

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

NM OIL CONSERVATION

30-015-44298

~~ARTESIA DISTRICT~~

December 14, 2017

FEB 14 2018

Oxy USA Inc.
5 Greenway Plaza, Suite 110
Houston, TX 77046

RECEIVED

Re:

S7, T24S, R31E, Eddy NM
N 32.22627 W -103.82346

CLIENT: Oxy USA Inc.
WELL: Palladium MDP1 7-6 Federal Com III
FIELD: Cotton Draw Bone Spring

RIG: H&P 656
COUNTY: Eddy
API NO: 30-015-44298
JOB NO: 17MLD3190

Enclosed, please find the original copy of the survey performed on the referenced well by Drilling & Measurements, a division of Schlumberger Technology Corporation (P-5 No. 754900).
Other information required by your office is as follows.

<u>Name & Title of Surveyor</u>	<u>Drainhole Number</u>	<u>Surveyed Depths</u>	<u>Dates Performed</u>	<u>Type of Survey</u>
Andric Poon FE	Palladium MDP1 7-6 Federal Com III Original Hole	740.00 Ft to 19850.00 Ft	November 13, 2017 to December 6, 2017	TelePacer SlimPulse

If any other information is required, please contact the undersigned at the above letterhead and phone number.
Sincerely,

Mike Stephens
Field Service Manager

Schlumberger

Reservoir Development

Schlumberger Drilling and Measurements
9200 West Reno Avenue
Oklahoma City, Oklahoma 73127 USA
Phone: (405) 789-1515
Fax: (405) 789-1519

Well Reference:

S7, T24S, R31E, Eddy NM
N 32.22627 W -103.82346

I, Andrie Poon certify that: I am employed by Drilling & Measurements, a division of Schlumberger Technology Corporation; that I did on the day(s) of November 13, 2017 through December 06, 2017, conduct or supervise the taking of the TelePacer & SlimPulse surveys from a depth of 740.00 feet to a depth of 19850.00 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 1H Well (Original Hole) API No. 30-015-44298 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.

Andrie Poon

By
Andrie Poon
FE

Subscribed and Sworn to before me this 15th day of December (month) 2017 (yr)

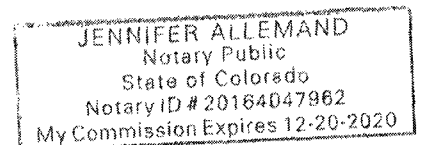
My Commission expires:

12-20-2020

J. Allemand
Notary Public

(signature)

Adams County Colorado
(County State)



Oxy Palladium MDP1 7-6 Federal Com 1H Gyro+MWD 0-19890 ftMD Survey

Geodetic Report

(Def Survey)



Report Date:	December 06, 2017 - 12:52 PM	Survey / DLS Computation:	Minimum Curvature / Lubinski
Client:	OXY	Vertical Section Azimuth:	358.346° (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 1H / Oxy Palladium MDP1 7-6 Federal Com 1H	TVD Reference Datum:	RKB=26.5'
Well:	Oxy Palladium MDP1 7-6 Federal Com 1H	TVD Reference Elevation:	3556.500 ft above MSL
Borehole:	Original Borehole	Seabed / Ground Elevation:	3530.000 ft above MSL
UWI / API#:	Unknown / Unknown	Magnetic Declination:	6.959°
Survey Name:	Oxy Palladium MDP1 7-6 Federal Com 1H Gyro+MWD 0-19890 ftMD	Total Gravity Field Strength:	998.428mgn (9.80665 Based)
Survey Date:	November 28, 2017	Gravity Model:	GARM
Tort / AHD / DDI / ERD Ratio:	239.290° / 10945.492 ft / 6.715 / 1.089	Total Magnetic Field Strength:	48070.915 nT
Coordinate Reference System:	NAD83 New Mexico State Plane, Eastern Zone, US Feet	Magnetic Dip Angle:	59.992°
Location Lat / Long:	N 32° 13' 34.55713", W 103° 49' 24.45515"	Declination Date:	November 28, 2017
Location Grid N/E Y/X:	N 446423.410 NUS, E 699003.750 NUS	Magnetic Declination Model:	HDGM 2017
CRS Grid Convergence Angle:	0.2719°	North Reference:	Grid North
Grid Scale Factor:	0.99993756	Grid Convergence Used:	0.2719°
Version / Patch:	2.10.565.0	Total Corr Mag North>Grid North:	6.8869°
		Local Coord Referenced To:	Well Head

Comments	MD (ft)	Incl (°)	Azlm 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	446423.41	699003.75	N 32 13 34.56 W 103 49 24.46	
	86.51	0.61	188.92	86.51	-0.45	-0.45	-0.07	0.71	446422.96	699003.68	N 32 13 34.55 W 103 49 24.46	
	174.01	0.94	192.23	174.00	-1.61	-1.62	-0.30	0.38	446421.79	699003.45	N 32 13 34.54 W 103 49 24.46	
	264.12	1.26	194.78	264.09	-3.28	-3.30	-0.70	0.36	446420.11	699003.05	N 32 13 34.52 W 103 49 24.46	
	358.57	1.15	193.52	358.52	-5.19	-5.22	-1.19	0.12	446418.19	699002.56	N 32 13 34.51 W 103 49 24.47	
	458.42	1.32	183.52	458.35	-7.30	-7.34	-1.50	0.27	446416.07	699002.25	N 32 13 34.48 W 103 49 24.47	
	548.54	1.01	190.64	548.45	-9.11	-9.16	-1.71	0.38	446414.25	699002.04	N 32 13 34.47 W 103 49 24.48	
	641.10	0.74	194.49	641.00	-10.48	-10.54	-2.01	0.30	446412.87	699001.74	N 32 13 34.45 W 103 49 24.48	
	740.00	0.55	186.94	739.89	-11.56	-11.63	-2.22	0.21	446411.78	699001.53	N 32 13 34.44 W 103 49 24.48	
	833.00	0.13	248.24	832.89	-12.04	-12.11	-2.38	0.54	446411.30	699001.37	N 32 13 34.44 W 103 49 24.48	
	924.00	0.00	337.88	923.89	-12.08	-12.15	-2.47	0.14	446411.26	699001.28	N 32 13 34.44 W 103 49 24.48	
	1013.00	0.06	248.61	1012.89	-12.09	-12.17	-2.52	0.07	446411.24	699001.23	N 32 13 34.44 W 103 49 24.48	
	1106.00	0.00	297.31	1105.89	-12.11	-12.19	-2.56	0.06	446411.22	699001.19	N 32 13 34.44 W 103 49 24.49	
	1201.00	0.20	349.96	1200.89	-11.94	-12.02	-2.59	0.21	446411.39	699001.16	N 32 13 34.44 W 103 49 24.49	
	1298.00	0.06	77.82	1297.89	-11.77	-11.85	-2.57	0.21	446411.58	699001.18	N 32 13 34.44 W 103 49 24.49	
	1390.00	0.06	177.42	1379.89	-11.80	-11.88	-2.53	0.11	446411.53	699001.22	N 32 13 34.44 W 103 49 24.49	
	1472.00	0.06	203.83	1471.89	-11.89	-11.97	-2.54	0.03	446411.44	699001.21	N 32 13 34.44 W 103 49 24.49	
	1563.00	0.30	251.94	1562.89	-12.00	-12.09	-2.70	0.29	446411.32	699000.96	N 32 13 34.44 W 103 49 24.49	
	1658.00	0.13	115.89	1657.89	-12.12	-12.21	-2.93	0.43	446411.20	699000.82	N 32 13 34.44 W 103 49 24.49	
	1753.00	0.17	198.82	1752.89	-12.31	-12.39	-2.88	0.21	446411.02	699000.87	N 32 13 34.43 W 103 49 24.49	
	1848.00	0.00	85.12	1847.89	-12.44	-12.53	-2.92	0.18	446410.88	699000.83	N 32 13 34.43 W 103 49 24.49	
	1942.00	0.00	270.75	1941.89	-12.44	-12.53	-2.92	0.00	446410.88	699000.83	N 32 13 34.43 W 103 49 24.49	
	2037.00	0.08	185.78	2036.89	-12.50	-12.59	-2.93	0.08	446410.82	699000.82	N 32 13 34.43 W 103 49 24.49	
	2132.00	0.08	168.05	2131.89	-12.63	-12.72	-2.92	0.03	446410.69	699000.83	N 32 13 34.43 W 103 49 24.49	
	2227.00	0.06	165.19	2226.89	-12.75	-12.84	-2.90	0.02	446410.57	699000.85	N 32 13 34.43 W 103 49 24.49	
	2321.00	0.06	167.70	2320.89	-12.84	-12.93	-2.87	0.00	446410.48	699000.88	N 32 13 34.43 W 103 49 24.49	
	2416.00	0.06	285.86	2415.89	-12.88	-12.97	-2.91	0.11	446410.44	699000.84	N 32 13 34.43 W 103 49 24.49	
	2511.00	0.00	181.72	2510.89	-12.86	-12.95	-2.96	0.06	446410.46	699000.79	N 32 13 34.43 W 103 49 24.49	
	2606.00	0.00	16.97	2605.89	-12.86	-12.95	-2.96	0.00	446410.46	699000.79	N 32 13 34.43 W 103 49 24.49	
	2700.00	0.06	19.51	2699.89	-12.82	-12.91	-2.94	0.06	446410.50	699000.81	N 32 13 34.43 W 103 49 24.49	
	2795.00	0.08	132.65	2794.89	-12.82	-12.91	-2.88	0.12	446410.51	699000.87	N 32 13 34.43 W 103 49 24.49	
	2890.00	0.08	142.04	2889.89	-12.92	-13.00	-2.79	0.01	446410.41	699000.96	N 32 13 34.43 W 103 49 24.49	
	2985.00	0.00	149.67	2984.89	-12.97	-13.06	-2.75	0.08	446410.36	699001.00	N 32 13 34.43 W 103 49 24.49	
	3080.00	0.13	29.07	3079.89	-12.88	-12.96	-2.69	0.14	446410.45	699001.06	N 32 13 34.43 W 103 49 24.49	
	3175.00	0.06	350.79	3174.89	-12.74	-12.82	-2.85	0.10	446410.59	699001.10	N 32 13 34.43 W 103 49 24.49	
	3269.00	0.00	210.67	3268.89	-12.69	-12.77	-2.68	0.06	446410.64	699001.09	N 32 13 34.43 W 103 49 24.49	
	3364.00	0.08	172.95	3363.89	-12.75	-12.83	-2.65	0.08	446410.58	699001.10	N 32 13 34.43 W 103 49 24.49	
	3459.00	0.08	183.04	3458.89	-12.89	-12.97	-2.64	0.01	446410.44	699001.11	N 32 13 34.43 W 103 49 24.49	
	3554.00	0.06	147.47	3553.89	-12.99	-13.08	-2.62	0.05	446410.34	699001.13	N 32 13 34.43 W 103 49 24.49	
	3649.00	0.08	149.08	3648.89	-13.09	-13.17	-2.56	0.02	446410.24	699001.19	N 32 13 34.43 W 103 49 24.49	
	3744.00	0.06	290.44	3743.89	-13.13	-13.21	-2.57	0.14	446410.20	699001.18	N 32 13 34.43 W 103 49 24.49	
	3839.00	0.08	124.26	3838.89	-13.15	-13.23	-2.56	0.15	446410.18	699001.19	N 32 13 34.43 W 103 49 24.49	
	3934.00	0.11	236.16	3933.89	-13.24	-13.32	-2.59	0.17	446410.09	699001.17	N 32 13 34.43 W 103 49 24.49	
	4028.00	0.06	247.45	4027.89	-13.31	-13.39	-2.71	0.06	446410.02	699001.04	N 32 13 34.42 W 103 49 24.49	
	4123.00	0.06	86.96	4122.89	-13.32	-13.41	-2.70	0.12	446410.00	699001.05	N 32 13 34.42 W 103 49 24.49	
	4218.00	0.06	291.94	4217.89	-13.30	-13.39	-2.70	0.12	446410.02	699001.05	N 32 13 34.42 W 103 49 24.49	
	4323.00	0.11	159.68	4322.89	-13.45	-13.53	-2.73	0.07	446409.88	699001.02	N 32 13 34.42 W 103 49 24.49	
	4428.00	0.06	323.32	4427.89	-13.50	-13.58	-2.73	0.18	446409.83	699001.02	N 32 13 34.42 W 103 49 24.49	
	4523.00	0.06	137.62	4522.89	-13.50	-13.59	-2.71	0.15	446409.82	699001.04	N 32 13 34.42 W 103 49 24.49	
	4618.00	0.08	325.14	4617.89	-13.52	-13.60	-2.68	0.07	446409.81	699001.07	N 32 13 34.42 W 103 49 24.49	
	4713.00	0.06	15.95	4712.89	-13.43	-13.52	-2.70	0.05	446409.89	699001.05	N 32 13 34.42 W 103 49 24.49	
	4807.00	0.00	137.70	4806.89	-13.34	-13.42	-2.67	0.03	446409.99	699001.08	N 32 13 34.42 W 103 49 24.49	
	4902.00	0.06	27.16	4901.89	-13.30	-13.38	-2.65	0.06	446410.03	699001.10	N 32 13 34.42 W 103 49 24.49	
	5097.00	0.00	244.40	5096.89	-13.25	-13.33	-2.62	0.06	446410.08	699001.13	N 32 13 34.43 W 103 49 24.49	
	5192.00	0.00	320.53	5191.89	-13.25	-13.33	-2.62	0.00	446410.08	699001.13	N 32 13 34.43 W 103 49 24.49	
	5287.00	1.25	226.24	5286.89	-14.63	-14.76	-4.11	0.66	446408.85	698999.64	N 32 13 34.41 W 103 49 24.50	
	5382.00	3.50	222.46	5381.79	-17.41	-17.62	-6.82	2.37	446405.80	698996.93	N 32 13 34.38 W 103 49 24.50	
	5477.00	5.46	219.46	5476.49	-22.90	-23.24	-11.65	2.08	446400.17	698992.10	N 32 13 34.33 W 103 49 24.50	
	5572.00	7.26	218.17	5571.49	-30.83	-31.37	-18.16	1.92	446392.04	698985.59	N 32 13 34.25 W 103 49 24.51	
	5667.00	9.84	215.78	5666.49	-41.89	-42.67	-26.62	2.74	446380.74	698977.13	N 32 13 34.14 W 103 49 24.51	
	5762.00	12.02	214.63	5761.49	-56.31	-57.40	-38.99	2.31	446366.01	698966.76	N 32 13 33.99 W 103 49 24.51	
	5857.00	14.66	212.88	5856.49	-74.19	-75.64	-49.14	2.81	446347.78	698954.61	N 32 13 33.81 W 103 49 25.07	
	5952.00	14.61	208.89	5951.49	-94.22	-96.03	-61.29	1.13	446327.39	698942.47	N 32 13 33.61 W 103 49 25.17	
	6047.00	14.54	206.04	6046.49	-115.12	-117.25	-72.27	0.71	446306.16	698930.48	N 32 13 33.40 W 103 49 25.30	
	6142.00	14.52	205.85	6141.49	-136.24	-138.69	-82.70	0.05	446284.73	698918.05	N 32 13 33.19 W 103 49 25.43	
	6237.00	14.41	205.68	6236.49	-157.08	-159.83	-92.91	0.13	446263.59	698905.85	N 32 13 32.98 W 103 49 25.55	
	6332.00	14.40	205.26	6331.49	-178.12	-181.17	-103.07	0.11	446242.25	698900.62	N 32 13 32.77 W 103 49 25.66	
	6427.00	14.50	205.80	6426.49	-199.21	-202.56	-113.29	0.18	446220.86	698890.47	N 32 13 32.56 W 103 49 25.79	
	6522.00	14.34	205.35	6426.49	-220.24	-223.90	-123.50	0.21	446199.53	698880.26	N 32 13 32.35 W 103 49 25.91	
	6600.00	14.25	200.87	6859.53	-241.30	-245.23	-132.61	1.18	446178.20	698871.15	N 32 13 32.14 W 103 49 26.00	
	6685.00	14.47	198.90	6951.56	-263.21	-267.38	-140.62	0.56	446156.04	698863.14	N 32 13 31.92 W 103 49 26.11	
	7080.00	14.39	198.70	7043.57	-285.39	-289.79	-148.25	0.10	446133.63	698855.51	N 32 13 31.70 W 103 49 26.20	
	7174.00	14.50	198.95	7134.60	-307.36	-311.99	-155.81	0.13	446111.44	698847.95	N 32 13 31.48 W 103 49 26.29	
	7269.00	14.45	198.34	7226.58	-326.63	-334.49	-163.41	0.17	446088.94	698840.36	N 32 13 31.26 W 103 49 26.38	
	7364.00	14.03	197.59	7318.66	-351.64	-356.72	-170.62	0.48	446066.72	698833.15	N 32 13 31.04 W 103 49 26.46	
	7459.00	12.99	197.47	7411.03	-372.60	-377.88	-177.30	1.10	446045.56	698826.46	N 32 13 30.83 W 103 49 26.54	
	7553.00	12.02	197.65	7502.80	-391.82	-397.28	-183.44	1.03	446026.15	698820.32	N 32 13 30.63 W 103 49 26.61.54	

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 ° ' '')
	7648.00	11.51	198.09	7595.90	-410.08	-415.72	-189.38	0.55	446007.72	698814.38	N 32 13 30.45	W 103 49 26.68
	7743.00	11.51	198.52	7688.89	-427.90	-433.72	-195.34	0.09	445989.72	698808.43	N 32 13 30.27	W 103 49 26.75
	7837.00	11.43	198.17	7781.02	-445.46	-451.46	-201.22	0.11	445971.98	698802.54	N 32 13 30.10	W 103 49 26.82
	7932.00	11.47	198.20	7874.13	-463.20	-469.38	-207.10	0.04	445954.06	698796.66	N 32 13 29.92	W 103 49 26.89
	8027.00	10.37	198.21	7967.40	-480.13	-486.47	-212.73	1.16	445936.97	698791.04	N 32 13 29.75	W 103 49 26.96
	8122.00	10.41	197.93	8060.85	-498.26	-502.76	-218.04	0.07	445920.68	698785.72	N 32 13 29.58	W 103 49 27.02
	8216.00	10.11	218.95	8153.38	-510.53	-517.26	-225.85	3.97	445906.18	698777.92	N 32 13 29.45	W 103 49 27.11
	8311.00	9.50	241.11	8247.02	-520.45	-527.54	-237.96	4.00	445895.91	698765.81	N 32 13 29.35	W 103 49 27.25
	8406.00	6.63	259.05	8341.09	-524.92	-532.37	-250.21	3.98	445891.08	698753.58	N 32 13 29.30	W 103 49 27.40
	8500.00	4.64	282.58	8434.64	-524.86	-532.57	-259.25	3.20	445890.87	698744.52	N 32 13 29.30	W 103 49 27.50
	8595.00	3.41	327.91	8529.43	-521.48	-529.34	-264.50	3.47	445894.11	698739.27	N 32 13 29.33	W 103 49 27.56
	8690.00	2.48	23.47	8624.32	-517.19	-525.06	-265.18	3.02	445898.39	698738.58	N 32 13 29.37	W 103 49 27.57
	8785.00	3.92	61.41	8719.18	-513.85	-521.62	-261.51	2.62	445901.82	698742.25	N 32 13 29.41	W 103 49 27.53
	8879.00	4.98	62.27	8812.89	-510.60	-518.18	-255.08	1.13	445905.26	698748.59	N 32 13 29.44	W 103 49 27.45
	8974.00	6.27	51.46	8907.43	-505.68	-513.03	-247.37	1.75	445910.41	698756.39	N 32 13 29.49	W 103 49 27.36
	9069.00	8.56	39.71	9001.64	-497.26	-504.38	-238.80	2.88	445915.08	698764.57	N 32 13 29.58	W 103 49 27.26
	9164.00	8.94	39.00	9095.53	-486.35	-493.18	-229.63	0.42	445920.26	698774.13	N 32 13 29.69	W 103 49 27.16
	9254.00	8.78	37.48	9184.48	-475.72	-482.30	-221.05	0.32	445941.14	698782.71	N 32 13 29.80	W 103 49 27.05
	9349.00	15.19	23.30	9316.47	-451.66	-457.85	-207.77	5.19	445965.59	698795.99	N 32 13 30.04	W 103 49 26.90
	9444.00	27.99	1.19	9404.76	-417.92	-423.94	-202.35	15.75	445999.50	698801.41	N 32 13 30.87	W 103 49 26.83
	9578.00	34.94	3.16	9484.89	-369.00	-374.04	-200.41	7.47	446048.49	698803.35	N 32 13 30.56	W 103 49 26.81
	9673.00	41.18	0.87	9559.66	-310.59	-316.45	-198.43	6.73	446106.98	698805.33	N 32 13 31.44	W 103 49 26.81
	9768.00	44.20	354.07	9629.52	-246.27	-252.19	-201.38	5.80	446171.24	698802.38	N 32 13 32.07	W 103 49 26.78
	9863.00	52.24	351.42	9692.77	-175.85	-182.00	-210.42	8.71	446241.43	698793.34	N 32 13 32.77	W 103 49 26.91
	9957.00	57.74	352.32	9746.88	-99.38	-105.81	-221.29	5.90	446317.61	698782.48	N 32 13 33.52	W 103 49 27.04
	10052.00	61.35	354.53	9794.82	-17.80	-24.47	-230.63	4.30	446398.94	698773.13	N 32 13 34.33	W 103 49 27.14
	10147.00	61.24	359.06	9840.47	65.46	58.69	-235.29	4.18	446482.10	698768.48	N 32 13 35.15	W 103 49 27.19
	10241.00	61.73	0.01	9885.35	148.04	141.28	-235.96	1.03	446564.69	698767.81	N 32 13 35.97	W 103 49 27.19
	10336.00	70.84	355.21	9923.53	234.88	228.05	-239.71	10.64	446651.45	698764.06	N 32 13 36.83	W 103 49 27.23
	10431.00	77.39	354.18	9949.52	326.02	318.99	-248.16	6.97	446742.37	698755.60	N 32 13 37.73	W 103 49 27.33
	10526.00	78.73	352.05	9969.18	418.56	411.25	-259.31	2.61	446834.63	698744.46	N 32 13 38.64	W 103 49 27.45
	10621.00	81.97	356.93	9985.11	511.97	504.43	-268.28	6.10	446927.81	698735.49	N 32 13 39.56	W 103 49 27.55
	10649.00	84.24	358.84	9998.47	536.76	532.21	-269.30	10.56	446955.58	698734.46	N 32 13 39.84	W 103 49 27.56
	10715.00	85.36	358.87	9994.45	605.49	587.92	-270.62	1.70	447021.29	698733.15	N 32 13 40.49	W 103 49 27.57
	10763.00	85.66	359.37	9998.21	653.33	645.77	-271.35	1.21	447069.14	698732.42	N 32 13 40.96	W 103 49 27.58
	10858.00	87.01	359.60	10004.28	748.12	740.57	-272.20	1.44	447163.93	698731.56	N 32 13 41.90	W 103 49 27.58
	10952.00	88.18	0.28	10008.23	842.00	834.48	-272.30	1.44	447257.84	698731.47	N 32 13 42.83	W 103 49 27.58
	11047.00	90.24	1.04	10009.54	936.90	929.46	-271.21	2.31	447352.81	698732.56	N 32 13 43.77	W 103 49 27.56
	11142.00	89.07	0.35	10010.11	1031.82	1024.45	-270.06	1.43	447447.80	698733.71	N 32 13 44.71	W 103 49 27.54
	11237.00	89.21	0.45	10011.54	1126.75	1119.44	-269.39	0.18	447542.78	698734.38	N 32 13 45.65	W 103 49 27.53
	11331.00	89.24	359.97	10012.81	1220.69	1213.43	-269.05	0.51	447636.76	698734.72	N 32 13 46.58	W 103 49 27.52
	11427.00	89.04	1.72	10014.25	1316.58	1309.41	-267.83	1.83	447732.73	698736.13	N 32 13 47.53	W 103 49 27.50
	11521.00	89.21	1.87	10015.58	1410.40	1403.35	-264.89	0.24	447828.67	698736.08	N 32 13 48.46	W 103 49 27.46
	11616.00	89.04	1.77	10017.13	1506.22	1498.29	-261.67	0.21	447921.60	698742.10	N 32 13 49.40	W 103 49 27.42
	11710.00	89.04	2.08	10018.71	1599.02	1592.22	-258.51	0.33	448015.53	698745.25	N 32 13 50.32	W 103 49 27.38
	11805.00	89.04	2.08	10020.30	1693.81	1687.15	-255.07	0.00	448110.45	698748.70	N 32 13 51.26	W 103 49 27.33
	11900.00	89.21	2.17	10021.75	1788.59	1782.07	-251.54	0.20	448205.37	698752.22	N 32 13 52.20	W 103 49 27.29
	11994.00	89.24	2.06	10023.02	1882.38	1876.00	-248.08	0.12	448299.29	698755.69	N 32 13 53.15	W 103 49 27.24
	12089.00	89.69	2.31	10023.91	1977.18	1970.92	-244.45	0.56	448394.21	698759.31	N 32 13 54.07	W 103 49 27.19
	12184.00	89.66	2.65	10024.45	2071.91	2065.83	-240.34	0.34	448489.11	698763.42	N 32 13 55.01	W 103 49 27.14
	12279.00	89.66	2.21	10025.01	2166.67	2160.75	-236.32	0.46	448584.02	698767.45	N 32 13 55.95	W 103 49 27.09
	12374.00	89.28	2.12	10025.89	2261.45	2255.67	-232.73	0.41	448678.94	698771.04	N 32 13 56.89	W 103 49 27.04
	12468.00	89.79	2.38	10026.65	2355.23	2349.60	-229.04	0.61	448772.86	698774.73	N 32 13 57.82	W 103 49 26.99
	12563.00	90.10	2.52	10026.75	2449.99	2444.51	-224.98	0.36	448867.76	698778.79	N 32 13 58.76	W 103 49 26.94
	12658.00	89.72	2.12	10026.89	2544.76	2539.43	-221.13	0.58	448962.68	698782.63	N 32 13 59.70	W 103 49 26.89
	12753.00	89.48	1.79	10027.56	2639.57	2634.37	-217.89	0.43	449057.62	698785.87	N 32 14 0.63	W 103 49 26.85
	12847.00	89.72	2.33	10028.21	2733.37	2728.31	-214.51	0.63	449151.55	698789.25	N 32 14 1.56	W 103 49 26.80
	12942.00	89.76	1.86	10028.64	2828.16	2823.25	-211.04	0.50	449246.47	698792.73	N 32 14 2.50	W 103 49 26.76
	13037.00	89.52	0.59	10029.24	2923.04	2918.22	-208.01	1.36	449341.44	698794.76	N 32 14 3.44	W 103 49 26.73
	13132.00	90.03	0.30	10029.61	3017.97	3013.22	-208.27	0.62	449436.43	698795.49	N 32 14 4.38	W 103 49 26.67
	13226.00	90.03	358.67	10029.57	3111.95	3107.21	-209.11	1.73	449530.42	698794.65	N 32 14 5.31	W 103 49 26.72
	13414.00	90.34	359.01	10029.96	3209.94	3205.17	-212.92	0.24	449718.37	698790.84	N 32 14 7.17	W 103 49 26.75
	13509.00	89.26	358.07	10029.27	3394.94	3390.14	-215.34	1.49	449813.33	698788.42	N 32 14 9.11	W 103 49 26.77
	13603.00	90.21	358.40	10029.69	3488.94	3484.09	-218.24	1.05	449907.28	698785.53	N 32 14 9.04	W 103 49 26.80
	13697.00	89.79	358.30	10029.69	3582.94	3578.05	-220.94	0.46	450001.23	698782.82	N 32 14 9.97	W 103 49 26.88
	13886.00	89.38	358.44	10031.06	3771.93	3766.97	-228.32	0.23	450190.14	698777.45	N 32 14 11.84	W 103 49 26.93
	13980.00	90.00	359.00	10031.57	3865.93	3860.94	-228.42	0.89	450284.10	698775.35	N 32 14 12.77	W 103 49 26.90
	14074.00	89.76	358.59	10031.77	3959.92	3954.92	-230.42	0.53	450378.08	698773.35	N 32 14 13.70	W 103 49 26.82
	14168.00	89.79	357.67	10032.14	4053.92	4048.87	-233.51	0.95	450472.02	698770.25	N 32 14 14.63	W 103 49 26.95
	14357.00	90.63	354.38	10031.11	4242.74	4237.38	-246.61	1.83	450566.92	698767.16	N 32 14 16.50	W 103 49 27.09
	14452.00	90.00	353.21	10030.42	4337.43	4331.82	-256.88	1.51	450754.95	698764.89	N 32 14 18.43	W 103 49 27.21
	14546.00	89.73	355.28	10031.47	4431.18	4425.33	-266.30	2.58	450848.46	698763.46	N 32 14 18.36	W 103 49 27.31
	14640.00	89.07	359.83	10033.27	4525.13	4519.21	-270.31	4.85	450942.33	698733.46	N 32 14 19.29	W 103 49 27.35
	14735.00	89.73	0.76	10035.10	4620.05	4614.19	-269.82	1.04	451037.30	698733.95	N 32 14 20.23	W 103 49 27.34
	14829.00	89.83	0.76	10036.28	4713.96	4708.17	-268.57	1.17	451131.28	698735.19	N 32 14 21.16	W 103 49 27.32
	15018.00	89.86	1.51	10036.79	4902.73	4897.13	-264.83	0.40	451320.23	698738.94	N 32 14	

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 ° ' ")
	19050.00	90.76	0.74	10050.55	8931.95	8927.35	-268.36	0.65	455350.18	698715.41	N 32 15 2.91	W 103 49 27.32
	19238.00	89.72	359.85	10049.77	9119.84	9115.34	-267.39	0.73	455538.16	698716.38	N 32 15 4.77	W 103 49 27.30
	19427.00	90.17	359.79	10049.95	9308.78	9304.34	-267.98	0.24	455727.15	698715.78	N 32 15 6.64	W 103 49 27.29
	19616.00	90.14	0.50	10049.44	9497.68	9493.34	-267.51	0.38	455916.14	698716.26	N 32 15 8.51	W 103 49 27.28
	19805.00	90.07	359.74	10049.09	9686.59	9682.33	-267.11	0.40	456105.12	698716.66	N 32 15 10.38	W 103 49 27.26
Final MWD Survey	19850.00	90.24	359.55	10048.97	9731.58	9727.33	-267.39	0.57	456150.12	698716.38	N 32 15 10.82	W 103 49 27.26
Proj to bit	19890.00	90.24	359.55	10048.80	9771.57	9767.33	-267.70	0.00	456190.11	698716.07	N 32 15 11.22	W 103 49 27.27

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 1H Gyro+MWD 0-19890 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 1H Gyro+MWD 0-19890 ftMD
	1	26.500	641.100	Act Stns	30.000	30.000	NAL_NSG+MSHOT	Original Borehole / Oxy Palladium MDP1 7-6 Federal Com 1H
	1	641.100	19890.000	Act Stns	30.000	30.000	NAL_MWD_PLUS_0.5_DEG	Original Borehole / Oxy Palladium MDP1 7-6 Federal Com 1H

Schlumberger

OXY



Borehole:	Well:	Field:	Structure:
Original Borehole	Oxy Palladium MDP1 7-6 Federal Com 1H	NM Eddy County (NAD 83)	Oxy Palladium MDP1 7-6 Federal Com 1H

Gravity & Magnetic Parameters	Surface Location	Miscellaneous
Model: HDOM 2017 Dp: 99.992 Date: 26-Nov-2017	NAD83 New Mexico State Plane, Eastern Zone, US Feet	Oxy Palladium
MagDec: 6.959° FB: 49070.815nT Gravity FB: 998.426mgal (0.0005 Based)	Lat: N 32 13 34.56 Northing: 444423.41RU5 Grid Conv: 0.2716°	Spot: MDP1 7-6 Federal TYD Ref: RKB=26.5'(2656.2R above MBL)
	Lon: W 103 49 34.45 Easting: 899003.78RU5 Scale Fact: 0.99993756	Plan: Oxy Palladium MDP1 7-6 Federal Com 1H REV2 LBN 26Nov17

Critical Points

Critical Point	MD	INCL	AZIM	TYD	VSEC	N(°)S(-)	E(°)W(-)	DLS
Rustler	592.10	0.88	192.16	592.00	-9.81	-9.87	-1.85	0.30
Salado	947.11	0.02	248.61	947.00	-12.08	-12.15	-2.47	0.07
Castile	3047.11	0.08	29.07	3047.00	-12.93	-13.01	-2.72	0.14
Delaware	4288.11	0.03	231.27	4288.00	-13.30	-13.38	-2.75	0.07
Bell Canyon	4298.11	0.03	217.92	4298.00	-13.30	-13.39	-2.75	0.07
Cherry Canyon	5087.11	0.00	15.95	5087.00	-13.34	-13.42	-2.67	0.03
Brushy Canyon	6454.80	14.48	205.78	6438.00	-144.64	-147.21	-86.82	0.13
Bone Spring	8194.29	10.06	214.03	8132.00	-507.54	-514.21	-223.59	3.97
Tie In	10648.00	84.24	358.84	9988.35	538.77	531.22	-269.27	
PTB	10701.00	84.24	358.84	9993.67	591.50	583.94	-270.33	0.00
Landing Point	11108.16	89.80	4.80	10014.85	997.01	990.00	-257.38	2.00
Hold to TD	11359.52	89.80	359.77	10015.74	1247.70	1241.07	-247.35	2.00
Palladium MDP1 7-6 Federal Com 1H PBHL	19850.45	89.80	359.77	10046.00	9735.94	9731.89	-281.03	0.00
Wolfcamp	NaN			11457.00				

