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

Well Reference:
7, 24S, 31E, Eddy NM
N 32.22540 W -103.81030

I, Aaron Simon certify that; I am employed by Drilling & Measurements, a division of Schlumberger Technology Corporation; that I did on the day(s) of August 26, 2017 through October 01, 2017, conduct or supervise the taking of the TelePacer & SlimPulse surveys from a depth of 780.00 feet to a depth of 20250.00 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 Fed Com 5H Well (Original Hole) API No. 30-015-44294 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
Aaron Simon
FE

Subscribed and Sworn to before me this 11th day of October (month) 2017 (yr)

My Commission expires:
Dec 20, 2020

Notary Public

Adams County Colorado
(County State)

(signature)

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

Schlumberger

Oxy Palladium MDP1 7-6 Federal Com 5H Gyro+MWD 0-20,288' Survey
Geodetic Report
(Def Survey)

Report Date:	October 02, 2017 - 09:05 AM	**Survey / DLS Computation:**	Minimum Curvature / Lubinski
Client:	OXY	**Vertical Section Azimuth:**	356.014 ° (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 5H / Oxy Palladium MDP1 7-6 Federal Com 5H	**TVD Reference Datum:**	RKB=26.5'
Well:	Oxy Palladium MDP1 7-6 Federal Com 5H	**TVD Reference Elevation:**	3551.900 ft above MSL
Borehole:	Original Borehole	**Seabed / Ground Elevation:**	3525.400 ft above MSL
UWI / API#:	Unknown / Unknown	**Magnetic Declination:**	6.964 °
Survey Name:	Oxy Palladium MDP1 7-6 Federal Com 5H Gyro+MWD 0-20,288'	**Total Gravity Field Strength:**	998.4289mgn (9.80665 Based)
Survey Date:	September 19, 2017	**Gravity Model:**	GARM
Tort / AHD / DDI / ERD Ratio:	243.929 ° / 11238.035 ft / 6.742 / 1.117	**Total Magnetic Field Strength:**	48092.378 nT
Coordinate Reference System:	NAD83 New Mexico State Plane, Eastern Zone, US Feet	**Magnetic Dip Angle:**	59.993 °
Location Lat / Long:	N 32° 13' 31.43355", W 103° 48' 37.09523"	**Declination Date:**	September 19, 2017
Location Grid N/E Y/X:	N 446127.320 ftUS, E 703073.370 ftUS	**Magnetic Declination Model:**	HDGM 2017
CRS Grid Convergence Angle:	0.2789 °	**North Reference:**	Grid North
Grid Scale Factor:	0.99993905	**Grid Convergence Used:**	0.2789 °
Version / Patch:	2.10.544.0	**Total Corr Mag North->Grid North:**	6.6856 °
		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	446127.32	703073.37	N 32 13 31.43	W 103 48 37.10
RKB	26.50	0.00	0.00	26.50	0.00	0.00	0.00	0.00	446127.32	703073.37	N 32 13 31.43	W 103 48 37.10
	38.28	0.28	34.64	38.28	0.02	0.02	0.02	2.38	446127.34	703073.39	N 32 13 31.43	W 103 48 37.10
	95.87	0.35	340.94	95.87	0.30	0.31	0.04	0.51	446127.63	703073.41	N 32 13 31.44	W 103 48 37.09
	155.15	0.52	349.95	155.15	0.74	0.74	-0.07	0.31	446128.06	703073.30	N 32 13 31.44	W 103 48 37.10
	216.17	0.58	335.20	216.16	1.31	1.29	-0.25	0.25	446128.61	703073.12	N 32 13 31.45	W 103 48 37.10
	278.21	0.44	315.24	278.20	1.78	1.75	-0.54	0.36	446129.07	703072.83	N 32 13 31.45	W 103 48 37.10
	342.21	0.56	287.29	342.20	2.08	2.02	-1.02	0.42	446129.34	703072.35	N 32 13 31.45	W 103 48 37.11
	405.21	0.51	274.50	405.20	2.24	2.13	-1.59	0.20	446129.45	703071.78	N 32 13 31.45	W 103 48 37.11
	468.21	0.58	265.36	468.19	2.27	2.13	-2.19	0.18	446129.45	703071.18	N 32 13 31.45	W 103 48 37.12
	531.21	0.60	257.28	531.19	2.22	2.03	-2.83	0.14	446129.35	703070.54	N 32 13 31.45	W 103 48 37.13
	592.21	0.95	248.99	592.19	2.02	1.78	-3.61	0.60	446129.10	703069.76	N 32 13 31.45	W 103 48 37.14
Last Gyro	657.21	0.71	249.80	657.18	1.75	1.44	-4.49	0.37	446128.76	703068.88	N 32 13 31.45	W 103 48 37.15
	780.00	0.73	231.55	779.96	1.10	0.69	-5.82	0.19	446128.01	703067.55	N 32 13 31.44	W 103 48 37.16
	873.00	0.58	227.75	872.95	0.47	0.01	-6.63	0.17	446127.33	703066.74	N 32 13 31.43	W 103 48 37.17
	965.00	0.72	232.11	964.95	-0.14	-0.66	-7.43	0.16	446126.66	703065.94	N 32 13 31.43	W 103 48 37.18
	1053.00	0.94	219.86	1052.94	-0.97	-1.55	-8.33	0.32	446125.77	703065.04	N 32 13 31.42	W 103 48 37.19
	1145.00	1.01	217.68	1144.92	-2.12	-2.77	-9.31	0.09	446124.55	703064.06	N 32 13 31.41	W 103 48 37.20
	1238.00	0.80	210.30	1237.91	-3.27	-3.98	-10.14	0.26	446123.34	703063.23	N 32 13 31.39	W 103 48 37.21
	1422.00	0.97	202.81	1421.89	-5.72	-6.53	-11.39	0.11	446120.79	703061.98	N 32 13 31.37	W 103 48 37.23
	1514.00	0.90	206.64	1513.88	-7.04	-7.89	-12.02	0.10	446119.43	703061.36	N 32 13 31.36	W 103 48 37.24
	1699.00	0.73	208.27	1698.86	-9.28	-10.23	-13.23	0.09	446117.09	703060.15	N 32 13 31.33	W 103 48 37.25
	1885.00	0.93	203.99	1884.84	-11.62	-12.65	-14.40	0.11	446114.67	703058.97	N 32 13 31.31	W 103 48 37.26
	1980.00	0.87	205.38	1979.83	-12.93	-14.01	-15.02	0.07	446113.32	703058.35	N 32 13 31.30	W 103 48 37.27
	2074.00	1.00	206.81	2073.82	-14.25	-15.38	-15.70	0.14	446111.94	703057.67	N 32 13 31.28	W 103 48 37.28
	2168.00	0.96	209.20	2167.80	-15.62	-16.80	-16.45	0.06	446110.52	703056.92	N 32 13 31.27	W 103 48 37.29
	2263.00	1.30	213.31	2262.78	-17.14	-18.40	-17.43	0.37	446108.92	703055.94	N 32 13 31.25	W 103 48 37.30
	2452.00	1.79	218.55	2451.71	-21.02	-22.50	-20.45	0.27	446104.82	703052.92	N 32 13 31.21	W 103 48 37.33
	2546.00	1.34	203.59	2545.68	-23.08	-24.65	-21.80	0.64	446102.67	703051.57	N 32 13 31.19	W 103 48 37.35
	2640.00	1.18	172.12	2639.66	-25.02	-26.62	-22.11	0.75	446100.70	703051.26	N 32 13 31.17	W 103 48 37.35
	2734.00	1.48	152.54	2733.63	-27.10	-28.66	-21.42	0.57	446098.67	703051.95	N 32 13 31.15	W 103 48 37.35
	2828.00	1.29	133.94	2827.61	-29.00	-30.47	-20.10	0.52	446096.86	703053.27	N 32 13 31.13	W 103 48 37.33
	2922.00	2.26	129.00	2921.56	-31.04	-32.37	-17.90	1.04	446094.95	703055.48	N 32 13 31.11	W 103 48 37.31
	3016.00	2.00	108.42	3015.50	-32.93	-34.05	-14.90	0.85	446093.27	703058.47	N 32 13 31.10	W 103 48 37.27
	3111.00	1.80	75.03	3110.45	-33.28	-34.19	-11.88	1.17	446093.13	703061.49	N 32 13 31.10	W 103 48 37.24
	3202.00	1.03	67.60	3201.42	-32.75	-33.51	-9.75	0.87	446093.81	703063.62	N 32 13 31.10	W 103 48 37.21
	3296.00	0.68	75.70	3295.41	-32.38	-33.05	-8.43	0.39	446094.27	703064.94	N 32 13 31.11	W 103 48 37.20
	3391.00	0.76	108.20	3390.40	-32.52	-33.11	-7.28	0.43	446094.21	703066.09	N 32 13 31.11	W 103 48 37.18
	3485.00	1.53	99.90	3484.38	-33.06	-33.52	-5.45	0.84	446093.80	703067.92	N 32 13 31.10	W 103 48 37.16
	3579.00	3.04	102.66	3578.30	-34.07	-34.28	-1.78	1.61	446093.04	703071.59	N 32 13 31.09	W 103 48 37.12
	3674.00	4.22	112.85	3673.11	-36.37	-36.19	3.90	1.41	446091.13	703077.26	N 32 13 31.08	W 103 48 37.05
	3768.00	3.83	115.29	3766.88	-39.47	-38.87	9.92	0.45	446088.45	703083.29	N 32 13 31.05	W 103 48 36.98
	3862.00	4.44	122.42	3860.64	-43.16	-42.17	15.83	0.85	446085.16	703089.20	N 32 13 31.02	W 103 48 36.91
	3963.00	4.46	133.66	3961.33	-48.39	-46.97	21.97	0.86	446080.35	703095.34	N 32 13 30.97	W 103 48 36.84
	4058.00	4.02	144.82	4056.07	-53.96	-52.24	26.56	0.98	446075.08	703099.93	N 32 13 30.92	W 103 48 36.79
	4152.00	2.86	154.33	4149.90	-58.96	-57.05	29.48	1.37	446070.27	703102.85	N 32 13 30.87	W 103 48 36.76
	4247.00	1.76	178.47	4244.83	-62.62	-60.65	30.54	1.52	446066.68	703103.91	N 32 13 30.83	W 103 48 36.74
	4320.00	1.24	207.91	4317.80	-64.41	-62.46	30.20	1.25	446064.86	703103.57	N 32 13 30.81	W 103 48 36.75
	4464.00	1.88	228.10	4461.75	-67.19	-65.42	27.72	0.58	446061.90	703101.08	N 32 13 30.78	W 103 48 36.78
	4559.00	2.53	248.58	4556.68	-68.77	-67.23	24.60	1.06	446060.10	703097.97	N 32 13 30.77	W 103 48 36.81
	4653.00	3.44	259.77	4650.55	-69.70	-68.48	19.90	1.15	446058.84	703093.27	N 32 13 30.75	W 103 48 36.87
	4748.00	4.28	266.75	4745.34	-69.97	-69.19	13.55	1.01	446058.13	703086.92	N 32 13 30.75	W 103 48 36.94
	4842.00	5.12	272.21	4839.02	-69.47	-69.23	5.86	1.01	446058.10	703079.23	N 32 13 30.75	W 103 48 37.03
	4937.00	6.24	275.80	4933.55	-68.13	-68.54	-3.51	1.24	446058.78	703069.86	N 32 13 30.76	W 103 48 37.14
	5031.00	7.12	276.37	5026.91	-66.22	-67.38	-14.39	0.94	446059.94	703058.99	N 32 13 30.77	W 103 48 37.27
	5125.00	7.79	276.52	5120.12	-64.01	-66.01	-26.50	0.71	446061.31	703046.87	N 32 13 30.78	W 103 48 37.41
	5220.00	8.33	274.83	5214.18	-61.78	-64.70	-39.76	0.62	446062.62	703033.61	N 32 13 30.80	W 103 48 37.56
	5314.00	8.79	273.70	5307.13	-59.78	-63.66	-53.71	0.52	446063.66	703019.66	N 32 13 30.81	W 103 48 37.72
	5408.00	9.35	272.58	5399.96	-57.94	-62.86	-68.51	0.62	446064.47	703004.87	N 32 13 30.81	W 103 48 37.90
	5502.00	10.05	271.96	5492.61	-56.22	-62.23	-84.33	0.75	446065.09	702989.04	N 32 13 30.82	W 103 48 38.08
	5596.00	10.41	270.93	5585.12	-54.64	-61.81	-101.02	0.43	446065.51	702972.36	N 32 13 30.83	W 103 48 38.27
	5691.00	10.87	270.72	5678.49	-53.17	-61.56	-118.56	0.49	446065.76	702954.82	N 32 13 30.83	W 103 48 38.48
	5785.00	10.12	270.73	5770.91	-51.77	-61.35	-135.68	0.80	446065.98	702937.70	N 32 13 30.83	W 103 48 38.68
	5879.00	8.89	269.41	5863.62	-50.66	-61.31	-151.20	1.33	446066.01	702922.18	N 32 13 30.83	W 103 48 38.86
	5973.00	7.40	268.40	5956.67	-49.97	-61.56	-164.52	1.59	446065.77	702908.87	N 32 13 30.83	W 103 48 39.01
	6068.00	7.68	263.73	6050.85	-49.97	-62.42	-176.94	0.71	446064.90	702896.44	N 32 13 30.82	W 103 48 39.16
	6162.00	8.46	259.66	6143.92	-50.99	-64.35	-189.99	1.03	446062.97	702883.40	N 32 13 30.81	W 103 48 39.31
	6257.00	9.17	256.42	6237.80	-53.02	-67.38	-204.22	0.91	446059.94	702869.16	N 32 13 30.78	W 103 48 39.48
	6351.00	9.65	254.46	6330.53	-55.85	-71.25	-219.09	0.61	446056.07	702854.29	N 32 13 30.74	W 103 48 39.65
	6446.00	10.45	252.68	6424.07	-59.43	-75.95	-234.99	0.90	446051.38	702838.40	N 32 13 30.69	W 103 48 39.83
	6540.00	10.26	249.35	6516.54	-63.80	-81.44	-250.96	0.67	446045.89	702822.43	N 32 13 30.64	W 103 48 40.02
	6635.00	9.24	246.68	6610.17	-68.75	-87.44	-265.88	1.17	446039.88	702807.51	N 32 13 30.58	W 103 48 40.20
	6729.00	8.02	242.00	6703.10	-73.92	-93.51	-278.60	1.50	446033.82	702794.79	N 32 13 30.52	W 103 48 40.34
	6824.00	6.75	235.80	6797.32	-79.42	-99.76	-289.07	1.58	446027.57	702784.32	N 32 13 30.46	W 103 48 40.47
	6918.00	6.71	237.87	6890.67	-84.79	-105.78	-298.29	0.26	446021.54	702775.10	N 32 13 30.40	W 103 48 40.57
	7012.00	6.42	241.89	6984.05	-89.53	-111.18	-307.58	0.58	446016.15	702765.81	N 32 13 30.35	W 103 48 40.68
	7107.00	7.57	247.54	7078.35	-93.68	-116.07	-318.05	1.41	446011.25	702755.34	N 32 13 30.30	W 103 48 40.80
	7201.00	7.57	251.60	7171.53	-97.19	-120.39	-329.64	0.57	446006.93	702743.75	N 32 13 30.26	W 103 48 40.94

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 ° ' ")
	7296.00	7.09	248.03	7265.75	-100.56	-124.56	-341.02	0.70	446002.76	702732.37	N 32 13 30.22	W 103 48 41.07
	7390.00	6.58	240.04	7359.08	-104.71	-129.42	-351.06	1.15	445997.90	702722.33	N 32 13 30.17	W 103 48 41.19
	7484.00	5.93	233.17	7452.53	-109.70	-135.02	-359.62	1.05	445992.30	702713.78	N 32 13 30.11	W 103 48 41.29
	7578.00	6.01	234.50	7546.02	-114.90	-140.79	-367.51	0.17	445986.54	702705.88	N 32 13 30.06	W 103 48 41.38
	7673.00	6.52	242.79	7640.45	-119.63	-146.15	-376.36	1.09	445981.18	702697.04	N 32 13 30.01	W 103 48 41.48
	7768.00	6.77	247.88	7734.81	-123.50	-150.72	-386.34	0.67	445976.61	702687.06	N 32 13 29.96	W 103 48 41.60
	7862.00	7.14	252.70	7828.12	-126.57	-154.55	-397.05	0.73	445972.78	702676.35	N 32 13 29.92	W 103 48 41.73
	7957.00	7.09	258.50	7922.39	-128.70	-157.47	-408.43	0.76	445969.86	702664.96	N 32 13 29.90	W 103 48 41.86
	8051.00	6.23	254.23	8015.76	-130.50	-160.01	-419.03	1.06	445967.32	702654.37	N 32 13 29.87	W 103 48 41.98
	8145.00	5.09	245.02	8109.30	-133.03	-163.16	-427.71	1.55	445964.17	702645.68	N 32 13 29.84	W 103 48 42.08
	8240.00	4.67	246.67	8203.95	-135.82	-166.47	-435.09	0.47	445960.86	702638.31	N 32 13 29.81	W 103 48 42.17
	8334.00	3.89	249.81	8297.69	-137.98	-169.09	-441.59	0.87	445958.24	702631.81	N 32 13 29.78	W 103 48 42.25
	8429.00	3.96	248.66	8392.47	-139.86	-171.39	-447.67	0.11	445955.94	702625.73	N 32 13 29.76	W 103 48 42.32
	8523.00	4.71	243.26	8486.20	-142.32	-174.31	-454.14	0.91	445953.02	702619.26	N 32 13 29.73	W 103 48 42.39
	8618.00	5.12	246.15	8580.85	-145.27	-177.78	-461.50	0.50	445949.55	702611.90	N 32 13 29.70	W 103 48 42.48
	8712.00	5.04	248.40	8674.48	-147.94	-181.00	-469.18	0.23	445946.34	702604.22	N 32 13 29.67	W 103 48 42.57
	8806.00	4.55	253.99	8768.15	-149.97	-183.54	-476.60	0.72	445943.79	702596.80	N 32 13 29.64	W 103 48 42.65
	8901.00	4.97	256.53	8862.82	-151.43	-185.54	-484.22	0.49	445941.79	702589.18	N 32 13 29.62	W 103 48 42.74
	8996.00	5.64	259.64	8957.42	-152.63	-187.34	-492.82	0.77	445939.99	702580.58	N 32 13 29.60	W 103 48 42.84
	9090.00	5.92	259.37	9050.94	-153.70	-189.06	-502.13	0.30	445938.27	702571.28	N 32 13 29.59	W 103 48 42.95
	9184.00	7.52	256.67	9144.29	-155.26	-191.38	-512.88	1.73	445935.96	702560.53	N 32 13 29.56	W 103 48 43.08
	9279.00	9.76	256.42	9238.21	-157.61	-194.70	-526.75	2.36	445932.63	702546.65	N 32 13 29.53	W 103 48 43.24
	9307.00	10.53	255.80	9265.77	-158.46	-195.89	-531.54	2.78	445931.45	702541.86	N 32 13 29.52	W 103 48 43.29
	9463.00	10.24	247.66	9419.22	-165.36	-204.65	-558.19	0.96	445922.68	702515.22	N 32 13 29.44	W 103 48 43.60
	9557.00	13.21	266.90	9511.28	-167.82	-208.41	-576.65	5.18	445918.92	702496.75	N 32 13 29.40	W 103 48 43.82
	9652.00	25.94	285.78	9600.69	-160.59	-203.32	-607.64	14.80	445924.01	702465.77	N 32 13 29.45	W 103 48 44.18
	9746.00	30.17	322.97	9684.26	-133.62	-178.68	-641.92	18.85	445948.65	702431.49	N 32 13 29.70	W 103 48 44.58
	9840.00	33.17	353.52	9764.77	-87.83	-133.98	-659.17	17.20	445993.35	702414.25	N 32 13 30.14	W 103 48 44.78
	9935.00	43.12	353.71	9839.38	-29.28	-75.73	-665.67	10.47	446051.59	702407.74	N 32 13 30.72	W 103 48 44.85
	10029.00	55.79	353.40	9900.36	41.94	-4.90	-673.69	13.48	446122.42	702399.72	N 32 13 31.42	W 103 48 44.94
	10124.00	67.50	359.64	9945.44	125.33	78.36	-678.50	13.61	446205.67	702394.91	N 32 13 32.24	W 103 48 44.99
	10218.00	71.48	8.32	9978.42	212.39	166.06	-672.31	9.63	446293.37	702401.10	N 32 13 33.11	W 103 48 44.91
	10312.00	80.91	8.59	10000.83	301.43	256.25	-658.90	10.04	446383.55	702414.51	N 32 13 34.00	W 103 48 44.75
	10373.00	84.18	8.77	10008.74	360.44	316.03	-649.78	5.37	446443.33	702423.63	N 32 13 34.59	W 103 48 44.64
	10478.00	86.73	7.43	10017.06	462.77	419.65	-635.03	2.74	446546.94	702438.38	N 32 13 35.62	W 103 48 44.46
	10572.00	90.24	5.05	10019.55	555.23	513.03	-624.82	4.51	446640.32	702448.59	N 32 13 36.54	W 103 48 44.34
	10667.00	90.79	0.62	10018.69	649.53	607.89	-620.13	4.70	446735.17	702453.28	N 32 13 37.48	W 103 48 44.28
	10761.00	89.97	358.72	10018.07	743.33	701.88	-620.67	2.20	446829.16	702452.74	N 32 13 38.41	W 103 48 44.28
	10855.00	90.07	357.84	10018.04	837.26	795.84	-623.49	0.94	446923.11	702449.92	N 32 13 39.34	W 103 48 44.31
	11043.00	92.24	359.48	10014.25	1025.00	983.73	-627.88	1.45	447110.99	702445.53	N 32 13 41.20	W 103 48 44.35
	11138.00	90.07	358.62	10012.33	1119.84	1078.69	-629.46	2.46	447205.94	702443.95	N 32 13 42.14	W 103 48 44.36
	11232.00	90.03	359.57	10012.25	1213.70	1172.68	-630.94	1.01	447299.93	702442.47	N 32 13 43.07	W 103 48 44.37
	11328.00	89.35	358.52	10012.77	1309.57	1268.66	-632.54	1.30	447395.90	702440.87	N 32 13 44.02	W 103 48 44.39
	11422.00	89.00	357.52	10014.12	1403.50	1362.60	-635.79	1.13	447489.83	702437.62	N 32 13 44.95	W 103 48 44.42
	11516.00	89.00	357.65	10015.76	1497.45	1456.50	-639.75	0.14	447583.73	702433.66	N 32 13 45.88	W 103 48 44.46
	11611.00	89.14	357.56	10017.30	1592.40	1551.40	-643.72	0.18	447678.62	702429.69	N 32 13 46.82	W 103 48 44.50
	11705.00	88.97	357.01	10018.85	1686.36	1645.28	-648.17	0.61	447772.50	702425.24	N 32 13 47.74	W 103 48 44.55
	11799.00	88.97	356.27	10020.54	1780.34	1739.11	-653.68	0.79	447866.32	702419.73	N 32 13 48.67	W 103 48 44.61
	11893.00	89.07	356.30	10022.15	1874.33	1832.89	-659.77	0.11	447960.10	702413.64	N 32 13 49.60	W 103 48 44.67
	12082.00	89.00	357.76	10025.34	2063.26	2021.61	-669.56	0.77	448148.80	702403.85	N 32 13 51.47	W 103 48 44.78
	12176.00	89.73	357.87	10026.38	2157.21	2115.53	-673.15	0.79	448242.72	702400.27	N 32 13 52.40	W 103 48 44.81
	12270.00	89.35	358.57	10027.13	2251.14	2209.49	-676.06	0.85	448336.67	702397.35	N 32 13 53.33	W 103 48 44.84
	12365.00	89.55	358.26	10028.04	2346.05	2304.44	-678.69	0.39	448431.62	702394.72	N 32 13 54.27	W 103 48 44.87
	12459.00	89.52	358.78	10028.81	2439.96	2398.41	-681.12	0.55	448525.58	702392.29	N 32 13 55.20	W 103 48 44.89
	12553.00	90.14	358.92	10029.09	2533.84	2492.39	-683.01	0.68	448619.55	702390.41	N 32 13 56.13	W 103 48 44.91
	12648.00	90.41	358.95	10028.63	2628.72	2587.37	-684.77	0.29	448714.53	702388.64	N 32 13 57.07	W 103 48 44.92
	12742.00	90.00	358.23	10028.29	2722.62	2681.34	-687.09	0.88	448808.49	702386.33	N 32 13 58.00	W 103 48 44.94
	12837.00	90.10	358.99	10028.21	2817.52	2776.31	-689.39	0.81	448903.46	702384.02	N 32 13 58.94	W 103 48 44.96
	12931.00	89.79	0.45	10028.30	2911.32	2870.31	-689.85	1.59	448997.45	702383.56	N 32 13 59.87	W 103 48 44.96
	13025.00	90.03	0.12	10028.45	3005.06	2964.31	-689.38	0.43	449091.44	702384.03	N 32 14 0.80	W 103 48 44.95
	13214.00	89.97	0.29	10028.45	3193.55	3153.31	-688.71	0.10	449280.43	702384.71	N 32 14 2.67	W 103 48 44.93
	13403.00	90.03	1.10	10028.45	3381.92	3342.29	-686.41	0.43	449469.40	702387.00	N 32 14 4.54	W 103 48 44.90
	13592.00	90.62	1.28	10027.38	3570.15	3531.25	-682.49	0.33	449658.34	702390.92	N 32 14 6.41	W 103 48 44.84
	13687.00	90.38	2.33	10026.55	3664.66	3626.19	-679.50	1.13	449753.29	702393.92	N 32 14 7.35	W 103 48 44.80
	13781.00	90.17	2.06	10026.10	3758.11	3720.12	-675.90	0.36	449847.21	702397.52	N 32 14 8.28	W 103 48 44.75
	13875.00	90.10	0.77	10025.87	3851.69	3814.09	-673.57	1.37	449941.17	702399.84	N 32 14 9.21	W 103 48 44.72
	13969.00	90.00	0.89	10025.79	3945.36	3908.08	-672.21	0.17	450035.16	702401.20	N 32 14 10.14	W 103 48 44.70
	14064.00	90.10	0.78	10025.71	4040.02	4003.07	-670.83	0.16	450130.14	702402.58	N 32 14 11.08	W 103 48 44.68
	14158.00	89.97	1.07	10025.65	4133.68	4097.06	-669.31	0.34	450224.12	702404.10	N 32 14 12.01	W 103 48 44.66
	14252.00	90.10	359.30	10025.59	4227.42	4191.06	-669.01	1.89	450318.11	702404.40	N 32 14 12.94	W 103 48 44.65
	14346.00	89.21	359.02	10026.16	4321.28	4285.04	-670.39	0.99	450412.09	702403.03	N 32 14 13.87	W 103 48 44.66
	14440.00	89.76	358.62	10027.01	4415.16	4379.02	-672.32	0.72	450506.06	702401.09	N 32 14 14.80	W 103 48 44.67
	14535.00	90.34	358.94	10026.92	4510.05	4474.00	-674.34	0.70	450601.04	702399.07	N 32 14 15.74	W 103 48 44.69
	14629.00	90.52	358.91	10026.22	4603.93	4567.98	-676.11	0.19	450695.01	702397.31	N 32 14 16.67	W 103 48 44.71
	14724.00	90.10	359.32	10025.70	4698.79	4662.97	-677.57	0.62	450789.99	702395.84	N 32 14 17.61	W 103 48 44.72
	14818.00	89.93	359.07	10025.68	4792.64	4756.96	-678.90	0.32	450883.98	702394.52	N 32 14 18.54	W 103 48 44.73
	14912.00	90.03	359.30	10025.71	4886.50	4850.95	-680.23	0.27	450977.96	702393.18	N 32 14 19.47	W 103 48 44.74
	15101.00	89.76	358.55	10026.06	5075.25	5039.91	-683.78	0.42	451166.91	702389.63	N 32 14 21.34	W 103 48 44.77
	15291.00	89.42	359.29	10027.42	5265.00	5229.87	-687.36	0.43	451356.86	702386.05	N 32 14 23.22	W 103 48 44.80
	15479.00	90.03	359.28	10028.32	5452.69	5417.85	-689.71	0.32	451544.83	702383.71	N 32 14 25.08	W 103 48 44.82
	15668.00	89.45	358.80	10029.18	5641.42	5606.82	-692.87	0.40	451733.79	702380.54	N 32 14 26.95	W 103 48 44.84
	15857.00	89.69	358.74	10030.60	5830.20	5795.77	-696.93	0.13	451922.73	702376.49	N 32 14 28.82	W 103 48 44.88
	16045.00	89.86	0.50	10031.33	6017.82	5983.76	-698.18	0.94	452110.70	702375.24	N 32 14 30.68	W 103 48 44.88
	16234.00	90.03	1.84	10031.52	6206.05	6172.72	-694.32	0.71	452299.65	702379.10	N 32 14 32.55	W 103 48 44.83
	16329.00	89.38	1.66	10032.00	6300.57	6267.67	-691.42	0.71	452394.60	702382.00	N 32 14 33.49	W 103 48 44.79
	16423.00	89.14	0.89	10033.22	6394.17	6361.64	-689.32	0.86	452488.56	702384.09	N 32 14 34.42	W 103 48 44.76
	16518.00	89.52	0.63	10034.33	6488.84	6456.62	-688.06	0.48	452583.54	702385.35	N 32 14 35.36	W 103 48 44.74
	16707.00	89.69	0.42	10035.63	6677.25	6645.61	-686.33	0.14	452772.51	702387.08	N 32 14 37.22	W 103 48 44.71
	16895.00	89.24	0.31	10037.39	6864.70	6833.60	-685.13	0.25	452960.49	702388.28	N 32 14 39.09	W 103 48 44.68
	17084.00	89.28	0.78	10039.83	7053.09	7022.57	-683.34	0.25	453149.45	702390.08	N 32 14 40.95	W 103 48 44.65
	17273.00	89.62	0.39	10041.64	7241.48	7211.55	-681.41	0.27	453338.42	702392.01	N 32 14 42.82	W 103 48 44.62
	17462.00	89.28	1.19	10043.46	7429.81	7400.53	-678.80	0.46	453527.38	702394.61	N 32 14 44.69	W 103 48 44.58
	17651.00	89.93	0.31	10044.76	7618.16	7589.50	-676.33	0.58	453716.35	702397.08	N 32 14 46.56	W 103 48 44.54
	17746.00	90.21	0.25	10044.64	7712.89	7684.50	-675.86	0.30	453811.34	702397.55	N 32 14 47.50	W 103 48 44.53
	17934.00	90.03	0.54	10044.25	7900.34	7872.50	-674.57	0.18	453999.32	702398.84	N 32 14 49.36	W 103 48 44.50
	18123.00	90.52	0.94	10043.34	8088.70	8061.48	-672.13	0.33	454188.29	702401.29	N 32 14 51.23	W 103 48 44.46
	18312.00	90.48	0.96	10041.69	8276.99	8250.44	-668.99	0.02	454377.25	702404.42	N 32 14 53.10	W 103 48 44.42
	18501.00	90.62	359.77	10039.88	8465.43	8439.43	-667.79	0.63	454566.22	702405.62	N 32 14 54.97	W 103 48 44.39
	18595.00	90.28	359.48	10039.14	8559.24	8533.42	-668.40	0.48	454660.21	702405.01	N 32 14 55.90	W 103 48 44.39
	18784.00	90.76	0.83	10037.43	8747.74	8722.41	-667.89	0.76	454849.18	702405.52	N 32 14 57.77	W 103 48 44.38
	18973.00	88.38	359.16	10038.84	8936.26	8911.38	-667.91	1.54	455038.14	702405.50	N 32 14 59.64	W 103 48 44.37
	19067.00	88.45	359.62	10041.44	9030.06	9005.34	-668.91	0.49	455132.10	702404.50	N 32 15 0.57	W 103 48 44.37
	19256.00	88.11	358.81	10047.12	9218.68	9194.24	-671.50	0.46	455320.98	702401.91	N 32 15 2.44	W 103 48 44.39
	19445.00	89.21	359.15	10051.54	9407.37	9383.15	-674.86	0.61	455509.88	702398.55	N 32 15 4.31	W 103 48 44.42
	19634.00	89.18	359.10	10054.19	9596.07	9572.11	-677.75	0.03	455698.83	702395.67	N 32 15 6.18	W 103 48 44.44
	19823.00	88.93	359.08	10057.31	9784.77	9761.06	-680.75	0.13	455887.77	702392.66	N 32 15 8.05	W 103 48 44.47
	20012.00	89.21	359.55	10060.38	9973.43	9950.02	-683.01	0.29	456076.72	702390.41	N 32 15 9.92	W 103 48 44.48
	20201.00	89.24	359.16	10062.93	10162.09	10138.99	-685.13	0.21	456265.68	702388.28	N 32 15 11.79	W 103 48 44.50
Last Survey	20250.00	89.17	359.22	10063.61	10211.01	10187.98	-685.83	0.19	456314.66	702387.59	N 32 15 12.28	W 103 48 44.50

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 TD	20288.00	89.17	359.22	10064.16	10248.95	10225.98	-686.34	0.00	456352.65	702387.07	N 32 15 12.65	W 103 48 44.51

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 5H Gyro+MWD 0-20,288'
	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 5H Gyro+MWD 0-20,288'
	1	26.500	657.210	Act Stns	30.000	30.000	NAL_NSG+MSHOT	Original Borehole / Oxy Palladium MDP1 7-6 Federal Com 5H
	1	657.210	20288.000	Act Stns	30.000	30.000	NAL_MWD_PLUS_0.5_DEG	Original Borehole / Oxy Palladium MDP1 7-6 Federal Com 5H

State of New Mexico
Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

Ken McQueen
Cabinet Secretary

Matthias Sayer
Deputy Cabinet Secretary

David R Catanach, Division Director
Oil Conservation Division

June 27, 2017

Oxy USA Inc
Attn Mr David Stewart

ADMINISTRATIVE NON-STANDARD LOCATION

Administrative Order NSL-7549

Oxy USA Inc.
OGRID 16696
Palladium MDP1 7-6 Federal Com Well No. 5H
API No. 30-015-Pending

Non-Standard Location

Proposed Location:

	Footages	Unit/Lot	Sec.	Tsp	Rge	County
Surface	293' FSL & 592' FEL	P	7	24S	31E	Eddy
Penetration Point	340' FSL & 1260' FEL	P	7	24S	31E	Eddy
Final perforation	340' FNL & 1260' FEL	A/1	6	24S	31E	Eddy
Terminus	180' FNL & 1260' FEL	A/1	6	24S	31E	Eddy

Proposed Project Area:

Description	Acres	Pool	Pool Code
E/2 E/2 of Section 7 E/2 E/2 of Section 6	320 22	Cotton Draw, Bone Spring	13367

Reference is made to your application received on April 26, 2017

You have requested to drill this horizontal well at an unorthodox oil well location described above in the referenced pool or formation This location is governed by statewide Rule 19 15 15 9.A NMAC, which provides for 40-acre units, with wells located at least 330 feet from a unit outer boundary, and Rule 19 15 16 14 B(2) NMAC concerning directional wells in designated project areas This location is unorthodox because portions of the proposed completed interval are closer to outside boundaries of the proposed project area than any location that would be a standard location under the applicable pool rules

Your application has been duly filed under the provisions of Division Rules 19 15 15 13 NMAC and 19 15 4 12 A (2) NMAC

It is our understanding that the Applicant is seeking this location because they intend to increase their horizontal well spacing from four wells per section to six wells per section to effectively develop the Bone Spring and Wolfcamp formations Next, increasing well density will optimize recoverable

It is also understood that you have given due notice of this application to all operators or owners who are "affected persons," as defined in Rule 19 15 4 12 A (2) NMAC, in all adjoining units towards which the proposed location encroaches

Pursuant to the authority conferred by Division Rule 19.15.15 13 (B) NMAC, the above-described unorthodox location is hereby approved

The above approvals are subject to your being in compliance with all other applicable Division rules, including, but not limited to Division Rule 19 15 5 9 NMAC

Jurisdiction of this case is retained for the entry of such further orders as the Division may deem necessary

DAVID R. CATANACH
Director

DRC/lrl

cc: Oil Conservation Division – Artesia District Office
Bureau of Land Management – Carlsbad Field Office

Schlumberger

OXY

Borehole: Original Borehole

Well: Oxy Palladium MDP1 7-6 Federal Com 5H

Field: NM Eddy County (NAD 83)

Structure: Oxy Palladium MDP1 7-6 Federal Com 5H

Gravity & Magnetic Parameters
Model: HDGM 2017 Dip: 59.993° Date: 19-Sep-2017
MagDec: 6.964° FS: 48092.378nT Gravity FS: 999.429mgn (9.80665 Based)

Surface Location NAD83 New Mexico State Plane, Eastern Zone, US Feet
Lat: N 32 13 31.43 Northing: 446127.32fUS Grid Conv: 0.2789°
Lon: W 103 48 37.10 Easting: 703073.37fUS Scale Fact: 0.99993905

Miscellaneous
Slot: MDP1 7-6 Federal TVD Ref: RKB=26.5'(3551.9ft above MSL)
Plan: Oxy Palladium MDP1 7-6 Federal Com 5H REV2 LBN 19Sep17

Surface Location

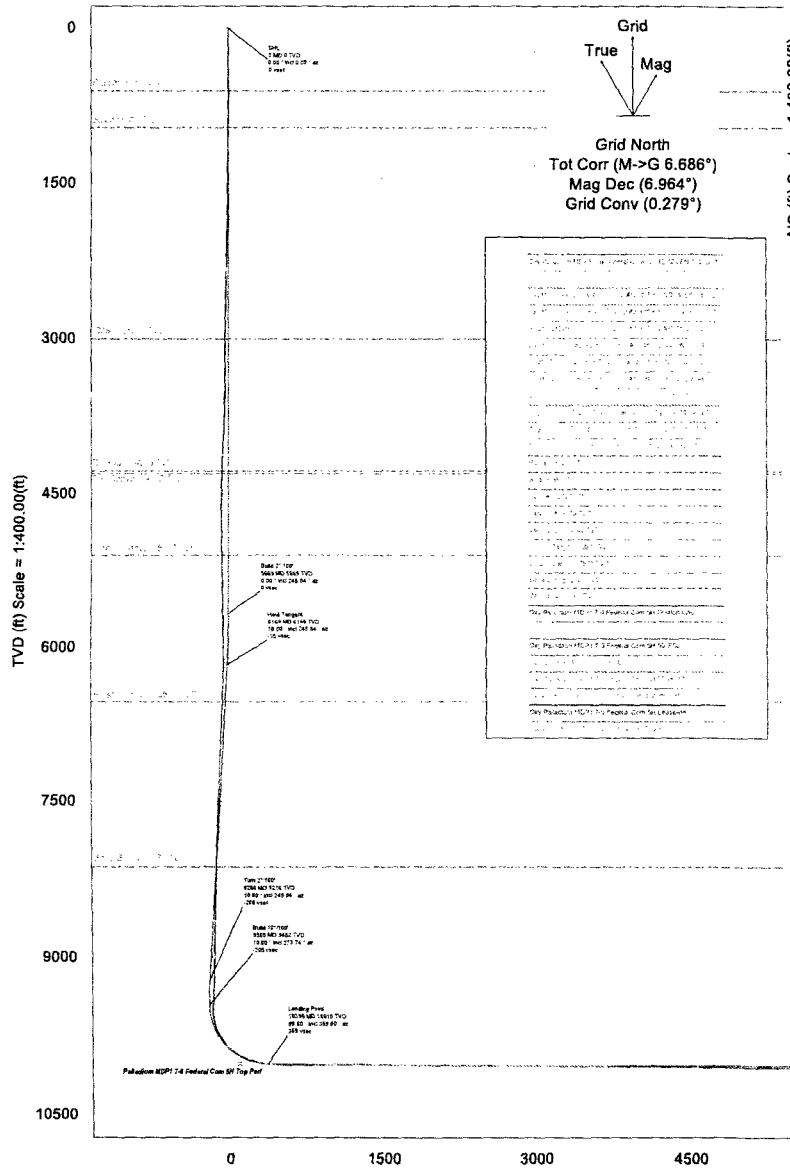
Northing 446127.32 Easting 703073.37 Latitude N 32 13 31.43 Longitude W 103 48 37.10 VSec Azimuth 356.01

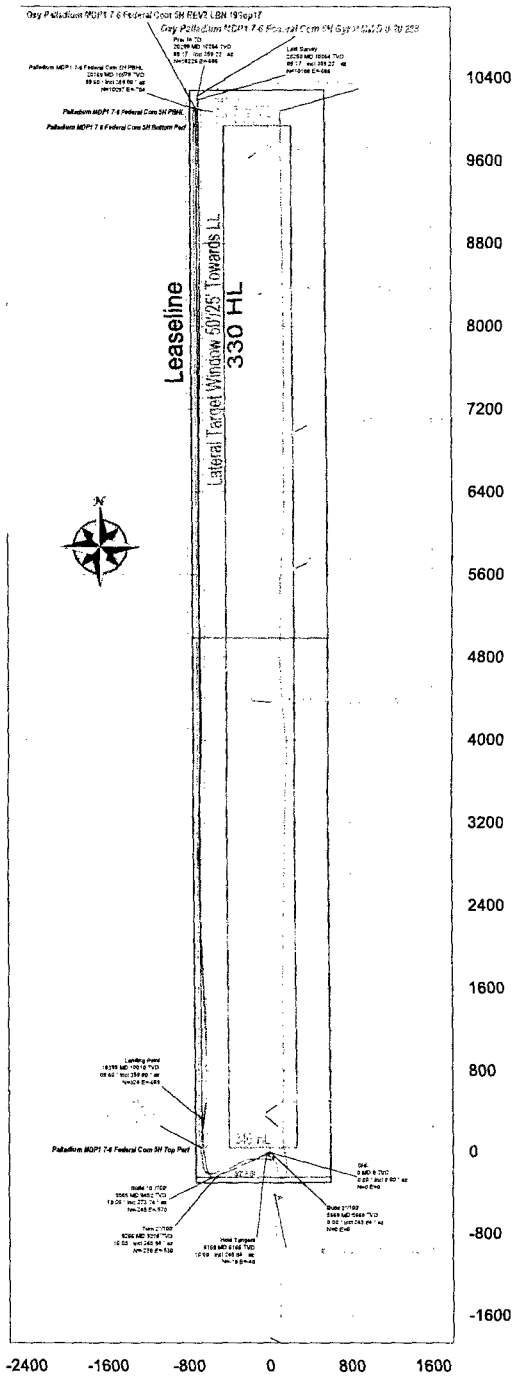
Target Description / **Grid Coord**

Target Name	Shape	Dimension	Latitude	Longitude	Northing	Easting	TVD	VSec
Palladium MDP1 7-6 Federal Com 5H Lateral Target Window 25' Left/50' Right	Rectangle	10052.65 x 75.00	N 32 14 21.64	W 103 48 44.65	451197.50	702400.06	-1000.00	5105.04
Oxy Palladium MDP1 7-6 Federal Com 5H Sect on Line	Polyline	N/A	N 32 13 31.43	W 103 48 37.10	446127.32	703073.37	3551.33	0.00
Oxy Palladium MDP1 7-6 Federal Com 5H 50' FSL	Polyline	N/A	N 32 13 31.43	W 103 48 37.10	446127.32	703073.37	3551.90	0.00
Oxy Palladium MDP1 7-6 Federal Com 5H 330'x340' HL	Polyline	N/A	N 32 13 31.43	W 103 48 37.10	446127.32	703073.37	3551.90	0.00
Oxy Palladium MDP1 7-6 Federal Com 5H Leaseline	Polyline	N/A	N 32 13 31.43	W 103 48 37.10	446127.32	703073.37	3551.90	0.00
Palladium MDP1 7-6 Federal Com 5H Top Perf	Point	N/A	N 32 13 31.90	W 103 48 44.87	446170.97	702405.35	10010.00	89.93
Palladium MDP1 7-6 Federal Com 5H PBHL	Point	N/A	N 32 15 11.38	W 103 48 44.72	456224.12	702369.78	10078.00	10121.92
Palladium MDP1 7-6 Federal Com 5H Bottom Perf	Point	N/A	N 32 15 9.80	W 103 48 44.72	456064.12	702370.35	10078.00	9962.26

Critical Points

Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS
SHL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rustler	605.00	0.00	245.84	605.00	0.00	0.00	0.00	0.00
Salado	961.00	0.00	245.84	961.00	0.00	0.00	0.00	0.00
Castile	3032.00	0.00	245.84	3032.00	0.00	0.00	0.00	0.00
Delaware	4279.00	0.00	245.84	4279.00	0.00	0.00	0.00	0.00
Bell Canyon	4302.00	0.00	245.84	4302.00	0.00	0.00	0.00	0.00
Cherry Canyon	5092.00	0.00	245.84	5092.00	0.00	0.00	0.00	0.00
Build 2°/100'	5569.00	0.00	245.84	5569.00	0.00	0.00	0.00	0.00
Hold Tangent	6168.98	10.00	245.84	6166.34	-15.20	-17.80	-39.06	2.00
Brushy Canyon	6526.11	10.00	245.84	6523.00	-36.99	-43.30	-97.66	0.00
Bone Spring	8169.92	10.00	245.84	8137.00	-134.81	-158.99	-356.65	0.00
Turn 2°/100'	9265.51	10.00	245.84	9215.96	-209.40	-237.85	-530.20	0.00
Build 10°/100'	9605.39	10.00	273.74	9452.33	-224.78	-246.00	-570.00	2.00
Landing Point	10394.63	89.60	359.60	9910.00	363.40	323.65	-669.40	10.00
Palladium MDP1 7-6 Federal Com 5H PBHL Wellcamp	20168.71 NAN	89.60	359.60	10078.00 11507.00	10121.92	10097.44	-703.63	0.00





Vertical Section (ft) Azim = 356.01° Scale = 1:400.00(ft) Origin = 0N/-S, 0E/-W