Reservoir Development
Schlumberger Drilling and Measurements
9200 West Reno Avenue
Oklahoma City, Oklahoma 73127 USA
Phone: (405) 789-1515
Fax: (405) 789-1519

Schlumberger

December 1. 2016

OXY USA INC
5 Greenway Plaza, Suite 110
Houston, TX 77046-052

18. 24S, 31E. Eddy NM
-32.19501 -103.99861

Re:

CLIENT:	OXY USA INC
WELL:	CEDAR CANYON 29 FEDERAL COM 2H
FIELD:	PIERCE CROSSING; BONE SPRING, EAST
RIG:	H&P 636
COUNTY:	Eddy
API NO:	30-015-42992-00-X1
JOB NO:	16MLD1412

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.

Name & Title of Surveyor	Drainhole Number	Surveyed Depths		Dates Performed		Type of Survey
Leslie Bullard FS	CEDAR CANYON 29 FEDERAL COM 211 Original Hole	442.00 Ft 13340.00 Ft	to	November 7, 2016 November 18, 2016	to	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

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:
18, 24S, 31E, Eddy NM
-32.19501 -103.99861

I, Leslie Bullard certify that; I am employed by Drilling & Measurements, a division of Schlumberger Technology Corporation; that I did on the day(s) of November 07, 2016 through November 18, 2016, conduct or supervise the taking of the TelePacer & SlimPulse surveys from a depth of 442.00 feet to a depth of 13340.00 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 29 FEDERAL COM 2H Well (Original Hole) API No. 30-015-42992-00-X1 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
Leslie Bullard
FS

Subscribed and Sworn to before me this 1 day of December (month) 2016 (yr)

My Commission expires:
January 29, 2019 (SUM)

(signature)

Notary Public

Texas
(County State)

SUNNY MACHA
Notary Public, State of Texas
My Commission Expires
January 29, 2019

Schlumberger — Final PvA - Rev3 — OXY — RKB = 26.5 ft

Borehole:	Well:	Field:	Structure:
Oxy CC 29 2H - Original Borehole	Oxy Cedar Canyon 29 Federal 2H	NM Eddy County (NAD 27)	Oxy Cedar Canyon 29 Federal 2H (SL2)

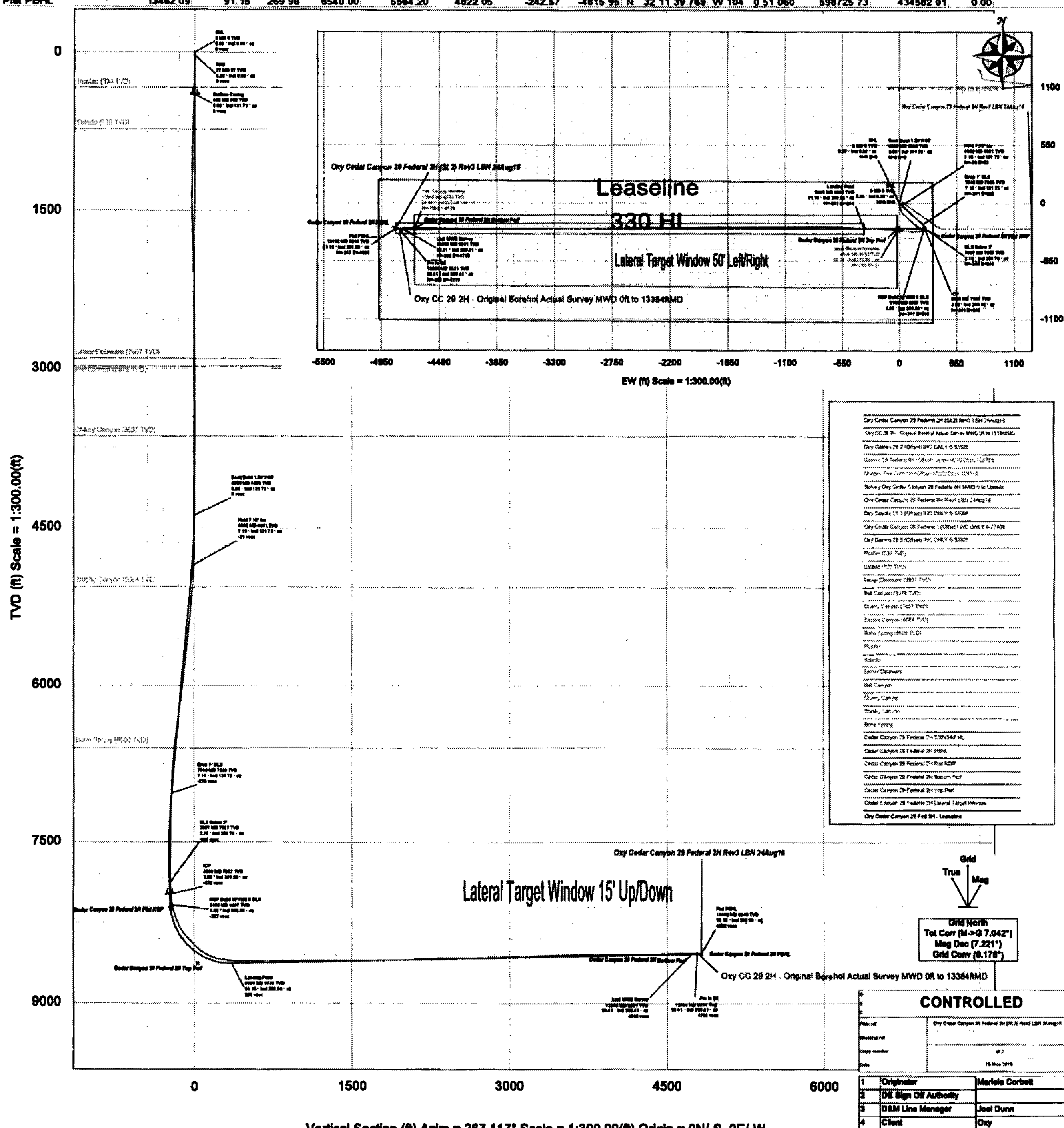
Gravity & Magnetic Parameters — Model: HDGM 2018 — MagDec: 7.221° — Date: 13-Nov-2018

Surface Location — NAD27 New Mexico State Plane, Eastern Zone, US Feet — Lat: N 32 11 42.02

Miscellaneous — Slot: Oxy Cedar Canyon 29 Fed 2H — Plan: Oxy Cedar Canyon 29 Federal 2H (SL2) Rev3 LBN 24Aug18

Critical Points

Comments	Survey MD (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	Latitude (deg)	Longitude (deg)	Easting (ft)	Northing (ft)	DLS (°/100ft)	Tool Face (deg)
SHL	0.00	0.00	0.00	0.00	-2975.80	0.00	0.00	0.00	N 32 11 42.024	W 103 59 55.010	603541.29	434824.56		131.73
Rustler	334.00	0.00	131.73	334.00	-2641.80	0.00	0.00	0.00	N 32 11 42.024	W 103 59 55.010	603541.29	434824.56	0.00	131.73
Surface Casing	400.00	0.00	131.73	400.00	-2575.80	0.00	0.00	0.00	N 32 11 42.024	W 103 59 55.010	603541.29	434824.56	0.00	131.73
Salado	729.00	0.00	131.73	729.00	-2246.80	0.00	0.00	0.00	N 32 11 42.024	W 103 59 55.010	603541.29	434824.56	0.00	131.73
Lamar/Delaware	2907.00	0.00	131.73	2907.00	-68.80	0.00	0.00	0.00	N 32 11 42.024	W 103 59 55.010	603541.29	434824.56	0.00	131.73
Bell Canyon	2978.00	0.00	131.73	2978.00	2.20	0.00	0.00	0.00	N 32 11 42.024	W 103 59 55.010	603541.29	434824.56	0.00	131.73
Cherry Canyon	3637.00	0.00	131.73	3637.00	661.20	0.00	0.00	0.00	N 32 11 42.024	W 103 59 55.010	603541.29	434824.56	0.00	131.73
Back Build 1.60°/100	4385.00	0.00	131.73	4385.00	1409.20	0.00	0.00	0.00	N 32 11 42.024	W 103 59 55.010	603541.29	434824.56	0.00	131.73
Hold 7.15° inc	4861.78	7.15	131.73	4860.54	1884.74	-21.15	-19.78	22.18	N 32 11 41.828	W 103 59 54.763	603563.46	434804.78	1.50	0.00
Brushy Canyon	5066.83	7.15	131.73	5064.00	2088.20	-39.33	-36.77	41.23	N 32 11 41.659	W 103 59 54.532	603582.51	434787.79	0.00	0.00
Bone Spring	6614.88	7.15	131.73	6600.00	3624.20	-176.51	-165.06	185.06	N 32 11 40.386	W 103 59 52.863	603726.33	434659.51	0.00	131.73
Drop 1° DLS	7047.95	7.15	131.73	7029.71	4053.91	-214.89	-200.95	225.29	N 32 11 40.029	W 103 59 52.396	603766.56	434623.62	0.00	269.98
DLS Below 3°	7907.29	2.19	256.76	7887.00	4911.20	-236.89	-240.39	249.30	N 32 11 39.636	W 103 59 52.118	603790.57	434584.19	1.00	269.98
ICP	8007.83	3.00	269.98	7987.44	5011.64	-232.38	-240.83	244.80	N 32 11 39.634	W 103 59 52.170	603786.07	434583.75	1.00	269.98
ICP	8007.84	3.00	269.98	7987.44	5011.64	-232.38	-240.83	244.80	N 32 11 39.634	W 103 59 52.170	603786.07	434583.75	0.00	269.98
KOP Build 10°/100 ft	8107.83	3.00	269.98	8087.30	5111.50	-227.16	-240.83	239.67	N 32 11 39.634	W 103 59 52.231	603780.84	434583.76	0.00	269.98
Landing Point	8989.38	91.15	269.98	8630.16	5654.36	355.84	-241.03	-344.15	N 32 11 39.650	W 103 59 59.024	603197.17	434583.55	10.00	0.00
Plat PBHL	13462.09	91.15	269.98	8540.00	5564.20	4822.05	-242.57	-4815.95	N 32 11 39.769	W 104 0 51.060	598725.73	434582.01	0.00	



CONTROLLED

1	Originator	Mariela Corbett
2	DE Sign Off Authority	
3	D&M Line Manager	Joel Dunn
4	Client	Oxy

Schlumberger

Oxy CC 29 2H - Original Borehol Actual Survey MWD 0ft to 13384ftMD
Survey Geodetic Report
(Def Survey)

Report Date:	November 16, 2016 - 11:13 AM	**Survey / DLS Computation:**	Minimum Curvature / Lubinski
Client:	OXY	**Vertical Section Azimuth:**	257.117 ° (Grid North)
Field:	NM Eddy County (NAD 27)	**Vertical Section Origin:**	0.000 ft, 0.000 ft
Structure / Slot:	Oxy Cedar Canyon 29 Federal 2H (SL2) / Oxy Cedar Canyon 29 Fed 2H	**TVD Reference Datum:**	RKB
Well:	Oxy Cedar Canyon 29 Federal 2H	**TVD Reference Elevation:**	2975.800 ft above MSL
Borehole:	Oxy CC 29 2H - Original Borehole	**Seabed / Ground Elevation:**	2949.300 ft above MSL
UWI / API#:	Unknown / Unknown	**Magnetic Declination:**	7.223 °
Survey Name:	Oxy CC 29 2H - Original Borehol Actual Survey MWD 0ft to 13384ftMD	**Total Gravity Field Strength:**	998.4646mgn (9.80665 Based)
Survey Date:	November 13, 2016	**Gravity Model:**	GARM
Tort / AHD / DDI / ERD Ratio:	196.005 ° / 5458.201 ft / 6.225 / 0.634	**Total Magnetic Field Strength:**	48184.158 nT
Coordinate Reference System:	NAD27 New Mexico State Plane, Eastern Zone, US Feet	**Magnetic Dip Angle:**	60.043 °
Location Lat / Long:	N 32° 11' 42.02449", W 103° 59' 55.01016"	**Declination Date:**	November 04, 2016
Location Grid N/E Y/X:	N 434824.560 ftUS, E 603541.290 ftUS	**Magnetic Declination Model:**	HDGM 2016
CRS Grid Convergence Angle:	0.1783 °	**North Reference:**	Grid North
Grid Scale Factor:	0.99992137	**Grid Convergence Used:**	0.1783 °
Version / Patch:	2.10.254.0	**Total Corr Mag North->Grid North:**	7.0449 °
		Local Coord Referenced To:	Structure Reference Point

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	-2975.80	0.00	0.00	0.00	N/A	434824.56	603541.29	N 32 11 42.02	W 103 59 55.01
RKB	26.50	0.00	0.00	26.50	-2949.30	0.00	0.00	0.00	0.00	434824.56	603541.29	N 32 11 42.02	W 103 59 55.01
	442.00	2.11	112.45	441.91	-2533.89	-6.91	-2.92	7.07	0.51	434821.64	603548.36	N 32 11 42.00	W 103 59 54.93
	533.00	2.35	114.27	532.84	-2442.96	-10.09	-4.33	10.32	0.27	434820.23	603551.61	N 32 11 41.98	W 103 59 54.89
	625.00	2.37	119.68	624.76	-2351.04	-13.37	-5.05	13.69	0.24	434818.52	603554.98	N 32 11 41.96	W 103 59 54.85
	716.00	2.40	124.43	715.68	-2260.12	-16.47	-5.05	16.90	0.22	434816.51	603558.19	N 32 11 41.94	W 103 59 54.81
	808.00	2.48	117.38	807.60	-2168.20	-19.72	-10.06	20.25	0.34	434814.50	603561.54	N 32 11 41.92	W 103 59 54.77
	899.00	1.85	111.85	898.54	-2077.26	-22.61	-11.45	23.22	0.94	434813.11	603564.51	N 32 11 41.91	W 103 59 54.74
	991.00	1.32	139.10	990.51	-1985.29	-24.47	-12.74	25.14	0.84	434811.82	603566.43	N 32 11 41.90	W 103 59 54.72
	1082.00	1.41	162.82	1081.48	-1894.32	-25.39	-14.60	26.16	0.62	434809.96	603567.45	N 32 11 41.88	W 103 59 54.71
	1177.00	1.65	160.15	1176.44	-1799.36	-26.13	-17.16	27.03	0.47	434807.40	603568.32	N 32 11 41.85	W 103 59 54.70
	1271.00	1.52	164.63	1270.40	-1705.40	-26.84	-19.79	27.87	0.38	434804.77	603569.16	N 32 11 41.83	W 103 59 54.69
	1366.00	1.63	166.97	1365.37	-1610.43	-27.31	-22.33	28.47	0.17	434802.23	603569.75	N 32 11 41.80	W 103 59 54.68
	1461.00	2.46	313.41	1460.34	-1515.46	-26.09	-22.25	27.24	4.11	434802.31	603568.53	N 32 11 41.80	W 103 59 54.69
	1555.00	3.16	316.12	1554.23	-1421.57	-23.00	-19.00	23.96	0.76	434805.56	603565.27	N 32 11 41.84	W 103 59 54.73
	1650.00	2.97	307.59	1649.09	-1326.71	-19.41	-15.81	20.22	0.52	434808.95	603561.50	N 32 11 41.87	W 103 59 54.78
	1745.00	2.83	297.52	1743.97	-1231.83	-15.51	-13.03	16.19	0.56	434811.54	603557.47	N 32 11 41.90	W 103 59 54.82
	1838.00	2.20	292.61	1836.88	-1138.92	-11.92	-11.27	12.50	0.71	434813.29	603553.79	N 32 11 41.91	W 103 59 54.87
	1937.00	1.80	286.73	1935.82	-1039.98	-8.74	-10.09	9.28	0.46	434814.47	603550.55	N 32 11 41.92	W 103 59 54.90
	2030.00	1.45	256.03	2028.78	-947.02	-6.21	-9.95	6.72	0.99	434814.61	603548.01	N 32 11 41.93	W 103 59 54.93
	2123.00	0.75	177.35	2121.77	-854.03	-5.06	-10.84	5.61	1.61	434813.72	603546.90	N 32 11 41.92	W 103 59 54.95
	2217.00	0.35	141.52	2215.77	-760.03	-5.22	-11.58	5.82	0.54	434812.88	603547.11	N 32 11 41.91	W 103 59 54.94
	2312.00	0.18	248.60	2310.77	-665.03	-5.25	-11.97	5.86	0.48	434812.60	603547.15	N 32 11 41.91	W 103 59 54.94
	2407.00	0.35	197.42	2405.77	-570.03	-5.01	-12.30	5.63	0.29	434812.28	603546.92	N 32 11 41.90	W 103 59 54.95
	2502.00	0.18	161.45	2500.76	-475.04	-4.95	-12.72	5.59	0.24	434811.85	603546.88	N 32 11 41.90	W 103 59 54.95
	2596.00	0.22	197.81	2594.76	-381.04	-4.92	-13.03	5.56	0.14	434811.53	603546.87	N 32 11 41.90	W 103 59 54.95
	2691.00	0.22	224.92	2689.76	-286.04	-4.72	-13.33	5.40	0.11	434811.23	603546.69	N 32 11 41.89	W 103 59 54.95
	2786.00	0.15	324.87	2784.76	-191.04	-4.52	-13.36	5.20	0.30	434811.20	603546.49	N 32 11 41.89	W 103 59 54.95
	2881.00	0.20	194.17	2879.76	-96.04	-4.41	-13.42	5.09	0.34	434811.14	603546.38	N 32 11 41.89	W 103 59 54.95
	2976.00	0.15	245.70	2974.76	-1.04	-4.24	-13.63	4.93	0.17	434810.93	603546.22	N 32 11 41.89	W 103 59 54.95
	3071.00	0.18	194.15	3069.76	93.96	-4.08	-13.82	4.78	0.15	434810.74	603546.07	N 32 11 41.89	W 103 59 54.95
	3165.00	0.15	262.54	3163.76	187.96	-3.92	-13.98	4.63	0.20	434810.58	603545.92	N 32 11 41.89	W 103 59 54.96
	3355.00	0.18	132.96	3353.76	377.96	-3.68	-14.22	4.60	0.18	434810.34	603545.89	N 32 11 41.88	W 103 59 54.96
	3545.00	0.11	142.88	3543.76	567.96	-4.19	-14.57	4.93	0.04	434809.99	603546.22	N 32 11 41.88	W 103 59 54.95
	3734.00	0.18	331.34	3732.76	756.96	-4.18	-14.45	4.89	0.15	434810.11	603546.18	N 32 11 41.88	W 103 59 54.95
	3924.00	0.20	44.18	3922.76	946.96	-4.27	-13.95	4.98	0.12	434810.61	603546.27	N 32 11 41.89	W 103 59 54.95
	4019.00	0.18	9.82	4017.76	1041.96	-4.43	-13.69	5.12	0.12	434810.88	603546.41	N 32 11 41.89	W 103 59 54.95
	4114.00	0.18	309.90	4112.76	1136.96	-4.35	-13.44	5.03	0.19	434811.12	603546.32	N 32 11 41.89	W 103 59 54.95
	4256.00	0.86	182.61	4254.75	1278.95	-4.08	-14.36	4.81	0.69	434810.20	603546.10	N 32 11 41.88	W 103 59 54.95
	4303.00	1.12	175.66	4301.75	1325.95	-4.06	-15.18	4.83	0.61	434809.39	603546.12	N 32 11 41.87	W 103 59 54.95
	4398.00	1.58	178.17	4396.72	1420.92	-4.06	-17.41	4.94	0.49	434807.15	603546.23	N 32 11 41.85	W 103 59 54.95
	4493.00	2.22	177.93	4491.67	1515.87	-4.01	-20.56	5.05	0.67	434804.00	603546.34	N 32 11 41.82	W 103 59 54.95
	4588.00	3.89	179.03	4586.53	1610.73	-3.88	-25.62	5.17	1.76	434798.94	603546.48	N 32 11 41.77	W 103 59 54.95
	4682.00	5.23	170.51	4680.23	1704.43	-4.26	-33.03	5.93	1.59	434791.53	603547.22	N 32 11 41.70	W 103 59 54.94
	4777.00	6.64	164.21	4774.72	1798.92	-5.99	-42.59	8.14	1.63	434781.97	603549.43	N 32 11 41.60	W 103 59 54.92
	4872.00	7.71	161.54	4868.97	1893.17	-8.93	-53.92	11.65	1.18	434770.64	603552.94	N 32 11 41.49	W 103 59 54.88
	4967.00	8.61	156.47	4963.01	1987.21	-13.15	-66.48	16.51	1.21	434758.08	603557.80	N 32 11 41.37	W 103 59 54.82
	5062.00	8.20	151.12	5056.99	2081.19	-18.62	-78.94	22.62	0.93	434745.63	603563.91	N 32 11 41.24	W 103 59 54.75
	5157.00	8.70	145.34	5150.96	2175.16	-25.36	-90.78	29.98	1.04	434733.79	603571.27	N 32 11 41.13	W 103 59 54.66
	5251.00	8.59	139.00	5243.90	2268.10	-33.45	-101.93	38.63	1.02	434722.64	603579.92	N 32 11 41.01	W 103 59 54.56
	5346.00	8.77	132.80	5337.81	2362.01	-42.89	-112.20	48.60	1.00	434712.37	603589.88	N 32 11 40.91	W 103 59 54.45
	5441.00	8.35	128.63	5431.78	2455.98	-53.28	-121.26	59.43	1.03	434703.31	603600.72	N 32 11 40.82	W 103 59 54.32
	5536.00	7.56	130.96	5525.84	2550.04	-63.07	-129.49	69.87	1.03	434695.08	603610.96	N 32 11 40.74	W 103 59 54.20
	5630.00	7.54	132.94	5619.03	2643.23	-71.83	-137.75	79.86	0.27	434686.82	603620.14	N 32 11 40.66	W 103 59 54.10
	5725.00	8.15	133.75	5713.14	2737.34	-80.79	-146.65	88.28	0.65	434677.92	603629.57	N 32 11 40.57	W 103 59 53.99
	5820.00	8.77	136.77	5807.10	2831.30	-90.11	-156.58	98.11	0.80	434667.99	603639.39	N 32 11 40.47	W 103 59 53.87
	5915.00	9.47	134.67	5900.90	2925.10	-100.07	-167.35	108.63	0.82	434657.22	603649.91	N 32 11 40.37	W 103 59 53.75
	6009.00	10.04	132.74	5993.54	3017.74	-111.02	-178.35	120.14	0.70	434646.22	603661.42	N 32 11 40.26	W 103 59 53.62
	6104.00	10.37	131.98	6087.04	3111.24	-122.87	-189.69	132.58	0.38	434634.88	603673.86	N 32 11 40.14	W 103 59 53.47
	6199.00	10.04	129.72	6180.54	3204.74	-135.03	-200.70	145.31	0.55	434623.87	603686.59	N 32 11 40.03	W 103 59 53.33
	6293.00	10.04	128.42	6273.10	3297.30	-147.21	-211.03	158.03	0.24	434613.55	603699.31	N 32 11 39.93	W 103 59 53.18
	6388.00	9.45	126.62	6366.73	3390.93	-159.45	-220.83	170.78	0.70	434603.75	603712.05	N 32 11 39.83	W 103 59 53.03
	6483.00	9.25	121.69	6460.47	3484.67	-171.76	-229.49	183.53	0.87	434595.09	603724.81	N 32 11 39.75	W 103 59 52.88
	6578.00	8.50	117.58	6554.33	3578.53	-184.10	-236.75	196.25	1.03	434587.83	603737.53	N 32 11 39.68	W 103 59 52.74
	6673.00	8.79	111.90	6648.48	3672.68	-195.25	-242.10	207.69	1.97	434582.48	603748.96	N 32 11 39.62	W 103 59 52.60
	6767.00	4.46	101.90	6742.03	3766.23	-203.83	-244.92	216.42	2.66	434579.66	603757.69	N 32 11 39.59	W 103 59 52.50
	6862.00	3.49	88.57	6836.80	3861.00	-210.29	-245.61	222.93	1.40	434578.97	603764.20	N 32 11 39.59	W 103 59 52.42
	6957.00	2.63	89.17	6931.65	3955.85	-215.52	-245.51	228.16	0.70	434579.07	603769.43	N 32 11 39.59	W 103 59 52.36
	7051.00	2.02	77.34	7025.57	4049.77	-219.48	-245.11	232.10	1.01	434579.47	603773.37	N 32 11 39.59	W 103 59 52.32
	7146.00	1.56	72.36	7120.52	4144.72	-222.39	-244.35	234.96	0.49	434580.23	603776.25	N 32 11 39.60	W 103 59 52.28
	7241.00	0.59	60.94	7215.50	4239.70	-224.10	-243.71	236.66	1.06	434580.87	603777.93	N 32 11 39.61	W 103 59 52.27
	7335.00	0.77	72.96	7309.50	4333.70	-225.14	-243.29	237.68	0.24	434581.29	603778.96	N 32 11 39.61	W 103 59 52.25
	7430.00	0.62	57.73	7404.49	4428.69	-226.21	-242.83	238.73	0.25	434581.75	603780.00	N 32 11 39.61	W 103 59 52.24
	7525.00	1.36	136.85	7499.48	4523.68	-227.39	-243.38	239.94	1.45	434581.20	603781.21	N 32 11 39.61	W 103 59 52.23
	7619.00	1.60	149.75	7593.45	4617.65	-228.72	-245.32	241.36	0.44	434579.26	603782.64	N 32 11 39.59	W 103 59 52.21
	7714.00	1.27	155.71	7688.42	4712.62	-229.71	-247.43	242.47	0.38	434577.15	603783.74	N 32 11 39.57	W 103 59 52.20
	7809.00	1.54	185.03	7783.39	4807.59	-229.92	-249.66	242.79	0.80	434574.92	603784.06	N 32 11 39.55	W 103 59 52.19
	7904.00	1.85	235.06	7878.35	4902.55	-228.45	-251.81	241.42	1.54	434572.77	603782.69	N 32 11 39.53	W 103 59 52.21

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 ° ' ")
	7958.00	2.94	243.71	7932.31	4956.51	-226.44	-252.92	239.46	2.12	434571.68	603780.73	N 32 11 39.51	W 103 59 52.23
	8076.00	7.33	249.40	8049.80	5074.00	-216.48	-256.91	229.70	3.74	434567.87	603770.97	N 32 11 39.48	W 103 59 52.35
	8170.00	17.94	252.50	8141.40	5165.60	-196.71	-263.39	210.22	11.31	434561.19	603751.49	N 32 11 39.41	W 103 59 52.57
	8263.00	21.04	264.91	8229.10	5253.30	-168.14	-269.19	179.91	5.54	434555.40	603721.19	N 32 11 39.36	W 103 59 52.93
	8356.00	30.44	270.89	8312.79	5336.99	-125.86	-270.30	139.63	10.47	434554.28	603680.91	N 32 11 39.35	W 103 59 53.40
	8449.00	43.02	276.32	8387.19	5411.39	-70.80	-266.43	84.31	13.96	434558.15	603625.59	N 32 11 39.39	W 103 59 54.04
	8541.00	44.75	271.02	8453.52	5477.72	-7.48	-262.40	20.71	4.41	434562.19	603562.00	N 32 11 39.43	W 103 59 54.78
	8634.00	54.52	275.95	8513.70	5537.90	62.79	-257.87	-49.86	11.25	434566.71	603491.41	N 32 11 39.47	W 103 59 55.60
	8727.00	66.08	275.02	8559.70	5583.90	142.58	-250.20	-130.16	12.46	434574.38	603411.14	N 32 11 39.55	W 103 59 56.53
	8820.00	77.70	273.29	8588.56	5612.76	230.16	-243.86	-218.17	12.62	434580.72	603323.14	N 32 11 39.62	W 103 59 57.56
	8850.00	81.41	271.74	8594.00	5618.20	259.53	-242.56	-247.64	13.37	434582.02	603293.67	N 32 11 39.63	W 103 59 57.90
	8918.00	82.62	271.00	8603.45	5627.65	326.66	-240.95	-314.96	2.08	434583.63	603226.36	N 32 11 39.65	W 103 59 58.68
	9011.00	89.31	273.01	8609.99	5634.19	419.05	-237.70	-407.61	7.51	434586.88	603133.71	N 32 11 39.68	W 103 59 59.76
	9104.00	90.17	273.00	8610.41	5634.61	511.56	-232.63	-500.48	0.92	434591.75	603040.85	N 32 11 39.74	W 104 0 0.84
	9197.00	90.76	272.86	8609.66	5633.86	604.08	-228.07	-593.36	0.65	434596.50	602947.98	N 32 11 39.79	W 104 0 1.92
	9290.00	91.62	271.01	8607.72	5631.92	696.73	-224.93	-686.26	2.19	434599.64	602855.07	N 32 11 39.82	W 104 0 3.00
	9383.00	90.65	268.99	8605.88	5630.08	789.58	-224.94	-779.26	2.41	434599.64	602762.10	N 32 11 39.82	W 104 0 4.09
	9475.00	90.41	269.51	8605.03	5629.23	881.52	-226.14	-871.24	0.62	434598.44	602670.12	N 32 11 39.81	W 104 0 5.16
	9568.00	91.24	269.26	8603.69	5627.89	974.43	-227.14	-964.23	0.93	434597.44	602577.14	N 32 11 39.81	W 104 0 6.24
	9661.00	90.65	269.38	8602.16	5626.36	1067.35	-228.24	-1057.21	0.65	434596.34	602484.17	N 32 11 39.80	W 104 0 7.32
	9755.00	90.69	269.06	8601.06	5625.26	1161.28	-228.50	-1151.19	0.32	434595.07	602390.19	N 32 11 39.79	W 104 0 8.41
	9848.00	87.52	269.69	8602.51	5626.71	1254.18	-230.50	-1244.16	3.47	434594.08	602297.23	N 32 11 39.78	W 104 0 9.50
	9942.00	90.24	270.27	8604.35	5628.55	1348.04	-230.53	-1338.14	2.96	434594.04	602203.26	N 32 11 39.78	W 104 0 10.59
	10036.00	90.07	270.30	8604.09	5628.29	1441.90	-230.07	-1432.14	0.18	434594.51	602109.27	N 32 11 39.79	W 104 0 11.68
	10129.00	90.21	269.97	8603.87	5628.07	1534.77	-229.85	-1525.13	0.39	434594.73	602016.28	N 32 11 39.80	W 104 0 12.77
	10221.00	91.13	270.30	8602.79	5628.99	1626.63	-229.63	-1617.13	1.06	434594.95	601924.29	N 32 11 39.80	W 104 0 13.84
	10314.00	91.14	269.70	8600.95	5625.15	1719.49	-229.83	-1710.11	0.65	434594.95	601831.32	N 32 11 39.80	W 104 0 14.92
	10408.00	90.82	269.88	8599.34	5623.54	1813.36	-229.98	-1804.09	0.39	434594.80	601737.34	N 32 11 39.80	W 104 0 16.01
	10501.00	91.55	269.32	8597.42	5621.62	1906.27	-230.63	-1897.07	0.99	434593.95	601644.37	N 32 11 39.80	W 104 0 17.09
	10594.00	91.27	269.39	8595.13	5619.33	1999.17	-231.67	-1990.04	0.31	434592.91	601551.41	N 32 11 39.79	W 104 0 18.18
	10687.00	93.10	269.57	8591.58	5615.78	2092.02	-232.52	-2082.96	1.98	434592.06	601458.50	N 32 11 39.79	W 104 0 19.26
	10779.00	90.79	269.47	8588.46	5612.66	2183.88	-233.29	-2174.90	2.51	434591.29	601366.57	N 32 11 39.78	W 104 0 20.33
	10873.00	91.58	270.39	8586.52	5610.72	2277.74	-233.40	-2268.88	1.29	434591.18	601272.60	N 32 11 39.78	W 104 0 21.42
	10967.00	90.41	269.87	8584.88	5609.08	2371.60	-233.19	-2362.86	1.36	434591.39	601178.62	N 32 11 39.79	W 104 0 22.51
	11060.00	89.00	270.28	8585.36	5609.56	2464.47	-233.07	-2455.86	1.58	434591.51	601085.63	N 32 11 39.79	W 104 0 23.60
	11154.00	92.06	269.28	8584.49	5608.69	2558.35	-233.43	-2549.84	3.42	434591.15	600991.66	N 32 11 39.79	W 104 0 24.69
	11247.00	90.93	269.25	8582.07	5606.27	2651.25	-234.62	-2642.80	1.22	434589.96	600898.70	N 32 11 39.78	W 104 0 25.77
	11340.00	92.86	269.14	8578.99	5603.19	2744.14	-235.92	-2735.73	2.08	434588.65	600805.78	N 32 11 39.77	W 104 0 26.85
	11434.00	92.07	269.15	8574.95	5599.15	2837.99	-237.33	-2829.64	0.84	434587.25	600711.88	N 32 11 39.76	W 104 0 27.95
	11528.00	91.17	269.00	8572.35	5596.55	2931.90	-238.81	-2921.59	0.99	434585.77	600619.94	N 32 11 39.75	W 104 0 29.02
	11620.00	91.51	269.12	8570.15	5594.35	3023.82	-240.35	-3015.55	0.38	434584.23	600525.99	N 32 11 39.74	W 104 0 30.11
	11713.00	92.13	269.49	8567.20	5591.40	3116.71	-241.48	-3108.49	0.78	434583.10	600433.05	N 32 11 39.73	W 104 0 31.19
	11808.00	92.79	269.93	8563.21	5587.41	3209.52	-241.95	-3201.41	0.85	434582.63	600340.14	N 32 11 39.73	W 104 0 32.27
	11899.00	91.83	268.95	8559.46	5583.66	3302.37	-242.88	-3294.32	1.47	434581.72	600247.23	N 32 11 39.72	W 104 0 33.35
	11993.00	92.62	269.98	8555.81	5580.01	3396.22	-243.74	-3388.26	1.38	434580.84	600153.32	N 32 11 39.72	W 104 0 34.45
	12086.00	91.86	269.47	8552.17	5576.37	3489.05	-244.18	-3481.17	0.98	434580.40	600060.40	N 32 11 39.71	W 104 0 35.53
	12180.00	91.44	269.02	8549.47	5573.67	3582.94	-245.42	-3575.13	0.65	434579.16	599966.45	N 32 11 39.70	W 104 0 36.62
	12273.00	90.69	269.83	8547.74	5571.94	3675.86	-246.52	-3668.10	1.04	434578.06	599873.48	N 32 11 39.70	W 104 0 37.70
	12367.00	90.52	269.70	8546.74	5570.94	3769.76	-247.06	-3762.10	0.20	434577.51	599779.50	N 32 11 39.69	W 104 0 38.80
	12460.00	89.72	269.79	8546.55	5570.75	3862.66	-247.48	-3855.09	0.87	434577.10	599686.51	N 32 11 39.69	W 104 0 39.88
	12553.00	90.86	269.72	8546.08	5570.28	3955.56	-247.88	-3948.09	1.23	434576.70	599593.52	N 32 11 39.69	W 104 0 40.96
	12646.00	90.48	269.82	8544.99	5569.19	4048.46	-248.41	-4041.08	0.42	434576.17	599500.53	N 32 11 39.69	W 104 0 42.04
	12739.00	90.38	269.11	8544.29	5568.49	4141.39	-249.44	-4134.07	0.56	434575.14	599407.55	N 32 11 39.68	W 104 0 43.13
	12926.00	90.52	269.68	8542.82	5567.02	4328.23	-251.42	-4321.06	0.31	434573.18	599220.58	N 32 11 39.67	W 104 0 45.30
	13020.00	92.44	269.21	8540.40	5564.60	4422.12	-252.33	-4415.02	2.10	434572.25	599126.63	N 32 11 39.66	W 104 0 46.40
	13113.00	91.93	269.16	8536.85	5561.05	4514.99	-253.65	-4507.94	0.55	434570.93	599033.72	N 32 11 39.65	W 104 0 47.48
	13207.00	91.79	269.59	8533.80	5558.00	4608.87	-254.67	-4601.88	0.48	434569.91	598939.78	N 32 11 39.64	W 104 0 48.57
	13299.00	90.93	269.59	8531.62	5555.82	4700.76	-255.33	-4693.85	0.93	434569.25	598847.81	N 32 11 39.64	W 104 0 49.64
Last MWD Survey	13340.00	90.41	269.41	8531.14	5555.34	4741.72	-255.69	-4734.85	1.34	434568.89	598806.82	N 32 11 39.64	W 104 0 50.12
Pro to Bit	13384.00	90.41	269.41	8530.82	5555.02	4785.66	-256.14	-4778.85	0.00	434568.44	598762.83	N 32 11 39.63	W 104 0 50.63

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	Act Stns	30.000	30.000	NAL_MWD_PLUS_0.5_DEG-Depth Only	[illegible] Oxy CC 29 2H - Original Borehol Actual Survey MWD 0ft to [illegible]
	1	26.500	442.000	1/98.425	30.000	30.000	NAL_MWD_PLUS_0.5_DEG	Oxy CC 29 2H - Original Borehole / Oxy CC 29 2H - Original Borehol
	1	442.000	13384.000	Act Stns	30.000	30.000	NAL_MWD_PLUS_0.5_DEG	Oxy CC 29 2H - Original Borehole / Oxy CC 29 2H - Original Borehol