Final PVA -Revo

Hor 007 (NAD-20..)

Schlumberger

OXY

HOBBS OCD

AUG 22 2018

RECEIVED

Borehole:	Well:	Field:	Structure:
Original Borehole	Oxy Mesa Verde BS Unit 15H	NM Lea County (NAD 83)	Oxy Mesa Verde BS Unit 15H

Gravity & Magnetic Parameters

Model: HDGM 2018 Dip: 59.915° Date: 27-Jul-2018

MagDec: 6.811° FS: 47880.934nT Gravity FS: 998.428mgn (9.80665 Based)

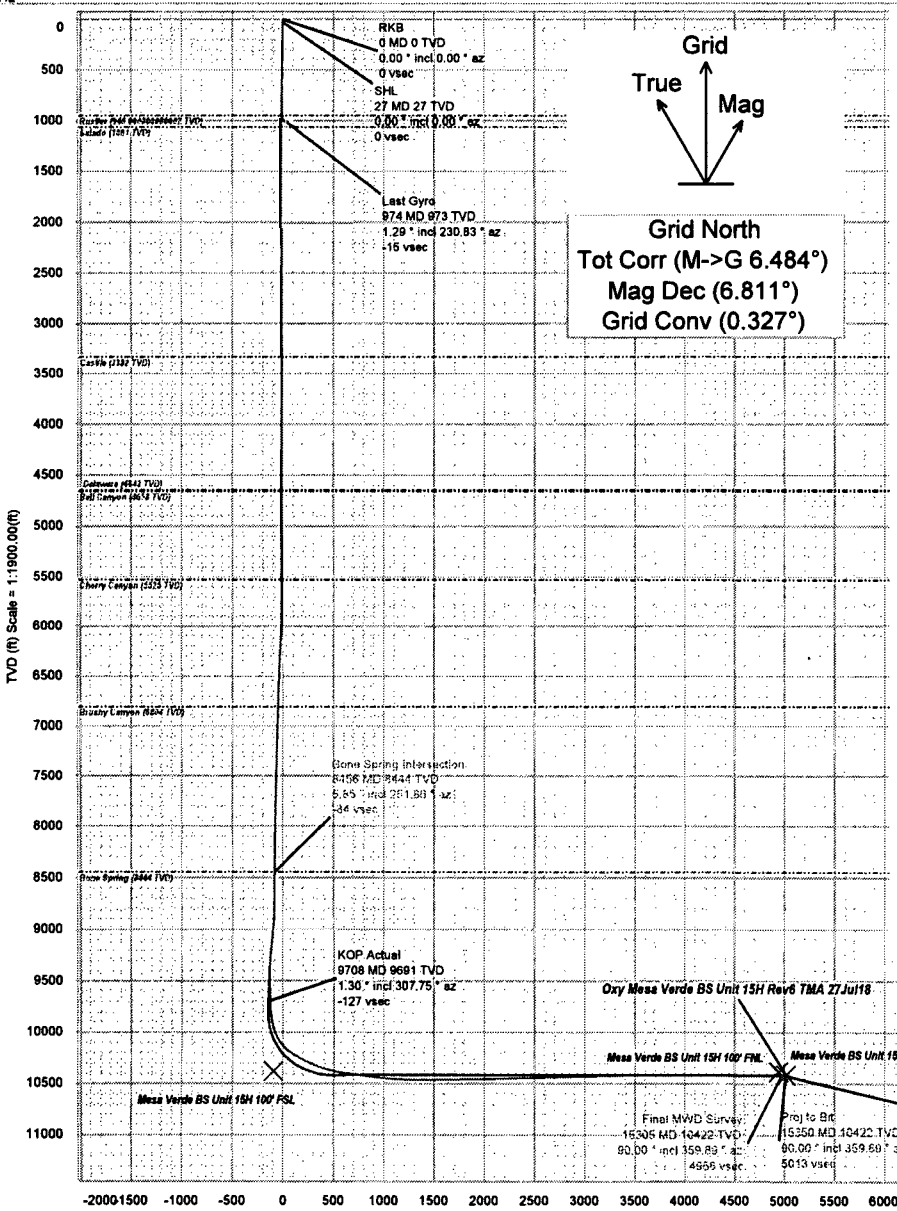
Surface Location NAD83 New Mexico State Plane, Eastern Zone, US Feet (Computed)

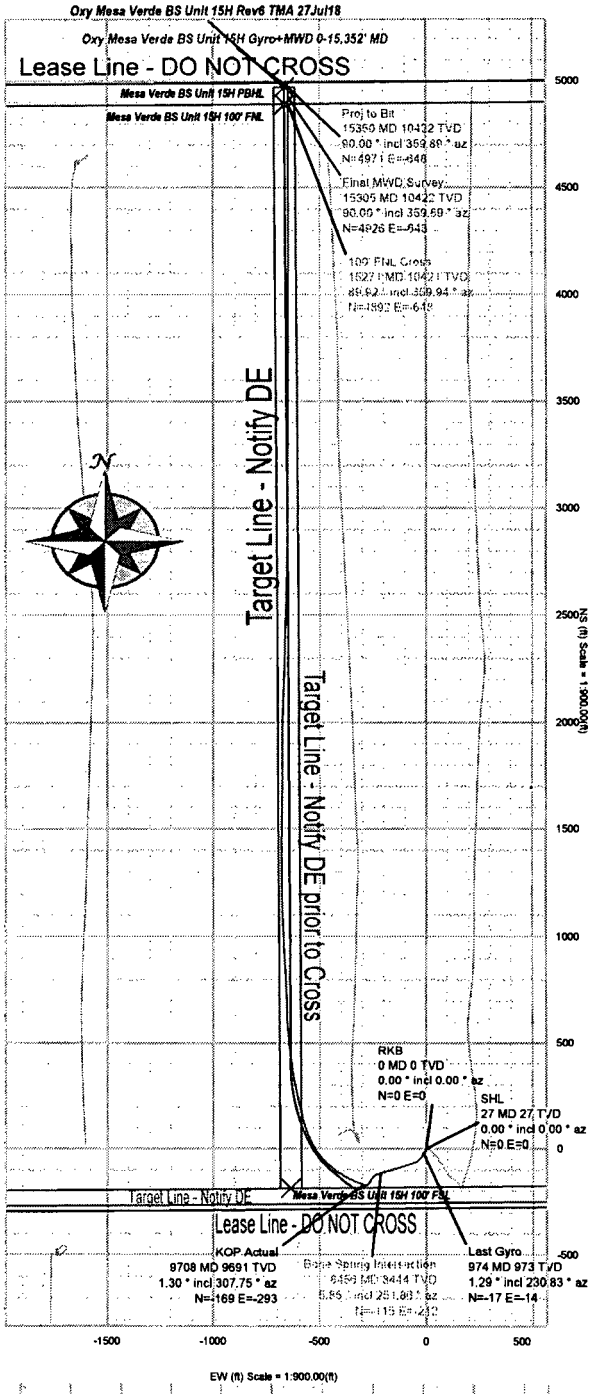
Lat: N 32 12 39.23 Northing: 441000.17ftUS Grid Conv: 0.3272° Slot: Oxy Mesa Verde BS Unit 15H TVD Ref: RKB=26.6'(3598.6ft above MSL)

Lon: W 103 43 10.16 Easting: 731186.03ftUS Scale Fact: 0.99995037 Plan: Oxy Mesa Verde BS Unit 15H Rev6 TMA 27Jul18

Critical Points

Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS
Rustler	946.27	1.29	230.97	946.00	-14.80	-16.81	-13.98	0.02
Salado	1061.29	0.46	226.34	1061.00	-15.84	-18.06	-15.47	0.95
Castile	3332.29	0.17	339.16	3332.00	-15.13	-17.29	-15.14	0.18
Delaware	4643.30	0.13	213.44	4643.00	-16.04	-18.30	-15.79	0.23
Bell Canyon	4658.30	0.16	211.98	4658.00	-16.07	-18.34	-15.82	0.13
Cherry Canyon	5525.30	0.16	71.89	5525.00	-16.83	-19.07	-15.59	0.00
Brushy Canyon	6805.83	4.40	238.60	6804.00	-52.10	-58.32	-42.92	0.51
Bone Spring	8455.71	5.85	251.85	8444.00	-85.31	-114.53	-212.46	1.08
Tie-In to Survey @ 9379' MD	9379.00	5.57	239.69	9362.68	-130.84	-169.26	-278.11	
Project to Bit: Rotate 241'	9554.00	5.57	239.69	9536.86	-137.39	-177.83	-292.77	0.00
Build & Turn 10°/100'	9801.10	5.57	239.69	9782.79	-146.63	-189.93	-313.48	0.00
Build & Turn 10°/100'	10238.16	45.00	311.40	10171.99	-33.13	-94.23	-453.90	10.00
Landing Point	10855.28	90.00	359.65	10415.00	491.25	410.15	-638.26	10.00
Mesa Verde BS Unit 15H PBHL	15416.43	90.00	359.65	10415.00	5015.61	4971.21	-665.88	0.00





Vertical Section (ft) Azim = 352.13° Scale = 1:1900.00(ft) Origin = 0N/-S, 0E/-W

Schlumberger

Oxy Mesa Verde BS Unit 15H Gyro+MWD 0-15,352' MD Survey Geodetic Report

(Def Survey)

Report Date:	August 06, 2018 - 02:44 PM	**Survey / DLS Computation:**	Minimum Curvature / Lubinski
Client:	OXY	**Vertical Section Azimuth:**	352.370 ° (Grid North)
Field:	NM Lea County (NAD 83)	**Vertical Section Origin:**	0.000 ft, 0.000 ft
Structure / Slot:	Oxy Mesa Verde BS Unit 15H / Oxy Mesa Verde BS Unit 15H	**TVD Reference Datum:**	RKB=26.5'
Well:	Oxy Mesa Verde BS Unit 15H	**TVD Reference Elevation:**	3598.500 ft above MSL
Borehole:	Original Borehole	**Seabed / Ground Elevation:**	3572.000 ft above MSL
UWI / API#:	Unknown / 30-025-44190	**Magnetic Declination:**	6.811 °
Survey Name:	Oxy Mesa Verde BS Unit 15H Gyro+MWD 0-15,352' MD	**Total Gravity Field Strength:**	998.4285mgn (9.80665 Based)
Survey Date:	July 27, 2018	**Gravity Model:**	GARM
Tort / AHD / DDI / ERD Ratio:	187.108 ° / 5648.428 ft / 6.190 / 0.540	**Total Magnetic Field Strength:**	47980.934 nT
Coordinate Reference System:	NAD83 New Mexico State Plane, Eastern Zone, US Feet	**Magnetic Dip Angle:**	59.919 °
Location Lat / Long:	N 32° 12' 39.22595", W 103° 43' 10.17936"	**Declination Date:**	July 27, 2018
Location Grid N/E Y/X:	N 441000.170 ftUS, E 731185.030 ftUS	**Magnetic Declination Model:**	HDGM 2018
CRS Grid Convergence Angle:	0.3272 °	**North Reference:**	Grid North
Grid Scale Factor:	0.99995037	**Grid Convergence Used:**	0.3272 °
Version / Patch:	2.10.740.0	**Total Corr Mag North->Grid North:**	6.4843 °
		Local Coord Referenced To:	Well Head

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 ° ' ")
RKB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	441000.17	731185.03	N 32 12 39.23	W 103 43 10.18
SHL	26.50	0.00	0.00	26.50	0.00	0.00	0.00	0.00	441000.17	731185.03	N 32 12 39.23	W 103 43 10.18
	73.30	1.12	203.12	73.30	-0.39	-0.42	-0.18	2.39	440999.75	731184.85	N 32 12 39.22	W 103 43 10.18
	134.90	1.20	208.82	134.88	-1.43	-1.54	-0.73	0.23	440998.63	731184.30	N 32 12 39.21	W 103 43 10.19
	223.90	1.30	214.09	223.86	-2.93	-3.19	-1.74	0.17	440996.98	731183.29	N 32 12 39.19	W 103 43 10.20
	316.50	1.37	214.48	316.44	-4.54	-4.97	-2.96	0.08	440995.20	731182.07	N 32 12 39.18	W 103 43 10.21
	411.50	1.44	217.57	411.41	-6.22	-6.86	-4.33	0.11	440993.31	731180.70	N 32 12 39.16	W 103 43 10.23
	506.40	1.55	222.57	506.28	-7.88	-8.75	-5.92	0.18	440991.42	731179.11	N 32 12 39.14	W 103 43 10.25
	601.30	1.61	223.17	601.14	-9.55	-10.66	-7.70	0.07	440989.51	731177.33	N 32 12 39.12	W 103 43 10.27
	696.50	1.56	223.00	696.30	-11.21	-12.59	-9.50	0.05	440987.58	731175.53	N 32 12 39.10	W 103 43 10.29
	791.50	1.47	224.15	791.27	-12.79	-14.41	-11.23	0.10	440985.76	731173.80	N 32 12 39.08	W 103 43 10.31
	886.60	1.30	231.28	886.34	-14.10	-15.96	-12.92	0.25	440984.21	731172.11	N 32 12 39.07	W 103 43 10.33
Last Gyro	973.50	1.29	230.83	973.22	-15.12	-17.19	-14.45	0.02	440982.98	731170.58	N 32 12 39.06	W 103 43 10.35
	1076.00	0.32	223.31	1075.71	-15.91	-18.13	-15.54	0.95	440982.04	731169.49	N 32 12 39.05	W 103 43 10.36
	1169.00	0.13	171.04	1168.71	-16.17	-18.42	-15.70	0.28	440981.75	731169.33	N 32 12 39.04	W 103 43 10.36
	1261.00	0.13	84.28	1260.71	-16.28	-18.52	-15.58	0.19	440981.66	731169.45	N 32 12 39.04	W 103 43 10.36
	1353.00	0.13	316.10	1352.71	-16.20	-18.43	-15.55	0.25	440981.74	731169.48	N 32 12 39.04	W 103 43 10.36
	1445.00	0.13	305.61	1444.71	-16.05	-18.29	-15.71	0.03	440981.88	731169.32	N 32 12 39.05	W 103 43 10.36
	1540.00	0.16	357.49	1539.71	-15.84	-18.10	-15.80	0.14	440982.07	731169.23	N 32 12 39.05	W 103 43 10.36
	1729.00	0.18	188.90	1728.71	-15.83	-18.10	-15.88	0.17	440982.08	731169.17	N 32 12 39.05	W 103 43 10.37
	1823.00	0.25	22.61	1822.71	-15.78	-18.04	-15.80	0.43	440982.14	731169.23	N 32 12 39.05	W 103 43 10.36
	1918.00	0.16	336.29	1917.71	-15.47	-17.72	-15.77	0.19	440982.45	731169.26	N 32 12 39.05	W 103 43 10.36
	2012.00	0.16	89.04	2011.71	-15.36	-17.60	-15.69	0.28	440982.57	731169.34	N 32 12 39.05	W 103 43 10.36
	2201.00	0.13	14.43	2200.71	-15.19	-17.39	-15.38	0.09	440982.78	731169.66	N 32 12 39.05	W 103 43 10.36
	2296.00	0.08	285.01	2295.71	-15.07	-17.27	-15.41	0.16	440982.90	731169.62	N 32 12 39.06	W 103 43 10.36
	2390.00	0.16	146.34	2389.71	-15.16	-17.36	-15.40	0.24	440982.81	731169.63	N 32 12 39.06	W 103 43 10.36
	2485.00	0.16	90.29	2484.71	-15.30	-17.47	-15.20	0.16	440982.70	731169.83	N 32 12 39.05	W 103 43 10.36
	2579.00	0.08	309.36	2578.71	-15.27	-17.43	-15.12	0.24	440982.74	731169.91	N 32 12 39.05	W 103 43 10.36
	2673.00	0.13	163.84	2672.71	-15.33	-17.49	-15.14	0.21	440982.68	731169.89	N 32 12 39.05	W 103 43 10.36
	2768.00	0.08	4.35	2767.71	-15.37	-17.53	-15.10	0.22	440982.64	731169.93	N 32 12 39.05	W 103 43 10.36
	2863.00	0.08	284.66	2862.71	-15.28	-17.44	-15.16	0.11	440982.73	731169.87	N 32 12 39.05	W 103 43 10.36
	2957.00	0.13	247.45	2956.71	-15.28	-17.47	-15.32	0.09	440982.70	731169.71	N 32 12 39.05	W 103 43 10.36
	3051.00	0.16	192.22	3050.71	-15.43	-17.64	-15.45	0.15	440982.53	731169.58	N 32 12 39.05	W 103 43 10.36
	3146.00	0.16	53.15	3145.71	-15.49	-17.69	-15.37	0.32	440982.48	731169.66	N 32 12 39.05	W 103 43 10.36
	3240.00	0.16	41.62	3239.71	-15.34	-17.51	-15.18	0.03	440982.66	731169.85	N 32 12 39.05	W 103 43 10.36
	3335.00	0.17	337.76	3334.71	-15.12	-17.28	-15.15	0.18	440982.89	731169.89	N 32 12 39.06	W 103 43 10.36
	3429.00	0.18	9.99	3428.70	-14.84	-17.01	-15.17	0.10	440983.16	731169.86	N 32 12 39.06	W 103 43 10.36
	3523.00	0.13	316.25	3522.70	-14.62	-16.78	-15.22	0.16	440983.39	731169.81	N 32 12 39.06	W 103 43 10.36
	3618.00	0.08	263.47	3617.70	-14.53	-16.71	-15.36	0.11	440983.46	731169.67	N 32 12 39.06	W 103 43 10.36
	3712.00	0.18	137.58	3711.70	-14.65	-16.83	-15.33	0.25	440983.34	731169.70	N 32 12 39.06	W 103 43 10.36
	3807.00	0.25	255.47	3806.70	-14.79	-16.99	-15.43	0.39	440983.18	731169.60	N 32 12 39.06	W 103 43 10.36
	3901.00	0.06	90.23	3900.70	-14.83	-17.04	-15.58	0.33	440983.13	731169.46	N 32 12 39.06	W 103 43 10.36
	3996.00	0.11	126.73	3995.70	-14.90	-17.10	-15.45	0.08	440983.07	731169.58	N 32 12 39.06	W 103 43 10.36
	4090.00	0.18	269.92	4089.70	-14.94	-17.15	-15.53	0.29	440983.02	731169.50	N 32 12 39.06	W 103 43 10.36
	4185.00	0.11	164.21	4184.70	-15.01	-17.24	-15.65	0.25	440982.93	731169.38	N 32 12 39.06	W 103 43 10.36
	4279.00	0.18	160.03	4278.70	-15.25	-17.48	-15.63	0.09	440982.69	731169.40	N 32 12 39.05	W 103 43 10.36
	4373.00	0.25	196.33	4372.70	-15.58	-17.82	-15.69	0.10	440982.35	731169.34	N 32 12 39.05	W 103 43 10.36
	4468.00	0.18	185.53	4467.70	-15.91	-18.17	-15.76	0.08	440982.00	731169.27	N 32 12 39.05	W 103 43 10.36
	4562.00	0.06	17.85	4561.70	-16.01	-18.27	-15.76	0.25	440981.90	731169.27	N 32 12 39.05	W 103 43 10.36
	4657.00	0.16	212.47	4656.70	-16.07	-18.33	-15.81	0.23	440981.84	731169.22	N 32 12 39.05	W 103 43 10.36
	4751.00	0.13	163.79	4750.70	-16.26	-18.55	-15.85	0.13	440981.63	731169.18	N 32 12 39.04	W 103 43 10.37
	4846.00	0.08	19.84	4845.70	-16.32	-18.59	-15.80	0.21	440981.58	731169.23	N 32 12 39.04	W 103 43 10.36
	4940.00	0.13	131.57	4939.70	-16.35	-18.60	-15.70	0.19	440981.57	731169.33	N 32 12 39.04	W 103 43 10.36
	5034.00	0.13	137.59	5033.70	-16.52	-18.75	-15.55	0.01	440981.43	731169.48	N 32 12 39.04	W 103 43 10.36
	5223.00	0.08	261.89	5222.70	-16.69	-18.92	-15.53	0.10	440981.25	731169.50	N 32 12 39.04	W 103 43 10.36
	5318.00	0.08	206.44	5317.70	-16.75	-18.99	-15.63	0.08	440981.18	731169.40	N 32 12 39.04	W 103 43 10.36
	5412.00	0.08	232.88	5411.70	-16.84	-19.09	-15.71	0.04	440981.08	731169.32	N 32 12 39.04	W 103 43 10.36
	5507.00	0.16	71.92	5506.70	-16.84	-19.09	-15.64	0.25	440981.08	731169.39	N 32 12 39.04	W 103 43 10.36
	5601.00	0.16	71.77	5600.70	-16.80	-19.01	-15.39	0.00	440981.16	731169.64	N 32 12 39.04	W 103 43 10.36
	5695.00	0.08	144.31	5694.70	-16.83	-19.02	-15.23	0.17	440981.15	731169.81	N 32 12 39.04	W 103 43 10.36
	5790.00	0.08	13.90	5789.70	-16.83	-19.01	-15.17	0.15	440981.16	731169.86	N 32 12 39.04	W 103 43 10.36
	5884.00	0.16	56.05	5883.70	-16.71	-18.87	-15.05	0.12	440981.30	731169.98	N 32 12 39.04	W 103 43 10.36
	5979.00	0.90	185.51	5978.70	-17.38	-19.54	-15.01	1.06	440980.63	731170.02	N 32 12 39.03	W 103 43 10.36
	6073.00	3.03	192.26	6072.64	-20.43	-22.70	-15.61	2.28	440977.47	731169.42	N 32 12 39.00	W 103 43 10.36
	6262.00	3.26	208.60	6261.35	-29.46	-32.30	-19.24	0.49	440967.87	731165.79	N 32 12 38.91	W 103 43 10.41
	6451.00	3.59	213.29	6450.02	-38.27	-41.97	-25.06	0.23	440958.20	731159.97	N 32 12 38.81	W 103 43 10.47
	6640.00	3.97	228.44	6638.61	-46.39	-51.25	-33.20	0.56	440948.92	731151.83	N 32 12 38.72	W 103 43 10.57
	6735.00	4.17	234.91	6733.37	-49.82	-55.42	-38.49	0.53	440944.75	731146.54	N 32 12 38.68	W 103 43 10.63
	6924.00	4.82	243.93	6921.79	-55.50	-62.86	-51.25	0.51	440937.31	731133.79	N 32 12 38.61	W 103 43 10.78
	7018.00	5.20	250.89	7015.43	-57.60	-65.99	-58.82	0.76	440934.18	731126.21	N 32 12 38.58	W 103 43 10.87
	7113.00	5.21	247.57	7110.04	-59.56	-69.05	-66.87	0.32	440931.13	731118.16	N 32 12 38.55	W 103 43 10.96
	7208.00	5.39	248.55	7204.63	-61.72	-72.32	-75.01	0.21	440927.85	731110.02	N 32 12 38.51	W 103 43 11.06
	7302.00	6.20	253.52	7298.15	-63.56	-75.38	-83.99	1.01	440924.79	731101.04	N 32 12 38.48	W 103 43 11.16
	7397.00	6.81	252.75	7392.54	-65.29	-78.50	-94.29	0.65	440921.67	731090.75	N 32 12 38.45	W 103 43 11.28
	7491.00	6.85	251.31	7485.88	-67.30	-81.95	-104.92	0.19	440918.22	731080.11	N 32 12 38.42	W 103 43 11.41
	7586.00	7.18	250.53	7580.16	-69.60	-85.75	-115.88	0.36	440914.43	731069.15	N 32 12 38.38	W 103 43 11.53
	7680.00	7.04	253.72	7673.44	-71.67	-89.32	-126.95	0.45	440910.85	731058.08	N 32 12 38.35	W 103 43 11.66
	7775.00	6.96	253.49	7767.73	-73.44	-92.59	-138.06	0.09	440907.59	731046.98	N 32 12 38.32	W 103 43 11.79
	7869.00	6.80	252.42	7861.06	-75.28	-95.89	-148.83	0.22	440904.29	731036.21	N 32 12 38.29	W 103 43 11.92

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 ° ' ")
	7964.00	6.79	252.49	7955.39	-77.21	-99.28	-159.54	0.01	440900.90	731025.50	N 32 12 38.25	W 103 43 12.04
	8058.00	6.49	253.84	8048.76	-78.96	-102.43	-169.94	0.36	440897.75	731015.09	N 32 12 38.22	W 103 43 12.16
	8152.00	6.69	256.86	8142.14	-80.27	-105.15	-180.38	0.43	440895.03	731004.66	N 32 12 38.20	W 103 43 12.29
	8247.00	6.36	253.52	8236.52	-81.61	-107.90	-190.81	0.53	440892.27	730994.23	N 32 12 38.17	W 103 43 12.41
	8341.00	6.30	253.65	8329.95	-83.19	-110.83	-200.75	0.07	440889.35	730984.29	N 32 12 38.14	W 103 43 12.52
	8435.00	6.07	251.55	8423.40	-84.91	-113.85	-210.42	0.34	440886.32	730974.62	N 32 12 38.11	W 103 43 12.64
	8530.00	5.06	253.15	8517.95	-86.52	-116.66	-219.19	1.08	440883.52	730965.85	N 32 12 38.08	W 103 43 12.74
	8624.00	4.22	255.53	8611.64	-87.60	-118.72	-226.51	0.92	440881.45	730958.53	N 32 12 38.06	W 103 43 12.82
	8813.00	3.14	246.87	8800.25	-89.81	-122.50	-238.00	0.64	440877.68	730947.04	N 32 12 38.03	W 103 43 12.96
	8908.00	4.47	219.05	8895.05	-93.05	-126.39	-242.73	2.36	440873.78	730942.31	N 32 12 37.99	W 103 43 13.01
	9002.00	6.80	216.88	8988.59	-99.53	-133.69	-248.38	2.49	440866.49	730936.67	N 32 12 37.92	W 103 43 13.08
	9096.00	7.24	216.40	9081.88	-107.76	-142.91	-255.23	0.47	440857.27	730929.81	N 32 12 37.83	W 103 43 13.16
	9191.00	7.59	215.82	9176.09	-116.61	-152.81	-262.46	0.38	440847.36	730922.59	N 32 12 37.73	W 103 43 13.24
	9285.00	7.44	221.58	9269.28	-125.10	-162.40	-270.13	0.82	440837.78	730914.92	N 32 12 37.63	W 103 43 13.33
	9379.00	5.57	239.69	9362.68	-130.83	-169.26	-278.11	2.93	440830.92	730906.94	N 32 12 37.57	W 103 43 13.43
	9579.00	2.25	308.74	9562.27	-131.73	-171.70	-289.56	2.60	440828.48	730895.49	N 32 12 37.54	W 103 43 13.56
	9676.00	1.59	311.70	9659.22	-129.34	-169.61	-292.05	0.69	440830.57	730893.00	N 32 12 37.56	W 103 43 13.59
KOP Actual	9708.00	1.30	307.75	9691.21	-128.74	-169.10	-292.66	0.96	440831.08	730892.38	N 32 12 37.57	W 103 43 13.60
	9770.00	4.89	296.86	9753.11	-126.74	-167.47	-295.58	5.84	440832.71	730889.47	N 32 12 37.59	W 103 43 13.63
	9867.00	15.27	290.64	9848.48	-118.33	-161.08	-311.26	10.74	440839.10	730873.78	N 32 12 37.65	W 103 43 13.81
	9962.00	27.42	292.82	9936.80	-101.25	-148.14	-343.25	12.81	440852.04	730841.79	N 32 12 37.78	W 103 43 14.18
	10057.00	35.39	298.96	10017.84	-73.72	-126.30	-387.57	9.03	440873.88	730797.48	N 32 12 38.00	W 103 43 14.70
	10151.00	44.11	307.91	10090.10	-34.04	-92.92	-437.33	11.08	440907.25	730747.72	N 32 12 38.33	W 103 43 15.28
	10246.00	51.87	317.66	10153.72	20.43	-44.86	-488.73	11.16	440955.32	730696.33	N 32 12 38.81	W 103 43 15.87
	10341.00	61.25	332.77	10206.22	90.82	20.20	-533.23	16.51	441020.37	730651.83	N 32 12 39.46	W 103 43 16.38
	10435.00	60.99	340.77	10251.68	170.00	95.74	-565.66	7.46	441095.91	730619.40	N 32 12 40.21	W 103 43 16.76
	10530.00	66.32	347.30	10293.86	254.16	177.53	-588.94	8.33	441177.69	730598.12	N 32 12 41.02	W 103 43 17.02
	10624.00	69.79	346.89	10328.98	340.96	262.50	-608.42	3.71	441262.66	730576.65	N 32 12 41.86	W 103 43 17.24
	10719.00	74.04	350.88	10358.47	431.06	351.08	-625.78	6.00	441351.23	730559.28	N 32 12 42.74	W 103 43 17.44
	10813.00	77.41	353.17	10381.65	522.14	441.28	-638.40	4.29	441441.43	730546.66	N 32 12 43.63	W 103 43 17.58
	10908.00	80.85	354.63	10399.57	615.38	534.03	-646.31	3.92	441534.17	730536.76	N 32 12 44.55	W 103 43 17.69
	11003.00	84.52	358.61	10411.66	709.31	628.06	-653.85	5.67	441628.20	730531.22	N 32 12 45.48	W 103 43 17.75
	11043.00	83.55	358.16	10415.82	748.88	667.83	-654.97	2.67	441667.96	730530.10	N 32 12 45.87	W 103 43 17.76
	11098.00	81.98	357.88	10422.75	803.17	722.35	-656.85	2.90	441722.49	730528.21	N 32 12 46.41	W 103 43 17.78
	11193.00	82.48	356.87	10435.59	896.94	816.38	-661.16	1.18	441816.51	730523.90	N 32 12 47.34	W 103 43 17.82
	11287.00	85.11	355.98	10445.75	990.15	909.64	-666.99	2.95	441909.76	730518.07	N 32 12 48.26	W 103 43 17.88
	11382.00	86.25	357.44	10452.91	1084.60	1004.21	-672.43	1.95	442004.33	730512.64	N 32 12 49.20	W 103 43 17.94
	11476.00	87.24	357.69	10458.24	1178.06	1097.97	-676.42	1.09	442098.09	730508.65	N 32 12 50.13	W 103 43 17.98
	11571.00	88.49	358.68	10461.78	1272.51	1192.86	-679.42	1.68	442192.96	730505.64	N 32 12 51.07	W 103 43 18.01
	11666.00	90.55	359.68	10462.58	1366.83	1287.84	-680.78	2.41	442287.94	730504.28	N 32 12 52.01	W 103 43 18.02
	11760.00	90.34	0.27	10461.85	1460.00	1381.83	-680.82	0.67	442381.93	730504.24	N 32 12 52.94	W 103 43 18.01
	11854.00	90.55	0.69	10461.12	1553.05	1475.83	-680.03	0.50	442475.92	730505.03	N 32 12 53.87	W 103 43 18.00
	12043.00	91.10	0.90	10458.40	1739.99	1664.79	-677.41	0.31	442664.87	730507.65	N 32 12 55.74	W 103 43 17.95
	12137.00	90.52	359.99	10457.07	1833.05	1758.77	-676.68	1.15	442758.85	730508.38	N 32 12 56.67	W 103 43 17.94
	12231.00	91.00	359.95	10455.82	1926.22	1852.77	-676.73	0.51	442852.84	730508.33	N 32 12 57.60	W 103 43 17.93
	12326.00	91.51	360.00	10453.74	2020.38	1947.74	-676.77	0.54	442947.81	730508.29	N 32 12 58.54	W 103 43 17.93
	12420.00	91.27	1.54	10451.46	2113.32	2041.70	-675.51	1.66	443041.77	730509.55	N 32 12 59.47	W 103 43 17.91
	12610.00	91.82	2.29	10446.34	2300.62	2231.53	-669.16	0.49	443231.58	730515.90	N 32 13 1.34	W 103 43 17.82
	12704.00	91.10	1.15	10443.94	2393.34	2325.45	-666.34	1.43	443325.50	730518.72	N 32 13 2.27	W 103 43 17.78
	12892.00	91.58	2.07	10439.55	2578.84	2513.32	-661.06	0.55	443513.36	730524.00	N 32 13 4.13	W 103 43 17.71
	12986.00	91.17	1.34	10437.29	2671.57	2607.25	-658.27	0.89	443607.29	730526.80	N 32 13 5.06	W 103 43 17.67
	13081.00	91.27	1.38	10435.27	2765.38	2702.21	-656.01	0.11	443702.24	730529.05	N 32 13 6.00	W 103 43 17.64
	13176.00	91.03	1.38	10433.36	2859.19	2797.18	-653.73	0.25	443797.18	730531.34	N 32 13 6.94	W 103 43 17.60
	13271.00	91.55	359.82	10431.22	2953.19	2892.13	-652.73	1.73	443892.15	730532.33	N 32 13 7.88	W 103 43 17.58
	13366.00	91.45	0.26	10428.74	3047.30	2987.09	-652.66	0.47	443987.11	730532.40	N 32 13 8.82	W 103 43 17.58
	13460.00	91.17	359.84	10426.59	3140.44	3081.07	-652.58	0.54	444081.08	730532.48	N 32 13 9.75	W 103 43 17.57
	13648.00	91.72	0.54	10421.85	3326.63	3269.01	-651.98	0.47	444269.01	730533.10	N 32 13 11.61	W 103 43 17.55
	13838.00	90.31	0.21	10418.48	3514.74	3458.97	-650.72	0.76	444458.96	730534.35	N 32 13 13.49	W 103 43 17.52
	13933.00	90.07	359.93	10418.17	3608.88	3553.97	-650.60	0.39	444553.95	730534.46	N 32 13 14.43	W 103 43 17.52
	14028.00	89.97	0.01	10418.13	3703.05	3648.97	-650.65	0.13	444648.95	730534.41	N 32 13 15.37	W 103 43 17.51
	14122.00	89.79	0.71	10418.33	3796.14	3742.96	-650.06	0.77	444742.94	730535.00	N 32 13 16.30	W 103 43 17.50
	14217.00	89.66	0.02	10418.78	3890.21	3837.96	-649.45	0.74	444837.93	730535.61	N 32 13 17.24	W 103 43 17.48
	14312.00	90.10	0.10	10418.98	3984.38	3932.96	-649.35	0.47	444932.93	730535.71	N 32 13 18.18	W 103 43 17.48
	14407.00	89.83	0.01	10419.04	4078.50	4027.96	-649.26	0.30	445027.92	730535.80	N 32 13 19.12	W 103 43 17.47
	14501.00	90.34	0.75	10418.90	4171.58	4121.96	-648.64	0.96	445121.91	730536.42	N 32 13 20.05	W 103 43 17.46
	14596.00	89.69	0.20	10418.88	4265.63	4216.95	-647.85	0.90	445216.90	730537.21	N 32 13 20.99	W 103 43 17.44
	14786.00	89.41	359.45	10420.37	4454.02	4406.94	-648.43	0.42	445406.89	730536.63	N 32 13 22.87	W 103 43 17.43
	14975.00	90.17	0.15	10421.06	4641.43	4595.94	-649.09	0.55	445595.87	730535.97	N 32 13 24.74	W 103 43 17.43
	15070.00	89.69	0.07	10421.18	4735.58	4690.94	-648.91	0.51	445690.87	730536.15	N 32 13 25.68	W 103 43 17.42
	15165.00	90.03	0.56	10421.41	4829.65	4785.94	-648.39	0.63	445785.86	730536.68	N 32 13 26.62	W 103 43 17.41
	15260.00	89.90	359.96	10421.47	4923.75	4880.93	-647.96	0.65	445880.85	730537.11	N 32 13 27.56	W 103 43 17.40
Final MWD Survey Proj to Bit	15305.00	90.00	359.89	10421.51	4968.36	4925.93	-648.02	0.27	445925.85	730537.05	N 32 13 28.00	W 103 43 17.40
	15350.00	90.00	359.89	10421.51	5012.97	4970.93	-648.10	0.00	445970.85	730536.96	N 32 13 28.45	W 103 43 17.39

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 (in)	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 15H Gyro+MWD 0-15,352' MD
	1	26.500	26.500	Act Stns	30.000	30.000	NAL_NSG+MSHOT-Depth Only	Original Borehole / Oxy Mesa Verde BS Unit 15H Gyro+MWD 0-15,352' MD
	1	26.500	973.500	Act Stns	30.000	30.000	NAL_NSG+MSHOT	Original Borehole / Oxy Mesa Verde BS Unit 15H Gyro+MWD 0-
	1	973.500	15350.000	Act Stns	30.000	30.000	NAL_MWD_PLUS_0.5_DEG	Original Borehole / Oxy Mesa Verde BS Unit 15H Gyro+MWD 0-