

Oilfield Services, Central U.S. Land
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

August 25, 2018

OXY USA Inc.

NM OIL CONSERVATION
ARTESIA DISTRICT

NOV 26 2019

RECEIVED

Re:

CLIENT: OXY USA Inc.
WELL: Mesa Verde BS Unit 16H
FIELD: Mesa Verde Bone spring

RIG: H&P 657
COUNTY: Eddy
API NO: 30-015-44551
JOB NO: 18MLD1227

13, 24S, 31E, Eddy NM
N 32.21058 W 103.72574

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>
Kamonporn Rimkhceree FE	Mesa Verde BS Unit 16H Original Hole	1123.00 Ft to 15517.00 Ft	July 12, 2018 to August 9, 2018	TelePacer/SlimPulse Third Party Corrected

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

Mike Stephens
Field Service Manager

Oilfield Services, Central U.S. Land
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)
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Schlumberger

Well Reference:

13, 24S, 31E, Eddy NM
N 32.21058 W 103.72574

I, Kamonporn Rinkheeree certify that; I am employed by Drilling & Measurements, a division of Schlumberger Technology Corporation; that I did on the day(s) of July 12, 2018 through August 09, 2018, conduct or supervise the taking of the TelePacer/SlimPulse & Third Party Corrected surveys from a depth of 1123.00 feet to a depth of 15517.00 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 Mesa Verde BS Unit 16H Well (Original Hole) API No. 30-015-44551 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 Donna Adams
Kamonporn Rinkheeree
FE

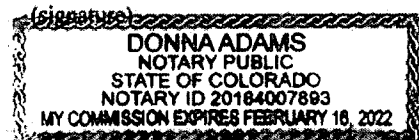
Subscribed and Sworn to before me this 25th day of August (month) 2018 (yr)

My Commission expires:

2-16-2022

D. Adams
Notary Public

Adams County Colorado
(County State)



Oxy Mesa Verde BS Unit 16H - Gyro + MWD(IFR1) to 15561' MD Survey

Geodetic Report

(Def Survey)



Report Date: August 10, 2018 - 02:51 PM
Client: OXY
Field: NM Eddy County (NAD 83)
Structure / Slot: Oxy Mesa Verde BS Unit 16H / Mesa Verde BS Unit 16H
Well: Mesa Verde BS Unit 16H
Borehole: Original Borehole
UWI / API#: Unknown / 30-015-44551
Survey Name: Oxy Mesa Verde BS Unit 16H - Gyro + MWD(IFR1) to 15561' MD
Survey Date: August 10, 2018
Tort / AHD / DDI / ERD Ratio: 225.900' / 5689.740 ft / 6.271 / 0.531
Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 12' 38.09705", W 103° 43' 32.67668"
Location Grid N/E/Y/X: N 440875.110 ftUS, E 729252.880 ftUS
CRS Grid Convergence Angle: 0.3239°
Grid Scale Factor: 0.99994953
Version / Patch: 2.10.720.0

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 0.000° (Grid North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: RKB=30'
TVD Reference Elevation: 3607.700 ft above MSL
Seabed / Ground Elevation: 3577.700 ft above MSL
Magnetic Declination: 6.811°
Total Gravity Field Strength: 998.4270mgn (9.80665 Based)
Gravity Model: GARM
Total Magnetic Field Strength: 47976.258 nT
Magnetic Dip Angle: 59.918°
Declination Date: August 10, 2018
Magnetic Declination Model: HDGM 2018
North Reference: Grid North
Grid Convergence Used: 0.3239°
Total Corr Mag North->Grid North: 6.4870°
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 ° ' ")
RKB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	440875.11	729252.88	N 32 12 38.10	W 103 43 32.68
Ground Level	30.00	0.00	0.00	30.00	0.00	0.00	0.00	0.00	440875.11	729252.88	N 32 12 38.10	W 103 43 32.68
	75.39	0.38	268.19	75.39	0.00	0.00	-0.15	0.84	440875.11	729252.73	N 32 12 38.10	W 103 43 32.68
	136.72	0.71	280.92	136.72	0.06	0.06	-0.73	0.57	440875.17	729252.15	N 32 12 38.10	W 103 43 32.69
	192.91	0.67	277.30	192.90	0.17	0.17	-1.39	0.11	440875.28	729251.49	N 32 12 38.10	W 103 43 32.69
	253.94	0.64	271.09	253.93	0.22	0.22	-2.09	0.13	440875.33	729250.79	N 32 12 38.10	W 103 43 32.70
	314.98	0.56	266.77	314.97	0.21	0.21	-2.73	0.15	440875.32	729250.15	N 32 12 38.10	W 103 43 32.71
	377.71	0.52	269.93	377.69	0.19	0.19	-3.32	0.08	440875.30	729249.56	N 32 12 38.10	W 103 43 32.72
	440.66	0.43	271.17	440.64	0.20	0.20	-3.84	0.14	440875.31	729249.04	N 32 12 38.10	W 103 43 32.72
	503.52	0.37	262.00	503.50	0.17	0.17	-4.28	0.14	440875.28	729248.60	N 32 12 38.10	W 103 43 32.73
	566.39	0.23	237.63	566.37	0.08	0.08	-4.58	0.30	440875.19	729248.30	N 32 12 38.10	W 103 43 32.73
	629.29	0.17	205.73	629.27	-0.07	-0.07	-4.73	0.20	440875.04	729248.15	N 32 12 38.10	W 103 43 32.73
	692.18	0.29	153.85	692.16	-0.30	-0.30	-4.70	0.36	440874.81	729248.18	N 32 12 38.09	W 103 43 32.73
	755.04	0.36	143.38	755.02	-0.60	-0.60	-4.51	0.15	440874.51	729248.37	N 32 12 38.09	W 103 43 32.73
	817.92	0.41	129.56	817.89	-0.90	-0.90	-4.22	0.17	440874.21	729248.66	N 32 12 38.09	W 103 43 32.73
	880.79	0.46	128.37	880.76	-1.20	-1.20	-3.85	0.08	440873.91	729249.03	N 32 12 38.09	W 103 43 32.72
	943.69	0.41	126.82	943.66	-1.50	-1.50	-3.47	0.08	440873.61	729249.41	N 32 12 38.08	W 103 43 32.72
Rustler	971.03	0.42	128.46	971.00	-1.62	-1.62	-3.32	0.05	440873.49	729249.56	N 32 12 38.08	W 103 43 32.72
Final Gyro												
Survey	1010.10	0.43	130.70	1010.07	-1.80	-1.80	-3.09	0.05	440873.31	729249.79	N 32 12 38.08	W 103 43 32.71
Salado	1095.03	0.11	194.17	1095.00	-2.09	-2.09	-2.87	0.46	440873.02	729250.01	N 32 12 38.08	W 103 43 32.71
	1123.00	0.15	251.80	1122.97	-2.12	-2.12	-2.91	0.46	440872.99	729249.97	N 32 12 38.08	W 103 43 32.71
	1306.00	0.10	55.82	1305.97	-2.11	-2.11	-3.01	0.14	440873.00	729249.87	N 32 12 38.08	W 103 43 32.71
	1491.00	0.15	264.00	1490.97	-2.04	-2.04	-3.12	0.13	440873.07	729249.76	N 32 12 38.08	W 103 43 32.71
	1680.00	0.15	343.01	1679.97	-1.83	-1.83	-3.43	0.10	440873.28	729249.45	N 32 12 38.08	W 103 43 32.72
	1869.00	0.17	0.40	1868.97	-1.31	-1.31	-3.51	0.03	440873.80	729249.37	N 32 12 38.08	W 103 43 32.72
	2058.00	0.15	359.93	2057.97	-0.79	-0.79	-3.50	0.01	440874.32	729249.38	N 32 12 38.09	W 103 43 32.72
	2248.00	0.10	357.99	2247.97	-0.37	-0.37	-3.51	0.03	440874.74	729249.37	N 32 12 38.09	W 103 43 32.72
	2437.00	0.15	201.35	2436.97	-0.44	-0.44	-3.61	0.13	440874.67	729249.27	N 32 12 38.09	W 103 43 32.72
	2626.00	0.15	273.87	2625.97	-0.65	-0.65	-3.94	0.09	440874.46	729248.94	N 32 12 38.09	W 103 43 32.72
	2816.00	0.15	213.31	2815.96	-0.84	-0.84	-4.33	0.08	440874.27	729248.55	N 32 12 38.09	W 103 43 32.73
	3005.00	0.15	211.65	3004.96	-1.26	-1.26	-4.59	0.00	440873.85	729248.29	N 32 12 38.08	W 103 43 32.73
	3100.00	0.15	94.56	3099.96	-1.38	-1.38	-4.53	0.27	440873.73	729248.35	N 32 12 38.08	W 103 43 32.73
	3194.00	0.35	312.49	3193.96	-1.19	-1.19	-4.62	0.51	440873.92	729248.26	N 32 12 38.09	W 103 43 32.73
Castile	3289.00	0.69	336.75	3288.96	-0.47	-0.47	-5.06	0.42	440874.64	729247.82	N 32 12 38.09	W 103 43 32.74
	3333.04	0.75	354.40	3333.00	0.06	0.06	-5.20	0.52	440875.17	729247.69	N 32 12 38.10	W 103 43 32.74
	3478.00	1.26	27.52	3477.93	2.42	2.42	-4.55	0.52	440877.53	729248.33	N 32 12 38.12	W 103 43 32.73
	3573.00	0.88	32.07	3572.92	3.96	3.96	-3.68	0.41	440879.07	729249.20	N 32 12 38.14	W 103 43 32.72
	3667.00	0.87	45.09	3666.91	5.08	5.08	-2.79	0.21	440880.19	729250.09	N 32 12 38.15	W 103 43 32.71
	3762.00	0.71	87.66	3761.90	5.61	5.61	-1.69	0.62	440880.72	729251.19	N 32 12 38.15	W 103 43 32.70
	3951.00	0.56	140.72	3950.89	4.94	4.94	0.06	0.31	440880.05	729252.94	N 32 12 38.15	W 103 43 32.68
	4141.00	0.77	205.88	4140.88	3.08	3.08	0.09	0.39	440878.19	729252.97	N 32 12 38.13	W 103 43 32.68
	4330.00	0.17	256.91	4329.87	1.87	1.87	-0.74	0.36	440876.98	729252.14	N 32 12 38.12	W 103 43 32.69
	4520.00	0.60	282.20	4519.87	2.02	2.02	-1.98	0.24	440877.13	729250.90	N 32 12 38.12	W 103 43 32.70
Delaware	4615.00	0.61	289.82	4614.86	2.29	2.29	-2.95	0.09	440877.40	729249.93	N 32 12 38.12	W 103 43 32.71
Bell Canyon	4657.14	0.54	302.25	4657.00	2.47	2.47	-3.32	0.34	440877.58	729249.58	N 32 12 38.12	W 103 43 32.72
	4672.14	0.52	307.44	4672.00	2.55	2.55	-3.44	0.34	440877.66	729249.44	N 32 12 38.12	W 103 43 32.72
	4709.00	0.49	321.51	4708.86	2.78	2.78	-3.67	0.34	440877.89	729249.21	N 32 12 38.12	W 103 43 32.72
	4899.00	0.10	298.06	4898.85	3.49	3.49	-4.32	0.21	440878.60	729248.56	N 32 12 38.13	W 103 43 32.73
	4993.00	0.21	290.65	4992.85	3.59	3.59	-4.55	0.12	440878.70	729248.33	N 32 12 38.13	W 103 43 32.73
	5088.00	0.17	7.70	5087.85	3.79	3.79	-4.70	0.25	440878.90	729248.18	N 32 12 38.13	W 103 43 32.73
	5278.00	0.15	25.05	5277.85	4.30	4.30	-4.55	0.03	440879.41	729248.33	N 32 12 38.14	W 103 43 32.73
	5467.00	0.21	325.65	5466.85	4.81	4.81	-4.64	0.10	440879.92	729248.24	N 32 12 38.14	W 103 43 32.73
Cherry Canyon	5534.15	0.22	317.58	5534.00	5.00	5.00	-4.80	0.05	440880.11	729248.08	N 32 12 38.15	W 103 43 32.73
	5657.00	0.25	305.11	5656.85	5.33	5.33	-5.18	0.05	440880.44	729247.70	N 32 12 38.15	W 103 43 32.74
	5846.00	0.15	240.16	5845.85	5.45	5.45	-5.73	0.12	440880.56	729247.15	N 32 12 38.15	W 103 43 32.74
	6035.00	0.10	73.71	6034.85	5.37	5.37	-5.79	0.13	440880.68	729247.09	N 32 12 38.15	W 103 43 32.74
	6130.00	0.15	349.89	6129.85	5.52	5.52	-5.73	0.18	440880.63	729247.15	N 32 12 38.15	W 103 43 32.74
	6225.00	0.17	345.14	6224.85	5.77	5.77	-5.79	0.03	440880.88	729247.09	N 32 12 38.15	W 103 43 32.74
	6319.00	0.21	266.11	6318.85	5.90	5.90	-6.00	0.26	440881.01	729246.89	N 32 12 38.16	W 103 43 32.75
	6509.00	1.21	124.24	6508.84	4.75	4.75	-4.68	0.73	440879.85	729248.20	N 32 12 38.14	W 103 43 32.73
	6603.00	2.66	125.75	6602.78	2.91	2.91	-2.09	1.54	440878.02	729250.79	N 32 12 38.13	W 103 43 32.70
	6698.00	4.22	125.65	6697.61	-0.41	-0.41	2.54	1.64	440874.70	729255.42	N 32 12 38.09	W 103 43 32.65
Brushy Canyon	6782.67	5.07	121.61	6782.00	-4.19	-4.19	8.25	1.07	440870.92	729261.13	N 32 12 38.06	W 103 43 32.58
	6792.00	5.16	121.25	6791.29	-4.62	-4.62	8.96	1.07	440870.49	729261.84	N 32 12 38.05	W 103 43 32.57
	6982.00	6.55	115.79	6980.30	-13.77	-13.77	26.02	0.79	440861.34	729278.90	N 32 12 37.96	W 103 43 32.37
	7076.00	7.84	111.29	7073.55	-18.43	-18.43	36.82	1.50	440856.68	729289.70	N 32 12 37.91	W 103 43 32.25
	7266.00	8.88	112.65	7261.53	-28.78	-28.78	62.43	0.56	440846.33	729315.31	N 32 12 37.81	W 103 43 31.95
	7455.00	8.65	113.71	7448.33	-40.12	-40.12	88.91	0.15	440835.00	729341.78	N 32 12 37.70	W 103 43 31.64
	7644.00	8.75	112.53	7635.15	-51.34	-51.34	115.20	0.11	440823.77	729368.07	N 32 12 37.58	W 103 43 31.34
	7833.00	8.31	113.67	7822.06	-62.33	-62.33	140.99	0.25	440812.78	729393.86	N 32 12 37.47	W 103 43 31.04
	7928.00	8.49	112.27	7916.04	-67.74	-67.74	153.77	0.29	440807.37	729406.64	N 32 12 37.42	W 103 43 30.89
	8117.00	7.39	108.29	8103.23	-76.85	-76.85	178.22	0.65	440798.27	729431.09	N 32 12 37.33	W 103 43 30.61
	8306.00	7.29	107.15	8290.68	-84.20	-84.20	201.22	0.09	440790.92	729454.09	N 32 12 37.25	W 103 43 30.34
Bone Spring	8474.62	6.92	111.35	8458.00	-91.05	-91.05	220.90	0.38	440784.06	729473.77	N 32 12 37.18	W 103 43 30.11
	8495.00	6.88	111.89	8								

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 ° ' ")
	9061.00	2.69	15.76	9041.44	-107.99	-107.99	272.34	3.48	440767.12	729525.20	N 32 12 37.01	W 103 43 29.51
	9156.00	3.61	281.95	9136.34	-105.23	-105.23	270.02	4.89	440769.89	729522.88	N 32 12 37.04	W 103 43 29.54
	9250.00	4.30	237.15	9230.14	-106.53	-106.53	264.16	3.28	440768.58	729517.03	N 32 12 37.03	W 103 43 29.61
	9344.00	2.06	199.52	9324.00	-110.03	-110.03	260.63	3.14	440765.09	729513.50	N 32 12 36.99	W 103 43 29.65
	9439.00	1.41	140.00	9418.96	-112.54	-112.54	260.82	1.91	440762.58	729513.69	N 32 12 36.97	W 103 43 29.65
	9533.00	3.38	99.66	9512.88	-113.89	-113.89	264.29	2.64	440761.23	729517.16	N 32 12 36.96	W 103 43 29.61
	9627.00	5.90	92.11	9606.56	-114.53	-114.53	271.85	2.75	440760.59	729524.72	N 32 12 36.95	W 103 43 29.52
	9722.00	7.90	92.43	9700.87	-114.99	-114.99	283.26	2.11	440760.13	729536.12	N 32 12 36.94	W 103 43 29.39
	9816.00	8.93	88.88	9793.86	-115.12	-115.12	297.00	1.23	440760.00	729549.87	N 32 12 36.94	W 103 43 29.23
	9885.00	9.33	90.87	9861.98	-115.10	-115.10	307.95	0.74	440760.02	729560.81	N 32 12 36.94	W 103 43 29.10
Actual KOP	10071.00	12.81	77.81	10044.52	-110.97	-110.97	343.20	2.29	440764.15	729596.06	N 32 12 36.98	W 103 43 28.69
	10166.00	20.38	53.44	10135.61	-98.86	-98.86	366.84	10.67	440776.25	729619.70	N 32 12 37.10	W 103 43 28.41
	10261.00	28.11	25.52	10222.44	-68.67	-68.67	389.88	14.35	440806.44	729642.74	N 32 12 37.40	W 103 43 28.14
	10356.00	35.21	10.84	10303.37	-21.44	-21.44	404.71	10.98	440853.67	729657.57	N 32 12 37.86	W 103 43 27.97
	10451.00	44.96	0.47	10376.05	39.23	39.23	410.16	12.41	440914.34	729663.02	N 32 12 38.46	W 103 43 27.90
	10546.00	56.92	359.68	10435.80	112.86	112.86	410.21	12.61	440987.97	729663.07	N 32 12 39.19	W 103 43 27.89
	10641.00	63.08	0.31	10483.28	195.10	195.10	410.22	6.51	441070.20	729663.08	N 32 12 40.00	W 103 43 27.89
	10736.00	69.01	2.20	10521.84	281.85	281.85	412.15	6.50	441156.94	729665.01	N 32 12 40.86	W 103 43 27.86
	10831.00	74.68	1.55	10551.43	372.03	372.03	415.09	6.00	441247.12	729667.95	N 32 12 41.76	W 103 43 27.82
	10926.00	75.57	1.74	10575.81	463.81	463.81	417.73	0.96	441338.90	729670.59	N 32 12 42.66	W 103 43 27.78
	11021.00	83.97	1.73	10592.67	557.17	557.17	420.56	8.84	441432.25	729673.42	N 32 12 43.59	W 103 43 27.75
	11116.00	89.31	356.91	10598.24	651.94	651.94	419.42	7.57	441527.02	729672.28	N 32 12 44.52	W 103 43 27.75
	11147.00	89.76	356.08	10598.49	682.88	682.88	417.53	3.05	441557.96	729670.39	N 32 12 44.83	W 103 43 27.77
	11211.00	87.45	356.58	10600.05	746.73	746.73	413.43	3.69	441621.80	729666.29	N 32 12 45.46	W 103 43 27.82
	11289.00	84.04	358.49	10605.84	824.43	824.43	410.08	5.01	441699.49	729662.94	N 32 12 46.23	W 103 43 27.85
	11385.00	86.84	357.66	10613.47	920.06	920.06	406.87	3.04	441795.12	729659.73	N 32 12 47.18	W 103 43 27.88
	11480.00	88.08	353.92	10617.68	1014.69	1014.69	399.90	4.14	441889.75	729652.76	N 32 12 48.12	W 103 43 27.96
	11575.00	86.87	352.23	10621.86	1108.90	1108.90	388.46	2.19	441983.95	729641.32	N 32 12 49.05	W 103 43 28.08
	11670.00	87.77	352.49	10626.31	1202.95	1202.95	375.84	0.99	442078.00	729628.70	N 32 12 49.98	W 103 43 28.22
	11765.00	86.15	356.12	10631.35	1297.33	1297.33	366.43	4.18	442172.37	729619.29	N 32 12 50.91	W 103 43 28.33
	11860.00	91.48	1.21	10633.31	1392.22	1392.22	364.22	7.76	442267.26	729617.08	N 32 12 51.85	W 103 43 28.35
	11955.00	91.27	1.09	10631.03	1487.17	1487.17	366.13	0.25	442362.20	729618.99	N 32 12 52.79	W 103 43 28.32
	12050.00	91.72	0.37	10628.55	1582.13	1582.13	367.34	0.89	442457.16	729620.20	N 32 12 53.73	W 103 43 28.30
	12145.00	91.69	358.29	10625.73	1677.08	1677.08	366.23	2.19	442552.10	729619.09	N 32 12 54.67	W 103 43 28.30
	12240.00	90.35	356.72	10624.03	1771.97	1771.97	362.09	2.17	442646.98	729614.95	N 32 12 55.61	W 103 43 28.35
	12335.00	89.11	359.46	10624.48	1866.90	1866.90	358.93	3.17	442741.91	729611.79	N 32 12 56.55	W 103 43 28.38
	12430.00	86.94	0.92	10627.76	1961.84	1961.84	359.24	2.75	442836.84	729612.10	N 32 12 57.49	W 103 43 28.37
	12525.00	85.77	2.52	10633.80	2056.60	2056.60	362.09	2.08	442931.60	729614.95	N 32 12 58.43	W 103 43 28.33
	12715.00	86.25	1.54	10647.02	2246.02	2246.02	368.80	0.57	443121.01	729621.66	N 32 13 0.30	W 103 43 28.24
	12810.00	87.14	359.93	10652.49	2340.85	2340.85	370.02	1.93	443215.83	729622.88	N 32 13 1.24	W 103 43 28.22
	12905.00	86.39	358.59	10657.86	2435.68	2435.68	368.79	1.61	443310.67	729621.65	N 32 13 2.18	W 103 43 28.22
	13000.00	88.49	1.64	10662.10	2530.57	2530.57	368.98	3.90	443405.55	729621.84	N 32 13 3.12	W 103 43 28.22
	13095.00	91.83	2.87	10661.83	2625.48	2625.48	372.72	3.75	443500.45	729625.58	N 32 13 4.06	W 103 43 28.17
	13189.00	89.97	359.42	10660.36	2719.43	2719.43	374.60	4.17	443594.40	729627.46	N 32 13 4.98	W 103 43 28.14
	13284.00	89.07	359.70	10661.15	2814.43	2814.43	373.87	0.99	443689.39	729626.73	N 32 13 5.92	W 103 43 28.14
	13475.00	89.42	359.81	10663.67	3005.41	3005.41	373.05	0.19	443880.36	729625.91	N 32 13 7.81	W 103 43 28.14
	13570.00	89.01	359.58	10664.97	3100.40	3100.40	372.55	0.49	443975.34	729625.41	N 32 13 8.75	W 103 43 28.14
	13665.00	89.21	359.95	10666.45	3195.39	3195.39	372.16	0.44	444070.33	729625.02	N 32 13 9.69	W 103 43 28.13
	13759.00	90.11	359.79	10667.01	3289.38	3289.38	371.94	0.97	444164.32	729624.80	N 32 13 10.62	W 103 43 28.13
	13949.00	88.59	359.77	10669.16	3479.36	3479.36	371.21	0.80	444354.29	729624.07	N 32 13 12.50	W 103 43 28.13
	14139.00	88.42	359.36	10674.12	3669.29	3669.29	369.77	0.23	444544.21	729622.63	N 32 13 14.38	W 103 43 28.13
	14234.00	89.97	0.19	10675.45	3764.28	3764.28	369.40	1.85	444639.19	729622.26	N 32 13 15.32	W 103 43 28.13
	14329.00	89.93	0.02	10675.54	3859.28	3859.28	369.57	0.18	444734.19	729622.43	N 32 13 16.26	W 103 43 28.12
	14424.00	89.76	0.01	10675.79	3954.28	3954.28	369.60	0.18	444829.18	729622.46	N 32 13 17.20	W 103 43 28.11
	14519.00	89.11	359.59	10676.73	4049.27	4049.27	369.27	0.81	444924.17	729622.13	N 32 13 18.14	W 103 43 28.11
	14614.00	92.55	0.11	10675.35	4144.25	4144.25	369.02	3.66	445019.14	729621.88	N 32 13 19.08	W 103 43 28.11
	14804.00	93.10	359.71	10685.99	4334.01	4334.01	368.72	0.36	445208.90	729621.58	N 32 13 20.96	W 103 43 28.10
	14994.00	90.52	358.98	10689.99	4523.89	4523.89	366.55	1.41	445398.78	729619.41	N 32 13 22.84	W 103 43 28.11
	15183.00	90.31	359.80	10688.62	4712.87	4712.87	364.54	0.45	445587.74	729617.40	N 32 13 24.71	W 103 43 28.12
	15373.00	89.97	359.33	10688.15	4902.87	4902.87	363.09	0.31	445777.72	729615.95	N 32 13 26.59	W 103 43 28.13
100' FNL	15480.00	89.12	359.69	10659.00	5009.86	5009.86	362.18	0.86	445884.70	729615.04	N 32 13 27.65	W 103 43 28.13
Final MWD	15517.00	88.83	359.82	10659.66	5046.85	5046.85	362.02	0.86	445921.70	729614.89	N 32 13 28.02	W 103 43 28.13
Survey PBHL	15561.00	88.83	359.82	10660.56	5090.84	5090.84	361.89	0.00	445965.68	729614.75	N 32 13 28.45	W 103 43 28.13

Survey Type: Def Survey

Survey Error Model: ISCSA 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	30.000	1/98.425	30.000	30.000	NAL_NSG+MSHOT-Depth Only
	1	30.000	30.000	Act Sins	30.000	30.000	NAL_NSG+MSHOT-Depth Only
	1	30.000	1010.100	Act Sins	30.000	30.000	NAL_NSG+MSHOT
	1	1010.100	7928.000	Act Sins	30.000	30.000	NAL_MWD_IFR1+MS
	1	7928.000	9061.000	Act Sins	30.000	30.000	NAL_MWD_PLUS_0.5_DEG
	1	9061.000	15561.000	Act Sins	30.000	30.000	NAL_MWD_IFR1+MS

Schlumberger

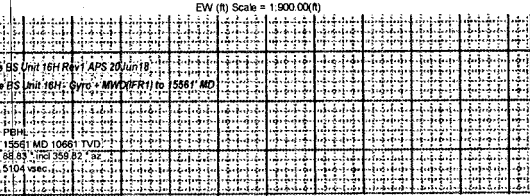
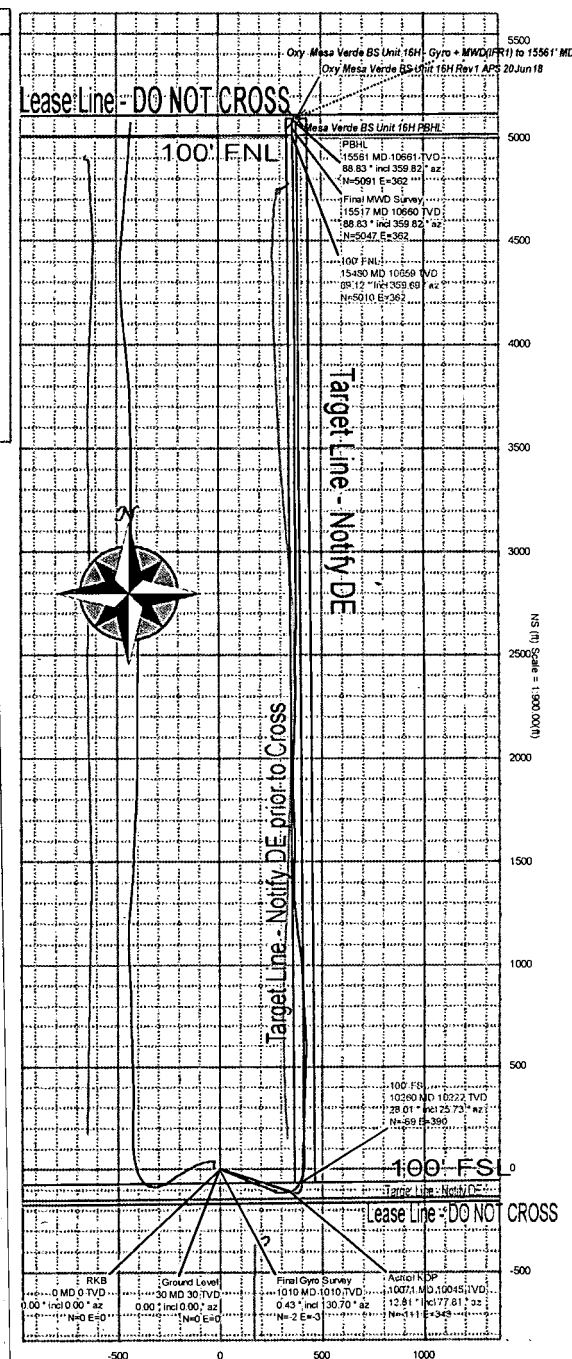
OXY



Borehole:	Well:	Field:	Structure:
Original Borehole	Mesa Verde BS Unit 16H	NM Eddy County (NAD 83)	Oxy Mesa Verde BS Unit 16H

Gravity & Magnetic Parameters				Surface Location NAD83 New Mexico State Plane, Eastern Zone, US Feet				Miscellaneous			
Model:	HDGM 2018	Dip:	59.919°	Date:	31-Jul-2018	Lat:	N 32 12 38.10	Northing:	440875.11RUS	Grid Conv:	0.3239°
MagDec:	6.813°	FS:	47978.449T	Gravity FS:	998.427mgn (9.80665 Based)	Lon:	W 103 43 32.68	Easting:	729252.88RUS	Scale Fact:	0.99994953
								Plan: Oxy Mesa Verde BS Unit 16H Rev1 APS 20Jun18			

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	971.00	0.00	107.86	971.00	0.00	0.00	0.00	0.00			
Salado	1095.00	0.00	107.86	1095.00	0.00	0.00	0.00	0.00			
Castile	3333.00	0.00	107.86	3333.00	0.00	0.00	0.00	0.00			
Delaware	4657.00	0.00	107.86	4657.00	0.00	0.00	0.00	0.00			
Bell Canyon	4672.00	0.00	107.86	4672.00	0.00	0.00	0.00	0.00			
Cherry Canyon	5534.00	0.00	107.86	5534.00	0.00	0.00	0.00	0.00			
Build 2"/100'	6365.00	0.00	107.86	6365.00	0.00	0.00	0.00	0.00			
Hold Tangent	6715.12	7.00	107.86	6714.25	-5.02	-6.55	20.34	2.00			
Brushy Canyon	6783.38	7.00	107.86	6782.00	-6.97	-9.11	28.26	0.00			
Bone Spring	8471.98	7.00	107.86	8458.00	-55.30	-72.24	224.20	0.00			
Turn 2"/100'	9626.95	7.00	107.86	9604.36	-88.35	-115.43	358.22	0.00			
Build/Turn 10"/100'	10127.25	7.00	16.50	10102.19	-65.66	-95.50	396.00	2.00			
Landing Point	10960.27	90.00	359.64	10608.00	502.98	473.65	410.42	10.00			
Mesa Verde BS Unit 16H PBHL	15578.23	90.00	359.64	10608.00	5105.78	5091.52	381.29	0.00			



Vertical Section (ft) Azim = 4.28° Scale = 1:1900.00(R) Origin = 0N-S, 0E-W