461847.16	704663.24	N 32 16 6.91	W 103 48 17.69
	8472.00	8.75	170.32	8418.92	-553.62	-554.27	45.27	0.82	461833.43	704666.06	N 32 16 6.78	W 103 48 17.65
	8566.00	8.25	169.56	8511.89	-567.27	-567.95	47.69	0.55	461819.75	704668.48	N 32 16 6.64	W 103 48 17.63
	8660.00	7.70	166.29	8604.98	-579.98	-580.70	50.41	0.76	461807.00	704671.20	N 32 16 6.52	W 103 48 17.60
	8756.00	7.77	167.26	8700.11	-592.52	-593.28	53.36	0.15	461794.42	704674.15	N 32 16 6.39	W 103 48 17.56
	8850.00	7.63	171.92	8793.26	-604.87	-605.65	55.64	0.68	461782.05	704676.43	N 32 16 6.27	W 103 48 17.54
KOP Actual	8944.00	8.23	177.01	8886.36	-617.75	-618.55	56.87	0.98	461769.15	704677.66	N 32 16 6.14	W 103 48 17.52
	9085.00	11.48	171.83	9025.27	-641.68	-642.52	59.39	2.39	461745.18	704680.18	N 32 16 5.90	W 103 48 17.49
	9179.00	12.13	163.14	9117.28	-660.34	-661.24	63.59	2.01	461726.47	704684.37	N 32 16 5.72	W 103 48 17.45
	9368.00	17.46	108.54	9300.77	-688.07	-689.40	96.40	7.55	461698.31	704717.18	N 32 16 5.44	W 103 48 17.07
LL Crossed	9463.00	15.79	69.51	9392.07	-687.74	-689.41	122.10	11.67	461698.30	704742.88	N 32 16 5.44	W 103 48 16.77
	9557.00	18.82	43.82	9481.94	-672.00	-673.97	144.61	8.66	461713.74	704765.39	N 32 16 5.59	W 103 48 16.50
	9652.00	29.36	31.38	9568.60	-640.66	-642.92	167.43	12.26	461744.78	704788.21	N 32 16 5.89	W 103 48 16.24
	9747.00	39.75	25.34	9646.75	-592.85	-595.44	192.63	11.50	461792.26	704813.41	N 32 16 6.36	W 103 48 15.94
100' FSL Crossed	*9758.00*	*41.00*	*24.87*	*9655.13*	*-586.36*	*-588.99*	*195.65*	*11.68*	*461798.71*	*704816.43*	*N 32 16 6.43*	*W 103 48 15.90*
	9841.00	50.46	21.92	9713.01	-531.53	-534.47	219.11	11.68	461853.23	704839.88	N 32 16 6.97	W 103 48 15.63
	9936.00	60.75	15.84	9766.64	-457.11	-460.37	244.18	12.04	461927.32	704864.95	N 32 16 7.70	W 103 48 15.33
	10031.00	73.77	11.08	9803.30	-371.82	-375.34	264.35	14.46	462012.35	704885.12	N 32 16 8.54	W 103 48 15.09
	10125.00	79.12	1.08	9825.38	-280.98	-284.62	273.92	11.80	462103.06	704894.70	N 32 16 9.43	W 103 48 14.98
	10220.00	87.95	353.47	9836.08	-186.93	-190.50	269.39	12.23	462197.18	704890.16	N 32 16 10.37	W 103 48 15.02
	10287.00	90.35	353.85	9837.07	-120.45	-123.92	261.99	3.63	462263.75	704882.76	N 32 16 11.03	W 103 48 15.11
	10486.00	90.82	355.35	9835.04	77.38	74.18	243.26	0.79	462461.84	704864.04	N 32 16 12.99	W 103 48 15.31
	10579.00	90.47	357.65	9833.99	170.11	167.00	237.59	2.50	462554.65	704858.36	N 32 16 13.91	W 103 48 15.37
	10766.00	89.44	359.11	9834.14	356.95	353.91	232.30	0.96	462741.55	704853.08	N 32 16 15.76	W 103 48 15.42
	10953.00	89.24	358.20	9836.29	543.81	540.85	227.91	0.50	462928.48	704848.69	N 32 16 17.61	W 103 48 15.46
	11046.00	89.20	358.11	9837.56	636.70	633.79	224.92	0.11	463021.41	704845.69	N 32 16 18.52	W 103 48 15.49
	11140.00	89.13	358.64	9838.93	730.61	727.74	222.25	0.57	463115.36	704843.03	N 32 16 19.45	W 103 48 15.52
	11326.00	90.09	358.10	9840.20	916.44	913.66	216.96	0.59	463301.27	704837.74	N 32 16 21.29	W 103 48 15.57
	11420.00	89.17	358.81	9840.80	1010.36	1007.62	214.43	1.24	463395.22	704835.20	N 32 16 22.22	W 103 48 15.59
	11606.00	89.48	358.26	9843.00	1196.21	1193.55	209.67	0.34	463581.14	704830.45	N 32 16 24.06	W 103 48 15.64
	11703.00	89.44	358.24	9843.91	1293.11	1290.50	206.71	0.05	463678.08	704827.49	N 32 16 25.02	W 103 48 15.67
	11796.00	89.34	358.40	9844.90	1386.02	1383.45	203.98	0.20	463771.03	704824.76	N 32 16 25.94	W 103 48 15.69
	11983.00	89.34	358.45	9847.05	1572.86	1570.37	198.85	0.03	463957.93	704819.62	N 32 16 27.79	W 103 48 15.74
	12172.00	89.48	1.37	9849.00	1761.80	1759.34	198.55	1.55	464146.89	704819.33	N 32 16 29.66	W 103 48 15.74
	12361.00	89.30	0.87	9851.01	1950.79	1948.29	202.24	0.28	464335.83	704823.02	N 32 16 31.53	W 103 48 15.68
	12456.00	89.34	0.49	9852.14	2045.78	2043.28	203.37	0.40	464430.81	704824.15	N 32 16 32.47	W 103 48 15.66
	12550.00	89.41	1.18	9853.16	2139.78	2137.26	204.74	0.74	464524.79	704825.52	N 32 16 33.40	W 103 48 15.64
	12645.00	89.44	0.87	9854.12	2234.77	2232.24	206.44	0.33	464619.77	704827.22	N 32 16 34.34	W 103 48 15.62
	12740.00	89.54	1.26	9854.96	2329.76	2327.22	208.20	0.42	464714.74	704828.98	N 32 16 35.28	W 103 48 15.59
	12834.00	89.41	1.50	9855.83	2423.76	2421.19	210.47	0.29	464808.70	704831.25	N 32 16 36.21	W 103 48 15.56
	12928.00	89.78	0.72	9856.49	2517.75	2515.17	212.29	0.92	464902.68	704833.07	N 32 16 37.14	W 103 48 15.53
	13023.00	89.58	0.62	9857.02	2612.75	2610.16	213.40	0.24	464997.66	704834.18	N 32 16 38.08	W 103 48 15.51
	13212.00	90.30	0.88	9857.22	2801.75	2799.14	215.87	0.41	465186.63	704836.65	N 32 16 39.95	W 103 48 15.47
	13307.00	90.27	1.70	9856.75	2896.74	2894.12	218.01	0.86	465281.60	704838.79	N 32 16 40.89	W 103 48 15.44
	13401.00	92.02	1.10	9854.87	2990.71	2988.07	220.31	1.97	465375.54	704841.09	N 32 16 41.82	W 103 48 15.41
	13496.00	90.34	0.92	9852.91	3085.69	3083.03	221.98	1.78	465470.50	704842.76	N 32 16 42.76	W 103 48 15.39
	13590.00	90.58	1.63	9852.16	3179.68	3177.00	224.07	0.80	465564.47	704844.85	N 32 16 43.69	W 103 48 15.36
	13685.00	90.47	1.02	9851.29	3274.67	3271.97	226.27	0.65	465659.43	704847.05	N 32 16 44.63	W 103 48 15.33
	13780.00	90.40	1.42	9850.56	3369.66	3366.95	228.29	0.43	465754.40	704849.07	N 32 16 45.57	W 103 48 15.30
	13875.00	90.23	0.49	9850.04	3464.66	3461.93	229.88	1.00	465849.38	704850.65	N 32 16 46.51	W 103 48 15.27
	13969.00	90.44	1.96	9849.49	3558.65	3555.91	231.89	1.58	465943.35	704852.66	N 32 16 47.44	W 103 48 15.24
	14063.00	90.27	1.63	9848.91	3652.64	3649.86	234.83	0.39	466037.29	704855.61	N 32 16 48.37	W 103 48 15.21
	14158.00	90.40	0.77	9848.35	3747.63	3744.83	236.82	0.92	466132.26	704857.60	N 32 16 49.31	W 103 48 15.18
	14253.00	90.34	358.94	9847.74	3842.61	3839.83	236.58	1.93	466227.25	704857.36	N 32 16 50.25	W 103 48 15.17
	14347.00	90.34	358.58	9847.18	3936.55	3933.80	234.55	0.38	466321.22	704855.32	N 32 16 51.18	W 103 48 15.19
	14536.00	90.58	358.42	9845.67	4125.40	4122.73	229.60	0.15	466510.14	704850.37	N 32 16 53.05	W 103 48 15.24
	14630.00	90.09	357.87	9845.12	4219.30	4216.68	226.56	0.78	466604.08	704847.33	N 32 16 53.98	W 103 48 15.27
	14725.00	90.16	359.34	9844.91	4314.23	4311.65	224.24	1.55	466699.04	704845.02	N 32 16 54.92	W 103 48 15.29
	14819.00	90.09	359.04	9844.70	4408.20	4405.64	222.91	0.33	466793.03	704843.69	N 32 16 55.85	W 103 48 15.30
	14914.00	90.23	358.85	9844.44	4503.15	4500.62	221.17	0.25	466888.01	704841.94	N 32 16 56.79	W 103 48 15.32
	15008.00	90.34	358.58	9843.97	4597.09	4594.60	219.06	0.31	466981.98	704839.83	N 32 16 57.72	W 103 48 15.33
	15102.00	90.23	358.33	9843.50	4691.01	4688.56	216.52	0.29	467075.93	704837.30	N 32 16 58.65	W 103 48 15.36
	15197.00	90.44	358.76	9842.95	4785.94	4783.53	214.11	0.50	467170.90	704834.89	N 32 16 59.59	W 103 48 15.38
	15291.00	89.99	358.27	9842.60	4879.87	4877.50	211.67	0.71	467264.86	704832.45	N 32 17 0.52	W 103 48 15.40
	15385.00	90.34	358.85	9842.32	4973.80	4971.47	209.31	0.72	467358.82	704830.09	N 32 17 1.45	W 103 48 15.43
	15480.00	89.65	358.85	9842.33	5068.74	5066.45	207.41	0.73	467453.80	704828.18	N 32 17 2.39	W 103 48 15.44
	15575.00	89.72	358.72	9842.86	5163.69	5161.43	205.39	0.16	467548.77	704826.17	N 32 17 3.33	W 103 48 15.46
	15669.00	89.96	359.20	9843.12	5257.64	5255.41	203.69	0.57	467642.74	704824.46	N 32 17 4.26	W 103 48 15.48
	15764.00	89.72	358.34	9843.38	5352.58	5350.39	201.65	0.94	467737.72	704822.42	N 32 17 5.20	W 103 48 15.49
	15858.00	89.85	359.05	9843.74	5446.52	5444.36	199.51	0.77	467831.68	704820.28	N 32 17 6.13	W 103 48 15.51
	15953.00	89.68	358.05	9844.13	5541.45	5539.33	197.10	1.07	467926.65	704817.88	N 32 17 7.07	W 103 48 15.54
	16048.00	89.44	358.55	9844.86	5636.35	5634.28	194.28	0.58	468021.59	704815.06	N 32 17 8.01	W 103 48 15.56
	16143.00	89.85	358.81	9845.44	5731.29	5729.26	192.09	0.51	468116.56	704812.87	N 32 17 8.95	W 103 48 15.58
	16237.00	91.85	359.54	9844.05	5825.24	5823.23	190.74	2.26	468210.53	704811.52	N 32 17 9.88	W 103 48 15.59
	16331.00	90.03	359.97	9842.51	5919.21	5917.21	190.34	1.99	468304.51	704811.12	N 32 17 10.81	W 103 48 15.59
	16426.00	90.20	359.37	9842.32	6014.19	6012.21	189.79	0.66	468399.50	704810.57	N 32 17 11.75	W 103 48 15.59
	16520.00	89.44	358.36	9842.61	6108.14	6106.19	187.93	1.34	468493.47	704808.71	N 32 17 12.68	W 103 48 15.61
	16615.00	90.40	358.52	9842.74	6203.06	6201.15	185.34	1.02	468588.43	704806.12	N 32 17 13.62	W 103 48 15.64
	16709.00	89.75	359.57	9842.62	6297.01	6295.14	183.78	1.31	468682.41	704804.56	N 32 17 14.55	W 103 48 15.65
	16803.00	90.06	359.45	9842.78	6390.99	6389.13	182.97	0.35	468776.40	704803.75	N 32 17 15.48	W 103 48 15.65
	16898.00	89.75	359.31	9842.93	6485.96	6484.13	181.95	0.36	468871.39	704802.72	N 32 17 16.42	W 103 48 15.66
	16992.00	90.06	359.07	9843.09	6579.93	6578.12	180.62	0.42	468965.37	704801.40	N 32 17 17.35	W 103 48 15.67
	17087.00	89.82	359.00	9843.19	6674.89	6673.11	179.02	0.26	469060.35	704799.80	N 32 17 18.29	W 103 48 15.68
	17181.00	89.82	359.20	9843.49	6768.85	6767.09	177.54	0.21	469154.33	704798.32	N 32 17 19.22	W 103 48 15.69
	17276.00	89.99	359.72	9843.64	6863.82	6862.09	176.65	0.58	469249.32	704797.42	N 32 17 20.16	W 103 48 15.70
	17370.00	89.68	359.16	9843.91	6957.80	6956.08	175.73	0.68	469343.31	704796.51	N 32 17 21.09	W 103 48 15.70
	17465.00	90.03	358.66	9844.15	7052.75	7051.06	173.92	0.64	469438.29	704794.70	N 32 17 22.03	W 103 48 15.72
	17560.00	90.54	358.79	9843.68	7147.68	7146.04	171.81	0.55	469533.26	704792.58	N 32 17 22.97	W 103 48 15.74
	17654.00	90.44	358.34	9842.88	7241.61	7240.01	169.45	0.49	469627.22	704790.23	N 32 17 23.90	W 103 48 15.76
	17749.00	90.34	358.61	9842.23	7336.53	7334.97	166.92	0.30	469722.18	704787.70	N 32 17 24.84	W 103 48 15.78
	17843.00	90.72	358.28	9841.36	7430.45	7428.93	164.37	0.54	469816.13	704785.15	N 32 17 25.77	W 103 48 15.81
	17938.00	90.44	355.81	9840.40	7525.24	7523.79	159.48	2.62	469910.99	704780.26	N 32 17 26.70	W 103 48 15.86
	18033.00	90.61	354.80	9839.53	7619.81	7618.47	151.70	1.08	470005.66	704772.48	N 32 17 27.64	W 103 48 15.95
	18127.00	91.51	357.46	9837.79	7713.48	7712.23	145.36	2.99	470099.41	704766.14	N 32 17 28.57	W 103 48 16.01
	18222.00	91.16	1.04	9835.58	7808.40	7807.18	144.11	3.79	470194.36	704764.90	N 32 17 29.51	W 103 48 16.02
	18317.00	91.16	3.91	9833.65	7903.33	7902.06	148.22	3.02	470289.23	704769.00	N 32 17 30.45	W 103 48 15.97
	18412.00	90.27	3.56	9832.47	7998.19	7996.85	154.40	1.01	470384.02	704775.18	N 32 17 31.39	W 103 48 15.89
	18506.00	90.48	2.90	9831.85	8092.10	8090.70	159.70	0.74	470477.86	704780.48	N 32 17 32.31	W 103 48 15.83
	18600.00	90.41	1.07	9831.12	8186.07	8184.64	162.96	1.95	470571.79	704783.74	N 32 17 33.24	W 103 48 15.78
	18694.00	90.55	0.09	9830.33	8280.07	8278.63	163.91	1.05	470665.77	704784.69	N 32 17 34.17	W 103 48 15.77
	18789.00	90.24	0.34	9829.68	8375.06	8373.62	164.26	0.42	470760.76	704785.04	N 32 17 35.11	W 103 48 15.76
	18883.00	90.86	1.60	9828.78	8469.05	8467.60	165.85	1.49	470854.74	704786.63	N 32 17 36.04	W 103 48 15.73
	18978.00	90.61	0.39	9827.56	8564.04	8562.58	167.50	1.30	470949.71	704788.28	N 32 17 36.98	W 103 48 15.71
	19072.00	90.79	1.71	9826.41	8658.03	8656.56	169.23	1.42	471043.68	704790.01	N 32 17 37.91	W 103 48 15.68
	19167.00	89.89	1.86	9825.85	8753.02	8751.51	172.19	0.96	471138.62	704792.96	N 32 17 38.85	W 103 48 15.64
	19261.00	90.34	0.30	9825.66	8847.01	8845.49	173.96	1.73	471232.60	704794.74	N 32 17 39.78	W 103 48 15.62
	19450.00	89.48	359.61	9825.95	9035.99	9034.48	173.81	0.58	471421.58	704794.59	N 32 17 41.65	W 103 48 15.61

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	19639.00	91.20	2.72	9824.83	9224.95	9223.41	177.65	1.88	471610.50	704798.43	N 32 17 43.52	W 103 48 15.55
	19733.00	90.58	2.45	9823.37	9318.89	9317.30	181.89	0.72	471704.38	704802.67	N 32 17 44.45	W 103 48 15.50
	19922.00	90.51	359.52	9821.57	9507.86	9506.25	185.14	1.55	471893.32	704805.92	N 32 17 46.32	W 103 48 15.45
	20017.00	90.17	357.87	9821.01	9602.79	9601.22	182.97	1.77	471988.28	704803.75	N 32 17 47.26	W 103 48 15.47
	20207.00	90.79	1.23	9819.42	9792.72	9791.18	181.48	1.80	472178.23	704802.26	N 32 17 49.14	W 103 48 15.47
	20301.00	90.48	359.28	9818.38	9886.70	9885.16	181.90	2.10	472272.21	704802.68	N 32 17 50.07	W 103 48 15.46
	20490.00	90.10	359.14	9817.42	10075.63	10074.14	179.29	0.21	472461.18	704800.07	N 32 17 51.94	W 103 48 15.48
	20585.00	88.93	1.05	9818.22	10170.62	10169.13	179.45	2.36	472556.16	704800.23	N 32 17 52.88	W 103 48 15.48
	20679.00	88.69	357.07	9820.18	10264.54	10263.08	177.91	4.24	472650.10	704798.69	N 32 17 53.81	W 103 48 15.49
	20774.00	88.45	356.77	9822.55	10359.29	10357.91	172.81	0.40	472744.93	704793.59	N 32 17 54.75	W 103 48 15.54
	20868.00	89.69	359.97	9824.07	10453.19	10451.85	170.14	3.65	472838.86	704790.91	N 32 17 55.68	W 103 48 15.57
	20963.00	90.89	1.05	9823.59	10548.18	10546.84	170.98	1.70	472933.85	704791.76	N 32 17 56.62	W 103 48 15.55
	21152.00	89.69	0.36	9822.64	10737.17	10735.82	173.31	0.73	473122.81	704794.09	N 32 17 58.49	W 103 48 15.51
	21247.00	88.86	358.14	9823.84	10832.13	10830.80	172.06	2.49	473217.79	704792.84	N 32 17 59.43	W 103 48 15.52
	21341.00	90.65	356.99	9824.24	10925.97	10924.71	168.07	2.26	473311.69	704788.85	N 32 18 0.36	W 103 48 15.56
	21530.00	89.31	357.62	9824.31	11114.63	11113.49	159.18	0.78	473500.46	704779.96	N 32 18 2.22	W 103 48 15.66
	21624.00	88.65	356.83	9825.98	11208.43	11207.37	154.63	1.10	473594.33	704775.41	N 32 18 3.15	W 103 48 15.71
	21718.00	90.75	0.26	9826.47	11302.34	11301.32	152.25	4.28	473688.27	704773.03	N 32 18 4.08	W 103 48 15.73
	21813.00	91.68	359.17	9824.46	11397.30	11396.29	151.77	1.51	473783.24	704772.56	N 32 18 5.02	W 103 48 15.73
	21907.00	86.87	356.14	9825.65	11491.12	11490.17	147.93	6.05	473877.11	704768.71	N 32 18 5.95	W 103 48 15.77
	22002.00	90.24	359.59	9828.04	11585.94	11585.04	144.40	5.08	473971.98	704765.18	N 32 18 6.89	W 103 48 15.80
	22096.00	89.17	359.47	9828.53	11679.91	11679.04	143.63	1.15	474065.97	704764.41	N 32 18 7.82	W 103 48 15.81
	22191.00	89.79	2.07	9829.39	11774.90	11774.01	144.90	2.81	474160.94	704765.68	N 32 18 8.76	W 103 48 15.79
	22380.00	89.27	1.79	9830.84	11963.86	11962.90	151.27	0.31	474349.82	704772.05	N 32 18 10.63	W 103 48 15.70
	22474.00	88.24	359.75	9832.98	12057.83	12056.86	152.53	2.43	474443.77	704773.31	N 32 18 11.56	W 103 48 15.68
	22569.00	89.72	359.75	9834.67	12152.79	12151.85	152.12	1.56	474538.75	704772.90	N 32 18 12.50	W 103 48 15.68
	22663.00	89.79	1.93	9835.08	12246.79	12245.83	153.49	2.32	474632.73	704774.27	N 32 18 13.43	W 103 48 15.66
	22758.00	88.93	0.32	9836.14	12341.78	12340.80	155.36	1.92	474727.69	704776.14	N 32 18 14.37	W 103 48 15.63
100' FNL Crossed	*22832.00*	*89.25*	*1.22*	*9837.31*	*12415.77*	*12414.78*	*156.35*	*1.29*	*474801.67*	*704777.13*	*N 32 18 15.10*	*W 103 48 15.62*
Final MWD	22853.00	89.34	1.47	9837.57	12436.76	12435.78	156.84	1.29	474822.66	704777.62	N 32 18 15.31	W 103 48 15.61
Proj to TD	22913.00	89.34	1.47	9838.26	12496.75	12495.75	158.38	0.00	474882.64	704779.16	N 32 18 15.90	W 103 48 15.59

Survey Type: Def Survey

Survey Error Model: ISCWSA Rev 0 *** 3-D 95.000% Confidence 2.7955 sigma
Survey Program:

Description	Part	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Survey Tool Type	Borehole / Survey
	1	0.000	26.500	1/98.425	30.000	30.000	NAL_NSG+MSHOT-Depth Only	Original Borehole / Oxy Pure Gold MDP1 29-17 Federal Com 2H Gyro + MWD 0-22913'MD
	1	26.500	26.500	Act Stns	30.000	30.000	NAL_NSG+MSHOT-Depth Only	Original Borehole / Oxy Pure Gold MDP1 29-17 Federal Com 2H Gyro + MWD 0-22913'MD
	1	26.500	657.500	Act Stns	30.000	30.000	NAL_NSG+MSHOT	Original Borehole / Oxy Pure Gold MDP1 29-17 Federal Com 2H
	1	657.500	22913.000	Act Stns	30.000	30.000	NAL_MWD_IFR1+MS	Original Borehole / Oxy Pure Gold MDP1 29-17 Federal Com 2H