

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

30-015-44547

November 16, 2018

NM OIL CONSERVATION
ARTESIA DISTRICT

OXY USA INC.
5 Greenway Plaza, Suite 110
Houston, TX 77046

FEB 19 2019

RECEIVED

Re:

13, 24S, 31E, Eddy NM
32.21059 -103.73722

CLIENT: OXY USA INC.
WELL: Mesa Verde BS Unit 20H
FIELD: Mesa Verde Bone Spring

RIG: H&P 639
COUNTY: Eddy
API NO: 30-015-44547
JOB NO: 18MLD3562

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>
Perry Hawks FE	Mesa Verde BS Unit 20H Original Hole	1129.00 Ft to 15512.00 Ft	September 29, 2018 to November 1, 2018	TelePacer/SlimPulse Third Party Corrected

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

Enrique Fernandez
Field Service Manager

Schlumberger-Private

3/21/19

Oilfield Services, Central U.S. Land
Schlumberger Drilling and Measurements
Drilling Group
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7220 W I-H 20
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Schlumberger

Well Reference:
13, 24S, 31E, Eddy NM
32.21059 -103.73722

I, Perry Hawks certify that; I am employed by Drilling & Measurements, a division of Schlumberger Technology Corporation; that I did on the day(s) of September 29, 2018 through November 01, 2018, conduct or supervise the taking of the TelePacer/SlimPulse & Third Party Corrected surveys from a depth of 1129.00 feet to a depth of 15512.00 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 20H Well (Original Hole) API No. 30-015-44547 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
Perry Hawks
FE



Subscribed and Sworn to before me this 16th day of November (month) 2018 (yr)

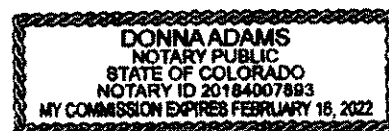
My Commission expires:

2-16-2022

D. Adams
Notary Public

(signature)

Adams County Colorado
(County State)



Schlumberger-Private

Oxy Mesa Verde BS Unit 20H Gyro+MWD 0-15554'MD Survey Geodetic Report

(Def Survey)



Report Date: November 02, 2018 - 11:31 AM
 Client: OXY
 Field: NM Eddy County (NAD 83)
 Structure / Slot: Oxy Mesa Verde BS Unit 20H / Oxy Mesa Verde BS Unit 20H
 Well: Mesa Verde BS Unit 20H
 Borehole: Original Borehole
 UWI / API#: Unknown / Unknown
 Survey Name: Oxy Mesa Verde BS Unit 20H Gyro+MWD 0-15554'MD
 Survey Date: September 27, 2018
 Tort / AHD / DDI / ERD Ratio: 223.361' / 5601.131 ft / 6.263 / 0.526
 Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
 Location Lat / Long: N 32° 12' 38.11140", W 103° 44' 14.00655"
 Location Grid N/E Y/X: N 440856.878 NUS, E 725702.120 NUS
 CRS Grid Convergence Angle: 0.3178°
 Grid Scale Factor: 0.99994802
 Version / Patch: 2.10.740.0

Survey / DLS Computation: Minimum Curvature / Lubinski
 Vertical Section Azimuth: 3.960° (Grid North)
 Vertical Section Origin: 0.000 ft, 0.000 ft
 TVD Reference Datum: RKB
 Seabed / Ground Elevation: 3614.900 ft above MSL
 Magnetic Declination: 6.754°
 Total Gravity Field Strength: 988.4253mgn (9.80665 Based)
 Gravity Model: GARM
 Total Magnetic Field Strength: 47972.300 nT
 Magnetic Dip Angle: 59.892°
 Declination Date: October 26, 2018
 Magnetic Declination Model: IIFR1
 North Reference: Grid North
 Grid Convergence Used: 0.3178°
 Total Corr Mag North->Grid North: 6.4362°
 Local Coord Referenced To: Well Head

Comments	MD (ft)	Incl (°)	Azlm Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (ft/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (W/E ° ' ")
RKB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	440856.88	725702.12	N 32 12 38.11	W 103 44 14.01
SHL	28.50	0.00	0.00	28.50	0.00	0.00	0.00	0.00	440856.88	725702.12	N 32 12 38.11	W 103 44 14.01
	99.74	0.41	225.08	99.74	-0.20	-0.19	-0.19	0.56	440856.49	725701.93	N 32 12 38.11	W 103 44 14.01
	187.73	0.73	238.78	187.72	-0.77	-0.71	-0.88	0.39	440855.96	725701.24	N 32 12 38.10	W 103 44 14.02
	278.60	0.87	236.51	278.59	-1.43	-1.31	-1.78	0.07	440855.37	725700.34	N 32 12 38.10	W 103 44 14.03
	370.99	0.80	247.39	370.97	-2.06	-1.87	-2.85	0.20	440854.81	725699.27	N 32 12 38.09	W 103 44 14.04
	465.23	1.19	249.71	465.20	-2.76	-2.46	-4.38	0.42	440854.22	725697.74	N 32 12 38.09	W 103 44 14.06
	559.53	1.25	250.99	559.47	-3.56	-3.14	-6.27	0.07	440853.54	725695.85	N 32 12 38.08	W 103 44 14.08
	653.88	1.34	253.88	653.80	-4.34	-3.78	-8.30	0.12	440852.90	725693.82	N 32 12 38.07	W 103 44 14.10
	748.41	1.14	257.84	748.31	-4.98	-4.28	-10.28	0.23	440852.40	725691.84	N 32 12 38.07	W 103 44 14.13
	842.50	0.97	250.26	842.38	-5.56	-4.75	-11.95	0.23	440851.93	725689.17	N 32 12 38.07	W 103 44 14.15
	937.34	0.65	235.59	937.21	-6.22	-5.32	-13.15	0.40	440851.35	725688.97	N 32 12 38.06	W 103 44 14.16
Last Gyro	1009.14	0.75	253.23	1009.01	-6.84	-5.69	-13.93	0.33	440850.99	725688.19	N 32 12 38.06	W 103 44 14.17
	1129.00	0.70	256.20	1128.86	-7.11	-6.07	-15.40	0.07	440850.61	725686.72	N 32 12 38.05	W 103 44 14.19
	1311.00	0.11	319.59	1310.85	-7.29	-6.16	-16.60	0.36	440850.52	725685.52	N 32 12 38.05	W 103 44 14.20
	1493.00	0.11	54.64	1492.85	-7.06	-5.93	-16.57	0.09	440850.75	725685.55	N 32 12 38.05	W 103 44 14.20
	1585.00	0.05	272.27	1584.85	-7.00	-5.87	-16.54	0.17	440850.81	725685.58	N 32 12 38.05	W 103 44 14.20
	1675.00	0.11	100.21	1674.85	-7.01	-5.89	-16.50	0.18	440850.79	725685.63	N 32 12 38.05	W 103 44 14.20
	1766.00	0.18	99.58	1765.85	-7.03	-5.92	-16.28	0.05	440850.75	725685.84	N 32 12 38.05	W 103 44 14.20
	1948.00	0.11	306.18	1947.85	-6.97	-5.87	-16.18	0.14	440850.81	725685.94	N 32 12 38.05	W 103 44 14.20
	2043.00	0.05	330.79	2042.85	-6.89	-5.78	-16.27	0.07	440850.90	725685.85	N 32 12 38.06	W 103 44 14.20
	2138.00	0.11	275.39	2137.85	-6.85	-5.73	-16.38	0.10	440850.95	725685.74	N 32 12 38.06	W 103 44 14.20
	2232.00	0.16	50.90	2231.85	-6.78	-5.64	-16.37	0.27	440851.04	725685.75	N 32 12 38.06	W 103 44 14.20
	2421.00	0.16	118.20	2420.85	-6.89	-5.60	-15.93	0.09	440851.08	725686.19	N 32 12 38.06	W 103 44 14.19
	2515.00	0.18	205.63	2514.85	-6.86	-5.78	-15.87	0.24	440850.90	725686.25	N 32 12 38.06	W 103 44 14.19
	2704.00	0.18	209.99	2703.85	-7.37	-6.27	-16.14	0.01	440850.40	725685.98	N 32 12 38.05	W 103 44 14.19
	2799.00	0.22	224.97	2798.85	-7.65	-6.53	-16.34	0.07	440850.15	725685.78	N 32 12 38.05	W 103 44 14.20
	2893.00	0.09	174.57	2892.85	-7.85	-6.73	-16.46	0.19	440849.94	725685.66	N 32 12 38.05	W 103 44 14.20
	2988.00	0.11	284.12	2987.85	-7.91	-6.79	-16.54	0.17	440849.89	725685.58	N 32 12 38.05	W 103 44 14.20
	3083.00	0.11	344.33	3082.85	-7.81	-6.68	-16.65	0.12	440850.00	725685.47	N 32 12 38.05	W 103 44 14.20
	3177.00	0.11	353.08	3176.85	-7.84	-6.50	-16.69	0.02	440850.18	725685.43	N 32 12 38.05	W 103 44 14.20
	3272.00	0.04	178.78	3271.85	-7.58	-6.44	-16.70	0.16	440850.24	725685.42	N 32 12 38.05	W 103 44 14.20
	3367.00	0.06	216.41	3366.85	-7.85	-6.51	-16.73	0.04	440850.16	725685.39	N 32 12 38.05	W 103 44 14.20
	3461.00	0.18	81.31	3460.85	-7.86	-6.53	-16.61	0.24	440850.15	725685.51	N 32 12 38.05	W 103 44 14.20
	3556.00	0.06	203.14	3555.85	-7.68	-6.58	-16.48	0.23	440850.12	725685.64	N 32 12 38.05	W 103 44 14.20
	3650.00	0.16	79.27	3649.85	-7.69	-6.58	-16.37	0.21	440850.10	725685.75	N 32 12 38.05	W 103 44 14.20
	3840.00	0.22	143.60	3839.85	-7.90	-6.82	-15.90	0.11	440849.86	725686.23	N 32 12 38.04	W 103 44 14.19
	3935.00	0.14	111.09	3934.85	-8.07	-7.01	-15.68	0.13	440849.87	725686.44	N 32 12 38.04	W 103 44 14.19
	4124.00	0.07	207.52	4123.85	-8.25	-7.19	-15.52	0.09	440849.48	725686.60	N 32 12 38.04	W 103 44 14.19
	4218.00	0.28	194.08	4217.85	-8.53	-7.47	-15.60	0.23	440849.21	725686.52	N 32 12 38.04	W 103 44 14.19
	4313.00	0.21	177.36	4312.85	-8.93	-7.87	-15.65	0.10	440848.81	725686.47	N 32 12 38.03	W 103 44 14.19
	4408.00	0.05	10.93	4407.85	-9.06	-8.00	-15.63	0.27	440848.68	725686.48	N 32 12 38.03	W 103 44 14.19
	4502.00	0.11	164.52	4501.85	-9.11	-8.05	-15.60	0.17	440848.83	725686.52	N 32 12 38.03	W 103 44 14.19
	4597.00	0.11	183.02	4596.85	-9.28	-8.22	-15.60	0.06	440848.45	725686.62	N 32 12 38.03	W 103 44 14.19
	4786.00	0.13	281.29	4785.85	-9.43	-8.36	-15.85	0.09	440848.32	725686.27	N 32 12 38.03	W 103 44 14.19
	4881.00	0.11	37.45	4880.85	-9.34	-8.27	-15.90	0.21	440848.41	725686.22	N 32 12 38.03	W 103 44 14.19
	5070.00	0.18	321.67	5069.84	-9.00	-7.91	-15.95	0.09	440848.76	725686.17	N 32 12 38.03	W 103 44 14.19
	5165.00	0.10	84.63	5164.84	-8.89	-7.80	-15.95	0.24	440848.88	725686.17	N 32 12 38.04	W 103 44 14.19
	5260.00	0.02	306.16	5259.84	-8.88	-7.78	-15.88	0.12	440848.89	725686.24	N 32 12 38.04	W 103 44 14.19
	5354.00	0.11	136.49	5353.84	-8.92	-7.84	-15.83	0.14	440848.84	725686.29	N 32 12 38.03	W 103 44 14.19
	5449.00	0.16	137.53	5448.84	-9.07	-8.00	-15.68	0.05	440848.67	725686.44	N 32 12 38.03	W 103 44 14.19
	5639.00	0.06	282.63	5638.84	-9.24	-8.18	-15.60	0.11	440848.50	725686.52	N 32 12 38.03	W 103 44 14.19
	5733.00	0.11	185.23	5732.84	-9.32	-8.26	-15.65	0.14	440848.42	725686.47	N 32 12 38.03	W 103 44 14.19
	5828.00	0.16	164.35	5827.84	-9.54	-8.48	-15.63	0.07	440848.20	725686.49	N 32 12 38.03	W 103 44 14.19
	5923.00	0.18	136.90	5922.84	-9.76	-8.71	-15.49	0.09	440847.97	725686.63	N 32 12 38.03	W 103 44 14.19
	6112.00	0.05	110.82	6111.84	-9.99	-8.96	-15.21	0.07	440847.72	725686.91	N 32 12 38.02	W 103 44 14.18
	6207.00	0.11	353.89	6206.84	-9.91	-8.88	-15.18	0.15	440847.80	725686.94	N 32 12 38.02	W 103 44 14.18
	6396.00	0.79	134.04	6395.84	-10.57	-9.61	-14.26	0.46	440847.07	725687.86	N 32 12 38.02	W 103 44 14.17
	6491.00	2.21	133.70	6490.80	-12.16	-11.33	-12.47	1.49	440845.35	725689.65	N 32 12 38.00	W 103 44 14.15
	6586.00	3.80	134.87	6585.67	-15.40	-14.82	-8.91	1.67	440841.88	725693.21	N 32 12 37.97	W 103 44 14.11
	6680.00	5.26	135.27	6679.37	-20.29	-20.09	-3.66	1.57	440836.59	725698.46	N 32 12 37.91	W 103 44 14.05
	6775.00	5.77	134.39	6773.93	-26.27	-26.53	2.93	0.52	440830.15	725704.95	N 32 12 37.85	W 103 44 13.98
	6869.00	6.11	124.83	6867.43	-31.91	-32.70	10.31	1.11	440823.98	725712.43	N 32 12 37.79	W 103 44 13.89
	6964.00	5.99	120.81	6961.90	-36.74	-38.12	18.72	0.46	440818.56	725720.84	N 32 12 37.73	W 103 44 13.79
	7059.00	6.14	116.73	7056.37	-40.94	-42.95	27.51	0.48	440813.73	725729.63	N 32 12 37.68	W 103 44 13.69
	7153.00	6.10	113.68	7149.83	-44.57	-47.21	36.58	0.35	440809.47	725738.70	N 32 12 37.64	W 103 44 13.58
	7248.00	6.24	107.80	7244.28	-47.51	-50.82	46.12	0.68	440805.86	725748.23	N 32 12 37.61	W 103 44 13.47
	7342.00	6.44	103.72	7337.71	-49.63	-53.63	56.10	0.52	440803.05	725758.22	N 32 12 37.58	W 103 44 13.36
	7437.00	6.21	97.37	7432.13	-50.84	-55.55	66.37	0.77	440801.13	725768.49	N 32 12 37.56	W 103 44 13.24
	7532.00	6.23	97.89	7526.57	-51.50	-56.92	76.57	0.06	440799.76	725778.69	N 32 12 37.54	W 103 44 13.12
	7626.00	6.28	96.48	7620.01	-52.07	-58.20	86.73	0.17	440798.48	725788.85	N 32 12 37.53	W 103 44 13.00
	7721.00	6.41	95.46	7714.43	-52.44	-59.29	97.18	0.18	440797.39	725799.29	N 32 12 37.52	W 103 44 12.88
	7816.00	5.90	99.23	7808.88	-53.03	-60.58	107.27	0.68	440796.10	725809.39	N 32 12 37.51	W 103 44 12.76
	7910.00	5.98	105.33	7902.38	-54.44	-62.82						

Comments	MD	Incl	Azim	TWD	VASC	NS	EW	DLS	Morphing	Ending	Latitude		Longitude	
											(N)	(E)	(N)	(E)
Score Spring	8443.70	6.51	128.20	8433.00	-62.48	-94.10	165.07	0.19	440702.58	725807.12	N 32 12 37.17	W 103 44 12.06		
KOP Actual	8478.00	8.46	128.59	8467.98	-64.73	-96.57	168.13	0.19	440780.11	725807.24	N 32 12 37.15	W 103 44 12.06		
	8688.00	5.27	128.35	8687.98	-65.42	-106.35	183.43	0.64	440780.34	725807.54	N 32 12 37.03	W 103 44 12.05		
	8734.00	5.73	137.49	8720.56	-101.02	-114.43	190.15	1.22	440782.26	725808.28	N 32 12 36.87	W 103 44 11.71		
	8894.00	5.85	146.32	8880.69	-110.81	-124.81	198.27	0.69	440783.88	725809.07	N 32 12 36.79	W 103 44 11.52		
	8983.00	7.44	152.58	8917.27	-117.81	-132.34	205.87	3.03	440784.34	725917.57	N 32 12 36.74	W 103 44 11.62		
	9030.00	5.87	150.15	9008.64	-122.32	-137.53	215.48	2.89	440716.16	725917.88	N 32 12 36.72	W 103 44 11.51		
	9172.00	4.65	160.85	9098.64	-124.07	-139.86	223.03	1.50	440716.16	725925.94	N 32 12 36.72	W 103 44 11.51		
	9278.00	5.51	161.03	9103.24	-124.07	-139.86	223.03	1.50	440716.16	725925.94	N 32 12 36.72	W 103 44 11.51		
	9372.00	3.76	161.78	9205.87	-124.36	-140.73	223.03	1.26	440716.16	725941.88	N 32 12 36.71	W 103 44 11.23		
	9462.00	3.76	161.78	9205.87	-124.36	-140.73	223.03	1.26	440716.16	725941.88	N 32 12 36.71	W 103 44 11.23		
100' FSL Cross	9484.00	5.13	161.78	9441.56	-118.49	-133.82	239.58	2.56	440720.82	725941.88	N 32 12 36.71	W 103 44 11.23		
	9556.00	7.24	161.78	9533.76	-111.08	-125.87	242.95	2.28	440727.42	725955.02	N 32 12 36.71	W 103 44 11.07		
	9651.00	9.08	161.78	9633.76	-101.42	-118.87	262.95	1.94	440736.82	725955.02	N 32 12 36.71	W 103 44 11.07		
	9746.00	9.35	161.78	9727.54	-91.18	-110.41	274.83	1.24	440746.25	725978.06	N 32 12 37.05	W 103 44 10.82		
	9841.00	8.57	161.78	9821.38	-81.87	-101.83	288.96	0.82	440754.75	725978.06	N 32 12 37.05	W 103 44 10.82		
	9936.00	5.35	161.78	9813.72	-68.63	-97.15	293.20	0.88	440759.33	726001.85	N 32 12 37.23	W 103 44 10.60		
	10033.00	8.12	161.78	9813.72	-68.63	-97.15	308.54	1.87	440779.33	726001.85	N 32 12 37.23	W 103 44 10.60		
	10147.00	11.87	161.78	9813.72	-68.63	-97.15	318.35	7.71	440779.33	726026.07	N 32 12 37.23	W 103 44 10.60		
	10189.86	21.81	161.78	9813.72	-68.63	-97.15	323.91	11.72	440779.33	726026.07	N 32 12 37.23	W 103 44 10.60		
	10242.00	21.81	161.78	9813.72	-68.63	-97.15	323.91	11.72	440779.33	726026.07	N 32 12 37.23	W 103 44 10.60		
100' FSL Cross	10337.00	30.73	161.78	9813.72	-68.63	-97.15	323.91	11.72	440779.33	726026.07	N 32 12 37.23	W 103 44 10.60		
	10432.00	30.73	161.78	9813.72	-68.63	-97.15	323.91	11.72	440779.33	726026.07	N 32 12 37.23	W 103 44 10.60		
	10527.00	30.73	161.78	9813.72	-68.63	-97.15	323.91	11.72	440779.33	726026.07	N 32 12 37.23	W 103 44 10.60		
	10622.00	30.73	161.78	9813.72	-68.63	-97.15	323.91	11.72	440779.33	726026.07	N 32 12 37.23	W 103 44 10.60		
	10717.00	30.73	161.78	9813.72	-68.63	-97.15	323.91	11.72	440779.33	726026.07	N 32 12 37.23	W 103 44 10.60		
	10812.00	30.73	161.78	9813.72	-68.63	-97.15	323.91	11.72	440779.33	726026.07	N 32 12 37.23	W 103 44 10.60		
	10907.00	30.73	161.78	9813.72	-68.63	-97.15	323.91	11.72	440779.33	726026.07	N 32 12 37.23	W 103 44 10.60		
	11002.00	30.73	161.78	9813.72	-68.63	-97.15	323.91	11.72	440779.33	726026.07	N 32 12 37.23	W 103 44 10.60		
	11097.00	30.73	161.78	9813.72	-68.63	-97.15	323.91	11.72	440779.33	726026.07	N 32 12 37.23	W 103 44 10.60		
	11192.00	30.73	161.78	9813.72	-68.63	-97.15	323.91	11.72	440779.33	726026.07	N 32 12 37.23	W 103 44 10.60		
100' FSL Cross	11287.00	30.73	161.78	9813.72	-68.63	-97.15	323.91	11.72	440779.33	726026.07	N 32 12 37.23	W 103 44 10.60		
	11382.00	30.73	161.78	9813.72	-68.63	-97.15	323.91	11.72	440779.33	726026.07	N 32 12 37.23	W 103 44 10.60		
	11477.00	30.73	161.78	9813.72	-68.63	-97.15	323.91	11.72	440779.33	726026.07	N 32 12 37.23	W 103 44 10.60		
	11572.00	30.73	161.78	9813.72	-68.63	-97.15	323.91	11.72	440779.33	726026.07	N 32 12 37.23	W 103 44 10.60		
	11667.00	30.73	161.78	9813.72	-68.63	-97.15	323.91	11.72	440779.33	726026.07	N 32 12 37.23	W 103 44 10.60		
	11762.00	30.73	161.78	9813.72	-68.63	-97.15	323.91	11.72	440779.33	726026.07	N 32 12 37.23	W 103 44 10.60		
	11857.00	30.73	161.78	9813.72	-68.63	-97.15	323.91	11.72	440779.33	726026.07	N 32 12 37.23	W 103 44 10.60		
	11952.00	30.73	161.78	9813.72	-68.63	-97.15	323.91	11.72	440779.33	726026.07	N 32 12 37.23	W 103 44 10.60		
	12047.00	30.73	161.78	9813.72	-68.63	-97.15	323.91	11.72	440779.33	726026.07	N 32 12 37.23	W 103 44 10.60		
	12142.00	30.73	161.78	9813.72	-68.63	-97.15	323.91	11.72	440779.33	726026.07	N 32 12 37.23	W 103 44 10.60		
100' FSL Cross	12237.00	30.73	161.78	9813.72	-68.63	-97.15	323.91	11.72	440779.33	726026.07	N 32 12 37.23	W 103 44 10.60		
	12332.00	30.73	161.78	9813.72	-68.63	-97.15	323.91	11.72	440779.33	726026.07	N 32 12 37.23	W 103 44 10.60		
	12427.00	30.73	161.78	9813.72	-68.63	-97.15	323.91	11.72	440779.33	726026.07	N 32 12 37.23	W 103 44 10.60		
	12522.00	30.73	161.78	9813.72	-68.63	-97.15	323.91	11.72	440779.33	726026.07	N 32 12 37.23	W 103 44 10.60		
	12617.00	30.73	161.78	9813.72	-68.63	-97.15	323.91	11.72	440779.33	726026.07	N 32 12 37.23	W 103 44 10.60		
	12712.00	30.73	161.78	9813.72	-68.63	-97.15	323.91	11.72	440779.33	726026.07	N 32 12 37.23	W 103 44 10.60		
	12807.00	30.73	161.78	9813.72	-68.63	-97.15	323.91	11.72	440779.33	726026.07	N 32 12 37.23	W 103 44 10.60		
	12902.00	30.73	161.78	9813.72	-68.63	-97.15	323.91	11.72	440779.33	726026.07	N 32 12 37.23	W 103 44 10.60		
	13000.00	30.73	161.78	9813.72	-68.63	-97.15	323.91	11.72	440779.33	726026.07	N 32 12 37.23	W 103 44 10.60		
	13090.00	30.73	161.78	9813.72	-68.63	-97.15	323.91	11.72	440779.33	726026.07	N 32 12 37.23	W 103 44 10.60		
100' FSL Cross	13180.00	30.73	161.78	9813.72	-68.63	-97.15	323.91	11.72	440779.33	726026.07	N 32 12 37.23	W 103 44 10.60		
	13275.00	30.73	161.78	9813.72	-68.63	-97.15	323.91	11.72	440779.33	726026.07	N 32 12 37.23	W 103 44 10.60		
	13370.00	30.73	161.78	9813.72	-68.63	-97.15	323.91	11.72	440779.33	726026.07	N 32 12 37.23	W 103 44 10.60		
	13465.00	30.73	161.78	9813.72	-68.63	-97.15	323.91	11.72	440779.33	726026.07	N 32 12 37.23	W 103 44 10.60		
	13560.00	30.73	161.78	9813.72	-68.63	-97.15	323.91	11.72	440779.33	726026.07	N 32 12 37.23	W 103 44 10.60		
	13655.00	30.73	161.78	9813.72	-68.63	-97.15	323.91	11.72	440779.33	726026.07	N 32 12 37.23	W 103 44 10.60		
	13750.00	30.73	161.78	9813.72	-68.63	-97.15	323.91	11.72	440779.33	726026.07	N 32 12 37.23	W 103 44 10.60		
	13845.00	30.73	161.78	9813.72	-68.63	-97.15	323.91	11.72	440779.33	726026.07	N 32 12 37.23	W 103 44 10.60		
	13940.00	30.73	161.78	9813.72	-68.63	-97.15	323.91	11.72	440779.33	726026.07	N 32 12 37.23	W 103 44 10.60		
	14035.00	30.73	161.78	9813.72	-68.63	-97.15	323.91	11.72	440779.33	726026.07	N 32 12 37.23	W 103 44 10.60		
100' FSL Cross	14130.00	30.73	161.78	9813.72	-68.63	-97.15	323.91	11.72	440779.33	726026.07	N 32 12 37.23	W 103 44 10.60		
	14225.00	30.73	161.78	9813.72	-68.63	-97.15	323.91	11.72	440779.33	726026.07	N 32 12 37.23	W 103 44 10.60		
	14320.00	30.73	161.78	9813.72	-68.63	-97.15	323.91	11.72	440779.33	726026.07	N 32 12 37.23	W 103 44 10.60		
	14415.00	30.73	161.78	9813.72	-68.63	-97.15	323.91	11.72	440779.33	726026.07	N 32 12 37.23	W 103 44 10.60		
	14510.00	30.73	161.78	9813.72	-68.63	-97.15	323.91	11.72	440779.33	726026.07	N 32 12 37.23	W 103 44 10.60		
	14605.00	30.73	161.78	9813.72	-68.63	-97.15	323.91	11.72	440779.33	726026.07	N 32 12 37.23	W 103 44 10.60		
	14700.00	30.73	161.78	9813.72	-68.63	-97.15	323.91	11.72	440779.33	726026.07	N 32 12 37.23	W 103 44 10.60		
	14795.00	30.73	161.78	9813.72	-68.63	-97.15	323.91	11.72	440779.33	726026.07	N 32 12 37.23	W 103 44 10.60		
	14890.00	30.73	161.78	9813.72	-68.63	-97.15	323.91	11.72	440779.33	726026.07	N 32 12 37.23	W 103 44 10.60		
	14985.00	30.73	161.78	9813.72	-68.63	-97.15	323.91	11.72	440779.33	726026.07	N 32 12 37.23	W 103 44 10.60		
100' FSL Cross	15080.00	30.73	161.78	9813.72	-68.63	-97.15	323.91	11.72	440779.33	726026.07	N 32 12 37.23	W 103 44 10.60		
	15175.00	30.73	161.78	9813.72	-68.63	-97.15	323.91	11.72	440779.33	726026.07	N 32 12 37.23	W 103 44 10.60		
	15270.00	30.73	161.78	9813.72	-68.63	-97.15	323.91	11.72	440779.33	726026.07	N 32 12 37.23	W 103 44 10.60		
	15365.00	30.73	161.78	9813.72	-68.63	-97								

Drilling Office 2.10.740.0

...Mesa Verde BS Unit 20H Original Borehole Oxy Mesa Verde BS Unit 20H Gryo+MMWD 0-15554' MD
Schlumberger-Private

Schlumberger

OXY



Borehole:	Well:	Field:	Structure:
Original Borehole	Mesa Verde BS Unit 20H	NM Eddy County (NAD 83)	Oxy Mesa Verde BS Unit 20H

Gravity & Magnetic Parameters				Surface Location				Miscellaneous			
Model:	WPR1	Dip:	88.982°	Date:	28-Oct-2019	Lat:	N 32 12 38.11	Northg:	440886.681US	Grid Conv:	0.3178°
MagDec:	6.754°	FS:	47872.3mT	Gravity FS:	998.22m/s² (R.30000 Based)	Lon:	W 105 44 14.91	Eastg:	726702.127US	Scale Fact:	0.30860202
								Slot: Oxy Mesa Verde BS Unit 20H			
								TVD Ref: NAD83(14.5ft above MSL)			
								Plan: Oxy Mesa Verde BS Unit 20H Gyro+MWD 0-15554 MD			

Chernov GND 12 01 FEB 002 2H Rev0 unit 19Sep18

Critical Points											
Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS			
RKB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
SHL	26.50	0.00	0.00	26.50	0.00	0.00	0.00	0.00			
Last Gyro	1009.14	0.75	253.23	1009.01	-6.64	-5.69	-13.93	0.33			
Bone Spring Intersection	8443.79	6.51	128.20	8433.00	-82.48	-94.10	165.01	0.19			
KOP Actual	10053.00	5.25	60.36	10031.72	-65.63	-87.15	308.54	1.87			
100' FSL Cross	10189.86	16.17	27.93	10166.23	-46.23	-68.76	323.91	11.72			
100' FNL Cross	15484.80	86.02	2.25	10587.68	5027.15	5013.54	370.40	4.02			
Final Surey	15512.00	87.35	1.88	10589.42	5054.28	5040.86	371.43	9.01			
Proj to TD	15554.00	87.35	1.88	10591.36	5096.21	5082.60	372.80	0.00			

