

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

November 24, 2016

OXY USA INC.

Re:

22, 24S, 29E, EDDY NM
N 32.20250 W -103.96391

CLIENT: OXY USA INC.
WELL: CEDAR CANYON 23 FEDERAL 3H
FIELD: PIERCE CROSSING BONE SPRING, E.

RIG: H&P 639
COUNTY: EDDY
API NO: 30-015-43290
JOB NO: 16MLD2123

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>
Kalu Chibueze Uga FS	CEDAR CANYON 23 FEDERAL 3H Original Hole	490.00 Ft to 16388.00 Ft	November 10, 2016 to November 22, 2016	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

Schlumberger Drilling and Measurements
Drilling Group
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7220 W I-H 20
Midland, Texas 79706
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Schlumberger

Well Reference:
22, 24S, 29E, EDDY NM
N 32.20250 W -103.96391

I, Kalu Chibueze Uga certify that; I am employed by Drilling & Measurements, a division of Schlumberger Technology Corporation; that I did on the day(s) of November 10, 2016 through November 22, 2016, conduct or supervise the taking of the TelePacer & SlimPulse surveys from a depth of 490.00 feet to a depth of 16388.00 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 23 FEDERAL 3H Well (Original Hole) API No. 30-015-43290 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 Chibueze Uga
FS

ON BEHALF OF
KALU UGA

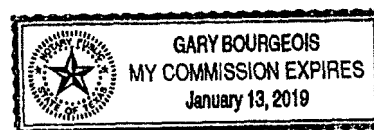
Subscribed and Sworn to before me this 30th day of November (month) 2016 (yr)

My Commission expires:

Notary Public

MIDLAND - TEXAS
(County State)

(signature)

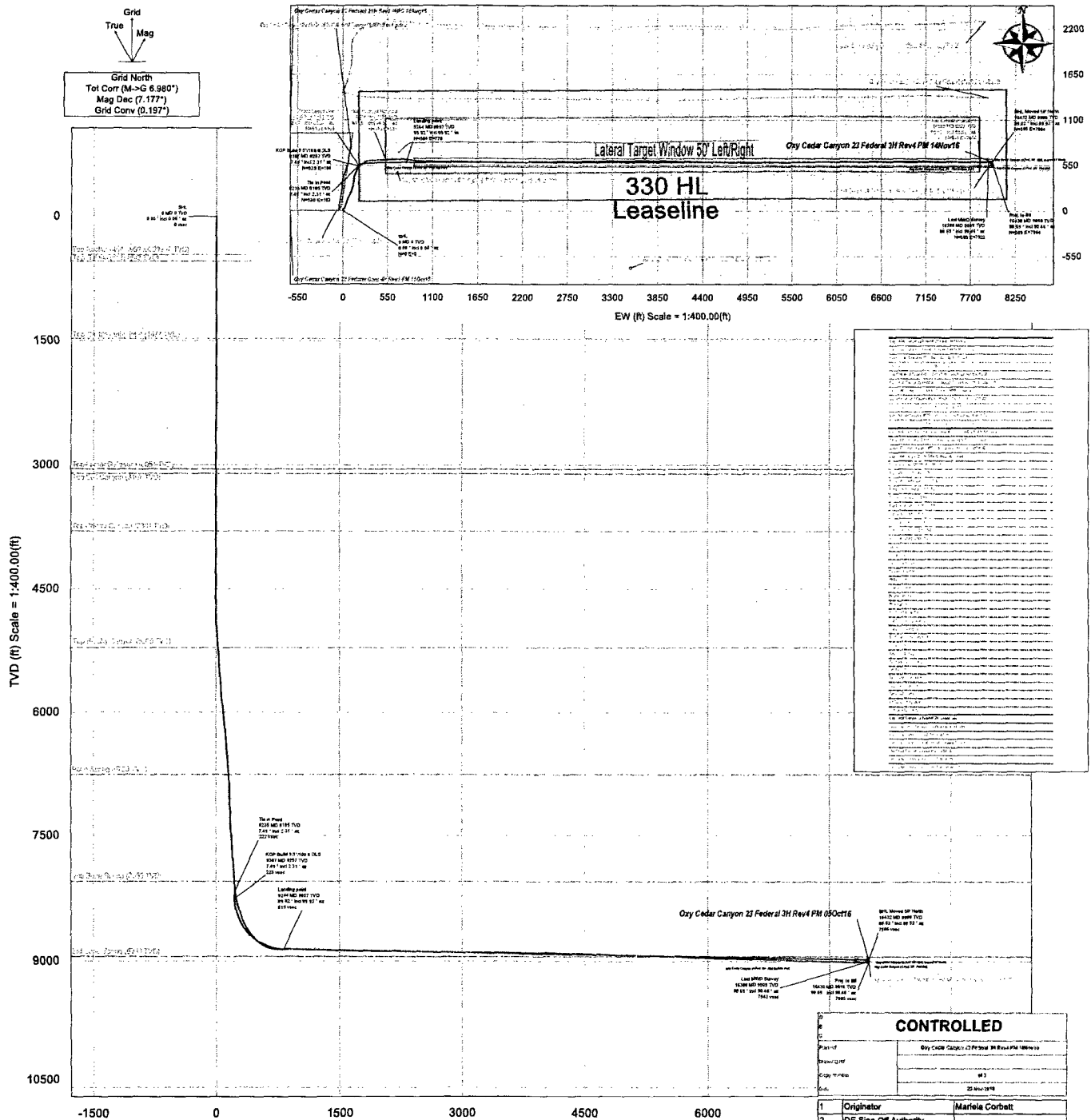


Borehole: Oxy Cedar Canyon 23 Federal 3H - Orig. Borehole	Well: Oxy Cedar Canyon 23 Federal 3H	Field: NM Eddy County (NAD 27)	Structure: Oxy Cedar Canyon 23 Federal 3H
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Gravity & Magnetic Parameters	Surface Location	NAD27 New Mexico State Plane, Eastern Zone, US Feet	Miscellaneous
Model: HDGM 2016 MagDec: 7.177°	Dip: 60.949° PS: 48185.334mT Date: 14-Nov-2016 Gravity PS: 998.467mgals (9.80665 Based)	Lat: N 32 12 9.01 Lon: W 103 57 56.09 Northing: 437586.771US Easting: 614265.887US Grid Conv: 0.1969° Scale Fact: 0.99992404	Slot: Oxy Cedar Canyon 23 Federal 3H TVD Ref: RKB(2983.4ft above MSL) Plant: Oxy Cedar Canyon 23 Federal 3H Rev4 PM 14Nov16

Critical Points

Comments	Survey MD (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Sub-Sea TVD	VS (ft)	NS (ft)	EW (ft)	Latitude (deg)	Longitude (deg)	Easting (ftUS)	Northing (ftUS)	DLS (ft/100ft)	Tool Face (deg)
Tie in Point	8235.00	7.49	2.31	8185.20	5201.60	222.17	529.78	183.24	N 32 12 14.248	W 103 57 47.938	614449.10	438116.44	0.00	0.00
KOP Build 9.5"/100 ft DLS	8307.42	7.49	2.31	8257.00	5273.40	223.25	539.22	183.62	N 32 12 14.341	W 103 57 47.933	614449.48	438125.87	0.00	93.21
	8780.34	45.00	88.00	8680.58	5696.98	403.17	577.85	361.15	N 32 12 14.718	W 103 57 45.865	614627.00	438164.51	9.50	2.76
Landing point	9244.10	89.02	89.92	8857.28	5873.68	818.93	584.22	777.59	N 32 12 14.766	W 103 57 41.019	615043.41	438170.88	9.50	0.00
3rd Bone Spring	14339.83	89.02	89.92	8944.00	5960.40	5900.32	591.56	5872.57	N 32 12 14.661	W 103 56 41.724	620138.00	438178.21	0.00	0.00
BHL Moved 50' North	16431.72	89.02	89.92	8979.60	5996.00	7986.32	594.57	7964.16	N 32 12 14.615	W 103 56 17.383	622229.42	438181.22	0.00	0.00





Oxy Cedar Canyon 23 Federal 3H - Actual Survey MWD Off To 16430 ftMD

Survey Geodetic Report

(Def Survey)

Report Date: November 23, 2016 - 08:58 AM Client: OXY Field: NM Eddy County (NAD 27)	Survey / DLS Computation: Minimum Curvature / Lubinski Vertical Section Azimuth: 85.730 ° (Grid North) Vertical Section Origin: 0.000 ft, 0.000 ft	TVD Reference Datum: RKB TVD Reference Elevation: 2983.600 ft above MSL Seabed / Ground Elevation: 2957.100 ft above MSL Magnetic Declination: 7.178 °
Structure / Slot: Oxy Cedar Canyon 23 Federal 3H / Oxy Cedar Canyon 23 Federal 3H	Total Gravity Field Strength: 998.4674mgm (S.80685 Based)	
Well: Oxy Cedar Canyon 23 Federal 3H Borehole: Oxy Cedar Canyon 23 Federal 3H - Orig. Borehole UWI / API#: Unknown / Unknown	Gravity Model: GARM Total Magnetic Field Strength: 48187.117 nT Magnetic Dip Angle: 60.049 °	
Survey Name: Oxy Cedar Canyon 23 Federal 3H - Actual Survey MWD Off To 16430 ftMD	Declination Date: November 08, 2016 Magnetic Declination Model: HDGM 2016	
Survey Date: November 08, 2016 Tort / AHD / DDI / ERD Ratio: 225.308 ° / 8375.032 ft / 6.537 / 0.929	North Reference: Grid North Grid Convergence Used: 0.1969 °	
Coordinate Reference System: NAD27 New Mexico State Plane, Eastern Zone, US Feet Location Lat / Long: N 32° 12' 9.01176", W 103° 57' 50.09152" Location Grid N/E Y/X: N 437586.700 HUS, E 614265.880 HUS	Total Corr Mag North->Grid North: 6.9815 °	
CRS Grid Convergence Angle: 0.1969 ° Grid Scale Factor: 0.99992404	Local Coord Referenced To: Structure Reference Point	
Version / Patch: 2.10.254.0		

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
SHL	0.00	0.00	0.00	0.00	-2983.60	0.00	0.00	0.00	N/A	437586.70	614265.88	N 32 12 9.01	W 103 57 50.09
RKB	26.50	0.00	0.00	26.50	-2957.10	0.00	0.00	0.00	0.00	437586.70	614265.88	N 32 12 9.01	W 103 57 50.09
	490.00	0.33	164.40	490.00	-2493.60	0.26	-1.29	0.36	0.07	437585.41	614266.24	N 32 12 9.00	W 103 57 50.09
	599.00	0.09	283.93	599.00	-2384.60	0.24	-1.57	0.36	0.35	437585.13	614266.24	N 32 12 9.00	W 103 57 50.09
	780.00	0.11	333.84	780.00	-2203.60	0.04	-1.38	0.15	0.05	437585.32	614266.03	N 32 12 9.00	W 103 57 50.09
	961.00	0.07	292.03	961.00	-2022.60	-0.12	-1.18	-0.03	0.04	437585.52	614265.85	N 32 12 9.00	W 103 57 50.09
	1051.00	0.11	242.39	1051.00	-1932.60	-0.25	-1.20	-0.16	0.09	437585.50	614265.72	N 32 12 9.00	W 103 57 50.09
	1145.00	0.09	209.67	1145.00	-1838.60	-0.37	-1.31	-0.28	0.06	437585.39	614265.60	N 32 12 9.00	W 103 57 50.09
	1239.00	0.07	121.24	1239.00	-1744.60	-0.37	-1.40	-0.26	0.12	437585.30	614265.62	N 32 12 9.00	W 103 57 50.09
	1333.00	0.09	195.41	1333.00	-1650.60	-0.35	-1.50	-0.24	0.10	437585.20	614265.64	N 32 12 9.00	W 103 57 50.09
	1427.00	0.09	102.58	1427.00	-1556.60	-0.30	-1.59	-0.18	0.14	437585.11	614265.70	N 32 12 9.00	W 103 57 50.09
	1616.00	0.13	357.04	1616.00	-1367.60	-0.15	-1.41	-0.05	0.09	437585.29	614265.83	N 32 12 9.00	W 103 57 50.09
	1710.00	0.15	261.63	1710.00	-1273.60	-0.27	-1.32	-0.18	0.22	437585.38	614265.70	N 32 12 9.00	W 103 57 50.09
	1898.00	0.11	265.05	1898.00	-1085.60	-0.70	-1.37	-0.60	0.02	437585.33	614265.28	N 32 12 9.00	W 103 57 50.10
	1992.00	0.11	207.65	1991.99	-991.61	-0.84	-1.46	-0.73	0.11	437585.24	614265.15	N 32 12 9.00	W 103 57 50.10
	2086.00	0.07	328.83	2085.99	-897.61	-0.91	-1.49	-0.80	0.17	437585.21	614265.08	N 32 12 9.00	W 103 57 50.10
	2181.00	0.07	355.06	2180.99	-802.61	-0.94	-1.38	-0.84	0.03	437585.32	614265.04	N 32 12 9.00	W 103 57 50.10
	2275.00	0.13	115.67	2274.99	-708.61	-0.85	-1.37	-0.75	0.19	437585.33	614265.13	N 32 12 9.00	W 103 57 50.10
	2369.00	0.07	208.88	2368.99	-614.61	-0.79	-1.46	-0.68	0.16	437585.24	614265.20	N 32 12 9.00	W 103 57 50.10
	2464.00	0.11	303.17	2463.99	-519.61	-0.89	-1.47	-0.78	0.14	437585.23	614265.10	N 32 12 9.00	W 103 57 50.10
	2558.00	0.04	17.12	2557.99	-425.61	-0.95	-1.38	-0.85	0.11	437585.32	614265.03	N 32 12 9.00	W 103 57 50.10
	2652.00	0.04	248.84	2651.99	-331.61	-0.97	-1.37	-0.87	0.08	437585.33	614265.01	N 32 12 9.00	W 103 57 50.10
	2747.00	0.11	167.63	2746.99	-236.61	-0.99	-1.47	-0.88	0.12	437585.23	614265.00	N 32 12 9.00	W 103 57 50.10
	2841.00	0.04	65.62	2840.99	-142.61	-0.94	-1.54	-0.83	0.13	437585.16	614265.05	N 32 12 9.00	W 103 57 50.10
	2935.00	0.35	348.16	2934.99	-48.61	-0.95	-1.25	-0.86	0.37	437585.45	614265.02	N 32 12 9.00	W 103 57 50.10
	3029.00	0.20	355.22	3028.99	45.39	-0.99	-0.80	-0.93	0.16	437585.90	614264.95	N 32 12 9.00	W 103 57 50.10
	3123.00	0.09	295.82	3122.99	139.39	-1.06	-0.61	-1.01	0.18	437586.09	614264.87	N 32 12 9.01	W 103 57 50.10
	3217.00	0.07	25.65	3216.99	233.39	-1.09	-0.52	-1.06	0.12	437586.18	614264.82	N 32 12 9.01	W 103 57 50.10
	3312.00	0.07	335.08	3311.99	328.39	-1.08	-0.42	-1.06	0.06	437586.28	614264.82	N 32 12 9.01	W 103 57 50.10
	3405.00	0.06	299.34	3404.99	421.39	-1.14	-0.34	-1.12	0.04	437586.36	614264.76	N 32 12 9.01	W 103 57 50.10
	3594.00	0.11	43.90	3593.99	610.39	-1.09	-0.16	-1.08	0.07	437586.54	614264.80	N 32 12 9.01	W 103 57 50.10
	3688.00	0.09	3.48	3687.99	704.39	-1.01	-0.02	-1.01	0.08	437586.68	614264.87	N 32 12 9.01	W 103 57 50.10
	3876.00	0.04	149.76	3875.99	892.39	-0.96	0.07	-0.97	0.07	437586.77	614264.91	N 32 12 9.01	W 103 57 50.10
	3970.00	0.09	241.65	3969.99	986.39	-1.02	0.00	-1.02	0.11	437586.70	614264.86	N 32 12 9.01	W 103 57 50.10
	4065.00	0.11	62.19	4064.99	1081.39	-1.00	0.01	-1.00	0.21	437586.71	614264.88	N 32 12 9.01	W 103 57 50.10
	4159.00	0.07	298.97	4158.99	1175.39	-0.97	0.08	-0.98	0.17	437586.78	614264.90	N 32 12 9.01	W 103 57 50.10
	4253.00	0.07	72.16	4252.99	1269.39	-0.98	0.13	-0.97	0.14	437586.83	614264.91	N 32 12 9.01	W 103 57 50.10
	4348.00	0.09	210.15	4347.99	1364.39	-0.94	0.08	-0.95	0.16	437586.78	614264.93	N 32 12 9.01	W 103 57 50.10
	4442.00	0.09	106.55	4441.99	1458.39	-0.92	-0.01	-0.92	0.15	437586.69	614264.96	N 32 12 9.01	W 103 57 50.10
	4536.00	0.04	254.24	4535.99	1552.39	-0.88	-0.04	-0.88	0.13	437586.66	614265.00	N 32 12 9.01	W 103 57 50.10
	4630.00	0.09	202.92	4629.99	1646.39	-0.95	-0.11	-0.94	0.08	437586.59	614264.94	N 32 12 9.01	W 103 57 50.10
	4725.00	0.33	35.61	4724.99	1741.39	-0.81	0.04	-0.81	0.44	437586.74	614265.07	N 32 12 9.01	W 103 57 50.10
	4819.00	1.89	42.51	4818.97	1835.37	0.53	1.40	0.39	1.66	437588.10	614266.27	N 32 12 9.03	W 103 57 50.09
	4913.00	3.82	39.29	4912.85	1929.25	3.79	4.97	3.43	2.06	437591.67	614269.31	N 32 12 9.06	W 103 57 50.05
	5008.00	5.63	38.95	5007.52	2023.92	9.16	11.04	6.36	1.91	437597.74	614274.24	N 32 12 9.12	W 103 57 49.99
	5102.00	6.99	34.82	5100.95	2117.35	15.92	19.33	14.52	1.52	437606.02	614280.40	N 32 12 9.20	W 103 57 49.92
	5196.00	7.56	28.87	5194.20	2210.80	22.91	29.44	20.78	1.00	437616.13	614286.65	N 32 12 9.30	W 103 57 49.85
	5290.00	8.17	24.46	5287.31	2303.71	29.50	40.93	26.53	0.91	437627.63	614292.40	N 32 12 9.42	W 103 57 49.78
	5385.00	9.54	21.98	5381.18	2397.58	36.23	54.38	32.27	1.50	437641.07	614298.15	N 32 12 9.55	W 103 57 49.71
	5479.00	11.67	17.86	5473.57	2489.97	43.25	70.65	38.10	2.40	437657.35	614303.98	N 32 12 9.71	W 103 57 49.65
	5573.00	11.30	14.50	5565.69	2582.09	49.80	86.62	43.32	0.81	437675.31	614309.20	N 32 12 9.89	W 103 57 49.58
	5667.00	11.67	14.61	5657.80	2674.20	55.84	106.73	48.03	0.39	437693.42	614313.90	N 32 12 10.07	W 103 57 49.53
	5762.00	11.62	17.65	5750.85	2767.25	62.52	125.15	53.35	0.65	437711.84	614319.23	N 32 12 10.25	W 103 57 49.47
	5856.00	11.41	22.71	5842.96	2859.36	70.27	142.75	59.81	1.10	437729.43	614325.69	N 32 12 10.42	W 103 57 49.39
	5950.00	11.27	26.98	5935.13	2951.53	79.26	159.51	67.57	0.91	437746.20	614333.44	N 32 12 10.59	W 103 57 49.30
	6044.00	11.69	28.75	6027.25	3043.65	89.21	176.04	76.32	0.58	437762.73	614342.19	N 32 12 10.75	W 103 57 49.20
	6139.00	11.56	27.57	6120.30	3136.70	99.48	192.92	85.35	0.29	437779.60	614351.22	N 32 12 10.92	W 103 57 49.09
	6233.00	11.54	24.63	6212.40	3228.80	108.99	209.82	93.63	0.63	437796.50	614359.50	N 32 12 11.08	W 103 57 48.99
	6327.00	11.49	21.12	6304.50	3320.90	117.55	227.10	100.92	0.75	437813.78	614366.79	N 32 12 11.26	W 103 57 48.91
	6422.00	11.56	17.82	6397.59	3413.99	125.18	244.98	107.24	0.70	437831.67	614373.11	N 32 12 11.43	W 103 57 48.83
	6516.00	11.38	16.57	6489.71	3506.11	132.02	262.84	112.77	0.33	437849.52	614378.64	N 32 12 11.61	W 103 57 48.77
	6610.00	11.32	16.68	6581.87	3598.27	138.62	280.57	118.06	0.07	437867.24	614383.93	N 32 12 11.78	W 103 57 48.71
	6705.00	11.27	18.18	6675.03	3691.43	145.50	298.32	123.63	0.31	437884.99	614389.51	N 32 12 11.96	W 103 57 48.64
	6799.00	10.59	19.06	6767.33	3783.73	152.43	315.21	129.32	0.74	437901.88	614395.19	N 32 12 12.13	W 103 57 48.57
	6894.00	11.08	12.87	6860.84	3877.04	158.58	332.36	134.21	1.33	437919.03	614400.08	N 32 12 12.30	W 103 57 48.52
	6988.00	10.81	6.54	6952.93	3969.33	162.91	349.92	137.24	1.29	437936.59	614403.11	N 32 12 12.47	W 103 57 48.48
	7082.00	10.37	1.15	7045.33	4061.73	165.37	367.14	138.43	1.17	437953.81	614404.30	N 32 12 12.64	W 103 57 48.47
	7176.00	10.64	3.76	7137.76	4154.16	167.39	384.25	139.16	0.58	437970.92	614405.03	N 32 12 12.81	W 103 57 48.46
	7270.00	8.17	3.15	7230.49	4246.89	169.46	399.58	140.10	2.63	437986.25	614405.97	N 32 12 12.96	W 103 57 48.45
	7364.00	7.16	14.13	7323.65	4340.0								

Comments	MD (ft)	Incl (°)	Azim (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (ft/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	8291.00	12.22	52.73	8238.89	5256.29	237.03	536.95	197.60	5.46	438123.81	614463.46	N 32 12 14.32	W 103 57 47.77
	8384.00	18.44	53.39	8325.54	5345.94	258.48	550.41	218.11	6.94	438137.07	614483.98	N 32 12 14.45	W 103 57 47.53
	8479.00	21.32	48.99	8418.90	5435.30	285.80	569.41	244.09	4.79	438156.06	614509.95	N 32 12 14.64	W 103 57 47.23
	8572.00	23.71	61.54	8504.86	5521.26	316.43	589.43	273.31	5.76	438176.08	614536.17	N 32 12 14.84	W 103 57 46.89
	8665.00	32.88	80.55	8586.82	5503.22	358.81	602.54	314.82	13.73	438189.19	614580.68	N 32 12 14.96	W 103 57 46.40
	8759.00	36.56	87.57	8664.09	5680.49	412.25	607.92	368.01	5.77	438194.57	614633.86	N 32 12 15.01	W 103 57 45.78
	8853.00	42.46	92.55	8736.60	5753.00	471.80	607.69	427.75	7.12	438194.35	614693.59	N 32 12 15.01	W 103 57 45.09
	8947.00	54.94	84.62	8798.58	5814.98	542.11	609.90	498.09	14.59	438196.55	614763.93	N 32 12 15.03	W 103 57 44.27
	9041.00	71.14	84.46	8841.05	5857.45	625.80	617.85	581.21	17.23	438204.51	614847.05	N 32 12 15.11	W 103 57 43.30
	9135.00	86.21	89.68	8859.47	5875.87	717.44	622.44	672.97	16.93	438209.09	614938.80	N 32 12 15.15	W 103 57 42.23
	9221.00	92.58	98.23	8860.38	5875.78	802.43	616.51	758.64	12.39	438203.16	615024.46	N 32 12 15.09	W 103 57 41.24
	9231.00	91.82	97.48	8859.99	5876.39	812.20	615.15	768.53	10.67	438201.80	615034.35	N 32 12 15.07	W 103 57 41.12
	9325.00	90.52	94.26	8858.07	5874.47	904.70	605.54	862.01	3.69	438192.19	615127.82	N 32 12 14.97	W 103 57 40.04
	9419.00	88.90	92.59	8858.55	5874.95	987.84	599.92	955.83	2.48	438186.57	615221.64	N 32 12 14.92	W 103 57 38.94
	9513.00	88.83	92.13	8860.41	5876.81	1091.20	596.05	1049.73	0.49	438182.71	615315.53	N 32 12 14.87	W 103 57 37.85
	9607.00	89.14	91.15	8862.08	5878.48	1184.68	593.36	1143.68	1.09	438180.02	615409.47	N 32 12 14.84	W 103 57 36.76
	9700.00	89.17	90.73	8863.45	5879.85	1277.29	591.84	1236.66	0.45	438178.49	615502.44	N 32 12 14.83	W 103 57 35.68
	9793.00	86.63	89.53	8866.86	5883.26	1369.94	591.62	1329.58	3.02	438178.28	615595.36	N 32 12 14.82	W 103 57 34.59
	9886.00	86.63	89.40	8872.32	5888.72	1462.56	592.49	1422.42	0.14	438179.15	615688.19	N 32 12 14.83	W 103 57 33.51
	9980.00	90.07	91.26	8875.03	5891.43	1556.22	591.95	1516.36	4.16	438178.60	615782.12	N 32 12 14.82	W 103 57 32.42
	10074.00	90.93	90.98	8874.29	5890.69	1649.80	590.11	1610.34	0.86	438176.77	615876.09	N 32 12 14.80	W 103 57 31.33
	10167.00	87.97	91.57	8875.27	5891.67	1742.35	588.04	1703.30	3.14	438174.70	615969.05	N 32 12 14.77	W 103 57 30.25
	10260.00	88.97	91.68	8877.75	5894.15	1834.83	585.41	1796.23	1.08	438172.06	616061.97	N 32 12 14.74	W 103 57 29.16
	10354.00	89.69	91.11	8878.85	5895.25	1928.36	583.12	1890.19	0.98	438169.77	616155.93	N 32 12 14.72	W 103 57 28.07
	10447.00	91.13	89.87	8878.18	5894.58	2021.03	582.32	1983.18	2.04	438168.98	616248.91	N 32 12 14.71	W 103 57 26.99
	10541.00	91.31	88.75	8876.18	5892.58	2114.83	583.45	2077.15	1.21	438170.11	616342.87	N 32 12 14.71	W 103 57 25.89
	10635.00	88.83	88.02	8876.07	5892.47	2208.72	586.10	2171.11	2.75	438172.76	616436.82	N 32 12 14.74	W 103 57 24.80
	10728.00	88.21	89.18	8878.47	5894.87	2301.57	588.38	2264.05	1.41	438175.03	616529.75	N 32 12 14.76	W 103 57 23.72
	10821.00	88.52	89.62	8881.12	5897.52	2394.34	589.35	2357.01	0.58	438176.00	616622.70	N 32 12 14.76	W 103 57 22.64
	10916.00	88.83	89.45	8883.32	5899.72	2489.11	590.12	2451.98	0.37	438176.77	616717.67	N 32 12 14.77	W 103 57 21.53
	11009.00	88.59	89.50	8885.41	5901.81	2581.88	590.97	2544.95	0.26	438177.63	616810.63	N 32 12 14.77	W 103 57 20.45
	11103.00	88.35	89.15	8887.92	5904.32	2675.66	592.08	2638.91	0.45	438178.73	616904.58	N 32 12 14.78	W 103 57 19.36
	11196.00	89.14	89.11	8889.96	5906.36	2768.48	593.49	2731.87	0.85	438180.14	616997.54	N 32 12 14.79	W 103 57 18.27
	11289.00	89.52	89.30	8891.05	5907.45	2861.30	594.78	2824.86	0.46	438181.43	617090.52	N 32 12 14.80	W 103 57 17.19
	11382.00	89.90	89.11	8892.33	5908.73	2954.12	596.07	2917.84	0.70	438182.72	617183.49	N 32 12 14.81	W 103 57 16.11
	11475.00	89.72	90.08	8893.46	5909.86	3047.90	596.74	3011.83	1.35	438183.99	617277.48	N 32 12 14.81	W 103 57 15.02
	11570.00	89.45	89.44	8894.14	5910.54	3141.66	597.13	3105.83	0.74	438183.78	617371.46	N 32 12 14.81	W 103 57 13.92
	11663.00	89.66	89.63	8894.86	5911.26	3234.45	597.88	3198.82	0.30	438184.54	617464.45	N 32 12 14.82	W 103 57 12.84
	11756.00	89.41	89.45	8895.62	5912.02	3327.25	598.63	3291.81	0.33	438185.28	617557.44	N 32 12 14.82	W 103 57 11.76
	11850.00	89.48	89.34	8896.53	5912.53	3421.05	599.62	3385.80	0.14	438186.28	617651.42	N 32 12 14.83	W 103 57 10.66
	11943.00	89.59	89.63	8897.28	5913.68	3513.85	600.46	3478.80	0.33	438187.11	617744.41	N 32 12 14.83	W 103 57 9.58
	12037.00	89.62	89.35	8897.93	5914.33	3607.64	601.30	3572.79	0.30	438187.95	617838.39	N 32 12 14.84	W 103 57 8.49
	12131.00	89.38	89.04	8898.75	5915.15	3701.47	602.62	3666.78	0.42	438189.27	617932.37	N 32 12 14.85	W 103 57 7.39
	12224.00	89.52	89.40	8899.64	5916.04	3794.29	603.88	3759.77	0.42	438190.53	618025.35	N 32 12 14.86	W 103 57 6.31
	12317.00	89.79	91.47	8900.20	5916.60	3886.97	603.18	3852.76	2.24	438189.83	618118.34	N 32 12 14.85	W 103 57 5.23
	12411.00	89.31	91.39	8900.94	5917.34	3980.50	600.83	3946.72	0.52	438187.48	618212.30	N 32 12 14.82	W 103 57 4.14
	12505.00	89.07	91.44	8902.27	5918.67	4074.03	598.51	4040.69	0.26	438185.16	618306.25	N 32 12 14.79	W 103 57 3.04
	12599.00	87.76	91.05	8904.87	5921.27	4167.56	596.47	4134.62	1.45	438183.12	618400.18	N 32 12 14.77	W 103 57 1.95
	12692.00	88.79	90.85	8907.67	5924.07	4260.14	595.09	4227.57	1.19	438181.74	618493.12	N 32 12 14.75	W 103 57 0.87
	12786.00	88.66	91.59	8909.76	5926.16	4353.70	593.25	4321.53	1.01	438179.91	618587.07	N 32 12 14.73	W 103 56 59.77
	12879.00	89.69	91.65	8911.10	5927.50	4446.20	590.62	4414.48	1.11	438177.28	618680.02	N 32 12 14.70	W 103 56 58.69
	12973.00	88.63	90.83	8912.48	5928.88	4539.77	588.75	4508.45	1.56	438175.41	618773.98	N 32 12 14.68	W 103 56 57.60
	13066.00	87.94	91.10	8915.26	5931.66	4632.35	587.35	4601.40	0.90	438174.00	618866.92	N 32 12 14.66	W 103 56 56.52
	13159.00	87.76	91.43	8917.85	5935.15	4724.85	585.30	4694.31	0.40	438171.95	618959.82	N 32 12 14.64	W 103 56 55.44
	13253.00	87.56	91.88	8922.59	5938.99	4818.27	582.59	4788.19	0.52	438169.24	619053.70	N 32 12 14.61	W 103 56 54.34
	13347.00	87.70	90.63	8926.48	5942.88	4911.76	580.53	4882.09	1.34	438167.18	619147.58	N 32 12 14.59	W 103 56 53.25
	13441.00	89.35	89.35	8929.72	5946.12	5005.44	580.54	4976.03	1.53	438167.20	619241.52	N 32 12 14.58	W 103 56 52.16
	13535.00	88.49	89.15	8932.31	5948.71	5099.23	581.77	5069.98	0.26	438168.43	619335.47	N 32 12 14.59	W 103 56 51.06
	13629.00	88.66	89.14	8934.65	5951.05	5193.03	583.18	5163.94	0.18	438169.83	619429.42	N 32 12 14.60	W 103 56 49.97
	13723.00	88.14	89.29	8937.27	5953.67	5286.82	584.46	5257.90	0.58	438171.12	619523.37	N 32 12 14.61	W 103 56 48.88
	13817.00	89.62	89.65	8939.11	5955.51	5380.60	585.33	5351.87	1.62	438171.99	619617.34	N 32 12 14.62	W 103 56 47.78
	13911.00	89.93	89.14	8939.48	5955.88	5474.40	586.33	5445.87	0.63	438172.98	619711.32	N 32 12 14.62	W 103 56 46.69
	14004.00	87.62	89.29	8941.47	5957.87	5567.21	587.60	5538.83	2.49	438174.25	619804.28	N 32 12 14.63	W 103 56 45.61
	14098.00	87.07	89.13	8945.82	5962.22	5660.93	588.89	5632.72	0.61	438175.55	619898.16	N 32 12 14.64	W 103 56 44.52
	14192.00	87.31	89.02	8950.43	5966.83	5754.66	590.41	5726.59	0.28	438177.06	619992.03	N 32 12 14.65	W 103 56 43.42
	14286.00	87.87	89.38	8958.33	5974.73	5842.15	593.03	5914.41	0.35	438179.69	620179.83	N 32 12 14.67	W 103 56 41.24
	14380.00	88.66	89.26	8964.00	5980.40	5938.69	595.25	6101.31	0.43	438181.90	620366.71	N 32 12 14.69	W 103 56 39.06
	14475.00	88.93	89.74	8967.95	5984.35	6031.24	596.89	6289.26	0.29	438183.54	620554.65	N 32 12 14.70	W 103 56 36.87
	14569.00	88.35	89.66	8972.41	5988.81	6124.69	597.88	6477.20	0.31	438184.53	620742.58	N 32 12 14.70	W 103 56 34.69
	15038.00	88.62	89.88	8974.92	5991.32	6218.47	598.26	6572.17	0.37	438184.91	620837.54	N 32 12 14.70	W 103 56 33.58
	15132.00	88.52	88.44	8977.27	5993.67	631							