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

30-015-44299

Well Reference:
7, 24S, 31E, Eddy NM
N 32.22627 W -103.82327

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 December 24, 2017 through December 31, 2017, conduct or supervise the taking of the SlimPulse surveys from a depth of 10333.00 feet to a depth of 19950.00 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 2H Well (Original Hole) API No. 30-015-44299 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
FS

Subscribed and Sworn to before me this 17th day of January (month) 2018 (yr)

My Commission expires:
12-20-2020

J Allemand
Notary Public
(signature)

Adams County Colorado
(County State)

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

Schlumberger Drilling and Measurements
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7220 W I-H 20
Midland, Texas 79706
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Schlumberger

January 17, 2018

OXY USA INC.

Re:

7, 24S, 31E, Eddy NM
N 32.22627 W -103.82327

CLIENT: OXY USA INC.
WELL: Palladium MDP1 7-6 Federal Com 2H
FIELD: Cotton Draw Bone Spring

RIG: HP 656
COUNTY: Eddy
API NO: 30-015-44299
JOB NO: 17MLD3188

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.

Name & Title of Surveyor	Drainhole Number	Surveyed Depths		Dates Performed		Type of Survey
Kurt Valentine FS	Palladium MDP1 7-6 Federal Com 2H Original Hole	10333.00 Ft 19950.00 Ft	to	December 24, 2017 December 31, 2017	to	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

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	0.28	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	14.85	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	-508.68	-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	1.88	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	-247.18	-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
	10429.00	88.38	355.50	9994.27	148.86	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	89.66	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	9780.93	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

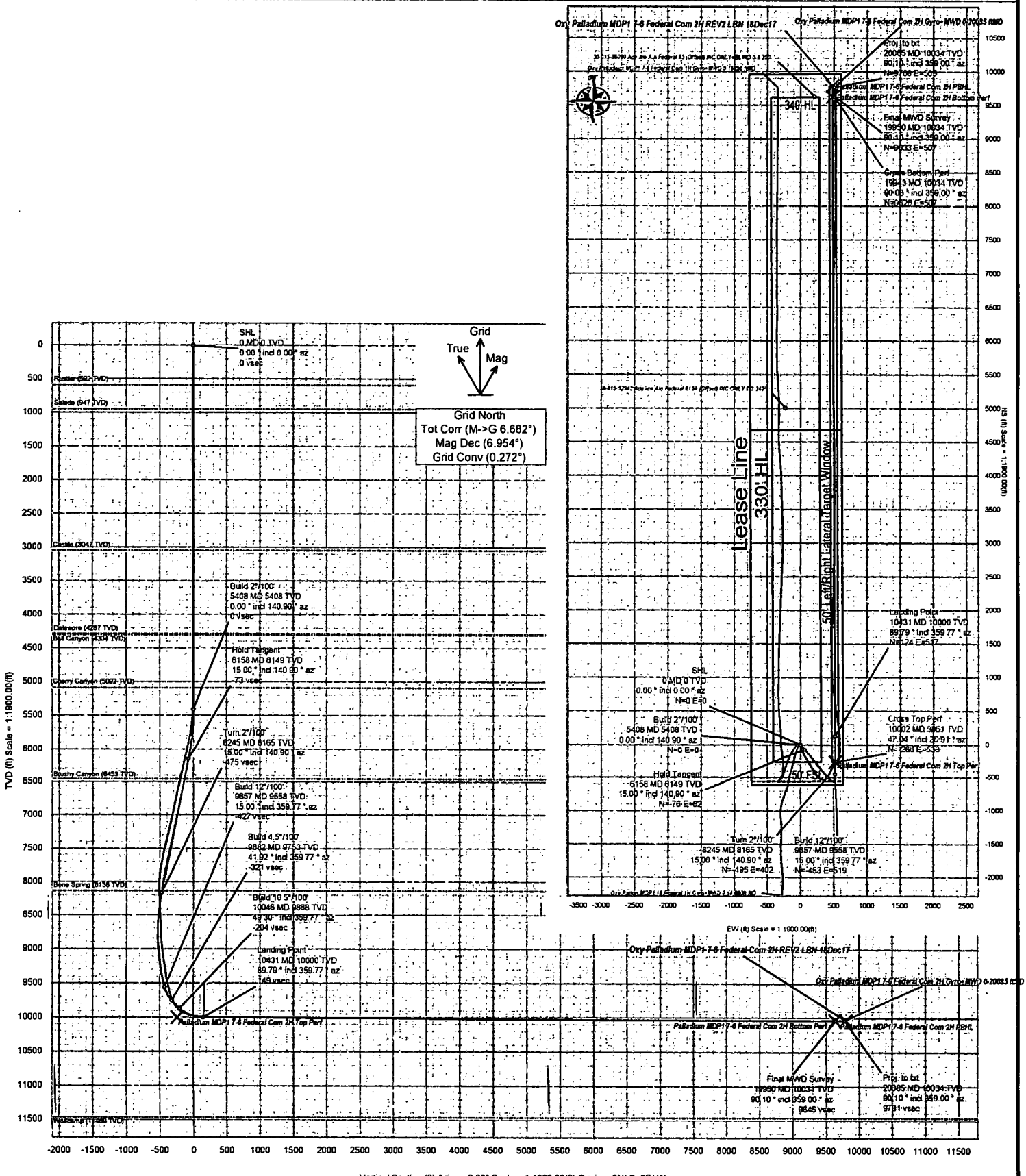
H&P 656 (RKB=26.5')

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						Surface Location	NAD83 New Mexico State Plane, Eastern Zone, US Feet					Miscellaneous			
Model:	HDGM 2017	Dip:	59.991°	Date:	18-Dec-2017	Lat:	N 32 13 34.58	Northing:	448423.69ftUS	Grid Conv:	0.272°	Slot:	MDP1 7-6 Federal TVD Ref:	RKB=26.5'(3557.4ft above MSL)	
MagDec:	6.954°	FS:	48084.648nT	Gravity FS:	998.423mgn (9.80665 Based)	Lon:	W 103 49 23.76	Easting:	699063.75ftUS	Scale Fact:	0.99993758	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