

Oxy Iridium MDP1 28-21 Federal Com 2H Gyro+MWD 0-20481' MD Survey

Geodetic Report

(Def Survey)



Report Date: March 26, 2019 - 09:57 AM
 Client: OXY
 Field: NM Eddy County (NAD 83)
 Structure / Slot: Oxy Iridium MDP1 28-21 Federal Com 2H / Oxy Iridium MDP1 28-21 Federal Com 2H
 Well: Oxy Iridium MDP1 28-21 Federal Com 2H
 Borehole: Original Borehole
 UTM / API# : Unknown / 30-015-43243
 Survey Name: Oxy Iridium MDP1 28-21 Federal Com 2H Gyro+MWD 0-20481' MD
 Survey Date: February 11, 2019
 Tort / AHD / ODI / ERD Ratio: 104.810' / 11216.058 ft / 8.853' / 1.129
 Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
 Location Lat / Long: N 32° 18' 2.77710", W 103° 47' 18.11331"
 Location Grid N/E Y/X: N 461454.700 RJUS, E 709780.150 RJUS
 CRB Grid Convergence Angle: 0.2909°
 Grid Scale Factor: 0.99994159
 Version / Patch: 2.10.753.0

Survey / DLS Computation: Minimum Curvature / Lubinski
 Vertical Section Azimuth: 2.427° (Grid North)
 Vertical Section Origin: 0.000 ft, 0.000 ft
 TVD Reference Datum: RKB=30'
 TVD Reference Elevation: 3408.100 ft above MSL
 Seabed / Ground Elevation: 3378.100 ft above MSL
 Magnetic Declination: 8.845°
 Total Gravity Field Strength: 966.4502mg (9.80665 Based)
 Gravity Model: GARM
 Total Magnetic Field Strength: 47991.400 nT
 Magnetic Dip Angle: 59.991°
 Declination Date: March 18, 2019
 Magnetic Declination Model: IFR1
 North Reference: Grid North
 Grid Convergence Used: 0.2909°
 Total Corr Mag North->Grid: 6.5541°
 North: Well Head
 Local Coord Referenced To: Well Head

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (ft/1000)	Northing (RJUS)	Easting (RJUS)	Latitude (N/S ° ° °)	Longitude (E/W ° ° °)
RKB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	461454.70	709780.15	N 32 18 2.78	W 103 47 18.11
BHL	30.00	0.00	0.00	30.00	0.00	0.00	0.00	0.00	461454.70	709780.15	N 32 18 2.78	W 103 47 18.11
	102.00	0.56	274.48	102.00	0.01	0.33	-0.35	0.78	461454.73	709779.80	N 32 18 2.78	W 103 47 18.12
	134.00	0.65	281.59	134.00	0.05	0.58	-0.68	0.37	461454.78	709779.47	N 32 18 2.78	W 103 47 18.12
	218.00	0.72	268.95	217.99	0.09	0.16	-1.68	0.20	461454.86	709778.47	N 32 18 2.78	W 103 47 18.13
	307.00	0.83	259.88	306.98	-0.05	0.07	-2.72	0.16	461454.77	709777.43	N 32 18 2.78	W 103 47 18.14
	401.00	0.48	249.67	400.98	-0.31	-0.16	-3.60	0.19	461454.54	709776.55	N 32 18 2.78	W 103 47 18.16
	496.00	0.43	254.00	495.98	-0.58	-0.40	-4.31	0.06	461454.30	709775.84	N 32 18 2.77	W 103 47 18.18
	590.00	0.39	277.68	589.98	-0.66	-0.45	-4.97	0.18	461454.25	709775.18	N 32 18 2.77	W 103 47 18.17
Lest Gyro	678.00	0.44	283.24	677.97	-0.69	-0.45	-5.60	0.13	461454.25	709774.55	N 32 18 2.77	W 103 47 18.16
	768.00	0.09	28.92	767.97	-0.68	-0.43	-5.91	0.55	461454.27	709774.24	N 32 18 2.77	W 103 47 18.16
	857.00	0.11	350.51	856.97	-0.54	-0.29	-5.89	0.08	461454.41	709774.26	N 32 18 2.77	W 103 47 18.16
	1054.00	0.07	85.81	1053.97	-0.34	-0.08	-5.80	0.07	461454.61	709774.35	N 32 18 2.78	W 103 47 18.16
	1131.00	0.09	289.02	1130.97	-0.31	-0.07	-5.81	0.20	461454.63	709774.34	N 32 18 2.78	W 103 47 18.16
	1221.00	0.09	283.74	1220.97	-0.28	-0.03	-5.95	0.01	461454.87	709774.20	N 32 18 2.78	W 103 47 18.16
	1312.00	0.11	115.68	1311.97	-0.30	-0.05	-5.84	0.22	461454.85	709774.21	N 32 18 2.78	W 103 47 18.16
	1497.00	0.07	235.01	1496.97	-0.44	-0.19	-5.87	0.08	461454.51	709774.28	N 32 18 2.78	W 103 47 18.16
	1591.00	0.11	11.24	1590.97	-0.39	-0.14	-5.90	0.18	461454.56	709774.25	N 32 18 2.78	W 103 47 18.16
	1780.00	0.11	330.88	1779.97	-0.05	0.20	-5.95	0.04	461454.90	709774.20	N 32 18 2.78	W 103 47 18.16
	1869.00	0.11	174.31	1868.97	-0.08	0.18	-6.02	0.11	461454.88	709774.13	N 32 18 2.78	W 103 47 18.16
	2064.00	0.11	335.00	2063.97	-0.09	0.17	-6.05	0.23	461454.87	709774.10	N 32 18 2.78	W 103 47 18.16
	2158.00	0.09	325.93	2157.97	0.05	0.31	-6.13	0.03	461455.01	709774.02	N 32 18 2.78	W 103 47 18.16
	2253.00	0.11	150.29	2252.97	0.04	0.30	-6.13	0.21	461455.00	709774.02	N 32 18 2.78	W 103 47 18.16
	2347.00	0.11	266.49	2346.97	-0.05	0.21	-6.18	0.20	461454.91	709773.97	N 32 18 2.78	W 103 47 18.16
	2441.00	0.11	114.85	2440.97	-0.09	0.17	-6.18	0.23	461454.87	709773.97	N 32 18 2.78	W 103 47 18.16
	2630.00	0.11	187.17	2629.97	-0.34	-0.09	-6.04	0.07	461454.81	709774.11	N 32 18 2.78	W 103 47 18.16
	2724.00	0.14	27.66	2723.97	-0.33	-0.07	-6.00	0.26	461454.83	709774.15	N 32 18 2.78	W 103 47 18.16
	2819.00	0.03	212.86	2818.97	-0.24	0.01	-5.96	0.18	461454.71	709774.19	N 32 18 2.78	W 103 47 18.16
	2914.00	0.14	31.48	2913.97	-0.18	0.09	-5.91	0.18	461454.70	709774.24	N 32 18 2.78	W 103 47 18.16
	3008.00	0.11	14.15	3007.97	0.02	0.27	-5.83	0.05	461454.97	709774.32	N 32 18 2.78	W 103 47 18.16
	3103.00	0.11	353.78	3102.97	0.20	0.45	-5.82	0.04	461455.15	709774.33	N 32 18 2.78	W 103 47 18.16
	3197.00	0.16	49.93	3196.97	0.38	0.82	-5.73	0.14	461455.32	709774.42	N 32 18 2.78	W 103 47 18.16
	3291.00	0.13	88.87	3290.97	0.48	0.71	-5.52	0.11	461455.41	709774.83	N 32 18 2.78	W 103 47 18.16
	3481.00	0.14	195.85	3480.97	0.26	0.49	-5.37	0.11	461455.19	709774.78	N 32 18 2.78	W 103 47 18.16
	3575.00	0.07	75.54	3574.97	0.17	0.40	-5.34	0.20	461455.10	709774.81	N 32 18 2.78	W 103 47 18.16
	3669.00	0.14	213.82	3668.97	0.09	0.31	-5.35	0.21	461455.01	709774.80	N 32 18 2.78	W 103 47 18.16
	3764.00	0.09	236.88	3763.97	-0.06	0.18	-5.48	0.07	461454.88	709774.67	N 32 18 2.78	W 103 47 18.16
	3858.00	0.11	77.58	3857.97	-0.07	0.16	-5.45	0.21	461454.98	709774.70	N 32 18 2.78	W 103 47 18.16
	3952.00	0.09	308.31	3951.97	-0.01	0.22	-5.42	0.19	461454.92	709774.73	N 32 18 2.78	W 103 47 18.16
	4046.00	0.21	265.85	4045.97	0.02	0.25	-5.85	0.17	461454.95	709774.50	N 32 18 2.78	W 103 47 18.16
	4141.00	0.26	245.63	4140.97	-0.10	0.15	-6.02	0.10	461454.85	709774.13	N 32 18 2.78	W 103 47 18.16
	4236.00	0.07	149.11	4235.97	-0.20	0.06	-6.13	0.45	461454.78	709774.02	N 32 18 2.78	W 103 47 18.16
	4331.00	0.11	354.04	4330.97	-0.14	0.12	-6.10	0.15	461454.82	709774.05	N 32 18 2.78	W 103 47 18.16
	4415.00	0.11	254.56	4414.97	-0.08	0.18	-6.20	0.18	461454.88	709773.95	N 32 18 2.78	W 103 47 18.16
	4510.00	0.11	83.41	4509.97	-0.07	0.20	-6.21	0.23	461454.90	709773.94	N 32 18 2.78	W 103 47 18.16
	4604.00	0.09	311.56	4603.97	0.02	0.29	-6.18	0.18	461454.99	709773.97	N 32 18 2.78	W 103 47 18.16
	4698.00	0.10	356.93	4697.97	0.15	0.42	-6.24	0.08	461455.12	709773.91	N 32 18 2.78	W 103 47 18.16
	4793.00	0.32	8.78	4792.97	0.50	0.78	-6.20	0.23	461455.46	709773.95	N 32 18 2.78	W 103 47 18.16
	4888.00	0.73	19.98	4887.96	2.17	2.42	-6.71	0.22	461457.12	709774.44	N 32 18 2.80	W 103 47 18.16
	5078.00	0.59	21.45	5078.95	3.20	3.43	-6.33	0.15	461458.13	709774.82	N 32 18 2.81	W 103 47 18.16
	5263.00	0.54	14.89	5264.94	4.99	5.20	-4.75	0.04	461459.90	709775.40	N 32 18 2.83	W 103 47 18.17
	5453.00	0.49	4.52	5452.93	6.88	6.85	-4.45	0.06	461461.55	709775.70	N 32 18 2.85	W 103 47 18.16
	5548.00	0.81	9.96	5547.93	7.57	7.76	-4.37	0.13	461462.46	709775.78	N 32 18 2.85	W 103 47 18.16
	5642.00	0.00	2.51	5641.93	8.56	8.75	-4.30	0.04	461463.49	709775.85	N 32 18 2.86	W 103 47 18.16
	5737.00	0.51	13.19	5736.92	9.47	8.86	-4.18	0.14	461464.38	709775.97	N 32 18 2.87	W 103 47 18.16
	5831.00	0.51	352.23	5830.92	10.30	10.48	-4.14	0.20	461465.18	709776.01	N 32 18 2.88	W 103 47 18.16
	5925.00	0.52	11.84	5924.91	11.13	11.31	-4.11	0.19	461466.01	709776.04	N 32 18 2.89	W 103 47 18.16
	6020.00	0.35	7.83	6019.91	11.84	12.02	-4.03	0.18	461466.72	709776.17	N 32 18 2.80	W 103 47 18.16
	6068.00	0.35	133.84	6068.91	12.11	12.29	-4.03	0.12	461468.99	709776.12	N 32 18 2.90	W 103 47 18.16
	6114.00	0.30	329.15	6113.91	12.34	12.53	-4.16	0.21	461467.23	709775.99	N 32 18 2.90	W 103 47 18.16
	6209.00	0.44	352.02	6208.91	12.91	13.10	-4.34	0.21	461468.20	709775.81	N 32 18 2.91	W 103 47 18.16
	6308.00	0.35	341.48	6307.90	13.56	13.77	-4.48	0.12	461468.48	709775.67	N 32 18 2.91	W 103 47 18.16
	6403.00	2.87	65.89	6402.97	14.82	14.94	-2.56	2.80	461469.84	709777.59	N 32 18 2.93	W 103 47 18.14
	6497.00	5.90	82.70	6496.90	16.82	16.45	4.24	3.85	461471.15	709784.39	N 32 18 2.94	W 103 47 18.08
	6592.00	7.54	65.31	6590.94	18.21	17.58	15.29	1.76	461472.28	709795.44	N 32 18 2.95	W 103 47 17.93
	6688.00	8.78	69.39	6683.99	19.37	18.18	28.81	1.45	461472.87	709808.76	N 32 18 2.96	W 103 47 17.78
	6781.00	10.06	69.80	6777.71	20.15	18.29	44.16	1.35	461472.99	709824.31	N 32 18 2.96	W 103 47 17.60
	6878.00	9.50	90.45	6871.32	20.80	18.26	60.30	0.80	461472.86	709840.44	N 32 18 2.95	W 103 47 17.41
	6970.00	9.29	93.18	6964.08	20.96	17.78	75.83	0.52	461472.46	709855.77	N 32 18 2.95	W 103 47 17.23
	7065.00	8.81	95.37	7057.88	20.49	16.67	90.53	0.82	461471.37	709870.67	N 32 18 2.94	W 103 47 17.06
	7159.00	10.24	92.10	7150.58	20.17	15.69	106.05	1.83	461470.39	709886.19	N 32 18 2.93	W 103 47 16.88
	7252.00	10.42	93.52	7242.08	20.06	14.87	122.70	0.34	461469.57	709902.04	N 32 18 2.92	W 103 47 16.68
	7346.00	10.08	93.25	7336.54	19.77	13.86	138.75	0.36	461468.58	709919.90	N 32 18 2.91	W 103 47 16.48
	7443.00	8.75	94.47	7430.13	19.38	12.77	156.07	0.41	461467.48	709936.21	N 32 18 2.90	W 103 47 16.29
	7538.00	9.32	97.40	7523.01	18.41	11.15	171.72	0.68	461465.65	709951.88	N 32 18 2.90	W 103 47 16.11
	7632.00	9.44	96.50	7616.56	17.20	9.29	186.93	0.20</				

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (ft/100ft)	Northing (ft)	Easting (ft)	Latitude (N/S ° ° °)	Longitude (E/W ° ° °)
	7821.00	9.99	84.16	7802.77	17.99	8.72	219.21	1.41	461463.42	709999.35	N 32 16 2.85 W 103 47 15.36	
	7913.00	9.77	84.21	7893.40	20.25	10.32	234.91	0.23	461465.02	710015.04	N 32 16 2.87 W 103 47 15.36	
	8102.00	9.57	81.48	8078.72	25.53	14.26	280.40	0.26	461466.06	710046.53	N 32 16 2.90 W 103 47 15.01	
	8197.00	9.38	78.31	8173.42	28.88	18.97	321.80	0.55	461471.67	710061.93	N 32 16 2.93 W 103 47 14.83	
	8386.00	9.45	78.54	8359.88	36.32	23.12	382.10	0.04	461477.82	710092.23	N 32 16 2.99 W 103 47 14.48	
	8480.00	9.57	75.13	8452.59	40.49	26.98	427.21	0.51	461481.36	710107.34	N 32 16 3.02 W 103 47 14.30	
	8575.00	9.25	70.21	8546.31	45.73	34.27	502.03	0.91	461485.97	710122.16	N 32 16 3.07 W 103 47 14.13	
	8659.00	8.88	64.22	8636.37	51.25	36.28	554.21	2.87	461490.94	710134.34	N 32 16 3.12 W 103 47 13.99	
	8763.00	5.14	58.34	8732.95	56.27	40.94	602.86	1.96	461495.94	710142.99	N 32 16 3.18 W 103 47 13.88	
	8858.00	4.31	57.41	8827.53	60.70	45.10	689.49	0.88	461499.79	710149.82	N 32 16 3.20 W 103 47 13.61	
	8952.00	3.38	59.80	8921.32	64.22	48.39	774.87	1.00	461503.09	710154.98	N 32 16 3.24 W 103 47 13.74	
	9141.00	2.77	83.29	9110.05	67.95	51.73	884.22	0.73	461506.43	710164.34	N 32 16 3.27 W 103 47 13.64	
KOP Actual	9271.00	2.25	95.33	9239.93	69.32	51.88	989.88	0.57	461508.56	710170.00	N 32 16 3.27 W 103 47 13.57	
	9469.00	5.45	42.44	9437.51	75.33	58.44	100.10	2.25	461513.14	710180.22	N 32 16 3.34 W 103 47 13.45	
	9583.00	16.15	21.89	9529.73	81.14	73.93	407.97	11.93	461528.83	710188.09	N 32 16 3.49 W 103 47 13.36	
	9634.00	27.09	15.46	9617.83	124.80	107.16	418.65	11.75	461561.68	710194.77	N 32 16 3.62 W 103 47 13.23	
	9753.00	38.80	12.22	9697.52	175.38	157.28	430.78	12.46	461611.97	710216.86	N 32 16 4.31 W 103 47 13.09	
2nd Bone Spring Intersection	9819.12	48.80	14.45	9748.00	219.44	200.94	441.18	12.31	461655.83	710221.30	N 32 16 4.74 W 103 47 12.90	
	9948.00	50.30	15.25	9765.11	240.57	221.85	448.73	12.31	461676.54	710226.85	N 32 16 4.95 W 103 47 12.90	
	9942.00	52.71	16.42	9816.89	318.86	297.10	468.13	13.24	461751.78	710248.25	N 32 16 5.69 W 103 47 12.84	
100' FSL Crossing	10027.00	72.60	15.02	9849.17	393.08	372.60	486.37	11.73	461827.37	710269.40	N 32 16 6.44 W 103 47 12.39	
	10037.00	73.78	14.87	9852.06	402.42	381.94	491.84	11.73	461838.82	710271.96	N 32 16 6.53 W 103 47 12.36	
	10131.00	80.75	10.18	9872.80	492.82	471.37	511.84	8.90	461826.04	710291.76	N 32 16 7.42 W 103 47 12.13	
	10228.00	81.80	8.69	9887.13	588.98	564.23	525.55	3.81	462018.90	710305.87	N 32 16 8.33 W 103 47 11.96	
	10280.00	84.60	2.70	9893.48	638.55	617.58	530.83	0.18	462072.32	710310.15	N 32 16 8.86 W 103 47 11.90	
	10320.00	84.71	2.45	9907.20	679.37	657.44	531.82	0.68	462112.94	710311.94	N 32 16 9.26 W 103 47 11.88	
	10432.00	84.82	0.77	9907.42	790.89	788.03	534.95	1.50	462223.58	710315.07	N 32 16 10.36 W 103 47 11.84	
	10527.00	85.85	0.83	9915.32	885.52	885.58	536.11	0.89	462318.24	710318.23	N 32 16 11.30 W 103 47 11.82	
	10621.00	86.24	359.73	9921.96	978.21	957.35	536.40	1.14	462411.89	710318.52	N 32 16 12.22 W 103 47 11.81	
	10716.00	87.68	359.70	9927.00	1073.97	1052.21	535.93	1.52	462506.85	710316.09	N 32 16 13.16 W 103 47 11.81	
	10810.00	90.88	359.73	9928.16	1167.84	1146.19	535.48	3.40	462600.82	710315.60	N 32 16 14.09 W 103 47 11.81	
	11000.00	92.02	0.38	9923.37	1357.82	1336.13	535.70	0.89	462790.75	710315.81	N 32 16 15.97 W 103 47 11.80	
	11094.00	91.99	359.27	9920.08	1451.46	1430.07	535.41	1.18	462884.66	710315.53	N 32 16 16.90 W 103 47 11.79	
	11283.00	91.09	358.79	9915.00	1538.82	1510.87	528.91	1.40	463073.46	710309.33	N 32 16 18.77 W 103 47 11.68	
	11378.00	91.06	357.79	9913.20	1734.42	1713.75	524.42	1.05	463188.34	710304.54	N 32 16 19.71 W 103 47 11.60	
	11567.00	90.13	358.24	9911.19	1922.85	1902.62	517.88	0.56	463357.21	710298.00	N 32 16 21.58 W 103 47 11.67	
	11682.00	90.18	357.51	9910.95	2017.54	1997.56	514.35	0.77	463452.13	710294.47	N 32 16 22.52 W 103 47 12.00	
	11787.00	89.89	356.52	9910.82	2112.12	2092.43	509.41	1.06	463547.00	710289.53	N 32 16 23.46 W 103 47 12.06	
	11851.00	90.02	357.21	9910.81	2205.88	2186.28	504.27	0.73	463640.85	710284.38	N 32 16 24.38 W 103 47 12.11	
	11948.00	90.18	0.18	9910.68	2300.48	2281.28	502.10	3.13	463735.81	710282.22	N 32 16 25.32 W 103 47 12.13	
	12040.00	90.20	0.09	9910.37	2394.39	2375.25	502.33	0.10	463829.80	710282.44	N 32 16 26.25 W 103 47 12.12	
	12135.00	90.27	0.31	9909.98	2489.32	2470.25	502.68	0.24	463924.80	710282.78	N 32 16 27.19 W 103 47 12.11	
	12234.00	89.65	358.98	9910.11	2578.09	2559.24	501.45	0.79	464113.78	710281.57	N 32 16 29.08 W 103 47 12.12	
	12418.00	90.02	359.04	9910.38	2775.92	2754.22	498.79	0.40	464206.76	710279.91	N 32 16 30.99 W 103 47 12.13	
	12608.00	89.92	358.46	9910.48	2961.83	2943.21	497.32	0.23	464397.73	710277.44	N 32 16 31.87 W 103 47 12.15	
	12702.00	89.81	358.15	9910.87	3055.48	3037.20	496.18	0.47	464491.71	710276.30	N 32 16 32.81 W 103 47 12.16	
	12797.00	89.81	359.97	9911.51	3150.38	3132.19	495.45	0.86	464586.70	710275.57	N 32 16 33.75 W 103 47 12.16	
	12891.00	89.58	358.83	9912.18	3244.26	3226.19	495.12	0.36	464680.69	710275.24	N 32 16 34.69 W 103 47 12.16	
	13080.00	89.58	0.51	9913.56	3433.09	3415.18	495.35	0.47	464869.88	710275.47	N 32 16 36.55 W 103 47 12.14	
	13174.00	89.71	359.71	9914.15	3527.02	3509.18	495.53	0.86	464963.87	710275.85	N 32 16 37.48 W 103 47 12.13	
	13269.00	89.54	359.05	9914.77	3621.88	3604.17	494.51	0.72	465058.63	710274.83	N 32 16 38.42 W 103 47 12.14	
	13364.00	89.81	359.94	9915.47	3716.75	3699.16	493.87	0.94	465153.64	710273.79	N 32 16 39.36 W 103 47 12.14	
	13459.00	89.71	358.80	9916.04	3811.60	3794.15	492.46	1.41	465248.82	710272.56	N 32 16 40.30 W 103 47 12.15	
	13553.00	89.71	359.44	9916.51	3905.43	3888.14	490.85	0.89	465342.80	710270.97	N 32 16 41.23 W 103 47 12.17	
	13743.00	89.54	358.87	9917.78	4095.12	4078.11	488.05	0.31	465532.56	710268.17	N 32 16 43.11 W 103 47 12.19	
	13837.00	89.58	358.81	9918.48	4188.98	4172.10	486.97	1.00	465628.55	710267.09	N 32 16 44.04 W 103 47 12.19	
	14027.00	89.44	358.44	9920.10	4378.85	4362.07	484.07	0.72	465816.50	710264.19	N 32 16 45.92 W 103 47 12.22	
	14216.00	89.81	358.48	9921.87	4567.18	4550.99	478.85	0.09	466005.41	710258.98	N 32 16 47.78 W 103 47 12.27	
	14405.00	89.58	359.29	9923.01	4755.80	4739.94	475.00	0.48	466194.36	710255.12	N 32 16 49.65 W 103 47 12.30	
	14590.00	89.44	359.41	9923.82	4850.88	4834.93	473.89	0.22	466383.33	710254.01	N 32 16 50.56 W 103 47 12.31	
	14784.00	89.58	0.00	9924.62	4944.55	4928.93	473.41	0.85	466572.30	710253.53	N 32 16 51.52 W 103 47 12.31	
	14974.00	88.75	0.03	9925.73	5134.38	5118.92	473.48	0.99	466762.30	710253.58	N 32 16 53.40 W 103 47 12.30	
	14673.00	89.44	359.48	9927.07	5323.17	5307.82	472.80	0.35	466952.30	710252.72	N 32 16 55.27 W 103 47 12.29	
	15182.00	89.44	358.65	9928.82	5511.92	5496.90	469.12	0.11	467142.30	710251.24	N 32 16 57.14 W 103 47 12.30	
	15331.00	89.71	358.88	9930.32	5706.72	5685.89	470.77	0.22	467332.24	710250.43	N 32 16 59.01 W 103 47 12.30	
	15540.00	90.57	358.84	9929.88	5891.54	5874.89	470.31	0.48	467522.24	710249.43	N 32 16 60.89 W 103 47 12.29	
	15730.00	90.44	358.19	9928.18	6079.29	6064.88	468.87	0.40	467718.21	710248.88	N 32 16 62.77 W 103 47 12.29	
	15919.00	90.57	359.53	9926.52	6268.01	6253.86	468.75	0.19	467908.18	710248.88	N 32 16 64.64 W 103 47 12.31	
	16014.00	90.81	358.87	9925.54	6362.86	6348.84	465.51	0.59	468093.16	710245.83	N 32 16 66.52 W 103 47 12.32	
	16108.00	90.81	359.15	9924.54	6456.70	6442.83	463.97	0.19	468283.14	710244.09	N 32 16 68.40 W 103 47 12.33	
	16203.00	90.51	358.89	9923.81	6551.52	6537.81	462.34	0.29	468473.11	710242.47	N 32 16 70.28 W 103 47 12.34	
	16302.00	90.57	359.05	9923.83	6740.17	6726.77	456.95	0.09	468663.08	710239.07	N 32 16 72.15 W 103 47 12.37	
	16486.00	90.84	359.34	9920.84	6934.02	6920.75	457.83	0.32	468853.05	710237.75	N 32 16 74.02 W 103 47 12.38	
	16580.00	90.54	359.18	9919.87	6927.87	6914.74	456.41	0.20	469043.02	710236.54	N 32 16 75.89 W 103 47 12.39	
	16675.00	90.88	358.35	9918.88	7022.87	7009.71	454.37	0.89	469233.00	710235.34	N 32 16 77.76 W 103 47 12.41	
	16864.00	90.51	359.27	9918.89	7211.28	7198.66	450.44	0.49	469423.00	710234.14	N 32 16 79.63 W 103 47 12.44	
	17053.00	90.37	1.47									

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 ° ' '')
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Survey Type: Def Survey

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

Description	Part	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size	Casing Diameter (in)	Survey Tool Type	Borehole / Survey
	1	0.000	30.000	1/98.425	30.000	30.000	NAL_NSQ+MSHOT-Depth Only	Original Borehole / Dry Iridium MDP1 28-21 Federal Com 2H Gyro+MWD 0-20481'MD
	1	30.000	30.000	Act Strs	30.000	30.000	NAL_NSQ+MSHOT-Depth Only	Original Borehole / Dry Iridium MDP1 28-21 Federal Com 2H Gyro+MWD 0-20481'MD
	1	30.000	678.000	Act Strs	30.000	30.000	NAL_NSQ+MSHOT	Original Borehole / Dry Iridium MDP1 28-21 Federal Com 2H
	1	678.000	5831.000	Act Strs	30.000	30.000	NAL_MWD_IFR1+MS	Original Borehole / Dry Iridium MDP1 28-21 Federal Com 2H
	1	5831.000	6209.000	Act Strs	30.000	30.000	NAL_MWD_PLUS_0.5_DEG	Original Borehole / Dry Iridium MDP1 28-21 Federal Com 2H
	1	6209.000	20481.000	Act Strs	30.000	30.000	NAL_MWD_IFR1+MS	Original Borehole / Dry Iridium MDP1 28-21 Federal Com 2H

...Original Borehole/Oxy Iridium MDP1 28-21 Federal Com 2H Gyro+MWD 0-20481'MD