

Schlumberger Drilling and Measurements
Drilling Group
Geo Market Area: South West Texas Basin
7220 W I-H 20
Midland, Texas 79706
Phone : (432) 742-5400 (Main)
Fax : (432) 742-5606 (Shared)

Schlumberger

30-01544457

Well Reference:
18, 24S, 31E, Eddy NM
N 32.22413 E 103.81847

I, Kurt Valentine certify that; I am employed by Drilling & Measurements, a division of Schlumberger Technology Corporation; that I did on the day(s) of October 21, 2017 through November 04, 2017, conduct or supervise the taking of the TelePacer & SlimPulse surveys from a depth of 753.00 feet to a depth of 20073.00 feet referenced to driller's depth; that the data is true, correct, complete and within the limitations of the tool as set forth by Drilling & Measurements, a division of Schlumberger Technology Corporation; that I am authorized and qualified to make this report; that this survey was conducted at the request of OXY USA, Inc. for the Palladium MDP1 7-6 Federal Com 3Y Well (Original Hole) API No. 30-015-44457 in New Mexico; and that I have reviewed this report and find that it conforms to the principals and procedures as set forth by Drilling & Measurements, a division of Schlumberger Technology Corporation.

By Kurt Valentine
Kurt Valentine
FS

Subscribed and Sworn to before me this 20th day of November (month) 2017 (yr)

My Commission expires:

12-20-2020

J. Allemand
Notary Public

Adams County Colorado
(County State)

JENNIFER ALLEMAND
(signature) Notary Public
State of Colorado
Notary ID #20164047962
My Commission Expires 12-20-2020

Schlumberger**OXY**

Borehole:

Well:

Field:

Structure:

Original Borehole

Oxy Palladium MDP1 7-6 Federal Com 3Y

NM Eddy County (NAD 83)

Oxy Palladium MDP1 7-6 Federal Com 3Y

Gravity & Magnetic Parameters

Model: HGM 2017

Dip: 59.991°

Date: 23-Oct-2017

Gravity: 9.806 428m/s² (8.0665 Based)

Surface Location

NAD83 New Mexico State Plane, Eastern Zone, US Feet

Lat: N 32 13 26.86

Northing: 445633.104US

Grid Conv: 0.3743°

Scale Fact: 0.9999312

Miscellaneous

Skirt: Oxy Palladium MDP1

TVD Ref: RKB=26.5 (12860 ft above MSL)

Plan: Oxy Palladium MDP1 7-6 Federal Com 3Y REV1 LBN 23Oct17

Surface Location

Nothing: 445633.15

Easting: 700550.02

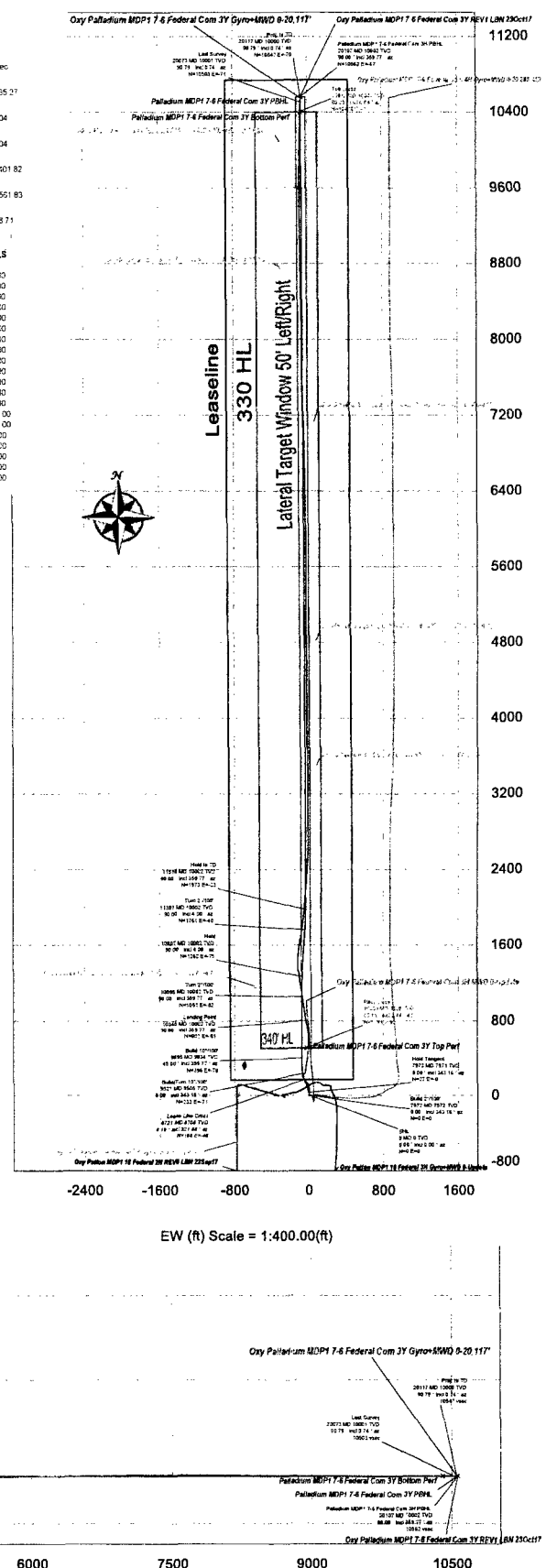
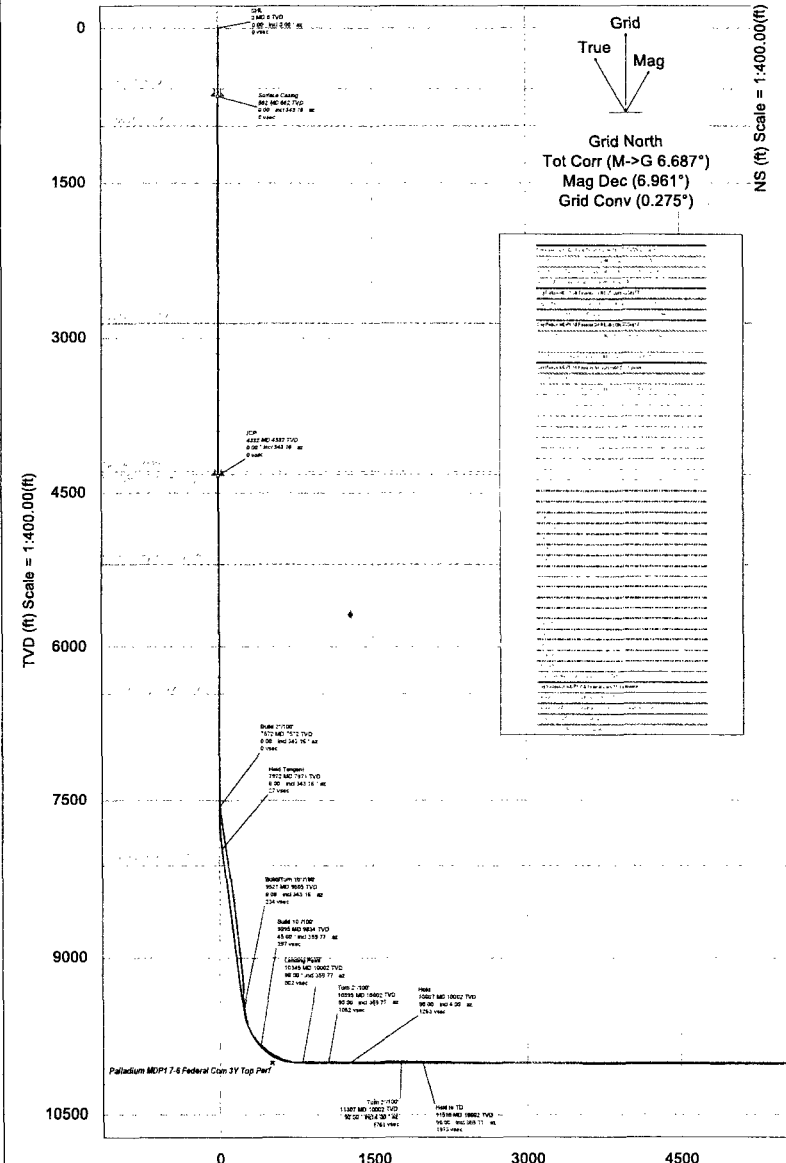
Latitude: N 32 13 26.86

Longitude: W 103 49 6.50

VSec Azimuth: 359.83

Target Name	Shape	Dimension	Latitude	Longitude	Northing	Easting	TVD	VSec
Palladium MDP1 7-6 Federal Com 3H Lateral Target Window	Rectangle	10053.15 x 100.00	N 32 14 21.63	W 103 49 6.74	451187.58	700502.57	-1000.00	5535.27
Oxy Palladium MDP1 7-6 Federal Com 3H Lateral	Polyline	N/A	N 32 13 26.86	W 103 49 6.15	445653.30	700580.02	3550.50	-0.04
Oxy Palladium MDP1 7-6 Federal Com 3H Lateral	Polyline	N/A	N 32 13 26.86	W 103 49 6.15	445653.30	700580.02	3550.50	0.04
Palladium MDP1 7-6 Federal Com 3Y Bottom Perf	Point	N/A	N 32 15 9.79	W 103 49 6.69	455540.03	700483.17	10002.00	10401.82
Palladium MDP1 7-6 Federal Com 3Y PEBL	Point	N/A	N 32 15 11.37	W 103 49 6.69	456214.09	700482.53	10002.00	10551.83
Palladium MDP1 7-6 Federal Com 3Y Top Perf	Point	N/A	N 32 13 31.90	W 103 49 6.79	446151.66	700522.81	10002.00	508.71

Critical Point	MD	INCL	AZIM	TVD	VSEC	N(H)SE	E(H)NW	DLS
SHL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rustler	591.00	0.00	343.16	591.00	0.00	0.00	0.00	0.00
Surface Casag	662.00	0.00	343.16	662.00	0.00	0.00	0.00	0.00
Salado	661.00	0.00	343.16	661.00	0.00	0.00	0.00	0.00
Casale	2861.00	0.00	343.16	2861.00	0.00	0.00	0.00	0.00
Delaware	4292.00	0.00	343.16	4292.00	0.00	0.00	0.00	0.00
Bell Canyon	4324.00	0.00	343.16	4324.00	0.00	0.00	0.00	0.00
CDP	4332.00	0.00	343.16	4332.00	0.00	0.00	0.00	0.00
Cherry Canyon	5189.00	0.00	343.16	5189.00	0.00	0.00	0.00	0.00
Brushy Canyon	5481.00	0.00	343.16	5481.00	0.00	0.00	0.00	0.00
Black 2 H2O	7572.00	0.00	343.16	7572.00	0.00	0.00	0.00	0.00
Hole Tangent	7572.00	8.00	343.16	7572.00	26.74	25.98	-5.68	2.00
Bone Spring	8130.84	8.00	343.16	8130.84	47.93	47.84	-14.48	0.00
Buildup 10 H2O	9521.49	8.00	343.16	9521.49	233.53	233.58	70.55	0.00
Buildup 10 H2O	9895.38	45.00	359.77	9895.38	2834.19	2834.00	-78.92	10.00
Landing Point	10345.38	90.00	359.77	10345.38	801.64	801.14	-80.54	10.00
Turn 2 H2O	10595.38	90.00	359.77	10595.38	1051.64	1051.14	-81.55	0.00
Hole	10636.68	90.00	359.77	10636.68	1252.00	1252.47	-74.59	2.00
Turn 2 H2O	11326.68	90.00	359.77	11326.68	1761.47	1761.26	-39.71	0.00
Hole	11518.47	90.00	359.77	11518.47	1972.86	1972.68	-32.76	2.00
Buildup 10 H2O	20127.47	90.00	359.77	20127.47	12561.83	12561.61	-67.49	0.00
WSPump	N/A	N/A	N/A	N/A	11449.30			



Oxy Palladium MDP1 7-6 Federal Com 3Y Gyro+MWD 0- Survey Geodetic Report

(Def Survey)



Report Date: November 07, 2017 - 04:07 PM
 Client: OXY
 Field: NM Eddy County (NAD 83)
 Structure / Slot: Oxy Palladium MDP1 7-6 Federal Com 3Y / Oxy Palladium MDP1 7-6 Federal Com 3Y
 Well: Oxy Palladium MDP1 7-6 Federal Com 3Y
 Borehole: Original Borehole
 UWI / API#: Unknown / Unknown
 Survey Name: Oxy Palladium MDP1 7-6 Federal Com 3Y Gyro+MWD 0-20,117'
 Survey Date: October 23, 2017
 Tort / AHD / DDI / ERD Ratio: 212.224' / 10618.705 ft / 6.656' / 1.061
 Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
 Location Lat / Long: N 32° 13' 26.86193", W 103° 49' 6.49712"
 Location Grid N/E Y/X: N 445653.150 ftUS, E 700550.020 ftUS
 CRS Grid Convergence Angle: 0.2745°
 Grid Scale Factor: 0.99993812
 Version / Patch: 2.10.565.0

Survey / DLS Computation: Minimum Curvature / Lubinski
 Vertical Section Azimuth: 359.634° (Grid North)
 Vertical Section Origin: 0.000 ft, 0.000 ft
 TVD Reference Datum: RKB=26.5'
 TVD Reference Elevation: 3560.500 ft above MSL
 Seabed / Ground Elevation: 3534.000 ft above MSL
 Magnetic Declination: 6.961°
 Total Gravity Field Strength: 998.4276mgn (9.80665 Based)
 Gravity Model: GARM
 Total Magnetic Field Strength: 48080.745 nT
 Magnetic Dip Angle: 59.991°
 Declination Date: October 23, 2017
 Magnetic Declination Model: HDGM 2017
 North Reference: Grid North
 Grid Convergence Used: 0.2745°
 Total Corr Mag North→Grid: 6.8869°
 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	445653.15	700550.02	N 32 13 26.86 W 103 49	6.50
	57.69	0.56	285.89	57.69	0.08	0.08	-0.27	0.97	445653.23	700549.75	N 32 13 26.86 W 103 49	6.50
	143.99	0.76	262.34	143.98	0.12	0.12	-1.24	0.39	445653.27	700548.78	N 32 13 26.86 W 103 49	6.51
	233.50	1.14	264.35	233.48	-0.03	-0.05	-2.72	0.43	445653.10	700547.30	N 32 13 26.86 W 103 49	6.53
	328.20	1.05	262.73	328.16	-0.22	-0.25	-4.52	0.10	445652.90	700545.50	N 32 13 26.86 W 103 49	6.55
	422.93	1.00	255.28	422.88	-0.53	-0.57	-6.18	0.15	445652.58	700543.84	N 32 13 26.86 W 103 49	6.57
	514.72	0.80	242.72	514.66	-1.02	-1.07	-7.52	0.30	445652.08	700542.50	N 32 13 26.85 W 103 49	6.58
	612.05	0.68	235.55	611.98	-1.65	-1.71	-8.60	0.16	445651.44	700541.42	N 32 13 26.85 W 103 49	6.60
	625.50	0.79	236.77	625.43	-1.75	-1.80	-8.74	0.83	445651.35	700541.28	N 32 13 26.84 W 103 49	6.60
	753.00	0.20	258.82	752.92	-2.27	-2.33	-9.70	0.48	445650.82	700540.32	N 32 13 26.84 W 103 49	6.61
	938.00	0.18	274.73	937.92	-2.30	-2.37	-10.30	0.03	445650.78	700539.72	N 32 13 26.84 W 103 49	6.62
	1031.00	0.11	282.52	1030.92	-2.27	-2.34	-10.54	0.08	445650.81	700539.48	N 32 13 26.84 W 103 49	6.62
	1123.00	0.11	38.13	1122.92	-2.18	-2.25	-10.57	0.20	445650.90	700539.45	N 32 13 26.84 W 103 49	6.62
	1216.00	0.11	315.46	1215.92	-2.05	-2.11	-10.58	0.16	445651.04	700539.44	N 32 13 26.84 W 103 49	6.62
	1401.00	0.11	248.07	1400.92	-1.98	-2.05	-10.87	0.07	445651.10	700539.15	N 32 13 26.84 W 103 49	6.62
	1496.00	0.11	226.72	1495.92	-2.08	-2.15	-11.02	0.04	445651.00	700539.00	N 32 13 26.84 W 103 49	6.63
	1686.00	0.11	137.35	1685.92	-2.34	-2.41	-11.03	0.08	445650.74	700538.99	N 32 13 26.84 W 103 49	6.63
	1780.00	0.11	331.49	1779.92	-2.33	-2.40	-11.01	0.23	445650.75	700539.01	N 32 13 26.84 W 103 49	6.63
	1967.00	0.11	323.08	1966.92	-2.02	-2.10	-11.20	0.01	445651.06	700538.82	N 32 13 26.84 W 103 49	6.63
	2061.00	0.11	119.63	2060.92	-2.00	-2.07	-11.18	0.23	445651.08	700538.84	N 32 13 26.84 W 103 49	6.63
	2156.00	0.06	185.53	2155.92	-2.09	-2.16	-11.10	0.11	445650.99	700538.92	N 32 13 26.84 W 103 49	6.63
	2250.00	0.08	194.61	2249.92	-2.20	-2.27	-11.12	0.02	445650.88	700538.90	N 32 13 26.84 W 103 49	6.63
	2344.00	0.06	53.02	2343.92	-2.24	-2.31	-11.10	0.14	445650.84	700538.92	N 32 13 26.84 W 103 49	6.63
	2438.00	0.17	60.47	2437.92	-2.14	-2.21	-10.94	0.12	445650.94	700539.08	N 32 13 26.84 W 103 49	6.62
	2533.00	0.23	26.13	2532.92	-1.90	-1.97	-10.73	0.14	445651.18	700539.29	N 32 13 26.84 W 103 49	6.62
	2627.00	0.13	82.83	2626.92	-1.72	-1.79	-10.55	0.20	445651.36	700539.48	N 32 13 26.84 W 103 49	6.62
	2721.00	0.17	286.87	2720.92	-1.67	-1.73	-10.57	0.31	445651.42	700539.45	N 32 13 26.85 W 103 49	6.62
	2816.00	0.11	320.60	2815.92	-1.55	-1.62	-10.77	0.10	445651.53	700539.25	N 32 13 26.85 W 103 49	6.62
	2910.00	0.06	256.73	2909.92	-1.49	-1.56	-10.87	0.11	445651.59	700539.15	N 32 13 26.85 W 103 49	6.62
	3004.00	0.11	211.78	3003.92	-1.58	-1.65	-10.97	0.08	445651.50	700539.05	N 32 13 26.85 W 103 49	6.62
	3098.00	0.11	288.80	3097.92	-1.63	-1.70	-11.10	0.15	445651.45	700538.92	N 32 13 26.85 W 103 49	6.63
	3193.00	0.11	115.18	3192.92	-1.64	-1.71	-11.10	0.23	445651.44	700538.92	N 32 13 26.85 W 103 49	6.63
	3287.00	0.11	279.94	3286.92	-1.66	-1.73	-11.11	0.23	445651.42	700538.91	N 32 13 26.85 W 103 49	6.63
	3381.00	0.11	105.85	3380.92	-1.67	-1.74	-11.11	0.23	445651.41	700538.91	N 32 13 26.85 W 103 49	6.63
	3476.00	0.11	262.75	3475.92	-1.71	-1.78	-11.12	0.23	445651.37	700538.91	N 32 13 26.84 W 103 49	6.63
	3570.00	0.18	285.94	3569.92	-1.67	-1.75	-11.35	0.10	445651.40	700538.67	N 32 13 26.85 W 103 49	6.63
	3664.00	0.11	358.47	3663.92	-1.54	-1.62	-11.49	0.19	445651.53	700538.53	N 32 13 26.85 W 103 49	6.63
	3853.00	0.11	351.91	3852.92	-1.18	-1.26	-11.52	0.01	445651.89	700538.50	N 32 13 26.85 W 103 49	6.63
	3947.00	0.11	263.23	3946.92	-1.10	-1.18	-11.62	0.16	445651.97	700538.40	N 32 13 26.85 W 103 49	6.63
	4041.00	0.11	8.44	4040.92	-1.02	-1.10	-11.70	0.19	445652.05	700538.32	N 32 13 26.85 W 103 49	6.63
	4136.00	0.11	98.58	4135.92	-0.95	-1.02	-11.60	0.16	445652.13	700538.42	N 32 13 26.85 W 103 49	6.63
	4244.00	0.11	281.48	4243.92	-0.94	-1.02	-11.60	0.20	445652.13	700538.43	N 32 13 26.85 W 103 49	6.63
	4441.00	0.06	246.79	4440.92	-0.94	-1.02	-11.88	0.04	445652.13	700538.15	N 32 13 26.85 W 103 49	6.64
	4536.00	0.00	270.13	4535.92	-0.96	-1.04	-11.92	0.06	445652.11	700538.10	N 32 13 26.85 W 103 49	6.64
	4630.00	0.00	248.60	4629.92	-0.96	-1.04	-11.92	0.00	445652.11	700538.10	N 32 13 26.85 W 103 49	6.64
	4724.00	0.00	191.91	4723.92	-0.96	-1.04	-11.92	0.00	445652.11	700538.10	N 32 13 26.85 W 103 49	6.64
	4818.00	0.00	302.96	4817.92	-0.96	-1.04	-11.92	0.00	445652.11	700538.10	N 32 13 26.85 W 103 49	6.64
	4913.00	0.00	223.79	4912.92	-0.96	-1.04	-11.92	0.00	445652.11	700538.10	N 32 13 26.85 W 103 49	6.64
	5007.00	0.00	134.51	5006.92	-0.96	-1.04	-11.92	0.00	445652.11	700538.10	N 32 13 26.85 W 103 49	6.64
	5102.00	0.00	90.72	5101.92	-0.96	-1.04	-11.92	0.00	445652.11	700538.10	N 32 13 26.85 W 103 49	6.64
	5196.00	0.00	275.28	5195.92	-0.96	-1.04	-11.92	0.00	445652.11	700538.10	N 32 13 26.85 W 103 49	6.64
	5290.00	0.00	118.17	5289.92	-0.96	-1.04	-11.92	0.00	445652.11	700538.10	N 32 13 26.85 W 103 49	6.64
	5385.00	0.06	331.69	5384.92	-0.92	-1.00	-11.94	0.06	445652.15	700538.08	N 32 13 26.85 W 103 49	6.64
	5479.00	0.00	47.84	5478.92	-0.88	-0.95	-11.97	0.06	445652.20	700538.05	N 32 13 26.85 W 103 49	6.64
	5574.00	0.00	218.98	5573.92	-0.88	-0.95	-11.97	0.00	445652.20	700538.05	N 32 13 26.85 W 103 49	6.64
	5668.00	0.00	66.49	5667.92	-0.88	-0.95	-11.97	0.00	445652.20	700538.05	N 32 13 26.85 W 103 49	6.64
	5763.00	0.00	85.25	5762.92	-0.88	-0.95	-11.97	0.00	445652.20	700538.05	N 32 13 26.85 W 103 49	6.64
	5857.00	0.06	263.28	5856.92	-0.88	-0.96	-12.02	0.06	445652.19	700538.00	N 32 13 26.85 W 103 49	6.64
	5951.00	0.00	66.12	5950.92	-0.89	-0.96	-12.07	0.06	445652.19	700537.95	N 32 13 26.85 W 103 49	6.64
	6043.00	0.00	276.69	6042.92	-0.89	-0.96	-12.07	0.00	445652.19	700537.95	N 32 13 26.85 W 103 49	6.64
	6140.00	0.00	112.02	6139.92	-0.89	-0.96	-12.07	0.00	445652.19	700537.95	N 32 13 26.85 W 103 49	6.64
	6234.00	0.00	112.29	6233.92	-0.89	-0.96	-12.07	0.00	445652.19	700537.95	N 32 13 26.85 W 103 49	6.64
	6329.00	0.00	128.19	6328.92	-0.89	-0.96	-12.07	0.00	445652.19	700537.95	N 32 13 26.85 W 103 49	6.64
	6423.00	0.00	27.68	6422.92	-0.89	-0.96	-12.07	0.00	445652.19	700537.95	N 32 13 26.85 W 103 49	6.64
	6518.00	0.00	94.70	6517.92	-0.89	-0.96	-12.07	0.00	445652.19	700537.95	N 32 13 26.85 W 103 49	6.64
	6612.00	0.00	337.03	6611.92	-0.89	-0.96	-12.07	0.00	445652.19	700537.95	N 32 13 26.85 W 103 49	6.64
	6706.00	0.00	177.04	6705.92	-0.89	-0.96	-12.07	0.00	445652.19	700537.95	N 32 13 26.85 W 103 49	6.64
	6801.00	0.00	266.61	6800.92	-0.89	-0.96	-12.07	0.00	445652.19	700537.95	N 32 13 26.85 W 103 49	6.64
	6990.00	0.00	2.39	6989.92	-0.89	-0.96	-12.07	0.00	445652.19	700537.95	N 32 13 26.85 W 103 49	6.64
	7179.00	0.00	211.22	7178.92	-0.89	-0.96	-12.07	0.00	445652.19	700537.95	N 32 13 26.85 W 103 49	6.64
	7273.00	0.00	36.29	7272.92	-0.89	-0.96	-12.07	0.00	445652.19	700537.95	N 32 13 26.85 W 103 49	6.64
	7366.00	0.00	168.83	7365.92	-0.89	-0.96	-12.07	0.00	445652.19	700537.95	N 32 13 26.85 W 103 49	6.64
	7432.00	1.17	26.00	7431.91	-0.28	-0.36	-11.77	1.77	445652.79	700538.25	N 32 13 26.86 W 103 49	6.63
	7461.00	1.93	25.27	7460.90	0.42	0.35	-11.43	2.62	445653.50	700538.59	N 32 13 26.87 W 103 49	6

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 ° ' '')
	7933.00	9.04	355.64	7928.75	59.30	59.27	-5.15	0.64	445712.41	700544.87	N 32 13 27.45 W 103 49	6.55
	8027.00	9.08	352.59	8021.57	74.03	73.99	-6.67	0.51	445727.13	700543.35	N 32 13 27.59 W 103 49	6.57
	8122.00	8.75	348.83	8115.43	88.56	88.51	-9.04	0.70	445741.65	700540.98	N 32 13 27.74 W 103 49	6.60
	8216.00	8.82	344.93	8208.33	102.56	102.48	-12.30	0.64	445755.63	700537.72	N 32 13 27.88 W 103 49	6.63
	8310.00	8.53	341.74	8301.25	116.16	116.06	-16.35	0.60	445769.20	700533.67	N 32 13 28.01 W 103 49	6.68
	8404.00	8.95	338.78	8394.16	129.63	129.50	-21.19	0.65	445782.64	700528.84	N 32 13 28.14 W 103 49	6.74
	8498.00	8.48	330.00	8487.08	142.49	142.32	-27.30	1.50	445795.46	700522.72	N 32 13 28.27 W 103 49	6.81
	8687.00	8.07	320.29	8674.12	164.86	164.59	-42.74	0.77	445817.73	700507.28	N 32 13 28.49 W 103 49	6.99
	8781.00	8.42	324.56	8767.15	175.60	175.27	-50.95	0.75	445828.41	700499.07	N 32 13 28.60 W 103 49	7.08
	8875.00	8.10	327.51	8860.17	186.84	186.47	-58.50	0.56	445839.61	700491.53	N 32 13 28.71 W 103 49	7.17
	8970.00	8.05	327.16	8954.23	198.12	197.70	-65.70	0.07	445850.84	700484.33	N 32 13 28.82 W 103 49	7.25
	9064.00	8.32	345.72	9047.29	210.27	209.82	-70.95	2.81	445862.96	700479.08	N 32 13 28.94 W 103 49	7.31
	9158.00	7.01	16.30	9141.48	222.50	222.06	-71.01	4.45	445875.19	700479.01	N 32 13 29.06 W 103 49	7.31
	9253.00	6.36	60.56	9234.90	230.53	230.12	-64.87	5.39	445883.26	700485.16	N 32 13 29.14 W 103 49	7.24
	9382.00	4.90	102.38	9363.32	232.79	232.46	-53.26	3.29	445885.59	700496.77	N 32 13 29.16 W 103 49	7.10
	9476.00	5.45	43.66	9457.00	235.12	234.83	-46.25	5.42	445887.96	700503.77	N 32 13 29.19 W 103 49	7.02
	9571.00	11.26	13.60	9550.99	247.38	247.12	-40.95	7.46	445900.26	700509.07	N 32 13 29.31 W 103 49	6.96
	9665.00	19.41	10.02	9641.57	271.69	271.46	-36.06	8.72	445924.60	700513.96	N 32 13 29.55 W 103 49	6.90
	9759.00	29.98	10.86	9726.85	310.20	310.02	-28.90	11.25	445963.15	700521.12	N 32 13 29.93 W 103 49	6.82
	9853.00	37.91	6.77	9804.78	361.98	361.85	-21.06	8.77	446014.98	700528.96	N 32 13 30.44 W 103 49	6.72
	9947.00	45.92	4.92	9874.68	424.36	424.27	-14.75	8.62	446077.39	700535.27	N 32 13 31.06 W 103 49	6.65
	9978.00	50.36	4.52	9895.36	447.35	447.27	-12.85	14.35	446100.40	700537.17	N 32 13 31.29 W 103 49	6.62
	10042.00	58.55	2.74	9932.53	499.20	499.20	-9.60	12.99	446152.32	700540.42	N 32 13 31.80 W 103 49	6.58
	10136.00	72.09	0.45	9971.70	584.41	584.38	-7.32	14.57	446237.49	700542.70	N 32 13 32.64 W 103 49	6.55
	10230.00	82.07	353.74	9992.71	675.76	675.70	-12.06	12.69	446328.81	700537.96	N 32 13 33.55 W 103 49	6.60
	10325.00	94.58	348.60	9995.48	769.47	769.31	-26.62	14.23	446422.42	700523.40	N 32 13 34.48 W 103 49	6.76
	10519.00	88.69	351.18	9989.95	960.49	960.13	-60.63	3.31	446613.21	700489.39	N 32 13 36.37 W 103 49	7.15
	10653.00	88.87	351.34	9992.80	1093.03	1092.54	-80.99	0.18	446745.62	700469.03	N 32 13 37.68 W 103 49	7.38
	10842.00	89.97	352.25	9994.72	1280.25	1279.59	-107.96	0.76	446932.66	700442.07	N 32 13 39.53 W 103 49	7.68
	11032.00	91.58	3.84	9992.14	1469.83	1469.13	-114.44	6.16	447122.19	700435.59	N 32 13 41.40 W 103 49	7.75
	11127.00	91.07	7.91	9989.94	1564.22	1563.59	-104.72	4.32	447216.64	700445.31	N 32 13 42.34 W 103 49	7.63
	11222.00	90.76	8.89	9988.42	1658.10	1657.56	-90.84	1.08	447310.60	700459.19	N 32 13 43.27 W 103 49	7.46
	11316.00	89.52	8.94	9988.19	1750.87	1750.42	-76.27	1.32	447403.46	700473.75	N 32 13 44.19 W 103 49	7.29
	11411.00	89.35	8.89	9989.13	1844.62	1844.27	-61.55	0.19	447497.30	700488.47	N 32 13 45.11 W 103 49	7.11
	11506.00	89.38	5.72	9990.18	1938.75	1938.48	-49.47	3.34	447591.50	700500.55	N 32 13 46.05 W 103 49	6.96
	11601.00	88.35	3.99	9991.24	2033.35	2033.13	-41.43	1.82	447686.15	700508.59	N 32 13 46.98 W 103 49	6.87
	11696.00	89.24	3.84	9992.40	2128.08	2127.90	-34.95	0.20	447780.91	700515.07	N 32 13 47.92 W 103 49	6.79
	11790.00	89.38	3.57	9993.54	2221.83	2221.69	-28.88	0.32	447874.70	700521.15	N 32 13 48.85 W 103 49	6.71
	11885.00	89.31	4.10	9994.62	2316.57	2316.47	-22.52	0.56	447969.48	700527.50	N 32 13 49.78 W 103 49	6.63
	11980.00	89.45	3.66	9995.65	2411.30	2411.25	-16.09	0.49	448064.25	700533.93	N 32 13 50.72 W 103 49	6.55
	12074.00	89.24	3.72	9996.72	2505.06	2505.05	-10.04	0.23	448158.04	700539.98	N 32 13 51.65 W 103 49	6.47
	12169.00	89.41	1.51	9997.84	2599.92	2599.94	-5.71	2.33	448252.92	700544.31	N 32 13 52.59 W 103 49	6.42
	12264.00	89.41	359.48	9998.82	2694.90	2694.92	-4.89	2.14	448347.90	700545.13	N 32 13 53.53 W 103 49	6.40
	12359.00	89.45	359.25	9999.77	2789.90	2789.91	-5.94	0.25	448442.89	700544.08	N 32 13 54.47 W 103 49	6.41
	12454.00	89.42	359.49	10000.70	2884.89	2884.90	-6.99	0.25	448537.87	700543.03	N 32 13 55.41 W 103 49	6.42
	12548.00	89.52	359.29	10001.57	2978.88	2978.89	-7.99	0.24	448631.85	700542.03	N 32 13 56.34 W 103 49	6.42
	12643.00	89.38	359.54	10002.49	3073.88	3073.89	-8.96	0.30	448726.84	700541.06	N 32 13 57.28 W 103 49	6.43
	12738.00	89.38	359.73	10003.51	3168.87	3168.88	-9.56	0.20	448821.83	700540.46	N 32 13 58.22 W 103 49	6.43
	12833.00	89.11	359.74	10004.77	3263.87	3263.87	-10.00	0.28	448916.81	700540.02	N 32 13 59.16 W 103 49	6.43
	12927.00	89.38	359.74	10006.00	3357.86	3357.86	-10.43	0.29	449010.79	700539.59	N 32 14 0.09 W 103 49	6.43
	13022.00	89.31	359.74	10007.09	3452.85	3452.85	-10.86	0.07	449105.78	700539.16	N 32 14 1.03 W 103 49	6.43
	13117.00	89.86	359.33	10007.78	3547.85	3547.85	-11.63	0.72	449200.77	700538.39	N 32 14 1.97 W 103 49	6.43
	13211.00	89.86	359.87	10008.01	3641.85	3641.84	-12.29	0.57	449294.76	700537.73	N 32 14 2.90 W 103 49	6.44
	13306.00	89.83	359.08	10008.26	3736.85	3736.84	-13.16	0.83	449389.75	700536.86	N 32 14 3.84 W 103 49	6.44
	13401.00	89.76	359.41	10008.60	3831.84	3831.83	-14.41	0.36	449484.73	700535.61	N 32 14 4.78 W 103 49	6.45
	13495.00	90.07	359.59	10008.74	3925.84	3925.82	-15.23	0.38	449578.72	700534.79	N 32 14 5.71 W 103 49	6.46
	13590.00	89.83	359.68	10008.83	4020.84	4020.82	-15.84	0.27	449673.72	700534.19	N 32 14 6.65 W 103 49	6.46
	13684.00	89.76	359.74	10009.16	4114.84	4114.82	-16.31	0.10	449767.71	700533.71	N 32 14 7.58 W 103 49	6.46
	13779.00	89.90	359.49	10009.45	4209.84	4209.82	-16.95	0.30	449862.70	700533.07	N 32 14 8.52 W 103 49	6.46
	13873.00	89.90	359.52	10009.61	4303.84	4303.81	-17.76	0.03	449956.69	700532.26	N 32 14 9.45 W 103 49	6.46
	13968.00	89.90	359.39	10009.78	4398.84	4398.84	-18.67	0.14	450051.68	700531.36	N 32 14 10.39 W 103 49	6.47
	14161.00	89.79	359.55	10010.30	4591.84	4591.80	-20.45	0.10	450244.66	700529.57	N 32 14 12.30 W 103 49	6.48
	14255.00	89.79	359.50	10010.64	4685.84	4685.80	-21.23	0.05	450338.65	700528.79	N 32 14 13.23 W 103 49	6.48
	14350.00	89.97	359.17	10010.84	4780.84	4780.79	-22.33	0.40	450433.64	700527.69	N 32 14 14.17 W 103 49	6.49
	14444.00	89.93	359.71	10010.92	4874.83	4874.79	-23.25	0.58	450527.62	700526.77	N 32 14 15.10 W 103 49	6.50
	14538.00	89.93	359.97	10011.04	4968.83	4968.79	-23.51	0.28	450621.62	700526.51	N 32 14 16.03 W 103 49	6.49
	14633.00	90.17	359.28	10010.95	5063.83	5063.78	-24.14	0.77	450716.61	700525.89	N 32 14 16.97 W 103 49	6.50
	14727.00	90.38	359.70	10010.50	5157.83	5157.78	-24.97	0.50	450810.60	700525.05	N 32 14 17.90 W 103 49	6.50
	14821.00	90.52	0.08	10009.77	5251.83	5251.77	-25.15	0.43	450904.59	700524.87	N 32 14 18.83 W 103 49	6.50
	14916.00	90.58	359.90	10008.85	5346.82	5346.77	-25.17	0.20	450999.58	700524.85	N 32 14 19.77 W 103 49	6.49
	15010.00	90.41	359.84	10008.04	5440.82	5440.77	-25.38	0.19	451093.57	700524.64	N 32 14 20.70 W 103 49	6.49
	15104.00	90.65	0.64	10007.17	5534.81	5534.76	-24.99	0.89	451187.56	700525.03	N 32 14 21.63 W 103 49	6.48
	15293.00	90.52	359.57	10005.24	5723.79	5723.74	-24.64	0.57	451376.53	700525.38	N 32 14 23.50 W 103 49	6.47
	15387.00	90.34	359.33	10004.54	5817.78	5817.74	-25.54	0.32	451470.52	700524.48	N 32 14 24.43 W 103 49	6.47
	15482.00	90.24	359.61	10004.06	5912.78	5912.73	-26.42	0.31	451565.51	700523.60	N 32 14 25.37 W 103 49	6.47
	15576.00	90.34	359.31	10003.58	6006.78	6006.73	-27.31	0.34	451659.50	700522.71	N 32 14 26.30 W 103 49	6.48
	15670.00	90.34	359.87	10003.02	6100.78	6100.72	-27.98	0.60	451753.49	700522.04	N 32 14 27.23 W 103 49	6.48
	1576											

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS ("/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (NS ° ' ")	Longitude (EW ° ' ")
	19820.00	90.26	0.85	10001.34	10250.09	10249.83	-73.68	0.23	455902.32	700476.34	N 32 15 8.29 W 103 49 6.78	
	20009.00	89.97	0.59	10000.93	10439.06	10438.81	-71.31	0.21	456091.30	700478.72	N 32 15 10.16 W 103 49 6.74	
Last Survey	20073.00	90.79	0.74	10000.51	10503.04	10502.81	-70.56	1.30	456155.29	700479.46	N 32 15 10.79 W 103 49 6.73	
Proj. to TD	20117.00	90.79	0.74	9999.90	10547.03	10546.80	-70.00	0.00	456199.28	700480.03	N 32 15 11.23 W 103 49 6.72	

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	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 3Y Gyro+MWD 0-20,117'
	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 3Y Gyro+MWD 0-20,117'
	1	26.500	625.500	Act Stns	30.000	30.000	NAL_NSG+MSHOT	Original Borehole / Oxy Palladium MDP1 7-6 Federal Com 3Y
	1	625.500	20117.000	Act Stns	30.000	30.000	NAL_MWD_PLUS_0.5_DEG	Original Borehole / Oxy Palladium MDP1 7-6 Federal Com 3Y