

30-025-45863

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

July 18, 2019

Oxy USA Incorporated
 5 Greenway Plaza
 Suite 110
 Houston, TX 77046

HOBBS OCD
DEC 30 2019
RECEIVED

S17, T24S, R32E Lea, NM
 N 32.2109835 W -103.6975269

Re: CLIENT: Oxy USA Incorporated
 WELL: Mesa Verde WC Unit 6H
 FIELD: Mesa Verde Wolfcamp
 RIG: H&P 635
 COUNTY: Lea
 API NO: 30-029-45863
 JOB NO: 19MLH0272

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>
Joseph Ajayi FE	Mesa Verde WC Unit 6H Original Hole	1040.00 Ft to 22296.00 Ft	June 7, 2019 to July 8, 2019	TelePacer 3rd Party Corrected

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

Andrew Salomon
 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)
Fax : (432) 742-5606 (Shared)

Schlumberger

Well Reference:
S17, T24S, R32E Lea, NM
N 32.2109835 W -103.6975269

I, Joseph Ajayi certify that; I am employed by Drilling & Measurements, a division of Schlumberger Technology Corporation; that I did on the day(s) of June 07, 2019 through July 08, 2019, conduct or supervise the taking of the TelePacer & 3rd Party Corrected surveys from a depth of 1040.00 feet to a depth of 22296.00 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 Incorporated for the Mesa Verde WC Unit 6H Well (Original Hole) API No. 30-029-45863 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.

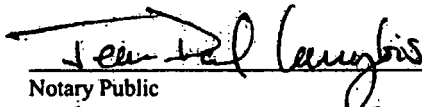
By
Joseph Ajayi
FE



Subscribed and Sworn to before me this 1 day of August (month) 2019 (yr)

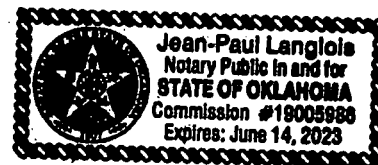
My Commission expires:

6/14/2028


Notary Public

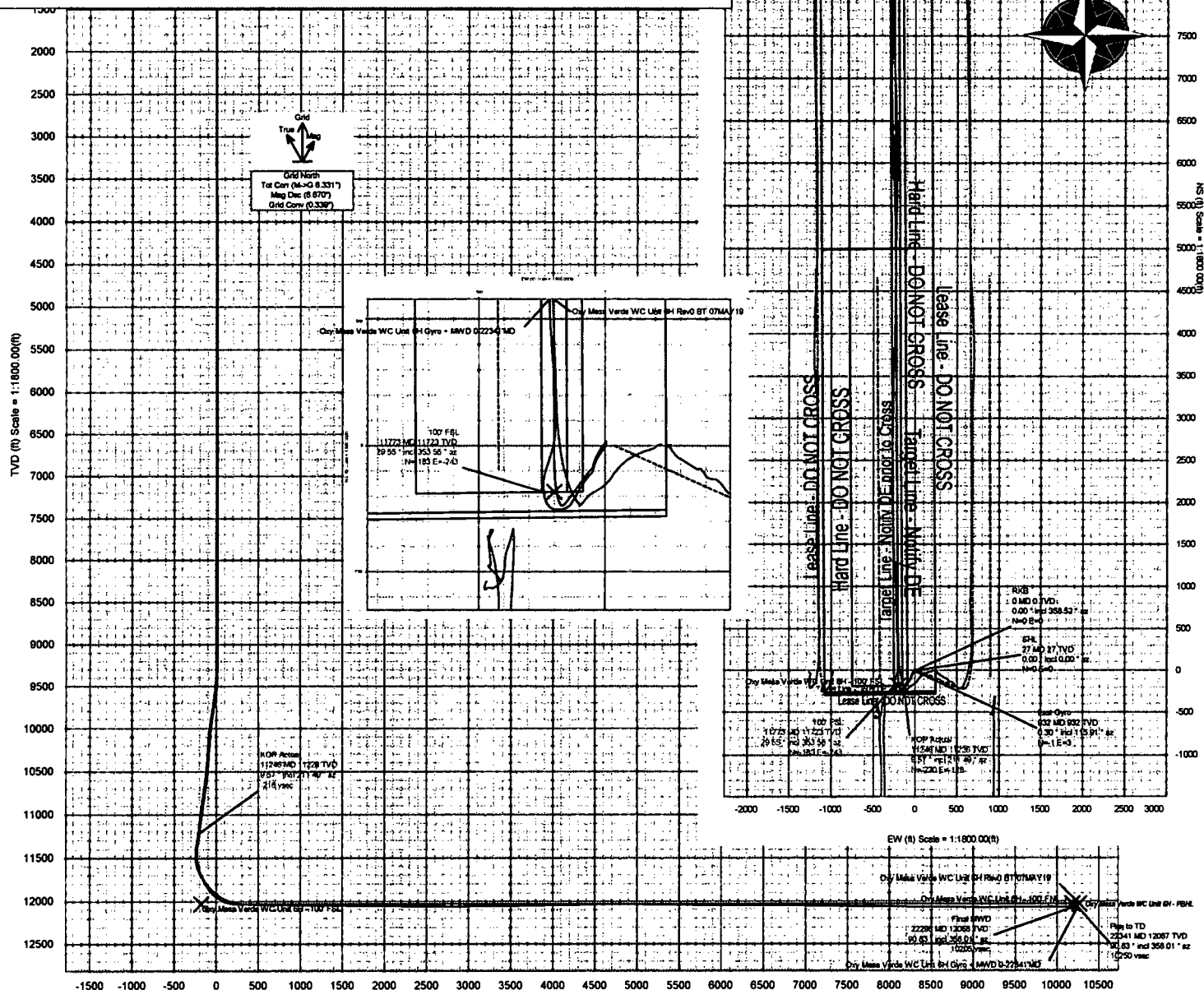
(signature)

Comanche Oklahoma
(County State)





Critical Points								
Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS
RKB	0.00	0.00	358.52	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	932.00	0.30	115.91	931.99	-1.51	-1.44	2.82	0.36
KOP Actual	11246.00	9.57	211.49	11226.47	-216.36	-219.74	-128.11	0.89
100' FSL	11773.00	29.55	353.55	11723.31	-176.50	-182.81	-242.61	8.00
100' FNL	22276.00	90.83	358.35	12068.23	10184.71	10181.69	-248.51	1.72
Final MWD	22298.00	90.83	358.01	12067.94	10204.71	10201.68	-249.15	1.72
Proj to TD	22341.00	90.83	358.01	12067.29	10249.71	10246.65	-250.71	0.00



Vertical Section (ft) Azim = 358.52° Scale = 1:1800.00(ft) Origin = 0N/-S, 0E/-W

Oxy Mesa Verde WC Unit 6H Gyro + MWD 0-22341'MD Survey Geodetic Report

(Def Survey)



Report Date: July 09, 2019 - 08:21 PM
 Client: OXY
 Field: NM Lea County (NAD 83)
 Structure / Slot: Oxy Mesa Verde WC Unit 6H / Oxy Mesa Verde WC Unit 6H
 Well: Oxy Mesa Verde WC Unit 6H
 Borehole: Original Borehole
 UWI / API#: Unknown / 30-025-45883
 Survey Name: Oxy Mesa Verde WC Unit 6H Gyro + MWD 0-22341'MD
 Survey Date: June 04, 2019
 Tort / AHD / DDI / ERD Ratio: 298.093' / 10889.560 ft / 6.779 / 0.902
 Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
 Location Lat / Long: N 32° 12' 39.540689", W 103° 41' 51.09891"
 Location Grid N/E Y/X: N 441071.470 NUS, E 737979.000 NUS
 CRS Grid Convergence Angle: 0.3389°
 Grid Scale Factor: 0.99995338
 Version / Patch: 2.10.760.0

Survey / DLS Computation: Minimum Curvature / Lubinski
 Vertical Section Azimuth: 358.523° (Grid North)
 Vertical Section Origin: 0.000 ft, 0.000 ft
 TVD Reference Datum: RKB
 TVD Reference Elevation: 3588.700 ft above MSL
 Seabed / Ground Elevation: 3560.200 ft above MSL
 Magnetic Declination: 6.870°
 Total Gravity Field Strength: 988.4316mgN (9.80665 Based)
 Gravity Model: GARM
 Total Magnetic Field Strength: 47898.900 nT
 Magnetic Dip Angle: 59.864°
 Declination Date: June 04, 2019
 Magnetic Declination Model: IFR1
 North Reference: Grid North
 Grid Convergence Used: 0.3389°
 Total Corr Mag North->Grid: 6.3311°
 North: Well Head
 Local Coord Referenced To: Well Head

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (NUS)	Easting (EUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
RKB	0.00	0.00	358.52	0.00	0.00	0.00	0.00	N/A	441071.47	737979.00	N 32 12 39.54	W 103 41 51.10
SHL	26.50	0.00	0.00	26.50	0.00	0.00	0.00	0.00	441071.47	737979.00	N 32 12 39.54	W 103 41 51.10
	99.00	0.25	66.82	99.00	0.06	0.06	0.15	0.34	441071.53	737979.15	N 32 12 39.54	W 103 41 51.10
	127.00	0.34	67.91	127.00	0.11	0.12	0.28	0.32	441071.59	737979.28	N 32 12 39.54	W 103 41 51.09
	156.00	0.33	72.45	156.00	0.18	0.18	0.44	0.10	441071.65	737979.44	N 32 12 39.54	W 103 41 51.09
	185.00	0.31	80.70	185.00	0.20	0.21	0.59	0.17	441071.68	737979.59	N 32 12 39.54	W 103 41 51.09
	212.00	0.29	78.55	212.00	0.22	0.24	0.73	0.08	441071.71	737979.73	N 32 12 39.54	W 103 41 51.09
	237.00	0.28	81.37	237.00	0.24	0.26	0.86	0.07	441071.73	737979.86	N 32 12 39.54	W 103 41 51.09
	267.00	0.23	77.83	267.00	0.26	0.28	0.98	0.17	441071.75	737979.99	N 32 12 39.54	W 103 41 51.09
	298.00	0.21	81.89	298.00	0.28	0.30	1.10	0.08	441071.77	737980.10	N 32 12 39.54	W 103 41 51.08
	330.00	0.20	94.14	330.00	0.28	0.31	1.22	0.14	441071.78	737980.22	N 32 12 39.54	W 103 41 51.08
	361.00	0.15	115.30	361.00	0.25	0.29	1.31	0.26	441071.76	737980.31	N 32 12 39.54	W 103 41 51.08
	393.00	0.17	142.05	393.00	0.20	0.23	1.38	0.24	441071.70	737980.38	N 32 12 39.54	W 103 41 51.08
	424.00	0.18	149.92	424.00	0.12	0.15	1.43	0.08	441071.62	737980.43	N 32 12 39.54	W 103 41 51.08
	456.00	0.21	165.03	456.00	0.02	0.05	1.47	0.19	441071.52	737980.47	N 32 12 39.54	W 103 41 51.08
	488.00	0.25	176.17	488.00	-0.11	-0.07	1.49	0.19	441071.40	737980.49	N 32 12 39.54	W 103 41 51.08
	519.00	0.28	176.99	519.00	-0.25	-0.22	1.50	0.10	441071.25	737980.50	N 32 12 39.54	W 103 41 51.08
	551.00	0.32	172.81	551.00	-0.42	-0.38	1.51	0.14	441071.09	737980.51	N 32 12 39.54	W 103 41 51.08
	583.00	0.31	162.25	582.99	-0.59	-0.55	1.55	0.18	441070.92	737980.55	N 32 12 39.54	W 103 41 51.08
	614.00	0.34	145.18	613.99	-0.75	-0.71	1.63	0.33	441070.76	737980.63	N 32 12 39.53	W 103 41 51.08
	646.00	0.36	132.98	645.99	-0.90	-0.86	1.76	0.24	441070.61	737980.76	N 32 12 39.53	W 103 41 51.08
	677.00	0.33	124.24	676.99	-1.02	-0.97	1.90	0.19	441070.50	737980.90	N 32 12 39.53	W 103 41 51.07
	709.00	0.31	120.78	708.99	-1.12	-1.07	2.05	0.09	441070.40	737981.05	N 32 12 39.53	W 103 41 51.07
	740.00	0.26	150.60	739.99	-1.23	-1.17	2.16	0.50	441070.30	737981.16	N 32 12 39.53	W 103 41 51.07
	772.00	0.23	112.40	771.99	-1.32	-1.26	2.25	0.51	441070.21	737981.25	N 32 12 39.53	W 103 41 51.07
	803.00	0.22	127.58	802.99	-1.38	-1.32	2.36	0.19	441070.15	737981.36	N 32 12 39.53	W 103 41 51.07
	835.00	0.19	101.84	834.99	-1.43	-1.37	2.46	0.30	441070.10	737981.46	N 32 12 39.53	W 103 41 51.07
	866.00	0.21	92.24	865.99	-1.45	-1.38	2.57	0.13	441070.09	737981.57	N 32 12 39.53	W 103 41 51.07
	898.00	0.21	97.16	897.99	-1.48	-1.39	2.68	0.06	441070.08	737981.68	N 32 12 39.53	W 103 41 51.07
	932.00	0.30	115.91	931.99	-1.51	-1.44	2.82	0.38	441070.03	737981.82	N 32 12 39.53	W 103 41 51.06
	1040.00	0.51	94.73	1039.99	-1.69	-1.60	3.56	0.24	441069.87	737982.56	N 32 12 39.52	W 103 41 51.06
	1132.00	0.09	252.98	1131.99	-1.76	-1.68	3.90	0.65	441069.81	737982.90	N 32 12 39.52	W 103 41 51.05
	1317.00	0.17	16.77	1316.99	-1.53	-1.43	3.84	0.13	441070.04	737982.84	N 32 12 39.53	W 103 41 51.05
	1410.00	0.07	157.96	1409.99	-1.46	-1.36	3.90	0.25	441070.11	737982.90	N 32 12 39.53	W 103 41 51.05
	1502.00	0.07	95.25	1501.99	-1.51	-1.41	3.98	0.08	441070.06	737982.98	N 32 12 39.53	W 103 41 51.05
	1594.00	0.10	78.51	1593.99	-1.51	-1.40	4.11	0.04	441070.07	737983.11	N 32 12 39.53	W 103 41 51.05
	1656.00	0.03	100.68	1655.99	-1.50	-1.39	4.18	0.12	441070.08	737983.18	N 32 12 39.53	W 103 41 51.05
	1750.00	0.12	93.15	1749.99	-1.51	-1.40	4.30	0.10	441070.07	737983.30	N 32 12 39.53	W 103 41 51.05
	1844.00	0.03	291.39	1843.99	-1.51	-1.40	4.38	0.16	441070.07	737983.38	N 32 12 39.53	W 103 41 51.05
	2033.00	0.13	277.46	2032.99	-1.48	-1.35	4.12	0.05	441070.12	737983.12	N 32 12 39.53	W 103 41 51.05
	2127.00	0.06	44.94	2126.99	-1.41	-1.31	4.05	0.18	441070.16	737983.05	N 32 12 39.53	W 103 41 51.05
	2316.00	0.06	217.73	2315.99	-1.42	-1.31	4.06	0.06	441070.16	737983.06	N 32 12 39.53	W 103 41 51.05
	2505.00	0.01	276.50	2504.99	-1.49	-1.39	3.98	0.03	441070.08	737982.98	N 32 12 39.53	W 103 41 51.05
	2694.00	0.05	270.67	2693.99	-1.49	-1.39	3.88	0.02	441070.08	737982.88	N 32 12 39.53	W 103 41 51.05
	2883.00	0.11	107.10	2882.99	-1.54	-1.44	3.97	0.08	441070.03	737982.97	N 32 12 39.53	W 103 41 51.05
	2977.00	0.10	109.89	2976.99	-1.60	-1.49	4.14	0.01	441069.98	737983.13	N 32 12 39.53	W 103 41 51.05
	3072.00	0.10	343.91	3071.99	-1.55	-1.44	4.19	0.19	441070.03	737983.19	N 32 12 39.53	W 103 41 51.05
	3166.00	0.05	4.42	3165.99	-1.43	-1.32	4.17	0.06	441070.15	737983.17	N 32 12 39.53	W 103 41 51.05
	3260.00	0.07	14.48	3259.99	-1.33	-1.23	4.19	0.02	441070.24	737983.19	N 32 12 39.53	W 103 41 51.05
	3325.00	0.05	166.98	3324.99	-1.32	-1.22	4.20	0.18	441070.25	737983.20	N 32 12 39.53	W 103 41 51.05
	3513.00	0.15	7.95	3512.99	-1.16	-1.05	4.26	0.11	441070.42	737983.26	N 32 12 39.53	W 103 41 51.05
	3702.00	0.37	2.98	3701.98	-0.31	-0.20	4.32	0.12	441071.27	737983.32	N 32 12 39.54	W 103 41 51.05
	3787.00	0.28	339.28	3786.98	0.20	0.31	4.26	0.18	441071.78	737983.26	N 32 12 39.54	W 103 41 51.05
	3985.00	0.12	174.59	3984.98	0.41	0.51	4.13	0.20	441071.98	737983.13	N 32 12 39.55	W 103 41 51.05
	4079.00	0.27	225.76	4078.98	0.16	0.28	3.98	0.23	441071.73	737982.98	N 32 12 39.54	W 103 41 51.05
	4268.00	0.10	153.21	4267.98	-0.29	-0.20	3.74	0.14	441071.27	737982.74	N 32 12 39.54	W 103 41 51.05
	4457.00	0.99	6.32	4456.97	1.17	1.28	3.99	0.57	441072.75	737982.99	N 32 12 39.55	W 103 41 51.05
	4646.00	0.13	108.09	4645.96	2.72	2.83	4.37	0.54	441074.30	737983.37	N 32 12 39.57	W 103 41 51.05
	4740.00	0.05	261.32	4739.96	2.68	2.80	4.43	0.19	441074.27	737983.43	N 32 12 39.57	W 103 41 51.05
	4834.00	0.03	9.77	4833.96	2.70	2.81	4.40	0.07	441074.28	737983.40	N 32 12 39.57	W 103 41 51.05
	4928.00	0.06	322.74	4927.96	2.76	2.86	4.37	0.05	441074.35	737983.37	N 32 12 39.57	W 103 41 51.05
	5023.00	0.08	166.54	5022.96	2.74	2.85	4.33	0.14	441074.32	737983.33	N 32 12 39.57	W 103 41 51.05
	5117.00	0.03	334.18	5116.96	2.70	2.81	4.32	0.11	441074.28	737983.32	N 32 12 39.57	W 103 41 51.05
	5212.00	0.10	262.21	5211.96	2.71	2.82	4.22	0.10	441074.29	737983.22	N 32 12 39.57	W 103 41 51.05
	5306.00	0.10	6.07	5305.96	2.78	2.89	4.15	0.17	441074.36	737983.15	N 32 12 39.57	W 103 41 51.05
	5495.00	0.02	65.43	5494.96	2.96	3.07	4.20	0.05	441074.54	737983.20	N 32 12 39.57	W 103 41 51.05
	5589.00	0.02	324.52	5588.96	2.98	3.09	4.20	0.03	441074.56	737983.20	N 32 12 39.57	W 103 41 51.05
	5683.00	0.09	14.52	5682.96	3.06	3.17	4.21	0.08	441074.64	737983.21	N 32 12 39.57	W 103 41 51.05
	5777.00	0.05	345.22	5776.96	3.17	3.28	4.22	0.06	441074.75	737983.22	N 32 12 39.57	W 103 41 51.05
	5871.00	0.05	62.54	5870.96	3.23	3.34	4.25	0.07	441074.81	737983.25	N 32 12 39.57	W 103 41 51.05
	5965.00	0.10	27.33	5964.96	3.32	3.43	4.32	0.07	441074.90	737983.32	N 32 12 39.57	W 103 41 51.05
	6060.00	0.09	313.68	6059.96	3.45	3.56	4.31	0.12	441075.03	737983.30	N 32 12 39.58	W 103 41 51.05
	6154.00	0.05	350.67	6153.96	3.54	3.65	4.25	0.06	441075.12	737983.24	N 32 12 39.58	W 103 41 51.05
	6249.00	0.02	212.74	6248.96	3.57	3.68	4.23	0.07	441075.15	737983.23	N 32 12 39.58	W 103 41 51.05
	6343.00	0.02	215.07	6342.96	3.54	3.65	4.21					

Comments	MD (ft)	Incl (°)	Azimuth (°)	Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (ft/100ft)	Northings (ft)	Easting (ft)	Latitude (N/S ° ' '')	Longitude (E/W ° ' '')
	6908.00	0.05	308.24	6908.96	3.38	3.49	4.37	0.15	441074.96	737983.37	N 32 12 39.57 W 103 41 51.05		
	7004.00	0.09	159.46	7003.96	3.33	3.45	4.37	0.14	441074.92	737983.37	N 32 12 39.57 W 103 41 51.05		
	7098.00	0.05	64.25	7097.96	3.28	3.37	4.43	0.09	441074.84	737983.43	N 32 12 39.57 W 103 41 51.05		
	7286.00	0.05	207.88	7285.96	3.18	3.30	4.48	0.04	441074.77	737983.48	N 32 12 39.57 W 103 41 51.04		
	7475.00	0.05	91.80	7474.96	3.10	3.22	4.52	0.04	441074.69	737983.52	N 32 12 39.57 W 103 41 51.04		
	7663.00	0.05	33.81	7662.96	3.18	3.29	4.65	0.03	441074.76	737983.65	N 32 12 39.57 W 103 41 51.04		
	7851.00	0.12	117.20	7850.96	3.14	3.26	4.67	0.07	441074.73	737983.67	N 32 12 39.57 W 103 41 51.04		
	8040.00	0.09	201.56	8039.96	2.91	3.04	4.99	0.08	441074.50	737983.99	N 32 12 39.57 W 103 41 51.04		
	8229.00	0.09	132.25	8228.96	2.67	2.80	5.05	0.05	441074.27	737984.05	N 32 12 39.57 W 103 41 51.04		
	8323.00	0.15	292.74	8322.96	2.67	2.80	4.99	0.25	441074.26	737983.99	N 32 12 39.57 W 103 41 51.04		
	8417.00	0.12	202.88	8416.96	2.63	2.75	4.84	0.20	441074.22	737983.84	N 32 12 39.57 W 103 41 51.04		
	8511.00	0.22	82.06	8510.96	2.56	2.69	4.98	0.32	441074.16	737983.98	N 32 12 39.57 W 103 41 51.04		
	8606.00	0.20	39.65	8605.96	2.70	2.84	5.26	0.16	441074.31	737984.26	N 32 12 39.57 W 103 41 51.04		
	8795.00	0.27	194.12	8794.96	2.52	2.66	5.36	0.24	441074.13	737984.36	N 32 12 39.57 W 103 41 51.03		
	8889.00	0.37	76.73	8888.96	2.36	2.51	5.61	0.58	441073.88	737984.61	N 32 12 39.57 W 103 41 51.03		
	8983.00	0.63	256.89	8982.96	2.31	2.45	5.40	1.06	441073.92	737984.40	N 32 12 39.56 W 103 41 51.03		
	9078.00	0.24	357.37	9077.95	2.40	2.53	4.89	0.75	441074.00	737983.88	N 32 12 39.57 W 103 41 51.04		
	9172.00	0.18	256.87	9171.95	2.58	2.70	4.73	0.34	441074.17	737983.73	N 32 12 39.57 W 103 41 51.04		
	9361.00	1.56	199.30	9360.93	0.13	0.22	3.59	0.78	441071.69	737982.59	N 32 12 39.54 W 103 41 51.06		
	9455.00	4.91	212.42	9454.77	-4.41	-4.39	1.01	3.63	441067.08	737980.01	N 32 12 39.50 W 103 41 51.09		
	9550.00	7.31	216.83	9549.22	-12.53	-12.66	-4.80	2.57	441058.81	737974.20	N 32 12 39.42 W 103 41 51.15		
	9644.00	9.42	215.60	9642.22	-23.36	-23.70	-12.86	2.25	441047.77	737966.14	N 32 12 39.52 W 103 41 51.25		
	9738.00	11.50	213.64	9734.65	-37.16	-37.76	-22.53	2.24	441033.71	737956.47	N 32 12 39.17 W 103 41 51.36		
	9833.00	10.23	207.79	9827.95	-52.27	-53.11	-31.71	1.77	441018.37	737947.29	N 32 12 39.02 W 103 41 51.47		
	9927.00	9.53	200.75	9920.56	-66.76	-67.77	-38.36	1.48	441003.71	737940.64	N 32 12 38.87 W 103 41 51.55		
	10115.00	4.22	191.51	10107.14	-87.92	-89.11	-45.28	2.88	440982.36	737933.74	N 32 12 38.66 W 103 41 51.63		
	10209.00	4.19	189.88	10200.89	-94.65	-95.89	-46.54	0.12	440975.59	737932.46	N 32 12 38.59 W 103 41 51.65		
	10304.00	4.78	201.31	10295.60	-101.70	-102.99	-48.58	1.12	440968.48	737930.42	N 32 12 38.52 W 103 41 51.67		
	10398.00	5.74	228.07	10389.22	-108.37	-109.78	-53.50	2.77	440961.69	737925.50	N 32 12 38.46 W 103 41 51.73		
	10492.00	7.86	224.98	10482.57	-115.73	-117.38	-61.43	2.08	440954.12	737917.57	N 32 12 38.38 W 103 41 51.82		
	10587.00	10.18	216.85	10576.42	-126.68	-128.55	-70.94	2.96	440942.92	737908.06	N 32 12 38.27 W 103 41 51.93		
	10681.00	10.39	216.68	10668.91	-139.86	-142.00	-80.99	0.23	440929.48	737898.02	N 32 12 38.14 W 103 41 52.05		
	10779.00	10.87	214.68	10765.26	-154.14	-156.55	-91.43	0.47	440914.93	737887.58	N 32 12 38.00 W 103 41 52.17		
	10873.00	9.52	206.78	10857.80	-168.01	-170.64	-99.88	1.91	440900.83	737879.12	N 32 12 37.86 W 103 41 52.27		
	11062.00	7.93	210.84	11044.61	-192.80	-195.79	-113.61	0.90	440875.69	737865.40	N 32 12 37.61 W 103 41 52.43		
	11248.00	9.57	211.49	11228.47	-216.38	-219.74	-128.11	0.89	440851.74	737850.90	N 32 12 37.47 W 103 41 52.60		
	11295.00	11.35	208.47	11274.65	-223.98	-227.45	-132.53	3.80	440844.03	737846.47	N 32 12 37.30 W 103 41 52.66		
	11390.00	17.57	239.26	11366.72	-239.10	-243.03	-149.35	10.20	440828.45	737829.65	N 32 12 37.14 W 103 41 52.85		
	11485.00	18.78	263.73	11456.88	-247.47	-252.13	-177.70	8.50	440819.35	737801.31	N 32 12 37.06 W 103 41 53.18		
	11580.00	19.54	293.19	11546.54	-242.17	-247.62	-208.38	10.33	440823.86	737770.65	N 32 12 37.10 W 103 41 53.54		
	11674.00	23.14	333.55	11634.54	-218.73	-224.77	-231.16	15.76	440846.71	737747.85	N 32 12 37.33 W 103 41 53.80		
	11769.00	29.44	352.94	11719.83	-178.46	-184.77	-242.38	11.13	440888.61	737738.63	N 32 12 37.73 W 103 41 53.93		
	11773.00	29.55	353.55	11723.31	-178.50	-182.81	-242.61	8.00	440889.66	737738.40	N 32 12 37.75 W 103 41 53.93		
	11863.00	32.76	6.05	11800.40	-130.19	-136.48	-242.54	8.00	440934.99	737736.47	N 32 12 38.20 W 103 41 53.93		
	11957.00	40.49	20.20	11875.92	-76.44	-82.37	-229.28	12.13	440889.10	737747.73	N 32 12 38.74 W 103 41 53.77		
	12052.00	52.67	15.45	11841.11	-11.38	-16.76	-208.48	13.32	441054.71	737770.53	N 32 12 39.39 W 103 41 53.52		
	12147.00	64.66	3.31	11990.56	68.04	63.01	-195.65	16.65	441134.48	737783.15	N 32 12 40.18 W 103 41 53.37		
	12241.00	76.49	357.02	12021.79	156.45	151.45	-195.79	14.07	441222.82	737763.23	N 32 12 41.05 W 103 41 53.37		
	12336.00	91.06	357.16	12032.07	250.61	245.52	-200.56	15.34	441316.97	737778.45	N 32 12 41.98 W 103 41 53.41		
	12430.00	87.38	355.43	12033.35	344.51	339.29	-206.63	14.11	441410.75	737772.38	N 32 12 42.91 W 103 41 53.48		
	12523.00	89.04	356.40	12037.19	487.31	481.91	-215.39	1.56	441533.36	737763.62	N 32 12 44.12 W 103 41 53.57		
	12618.00	89.41	358.67	12038.47	562.28	556.81	-219.48	2.42	441628.25	737759.53	N 32 12 45.06 W 103 41 53.61		
	12837.00	89.28	359.21	12040.83	751.27	745.77	-222.97	0.29	441817.20	737756.04	N 32 12 46.93 W 103 41 53.64		
	12932.00	89.14	358.41	12041.94	846.25	840.74	-224.95	0.85	441912.16	737754.07	N 32 12 47.87 W 103 41 53.68		
	13026.00	89.28	1.22	12043.24	940.21	934.72	-225.25	2.99	442006.14	737753.76	N 32 12 48.80 W 103 41 53.85		
	13121.00	89.17	1.08	12044.52	1035.10	1028.69	-223.36	0.20	442101.11	737755.65	N 32 12 49.74 W 103 41 53.83		
	13310.00	89.62	2.36	12046.52	1223.80	1218.59	-217.72	0.73	442290.00	737761.29	N 32 12 51.61 W 103 41 53.55		
	13499.00	89.07	0.43	12048.68	1412.54	1407.51	-213.12	1.06	442478.91	737765.89	N 32 12 53.48 W 103 41 53.48		
	13594.00	89.28	359.20	12050.05	1507.50	1502.50	-213.43	1.31	442573.90	737765.59	N 32 12 54.42 W 103 41 53.48		
	13689.00	89.00	0.47	12051.47	1602.46	1597.49	-213.70	1.37	442668.88	737765.31	N 32 12 55.36 W 103 41 53.47		
	13878.00	90.31	0.14	12052.61	1791.37	1786.48	-212.69	0.71	442857.86	737766.32	N 32 12 57.23 W 103 41 53.45		
	14067.00	89.28	0.49	12053.29	1980.27	1975.47	-211.65	0.58	443046.84	737767.36	N 32 12 59.10 W 103 41 53.42		
	14256.00	88.97	358.93	12056.18	2169.20	2164.44	-212.61	0.84	443235.80	737766.40	N 32 13 0.97 W 103 41 53.42		
	14445.00	90.17	359.20	12057.59	2358.18	2353.40	-215.69	0.65	443424.76	737763.32	N 32 13 2.84 W 103 41 53.45		
	14540.00	90.72	359.31	12058.86	2453.17	2448.39	-216.93	0.59	443519.74	737762.08	N 32 13 3.76 W 103 41 53.45		
	14635.00	89.24	357.87	12058.89	2548.17	2543.36	-219.27	2.17	443614.71	737759.74	N 32 13 4.72 W 103 41 53.47		
	14729.00	88.73	358.59	12058.55	2642.15	2637.30	-222.17	0.94	443708.64	737756.84	N 32 13 5.65 W 103 41 53.50		
	14819.00	90.03	0.35	12060.61	2832.10	2827.27	-223.93	1.15	443896.60	737755.08	N 32 13 7.53 W 103 41 53.51		
	15014.00	90.72	359.44	12059.99	2927.07	2922.26	-224.10	1.20	443993.59	737754.91	N 32 13 8.47 W 103 41 53.50		
	15203.00	90.89	0.68	12057.33	3115.98	3111.24	-223.90	0.68	444182.56	737755.11	N 32 13 10.34 W 103 41 53.49		
	15298.00	90.62	359.06	12056.08	3210.94	3206.23	-224.12	1.73	444277.54	737754.89	N 32 13 11.28 W 103 41 53.48		
	15393.00	91.27	0.33	12054.51	3305.91	3301.21	-224.62	1.50	444372.52	737754.39	N 32 13 12.22 W 103 41 53.48		
	15487.00	88.11	2.63	12055.02	3399.76	3395.16	-222.20	4.16	444468.47	737756.81	N 32 13 13.15 W 103 41 53.45		
	15581.00	91.28	0.23	12055.52	3493.62	3489.11	-219.85	4.23	444560.41	737759.16	N 32 13 14.08 W 103 41 53.42		
	15676.00	91.14	0.18	12053.52	3588.56	3584.09	-219.51	0.16	444655.39	737759.50	N 32 13 15.02 W 103 41 53.41		
	15771.00	90.90	359.59	12051.83									

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLB ("/100ft)	Northing (NUS)	Easting (EUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	19276.00	90.52	0.59	12052.49	7187.76	7182.90	-280.88	0.51	448254.02	737698.13	N 32 13 50.63	W 103 41 53.87
	19371.00	88.78	0.14	12053.09	7282.70	7277.90	-280.28	1.91	448349.01	737698.73	N 32 13 51.57	W 103 41 53.86
	19466.00	88.18	0.19	12055.63	7377.63	7372.86	-280.01	0.81	448443.87	737699.01	N 32 13 52.51	W 103 41 53.85
	19561.00	88.63	0.37	12058.27	7472.55	7467.82	-279.54	0.51	448538.83	737699.47	N 32 13 53.45	W 103 41 53.84
	19655.00	88.15	0.85	12060.11	7566.45	7561.78	-278.54	0.72	448632.88	737700.47	N 32 13 54.38	W 103 41 53.82
	19750.00	90.31	1.32	12062.19	7661.34	7656.75	-278.74	2.33	448727.85	737702.27	N 32 13 55.32	W 103 41 53.79
	19844.00	90.35	1.22	12061.65	7755.23	7750.72	-274.66	0.11	448821.82	737704.35	N 32 13 56.25	W 103 41 53.76
	19938.00	89.28	0.85	12061.95	7849.14	7844.71	-272.96	1.20	448915.79	737706.05	N 32 13 57.18	W 103 41 53.73
	20033.00	91.10	0.92	12061.84	7944.05	7939.69	-271.49	1.92	449010.77	737707.52	N 32 13 58.12	W 103 41 53.71
	20127.00	88.25	358.77	12062.17	8037.99	8033.68	-270.93	3.27	449104.76	737708.09	N 32 13 59.05	W 103 41 53.70
	20222.00	89.11	0.43	12064.36	8132.93	8128.85	-270.76	1.14	449199.72	737708.25	N 32 13 59.99	W 103 41 53.69
	20318.00	87.56	0.62	12067.09	8226.83	8222.80	-269.90	1.68	449293.87	737709.11	N 32 14 0.92	W 103 41 53.67
	20410.00	90.86	1.52	12068.39	8320.71	8316.56	-268.15	3.64	449387.63	737710.87	N 32 14 1.85	W 103 41 53.65
	20500.00	90.21	3.16	12068.61	8510.27	8506.39	-260.39	0.93	449577.45	737718.62	N 32 14 3.73	W 103 41 53.54
	20694.00	90.11	2.52	12066.35	8604.01	8600.27	-255.73	0.69	449671.32	737723.28	N 32 14 4.68	W 103 41 53.48
	20789.00	89.73	2.01	12066.48	8698.80	8695.20	-251.98	0.67	449766.24	737727.04	N 32 14 5.59	W 103 41 53.43
	20884.00	87.68	0.87	12068.65	8793.65	8790.14	-249.59	2.49	449861.18	737729.42	N 32 14 6.53	W 103 41 53.40
	20978.00	88.80	0.58	12071.55	8887.53	8884.08	-248.42	1.26	449955.12	737730.59	N 32 14 7.46	W 103 41 53.38
	21167.00	88.90	0.78	12075.34	9076.36	9073.03	-246.21	0.13	450144.06	737732.80	N 32 14 9.33	W 103 41 53.34
	21356.00	91.17	1.72	12075.23	9265.13	9261.97	-242.09	1.30	450332.99	737736.93	N 32 14 11.20	W 103 41 53.28
	21545.00	89.56	0.91	12074.02	9453.90	9450.91	-237.75	0.95	450521.92	737741.26	N 32 14 13.07	W 103 41 53.21
	21734.00	90.55	359.30	12073.84	9642.82	9639.90	-237.40	1.00	450710.90	737741.61	N 32 14 14.94	W 103 41 53.20
	21828.00	91.55	358.69	12072.12	9736.80	9733.87	-238.89	1.15	450804.87	737740.13	N 32 14 15.87	W 103 41 53.21
	21923.00	91.62	359.19	12069.49	9831.76	9828.82	-240.48	0.32	450899.81	737738.53	N 32 14 16.81	W 103 41 53.22
	22018.00	90.07	358.53	12068.09	9926.74	9923.79	-242.37	1.77	450994.78	737736.64	N 32 14 17.75	W 103 41 53.23
	22113.00	88.87	358.03	12068.97	10021.73	10018.74	-245.22	1.37	451089.72	737733.79	N 32 14 18.69	W 103 41 53.26
	22208.00	90.83	359.52	12069.22	10116.72	10113.71	-247.25	2.59	451184.69	737731.78	N 32 14 19.63	W 103 41 53.28
100' FNL	22276.00	90.83	358.35	12068.23	10184.71	10181.69	-248.51	1.72	451252.67	737730.50	N 32 14 20.30	W 103 41 53.29
Final MWD	22296.00	90.83	358.01	12067.94	10204.71	10201.68	-249.15	1.72	451272.65	737729.87	N 32 14 20.50	W 103 41 53.29
Proj to TD	22341.00	90.83	358.01	12067.29	10249.71	10246.65	-250.71	0.00	451317.62	737728.30	N 32 14 20.95	W 103 41 53.31

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	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 Mesa Verde WC Unit 6H Gyro + MWD 0-22341'MD
	1	26.500	26.500	Act Stns	30.000	30.000	NAL_NSG+MSHOT-Depth Only	Original Borehole / Oxy Mesa Verde WC Unit 6H Gyro + MWD 0-22341'MD
	1	26.500	932.000	Act Stns	30.000	30.000	NAL_NSG+MSHOT	Original Borehole / Oxy Mesa Verde WC Unit 6H Gyro + MWD 0-932.000
	1	932.000	1132.000	Act Stns	30.000	30.000	NAL_MWD_IFR1+MS	Original Borehole / Oxy Mesa Verde WC Unit 6H Gyro + MWD 0-1132.000
	1	1132.000	1317.000	Act Stns	30.000	30.000	NAL_MWD_PLUS_0.5_DEG	Original Borehole / Oxy Mesa Verde WC Unit 6H Gyro + MWD 0-1317.000
	1	1317.000	2316.000	Act Stns	30.000	30.000	NAL_MWD_IFR1+MS	Original Borehole / Oxy Mesa Verde WC Unit 6H Gyro + MWD 0-2316.000
	1	2316.000	2505.000	Act Stns	30.000	30.000	NAL_MWD_PLUS_0.5_DEG	Original Borehole / Oxy Mesa Verde WC Unit 6H Gyro + MWD 0-2505.000
	1	2505.000	2694.000	Act Stns	30.000	30.000	NAL_MWD_IFR1+MS	Original Borehole / Oxy Mesa Verde WC Unit 6H Gyro + MWD 0-2694.000
	1	2694.000	2883.000	Act Stns	30.000	30.000	NAL_MWD_PLUS_0.5_DEG	Original Borehole / Oxy Mesa Verde WC Unit 6H Gyro + MWD 0-2883.000
	1	2883.000	4268.000	Act Stns	30.000	30.000	NAL_MWD_IFR1+MS	Original Borehole / Oxy Mesa Verde WC Unit 6H Gyro + MWD 0-4268.000
	1	4268.000	4457.000	Act Stns	30.000	30.000	NAL_MWD_PLUS_0.5_DEG	Original Borehole / Oxy Mesa Verde WC Unit 6H Gyro + MWD 0-4457.000
	1	4457.000	9078.000	Act Stns	30.000	30.000	NAL_MWD_IFR1+MS	Original Borehole / Oxy Mesa Verde WC Unit 6H Gyro + MWD 0-9078.000
	1	9078.000	9172.000	Act Stns	30.000	30.000	NAL_MWD_PLUS_0.5_DEG	Original Borehole / Oxy Mesa Verde WC Unit 6H Gyro + MWD 0-9172.000
	1	9172.000	9927.000	Act Stns	30.000	30.000	NAL_MWD_IFR1+MS	Original Borehole / Oxy Mesa Verde WC Unit 6H Gyro + MWD 0-9927.000
	1	9927.000	11246.000	Act Stns	30.000	30.000	NAL_MWD_PLUS_0.5_DEG	Original Borehole / Oxy Mesa Verde WC Unit 6H Gyro + MWD 0-11246.000
	1	11246.000	22341.000	Act Stns	30.000	30.000	NAL_MWD_IFR1+MS	Original Borehole / Oxy Mesa Verde WC Unit 6H Gyro + MWD 0-22341.000