

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

30-015-44549

NM OIL CONSERVATION
ARTESIA DISTRICT

August 16, 2018

AUG 22 2018

OXY USA Inc.

RECEIVED

Re:

13, 24S, 31E, Eddy NM
32.21058 103.73148

CLIENT: OXY USA Inc.
WELL: Mesa Verde BS Unit 18H
FIELD: Mesa Verde Bone Spring

RIG: H&P 656
COUNTY: Eddy
API NO: 30-015-44549
JOB NO: 18MLD1239

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>
Chris Heimann FE	Mesa Verde BS Unit 18H Original Hole	1080.00 Ft to 15489.00 Ft	July 8, 2018 to July 28, 2018	TelePacer SlimPulse

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

Josh Rubash/Blake Jones
Field Service Manager

Comments	MD	Incl	Azim Grid	TVD	VSEC	NS	EW	DLS	Northng	Eastng	Latitude	Longitude
	7991.00	7.55	110.14	7976.93	-58.93	-74.70	193.44	0.20	440790.70	227870.34	32 12 37.25 W	103 43 51.10 E
	8077.00	7.78	110.07	8062.16	-61.99	-76.64	204.21	0.27	440788.75	227881.11	32 12 37.27 W	103 43 50.88 E
	8171.00	7.44	108.93	8155.33	-65.20	-82.80	215.94	0.40	440782.60	227889.84	32 12 37.27 W	103 43 50.84 E
	8266.00	7.46	109.95	8249.50	-68.90	-86.90	227.56	0.14	440778.23	227904.49	32 12 37.18 W	103 43 50.56 E
	8360.00	7.01	112.43	8342.78	-71.72	-91.72	238.59	0.58	440774.49	227913.49	32 12 37.18 W	103 43 50.56 E
	8455.00	6.89	113.60	8437.78	-75.35	-95.35	249.17	0.20	440769.73	227928.07	32 12 37.10 W	103 43 50.34 E
	8549.00	6.41	113.48	8530.45	-78.88	-100.01	259.15	0.51	440765.38	227936.05	32 12 37.10 W	103 43 50.34 E
	8643.00	6.07	109.42	8623.64	-81.55	-86.55	268.55	0.59	440761.64	227945.15	32 12 37.03 W	103 43 50.32 E
	8738.00	6.15	107.14	8718.35	-84.24	-89.27	278.25	0.27	440758.47	227953.15	32 12 37.03 W	103 43 50.32 E
	8832.00	6.57	110.92	8811.77	-87.77	-92.77	288.11	0.57	440755.14	227961.55	32 12 37.03 W	103 43 50.32 E
	8927.00	6.38	112.92	8906.17	-90.87	-95.87	298.04	0.49	440751.13	227969.94	32 12 36.99 W	103 43 50.60 E
	9021.00	5.93	108.93	8999.63	-93.73	-97.73	307.55	0.83	440747.64	227978.36	32 12 36.92 W	103 43 49.78 E
	9115.00	5.25	107.54	9093.25	-96.59	-100.59	315.35	1.40	440744.35	227986.87	32 12 36.89 W	103 43 49.61 E
	9210.00	4.34	99.85	9188.05	-99.85	-102.85	321.78	2.05	440740.98	227995.38	32 12 36.89 W	103 43 49.61 E
	9304.00	2.38	94.83	9281.84	-99.86	-102.86	326.00	0.55	440737.61	228003.99	32 12 36.89 W	103 43 49.61 E
	9399.00	1.88	94.22	9378.87	-99.87	-102.87	329.22	0.55	440734.24	228012.50	32 12 36.89 W	103 43 49.61 E
	9493.00	1.78	97.86	9476.83	-99.88	-102.88	331.46	1.45	440730.87	228021.01	32 12 36.89 W	103 43 49.61 E
	9588.00	1.78	97.86	9574.83	-99.89	-102.89	333.69	1.45	440727.50	228029.52	32 12 36.89 W	103 43 49.61 E
	9683.00	2.72	116.57	9669.75	-99.90	-102.90	335.92	1.28	440724.13	228038.03	32 12 36.89 W	103 43 49.61 E
	9788.00	3.36	118.87	9764.82	-99.91	-102.91	338.15	1.28	440720.76	228046.54	32 12 36.89 W	103 43 49.61 E
	9883.00	3.97	121.97	9859.84	-99.92	-102.92	340.38	1.28	440717.39	228055.05	32 12 36.89 W	103 43 49.61 E
	9978.00	4.59	125.09	9954.89	-99.93	-102.93	342.61	1.28	440714.02	228063.56	32 12 36.89 W	103 43 49.61 E
	10073.00	5.13	128.22	10049.94	-99.94	-102.94	344.84	1.28	440710.65	228072.07	32 12 36.89 W	103 43 49.61 E
	10168.00	5.77	131.30	10145.00	-99.95	-102.95	347.07	1.28	440707.28	228080.58	32 12 36.89 W	103 43 49.61 E
	10263.00	6.41	134.43	10240.05	-99.96	-102.96	349.30	1.28	440703.91	228089.09	32 12 36.89 W	103 43 49.61 E
	10358.00	7.05	137.56	10335.10	-99.97	-102.97	351.53	1.28	440700.54	228097.60	32 12 36.89 W	103 43 49.61 E
	10453.00	7.69	140.69	10430.15	-99.98	-102.98	353.76	1.28	440697.17	228106.11	32 12 36.89 W	103 43 49.61 E
	10548.00	8.33	143.82	10525.20	-99.99	-102.99	355.99	1.28	440693.80	228114.62	32 12 36.89 W	103 43 49.61 E
	10643.00	8.97	146.95	10620.25	-99.99	-102.99	358.22	1.28	440690.43	228123.13	32 12 36.89 W	103 43 49.61 E
	10738.00	9.61	150.08	10715.30	-99.99	-102.99	360.45	1.28	440687.06	228131.64	32 12 36.89 W	103 43 49.61 E
	10833.00	10.25	153.21	10810.35	-99.99	-102.99	362.68	1.28	440683.69	228140.15	32 12 36.89 W	103 43 49.61 E
	10928.00	10.89	156.34	10905.40	-99.99	-102.99	364.91	1.28	440680.32	228148.66	32 12 36.89 W	103 43 49.61 E
	11023.00	11.53	159.47	11000.45	-99.99	-102.99	367.14	1.28	440676.95	228157.17	32 12 36.89 W	103 43 49.61 E
	11118.00	12.17	162.60	11095.50	-99.99	-102.99	369.37	1.28	440673.58	228165.68	32 12 36.89 W	103 43 49.61 E
	11213.00	12.81	165.73	11190.55	-99.99	-102.99	371.60	1.28	440670.21	228174.19	32 12 36.89 W	103 43 49.61 E
	11308.00	13.45	168.86	11285.60	-99.99	-102.99	373.83	1.28	440666.84	228182.70	32 12 36.89 W	103 43 49.61 E
	11403.00	14.09	171.99	11380.65	-99.99	-102.99	376.06	1.28	440663.47	228191.21	32 12 36.89 W	103 43 49.61 E
	11498.00	14.73	175.12	11475.70	-99.99	-102.99	378.29	1.28	440660.10	228199.72	32 12 36.89 W	103 43 49.61 E
	11593.00	15.37	178.25	11570.75	-99.99	-102.99	380.52	1.28	440656.73	228208.23	32 12 36.89 W	103 43 49.61 E
	11688.00	16.01	181.38	11665.80	-99.99	-102.99	382.75	1.28	440653.36	228216.74	32 12 36.89 W	103 43 49.61 E
	11783.00	16.65	184.51	11760.85	-99.99	-102.99	384.98	1.28	440650.00	228225.25	32 12 36.89 W	103 43 49.61 E
	11878.00	17.29	187.64	11855.90	-99.99	-102.99	387.21	1.28	440646.63	228233.76	32 12 36.89 W	103 43 49.61 E
	11973.00	17.93	190.77	11950.95	-99.99	-102.99	389.44	1.28	440643.26	228242.27	32 12 36.89 W	103 43 49.61 E
	12068.00	18.57	193.90	12046.00	-99.99	-102.99	391.67	1.28	440639.89	228250.78	32 12 36.89 W	103 43 49.61 E
	12163.00	19.21	197.03	12141.05	-99.99	-102.99	393.90	1.28	440636.52	228259.29	32 12 36.89 W	103 43 49.61 E
	12258.00	19.85	200.16	12236.10	-99.99	-102.99	396.13	1.28	440633.15	228267.80	32 12 36.89 W	103 43 49.61 E
	12353.00	20.49	203.29	12331.15	-99.99	-102.99	398.36	1.28	440629.78	228276.31	32 12 36.89 W	103 43 49.61 E
	12448.00	21.13	206.42	12426.20	-99.99	-102.99	400.59	1.28	440626.41	228284.82	32 12 36.89 W	103 43 49.61 E
	12543.00	21.77	209.55	12521.25	-99.99	-102.99	402.82	1.28	440623.04	228293.33	32 12 36.89 W	103 43 49.61 E
	12638.00	22.41	212.68	12616.30	-99.99	-102.99	405.05	1.28	440619.67	228301.84	32 12 36.89 W	103 43 49.61 E
	12733.00	23.05	215.81	12711.35	-99.99	-102.99	407.28	1.28	440616.30	228310.35	32 12 36.89 W	103 43 49.61 E
	12828.00	23.69	218.94	12806.40	-99.99	-102.99	409.51	1.28	440612.93	228318.86	32 12 36.89 W	103 43 49.61 E
	12923.00	24.33	222.07	12901.45	-99.99	-102.99	411.74	1.28	440609.56	228327.37	32 12 36.89 W	103 43 49.61 E
	13018.00	24.97	225.20	13000.50	-99.99	-102.99	413.97	1.28	440606.19	228335.88	32 12 36.89 W	103 43 49.61 E
	13113.00	25.61	228.33	13095.55	-99.99	-102.99	416.20	1.28	440602.82	228344.39	32 12 36.89 W	103 43 49.61 E
	13208.00	26.25	231.46	13190.60	-99.99	-102.99	418.43	1.28	440599.45	228352.90	32 12 36.89 W	103 43 49.61 E
	13303.00	26.89	234.59	13285.65	-99.99	-102.99	420.66	1.28	440596.08	228361.41	32 12 36.89 W	103 43 49.61 E
	13398.00	27.53	237.72	13380.70	-99.99	-102.99	422.89	1.28	440592.71	228369.92	32 12 36.89 W	103 43 49.61 E
	13493.00	28.17	240.85	13475.75	-99.99	-102.99	425.12	1.28	440589.34	228378.43	32 12 36.89 W	103 43 49.61 E
	13588.00	28.81	243.98	13570.80	-99.99	-102.99	427.35	1.28	440585.97	228386.94	32 12 36.89 W	103 43 49.61 E
	13683.00	29.45	247.11	13665.85	-99.99	-102.99	429.58	1.28	440582.60	228395.45	32 12 36.89 W	103 43 49.61 E
	13778.00	30.09	250.24	13760.90	-99.99	-102.99	431.81	1.28	440579.23	228403.96	32 12 36.89 W	103 43 49.61 E
	13873.00	30.73	253.37	13855.95	-99.99	-102.99	434.04	1.28	440575.86	228412.47	32 12 36.89 W	103 43 49.61 E
	13968.00	31.37	256.50	13951.00	-99.99	-102.99	436.27	1.28	440572.49	228420.98	32 12 36.89 W	103 43 49.61 E
	14063.00	32.01	259.63	14046.05	-99.99	-102.99	438.50	1.28	440569.12	228429.49	32 12 36.89 W	103 43 49.61 E
	14158.00	32.65	262.76	14141.10	-99.99	-102.99	440.73	1.28	440565.75	228438.00	32 12 36.89 W	103 43 49.61 E
	14253.00	33.29	265.89	14236.15	-99.99	-102.99	442.96	1.28	440562.38	228446.51	32 12 36.89 W	103 43 49.61 E
	14348.00	33.93	269.02	14331.20	-99.99	-102.99	445.19	1.28	440559.01	228455.02	32 12 36.89 W	103 43 49.61 E
	14443.00	34.57	272.15	14426.25	-99.99	-102.99	447.42	1.28	440555.64	228463.53	32 12 36.89 W	103 43 49.61 E
	14538.00	35.21	275.28	14521.30	-99.99	-102.99	449.65	1.28	440552.27	228472.04	32 12 36.89 W	103 43 49.61 E
	14633.00	35.85	278.41	14616.35	-99.99	-102.99	451.88	1.28	440548.90	228480.55	32 12 36.89 W	103 43 49.61 E
	14728.00	36.49	281.54	14711.40	-99.99	-102.99	454.11	1.28	440545.53	228489.06	32 12 36.89 W	103 43 49.61 E
	14823.00	37.13	284.67	14806.45	-99.99	-102.99	456.34	1.28	440542.16	228497.57	32 12 36.89 W	103 43 49.61 E
	14918.00	37.77	287.80	14901.50	-99.99	-102.99	458.57	1.28	440538.79	228506.08	32 12 36.89 W	103 43 49.61 E
	15013.00	38.41	290.93	15000.55	-99.99	-102.99	460.80	1.28	440535.42	228514.59	32 12 36.89 W	103 43 49.61 E
	15108.00	39.05	294.06	15095.60	-99.99	-102.99	463.03	1.28	440532.05	228523.10	32 12 36.89 W	103 43 49

Schlumberger

OXY



Borehole:

Well:

Field:

Structure:

Original Borehole

Mesa Verde BS Unit 18H

NM Eddy County (NAD 83)

Oxy Mesa Verde BS Unit 18H

Gravity & Magnetic Parameters

Model: HOGM 2018 Dp: 63.22" Date: 13-Jul-2018
MagDec: 6.821° FS: 47986.294mT Gravity FS: 988.428mg (3.8065 Based)

Surface Location

NAD83 New Mexico State Plane, Eastern Zone, US Feet

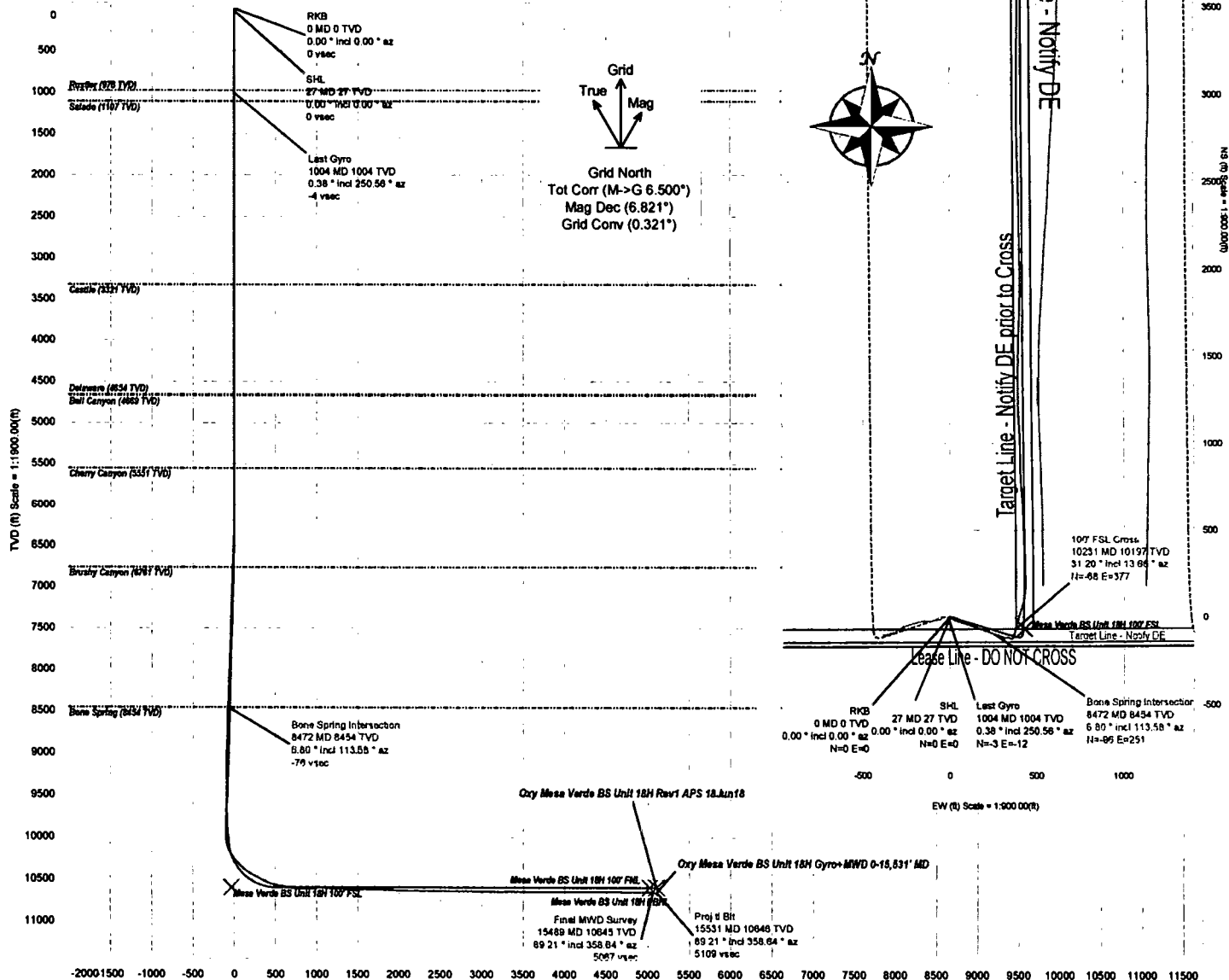
Lat: N 32 12 38.10 Northing: 440865.230US Grid Conv: 0.3208
Lon: W 103 43 53.35 Easting: 727476.917US Scale Fact: 0.3989477

Miscellaneous

Site: Mesa Verde BS Unit 18H TVD Ref: RKB=26.5' (2613.58' above MSL)
Plan: Oxy Mesa Verde BS Unit 18H Rev1 APS 18Jun18

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	976.00	0.00	106.81	976.00	0.00	0.00	0.00	0.00
Salado	1107.00	0.00	106.81	1107.00	0.00	0.00	0.00	0.00
Castle	3321.00	0.00	106.81	3321.00	0.00	0.00	0.00	0.00
Delaware	4654.00	0.00	106.81	4654.00	0.00	0.00	0.00	0.00
Bell Canyon	4669.00	0.00	106.81	4669.00	0.00	0.00	0.00	0.00
Cherry Canyon	5551.00	0.00	106.81	5551.00	0.00	0.00	0.00	0.00
Build 2°/100'	6150.00	0.00	106.81	6150.00	0.00	0.00	0.00	0.00
Hold Tangent	6500.05	7.00	106.81	6499.18	-4.52	-6.18	20.45	2.00
Brushy Canyon	6763.84	7.00	106.81	6761.00	-11.32	-15.48	51.22	0.00
Bone Spring	8469.56	7.00	106.81	8454.00	-55.28	-75.61	250.24	0.00
Turn 2°/100'	9593.26	7.00	106.81	9569.33	-84.24	-115.23	381.36	0.00
Build/Turn 10°/100'	10116.24	7.00	10.00	10089.85	-59.19	-93.00	417.50	2.00
Landing Point	10947.38	90.00	359.64	10594.00	508.47	475.88	425.07	10.00
Mesa Verde BS Unit 18H PBL	15564.78	90.00	359.64	10594.00	5108.56	5093.19	396.20	0.00



Vertical Section (ft) Azim = 4.60° Scale = 1:1900.00(ft) Origin = 0N-S, 0E-W