

Schlumberger

Reservoir Development

Schlumberger Drilling and Measurements

9200 West Reno Avenue

Oklahoma City, Oklahoma 73127 USA

Phone: (405) 789-1515

Fax: (405) 789-1519

Well Reference:

22, 24S, 29E, Eddy NM

N 32.20720 W -103.96715

Oxy - Cedar Canyon 22-15 Dec 33 #
30-015-43915

I, Kalu Uga certify that; I am employed by Drilling & Measurements, a division of Schlumberger Technology Corporation; that I did on the day(s) of March 10, 2017 through April 13, 2017, conduct or supervise the taking of the TelePacer & SlimPulse surveys from a depth of 385.6.00 feet to a depth of 16292.00 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 Cedar Canyon "22-15" FEE 33H Well (Original Hole) API No. 30-015-43915 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 
Kalu Uga
FS

JENNIFER ALLEMAND
Notary Public
State of Colorado
Notary ID # 20164047962
My Commission Expires 12-20-2020

Subscribed and Sworn to before me this 14th day of April (month) 2017 (yr)

My Commission expires:

12-20-2020


Notary Public

(signature)

Adams Co. Colorado
(County State)

NM OIL CONSERVATION
ARTESIA DISTRICT

MAY 26 2017

RECEIVED

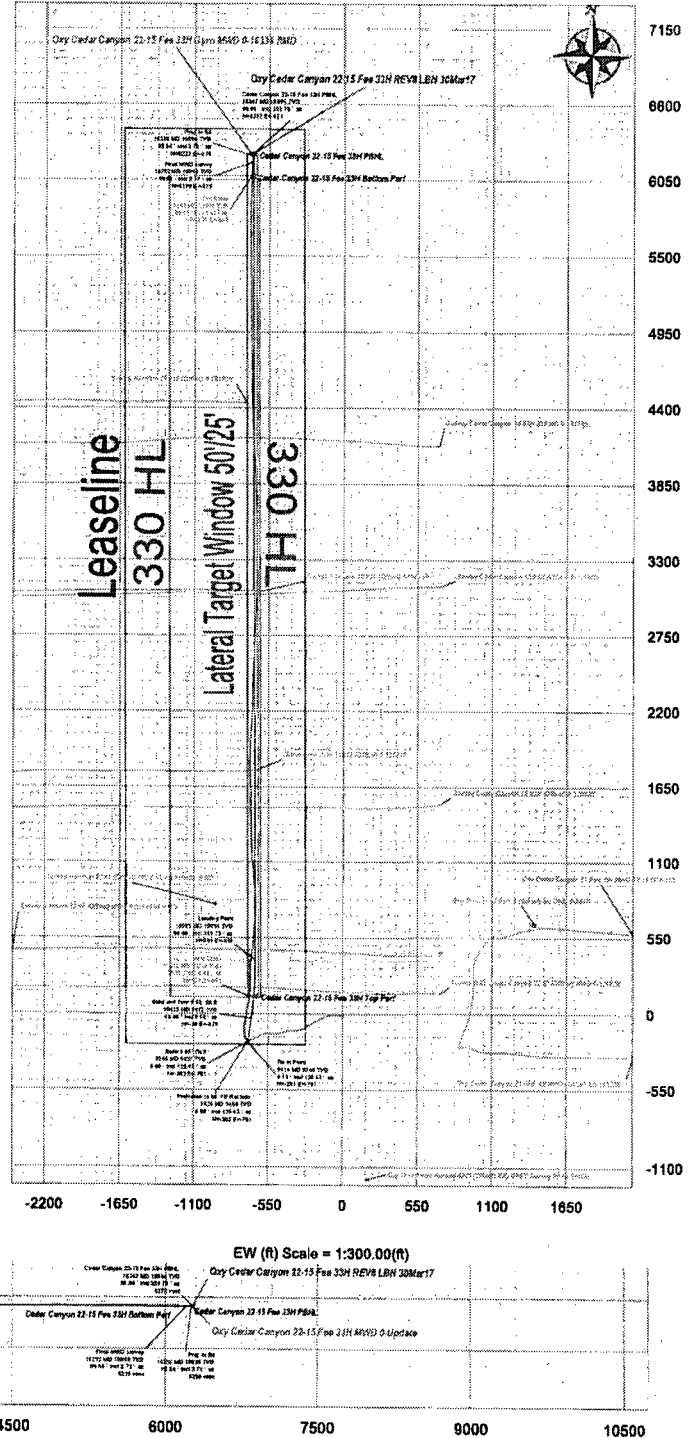
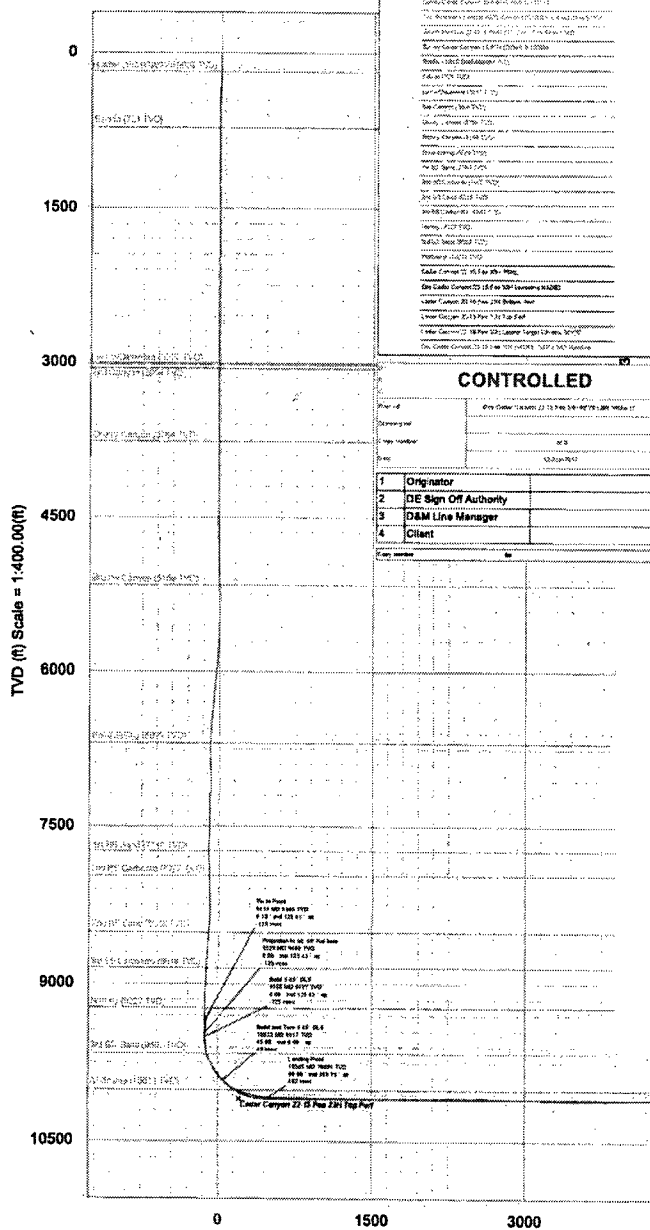
Borehole:	Well:	Field:	Structure:
Original Borehole	Oxy Cedar Canyon 22-15 Fee 33H	NM Eddy County (NAD 83)	Oxy Cedar Canyon 22-15 Fee 33H

Gravity & Magnetic Parameters Model: NDM 2016 Dip: 52.95° Date: 30-Mar-2017 Gravity PS: 998.47m/s (9.80665 Revised) MagDec: 7.148° PS: 48144.426mT	Surface Location Lat: N 32 12 23.82 Lon: W 103 58 1.79 Northing: 439245.3481US Easting: 654813.4381US Grid Conv: 6.1852° Scale Fact: 0.99992378	Miscellaneous Shot: Oxy Cedar Canyon 22-15 Fee 33H Plan: Oxy Cedar Canyon 22-15 Fee 33H REV8 LBN 30Mar17 RKB=26.522667m above MSL RKB=26.52267 m
--	---	--

Critical Points													
Comments	Survey MD (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	VS (ft)	NS (ft)	EW (ft)	Latitude (deg)	Longitude (deg)	Easting (ftUS)	Northing (ftUS)	DLS (°/100ft)	Tool Face (deg)
Tie in Point	9414.00	0.13	125.43	9345.70	-125.29	-201.49	-701.21	N 32 12 23.949	W 103 58 9.919	653892.27	439104.87	0.36	125.43
Projection to bit, 40° Rat hole	9526.00	0.00	125.43	9457.70	-125.37	-201.56	-701.11	N 32 12 23.948	W 103 58 9.918	653892.38	439104.79	0.12	125.43
Build 9.65° DLS	9565.67	0.00	125.43	9497.37	-125.37	-201.56	-701.11	N 32 12 23.948	W 103 58 9.918	653892.38	439104.79	0.00	0.00
3rd BS Sand	9732.49	16.10	8.60	9662.00	-102.86	-178.54	-697.63	N 32 12 24.176	W 103 58 9.876	653895.86	439127.81	9.65	8.60
Build and Turn 9.65° DLS	10031.99	45.00	8.60	9917.20	42.80	-29.61	-675.10	N 32 12 25.649	W 103 58 9.608	653918.38	439276.73	9.65	-10.12
Wolfcamp	10185.67	59.55	4.95	10011.00	161.01	90.77	-661.18	N 32 12 26.840	W 103 58 9.442	653932.30	439397.11	9.65	-12.37
Landing Point	10505.28	90.00	359.79	10094.00	462.47	395.22	-649.60	N 32 12 29.852	W 103 58 9.295	653943.88	439701.53	9.65	0.00
Cedar Canyon 22-15 Fee 33H PBHL	16346.96	90.00	359.79	10094.00	6272.88	6236.86	-671.31	N 32 13 27.656	W 103 58 9.317	653922.17	445542.71	0.00	

Grid
True
Mag

Grid North
Tot Cor (M-G 6.953°)
Mag Dec (7.148°)
Grid Conv (0.195°)



Vertical Section (ft) Azim = 353.857° Scale = 1:400.00(ft) Origin = ON-S, OE-W

Oxy Cedar Canyon 22-15 Fee 33H Gyro MWD 0-16336 fMD Survey

Geodetic Report

(Def Survey)



Report Date: April 12, 2017 - 01:38 PM Client: OXY Field: NM Eddy County (NAD 83) Structure / Slot: Oxy Cedar Canyon 22-15 Fee 33H / Oxy Cedar Canyon 22-15 Fee 33H Well: Oxy Cedar Canyon 22-15 Fee 33H Borehole: Original Borehole UWI / API#: Unknown / Unknown Survey Name: Oxy Cedar Canyon 22-15 Fee 33H Gyro MWD 0-16336 fMD Survey Date: March 01, 2017 Tort / AHD / DDI / ERD Ratio: 264.275' / 7210.285 ft / 6.488 / 0.713 Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet Location Lat / Long: N 32° 12' 25.91937", W 103° 58' 1.74997" Location Grid N/E Y/X: N 439306.340 fUS, E 654593.430 fUS CRS Grid Convergence Angle: 0.1952° Grid Scale Factor: 0.99992378 Version / Patch: 2.10.254.0	Survey / DLS Computation: Minimum Curvature / Lubinski Vertical Section Azimuth: 353.857° (Grid North) Vertical Section Origin: 0.000 N, 0.000 ft TVD Reference Datum: RKB=26.5 TVD Reference Elevation: 2960.700 ft above MSL Seabed / Ground Elevation: 2934.200 ft above MSL Magnetic Declination: 7.156° Total Gravity Field Strength: 998.4699mgm (9.80665 Based) Gravity Model: GARM Total Magnetic Field Strength: 48155.067 nT Magnetic Dip Angle: 60.051° Declination Date: March 01, 2017 Magnetic Declination Model: HDGM 2016 North Reference: Grid North Grid Convergence Used: 0.1952° Total Corr Mag North->Grid North: 6.9605° Local Coord Referenced To: Well Head	
--	---	--

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (fUS)	Easting (fUS)	Latitude (N/S ° ' '')	Longitude (E/W ° ' '')
SHL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	439308.34	654593.43	N 32 12 25.92	W 103 58 1.75
RKB	26.50	0.00	0.00	26.50	0.00	0.00	0.00	0.00	439308.34	654593.43	N 32 12 25.92	W 103 58 1.75
	107.30	0.84	170.35	107.30	-0.59	-0.58	0.10	1.04	439305.76	654593.53	N 32 12 25.91	W 103 58 1.75
	201.10	2.61	179.69	201.05	-3.40	-3.40	0.23	1.90	439302.94	654593.66	N 32 12 25.89	W 103 58 1.75
	293.80	2.88	172.30	293.64	-7.83	-7.82	0.55	0.48	439298.52	654593.98	N 32 12 25.84	W 103 58 1.74
	385.60	2.34	171.74	385.35	-12.01	-11.96	1.13	0.59	439294.38	654594.56	N 32 12 25.80	W 103 58 1.74
	475.50	1.43	173.18	475.20	-14.86	-14.89	1.52	1.01	439291.45	654594.95	N 32 12 25.77	W 103 58 1.73
	565.80	0.39	142.53	565.49	-18.35	-18.25	1.85	1.23	439290.09	654595.28	N 32 12 25.76	W 103 58 1.73
	656.10	0.08	102.87	655.79	-16.64	-16.51	2.09	0.37	439289.83	654595.52	N 32 12 25.76	W 103 58 1.73
	746.90	0.07	79.34	746.59	-16.65	-16.51	2.21	0.04	439289.83	654595.84	N 32 12 25.76	W 103 58 1.72
	837.00	0.07	75.87	836.60	-16.64	-16.49	2.32	0.00	439289.85	654595.75	N 32 12 25.76	W 103 58 1.72
	927.80	0.06	78.12	927.49	-16.63	-16.48	2.42	0.01	439289.88	654595.85	N 32 12 25.76	W 103 58 1.72
	1018.70	0.05	81.97	1018.39	-16.62	-16.45	2.50	0.01	439289.89	654595.93	N 32 12 25.76	W 103 58 1.72
	1113.50	0.06	76.10	1113.19	-16.61	-16.43	2.59	0.01	439289.91	654596.02	N 32 12 25.76	W 103 58 1.72
	1208.00	0.06	70.67	1207.69	-16.60	-16.40	2.69	0.01	439289.94	654596.12	N 32 12 25.76	W 103 58 1.72
	1302.40	0.05	75.59	1302.09	-16.58	-16.38	2.77	0.01	439289.97	654596.20	N 32 12 25.76	W 103 58 1.72
	1396.90	0.06	84.10	1396.59	-16.57	-16.36	2.86	0.01	439289.98	654596.29	N 32 12 25.76	W 103 58 1.72
	1491.40	0.06	101.01	1491.09	-16.59	-16.37	2.96	0.02	439289.98	654596.39	N 32 12 25.76	W 103 58 1.72
	1585.90	0.06	88.21	1585.59	-16.61	-16.37	3.06	0.01	439289.97	654596.49	N 32 12 25.76	W 103 58 1.72
	1681.00	0.06	96.23	1680.69	-16.62	-16.38	3.16	0.01	439289.96	654596.59	N 32 12 25.76	W 103 58 1.71
	1775.20	0.06	94.08	1774.89	-16.64	-16.39	3.26	0.00	439289.96	654596.69	N 32 12 25.76	W 103 58 1.71
	1869.60	0.04	77.89	1869.29	-16.65	-16.38	3.34	0.03	439289.96	654596.77	N 32 12 25.76	W 103 58 1.71
	1964.10	0.06	63.77	1963.79	-16.62	-16.35	3.41	0.02	439289.99	654596.84	N 32 12 25.76	W 103 58 1.71
	2058.70	0.06	61.76	2058.39	-16.59	-16.31	3.50	0.00	439290.03	654596.93	N 32 12 25.76	W 103 58 1.71
	2153.00	0.06	57.07	2152.69	-16.55	-16.26	3.59	0.01	439290.08	654597.02	N 32 12 25.76	W 103 58 1.71
	2247.40	0.06	62.96	2247.09	-16.51	-16.21	3.67	0.01	439290.13	654597.10	N 32 12 25.76	W 103 58 1.71
	2342.00	0.08	78.10	2341.69	-16.48	-16.17	3.78	0.03	439290.17	654597.21	N 32 12 25.76	W 103 58 1.71
	2437.00	0.06	73.12	2436.69	-16.47	-16.14	3.89	0.02	439290.20	654597.32	N 32 12 25.76	W 103 58 1.71
	2531.70	0.05	64.87	2531.39	-16.45	-16.11	3.98	0.01	439290.23	654597.41	N 32 12 25.76	W 103 58 1.70
	2626.30	0.05	68.84	2625.99	-16.42	-16.08	4.06	0.00	439290.26	654597.48	N 32 12 25.76	W 103 58 1.70
	2720.40	0.05	83.94	2720.09	-16.41	-16.06	4.13	0.01	439290.28	654597.56	N 32 12 25.76	W 103 58 1.70
	2815.10	0.06	83.15	2814.79	-16.41	-16.05	4.22	0.01	439290.29	654597.65	N 32 12 25.76	W 103 58 1.70
	2909.60	0.07	72.47	2909.29	-16.40	-16.03	4.33	0.02	439290.31	654597.76	N 32 12 25.76	W 103 58 1.70
	3004.30	0.06	71.67	3003.99	-16.38	-15.99	4.43	0.01	439290.35	654597.86	N 32 12 25.76	W 103 58 1.70
	3099.60	0.06	69.16	3099.29	-16.35	-15.96	4.53	0.00	439290.38	654597.95	N 32 12 25.76	W 103 58 1.70
	3194.40	0.06	72.28	3194.09	-16.33	-15.93	4.62	0.00	439290.41	654598.05	N 32 12 25.76	W 103 58 1.70
	3288.70	0.06	74.68	3288.39	-16.31	-15.90	4.71	0.00	439290.44	654598.14	N 32 12 25.76	W 103 58 1.70
	3383.70	0.07	77.50	3383.39	-16.30	-15.87	4.82	0.01	439290.47	654598.25	N 32 12 25.76	W 103 58 1.69
	3477.90	0.08	74.00	3477.59	-16.28	-15.85	4.92	0.01	439290.49	654598.35	N 32 12 25.76	W 103 58 1.69
	3572.80	0.07	78.90	3572.49	-16.27	-15.82	5.03	0.01	439290.52	654598.46	N 32 12 25.76	W 103 58 1.69
	3667.50	0.06	75.20	3667.19	-16.26	-15.80	5.13	0.01	439290.54	654598.56	N 32 12 25.76	W 103 58 1.69
	3762.10	0.05	355.34	3761.78	-16.21	-15.75	5.18	0.08	439290.60	654598.61	N 32 12 25.76	W 103 58 1.69
	3856.60	0.04	354.41	3856.28	-16.13	-15.67	5.17	0.01	439290.67	654598.60	N 32 12 25.76	W 103 58 1.69
	3950.80	0.05	2.63	3950.48	-16.06	-15.60	5.17	0.01	439290.74	654598.60	N 32 12 25.76	W 103 58 1.69
	4045.80	0.04	0.00	4045.48	-15.99	-15.52	5.17	0.01	439290.82	654598.60	N 32 12 25.77	W 103 58 1.69
	4140.10	0.05	357.31	4139.78	-15.91	-15.45	5.17	0.01	439290.89	654598.60	N 32 12 25.77	W 103 58 1.69
	4235.00	0.05	356.26	4234.68	-15.83	-15.37	5.16	0.00	439290.97	654598.59	N 32 12 25.77	W 103 58 1.69
	4329.80	0.05	353.61	4329.48	-15.75	-15.28	5.16	0.00	439291.06	654598.59	N 32 12 25.77	W 103 58 1.69
	4424.40	0.05	2.29	4424.08	-15.67	-15.20	5.15	0.01	439291.14	654598.58	N 32 12 25.77	W 103 58 1.69
	4518.70	0.06	353.81	4518.38	-15.58	-15.11	5.15	0.01	439291.23	654598.58	N 32 12 25.77	W 103 58 1.69
	4612.80	0.07	342.55	4612.48	-15.47	-15.01	5.13	0.02	439291.33	654598.56	N 32 12 25.77	W 103 58 1.69
	4707.30	0.10	301.64	4706.98	-15.36	-14.91	5.04	0.07	439291.43	654598.47	N 32 12 25.77	W 103 58 1.69
	4801.90	1.33	283.75	4801.58	-14.77	-14.42	3.96	1.30	439291.92	654597.39	N 32 12 25.78	W 103 58 1.70
	4896.50	4.10	287.06	4896.06	-12.89	-12.99	-0.27	2.94	439293.35	654593.16	N 32 12 25.79	W 103 58 1.75
	4991.40	7.05	284.00	4990.50	-9.54	-10.58	-9.17	3.12	439295.76	654584.26	N 32 12 25.81	W 103 58 1.86
	5086.40	9.85	279.98	5084.46	-5.29	-7.77	-22.83	3.01	439298.57	654570.60	N 32 12 25.84	W 103 58 2.02
	5181.00	10.24	273.44	5177.61	-1.63	-5.86	-39.20	1.27	439300.48	654554.24	N 32 12 25.88	W 103 58 2.21
	5275.30	9.96	270.97	5270.45	0.77	-5.22	-55.72	0.55	439301.12	654537.72	N 32 12 25.87	W 103 58 2.40
	5370.00	9.88	268.28	5363.74	2.42	-5.32	-72.03	0.50	439301.02	654521.41	N 32 12 25.87	W 103 58 2.59
	5464.40	9.77	262.55	5456.76	2.86	-6.60	-88.06	1.04	439299.74	654505.37	N 32 12 25.86	W 103 58 2.78
	5559.00	9.59	254.88	5550.01	1.45	-9.70	-103.63	1.39	439296.64	654489.81	N 32 12 25.83	W 103 58 2.96
	5653.20	10.49	251.30	5642.77	-1.64	-14.50	-119.03	1.16	439291.84	654474.11	N 32 12 25.78	W 103 58 3.14
	5748.00	11.25	247.13	5735.87	-6.18	-20.88	-138.02	1.15	439285.48	654457.42	N 32 12 25.72	W 103 58 3.33
	5842.40	11.20	243.73	5828.46	-11.99	-28.49	-152.73	0.70	439277.85	654440.71	N 32 12 25.64	W 103 58 3.53
	5936.60	11.72	241.58	5920.79	-18.76	-37.10	-169.35	0.72	439269.24	654424.10	N 32 12 25.56	W 103 58 3.72
	6031.20	12.36	240.80	6013.31	-26.37	-46.62	-186.63	0.70	439258.73	654406.81	N 32 12 25.46	W 103 58 3.92
	6125.70	13.23	240.34	6105.46	-34.65	-56.90	-204.86	0.93	439249.44	654388.59	N 32 12 25.36	W 103 58 4.14
	6220.50	13.82	239.69	6197.67	-43.55	-67.90	-223.92	0.44	439238.44	654369.53	N 32 12 25.26	W 103 58 4.36
	6315.10	12.79	240.02	6289.77	-52.34	-78.76	-242.61	0.88	439227.59	654350.84	N 32 12 25.15	W 103 58 4.58
	6409.80	13.38	239.48	6382.01	-61.10	-89.56	-261.13	0.64	439216.79	654332.32	N 32 12 25.04	W 103 58 4.79
	6504.30	13.27	239.06	6473.96	-70.16	-100.09	-279.85	0.16	439205.66	654313.60	N 32 12 24.93	W 103 58 5.01

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (ft/100ft)	Northing (RUS)	Easting (RUS)	Latitude (N/S ° ' '')	Longitude (E/W ° ' '')
	6598.80	12.28	245.10	6566.13	-77.94	-110.50	-288.27	1.76	439195.85	654295.19	N 32 12 24.84	W 103 58 5.23
	6693.10	11.04	250.88	6658.48	-83.19	-117.68	-315.90	1.81	439188.67	654277.56	N 32 12 24.77	W 103 58 5.43
	6787.80	9.98	262.20	6751.60	-85.47	-121.76	-332.60	2.45	439184.59	654260.86	N 32 12 24.73	W 103 58 5.63
	6882.60	10.33	269.90	6844.92	-84.81	-122.89	-349.23	1.48	439183.46	654244.22	N 32 12 24.72	W 103 58 5.82
	6977.00	9.79	270.54	6937.87	-82.98	-122.83	-365.72	0.58	439183.52	654227.73	N 32 12 24.72	W 103 58 6.01
	7071.50	6.64	268.54	7031.15	-81.47	-122.93	-380.85	1.26	439183.42	654212.61	N 32 12 24.72	W 103 58 6.19
	7165.90	8.66	265.13	7124.47	-80.73	-123.72	-395.02	0.54	439182.63	654198.44	N 32 12 24.71	W 103 58 6.35
	7260.30	8.85	255.39	7217.78	-81.64	-126.15	-409.13	1.58	439180.20	654184.33	N 32 12 24.68	W 103 58 6.52
	7355.10	9.17	258.59	7311.41	-83.41	-129.49	-423.59	0.63	439176.86	654169.87	N 32 12 24.65	W 103 58 6.69
	7449.60	9.12	255.98	7404.71	-85.13	-132.79	-438.24	0.44	439173.56	654155.22	N 32 12 24.62	W 103 58 6.88
	7544.10	7.18	247.58	7498.25	-87.81	-136.86	-450.87	2.40	439169.49	654142.50	N 32 12 24.58	W 103 58 7.00
	7638.70	5.73	245.09	7592.25	-90.99	-141.10	-460.72	1.56	439165.25	654132.75	N 32 12 24.54	W 103 58 7.12
	7732.90	6.77	260.90	7685.90	-92.79	-143.96	-470.47	2.12	439162.39	654123.00	N 32 12 24.51	W 103 58 7.23
	7827.10	9.82	271.14	7779.11	-92.05	-144.68	-483.98	3.59	439161.67	654109.48	N 32 12 24.50	W 103 58 7.39
	7921.60	11.27	271.51	7872.01	-89.80	-144.28	-501.27	1.54	439162.07	654092.20	N 32 12 24.51	W 103 58 7.59
	8016.40	9.44	269.76	7965.26	-87.77	-144.06	-518.31	1.96	439162.29	654075.16	N 32 12 24.51	W 103 58 7.79
	8110.70	8.64	268.79	8058.39	-86.38	-144.25	-533.12	0.86	439162.10	654060.35	N 32 12 24.51	W 103 58 7.96
	8205.70	8.77	273.49	8152.30	-84.54	-143.96	-547.49	0.78	439162.39	654045.99	N 32 12 24.51	W 103 58 8.13
	8300.30	9.76	272.00	8245.66	-82.20	-143.24	-562.70	1.08	439163.11	654030.77	N 32 12 24.52	W 103 58 8.30
	8394.30	9.81	255.95	8338.31	-82.17	-144.90	-578.43	2.89	439161.45	654015.04	N 32 12 24.50	W 103 58 8.49
	8488.60	11.19	245.76	8431.04	-85.12	-150.61	-594.57	2.45	439155.74	653998.90	N 32 12 24.45	W 103 58 8.68
	8583.20	12.02	242.22	8523.70	-92.60	-158.97	-611.68	1.16	439147.38	653981.82	N 32 12 24.37	W 103 58 8.87
	8677.90	11.50	243.04	8616.42	-99.59	-167.85	-628.80	0.58	439138.51	653964.88	N 32 12 24.28	W 103 58 9.07
	8774.10	11.75	245.36	8710.64	-106.11	-176.28	-646.25	0.55	439130.07	653947.23	N 32 12 24.20	W 103 58 9.28
	8869.00	11.73	247.50	8735.02	-107.62	-178.30	-660.89	1.75	439128.05	653942.59	N 32 12 24.18	W 103 58 9.33
	8893.00	11.25	248.96	8827.14	-112.67	-185.25	-668.28	0.60	439121.10	653925.21	N 32 12 24.11	W 103 58 9.53
	8988.00	8.92	246.54	8920.66	-117.25	-191.51	-683.68	2.49	439114.84	653909.80	N 32 12 24.06	W 103 58 9.71
	9082.00	5.11	232.11	9013.95	-121.62	-196.99	-693.68	4.43	439109.37	653899.81	N 32 12 23.99	W 103 58 9.83
	9177.00	2.54	246.35	9108.73	-124.48	-200.43	-699.94	2.86	439105.92	653884.54	N 32 12 23.96	W 103 58 9.99
	9272.00	0.30	236.50	9203.70	-125.23	-201.41	-701.08	2.36	439104.94	653869.40	N 32 12 23.95	W 103 58 9.82
	9367.00	0.08	19.08	9298.70	-125.28	-201.49	-701.27	0.39	439104.67	653862.22	N 32 12 23.95	W 103 58 9.92
	9414.00	0.13	125.43	9345.70	-125.29	-201.49	-701.21	0.36	439104.87	653862.27	N 32 12 23.95	W 103 58 9.92
	9527.00	0.10	281.60	9458.70	-125.34	-201.54	-701.20	0.20	439104.81	653862.28	N 32 12 23.95	W 103 58 9.92
	9586.00	3.88	352.43	9527.64	-122.99	-199.21	-701.57	5.58	439107.14	653891.91	N 32 12 23.97	W 103 58 9.92
	9690.00	9.82	323.14	9620.95	-112.91	-189.64	-706.80	7.14	439116.72	653886.68	N 32 12 24.07	W 103 58 9.98
	9784.00	21.38	333.39	9711.35	-89.88	-167.83	-719.33	12.60	439138.53	653874.15	N 32 12 24.28	W 103 58 10.13
	9878.00	27.69	1.59	9797.11	-52.02	-130.51	-726.43	13.97	439175.84	653867.05	N 32 12 24.65	W 103 58 10.21
	9971.00	40.36	4.29	9874.04	-0.78	-78.67	-723.57	13.72	439227.68	653869.92	N 32 12 25.17	W 103 58 10.17
	10065.00	52.11	12.54	9939.00	64.57	-11.82	-713.19	14.00	439294.52	653880.29	N 32 12 25.83	W 103 58 10.05
	10159.00	64.23	11.08	9988.49	140.43	66.22	-696.94	12.96	439372.56	653896.54	N 32 12 26.60	W 103 58 9.86
	10253.00	70.79	2.40	10024.48	224.97	152.34	-686.92	11.02	439458.66	653906.56	N 32 12 27.45	W 103 58 9.74
	10347.00	74.89	359.32	10052.22	314.09	242.11	-685.60	5.37	439548.43	653907.88	N 32 12 28.34	W 103 58 9.72
	10440.00	80.81	1.13	10071.78	404.40	332.98	-685.23	6.84	439639.29	653908.25	N 32 12 29.24	W 103 58 9.71
	10527.00	89.21	7.91	10079.35	489.44	419.25	-678.38	12.38	439725.58	653915.11	N 32 12 30.09	W 103 58 9.63
	10568.00	88.93	9.47	10080.02	529.07	459.77	-672.18	3.87	439766.08	653921.30	N 32 12 30.49	W 103 58 9.58
	10633.00	89.31	6.42	10081.02	592.10	524.13	-663.20	4.73	439830.43	653930.28	N 32 12 31.13	W 103 58 9.45
	10726.00	88.59	4.28	10082.72	683.21	616.71	-654.53	2.43	439923.03	653938.95	N 32 12 32.04	W 103 58 9.34
	10820.00	88.80	3.34	10084.86	775.77	710.47	-648.29	1.02	440016.76	653945.19	N 32 12 32.97	W 103 58 9.27
	11008.00	89.69	355.28	10087.34	962.75	898.29	-650.55	4.31	440204.56	653942.93	N 32 12 34.83	W 103 58 9.28
	11101.00	90.28	354.20	10087.37	1055.74	990.89	-650.08	1.32	440297.16	653934.41	N 32 12 35.75	W 103 58 9.29
	11267.00	89.76	357.67	10087.30	1241.57	1176.42	-671.93	1.99	440482.66	653921.56	N 32 12 37.58	W 103 58 9.52
	11362.00	89.00	357.67	10088.33	1336.34	1271.34	-675.63	0.83	440577.58	653917.85	N 32 12 38.52	W 103 58 9.66
	11476.00	88.90	357.68	10090.05	1430.12	1386.25	-679.44	0.11	440871.48	653914.04	N 32 12 39.45	W 103 58 9.60
	11571.00	88.28	357.83	10092.39	1524.87	1460.14	-683.16	0.67	440766.37	653910.32	N 32 12 40.39	W 103 58 9.64
	11667.00	91.82	0.82	10092.31	1620.41	1550.11	-684.29	4.83	440862.33	653909.19	N 32 12 41.34	W 103 58 9.65
	11762.00	91.41	358.28	10089.63	1714.89	1651.06	-685.04	2.71	440957.27	653908.44	N 32 12 42.28	W 103 58 9.66
	11857.00	89.45	357.38	10088.92	1809.85	1745.99	-688.64	2.27	441052.19	653904.85	N 32 12 43.22	W 103 58 9.70
	12047.00	91.03	2.30	10088.12	1998.55	1935.92	-689.17	2.72	441242.11	653904.32	N 32 12 45.10	W 103 58 9.69
	12237.00	90.31	5.33	10085.90	2185.66	2125.46	-676.53	1.64	441431.63	653916.95	N 32 12 46.97	W 103 58 9.54
	12411.00	90.52	358.51	10084.64	2357.83	2289.26	-670.70	3.92	441605.42	653922.78	N 32 12 48.89	W 103 58 9.47
	12508.00	90.03	2.85	10084.17	2454.12	2368.22	-669.55	4.50	441702.38	653923.93	N 32 12 49.85	W 103 58 9.45
	12602.00	89.79	2.80	10084.32	2548.97	2490.11	-664.92	0.26	441796.26	653928.56	N 32 12 50.58	W 103 58 9.39
	12695.00	89.31	3.03	10085.05	2638.80	2582.99	-660.19	0.57	441889.12	653933.29	N 32 12 51.50	W 103 58 9.33
	12788.00	88.31	3.09	10086.98	2730.59	2675.83	-655.23	1.08	441981.96	653938.26	N 32 12 52.42	W 103 58 9.27
	12882.00	87.56	2.90	10090.37	2823.33	2769.64	-650.32	0.82	442075.77	653943.16	N 32 12 53.35	W 103 58 9.21
	12976.00	89.62	1.98	10092.68	2916.25	2863.52	-646.32	2.40	442169.64	653947.16	N 32 12 54.28	W 103 58 9.16
	13069.00	89.79	2.32	10093.16	3008.27	2956.46	-642.83	0.41	442262.56	653950.65	N 32 12 55.20	W 103 58 9.11
	13163.00	88.52	2.02	10094.54	3101.27	3050.38	-639.27	1.39	442356.48	653954.21	N 32 12 56.12	W 103 58 9.07
	13256.00	86.87	0.30	10098.28	3193.44	3143.28	-637.39	2.56	442449.37	653956.09	N 32 12 57.04	W 103 58 9.04
	13350.00	87.49	359.85	10102.91	3286.77	3237.16	-637.27	0.81	442543.25	653956.21	N 32 12 57.97	W 103 58 9.04
	13443.00	88.59	0.15	10106.09	3379.18	3330.10	-637.27	1.23	442636.18	653956.06	N 32 12 58.89	W 103 58 9.04
	13536.00	89.48	359.66	10107.66	3471.65	3423.09	-637.42	1.09	442729.16	653956.06	N 32 12 59.81	W 103 58 9.03
	13630.00	89.97	359.25	10108.11	3565.20	3517.08	-638.31	0.68	442823.15	653955.17	N 32 13 0.74	W 103 58 9.04
	13724.00	91.58	358.42	10106.84	3658.83	3611.05	-640.22	1.93	442917.11	653953.26	N 32 13 1.67	W 103 58 9.06
	13818.00	91.14	359.36	10104.60	3752.51	3704.99	-642.86	0.47	443011.04	653950.62	N 32 13 2.60	W 103 58 9.09
	13912.00	91.13	357.87	10102.74	3846.23	3798.92	-645.96	0.52	443104.96	653947.52	N 32 13 3.53	W 103 58 9.12
	14006.00	90.89	357.57	10101.09	3940.00	3892.83	-649.69	0.				

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 ° ' ")
Final MWD survey	16292.00	89.66	2.72	10090.07	6214.91	6177.80	-678.27	1.92	445483.66	653915.21	N 32 13 27.07 W 103 58 9.40	
Proj. to Bit	16336.00	89.66	2.72	10090.34	6258.38	6221.75	-676.19	0.00	445527.60	653917.30	N 32 13 27.51 W 103 58 9.37	

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 Cedar Canyon 22-15 Fee 33H Gyro MWD 0-16336 ftMD
	1	26.500	26.500	Act Stns	30.000	30.000	NAL_NSG+MSHOT-Depth Only	Original Borehole / Oxy Cedar Canyon 22-15 Fee 33H Gyro MWD 0-16336 ftMD
	1	26.500	8677.900	Act Stns	30.000	30.000	NAL_NSG+MSHOT	Original Borehole / Oxy Cedar Canyon 22-15 Fee 33H Gyro
	1	8677.900	16336.000	Act Stns	30.000	30.000	NAL_MWD_PLUS_0.5_DEG	Original Borehole / Oxy Cedar Canyon 22-15 Fee 33H Gyro