

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.
P.O. BOX 2289
Houston, TX 77252

HOBBBS OCD

AUG 06 2018

RECEIVED

Re:

CLIENT: OXY USA Inc.
WELL: Mesa Verde BS Unit 10H
FIELD: Mesa Verde Bone Spring

RIG: H&P 556
COUNTY: Lea
API NO: 30-025-44188
JOB NO: 18MLD2648

18, 24S, 32E, Eddy NM
N 32.21132 W -103.70865

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>
Kantonporn Rimkheeree FE	Mesa Verde BS Unit 10H Original Hole	1056.00 Ft to 20723.00 Ft	June 3, 2018 to June 21, 2018	TelePacer SlimPulse

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

Mike Stephens
Field Service Manager

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:
18, 24S, 32E. Eddy NM
N 32.21132 W -103.70865

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 June 03, 2018 through June 21, 2018, conduct or supervise the taking of the TelePacer & SlimPulse surveys from a depth of 1056.00 feet to a depth of 20723.00 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 10H Well (Original Hole) API No. 30-025-44188 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 Kamonporn Rinkheeree
Kamonporn Rinkheeree
FE

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

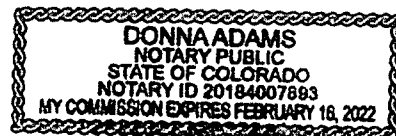
My Commission expires:

2-16-2022

D. Adams
Notary Public

(signature)

Adams County Colorado
(County State)



Schlumberger

OXY



Borehole:

Well:

Field:

Structure:

Original Borehole

Oxy Mesa Verde BS Unit 10H

NM Lea County (NAD 83)

Oxy Mesa Verde BS Unit 10H

Gravity & Magnetic Parameters

Model: HOGM 2018 Op: 69.823° Date: 01-Jun-2018
 MagDec: 6.821° FS: 47968.834m Gravity FS: 986.428mgn (RJ0983 Based)

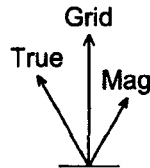
Surface Location

NAD83 New Mexico State Plane, Eastern Zone, US Feet
 Lat: N 32 12 46.74 Northing: 441732.47618
 Lon: W 105 42 31.14 Easting: 736537.38618
 Grid Conv: 0.333° Scale Fact: 0.9998164

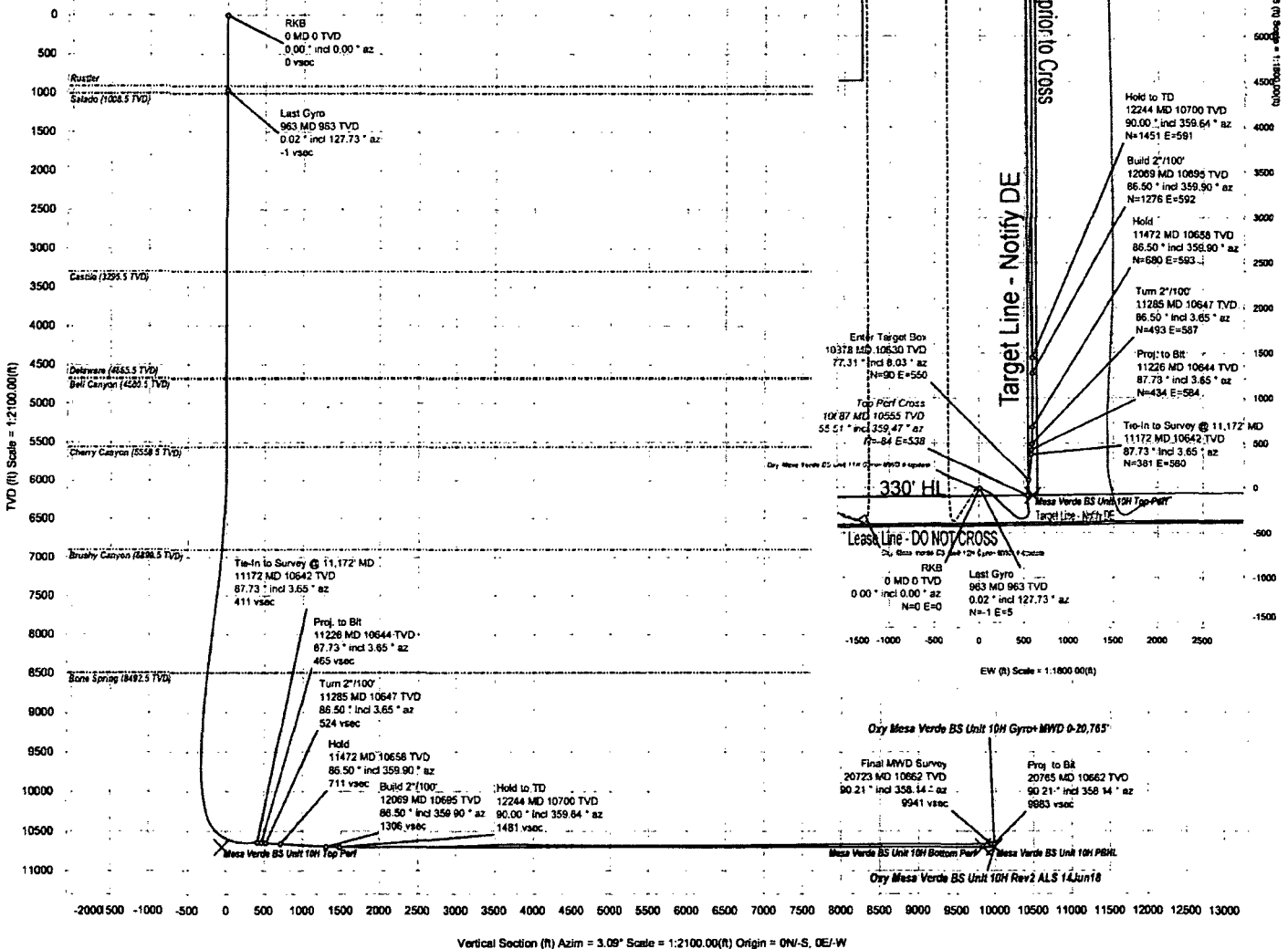
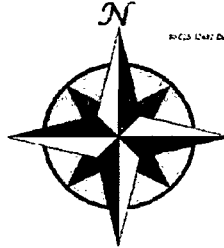
Miscellaneous

Sh: Dry Mesa Verde BS Unit 10H
 Plan: Dry Mesa Verde BS Unit 10H Rev2 ALS 14Jun18
 TVD Ref: RDB=3P (3600 ft above MSL)

Oxy Mesa Verde BS Unit 10H Gyro-MWD 0-20,765'
 Oxy Mesa Verde BS Unit 10H Rev2 ALS 14Jun18



Grid North
 Tot Corr (M→G 6.488°)
 Mag Dec (6.821°)
 Grid Conv (0.333°)



Oxy Mesa Verde BS Unit 10H Gyro+MWD 0-20.765' Survey Geodetic

Report
(Del Survey)

Report Date: June 21, 2018 - 11:15 AM
Client: OXY
Field: NMI Las Comas (NAD 83)
Structure / Slit: Oxy Mesa Verde BS Unit 10H / Oxy Mesa Verde BS Unit 10H
Well: Oxy Mesa Verde BS Unit 10H
Borehole: Original Borehole
UWI / App: Unknow / 30422544-188
Survey Date: Oxy Mesa Verde BS Unit 10H Gyro+MWD 0-20.765'
Survey Name: June 01, 2018
Tort / AWD / DOI / END Ratio: 228.337' / 10967' 451' N / 6.683' 1.025
Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 12' 40.73883" W 103° 42' 31.14982"
Location Lat / Long: N 44° 172' 470' NUS, E 734537' 250' NUS
CRS Grid Convergence Angle: 0.3330°
Grid Scale Factor: 0.99995164
Version / Patch: 2.10.720.0

Survey / DLS Configuration:
Vertical Section Admuth: Minimum Curvature / Lubinski
Vertical Section Origin: 3.087° (Grid North)
TVD Reference Datum: 0.000' R, 0.000' R
TVD Reference Elevation: 3600' 100' R above MSL
TVD Reference Elevation: 3570' 100' R above MSL
Magnetic Declination: 6.421°
Total Gravity Field Strength: 998.428mgal (9.80665 Base)
Gravity Model: GARM
Total Magnetic Field Strength: 47998.904 nT
Magnetic Dip Angle: 69.823°
Declination Date: June 01, 2018
Magnetic Declination Model: HICM 2018
North Reference: Grid North
Grid Convergence Used: 0.3330°
Total Corr Mag North-Grid: 6.4876°
North: Local Coord Referenced To: Well Head

Comments	MD	Incl	Adm Grid	TVD	VSEC	NS	EW	DLS	Heading	Eastings	Latitude	Longitudes
RKB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
SHL	30.00	0.00	0.00	30.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	60.00	0.00	0.00	60.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	90.00	0.00	0.00	90.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	120.00	0.00	0.00	120.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	150.00	0.00	0.00	150.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	180.00	0.00	0.00	180.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	210.00	0.00	0.00	210.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	240.00	0.00	0.00	240.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	270.00	0.00	0.00	270.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	330.00	0.00	0.00	330.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	360.00	0.00	0.00	360.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	390.00	0.00	0.00	390.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	420.00	0.00	0.00	420.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	450.00	0.00	0.00	450.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	480.00	0.00	0.00	480.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	510.00	0.00	0.00	510.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	540.00	0.00	0.00	540.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	570.00	0.00	0.00	570.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	630.00	0.00	0.00	630.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	660.00	0.00	0.00	660.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	690.00	0.00	0.00	690.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	720.00	0.00	0.00	720.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	750.00	0.00	0.00	750.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	780.00	0.00	0.00	780.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	810.00	0.00	0.00	810.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	840.00	0.00	0.00	840.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	870.00	0.00	0.00	870.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	930.00	0.00	0.00	930.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	960.00	0.00	0.00	960.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	990.00	0.00	0.00	990.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	1020.00	0.00	0.00	1020.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	1050.00	0.00	0.00	1050.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	1080.00	0.00	0.00	1080.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	1110.00	0.00	0.00	1110.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	1140.00	0.00	0.00	1140.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	1170.00	0.00	0.00	1170.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	1200.00	0.00	0.00	1200.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	1230.00	0.00	0.00	1230.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	1260.00	0.00	0.00	1260.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	1290.00	0.00	0.00	1290.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	1320.00	0.00	0.00	1320.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	1350.00	0.00	0.00	1350.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	1380.00	0.00	0.00	1380.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	1410.00	0.00	0.00	1410.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	1440.00	0.00	0.00	1440.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	1470.00	0.00	0.00	1470.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	1500.00	0.00	0.00	1500.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	1530.00	0.00	0.00	1530.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	1560.00	0.00	0.00	1560.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	1590.00	0.00	0.00	1590.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	1620.00	0.00	0.00	1620.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	1650.00	0.00	0.00	1650.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	1680.00	0.00	0.00	1680.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	1710.00	0.00	0.00	1710.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	1740.00	0.00	0.00	1740.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	1770.00	0.00	0.00	1770.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	1800.00	0.00	0.00	1800.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	1830.00	0.00	0.00	1830.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	1860.00	0.00	0.00	1860.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	1890.00	0.00	0.00	1890.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	1920.00	0.00	0.00	1920.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	1950.00	0.00	0.00	1950.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	1980.00	0.00	0.00	1980.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	2010.00	0.00	0.00	2010.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	2040.00	0.00	0.00	2040.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	2070.00	0.00	0.00	2070.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	2100.00	0.00	0.00	2100.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	2130.00	0.00	0.00	2130.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	2160.00	0.00	0.00	2160.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	2190.00	0.00	0.00	2190.00	0.00	0.00	0.00	0.00	441172.47	734537.28	N 32° 12' 40.74" W 103° 42' 31.15"	
	2220.00	0.00	0.00	2220.00	0.00	0.00	0					

0xy Mesa Verde BS Unit 10H\Original\Borehole\Oxy Mesa Verde BS Unit 10H Gyro+MWD 0-20.765'

[illegible]

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 ° ' '')
	20176.00	90.03	359.40	10664.36	9395.20	9379.45	545.25	0.61	450551.45	735082.47	N 32 14 13.52	W 103 42 24.17
	20270.00	90.07	359.72	10664.30	9489.03	9473.45	544.52	0.34	450645.44	735081.75	N 32 14 14.45	W 103 42 24.17
	20365.00	90.24	359.35	10664.04	9583.64	9568.44	543.75	0.43	450749.43	735080.98	N 32 14 15.38	W 103 42 24.17
	20555.00	90.41	359.88	10662.98	9773.49	9758.44	542.48	0.29	450930.42	735079.70	N 32 14 17.27	W 103 42 24.17
	20649.00	90.21	358.85	10662.45	9867.28	9852.43	541.27	1.33	451024.40	735078.49	N 32 14 18.20	W 103 42 24.18
Final MWD Survey	20723.00	90.21	358.14	10662.18	9941.03	9926.40	539.20	0.69	451098.37	735076.42	N 32 14 18.93	W 103 42 24.20
Proj. to Bit	20765.00	90.21	358.14	10662.03	9962.67	9968.37	537.93	0.00	451140.34	735075.06	N 32 14 19.35	W 103 42 24.21

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	30.000	1/98.425	30.000	30.000	NAL_NSG+MSHOT-Depth Only	Original Borehole / Oxy Mesa Verde BS Unit 10H Gyro+MWD 0- 20,765'
	1	30.000	30.000	Act Strs	30.000	30.000	NAL_NSG+MSHOT-Depth Only	Original Borehole / Oxy Mesa Verde BS Unit 10H Gyro+MWD 0- 20,765'
	1	30.000	963.400	Act Strs	30.000	30.000	NAL_NSG+MSHOT	Original Borehole / Oxy Mesa Verde BS Unit 10H Gyro+MWD 0- 20,765'
	1	963.400	20765.000	Act Strs	30.000	30.000	NAL_MWD_PLUS_0.5_DEG	Original Borehole / Oxy Mesa Verde BS Unit 10H Gyro+MWD 0-

...Oxy Mesa Verde BS Unit 10H\Original Borehole\Oxy Mesa Verde BS Unit 10H Gyro+MWD 0-20,765'