

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)

NM OIL CONSERVATION
ARTESIA DISTRICT

NOV 20 2017

Schlumberger

RECEIVED

Well Reference:
21, 24S, 29E, Eddy NM
N 32.20533 W -103.99755

I, Roseleigh Taylor certify that; I am employed by Drilling & Measurements, a division of Schlumberger Technology Corporation; that I did on the day(s) of September 21, 2017 through October 09, 2017, conduct or supervise the taking of the TelePacer & SlimPulse surveys from a depth of 550.00 feet to a depth of 19901.00 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 U.S.A Inc for the Cedar Canyon 21-22 Federal Com 32H Well (Original Hole) API No. 30-015-44176 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
Roseleigh Taylor
FE

Subscribed and Sworn to before me this 20th day of October (month) 2017 (yr)

My Commission expires:

12-20-2020

J. Allemand
Notary Public

Adams County Colorado
(County State)

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

Schlumberger

OXY



Borehole:

Original Borehole

Well:

Oxy Cedar Canyon 21-22 Federal Com 32H

File:

NH Eddy County (NAD 83)

Structure:

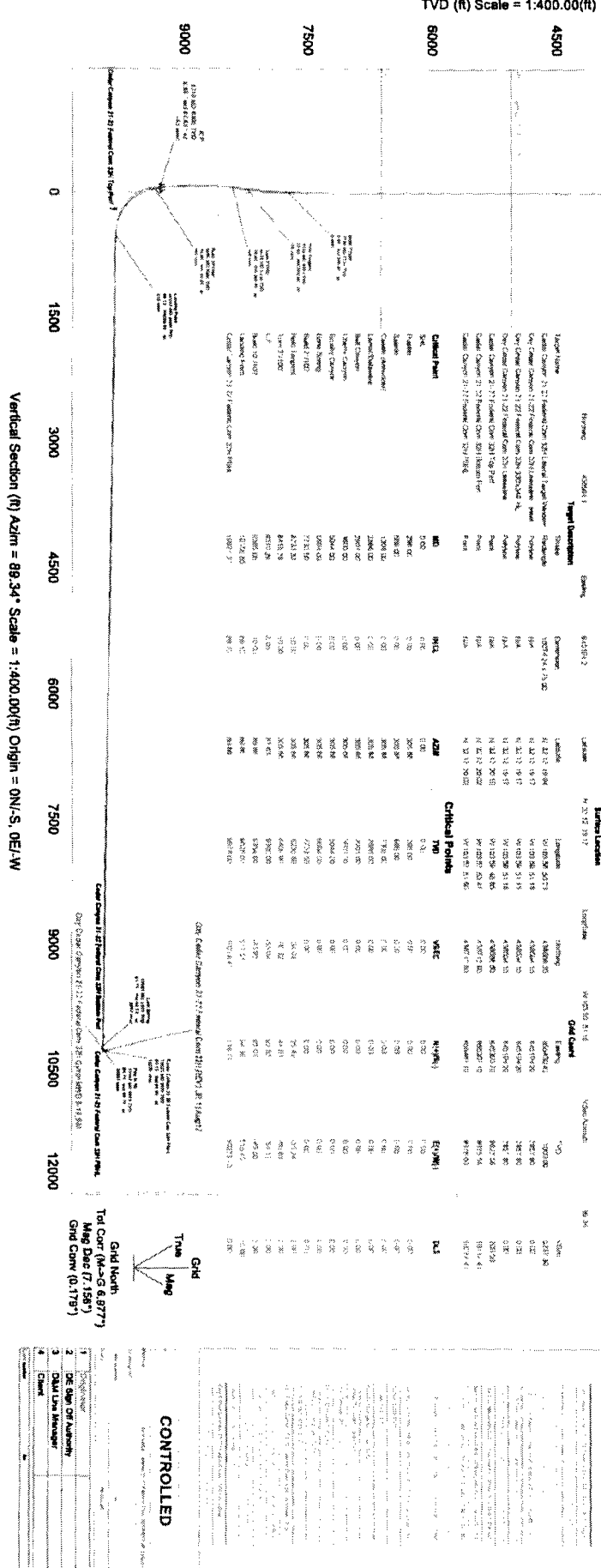
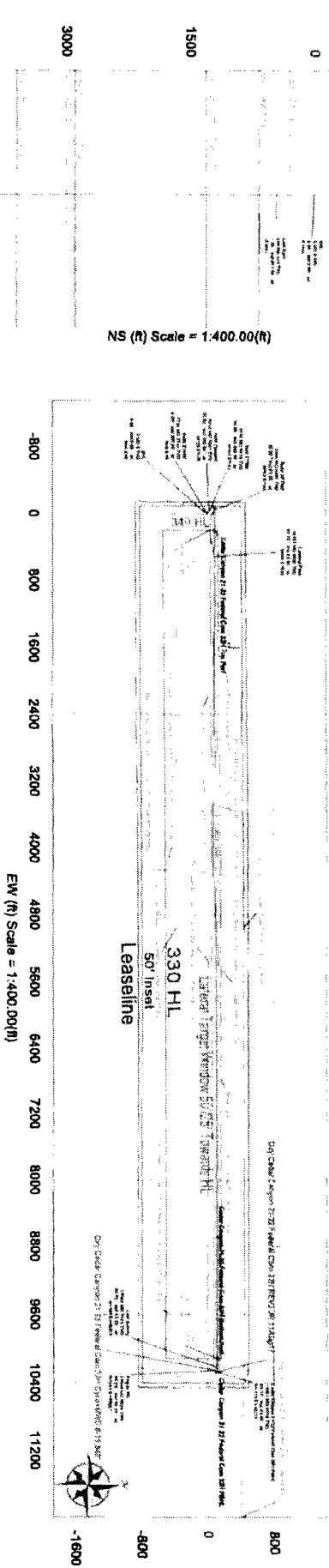
Oxy Cedar Canyon 21-22 Federal Com 32H

Survey 1: Survey Parameters
Borehole: OXY 2017
Date: 11-29-2017
Well: OXY 2017
Survey No.: 11-29-2017
Survey Name: OXY 2017

Survey Location
Lat: 36 22 18.17
Lon: 104 22 31.15
MAGNETIC: 65.14-20.13
MAGNETIC: 65.14-20.13

Core Data
Core Name: OXY 2017
Core Type: OXY 2017
Core Date: 11-29-2017
Core Time: 11:29:17

Core Data
Core Name: OXY 2017
Core Type: OXY 2017
Core Date: 11-29-2017
Core Time: 11:29:17



Vertical Section (ft) Azim = 88.34° Scale = 1:400.00(ft) Origin = 0N/S, 0E/W

NO.	DESCRIPTION	DATE	BY
1	DE SIGN OFF	11/29/17	OXY
2	DE SIGN OFF	11/29/17	OXY
3	DE SIGN OFF	11/29/17	OXY
4	DE SIGN OFF	11/29/17	OXY

CONTROLLED

Oxy Cedar Canyon 21-22 Federal Com 32H Gyro+MWD 0-19,940' Survey

Geodetic Report

(Def Survey)



Report Date: October 09, 2017 - 09:04 AM
 Client: OXY
 Field: NM Eddy County (NAD 83)
 Structure / Shot: Oxy Cedar Canyon 21-22 Federal Com 32H / Oxy Cedar Canyon 21-22 Federal Com 32H
 Well: Oxy Cedar Canyon 21-22 Federal Com 32H
 Borehole: Original Borehole
 UWA / API#s: Unknown / Unknown
 Survey Name: Oxy Cedar Canyon 21-22 Federal Com 32H Gyro+MWD 0-19,940'
 Survey Date: September 19, 2017
 Tort / AMD / DOI / ERO Ratio: 206.960' / 10538.478 ft / 6.639' / 1.056
 Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
 Location Lat / Long: N 32° 12' 19.17478" W 103° 59' 51.17715"
 Location Grid N/E Y/X: N 438594 100 NUS E 645194 200 NUS
 CRS Grid Convergence Angle: 0.1790°
 Grid Scale Factor: 0.99982144
 Version / Patch: 2.10.544.0

Survey / DLS Computation: Minimum Curvature / Lubinski
 Vertical Section Azimuth: 89.338° (Grid North)
 Vertical Section Origin: 0.000 ft. 0.000 ft
 TVD Reference Datum: RKB=26.5
 TVD Reference Elevation: 2957.900 ft above MSL
 Seabed / Ground Elevation: 2831.400 ft above MSL
 Magnetic Declination: 7.156°
 Total Gravity Field Strength: 996.4677 mgn (g 0.0665 Based)
 Gravity Model: GARM
 Total Magnetic Field Strength: 48084.640 nT
 Magnetic Dip Angle: 68.009°
 Declination Date: September 19, 2017
 Magnetic Declination Model: HOGM 2017
 North Reference: Grid North
 Grid Convergence Used: 0.1790°
 Total Corr Mag North -> Grid North: 6.9770°
 Local Coord Referenced To: Well Head

Comments	MD (ft)	Incl (°)	Axis Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (ft/100ft)	Northing (NUS)	Easting (EUS)	Latitude (N/S ° ' '')	Longitude (E/W ° ' '')
SHL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	438594.10	645194.20	N 32° 12' 19.17"	W 103° 59' 51.18"
	140.50	2.00	339.98	140.47	-0.01	2.30	0.84	1.42	438596.40	645193.35	N 32° 12' 19.20"	W 103° 59' 51.19"
	201.50	1.70	356.88	201.44	-1.20	4.21	1.25	1.02	438598.31	645192.95	N 32° 12' 19.22"	W 103° 59' 51.19"
	294.50	1.70	338.88	294.40	-1.74	5.87	-1.82	0.57	438600.97	645192.38	N 32° 12' 19.24"	W 103° 59' 51.20"
	325.50	0.40	323.86	325.39	-1.96	7.39	-2.05	4.25	438601.49	645192.15	N 32° 12' 19.25"	W 103° 59' 51.20"
	449.50	1.20	351.98	449.38	-2.38	8.53	-2.48	0.70	438603.12	645191.72	N 32° 12' 19.26"	W 103° 59' 51.21"
	550.00	0.94	320.33	548.86	-3.03	10.70	-3.16	0.63	438604.80	645191.04	N 32° 12' 19.28"	W 103° 59' 51.21"
	580.00	0.11	51.18	578.86	-3.16	10.91	-3.29	3.18	438605.51	645190.91	N 32° 12' 19.28"	W 103° 59' 51.22"
	671.00	0.17	244.26	670.86	-3.22	10.91	-3.34	0.31	438605.00	645190.86	N 32° 12' 19.28"	W 103° 59' 51.22"
	761.00	0.23	317.11	760.88	-3.48	10.98	-3.59	0.27	438605.06	645190.61	N 32° 12' 19.28"	W 103° 59' 51.22"
	850.00	0.20	64.93	849.86	-3.44	11.18	-3.57	0.39	438605.28	645190.63	N 32° 12' 19.29"	W 103° 59' 51.22"
	938.00	0.20	197.52	937.86	-3.35	11.10	-3.48	0.42	438605.19	645190.72	N 32° 12' 19.28"	W 103° 59' 51.22"
	1028.00	0.33	137.60	1027.86	-3.22	10.75	-3.35	0.32	438604.85	645190.85	N 32° 12' 19.28"	W 103° 59' 51.22"
	1119.00	0.17	237.66	1118.86	-3.16	10.49	-3.29	0.44	438604.59	645190.91	N 32° 12' 19.28"	W 103° 59' 51.22"
	1210.00	0.20	180.55	1209.86	-3.23	10.27	-3.35	0.25	438604.37	645190.85	N 32° 12' 19.28"	W 103° 59' 51.22"
	1301.00	0.13	51.78	1300.86	-3.09	10.18	-3.21	0.30	438604.28	645190.89	N 32° 12' 19.28"	W 103° 59' 51.21"
	1392.00	0.24	89.27	1391.86	-2.82	10.25	-2.94	0.17	438604.35	645191.26	N 32° 12' 19.28"	W 103° 59' 51.21"
	1518.00	0.28	354.36	1517.86	-2.58	10.56	-2.71	0.30	438604.66	645191.67	N 32° 12' 19.28"	W 103° 59' 51.21"
	1613.00	0.25	194.53	1612.86	-2.41	10.74	-2.53	0.46	438604.83	645191.67	N 32° 12' 19.28"	W 103° 59' 51.21"
	1708.00	0.20	137.09	1707.86	-2.09	10.56	-2.26	0.14	438604.66	645191.98	N 32° 12' 19.28"	W 103° 59' 51.20"
	1803.00	0.20	283.02	1802.86	-2.14	10.48	-2.22	0.40	438604.58	645191.94	N 32° 12' 19.28"	W 103° 59' 51.20"
	1858.00	0.20	187.10	1857.86	-2.31	10.35	-2.43	0.33	438604.44	645191.77	N 32° 12' 19.28"	W 103° 59' 51.21"
	1993.00	0.20	348.13	1992.86	-2.35	10.35	-2.47	0.42	438604.66	645191.73	N 32° 12' 19.28"	W 103° 59' 51.21"
	2088.00	0.20	289.94	2087.86	-2.53	10.56	-2.66	0.20	438604.66	645191.54	N 32° 12' 19.28"	W 103° 59' 51.21"
	2153.00	0.36	168.35	2152.86	-2.63	10.33	-2.75	0.52	438604.43	645191.45	N 32° 12' 19.28"	W 103° 59' 51.21"
	2373.00	0.25	32.61	2372.85	-2.29	10.09	-2.41	0.30	438604.19	645191.79	N 32° 12' 19.27"	W 103° 59' 51.20"
	2467.00	0.16	187.93	2466.85	-2.20	10.14	-2.32	0.43	438604.24	645191.88	N 32° 12' 19.28"	W 103° 59' 51.20"
	2605.00	0.13	283.15	2604.85	-2.38	9.98	-2.50	0.16	438604.08	645191.70	N 32° 12' 19.27"	W 103° 59' 51.21"
	2657.00	0.38	178.08	2656.85	-2.43	9.82	-2.54	0.84	438603.82	645191.66	N 32° 12' 19.27"	W 103° 59' 51.21"
	2847.00	0.20	273.24	2846.85	-2.72	9.21	-2.83	0.24	438603.31	645191.37	N 32° 12' 19.27"	W 103° 59' 51.21"
	2942.00	0.20	273.24	2841.85	-3.05	9.23	-3.16	0.00	438603.33	645191.04	N 32° 12' 19.27"	W 103° 59' 51.21"
	3037.00	0.20	108.25	3036.85	-3.06	9.19	-3.17	0.42	438603.29	645191.03	N 32° 12' 19.27"	W 103° 59' 51.21"
	3132.00	0.20	188.49	3131.85	-2.91	8.97	-3.01	0.25	438603.07	645191.19	N 32° 12' 19.26"	W 103° 59' 51.21"
	3226.00	0.16	73.01	3225.85	-2.78	8.84	-2.89	0.31	438602.94	645191.31	N 32° 12' 19.26"	W 103° 59' 51.21"
	3321.00	0.20	174.14	3320.85	-2.84	8.71	-2.74	0.29	438602.81	645191.46	N 32° 12' 19.26"	W 103° 59' 51.21"
	3416.00	0.25	107.96	3415.85	-2.43	8.48	-2.53	0.26	438602.58	645191.67	N 32° 12' 19.26"	W 103° 59' 51.21"
	3511.00	0.20	49.15	3510.85	-2.11	8.53	-2.20	0.24	438602.77	645192.00	N 32° 12' 19.26"	W 103° 59' 51.20"
	3606.00	0.16	287.15	3605.85	-2.11	8.67	-2.21	0.33	438602.83	645191.89	N 32° 12' 19.26"	W 103° 59' 51.21"
	3701.00	0.24	250.53	3700.85	-2.42	8.78	-2.52	0.09	438602.86	645191.68	N 32° 12' 19.26"	W 103° 59' 51.21"
	3795.00	0.20	312.17	3794.85	-2.72	8.96	-2.83	0.10	438603.06	645191.37	N 32° 12' 19.26"	W 103° 59' 51.21"
	3890.00	0.24	331.25	3889.85	-2.94	8.25	-3.04	0.09	438603.35	645191.18	N 32° 12' 19.27"	W 103° 59' 51.21"
	3985.00	0.20	65.47	3984.85	-2.88	9.49	-2.99	0.34	438603.59	645191.21	N 32° 12' 19.27"	W 103° 59' 51.21"
	4080.00	0.24	51.78	4079.85	-2.57	9.88	-2.68	0.07	438603.76	645191.52	N 32° 12' 19.27"	W 103° 59' 51.21"
	4175.00	0.24	10.25	4174.84	-2.37	10.00	-2.49	0.18	438604.10	645191.71	N 32° 12' 19.27"	W 103° 59' 51.21"
	4365.00	0.24	241.17	4364.84	-2.65	10.20	-2.77	0.23	438604.30	645191.43	N 32° 12' 19.26"	W 103° 59' 51.21"
	4459.00	0.25	191.35	4458.84	-2.87	9.90	-2.98	0.22	438604.00	645191.22	N 32° 12' 19.27"	W 103° 59' 51.21"
	4554.00	0.24	332.92	4553.84	-2.88	9.80	-3.10	0.45	438603.95	645191.10	N 32° 12' 19.27"	W 103° 59' 51.21"
	4649.00	0.20	186.18	4648.84	-3.08	9.80	-3.19	0.44	438603.90	645191.01	N 32° 12' 19.27"	W 103° 59' 51.21"
	4839.00	0.20	165.46	4838.84	-3.05	9.80	-3.15	0.05	438603.18	645191.05	N 32° 12' 19.28"	W 103° 59' 51.21"
	4933.00	0.24	96.14	4932.84	-2.81	9.00	-2.92	0.17	438603.85	645191.58	N 32° 12' 19.26"	W 103° 59' 51.21"
	5028.00	0.28	142.94	5027.84	-2.52	8.75	-2.82	0.19	438602.55	645191.28	N 32° 12' 19.26"	W 103° 59' 51.21"
	5123.00	0.24	218.17	5122.84	-2.54	8.46	-2.64	0.28	438602.55	645191.56	N 32° 12' 19.26"	W 103° 59' 51.21"
	5218.00	0.24	343.70	5217.84	-2.72	8.49	-2.82	0.45	438602.59	645191.38	N 32° 12' 19.26"	W 103° 59' 51.21"
	5313.00	0.23	300.87	5312.84	-2.94	8.78	-3.04	0.18	438602.88	645191.10	N 32° 12' 19.26"	W 103° 59' 51.21"
	5413.00	0.16	52.35	5412.84	-3.00	8.97	-3.10	0.32	438603.07	645191.10	N 32° 12' 19.26"	W 103° 59' 51.21"
	5508.00	0.16	215.31	5507.84	-2.97	8.94	-3.07	0.33	438603.04	645191.13	N 32° 12' 19.26"	W 103° 59' 51.21"
	5603.00	0.16	357.66	5602.84	-3.05	8.97	-3.16	0.32	438603.07	645191.05	N 32° 12' 19.26"	W 103° 59' 51.21"
	5698.00	0.20	314.71	5697.84	-3.17	9.22	-3.28	0.14	438603.32	645190.82	N 32° 12' 19.27"	W 103° 59' 51.21"
	5793.00	0.20	227.75	5792.84	-3.41	9.22	-3.52	0.28	438603.32	645190.68	N 32° 12' 19.27"	W 103° 59' 51.22"
	5888.00	0.13	125.33	5887.84	-3.45	9.05	-3.55	0.27	438603.15	645190.85	N 32° 12' 19.26"	W 103° 59' 51.22"
	5983.00	0.24	122.32	5981.84	-3.20	8.88	-3.30	0.12	438602.98	645190.90	N 32° 12' 19.26"	W 103° 59' 51.22"
	6077.00	0.25	69.08	6076.84	-2.84	8.65	-2.94	0.38	438602.95	645191.23	N 32° 12' 19.26"	W 103° 59' 51.21"
	6172.00	0.17	185.81	6171.84	-2.66	8.78	-2.76	0.40	438602.88	645191.44	N 32° 12' 19.26"	W 103° 59' 51.21"
	6267.00	0.29	78.88	6266.83	-2.44	8.68	-2.54	0.17	438602.75	645191.66	N 32° 12' 19.26"	W 103° 59' 51.21"
	6457.00	0.28	146.86	6456.83	-1.73	8.39	-1.83	0.24	438602.48	645192.37	N 32° 12' 19.26"	W 103° 59' 51.20"
	6552.00	0.25	200.20	6551.83	-1.88	7.99	-1.78	0.24	438602.59	645192.42	N 32° 12' 19.26"	W 103° 59' 51.20"
	6648.00	0.50	145.23	6648.83	-1.48	7.40	-1.57	0.53	438601.50	645192.63	N 32° 12' 19.25"	W 103° 59' 51.20"
	6838.00	0.48	110.02	6835.82	-0.18	6.31	-0.25	0.18	438600.41	645193.95	N 32° 12' 19.24"	W 103° 59' 51.18"
	6931.00	0.45	118.55	6930.82	0.52	5.99	0.45	0.08	438600.09	645194.65	N 32° 12' 19.23"	W 103° 59' 51.17"
	7026.00	0.45	245.26	7025.82	0.50	5.66	0.44	0.85	438599.76	645194.64	N 32° 12' 19.23"	W 103° 59' 51.17"
	7121.00	0.96	267.77	7120.81	-0.63	5.47	-0.70	0.60	438599.57	645193.50	N 32° 12' 19.23"	W 103° 59' 51.19"
	7216.00	1.14	248.05	7215.79	-2.31	5.10	-2.37	0.41	438599.20	645191.83	N 32° 12' 19.23"	W 103° 59' 51.20"</

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLB (°100ft)	Northing (ft)	Easting (ft)	Latitude (N/S ° ' '')	Longitude (E/W ° ' '')
	7878.00	5.38	323.01	7877.09	-19.24	18.00	-19.45	1.13	438612.10	645174.75	N 32 12 19.53 W	103 59 51.40
	7973.00	6.35	320.04	7971.59	25.21	25.58	25.51	1.07	438619.88	645168.70	N 32 12 19.43 W	103 59 51.47
	8068.00	7.27	320.00	8065.82	32.35	34.22	32.74	0.97	438626.31	645161.46	N 32 12 19.51 W	103 59 51.56
	8183.00	8.08	314.89	8180.07	-40.84	43.54	-41.34	1.12	438637.83	645152.86	N 32 12 19.61 W	103 59 51.66
	8258.00	7.84	312.18	8254.17	-50.15	52.50	-50.76	0.61	438648.59	645143.45	N 32 12 19.70 W	103 59 51.77
	8353.00	7.91	308.25	8348.30	-59.87	60.78	-60.57	0.63	438654.54	645133.63	N 32 12 19.86 W	103 59 51.99
	8448.00	7.43	318.72	8442.46	-68.95	69.45	-69.76	1.55	438663.54	645124.45	N 32 12 19.96 W	103 59 52.08
	8542.00	6.54	335.52	8535.77	-75.07	78.89	-75.99	2.35	438672.98	645115.22	N 32 12 20.05 W	103 59 52.09
	8637.00	5.50	356.33	8630.25	-77.49	88.36	-78.62	2.53	438682.45	645115.69	N 32 12 20.14 W	103 59 52.09
	8732.00	4.87	4.32	8724.86	-77.38	98.92	-78.51	1.01	438691.01	645116.53	N 32 12 20.27 W	103 59 52.05
	8827.00	4.49	8.23	8819.55	-76.46	104.62	-77.67	0.52	438698.71	645122.17	N 32 12 20.31 W	103 59 52.01
	8922.00	3.69	38.85	8914.31	-74.29	110.93	-75.57	1.88	438705.02	645125.81	N 32 12 20.31 W	103 59 51.97
	9017.00	2.89	62.28	9009.17	-70.70	114.59	-72.03	2.08	438708.68	645126.52	N 32 12 20.31 W	103 59 51.96
	9112.00	1.96	115.80	9104.10	-67.26	114.92	-68.60	2.31	438709.01	645126.71	N 32 12 20.27 W	103 59 51.87
	9150.00	1.51	148.03	9142.08	-85.36	114.25	-87.89	2.23	438708.34	645126.71	N 32 12 20.13 W	103 59 51.87
	9303.00	1.70	206.88	9295.04	-86.21	110.72	-87.49	1.19	438704.81	645119.07	N 32 12 20.09 W	103 59 51.58
	9399.00	1.34	114.06	9390.41	-58.31	105.60	-59.53	12.09	438699.70	645118.83	N 32 12 20.05 W	103 59 51.58
	9494.00	22.82	120.03	9481.07	-33.80	82.53	-34.97	12.21	438686.62	645119.22	N 32 12 20.07 W	103 59 51.58
	9589.00	35.28	118.49	9583.86	5.82	89.72	5.02	13.12	438683.61	645119.22	N 32 12 19.86 W	103 59 51.58
	9684.00	43.18	104.41	9673.65	81.15	48.04	80.50	13.00	438642.13	645254.79	N 32 12 19.54 W	103 59 50.45
	9779.00	55.24	94.20	9698.88	131.79	37.03	131.37	0.40	438652.13	645325.96	N 32 12 19.53 W	103 59 49.71
	9874.00	61.47	86.46	9749.56	212.52	36.75	212.11	9.54	438630.85	645406.29	N 32 12 19.64 W	103 59 47.72
	9969.00	68.06	78.18	9780.09	297.64	48.38	297.10	10.49	438642.48	645491.28	N 32 12 19.85 W	103 59 46.69
	10063.00	82.10	74.50	9814.24	385.96	69.55	385.19	15.31	438663.84	645579.35	N 32 12 20.02 W	103 59 45.61
	10158.00	84.25	83.94	9825.55	478.78	86.83	477.81	9.71	438680.93	645671.97	N 32 12 20.08 W	103 59 44.51
	10253.00	86.15	87.02	9833.50	573.22	94.29	572.16	3.89	438688.38	645768.32	N 32 12 20.13 W	103 59 43.49
	10348.00	87.52	87.83	9838.36	661.03	98.24	659.84	1.81	438692.33	645845.09	N 32 12 20.14 W	103 59 42.38
	10436.00	90.17	89.92	9840.28	755.99	100.10	754.89	3.55	438694.18	645949.03	N 32 12 20.14 W	103 59 41.28
	10531.00	91.07	89.77	9839.25	850.98	100.36	849.88	0.96	438694.45	646044.01	N 32 12 20.14 W	103 59 40.55
	10594.00	91.00	89.62	9838.11	913.97	100.89	912.87	0.26	438694.78	646197.00	N 32 12 20.13 W	103 59 38.69
	10754.00	90.17	90.86	9836.48	1073.94	100.02	1072.88	0.83	438694.11	646266.97	N 32 12 20.11 W	103 59 37.58
	10849.00	90.45	91.70	9835.96	1168.88	97.90	1167.83	0.93	438691.59	646361.94	N 32 12 20.07 W	103 59 36.48
	10944.00	89.73	82.23	9835.81	1263.78	94.84	1262.77	0.94	438688.73	646456.87	N 32 12 20.03 W	103 59 35.37
	11039.00	89.52	82.48	9836.44	1358.65	90.74	1357.69	0.34	438684.83	646551.78	N 32 12 19.99 W	103 59 34.28
	11133.00	89.65	82.13	9837.11	1452.52	86.96	1451.81	0.40	438681.05	646645.89	N 32 12 19.95 W	103 59 33.17
	11228.00	89.93	82.00	9837.45	1547.41	83.54	1546.55	0.32	438677.83	646740.82	N 32 12 19.93 W	103 59 32.07
	11323.00	89.83	82.09	9837.65	1642.36	81.80	1641.53	2.91	438675.77	646835.60	N 32 12 19.83 W	103 59 30.86
	11417.00	89.72	82.06	9838.02	1736.36	81.68	1735.53	0.12	438675.77	646929.59	N 32 12 19.82 W	103 59 29.87
	11512.00	89.59	82.25	9838.59	1831.34	81.42	1830.53	0.24	438675.52	647024.58	N 32 12 19.82 W	103 59 28.78
	11607.00	89.80	82.98	9839.84	1926.33	81.22	1925.52	0.78	438675.32	647119.55	N 32 12 19.81 W	103 59 27.66
	11702.00	89.24	90.10	9841.38	2021.31	81.15	2020.50	0.38	438675.24	647214.54	N 32 12 19.81 W	103 59 26.55
	11797.00	88.97	90.54	9842.87	2116.28	80.82	2115.49	0.54	438674.71	647309.52	N 32 12 19.81 W	103 59 25.44
	11892.00	89.11	90.40	9846.05	2206.22	79.08	2205.46	0.10	438673.15	647404.42	N 32 12 19.87 W	103 59 24.34
	11987.00	88.76	90.22	9849.56	2295.15	78.04	2294.42	0.21	438672.13	647500.42	N 32 12 19.87 W	103 59 23.24
	12082.00	88.90	90.67	9851.50	2380.12	77.30	2379.37	0.50	438671.59	647595.39	N 32 12 19.86 W	103 59 22.14
	12177.00	89.14	90.39	9853.13	2465.08	76.42	2464.38	0.39	438670.52	647690.38	N 32 12 19.85 W	103 59 21.04
	12272.00	89.35	90.37	9854.38	2550.07	75.79	2549.37	0.22	438669.49	647785.38	N 32 12 19.84 W	103 59 19.93
	12367.00	89.14	89.87	9856.88	2635.02	75.39	2634.35	0.28	438668.85	647880.38	N 32 12 19.83 W	103 59 18.83
	12462.00	89.28	89.91	9859.50	2720.00	75.78	2719.37	0.08	438669.85	647975.35	N 32 12 19.83 W	103 59 17.72
	12557.00	89.04	89.89	9862.80	2805.00	75.84	2804.32	0.27	438669.84	648070.35	N 32 12 19.83 W	103 59 16.62
	12652.00	89.04	89.89	9866.00	2890.00	75.84	2889.32	0.27	438669.84	648165.35	N 32 12 19.83 W	103 59 15.52
	12747.00	89.04	89.89	9869.20	2975.00	75.84	2974.32	0.27	438669.84	648260.35	N 32 12 19.83 W	103 59 14.41
	12842.00	89.04	89.89	9872.40	3060.00	75.84	3059.32	0.27	438669.84	648355.35	N 32 12 19.83 W	103 59 13.30
	12937.00	89.04	89.89	9875.60	3145.00	75.84	3144.32	0.27	438669.84	648450.35	N 32 12 19.83 W	103 59 12.20
	13032.00	89.04	89.89	9878.80	3230.00	75.84	3229.32	0.27	438669.84	648545.35	N 32 12 19.83 W	103 59 11.09
	13127.00	89.04	89.89	9882.00	3315.00	75.84	3314.32	0.27	438669.84	648640.35	N 32 12 19.83 W	103 59 10.00
	13222.00	89.04	89.89	9885.20	3400.00	75.84	3399.32	0.27	438669.84	648735.35	N 32 12 19.83 W	103 59 8.89
	13317.00	89.04	89.89	9888.40	3485.00	75.84	3484.32	0.27	438669.84	648830.35	N 32 12 19.83 W	103 59 7.78
	13412.00	89.04	89.89	9891.60	3570.00	75.84	3569.32	0.27	438669.84	648925.35	N 32 12 19.83 W	103 59 6.68
	13507.00	89.04	89.89	9894.80	3655.00	75.84	3654.32	0.27	438669.84	649020.35	N 32 12 19.83 W	103 59 5.57
	13602.00	89.04	89.89	9898.00	3740.00	75.84	3739.32	0.27	438669.84	649115.35	N 32 12 19.83 W	103 59 4.47
	13697.00	89.04	89.89	9901.20	3825.00	75.84	3824.32	0.27	438669.84	649210.35	N 32 12 19.83 W	103 59 3.36
	13792.00	89.04	89.89	9904.40	3910.00	75.84	3909.32	0.27	438669.84	649305.35	N 32 12 19.83 W	103 59 2.26
	13887.00	89.04	89.89	9907.60	3995.00	75.84	3994.32	0.27	438669.84	649400.35	N 32 12 19.83 W	103 59 1.15
	13982.00	89.04	89.89	9910.80	4080.00	75.84	4079.32	0.27	438669.84	649495.35	N 32 12 19.83 W	103 59 0.05
	14077.00	89.04	89.89	9914.00	4165.00	75.84	4164.32	0.27	438669.84	649590.35	N 32 12 19.83 W	103 59 57.85
	14172.00	89.04	89.89	9917.20	4250.00	75.84	4249.32	0.27	438669.84	649685.35	N 32 12 19.83 W	103 58 56.74
	14267.00	89.04	89.89	9920.40	4335.00	75.84	4334.32	0.27	438669.84	649780.35	N 32 12 19.83 W	103 58 55.64
	14362.00	89.04	89.89	9923.60	4420.00	75.84	4419.32	0.27	438669.84	649875.35	N 32 12 19.83 W	103 58 54.54
	14457.00	89.04	89.89	9926.80	4505.00	75.84	4504.32	0.27	438669.84	649970.35	N 32 12 19.83 W	103 58 53.44
	14552.00	89.04	89.89	9930.00	4590.00	75.84	4589.32	0.27	438669.84	650065.35	N 32 12 19.83 W	103 58 52.34
	14647.00	89.04	89.89	9933.20	4675.00	75.84	4674.32	0.27	438669.84	650160.35	N 32 12 19.83 W	103 58 51.23
	14742.00	89.04	89.89	9936.40	4760.00	75.84	4759.32	0.27	438669.84	650255.35	N 32 12 19.83 W	103 58 50.13
	14837.00	89.04	89.89	9939.60	4845.00	75.84	4844.32	0.27	438669.84	650350.35	N 32 12 19.83 W	103 58 49.02
	14932.00	89.04	89.89	9942.80	4930.00	75.84	4929.32	0.27	438669.84	650445.35	N 32 12 19.83 W	103 58 47.91
	15027.00	89.04	89.89	9946.00	5015.00	75.84	5014.32	0.27	438669.84	650540.35	N 32 12 19.83 W	103 58 46.81
	15122.00	89.04	89.89	9949.20	5100.00	75.84	5099.32	0.27	438669.84	650635.35	N 32 12 19.83 W	103 58 45.70

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 ° ' ")
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Survey Error Model: ISCWSA Rev D *** 3 D 95 000% Confidence 2 7955 sigma

Survey Program:

Description	Part	MD From (ft)	MD To (ft)	EDU Freq (ft)	Hole Size Casing Diameter (in)	Survey Tool Type	Borehole / Survey
	1	0.000	25.500	1/98.425	30.000	30.000 NAL, NSG+MSHOT Depth Only	Original Borehole / Oxy Cedar Canyon 21 22 Federal Com 32H Gyro+MWD 0-19,940
	1	25.500	26.500	Act Sns	30.000	30.000 NAL, NSG+MSHOT Depth Only	Original Borehole / Oxy Cedar Canyon 21 22 Federal Com 32H Gyro+MWD 0-19,940
	1	26.500	449.500	Act Sns	30.000	30.000 NAL, NSG+MSHOT	Original Borehole / Oxy Cedar Canyon 21 22 Federal Com 32H
	1	449.500	19940.000	Act Sns	30.000	30.000 NAL, MWD, PLUS, 0.5 DEG	Original Borehole / Oxy Cedar Canyon 21 22 Federal Com 32H