

Schlumberger

OXY

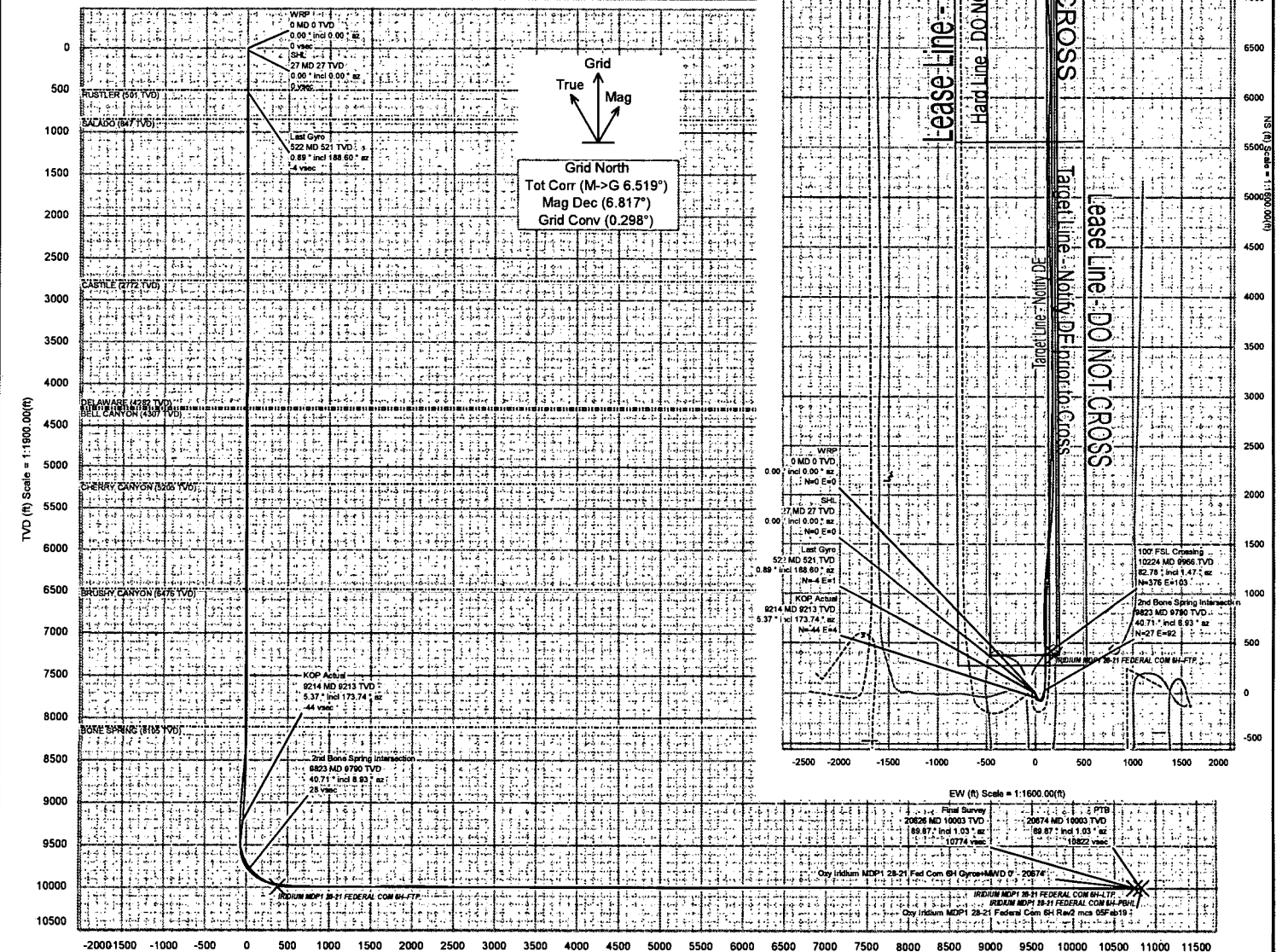


Borehole:	Well:	Field:	Structure:
Original Borehole	Oxy Iridium MDP1 28-21 Federal Com 6H	NM Eddy County (NAD 83)	Oxy Iridium MDP1 28-21 Federal Com 6H

Gravity & Magnetic Parameters				Surface Location				Miscellaneous			
Model:	IFR1	Dip:	59.988°	Date:	02-Apr-2019	Lat:	N 32 16 2.73	Northing:	481468.31MUS	Grid Conv:	0.2978°
MagDec:	8.817°	FB:	4806A.6nT	Gravity FB:	958.44mgm (9.80665 Based)	Lon:	W 103 46 33.31	Easting:	713627.3RUS	Scale Fact:	0.9994309
								Oxy Iridium MDP1 28-21 Federal Com 6H-PTB			
								Slot: 28-21 Federal			
								TVD Ref: RKB(3430.1ft above MSL)			
								Plan: Oxy Iridium MDP1 28-21 Fed Com 6H Gyro-MWD 0° - 20874'			

Critical Points

Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS
WRP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
SHL	26.50	0.00	0.00	26.50	0.00	0.00	0.00	
Last Gyro	521.50	0.89	188.60	521.48	-4.03	-4.03	0.74	0.23
KOP Actual	9214.00	5.37	173.74	9212.89	-43.73	-43.78	3.59	1.24
2nd Bone Spring Intersection	9822.82	40.71	8.93	9790.00	28.50	27.33	91.53	16.76
100' FSL Crossing	10223.97	82.78	1.47	9965.85	377.65	378.36	103.19	6.49
100' FNL Crossing	20594.03	89.44	1.02	10002.56	10741.58	10740.82	128.10	1.33
Final Survey	20626.00	89.87	1.03	10002.75	10773.55	10772.79	128.87	1.33
PTB	20874.00	89.87	1.03	10002.86	10821.55	10820.78	129.54	0.00



Oxy Iridium MDP1 28-21 Fed Com 6H Gyros+MWD 0' - 20674' Survey

Geodetic Report

(Def Survey)



Report Date:	April 17, 2019 - 08:34 AM	Survey / DLS Computation:	Minimum Curvature / Lubinski
Client:	OXY	Vertical Section Azimuth:	0.733 ° (Grid North)
Field:	NM Eddy County (NAD 83)	Vertical Section Origin:	0.000 ft, 0.000 ft
Structure / Slot:	Oxy Iridium MDP1 28-21 Federal Com 6H / Oxy Iridium MDP1 28-21 Federal Com 6H	TVD Reference Datum:	RKB
Well:	Oxy Iridium MDP1 28-21 Federal Com 6H	TVD Reference Elevation:	3430.100 ft above MSL
Borehole:	Original Borehole	Seabed / Ground Elevation:	3403.600 ft above MSL
UWI / API#:	Unknown / Unknown	Magnetic Declination:	6.817 °
Survey Name:	Oxy Iridium MDP1 28-21 Fed Com 6H Gyros+MWD 0' - 20674'	Total Gravity Field Strength:	988.448mgm (9.80665 Based)
Survey Date:	February 21, 2019	Gravity Model:	GARM
Tort / AHD / DDI / ERD Ratio:	232.971 ° / 11023.551 ft / 6.725 / 1.102	Total Magnetic Field Strength:	48054.500 nT
Coordinate Reference System:	NAD83 New Mexico State Plane, Eastern Zone, US Feet	Magnetic Dip Angle:	59.986 °
Location Lat / Long:	N 32° 16' 2.72615", W 103° 46' 33.30567"	Declination Date:	April 02, 2019
Location Grid N/E Y/X:	N 461469.310 RUS, E 713627.300 RUS	Magnetic Declination Model:	IFR1
CRS Grid Convergence Angle:	0.2976 °	North Reference:	Grid North
Grid Scale Factor:	0.99994309	Grid Convergence Used:	0.2976 °
Version / Patch:	2.10.753.0	Total Corr Mag North->Grid North:	6.5194 °
		Local Coord Referenced To:	Well Head

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (RUS)	Easting (RUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
WRP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	461469.31	713627.30	N 32° 16' 2.73 W 103° 46' 33.31	
SHL	26.50	0.00	0.00	26.50	0.00	0.00	0.00	0.00	461469.31	713627.30	N 32° 16' 2.73 W 103° 46' 33.31	
	99.50	0.58	110.50	99.50	-0.12	-0.13	0.35	0.79	461469.18	713627.65	N 32° 16' 2.72 W 103° 46' 33.30	
	156.50	0.39	132.19	156.50	-0.35	-0.36	0.76	0.46	461468.95	713628.06	N 32° 16' 2.72 W 103° 46' 33.30	
	214.50	0.44	152.13	214.50	-0.68	-0.69	1.01	0.26	461468.62	713628.31	N 32° 16' 2.72 W 103° 46' 33.29	
	272.50	0.43	172.69	272.49	-1.09	-1.10	1.14	0.27	461468.21	713628.44	N 32° 16' 2.71 W 103° 46' 33.29	
	335.50	0.62	186.54	335.49	-1.66	-1.68	1.13	0.36	461467.63	713628.43	N 32° 16' 2.71 W 103° 46' 33.29	
	398.50	0.70	189.04	398.49	-2.38	-2.39	1.03	0.13	461466.92	713628.33	N 32° 16' 2.70 W 103° 46' 33.29	
Last Gyro	461.50	0.76	191.51	461.48	-3.17	-3.18	0.89	0.11	461466.13	713628.19	N 32° 16' 2.69 W 103° 46' 33.30	
	521.50	0.89	188.60	521.48	-4.03	-4.03	0.74	0.23	461465.28	713628.04	N 32° 16' 2.69 W 103° 46' 33.30	
	591.00	1.07	191.01	590.97	-5.20	-5.21	0.54	0.27	461464.10	713627.84	N 32° 16' 2.67 W 103° 46' 33.30	
	773.00	0.45	229.55	772.95	-7.34	-7.34	-0.33	0.42	461461.97	713626.97	N 32° 16' 2.65 W 103° 46' 33.31	
	955.00	0.13	138.82	954.95	-7.97	-7.96	-0.74	0.26	461461.35	713626.56	N 32° 16' 2.65 W 103° 46' 33.31	
	1138.00	0.21	352.59	1137.95	-7.79	-7.78	-0.65	0.18	461461.53	713626.65	N 32° 16' 2.65 W 103° 46' 33.31	
	1320.00	0.13	267.95	1319.95	-7.47	-7.46	-0.90	0.13	461461.85	713626.40	N 32° 16' 2.65 W 103° 46' 33.32	
	1507.00	0.13	136.48	1506.95	-7.63	-7.62	-0.96	0.13	461461.69	713626.34	N 32° 16' 2.65 W 103° 46' 33.32	
	1602.00	0.07	332.08	1601.95	-7.65	-7.65	-0.91	0.21	461461.67	713626.39	N 32° 16' 2.65 W 103° 46' 33.32	
	1696.00	0.13	25.60	1695.95	-7.51	-7.50	-0.90	0.11	461461.81	713626.40	N 32° 16' 2.65 W 103° 46' 33.32	
	1791.00	0.13	332.76	1790.95	-7.32	-7.31	-0.90	0.12	461462.01	713626.40	N 32° 16' 2.65 W 103° 46' 33.32	
	1885.00	0.16	307.88	1884.95	-7.14	-7.13	-1.05	0.07	461462.18	713626.25	N 32° 16' 2.66 W 103° 46' 33.32	
	2074.00	0.07	144.84	2073.95	-7.08	-7.06	-1.19	0.12	461462.25	713626.11	N 32° 16' 2.66 W 103° 46' 33.32	
	2169.00	0.14	326.31	2168.95	-7.03	-7.01	-1.22	0.22	461462.30	713626.08	N 32° 16' 2.66 W 103° 46' 33.32	
	2264.00	0.13	137.65	2263.95	-7.01	-7.00	-1.22	0.28	461462.31	713626.09	N 32° 16' 2.66 W 103° 46' 33.32	
	2453.00	0.13	113.54	2452.94	-7.25	-7.24	-0.87	0.03	461462.07	713626.43	N 32° 16' 2.65 W 103° 46' 33.32	
	2547.00	0.13	119.87	2546.94	-7.34	-7.34	-0.68	0.02	461461.97	713626.62	N 32° 16' 2.65 W 103° 46' 33.31	
	2642.00	0.08	94.59	2641.94	-7.40	-7.39	-0.52	0.07	461461.92	713626.78	N 32° 16' 2.65 W 103° 46' 33.31	
	2736.00	0.13	308.61	2735.94	-7.34	-7.33	-0.54	0.21	461461.98	713626.76	N 32° 16' 2.65 W 103° 46' 33.31	
	2831.00	0.13	1.95	2830.94	-7.17	-7.16	-0.62	0.12	461462.15	713626.68	N 32° 16' 2.66 W 103° 46' 33.31	
	2925.00	0.13	167.52	2924.94	-7.16	-7.16	-0.60	0.27	461462.15	713626.70	N 32° 16' 2.66 W 103° 46' 33.31	
	3020.00	0.20	219.49	3019.94	-7.40	-7.39	-0.68	0.17	461462.15	713626.62	N 32° 16' 2.65 W 103° 46' 33.31	
	3114.00	0.21	281.67	3113.94	-7.49	-7.48	-0.95	0.23	461461.83	713626.35	N 32° 16' 2.65 W 103° 46' 33.32	
	3208.00	0.07	174.53	3207.94	-7.52	-7.50	-1.11	0.26	461461.81	713626.19	N 32° 16' 2.65 W 103° 46' 33.32	
	3302.00	0.13	214.77	3301.94	-7.66	-7.65	-1.17	0.09	461461.66	713626.14	N 32° 16' 2.65 W 103° 46' 33.32	
	3397.00	0.13	42.79	3396.94	-7.67	-7.66	-1.16	0.27	461461.65	713626.14	N 32° 16' 2.65 W 103° 46' 33.32	
	3491.00	0.25	166.45	3490.94	-7.79	-7.78	-1.04	0.36	461461.53	713626.26	N 32° 16' 2.65 W 103° 46' 33.32	
	3680.00	0.13	221.35	3679.94	-8.35	-8.34	-1.08	0.11	461460.97	713626.22	N 32° 16' 2.64 W 103° 46' 33.32	
	3775.00	0.16	213.74	3774.94	-8.55	-8.53	-1.23	0.04	461460.78	713626.07	N 32° 16' 2.64 W 103° 46' 33.32	
	3870.00	0.07	116.54	3869.94	-8.68	-8.67	-1.25	0.19	461460.64	713626.05	N 32° 16' 2.64 W 103° 46' 33.32	
	3964.00	0.14	152.92	3963.94	-8.81	-8.80	-1.15	0.10	461460.51	713626.15	N 32° 16' 2.64 W 103° 46' 33.32	
	4059.00	0.18	80.28	4058.94	-8.89	-8.87	-0.95	0.20	461460.44	713626.35	N 32° 16' 2.64 W 103° 46' 33.32	
	4154.00	0.07	332.99	4153.94	-8.81	-8.80	-0.82	0.22	461460.51	713626.48	N 32° 16' 2.64 W 103° 46' 33.32	
	4248.00	0.14	109.24	4247.94	-8.79	-8.78	-0.74	0.21	461460.53	713626.56	N 32° 16' 2.64 W 103° 46' 33.31	
	4277.00	0.13	93.82	4276.94	-8.81	-8.80	-0.68	0.13	461460.51	713626.56	N 32° 16' 2.64 W 103° 46' 33.31	
	4404.00	0.14	212.25	4403.94	-8.95	-8.94	-0.62	0.18	461460.37	713626.68	N 32° 16' 2.64 W 103° 46' 33.31	
	4498.00	0.14	209.40	4497.94	-9.14	-9.14	-0.73	0.01	461460.17	713626.57	N 32° 16' 2.64 W 103° 46' 33.31	
	4593.00	0.14	166.56	4592.94	-9.36	-9.35	-0.76	0.11	461459.96	713626.54	N 32° 16' 2.63 W 103° 46' 33.32	
	4688.00	0.14	54.13	4687.94	-9.40	-9.39	-0.64	0.24	461459.82	713626.66	N 32° 16' 2.63 W 103° 46' 33.31	
	4782.00	0.06	248.72	4781.94	-9.35	-9.35	-0.59	0.21	461459.97	713626.71	N 32° 16' 2.63 W 103° 46' 33.31	
	4877.00	0.14	8.46	4876.94	-9.26	-9.25	-0.62	0.19	461460.06	713626.68	N 32° 16' 2.63 W 103° 46' 33.31	
	4971.00	0.14	28.94	4970.94	-9.04	-9.03	-0.55	0.05	461460.28	713626.75	N 32° 16' 2.64 W 103° 46' 33.31	
	5066.00	0.10	259.59	5065.94	-8.95	-8.95	-0.55	0.23	461460.36	713626.72	N 32° 16' 2.64 W 103° 46' 33.31	
	5161.00	0.14	188.14	5160.94	-9.09	-9.08	-0.67	0.15	461460.23	713626.63	N 32° 16' 2.64 W 103° 46' 33.31	
	5256.00	0.11	165.80	5255.94	-9.29	-9.28	-0.67	0.06	461460.03	713626.63	N 32° 16' 2.63 W 103° 46' 33.31	
	5351.00	0.14	299.98	5350.94	-9.32	-9.31	-0.75	0.24	461460.00	713626.55	N 32° 16' 2.63 W 103° 46' 33.31	
	5445.00	0.14	335.30	5444.94	-9.16	-9.15	-0.89	0.09	461460.16	713626.41	N 32° 16' 2.64 W 103° 46' 33.32	
	5540.00	0.14	110.53	5539.94	-9.09	-9.08	-0.83	0.27	461460.23	713626.47	N 32° 16' 2.64 W 103° 46' 33.32	
	5729.00	0.11	356.29	5728.94	-8.99	-8.98	-0.63	0.11	461460.33	713626.67	N 32° 16' 2.64 W 103° 46' 33.31	
	5828.00	0.14	283.69	5827.94	-8.87	-8.86	-0.75	0.15	461460.45	713626.55	N 32° 16' 2.64 W 103° 46' 33.31	
	5918.00	0.14	216.52	5917.94	-8.93	-8.92	-0.93	0.17	461460.39	713626.37	N 32° 16' 2.64 W 103° 46' 33.32	
	6012.00	0.14	172.28	6011.94	-9.14	-9.13	-0.98	0.11	461460.18	713626.32	N 32° 16' 2.64 W 103° 46' 33.32	
	6201.00	0.14	253.58	6200.94	-9.44	-9.42	-1.17	0.10	461459.89	713626.13	N 32° 16' 2.63 W 103° 46' 33.32	
	6296.00	0.14	235.81	6295.94	-9.54	-9.52	-1.38	0.05	461459.79	713625.92	N 32° 16' 2.63 W 103° 46' 33.32	
	6391.00	0.14	151.67	6390.94	-9.71	-9.69	-1.42	0.20	461459.62	713625.88	N 32° 16' 2.63 W 103° 46' 33.32	
	6485.00	0.14	279.77	6484.94	-9.79	-9.77	-1.48	0.27	461459.54	713625.82	N 32° 16' 2.63 W 103° 46' 33.32	
	6580.00	0.14	125.80	6579.94	-9.84	-9.82	-1.50	0.29	461459.49	713625.80	N 32° 16' 2.63 W 103° 46' 33.32	
	6674.00	0.14	230.01	6673.94	-9.98	-9.96	-1.49	0.24	461459.35	713625.81	N 32° 16' 2.63 W 103° 46' 33.32	
	6769.00	0.14	116.07	6768.94	-10.10	-10.09	-1.48	0.25	461459.23	713625.82	N 32° 16' 2.63 W 103° 46' 33.32	
	6864.00	0.14	7.79	6863.94	-10.04	-10.02	-1.36	0.24	461459.29	713625.94	N 32° 16' 2.63 W 103° 46' 33.32	
	6958.00	0.14	194.38	6957.94	-10.04	-10.02	-1.37	0.30	461459.29	713625.93	N 32° 16' 2.63 W 103° 46' 33.32	
	7053.00	0.14	77.95	7052.94	-10.12	-10.11	-1.28	0.25	461459.20	713626.02	N 32° 16' 2.63 W 103° 46' 33.32	
	7147.00	0.18	57.03	7146.93	-10.02	-10.00	-1.05	0.07	461459.31	713626.25	N 32° 16' 2.63 W 103° 46' 33.32	
	7242.00	0.17	122.93	7241.93	-10.01	-10.00	-0.80	0.20	461459.31	713626.50	N 32° 16' 2.63 W 103° 46' 33.32	
	7337.00	0.24	171.31	7336.93	-10.28	-10.27	-0.66	0.19	461459.04	713626.64	N 32° 16' 2.62 W 103° 46' 33.31	
	7526.00	0.18	115.34	7525.93	-10.79	-10.79	-0.33	0.11	461458.52	713626.97	N 32° 16' 2.62 W 103° 46' 33.31	
	7715.00	0.23	87.19	7714.93	-10.89	-10.90	0.32	0.06	461458.41	713627.62	N 32° 16' 2.62 W 103° 46' 33.30	
	7810.00	0.26	93.67	7809.93	-10.89	-10.90	0.72	0.04	461458.41	713628.02	N 32° 16' 2.62 W 103° 46' 33.30	
	7905.00	0.14	43									

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (ft/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' '')	Longitude (E/W ° ' '')
KOP Actual	8188.00	0.28	276.16	8187.93	-10.55	-10.55	-0.28	0.23	461458.76	713627.02	N 32 16 2.62 W	103 46 33.31
	8283.00	0.15	237.83	8282.93	-10.59	-10.59	-0.62	0.20	461458.72	713626.68	N 32 16 2.62 W	103 46 33.31
	8377.00	0.28	345.33	8376.92	-10.44	-10.43	-0.78	0.38	461458.88	713626.52	N 32 16 2.62 W	103 46 33.32
	8472.00	0.14	283.11	8471.92	-10.19	-10.18	-0.95	0.26	461459.13	713626.35	N 32 16 2.63 W	103 46 33.32
	8567.00	0.14	205.86	8566.92	-11.02	-11.00	-1.48	1.18	461458.31	713625.82	N 32 16 2.62 W	103 46 33.32
	8661.00	1.49	196.58	8660.89	-13.04	-13.02	-2.23	0.43	461456.29	713625.07	N 32 16 2.60 W	103 46 33.33
	8756.00	1.99	183.20	8755.85	-15.88	-15.85	-2.68	0.67	461453.46	713624.62	N 32 16 2.57 W	103 46 33.34
	8850.00	2.66	162.47	8849.77	-19.58	-19.56	-2.11	1.13	461449.75	713625.19	N 32 16 2.53 W	103 46 33.33
	8945.00	3.33	165.46	8944.54	-24.34	-24.33	-0.76	0.72	461444.98	713626.54	N 32 16 2.49 W	103 46 33.32
	9040.00	3.90	165.93	9039.45	-30.12	-30.13	0.72	0.60	461439.18	713628.02	N 32 16 2.43 W	103 46 33.30
	9135.00	4.64	166.24	9134.19	-36.97	-37.00	2.42	0.78	461432.31	713629.72	N 32 16 2.36 W	103 46 33.28
	9214.00	5.37	173.74	9212.89	-43.73	-43.78	3.59	1.24	461425.53	713630.89	N 32 16 2.29 W	103 46 33.27
	9387.00	8.71	138.23	9384.63	-61.43	-61.61	13.20	3.08	461407.71	713640.50	N 32 16 2.12 W	103 46 33.16
	9482.00	12.28	101.67	9478.13	-68.66	-69.03	27.91	7.77	461400.29	713655.21	N 32 16 2.04 W	103 46 32.98
	9576.00	14.68	68.39	9569.67	-66.03	-66.66	48.80	8.50	461402.66	713676.10	N 32 16 2.06 W	103 46 32.74
	9670.00	22.43	28.34	9659.06	-45.50	-46.38	68.50	15.42	461422.93	713695.79	N 32 16 2.26 W	103 46 32.51
	9765.00	32.07	16.37	9743.47	-5.03	-6.11	84.26	11.63	461463.20	713711.55	N 32 16 2.66 W	103 46 32.32
2nd Bone Spring Intersection	9822.82	40.71	8.93	9790.00	28.50	27.33	91.53	16.76	461496.64	713718.82	N 32 16 2.99 W	103 46 32.24
100' FSL Crossing	9859.00	46.30	5.51	9816.23	53.23	52.03	94.62	16.76	461521.33	713721.91	N 32 16 3.24 W	103 46 32.20
	9954.00	53.55	0.68	9877.37	125.78	124.54	98.37	8.56	461593.84	713725.67	N 32 16 3.95 W	103 46 32.15
	10048.00	67.49	0.73	9923.52	207.41	206.16	99.38	14.83	461675.46	713726.68	N 32 16 4.76 W	103 46 32.14
	10142.00	77.46	1.47	9951.79	296.93	295.66	101.12	10.63	461764.96	713728.41	N 32 16 5.65 W	103 46 32.11
	10223.97	82.78	1.47	9965.85	377.65	376.36	103.19	6.49	461845.65	713730.48	N 32 16 6.44 W	103 46 32.08
	10237.00	83.83	1.47	9967.39	390.59	389.30	103.52	6.49	461858.58	713730.81	N 32 16 6.57 W	103 46 32.08
	10331.00	85.85	0.96	9976.00	484.18	482.87	105.50	2.42	461952.16	713732.80	N 32 16 7.50 W	103 46 32.05
	10396.00	88.02	1.01	9979.48	549.09	547.77	106.62	3.34	462017.05	713733.91	N 32 16 8.14 W	103 46 32.03
	10492.00	88.53	359.67	9982.37	645.04	643.72	107.19	1.49	462112.99	713734.48	N 32 16 9.09 W	103 46 32.02
	10679.00	88.17	0.14	9987.75	831.94	830.64	106.88	0.32	462299.90	713734.17	N 32 16 10.94 W	103 46 32.01
	10841.00	90.17	4.41	9990.10	993.82	992.45	113.31	2.91	462461.70	713740.60	N 32 16 12.54 W	103 46 31.93
	10935.00	89.41	5.86	9990.45	1087.54	1086.07	121.72	1.74	462555.32	713749.01	N 32 16 13.47 W	103 46 31.82
	11028.00	91.20	4.00	9989.95	1180.28	1178.72	129.71	2.78	462647.96	713757.00	N 32 16 14.38 W	103 46 31.72
	11215.00	89.45	358.47	9989.89	1367.19	1365.59	133.74	3.10	462834.82	713761.03	N 32 16 16.23 W	103 46 31.67
	11308.00	89.28	0.19	9989.92	1460.15	1458.57	132.65	1.86	462927.80	713759.94	N 32 16 17.05 W	103 46 31.67
11497.00	93.51	3.30	9985.15	1648.99	1647.36	138.40	2.82	463116.57	713765.69	N 32 16 19.12 W	103 46 31.59	
11592.00	89.35	1.56	9985.70	1743.90	1742.22	142.42	4.84	463211.42	713769.71	N 32 16 19.96 W	103 46 31.54	
11686.00	89.45	1.82	9983.69	1837.88	1836.17	145.19	0.30	463305.37	713772.49	N 32 16 20.89 W	103 46 31.50	
11876.00	89.90	1.24	9984.76	2027.85	2026.10	150.27	0.39	463495.29	713777.56	N 32 16 22.77 W	103 46 31.43	
11970.00	89.21	1.52	9985.49	2121.85	2120.07	152.53	0.20	463589.25	713779.82	N 32 16 23.70 W	103 46 31.40	
12065.00	89.38	1.43	9986.66	2216.83	2215.03	154.98	0.20	463684.21	713782.27	N 32 16 24.64 W	103 46 31.37	
12160.00	89.41	1.57	9987.67	2311.82	2309.99	157.46	0.15	463779.16	713784.75	N 32 16 25.56 W	103 46 31.33	
12254.00	89.28	2.03	9988.74	2405.79	2403.84	160.42	0.51	463873.11	713787.71	N 32 16 26.50 W	103 46 31.29	
12348.00	89.35	1.70	9988.86	2499.77	2497.88	163.47	0.36	463967.04	713790.77	N 32 16 27.43 W	103 46 31.25	
12443.00	89.41	1.14	9990.89	2594.76	2592.85	165.83	0.59	464062.00	713793.12	N 32 16 28.37 W	103 46 31.22	
12538.00	89.38	1.69	9991.89	2689.74	2687.81	168.17	0.58	464156.96	713795.46	N 32 16 29.31 W	103 46 31.18	
12632.00	89.55	2.00	9992.77	2783.72	2781.76	171.20	0.38	464250.90	713798.49	N 32 16 30.24 W	103 46 31.14	
12727.00	90.03	1.82	9993.12	2878.70	2876.71	174.37	0.54	464345.85	713801.66	N 32 16 31.18 W	103 46 31.10	
12821.00	90.14	1.58	9992.98	2972.69	2970.66	177.16	0.28	464439.80	713804.45	N 32 16 32.11 W	103 46 31.06	
12915.00	90.00	359.48	9992.87	3066.68	3064.65	178.03	2.24	464533.78	713805.31	N 32 16 33.04 W	103 46 31.05	
13105.00	89.72	356.55	9993.33	3256.45	3254.52	171.44	1.55	464723.64	713798.73	N 32 16 34.92 W	103 46 31.11	
13199.00	89.07	1.32	9994.32	3350.37	3348.47	169.70	5.12	464817.58	713796.99	N 32 16 35.85 W	103 46 31.13	
13293.00	89.59	359.68	9995.42	3444.36	3442.46	170.52	1.83	464911.56	713797.81	N 32 16 36.78 W	103 46 31.11	
13483.00	89.41	0.41	9997.08	3634.33	3632.45	170.67	0.40	465101.54	713797.96	N 32 16 38.66 W	103 46 31.10	
13671.00	89.83	358.88	9998.33	3822.29	3820.43	169.50	0.84	465289.52	713796.79	N 32 16 40.52 W	103 46 31.10	
13766.00	89.59	358.11	9998.81	3917.21	3915.40	167.01	0.85	465384.48	713794.30	N 32 16 41.46 W	103 46 31.12	
13955.00	89.96	357.60	9999.55	4105.97	4104.26	159.93	0.33	465573.33	713787.22	N 32 16 43.33 W	103 46 31.19	
14050.00	90.10	357.80	9999.50	4200.84	4199.19	156.12	0.26	465668.25	713783.41	N 32 16 44.27 W	103 46 31.23	
14144.00	89.86	357.36	9999.53	4294.70	4293.10	152.15	0.53	465762.16	713779.44	N 32 16 45.20 W	103 46 31.27	
14239.00	89.52	358.31	10000.05	4389.57	4388.03	148.56	1.06	465857.08	713775.85	N 32 16 46.14 W	103 46 31.31	
14333.00	91.31	359.22	9999.37	4483.51	4482.00	146.54	2.14	465951.05	713773.83	N 32 16 47.07 W	103 46 31.33	
14523.00	89.72	0.33	9997.66	4673.47	4671.99	145.79	1.02	466141.02	713773.08	N 32 16 48.95 W	103 46 31.32	
14617.00	89.62	359.29	9998.20	4767.45	4765.98	145.48	1.11	466235.01	713772.77	N 32 16 49.88 W	103 46 31.32	
14806.00	90.03	359.51	9998.78	4956.40	4954.97	143.50	0.25	466423.99	713770.79	N 32 16 51.75 W	103 46 31.33	
14901.00	89.79	359.44	9998.93	5051.38	5049.97	142.63	0.26	466518.98	713769.92	N 32 16 52.69 W	103 46 31.34	
14995.00	89.93	359.89	9999.16	5145.36	5143.96	142.08	0.50	466612.97	713769.37	N 32 16 53.62 W	103 46 31.34	
15184.00	89.07	359.21	10000.81	5334.31	5332.95	140.60	0.58	466801.94	713767.89	N 32 16 55.49 W	103 46 31.35	
15279.00	90.69	358.82	10001.01	5429.26	5427.93	138.96	1.75	466896.92	713766.26	N 32 16 56.43 W	103 46 31.36	
15374.00	90.65	0.97	9999.89	5524.24	5522.92	138.79	2.26	466991.90	713766.08	N 32 16 57.37 W	103 46 31.35	
15562.00	90.38	359.75	9998.20	5712.23	5710.90	139.97	0.66	467179.88	713767.26	N 32 16 59.23 W	103 46 31.33	
15657.00	90.14	0.34	9997.77	5807.22	5805.90	140.05	0.67	467274.87	713767.34	N 32 17 0.17 W	103 46 31.32	
15751.00	91.00	2.65	9996.84	5901.20	5899.86	142.50	2.62	467368.82	713769.79	N 32 17 1.10 W	103 46 31.29	
15840.00	91.51	2.61	9992.70	6090.05	6088.61	151.17	0.27	467557.56	713778.46	N 32 17 2.96 W	103 46 31.18	
16034.00	90.58	359.72	9998.98	6184.02	6182.57	153.08	3.23	467651.51	713780.37	N 32 17 3.89 W	103 46 31.15	
16224.00	89.14	359.59	9991.45	6373.98	6372.56	151.93	0.76	467841.49	713779.22	N 32 17 5.77 W	103 46 31.15	
16412.00	89.48	358.29	9993.71	6561.87	6560.51	148.46	0.71	468029.43	713775.75	N 32 17 7.63 W	103 46 31.18	
16507.00	89.31	356.68	9994.72	6656.71	6655.41	144.29	1.70	468124.33	713771.58	N 32 17 8.57 W	103 46 31.22	
16695.00	89.69	355.67	9996.36	6844.10	6842.98	131.75	0.57	468311.89	713759.04	N 32 17 10.43 W	103 46 31.36	
16790.00	91.17	357.91	9995.64	6938.87	6937.82	126.43						

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 ° ' ")
	20005.00	89.53	1.66	9999.02	10152.59	10151.95	115.44	0.38	471620.66	713742.73	N 32 17 43.17	W 103 46 31.35
	20100.00	89.84	1.10	9999.55	10247.58	10246.92	117.72	0.67	471715.62	713745.02	N 32 17 44.11	W 103 46 31.31
	20194.00	89.70	0.93	9999.92	10341.58	10340.90	119.39	0.23	471809.60	713746.68	N 32 17 45.04	W 103 46 31.29
	20289.00	89.70	1.54	10000.42	10436.58	10435.88	121.44	0.64	471904.57	713748.73	N 32 17 45.98	W 103 46 31.26
	20477.00	89.73	1.18	10001.36	10624.56	10623.82	125.90	0.19	472092.51	713753.19	N 32 17 47.84	W 103 46 31.20
	20572.00	89.15	1.01	10002.29	10719.56	10718.80	127.71	0.64	472187.48	713755.01	N 32 17 48.78	W 103 46 31.17
100' FNL Crossing	20594.03	89.44	1.02	10002.56	10741.58	10740.82	128.10	1.33	472209.50	713755.40	N 32 17 49.00	W 103 46 31.16
Final Survey	20626.00	89.87	1.03	10002.75	10773.55	10772.79	128.67	1.33	472241.46	713755.97	N 32 17 49.32	W 103 46 31.15
PTB	20674.00	89.87	1.03	10002.86	10821.55	10820.78	129.54	0.00	472289.45	713756.83	N 32 17 49.79	W 103 46 31.14

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 Iridium MDP1 28-21 Fed Com 6H Gyros+MWD 0' - 20674'
	1	26.500	26.500	Act Stns	30.000	30.000	NAL_NSG+MSHOT-Depth Only	Original Borehole / Oxy Iridium MDP1 28-21 Fed Com 6H Gyros+MWD 0' - 20674'
	1	26.500	521.500	Act Stns	30.000	30.000	NAL_NSG+MSHOT	Original Borehole / Oxy Iridium MDP1 28-21 Fed Com 6H Gyros+MWD 0' - 20674'
	1	521.500	9387.000	Act Stns	30.000	30.000	NAL_MWD_JFR1+MS	Original Borehole / Oxy Iridium MDP1 28-21 Fed Com 6H
	1	9387.000	9576.000	Act Stns	30.000	30.000	NAL_MWD_PLUS_0.5_DEG	Original Borehole / Oxy Iridium MDP1 28-21 Fed Com 6H
	1	9576.000	20674.000	Act Stns	30.000	30.000	NAL_MWD_JFR1+MS	Original Borehole / Oxy Iridium MDP1 28-21 Fed Com 6H

...Original Borehole\Oxy Iridium MDP1 28-21 Fed Com 6H Gyros+MWD 0' - 20674'