30-015-44299

Schlumberger

Oxy Palladium MDP1 7-6 Federal Com 2H Gyro+MWD 0-20085 ftMD Survey
Geodetic Report
(Def Survey)

Report Date:	January 02, 2018 - 09:59 AM	**Survey / DLS Computation:**	Minimum Curvature / Lubinski
Client:	OXY	**Vertical Section Azimuth:**	2.801 ° (Grid North)
Field:	NM Eddy County (NAD 83)	**Vertical Section Origin:**	0.000 ft, 0.000 ft
Structure / Slot:	Oxy Palladium MDP1 7-6 Federal Com 2H / Oxy Palladium MDP1 7-6 Federal Com 2H	**TVD Reference Datum:**	RKB=26.5'
Well:	Oxy Palladium MDP1 7-6 Federal Com 2H	**TVD Reference Elevation:**	3557.400 ft above MSL
Borehole:	Original Borehole	**Seabed / Ground Elevation:**	3530.900 ft above MSL
UWI / API#:	Unknown / Unknown	**Magnetic Declination:**	6.954 °
Survey Name:	Oxy Palladium MDP1 7-6 Federal Com 2H Gyro+MWD 0-20085 ftMD	**Total Gravity Field Strength:**	998.4281mgn (9.80665 Based)
Survey Date:	December 18, 2017	**Gravity Model:**	GARM
Tort / AHD / DDI / ERD Ratio:	238.386 ° / 11083.074 ft / 6.723 / 1.105	**Total Magnetic Field Strength:**	48064.646 nT
Coordinate Reference System:	NAD83 New Mexico State Plane, Eastern Zone, US Feet	**Magnetic Dip Angle:**	59.991 °
Location Lat / Long:	N 32° 13' 34.55708", W 103° 49' 23.75664"	**Declination Date:**	December 18, 2017
Location Grid N/E Y/X:	N 446423.690 ftUS, E 699063.750 ftUS	**Magnetic Declination Model:**	HDGM 2017
CRS Grid Convergence Angle:	0.2720 °	**North Reference:**	Grid North
Grid Scale Factor:	0.99993758	**Grid Convergence Used:**	0.2720 °
Version / Patch:	2.10.565.0	**Total Corr Mag North->Grid North:**	6.6818 °
		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 ° ' ")
SHL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	446423.69	699063.75	N 32 13 34.56	W 103 49 23.76
	79.10	0.83	198.99	79.10	-0.55	-0.54	-0.19	1.05	446423.15	699063.56	N 32 13 34.55	W 103 49 23.76
	173.40	0.82	213.13	173.39	-1.79	-1.75	-0.78	0.22	446421.94	699062.97	N 32 13 34.54	W 103 49 23.77
	267.70	0.97	198.56	267.68	-3.14	-3.07	-1.40	0.29	446420.62	699062.35	N 32 13 34.53	W 103 49 23.77
	361.90	0.89	207.35	361.86	-4.57	-4.48	-1.99	0.17	446419.21	699061.76	N 32 13 34.51	W 103 49 23.78
	456.30	0.93	213.36	456.25	-5.90	-5.77	-2.75	0.11	446417.92	699061.00	N 32 13 34.50	W 103 49 23.79
	550.80	0.80	209.71	550.74	-7.15	-6.98	-3.50	0.15	446416.71	699060.25	N 32 13 34.49	W 103 49 23.80
	645.20	0.68	199.81	645.13	-8.27	-8.08	-4.01	0.19	446415.61	699059.74	N 32 13 34.48	W 103 49 23.80
	737.10	0.14	41.46	737.03	-8.70	-8.51	-4.12	0.88	446415.18	699059.63	N 32 13 34.47	W 103 49 23.81
	828.60	0.18	44.95	828.53	-8.51	-8.33	-3.95	0.04	446415.36	699059.80	N 32 13 34.47	W 103 49 23.80
	918.90	0.17	39.90	918.83	-8.30	-8.12	-3.76	0.02	446415.57	699059.99	N 32 13 34.48	W 103 49 23.80
	1010.60	0.17	40.47	1010.53	-8.08	-7.92	-3.59	0.00	446415.77	699060.16	N 32 13 34.48	W 103 49 23.80
	1101.90	0.17	40.00	1101.83	-7.87	-7.71	-3.41	0.00	446415.98	699060.34	N 32 13 34.48	W 103 49 23.80
	1193.20	0.19	39.19	1193.13	-7.64	-7.49	-3.23	0.02	446416.20	699060.52	N 32 13 34.48	W 103 49 23.79
	1284.80	0.17	32.33	1284.73	-7.40	-7.26	-3.06	0.03	446416.43	699060.69	N 32 13 34.49	W 103 49 23.79
	1376.50	0.16	36.40	1376.43	-7.17	-7.04	-2.91	0.02	446416.65	699060.84	N 32 13 34.49	W 103 49 23.79
	1468.00	0.18	30.24	1467.93	-6.94	-6.81	-2.76	0.03	446416.88	699060.99	N 32 13 34.49	W 103 49 23.79
	1559.90	0.17	28.76	1559.83	-6.69	-6.57	-2.63	0.01	446417.12	699061.13	N 32 13 34.49	W 103 49 23.79
	1654.60	0.17	23.22	1654.53	-6.43	-6.31	-2.50	0.02	446417.38	699061.25	N 32 13 34.49	W 103 49 23.79
	1748.90	0.17	18.22	1748.83	-6.16	-6.05	-2.40	0.02	446417.64	699061.35	N 32 13 34.50	W 103 49 23.78
	1843.10	0.18	19.86	1843.03	-5.89	-5.78	-2.31	0.01	446417.91	699061.44	N 32 13 34.50	W 103 49 23.78
	1937.90	0.17	19.90	1937.83	-5.61	-5.51	-2.21	0.01	446418.18	699061.54	N 32 13 34.50	W 103 49 23.78
	2032.70	0.16	19.09	2032.63	-5.35	-5.25	-2.12	0.01	446418.44	699061.63	N 32 13 34.51	W 103 49 23.78
	2127.40	0.17	11.71	2127.33	-5.08	-4.99	-2.05	0.02	446418.70	699061.70	N 32 13 34.51	W 103 49 23.78
	2222.10	0.17	14.73	2222.02	-4.81	-4.72	-1.98	0.01	446418.97	699061.77	N 32 13 34.51	W 103 49 23.78
	2316.80	0.17	16.90	2316.72	-4.53	-4.45	-1.91	0.01	446419.24	699061.84	N 32 13 34.51	W 103 49 23.78
	2411.60	0.18	12.32	2411.52	-4.25	-4.17	-1.83	0.02	446419.52	699061.92	N 32 13 34.52	W 103 49 23.78
	2506.40	0.19	8.23	2506.32	-3.95	-3.86	-1.78	0.02	446419.83	699061.97	N 32 13 34.52	W 103 49 23.78
	2601.20	0.20	9.16	2601.12	-3.63	-3.55	-1.73	0.01	446420.14	699062.02	N 32 13 34.52	W 103 49 23.78
	2695.90	0.18	6.58	2695.82	-3.31	-3.23	-1.69	0.02	446420.46	699062.06	N 32 13 34.53	W 103 49 23.78
	2790.60	0.17	6.09	2790.52	-3.02	-2.95	-1.66	0.01	446420.74	699062.09	N 32 13 34.53	W 103 49 23.78
	2885.40	0.17	4.62	2885.32	-2.74	-2.67	-1.63	0.00	446421.02	699062.12	N 32 13 34.53	W 103 49 23.78
	2980.20	0.17	10.13	2980.12	-2.46	-2.39	-1.59	0.02	446421.30	699062.16	N 32 13 34.53	W 103 49 23.78
	3075.00	0.14	54.59	3074.92	-2.25	-2.18	-1.47	0.13	446421.51	699062.28	N 32 13 34.54	W 103 49 23.77
	3169.60	0.15	24.17	3169.52	-2.07	-2.00	-1.33	0.08	446421.69	699062.42	N 32 13 34.54	W 103 49 23.77
	3264.60	0.16	1.35	3264.52	-1.82	-1.76	-1.28	0.07	446421.93	699062.47	N 32 13 34.54	W 103 49 23.77
	3359.40	0.16	3.50	3359.32	-1.55	-1.49	-1.26	0.01	446422.20	699062.49	N 32 13 34.54	W 103 49 23.77
	3454.30	0.20	175.86	3454.22	-1.58	-1.53	-1.24	0.38	446422.16	699062.51	N 32 13 34.54	W 103 49 23.77
	3549.20	0.16	5.29	3549.12	-1.62	-1.56	-1.22	0.38	446422.13	699062.53	N 32 13 34.54	W 103 49 23.77
	3644.10	0.15	70.69	3644.02	-1.44	-1.39	-1.09	0.18	446422.30	699062.66	N 32 13 34.54	W 103 49 23.77
	3739.00	0.17	108.45	3738.92	-1.43	-1.39	-0.84	0.11	446422.30	699062.91	N 32 13 34.54	W 103 49 23.77
	3833.80	0.13	7.86	3833.72	-1.36	-1.33	-0.69	0.24	446422.36	699063.06	N 32 13 34.54	W 103 49 23.76
	3928.70	0.14	333.64	3928.62	-1.15	-1.12	-0.73	0.08	446422.57	699063.02	N 32 13 34.55	W 103 49 23.77
	4023.50	0.13	4.54	4023.42	-0.94	-0.91	-0.77	0.08	446422.78	699062.98	N 32 13 34.55	W 103 49 23.77
	4118.40	0.16	343.26	4118.32	-0.71	-0.67	-0.80	0.06	446423.02	699062.95	N 32 13 34.55	W 103 49 23.77
	4213.30	0.15	110.55	4213.22	-0.62	-0.59	-0.72	0.29	446423.10	699063.03	N 32 13 34.55	W 103 49 23.77
	4308.20	0.16	333.77	4308.12	-0.54	-0.51	-0.67	0.30	446423.18	699063.08	N 32 13 34.55	W 103 49 23.76
	4403.10	0.23	179.63	4403.02	-0.62	-0.58	-0.72	0.40	446423.11	699063.03	N 32 13 34.55	W 103 49 23.77
	4497.90	0.22	277.78	4497.82	-0.79	-0.75	-0.90	0.36	446422.94	699062.85	N 32 13 34.55	W 103 49 23.77
	4592.50	0.22	322.34	4592.42	-0.64	-0.58	-1.19	0.18	446423.11	699062.56	N 32 13 34.55	W 103 49 23.77
	4687.00	0.18	96.23	4686.92	-0.51	-0.45	-1.16	0.39	446423.24	699062.59	N 32 13 34.55	W 103 49 23.77
	4781.90	0.37	231.66	4781.82	-0.72	-0.66	-1.25	0.54	446423.03	699062.50	N 32 13 34.55	W 103 49 23.77
	4876.70	0.16	319.18	4876.61	-0.83	-0.75	-1.57	0.42	446422.94	699062.18	N 32 13 34.55	W 103 49 23.78
	4971.00	0.19	160.45	4970.91	-0.88	-0.80	-1.61	0.36	446422.89	699062.14	N 32 13 34.55	W 103 49 23.78
	5065.70	0.25	265.97	5065.61	-1.05	-0.96	-1.76	0.37	446422.73	699061.99	N 32 13 34.55	W 103 49 23.78
	5160.50	0.21	315.20	5160.41	-0.95	-0.85	-2.09	0.21	446422.84	699061.66	N 32 13 34.55	W 103 49 23.78
	5255.10	0.25	166.01	5255.01	-1.03	-0.93	-2.16	0.47	446422.76	699061.59	N 32 13 34.55	W 103 49 23.78
	5349.60	1.48	166.09	5349.50	-2.40	-2.31	-1.82	1.30	446421.38	699061.93	N 32 13 34.53	W 103 49 23.78
	5444.10	3.21	169.06	5443.92	-6.14	-6.10	-1.02	1.83	446417.59	699062.73	N 32 13 34.50	W 103 49 23.77
	5538.70	5.48	170.67	5538.24	-13.13	-13.15	0.21	2.40	446410.54	699063.96	N 32 13 34.43	W 103 49 23.75
	5633.20	7.60	169.73	5632.12	-23.63	-23.76	2.06	2.25	446399.93	699065.81	N 32 13 34.32	W 103 49 23.73
	5728.00	9.32	168.97	5725.88	-37.19	-37.46	4.64	1.82	446386.23	699068.39	N 32 13 34.19	W 103 49 23.70
	5822.70	11.25	161.70	5819.06	-53.26	-53.76	9.01	2.45	446369.93	699072.76	N 32 13 34.02	W 103 49 23.65
	5917.40	13.00	158.67	5911.65	-71.60	-72.45	15.79	1.97	446351.24	699079.54	N 32 13 33.84	W 103 49 23.58
	6012.20	14.61	156.97	6003.71	-92.09	-93.39	24.34	1.75	446330.30	699088.09	N 32 13 33.63	W 103 49 23.48
	6107.00	16.21	154.45	6095.10	-114.50	-116.33	34.73	1.83	446307.36	699098.48	N 32 13 33.40	W 103 49 23.36
	6201.70	14.99	155.46	6186.31	-137.01	-139.40	45.52	1.32	446284.30	699109.26	N 32 13 33.18	W 103 49 23.23
	6296.40	15.08	153.12	6277.76	-158.59	-161.53	56.17	0.65	446262.17	699119.92	N 32 13 32.96	W 103 49 23.11
	6391.20	15.14	148.66	6369.29	-179.55	-183.10	68.19	1.23	446240.60	699131.93	N 32 13 32.74	W 103 49 22.97
	6486.00	14.89	148.97	6460.85	-199.92	-204.12	80.91	0.26	446219.59	699144.65	N 32 13 32.53	W 103 49 22.83
	6580.70	14.87	149.01	6552.38	-220.12	-224.96	93.43	0.02	446198.75	699157.18	N 32 13 32.33	W 103 49 22.68
	6675.40	14.77	148.87	6643.93	-240.24	-245.71	105.93	0.11	446178.00	699169.67	N 32 13 32.12	W 103 49 22.54
	6770.10	14.65	148.17	6735.48	-260.24	-266.35	118.57	0.21	446157.36	699182.31	N 32 13 31.92	W 103 49 22.39
	6864.80	14.89	147.86	6827.01	-280.20	-286.96	131.45	0.09	446136.74	699195.19	N 32 13 31.71	W 103 49 22.24
	6959.50	15.06	148.14	6918.49	-300.29	-307.72	144.41	0.20	446115.99	699208.15	N 32 13 31.51	W 103 49 22.09
	7054.30	15.00	148.03	7010.05	-320.50	-328.58	157.41	0.07	446095.13	699221.15	N 32 13 31.30	W 103 49 21.94
	7149.00	15.01	148.18	7101.52	-340.66	-349.40	170.36	0.04	446074.31	699234.10	N 32 13 31.09	W 103 49 21.79

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 ° ' ")
	7243.70	15.01	148.18	7192.99	-360.84	-370.24	183.29	0.00	446053.47	699247.03	N 32 13 30.88	W 103 49 21.64
	7338.40	15.05	148.02	7284.45	-381.03	-391.09	196.27	0.06	446032.63	699260.01	N 32 13 30.68	W 103 49 21.49
	7433.10	14.89	148.15	7375.94	-401.14	-411.85	209.20	0.17	446011.86	699272.94	N 32 13 30.47	W 103 49 21.34
	7527.80	15.04	147.93	7467.43	-421.23	-432.60	222.15	0.17	445991.12	699285.88	N 32 13 30.27	W 103 49 21.19
	7622.60	15.03	148.16	7558.98	-441.43	-453.47	235.16	0.06	445970.25	699298.90	N 32 13 30.06	W 103 49 21.04
	7717.30	14.88	148.83	7650.47	-461.62	-474.30	247.94	0.24	445949.42	699311.67	N 32 13 29.85	W 103 49 20.90
	7812.00	14.85	143.41	7742.01	-481.08	-494.45	261.46	1.47	445929.27	699325.20	N 32 13 29.65	W 103 49 20.74
	7906.70	14.75	128.63	7833.60	-497.52	-511.73	278.12	3.98	445912.00	699341.85	N 32 13 29.48	W 103 49 20.55
	8001.40	14.22	113.40	7925.32	-506.68	-523.88	298.22	4.05	445899.85	699361.95	N 32 13 29.36	W 103 49 20.31
	8096.00	13.28	96.04	8017.25	-513.38	-529.64	319.70	4.46	445894.09	699383.43	N 32 13 29.30	W 103 49 20.06
	8190.80	12.42	85.43	8109.69	-512.69	-529.97	340.69	2.64	445893.75	699404.42	N 32 13 29.30	W 103 49 19.82
	8285.70	10.69	81.79	8202.66	-509.70	-527.90	359.58	1.98	445895.82	699423.30	N 32 13 29.32	W 103 49 19.60
	8380.20	8.52	77.78	8295.83	-506.21	-525.17	375.10	2.40	445898.56	699438.82	N 32 13 29.34	W 103 49 19.42
	8474.90	6.98	72.86	8389.67	-502.43	-521.99	387.45	1.77	445901.74	699451.18	N 32 13 29.37	W 103 49 19.28
	8569.60	5.84	71.10	8483.77	-498.68	-518.73	397.51	1.22	445904.99	699461.23	N 32 13 29.41	W 103 49 19.16
	8664.30	4.23	65.06	8578.10	-495.28	-515.70	405.23	1.79	445908.03	699468.96	N 32 13 29.44	W 103 49 19.07
	8759.00	3.13	57.05	8672.61	-492.14	-512.82	410.57	1.28	445910.91	699474.29	N 32 13 29.46	W 103 49 19.01
	8853.80	3.91	43.15	8767.23	-488.16	-509.05	414.95	1.21	445914.67	699478.68	N 32 13 29.50	W 103 49 18.95
	8948.40	4.92	18.23	8861.56	-481.79	-502.84	418.43	2.27	445920.88	699482.15	N 32 13 29.56	W 103 49 18.91
	9043.30	6.16	4.31	8956.02	-472.78	-493.90	420.08	1.92	445929.82	699483.81	N 32 13 29.65	W 103 49 18.89
	9138.00	8.79	359.70	9049.90	-460.47	-481.60	420.43	2.85	445942.13	699484.15	N 32 13 29.77	W 103 49 18.89
	9232.80	10.06	7.21	9143.43	-444.98	-466.14	421.43	1.86	445957.58	699485.15	N 32 13 29.92	W 103 49 18.88
	9327.40	10.41	26.85	9236.55	-428.94	-450.31	426.33	3.69	445973.41	699490.05	N 32 13 30.08	W 103 49 18.82
	9422.20	9.21	32.89	9329.96	-414.55	-436.30	434.32	1.67	445987.42	699498.04	N 32 13 30.22	W 103 49 18.73
	9517.00	7.56	27.07	9423.75	-402.30	-424.37	441.28	1.96	445999.34	699505.00	N 32 13 30.34	W 103 49 18.64
	9611.60	14.81	20.23	9516.49	-385.07	-407.46	448.30	7.78	446016.25	699512.02	N 32 13 30.50	W 103 49 18.56
	9706.30	14.16	23.49	9608.18	-362.68	-385.48	457.10	1.10	446038.23	699520.82	N 32 13 30.72	W 103 49 18.46
	9801.00	23.16	38.61	9697.86	-336.68	-360.24	473.38	10.72	446063.47	699537.10	N 32 13 30.97	W 103 49 18.27
	9895.80	34.37	38.63	9780.83	-299.74	-324.66	501.81	11.82	446099.05	699565.53	N 32 13 31.32	W 103 49 17.93
	9990.70	45.52	27.97	9853.56	-247.16	-273.61	534.55	13.75	446150.10	699598.27	N 32 13 31.82	W 103 49 17.55
	10085.40	58.52	20.39	9911.76	-177.73	-205.57	564.62	15.09	446218.14	699628.34	N 32 13 32.50	W 103 49 17.20
	10180.10	69.67	10.19	9953.16	-94.76	-123.58	586.66	15.23	446300.12	699650.38	N 32 13 33.31	W 103 49 16.93
Last Gyro	10274.90	80.92	357.81	9977.27	-3.43	-32.44	592.78	17.31	446391.25	699656.49	N 32 13 34.21	W 103 49 16.86
	10333.00	81.76	358.09	9986.02	53.80	24.96	590.73	1.52	446448.65	699654.44	N 32 13 34.78	W 103 49 16.88
	10428.00	88.38	355.50	9994.27	148.66	120.39	585.37	7.40	446544.08	699649.08	N 32 13 35.72	W 103 49 16.94
	10469.00	88.18	354.72	9995.47	188.48	160.23	581.96	2.01	446583.91	699645.68	N 32 13 36.12	W 103 49 16.97
	10564.00	89.62	350.57	9997.29	281.95	254.41	569.81	4.62	446678.08	699633.52	N 32 13 37.05	W 103 49 17.11
	10754.00	89.38	352.80	9998.95	468.37	442.39	542.33	1.18	446866.05	699606.05	N 32 13 38.91	W 103 49 17.42
	10845.00	89.76	352.53	9999.64	557.94	532.64	530.71	0.51	446956.30	699594.43	N 32 13 39.80	W 103 49 17.55
	11027.00	89.69	351.78	10000.51	736.81	712.94	505.87	0.41	447136.58	699569.59	N 32 13 41.59	W 103 49 17.83
	11210.00	89.90	355.65	10001.16	917.48	894.80	485.84	2.12	447318.43	699549.56	N 32 13 43.39	W 103 49 18.05
	11301.00	89.31	358.36	10001.79	1008.00	985.67	481.09	3.05	447409.29	699544.81	N 32 13 44.29	W 103 49 18.10
	11484.00	89.45	359.12	10003.77	1190.53	1168.61	477.07	0.42	447592.22	699540.78	N 32 13 46.10	W 103 49 18.14
	11576.00	89.69	359.53	10004.46	1282.36	1260.60	475.98	0.52	447684.21	699539.70	N 32 13 47.01	W 103 49 18.15
	11671.00	89.59	0.89	10005.06	1377.25	1355.60	476.33	1.44	447779.20	699540.05	N 32 13 47.95	W 103 49 18.14
	11861.00	89.52	0.89	10006.53	1567.14	1545.57	479.28	0.04	447969.16	699543.00	N 32 13 49.83	W 103 49 18.09
	11955.00	89.55	0.98	10007.30	1661.09	1639.55	480.81	0.10	448063.14	699544.53	N 32 13 50.76	W 103 49 18.07
	12050.00	89.59	0.71	10008.01	1756.03	1734.54	482.22	0.29	448158.12	699545.93	N 32 13 51.70	W 103 49 18.05
	12240.00	89.83	0.45	10008.97	1945.89	1924.53	484.14	0.19	448348.09	699547.86	N 32 13 53.58	W 103 49 18.01
	12429.00	90.21	1.39	10008.91	2134.78	2113.50	487.17	0.54	448537.05	699550.89	N 32 13 55.45	W 103 49 17.97
	12619.00	90.24	1.02	10008.16	2324.71	2303.45	491.17	0.20	448727.00	699554.89	N 32 13 57.33	W 103 49 17.91
	12713.00	90.10	1.39	10007.88	2418.67	2397.43	493.15	0.42	448820.97	699556.86	N 32 13 58.26	W 103 49 17.88
	12902.00	90.21	1.74	10007.37	2607.62	2586.36	498.31	0.19	449009.89	699562.03	N 32 14 0.13	W 103 49 17.81
	12997.00	89.97	1.49	10007.22	2702.60	2681.32	500.99	0.36	449104.84	699564.70	N 32 14 1.07	W 103 49 17.78
	13185.00	89.66	0.72	10007.83	2890.52	2869.29	504.61	0.44	449292.79	699568.33	N 32 14 2.92	W 103 49 17.72
	13376.00	89.69	0.99	10008.91	3081.40	3060.26	507.46	0.14	449483.75	699571.18	N 32 14 4.81	W 103 49 17.68
	13566.00	89.35	0.08	10010.50	3271.25	3250.24	509.23	0.51	449673.73	699572.95	N 32 14 6.69	W 103 49 17.65
	13755.00	89.04	1.34	10013.16	3460.10	3439.21	511.58	0.69	449862.68	699575.29	N 32 14 8.56	W 103 49 17.61
	13850.00	89.24	1.05	10014.58	3555.05	3534.18	513.56	0.37	449957.64	699577.27	N 32 14 9.50	W 103 49 17.58
	13945.00	89.18	0.41	10015.89	3649.98	3629.16	514.77	0.68	450052.61	699578.48	N 32 14 10.44	W 103 49 17.56
	14039.00	89.17	0.39	10017.25	3743.89	3723.15	515.42	0.02	450146.60	699579.14	N 32 14 11.37	W 103 49 17.55
	14133.00	89.17	0.31	10018.61	3837.79	3817.13	516.00	0.09	450240.58	699579.71	N 32 14 12.30	W 103 49 17.54
	14228.00	90.21	2.30	10019.12	3932.75	3912.10	518.16	2.36	450335.54	699581.88	N 32 14 13.24	W 103 49 17.51
	14322.00	90.17	0.13	10018.81	4026.71	4006.08	520.15	2.31	450429.51	699583.87	N 32 14 14.17	W 103 49 17.48
	14510.00	90.14	357.14	10018.30	4214.19	4194.00	515.68	1.59	450617.42	699579.39	N 32 14 16.03	W 103 49 17.52
	14603.00	89.93	358.53	10018.25	4306.84	4286.93	512.16	1.51	450710.35	699575.88	N 32 14 16.95	W 103 49 17.56
	14699.00	90.07	358.33	10018.25	4402.56	4382.90	509.53	0.25	450806.30	699573.25	N 32 14 17.90	W 103 49 17.58
	14793.00	89.97	358.30	10018.21	4496.27	4476.85	506.77	0.11	450900.26	699570.49	N 32 14 18.83	W 103 49 17.61
	14887.00	90.03	357.93	10018.21	4589.96	4570.80	503.68	0.40	450994.20	699567.39	N 32 14 19.76	W 103 49 17.64
	15076.00	90.86	0.52	10016.74	4778.57	4759.76	501.12	1.44	451183.15	699564.84	N 32 14 21.63	W 103 49 17.66
	15264.00	89.48	358.20	10016.19	4966.21	4947.73	499.02	1.44	451371.10	699562.74	N 32 14 23.49	W 103 49 17.67
	15358.00	89.93	357.47	10016.67	5059.85	5041.66	495.47	0.91	451465.03	699559.19	N 32 14 24.42	W 103 49 17.71
	15452.00	89.48	358.36	10017.16	5153.51	5135.60	492.05	1.06	451558.96	699555.77	N 32 14 25.35	W 103 49 17.74
	15548.00	89.69	357.46	10017.85	5249.16	5231.53	488.55	0.96	451654.88	699552.27	N 32 14 26.30	W 103 49 17.78
	15735.00	89.45	0.65	10019.25	5435.73	5418.48	485.47	1.71	451841.82	699549.18	N 32 14 28.15	W 103 49 17.80
	15831.00	89.55	359.76	10020.09	5531.62	5514.47	485.81	0.93	451937.81	699549.53	N 32 14 29.10	W 103 49 17.80
	15926.00	89.21	0.30	10021.12	5626.51	5609.47	485.86	0.67	452032.79	699549.58	N 32 14 30.04	W 103 49 17.79
	16020.00	89.59	0.11	10022.10	5720.40	5703.46	486.19	0.45	452126.78	699549.91	N 32 14 30.97	W 103 49 17.78
	16114.00	88.97	1.31	10023.29	5814.33	5797.44	487.36	1.44	452220.76	699551.08	N 32 14 31.90	W 103 49 17.76
	16302.00	89.66	359.81	10025.53	6002.17	5985.41	489.20	0.88	452408.72	699552.92	N 32 14 33.76	W 103 49 17.73
	16397.00	90.14	359.94	10025.70	6097.04	6080.41	488.99	0.52	452503.71	699552.71	N 32 14 34.70	W 103 49 17.73
	16587.00	89.59	0.80	10026.15	6286.87	6270.41	490.22	0.54	452693.69	699553.93	N 32 14 36.58	W 103 49 17.70
	16679.00	90.14	1.32	10026.36	6378.83	6362.39	491.92	0.82	452785.67	699555.64	N 32 14 37.49	W 103 49 17.68
	16773.00	89.86	0.99	10026.53	6472.79	6456.37	493.81	0.62	452879.64	699557.53	N 32 14 38.42	W 103 49 17.65
	16868.00	90.14	0.73	10026.69	6567.73	6551.36	495.24	0.57	452974.63	699558.96	N 32 14 39.36	W 103 49 17.63
	16962.00	89.52	0.74	10026.97	6661.67	6645.35	496.44	0.66	453068.61	699560.16	N 32 14 40.29	W 103 49 17.61
	17054.00	90.14	0.87	10027.25	6753.61	6737.34	497.74	0.69	453160.60	699561.46	N 32 14 41.20	W 103 49 17.59
	17150.00	89.62	0.74	10027.45	6849.56	6833.33	499.09	0.56	453256.58	699562.80	N 32 14 42.15	W 103 49 17.57
	17245.00	89.83	0.55	10027.90	6944.49	6928.32	500.16	0.30	453351.57	699563.87	N 32 14 43.09	W 103 49 17.55
	17433.00	90.34	2.37	10027.62	7132.43	7116.25	504.95	1.01	453539.48	699568.66	N 32 14 44.95	W 103 49 17.48
	17514.00	89.79	0.84	10027.53	7213.41	7197.22	507.21	2.01	453620.44	699570.93	N 32 14 45.75	W 103 49 17.45
	17621.00	90.14	0.91	10027.60	7320.35	7304.21	508.85	0.33	453727.42	699572.56	N 32 14 46.81	W 103 49 17.43
	17719.00	89.69	0.84	10027.74	7418.29	7402.19	510.34	0.46	453825.41	699574.06	N 32 14 47.78	W 103 49 17.41
	17904.00	89.69	0.82	10028.74	7603.18	7587.17	513.02	0.01	454010.37	699576.74	N 32 14 49.61	W 103 49 17.36
	17997.00	89.69	0.53	10029.25	7696.11	7680.16	514.12	0.31	454103.36	699577.84	N 32 14 50.53	W 103 49 17.35
	18185.00	89.69	1.53	10030.26	7884.02	7868.13	517.50	0.53	454291.31	699581.22	N 32 14 52.39	W 103 49 17.30
	18280.00	89.69	0.94	10030.78	7978.98	7963.10	519.55	0.62	454386.28	699583.26	N 32 14 53.33	W 103 49 17.27
	18467.00	89.66	1.18	10031.84	8165.89	8150.07	523.01	0.13	454573.23	699586.72	N 32 14 55.18	W 103 49 17.22
	18562.00	89.66	359.01	10032.40	8260.78	8245.06	523.16	2.28	454668.22	699586.88	N 32 14 56.12	W 103 49 17.21
	18656.00	89.93	359.51	10032.74	8354.60	8339.05	521.95	0.60	454762.21	699585.67	N 32 14 57.05	W 103 49 17.22
	18845.00	89.86	0.08	10033.08	8543.34	8528.05	521.27	0.30	454951.19	699584.99	N 32 14 58.92	W 103 49 17.22
	18939.00	90.17	359.10	10033.06	8637.19	8622.05	520.60	1.09	455045.18	699584.32	N 32 14 59.85	W 103 49 17.22
	19132.00	89.79	359.18	10033.13	8829.79	8815.02	517.70	0.20	455238.15	699581.42	N 32 15 1.76	W 103 49 17.24
	19321.00	89.83	359.38	10033.75	9018.43	9004.01	515.33	0.11	455427.12	699579.05	N 32 15 3.63	W 103 49 17.26
	19510.00	90.28	359.33	10033.57	9207.09	9193.00	513.20	0.24	455616.09	699576.92	N 32 15 5.50	W 103 49 17.27
	19699.00	89.93	359.45	10033.23	9395.76	9381.98	511.19	0.20	455805.07	699574.91	N 32 15 7.37	W 103 49 17.29
	19794.00	89.66	359.03	10033.57	9490.57	9476.98	509.93	0.53	455900.06	699573.65	N 32 15 8.31	W 103 49 17.29
Final MWD Survey	19950.00	90.10	359.00	10033.89	9646.23	9632.95	507.25	0.28	456056.02	699570.96	N 32 15 9.85	W 103 49 17.32

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 ° ' ")
Proj. to bit	20085.00	90.10	359.00	10033.66	9760.93	9767.93	504.89	0.00	456190.99	699568.61	N 32 15 11.19	W 103 49 17.34

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 Palladium MDP1 7-6 Federal Com 2H Gyro+MWD 0-20085 ftMD
	1	26.500	26.500	Act Stns	30.000	30.000	NAL_NSG+MSHOT-Depth Only	Original Borehole / Oxy Palladium MDP1 7-6 Federal Com 2H Gyro+MWD 0-20085 ftMD
	1	26.500	9422.200	Act Stns	30.000	30.000	NAL_NSG+MSHOT	Original Borehole / Oxy Palladium MDP1 7-6 Federal Com 2H
	1	9422.200	20085.000	Act Stns	30.000	30.000	NAL_MWD_PLUS_0.5_DEG	Original Borehole / Oxy Palladium MDP1 7-6 Federal Com 2H

Final PvA H&P 656 (RKB=26.5')

Schlumberger

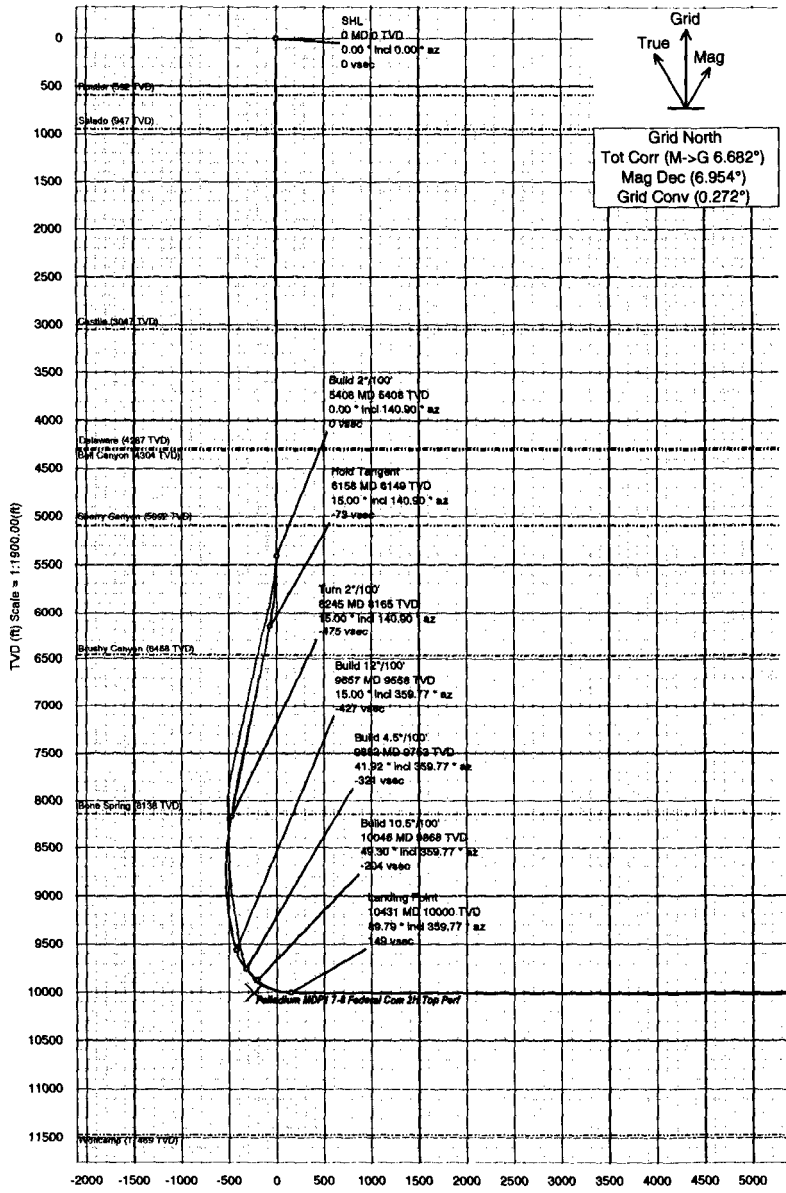
OXY

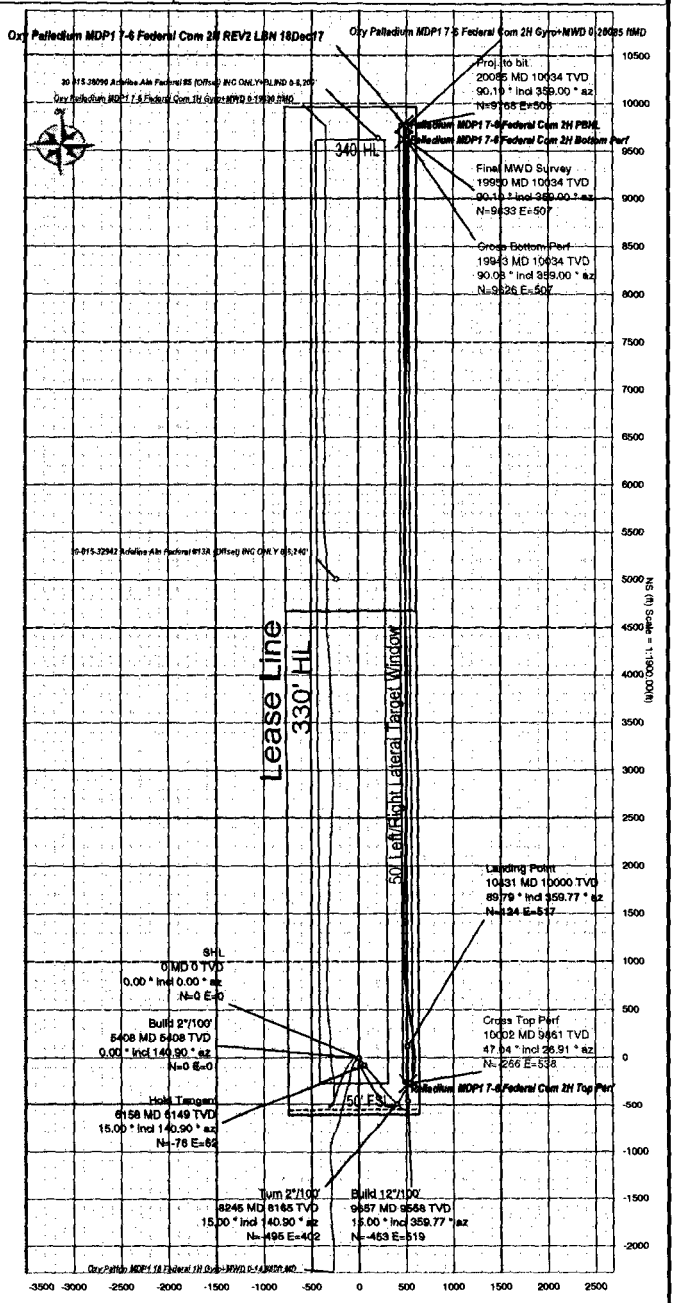
Borehole:	Well:	Field:	Structure:
Original Borehole	Oxy Palladium MDP1 7-6 Federal Com 2H	NM Eddy County (NAD 83)	Oxy Palladium MDP1 7-6 Federal Com 2H

Gravity & Magnetic Parameters
Model: HDGM 2017 Dip: 59.991° Date: 16-Dec-2017
MagDec: 6.954° FS: 48094.646nT Gravity FS: 998.426mgn (9.80665 Based)

Surface Location NAD83 New Mexico State Plane, Eastern Zone, US Feet
Lat: N 32 13 34.86 Northing: 448423.99ftUS Grid Conv: 0.272°
Lon: W 103 49 33.76 Easting: 689063.75ftUS Scale Fact: 0.99993758

Miscellaneous
Oxy Palladium
Slot: MDP1 7-6 Federal TVD Ref: RKB=26.5'(3887.4ft above MSL)
Plan: Oxy Palladium MDP1 7-6 Federal Com 2H REV2 LBN 18Dec17





Vertical Section (ft) Azim = 2.80° Scale = 1:1900.00(ft) Origin = 0N/-S, 0E/-W