

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 16, 2018

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

HOBBS OCB
NOV 07 2018
RECEIVED

Re:

CLIENT: OXY USA INC.
WELL: Mesa Verde BS Unit 2
FIELD: Bone Spring

RIG: H&P 639
COUNTY: Lea
API NO: 30-025-44196
JOB NO: 18MLD2979

17, 24S, 32E, Lea NM
32.21089 -103.69341

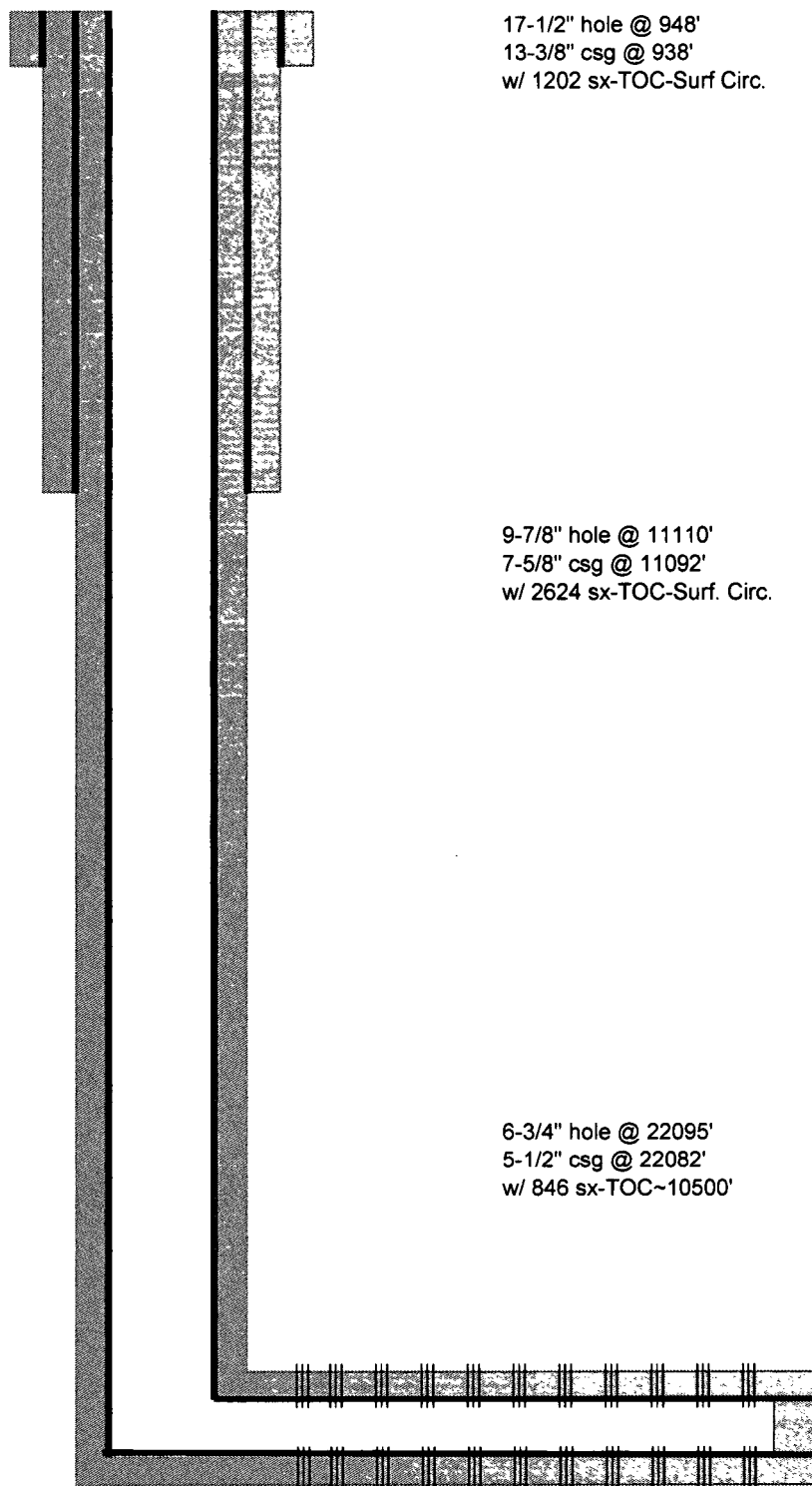
Enclosed, please find the original copy of the survey performed on the referenced well by Drilling & Measurements, a division of Schlumberger Technology Corporation (P-5 No. 754900).
Other information required by your office is as follows.

<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 2 Original Hole	1057.00 Ft to 22052.00 Ft	May 19, 2018 to June 7, 2018	TelePacer SlimPulse

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

Cody Nelms
Field Service Manager

OXY USA Inc.
Mesa Verde BS Unit 2H
API No. 30-025-44196



17-1/2" hole @ 948'
13-3/8" csg @ 938'
w/ 1202 sx-TOC-Surf. Circ.

9-7/8" hole @ 11110'
7-5/8" csg @ 11092'
w/ 2624 sx-TOC-Surf. Circ.

6-3/4" hole @ 22095'
5-1/2" csg @ 22082'
w/ 846 sx-TOC~10500'

Perfs @ 12165'-21916'

TD- 22095' MD/11861' TVD

Original Survey on the original 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:
17, 24S, 32E, Lea NM
32.21089 -103.69341

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 May 19, 2018 through June 07, 2018, conduct or supervise the taking of the TelePacer & SlimPulse surveys from a depth of 1057.00 feet to a depth of 22052.00 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 2 Well (Original Hole) API No. 30-025-44196 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 July (month) 2018 (yr)

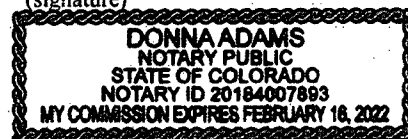
My Commission expires:

2-16-2022

Notary Public

Donna Adams
Adams County Colorado
(County State)

(signature)



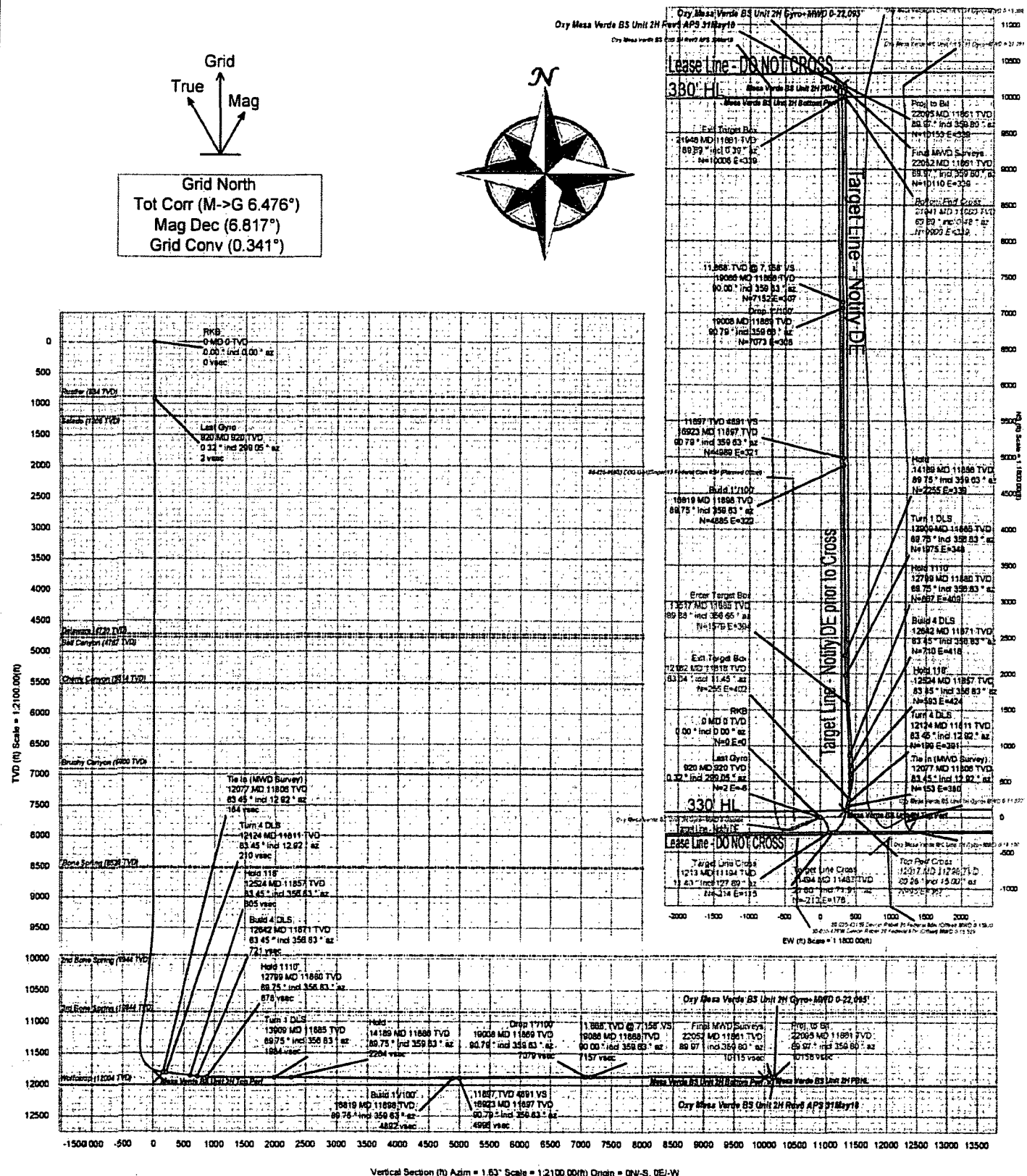


OXY



Borehole:	Well:	Field:	Structure:
Original Borehole	Oxy Mesa Verde BS Unit 2H	NM Lea County (NAD 83)	Oxy Mesa Verde BS Unit 2H

Gravity & Magnetic Parameters				Surface Location				NAD83 New Mexico State Plane, Eastern Zone, US Feet				Miscellaneous			
Model:	H038 2010	Dp:	03.922"	Date:	16-May-2010	Lat:	N 32 12 29.22	Northing:	441066.220US	Grid Conv:	0.94111"	Plot:	Qry Miss Vents	TYD Ref:	TYD=04.57302.91 above GSL
MagDec:	6.917°	Di:	48003.48nT	Gravity FS:	998.432mg (100065 Speed)	Long:	W 103 41 36.26	Eastng:	789253.84US	Scale Fact:	0.99999330	Blot:	Qry Miss Vents	TYD Ref:	TYD=04.57302.91 above GSL
													Qry Miss Vents	TYD Ref:	TYD=04.57302.91 above GSL





Oxy Mesa Verde BS Unit 2H Gyro+MWD 0-22,095' Survey Geodetic Report

(Def Survey)

Report Date: June 08, 2018 - 09:35 AM
 Client: OXY
 Field: NM Lee County (NAD 83)
 Structure / Slot: Oxy Mesa Verde BS Unit 2H / Oxy Mesa Verde BS Unit 2H
 Well: Oxy Mesa Verde BS Unit 2H
 Borehole: Original Borehole
 UWI / API#: Unknown / 30-025-44106
 Survey Name: Oxy Mesa Verde BS Unit 2H Gyro+MWD 0-22,095'
 Survey Date: May 16, 2018
 Tor / AHD / DDI / ERD Ratio: 246.781' / 10798.455' / 6.694' / 0.907
 Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Foot
 Location Lat / Long: N 32° 12' 39.21586" W 103° 41' 36.26034"
 Location Grid N/E Y/X: N 441046.220 HUS E 739253.840 HUS
 CRS Grid Convergence Angle: 0.3411°
 Grid Scale Factor: 0.99995395
 Version / Patch: 2.10.720.0

Survey / DLS Computation: Minimum Curvature / Lubinski
 Vertical Section Azimuth: 1.627° (Grid North)
 Vertical Section Origin: 0.000 ft, 0.000 ft
 TVD Reference Datum: RKB=26.5'
 TVD Reference Elevation: 3583.900 ft above MSL
 Seabed / Ground Elevation: 3557.400 ft above MSL
 Magnetic Declination: 6.817°
 Total Gravity Field Strength: 998.4322mgn (9.80665 Based)
 Gravity Model: GARM
 Total Magnetic Field Strength: 48003.450 nT
 Magnetic Dip Angle: 59.922°
 Declination Date: May 16, 2018
 Magnetic Declination Model: HDGM 2018
 North Reference: Grid North
 Grid Convergence Used: 0.3411°
 Total Corr Mag North-Grid North: 6.4760°
 Local Coord Referenced To: Well Head

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (ft/100ft)	Northing (HUS)	Easting (HUS)	Latitude (N/S ° ' '')	Longitude (E/W ° ' '')
RKB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	441046.22	739253.84	N 32 12 39.22	W 103 41 36.26
SHL	26.50	0.00	0.00	26.50	0.00	0.00	0.00	0.00	441046.22	739253.84	N 32 12 39.22	W 103 41 36.26
	67.56	0.36	325.31	67.56	0.10	0.11	-0.07	0.88	441046.33	739253.77	N 32 12 39.22	W 103 41 36.26
	159.78	0.66	334.26	159.78	0.82	0.84	-0.48	0.38	441047.06	739253.36	N 32 12 39.22	W 103 41 36.27
	248.67	0.48	327.01	248.66	1.60	1.62	-0.91	0.24	441047.84	739252.83	N 32 12 39.23	W 103 41 36.27
	341.27	0.48	316.94	341.26	2.19	2.23	-1.38	0.08	441048.45	739252.46	N 32 12 39.24	W 103 41 36.28
	434.83	0.43	311.90	434.82	2.70	2.75	-1.91	0.07	441048.97	739251.83	N 32 12 39.24	W 103 41 36.28
	529.01	0.49	284.65	528.99	3.02	3.09	-2.57	0.24	441049.31	739251.27	N 32 12 39.25	W 103 41 36.29
	623.62	0.56	264.20	623.60	3.05	3.15	-3.42	0.21	441049.37	739250.42	N 32 12 39.25	W 103 41 36.30
	718.89	0.52	244.39	718.86	2.79	2.92	-4.27	0.20	441049.14	739249.57	N 32 12 39.25	W 103 41 36.31
	812.96	0.62	246.61	812.93	2.38	2.53	-5.12	0.11	441048.75	739248.72	N 32 12 39.24	W 103 41 36.32
	920.39	0.32	299.05	920.36	2.28	2.44	-5.92	0.48	441048.66	739247.92	N 32 12 39.24	W 103 41 36.33
	1057.00	0.39	350.36	1056.96	2.91	3.09	-6.33	0.23	441049.31	739247.51	N 32 12 39.25	W 103 41 36.33
	1148.00	0.06	115.96	1147.96	3.18	3.37	-6.34	0.47	441049.59	739247.50	N 32 12 39.25	W 103 41 36.33
	1327.00	0.13	59.85	1326.96	3.26	3.43	-8.08	0.06	441049.65	739247.76	N 32 12 39.25	W 103 41 36.33
	1418.00	0.13	291.13	1417.96	3.35	3.52	-8.08	0.26	441049.74	739247.76	N 32 12 39.25	W 103 41 36.33
	1508.00	0.13	210.18	1507.96	3.29	3.47	-6.23	0.19	441049.69	739247.61	N 32 12 39.25	W 103 41 36.33
	1693.00	0.11	303.85	1692.96	3.20	3.39	-8.48	0.09	441049.61	739247.36	N 32 12 39.25	W 103 41 36.34
	1787.00	0.13	52.62	1786.96	3.32	3.50	-6.47	0.21	441049.72	739247.37	N 32 12 39.25	W 103 41 36.34
	1881.00	0.11	222.68	1880.96	3.32	3.50	-8.45	0.25	441049.72	739247.39	N 32 12 39.25	W 103 41 36.34
	1975.00	0.18	34.22	1974.96	3.37	3.56	-6.43	0.31	441049.78	739247.41	N 32 12 39.25	W 103 41 36.33
	2069.00	0.11	271.40	2068.96	3.50	3.68	-6.44	0.27	441049.80	739247.40	N 32 12 39.25	W 103 41 36.33
	2256.00	0.13	114.38	2255.96	3.41	3.60	-6.42	0.13	441049.82	739247.42	N 32 12 39.25	W 103 41 36.33
	2350.00	0.11	147.67	2349.96	3.30	3.48	-6.28	0.08	441049.70	739247.56	N 32 12 39.25	W 103 41 36.33
	2444.00	0.11	110.78	2443.96	3.19	3.37	-6.15	0.07	441049.59	739247.70	N 32 12 39.25	W 103 41 36.33
	2538.00	0.18	213.35	2537.96	3.04	3.21	-6.14	0.25	441049.43	739247.70	N 32 12 39.25	W 103 41 36.33
	2727.00	0.11	93.36	2726.96	2.78	2.96	-6.12	0.13	441049.18	739247.72	N 32 12 39.25	W 103 41 36.33
	2821.00	0.18	95.65	2820.96	2.77	2.94	-5.89	0.07	441049.16	739247.95	N 32 12 39.25	W 103 41 36.33
	3010.00	0.17	88.80	3009.96	2.76	2.91	-5.31	0.01	441049.13	739248.53	N 32 12 39.25	W 103 41 36.32
	3105.00	0.20	133.27	3104.96	2.66	2.80	-5.05	0.15	441049.02	739248.78	N 32 12 39.24	W 103 41 36.32
	3199.00	0.13	173.37	3198.96	2.44	2.58	-4.92	0.14	441048.80	739248.92	N 32 12 39.24	W 103 41 36.32
	3294.00	0.16	268.02	3293.96	2.33	2.47	-5.04	0.23	441048.69	739248.80	N 32 12 39.24	W 103 41 36.32
	3388.00	0.11	310.07	3387.96	2.38	2.53	-5.24	0.11	441048.75	739248.60	N 32 12 39.24	W 103 41 36.32
	3483.00	0.23	229.09	3482.96	2.30	2.46	-5.45	0.25	441048.68	739248.39	N 32 12 39.24	W 103 41 36.32
	3672.00	0.17	289.59	3671.96	2.13	2.30	-6.00	0.11	441048.52	739247.84	N 32 12 39.24	W 103 41 36.33
	3861.00	0.17	201.29	3860.96	1.96	2.14	-6.37	0.13	441048.36	739247.47	N 32 12 39.24	W 103 41 36.33
	3956.00	0.11	270.04	3955.96	1.82	2.01	-6.51	0.17	441048.23	739247.33	N 32 12 39.24	W 103 41 36.34
	4051.00	0.22	163.34	4050.96	1.64	1.83	-6.55	0.29	441048.05	739247.29	N 32 12 39.23	W 103 41 36.34
	4145.00	0.16	238.32	4144.96	1.40	1.59	-6.81	0.25	441047.81	739247.23	N 32 12 39.23	W 103 41 36.34
	4240.00	0.16	145.15	4239.96	1.22	1.41	-6.65	0.24	441047.83	739247.19	N 32 12 39.23	W 103 41 36.34
	4429.00	0.08	100.47	4428.96	0.99	1.17	-6.37	0.06	441047.39	739247.47	N 32 12 39.23	W 103 41 36.33
	4524.00	0.06	317.48	4523.96	1.01	1.20	-6.34	0.14	441047.42	739247.51	N 32 12 39.23	W 103 41 36.33
	4713.00	0.08	276.78	4712.95	1.10	1.28	-6.53	0.03	441047.50	739247.31	N 32 12 39.23	W 103 41 36.34
	4808.00	0.13	292.26	4807.95	1.14	1.33	-6.70	0.06	441047.55	739247.14	N 32 12 39.23	W 103 41 36.34
	4997.00	0.11	345.29	4996.95	1.39	1.59	-6.94	0.06	441047.81	739246.90	N 32 12 39.23	W 103 41 36.34
	5188.00	0.08	286.36	5187.95	1.59	1.79	-7.08	0.05	441048.01	739248.76	N 32 12 39.23	W 103 41 36.34
	5281.00	0.11	220.31	5280.95	1.53	1.74	-7.19	0.11	441047.96	739246.65	N 32 12 39.23	W 103 41 36.34
	5470.00	0.16	329.51	5469.95	1.61	1.83	-7.44	0.12	441048.05	739246.40	N 32 12 39.23	W 103 41 36.35
	5565.00	0.13	65.16	5564.95	1.77	1.99	-7.41	0.23	441048.21	739246.43	N 32 12 39.24	W 103 41 36.35
	5660.00	0.13	248.14	5659.95	1.78	1.99	-7.41	0.27	441048.21	739246.43	N 32 12 39.24	W 103 41 36.35
	5754.00	0.13	5.70	5753.95	1.84	2.06	-7.50	0.24	441048.28	739246.34	N 32 12 39.24	W 103 41 36.35
	5849.00	0.13	148.31	5848.95	1.86	2.07	-7.43	0.26	441048.29	739246.41	N 32 12 39.24	W 103 41 36.35
	5944.00	0.13	266.85	5943.95	1.76	1.97	-7.49	0.24	441048.19	739246.35	N 32 12 39.24	W 103 41 36.35
	6039.00	0.11	255.51	6038.95	1.73	1.95	-7.68	0.03	441048.17	739246.16	N 32 12 39.24	W 103 41 36.35
	6133.00	0.13	17.38	6132.95	1.80	2.03	-7.74	0.22	441048.25	739246.10	N 32 12 39.24	W 103 41 36.35
	6228.00	0.08	128.59	6227.95	1.87	2.09	-7.65	0.18	441048.31	739246.19	N 32 12 39.24	W 103 41 36.35
	6323.00	0.17	284.20	6322.95	1.86	2.08	-7.74	0.26	441048.30	739246.10	N 32 12 39.24	W 103 41 36.35
	6417.00	0.24	322.24	6416.95	2.04	2.27	-7.99	0.18	441048.49	739245.85	N 32 12 39.24	W 103 41 36.35
	6512.00	0.08	221.75	6511.95	2.15	2.38	-8.16	0.28	441048.60	739245.68	N 32 12 39.24	W 103 41 36.36
	6607.00	0.20	352.69	6606.95	2.26	2.49	-8.23	0.27	441048.71	739245.62	N 32 12 39.24	W 103 41 36.36
	6701.00	0.06	203.95	6700.95	2.37	2.61	-8.27	0.27	441048.83	739245.57	N 32 12 39.24	W 103 41 36.36
	6796.00	0.18	340.13	6795.95	2.47	2.71	-8.34	0.24	441048.93	739245.50	N 32 12 39.24	W 103 41 36.36
	6895.00	0.18	231.54	6894.95	2.55	2.80	-8.67	0.15	441049.02	739245.17	N 32 12 39.24	W 103 41 36.36
	7175.00	0.06	297.92	7174.95	2.40	2.66	-8.99	0.09	441048.88	739244.85	N 32 12 39.24	W 103 41 36.36
	7269.00	0.11	293.92	7268.95	2.46	2.72	-9.12	0.05	441048.94	739244.72	N 32 12 39.24	W 103 41 36.37
	7364.00	0.17	282.95	7363.95	2.55	2.81	-9.33	0.06	441049.03	739244.51	N 32 12 39.24	W 103 41 36.37
	7459.00	0.25	255.88	7458.95	2.54	2.82	-9.66	0.16	441049.04	739244.18	N 32 12 39.24	W 103 41 36.37
	7554.00	0.22	236.27	7553.95	2.38	2.66	-10.01	0.09	441048.88	739243.83	N 32 12 39.24	W 103 41 36.38
	7648.00	0.13	193.06	7647.95	2.17	2.46	-10.19	0.16	441048.69	739243.65	N 32 12 39.24	W 103 41 36.38
	7743.00	0.24	308.56	7742.95	2.18	2.48	-10.37	0.16	441048.70	739243.47	N 32 12 39.24	W 103 41 36.38
	7838.00	0.18	266.32	7837.95	2.29	2.59	-10.67	0.17	441048.81	739243.17	N 32 12 39.24	W 103 41 36.38
	7932.00	0.08	222.94	7931.95	2.23	2.54	-10.87	0.14	441048.78	739242.98	N 32 12 39.24	W 103 41 36.39

...Oxy Mesa Verde BS Unit 2H/Original Borehole/Oxy Mesa Verde BS Unit 2H Gyro+MWD 0-22,095'

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (ft/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' '')	Longitude (E/W ° ' '')
	8027.00	0.30	246.90	8026.95	2.07	2.39	-11.14	0.24	441048.61	739242.70	N 32 12 39.24 W 103 41 36.39	
	8122.00	0.22	219.77	8121.95	1.83	2.15	-11.48	0.15	441048.37	739242.36	N 32 12 39.24 W 103 41 36.39	
	8311.00	0.13	206.54	8310.94	1.35	1.68	-11.81	0.05	441047.90	739242.03	N 32 12 39.23 W 103 41 36.40	
	8501.00	0.06	304.17	8500.94	1.20	1.55	-11.99	0.08	441047.77	739241.85	N 32 12 39.23 W 103 41 36.40	
	8690.00	0.13	188.40	8689.94	1.04	1.39	-12.10	0.09	441047.61	739241.74	N 32 12 39.23 W 103 41 36.40	
	8879.00	0.16	62.04	8878.94	0.96	1.30	-11.90	0.14	441047.52	739241.64	N 32 12 39.23 W 103 41 36.40	
	8974.00	0.23	3.95	8973.94	1.22	1.55	-11.77	0.21	441047.77	739242.07	N 32 12 39.23 W 103 41 36.40	
	9163.00	0.85	84.84	9162.94	1.76	2.06	-10.35	0.45	441048.28	739243.49	N 32 12 39.24 W 103 41 36.38	
	9258.00	1.43	104.93	9257.92	1.57	1.82	-8.50	0.73	441048.04	739245.34	N 32 12 39.23 W 103 41 36.35	
	9352.00	2.83	124.40	9351.85	0.05	0.20	-5.45	1.68	441046.42	739248.39	N 32 12 39.22 W 103 41 36.32	
	9447.00	5.29	113.15	9446.61	-2.83	-2.85	0.51	2.71	441043.37	739254.35	N 32 12 39.19 W 103 41 36.25	
	9541.00	7.17	125.93	9540.05	-7.73	-7.99	9.24	2.47	441038.23	739263.08	N 32 12 39.14 W 103 41 36.15	
	9636.00	7.10	124.88	9634.32	-14.29	-14.83	18.86	0.18	441031.39	739272.70	N 32 12 39.07 W 103 41 36.04	
	9731.00	7.31	124.86	9728.57	-20.82	-21.64	28.64	0.22	441024.58	739282.48	N 32 12 39.00 W 103 41 35.93	
	9826.00	7.65	132.50	9822.76	-28.27	-29.37	38.26	1.11	441016.85	739292.10	N 32 12 38.92 W 103 41 35.82	
	9920.00	7.86	140.84	9915.90	-37.23	-38.58	46.93	1.22	441007.64	739300.77	N 32 12 38.83 W 103 41 35.72	
	10015.00	6.95	142.43	10010.11	-46.60	-48.17	54.54	0.98	440998.05	739308.57	N 32 12 38.74 W 103 41 35.63	
	10110.00	6.74	149.82	10104.43	-56.79	-57.55	60.84	0.95	440988.68	739314.68	N 32 12 38.64 W 103 41 35.56	
	10204.00	5.94	150.97	10197.86	-64.67	-66.57	65.98	0.86	440979.66	739319.81	N 32 12 38.55 W 103 41 35.50	
	10299.00	7.07	148.86	10292.25	-73.81	-75.87	71.39	1.22	440970.35	739325.22	N 32 12 38.46 W 103 41 35.43	
	10394.00	7.84	150.04	10386.44	-84.25	-86.49	77.85	0.83	440959.74	739331.48	N 32 12 38.36 W 103 41 35.36	
	10489.00	8.89	156.54	10480.42	-96.49	-98.01	83.84	1.57	440947.32	739337.67	N 32 12 38.23 W 103 41 35.29	
	10584.00	10.06	156.76	10574.11	-110.74	-113.34	90.07	1.13	440932.88	739343.90	N 32 12 38.09 W 103 41 35.22	
	10678.00	9.67	156.96	10666.72	-125.36	-128.15	96.39	0.42	440918.07	739350.23	N 32 12 37.94 W 103 41 35.15	
	10773.00	9.46	162.05	10760.40	-139.87	-142.92	101.92	0.92	440903.31	739355.76	N 32 12 37.80 W 103 41 35.08	
	10867.00	9.30	177.89	10853.16	-154.63	-157.86	104.58	2.74	440888.36	739358.42	N 32 12 37.65 W 103 41 35.05	
	10962.00	9.62	177.61	10946.87	-170.41	-173.47	105.20	0.34	440872.76	739359.03	N 32 12 37.49 W 103 41 35.05	
	10994.00	9.56	179.82	10978.42	-175.73	-178.79	105.32	1.17	440867.43	739359.15	N 32 12 37.44 W 103 41 35.05	
	11138.00	9.45	171.16	11129.45	-199.31	-202.43	107.17	1.00	440843.80	739361.01	N 32 12 37.21 W 103 41 35.03	
	11194.00	12.19	134.67	11175.51	-207.88	-211.14	112.09	12.90	440835.09	739365.92	N 32 12 37.12 W 103 41 34.97	
	11289.00	10.29	94.00	11268.83	-215.09	-218.80	127.71	8.39	440827.43	739381.55	N 32 12 37.04 W 103 41 34.79	
	11384.00	10.95	86.51	11362.20	-214.63	-218.84	145.18	1.61	440827.39	739399.02	N 32 12 37.04 W 103 41 34.59	
	11478.00	20.64	77.20	11452.56	-209.70	-214.62	170.31	10.62	440831.61	739424.15	N 32 12 37.08 W 103 41 34.29	
	11573.00	28.17	52.17	11529.24	-191.20	-197.08	204.49	13.31	440849.15	739458.32	N 32 12 37.25 W 103 41 33.89	
	11667.00	35.92	41.06	11618.92	-155.72	-162.60	240.21	10.33	440883.63	739464.04	N 32 12 37.59 W 103 41 33.48	
	11761.00	47.23	34.21	11689.17	-105.16	-113.09	277.80	12.95	440933.13	739531.68	N 32 12 38.08 W 103 41 33.03	
	11856.00	59.10	23.94	11746.11	-37.71	-46.65	314.20	15.17	440999.57	739568.02	N 32 12 38.74 W 103 41 32.61	
	11951.00	74.23	20.58	11783.64	43.72	33.88	347.01	16.25	441080.10	739600.83	N 32 12 39.53 W 103 41 32.22	
	12046.00	82.94	12.62	11802.46	133.54	122.99	373.47	12.30	441169.20	739627.29	N 32 12 40.41 W 103 41 31.91	
	12077.00	83.45	12.92	11806.13	163.74	153.01	380.27	1.91	441199.22	739634.09	N 32 12 40.71 W 103 41 31.82	
	12176.00	83.63	11.48	11817.27	260.44	249.15	401.06	1.46	441295.36	739654.88	N 32 12 41.66 W 103 41 31.58	
	12271.00	83.73	11.01	11827.73	353.53	341.76	419.47	0.50	441387.97	739673.29	N 32 12 42.57 W 103 41 31.35	
	12365.00	83.68	10.77	11838.05	445.75	433.51	437.12	0.26	441479.71	739690.94	N 32 12 43.48 W 103 41 31.14	
	12460.00	83.83	8.59	11848.41	539.45	526.84	451.37	4.38	441573.04	739705.19	N 32 12 44.40 W 103 41 30.97	
	12555.00	83.49	0.82	11858.90	633.76	621.02	457.47	6.05	441667.21	739711.29	N 32 12 45.33 W 103 41 30.80	
	12649.00	83.22	354.17	11869.79	726.83	714.25	453.39	7.03	441760.43	739707.21	N 32 12 46.26 W 103 41 30.93	
	12744.00	85.25	356.54	11878.34	820.78	808.45	445.74	3.28	441854.63	739699.56	N 32 12 47.19 W 103 41 31.02	
	12838.00	87.25	356.85	11885.49	914.22	902.08	440.33	2.15	441948.26	739694.15	N 32 12 48.12 W 103 41 31.07	
	12933.00	90.65	356.66	11887.23	1008.85	996.90	434.96	3.58	442043.07	739688.78	N 32 12 49.05 W 103 41 31.13	
	13028.00	90.41	356.40	11886.35	1103.47	1091.72	429.21	0.37	442137.89	739683.03	N 32 12 49.99 W 103 41 31.19	
	13122.00	90.76	356.01	11885.39	1197.04	1185.51	422.99	0.56	442231.68	739676.81	N 32 12 50.92 W 103 41 31.25	
	13216.00	89.97	356.17	11884.79	1290.60	1279.29	416.58	0.86	442325.45	739670.40	N 32 12 51.85 W 103 41 31.32	
	13311.00	90.21	355.74	11884.64	1385.14	1374.05	409.68	0.52	442420.21	739663.70	N 32 12 52.79 W 103 41 31.39	
	13406.00	89.69	354.53	11884.72	1479.53	1468.71	401.82	1.39	442514.86	739655.64	N 32 12 53.73 W 103 41 31.48	
	13500.00	89.86	356.71	11885.09	1573.00	1562.43	394.64	2.33	442608.57	739648.46	N 32 12 54.65 W 103 41 31.56	
	13595.00	89.87	350.38	11885.23	1667.63	1657.26	388.92	0.37	442703.40	739642.74	N 32 12 55.59 W 103 41 31.62	
	13689.00	89.62	355.91	11885.57	1761.20	1751.04	382.60	0.62	442797.18	739636.42	N 32 12 56.52 W 103 41 31.69	
	13783.00	90.38	357.46	11885.57	1854.65	1844.88	377.16	1.84	442891.01	739630.98	N 32 12 57.45 W 103 41 31.74	
	13878.00	90.10	358.08	11885.17	1949.63	1939.81	373.47	0.72	442985.93	739627.29	N 32 12 58.39 W 103 41 31.78	
	13972.00	89.59	358.31	11885.43	2043.46	2033.76	367.50	0.60	443079.88	739624.33	N 32 12 59.32 W 103 41 31.81	
	14066.00	89.60	358.55	11886.04	2137.31	2127.72	370.93	0.27	443173.84	739621.75	N 32 13 0.25 W 103 41 31.83	
	14160.00	90.00	358.95	11886.32	2231.19	2221.70	365.88	0.58	443267.81	739619.70	N 32 13 1.18 W 103 41 31.85	
	14255.00	90.10	358.49	11886.24	2326.07	2316.68	363.76	0.50	443362.78	739617.58	N 32 13 2.12 W 103 41 31.87	
	14350.00	88.90	358.80	11887.07	2420.94	2411.64	361.51	1.30	443457.75	739615.33	N 32 13 3.06 W 103 41 31.89	
	14444.00	90.62	358.78	11887.46	2514.82	2505.62	359.53	1.83	443551.72	739613.35	N 32 13 3.99 W 103 41 31.90	
	14538.00	89.86	358.20	11887.07	2608.67	2599.58	357.05	1.02	443645.68	739610.87	N 32 13 4.92 W 103 41 31.92	
	14633.00	89.45	358.28	11887.64	2703.51	2694.54	354.13	0.44	443740.63	739607.95	N 32 13 5.86 W 103 41 31.95	
	14728.00	89.00	357.79	11888.03	2798.29	2789.45	350.87	1.71	443835.54	739604.70	N 32 13 6.80 W 103 41 31.98	
	14822.00	89.35	358.17	11892.09	2892.07	2883.36	347.56	1.59	443929.45	739601.39	N 32 13 7.73 W 103 41 32.01	
	14916.00	89.35	358.31	11893.18	2985.90	2977.31	344.68	0.15	444023.39	739598.60	N 32 13 8.66 W 103 41 32.04	
	15011.00	89.38	358.21	11894.21	3080.73	3072.28	341.79	0.11	444118.34	739595.61	N 32 13 9.60 W 103 41 32.07	
	15105.00	89.93	358.73	11894.77	3174.59	3166.23	339.28	0.81	444212.30	739593.10	N 32 13 10.53 W 103 41 32.09	
	15200.00	89.76	358.39	11895.03	3269.45	3261.20	336.89	0.40	444307.26	739590.72	N 32 13 11.47 W 103 41 32.11	
	15295.00	90.31	358.31	11894.97	3364.29	3356.16	334.16	0.59	444402.22	739587.98	N 32 13 12.41 W 103 41 32.14	
	15389.00	88.62	358.41	11895.65	3458.13	3450.11	331.47	1.80	444496.17	739585.29	N 32 13 13.34 W 103 41 32.16	
	15484.00	88.52	357.54	11898.22	3552.91	3545.02	328.11	0.92	444591.07	739581.94	N 32 13 14.27 W 103 41 32.20	
	15578.00	91.10	356.65	11898.53	3646.81	3638.89	323.35	2.90	4			

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 ° ' ")
	18507.00	89.76	359.44	11869.21	6572.27	6666.67	290.43	0.36	447612.57	739544.26	N 32 13 44.18 W 103 41 32.42	
	18601.00	89.21	358.26	11870.05	6666.15	6660.65	288.54	1.38	447706.55	739542.97	N 32 13 45.11 W 103 41 32.44	
	18696.00	88.80	357.24	11871.70	6760.92	6755.56	284.81	1.16	447801.45	739538.04	N 32 13 46.05 W 103 41 32.48	
	18790.00	87.97	356.35	11874.35	6854.55	6849.37	279.56	1.29	447895.26	739533.99	N 32 13 46.97 W 103 41 32.53	
	18885.00	87.70	356.91	11877.94	6949.12	6944.14	273.98	0.65	447990.02	739527.81	N 32 13 47.91 W 103 41 32.59	
	18979.00	89.69	358.30	11880.08	7042.85	7038.02	270.05	2.58	448083.91	739523.88	N 32 13 48.84 W 103 41 32.63	
	19074.00	90.00	358.39	11880.34	7137.70	7132.98	267.31	0.34	448178.86	739521.14	N 32 13 49.78 W 103 41 32.65	
	19168.00	90.78	358.55	11879.72	7231.55	7226.95	264.80	0.83	448272.82	739518.63	N 32 13 50.71 W 103 41 32.68	
	19263.00	91.44	0.10	11877.89	7326.46	7321.92	263.68	1.78	448367.79	739515.61	N 32 13 51.65 W 103 41 32.68	
	19357.00	91.27	1.37	11875.67	7420.42	7415.88	264.89	1.36	448461.75	739518.71	N 32 13 52.58 W 103 41 32.66	
	19452.00	91.41	1.51	11873.45	7515.39	7510.83	267.27	0.21	448556.69	739521.10	N 32 13 53.52 W 103 41 32.63	
	19546.00	91.41	1.64	11871.14	7609.36	7604.76	269.86	0.14	448650.62	739523.68	N 32 13 54.45 W 103 41 32.59	
	19640.00	91.51	1.72	11868.74	7703.33	7698.69	272.61	0.14	448744.54	739526.44	N 32 13 55.38 W 103 41 32.55	
	19829.00	91.51	1.94	11863.76	7892.26	7887.53	278.65	0.12	448933.37	739532.47	N 32 13 57.25 W 103 41 32.47	
	19923.00	91.48	1.68	11861.31	7986.23	7981.45	281.61	0.28	449027.29	739535.44	N 32 13 58.18 W 103 41 32.43	
	20018.00	91.41	1.77	11858.91	8081.20	8076.38	284.47	0.12	449122.21	739538.30	N 32 13 59.11 W 103 41 32.39	
	20112.00	90.89	1.73	11857.02	8175.18	8170.32	287.34	0.55	449216.14	739541.17	N 32 14 0.04 W 103 41 32.35	
	20301.00	89.55	1.80	11856.30	8264.17	8259.22	293.16	0.71	449405.04	739546.99	N 32 14 1.91 W 103 41 32.27	
	20395.00	89.86	1.87	11856.78	8458.17	8453.17	296.17	0.34	449498.99	739550.00	N 32 14 2.84 W 103 41 32.23	
	20490.00	89.59	1.32	11857.24	8553.17	8548.13	298.82	0.64	449593.94	739552.64	N 32 14 3.78 W 103 41 32.19	
	20585.00	89.69	1.88	11857.84	8648.17	8643.09	301.47	0.60	449688.90	739555.30	N 32 14 4.72 W 103 41 32.15	
	20679.00	90.03	1.79	11858.07	8742.17	8737.05	304.48	0.37	449782.85	739558.91	N 32 14 5.65 W 103 41 32.11	
	20774.00	89.62	0.64	11858.36	8837.16	8832.02	306.49	1.29	449877.82	739560.32	N 32 14 6.59 W 103 41 32.08	
	20869.00	89.90	1.57	11858.75	8931.16	8926.00	308.31	1.03	449971.79	739562.13	N 32 14 7.52 W 103 41 32.05	
	20962.00	90.31	1.92	11858.58	9025.16	9019.86	311.17	0.57	450065.74	739564.99	N 32 14 8.45 W 103 41 32.01	
	21057.00	89.69	0.88	11858.58	9120.15	9114.93	313.49	1.27	450160.71	739567.32	N 32 14 9.39 W 103 41 31.98	
	21151.00	89.90	1.40	11858.91	9214.15	9208.91	315.36	0.60	450254.69	739569.19	N 32 14 10.32 W 103 41 31.95	
	21246.00	89.79	1.71	11859.17	9309.15	9303.87	317.94	0.35	450349.65	739571.76	N 32 14 11.26 W 103 41 31.91	
	21341.00	89.90	1.67	11859.43	9404.15	9398.83	320.74	0.12	450444.60	739574.56	N 32 14 12.20 W 103 41 31.87	
	21530.00	89.93	1.59	11859.71	9593.15	9587.75	326.12	0.05	450633.51	739579.94	N 32 14 14.07 W 103 41 31.80	
	21624.00	89.90	2.08	11859.85	9687.15	9681.71	329.13	0.52	450727.46	739582.95	N 32 14 15.00 W 103 41 31.78	
	21719.00	89.90	2.19	11860.01	9782.14	9776.64	332.67	0.12	450822.39	739586.49	N 32 14 15.94 W 103 41 31.71	
	21814.00	89.86	2.16	11860.21	9877.14	9871.57	336.27	0.05	450917.32	739590.09	N 32 14 16.88 W 103 41 31.66	
	22003.00	89.90	359.66	11860.61	10066.11	10060.53	339.27	1.32	451106.27	739593.10	N 32 14 18.74 W 103 41 31.61	
Final MWD Surveys	22052.00	89.97	359.80	11860.68	10115.08	10109.53	339.04	0.32	451155.27	739592.87	N 32 14 19.23 W 103 41 31.61	
Proj. to Bn	22095.00	89.97	359.80	11860.69	10158.06	10152.53	338.89	0.00	451198.26	739592.72	N 32 14 19.65 W 103 41 31.61	

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 BS Unit 2H Gyro-MWD 0-22.095'
	1	26.500	26.500	Act Stns	30.000	30.000	NAL_NSG+MSHOT-Depth Only	Original Borehole / Oxy Mesa Verde BS Unit 2H Gyro-MWD 0-22.095'
	1	26.500	920.390	Act Stns	30.000	30.000	NAL_NSG+MSHOT	Original Borehole / Oxy Mesa Verde BS Unit 2H Gyro-MWD 0-920.390'
	1	920.390	22095.000	Act Stns	30.000	30.000	NAL_MWD_PLUS_0.5_DEG	Original Borehole / Oxy Mesa Verde BS Unit 2H Gyro-MWD 0-22095.000'

...Oxy Mesa Verde BS Unit 2H\Original Borehole\Oxy Mesa Verde BS Unit 2H Gyro+MWD 0-22.095'