

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

30 015 43775

July 19, 2016

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

Re:

CLIENT: OXY USA INC.
WELL: CEDAR CANYON 27 FEDERAL COM 5H
FIELD: Pierce Crossing Bone Spring East

RIG: H&P 636
COUNTY: Eddy
API NO: 30-015-43775
JOB NO: 16MLD0508

Sec 27, T24S, R29E, Eddy NM
N 32.19238 W 103.97993

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>
Leslie Bullard FS	CEDAR CANYON 27 FEDERAL COM 5H Original Hole	415.00 Ft to 13697.00 Ft	May 30, 2016 to July 12, 2016	TelePacer SlimPulse

If any other information is required, please contact the undersigned at the above letterhead and phone number.
Sincerely,

Lindsey Keith
Field Service Manager

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

Well Reference:
Sec 27, T24S, R29E, Eddy NM
N 32.19238 W 103.97993

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 May 30, 2016 through July 12, 2016, conduct or supervise the taking of the TelePacer & SlimPulse surveys from a depth of 415.00 feet to a depth of 13697.00 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 27 FEDERAL COM 5H Well (Original Hole) API No. 30-015-43775 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

Leslie Bullard

Subscribed and Sworn to before me this 20th day of July (month) 2016 (yr)

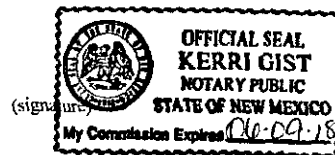
My Commission expires:

06-09-18

Kerri Gist

Notary Public

Eddy County New Mexico
(County State)





Final PVA Plan - Rev5

OXY

RKB = 26.5'

Schlumberger

Borehole:

Oxy CC 27 Fed. Com 5H Borehole

Well:

Oxy Cedar Canyon 27 Fed. Com 5H

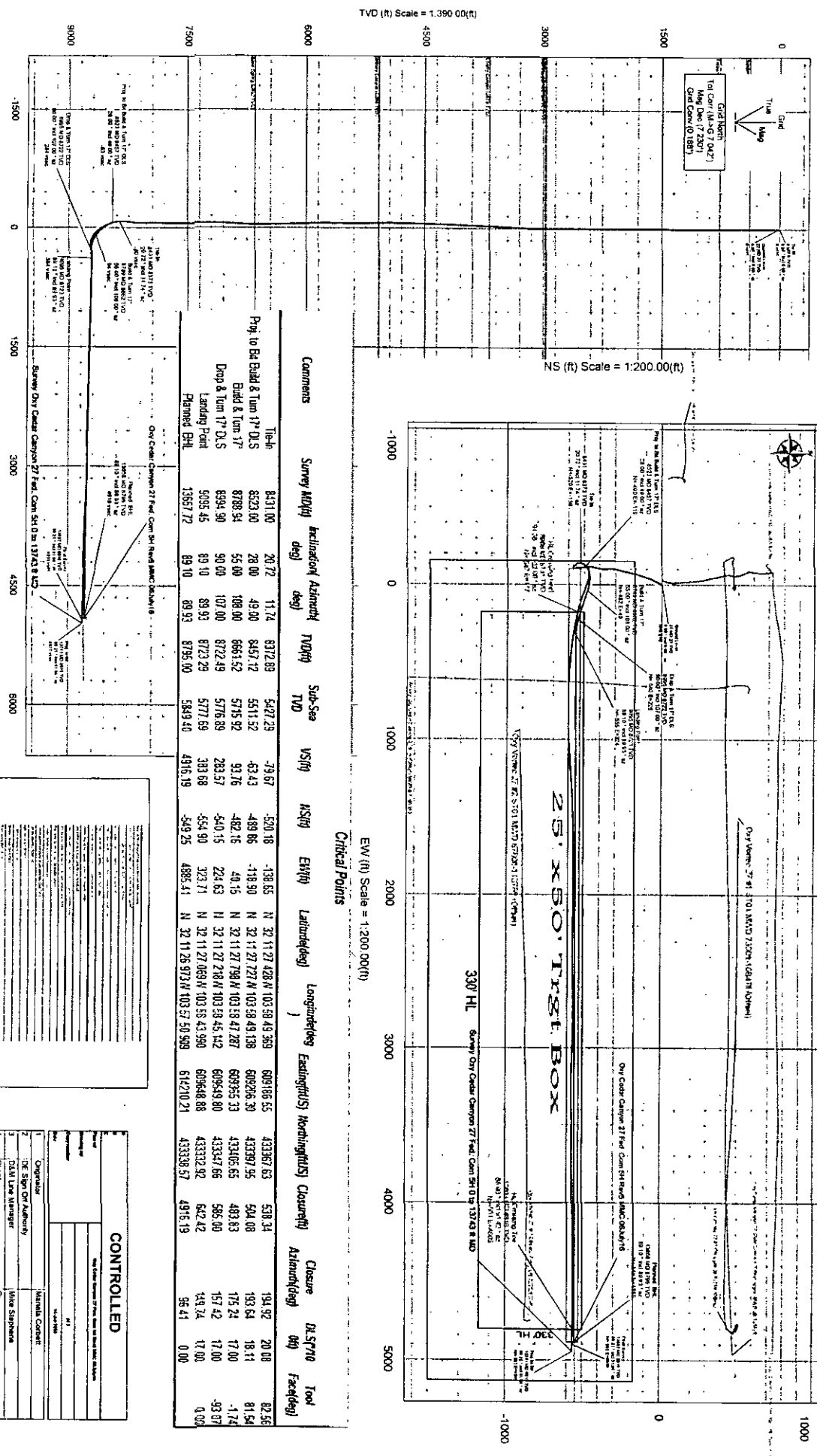
Field:

NM Eddy County (NAD 27)

Structure:

Oxy Cedar Canyon 27 Fed. Com 5H

Project: Oxy CC 27 Fed. Com 5H Borehole	Dr: 46.41'	DOB: 20-Jan-2018	Well: Oxy Cedar Canyon 27 Fed. Com 5H	Field: NM Eddy County (NAD 27)	Structure: Oxy Cedar Canyon 27 Fed. Com 5H
Map: 4600 2718	Dr: 46.41'	DOB: 20-Jan-2018	Well: Oxy Cedar Canyon 27 Fed. Com 5H	Field: NM Eddy County (NAD 27)	Structure: Oxy Cedar Canyon 27 Fed. Com 5H
Map: 4600 2718	Dr: 46.41'	DOB: 20-Jan-2018	Well: Oxy Cedar Canyon 27 Fed. Com 5H	Field: NM Eddy County (NAD 27)	Structure: Oxy Cedar Canyon 27 Fed. Com 5H



Comments	Survey MD(ft)	Inclination (deg)	Azimuth (deg)	TVD(ft)	Sub-Sea (ft)	VS(ft)	NS(ft)	EW(ft)	Lat (deg)	Long (deg)	Easting (ft)	Northing (ft)	Closure (ft)	DLST70 (ft)	Tool Face (deg)
Proj to E4 Build & Turn 17' DLS	831.00	20.72	117.4	8312.89	5427.29	-79.67	-520.18	-138.65	N 32°11'27.428"N	103°58'49.369"W	609186.55	433387.63	538.34	194.92	20.08
Build & Turn 17'	8788.54	55.00	108.00	8661.52	5735.92	93.76	-482.16	-40.16	N 32°11'27.798"N	103°58'49.369"W	609266.30	433387.95	504.08	193.64	18.11
Drop & Turn 17' DLS	8994.90	90.00	107.00	8722.49	5776.89	283.57	-540.15	224.63	N 32°11'27.748"N	103°58'45.442"W	609549.80	433406.65	483.83	175.24	17.00
Landing Point	5055.45	89.10	88.93	8723.29	5777.69	383.68	-554.90	323.71	N 32°11'27.089"N	103°58'43.960"W	609548.88	433332.92	562.42	143.24	17.00
Planned BHL	13551.72	89.10	89.93	8795.90	5849.40	4916.19	-549.25	4886.41	N 32°11'26.972"N	103°57'50.999"W	614270.21	433338.57	4916.19	96.41	0.00

CONTROLLED	
1	ICP Sign Off Authority
2	DLA Line Manager
3	Other

CONTROLLED	
1	ICP Sign Off Authority
2	DLA Line Manager
3	Other

Survey Oxy Cedar Canyon 27 Fed. Com 5H 0 to 13743 ft MD Survey Geodetic Report (Def Survey)



Report Date: July 14, 2016 - 06:45 PM
Client: OXY
Field: NM Eddy County (NAD 27)
Structure / Slot: Oxy Cedar Canyon 27 Fed. Com 5H / Oxy Cedar Canyon 27 Fed. Com 5H
Well: Oxy Cedar Canyon 27 Fed. Com 5H
Borehole: Oxy CC 27 Fed. Com 5H Borehole
UWI / API#: Unknown / Unknown
Survey Name: Survey Oxy Cedar Canyon 27 Fed. Com 5H 0 to 13743 ft MD
Survey Date: May 26, 2016
Tert / AHD / DDI / ERD Ratio: 270.565 * / 5808.396 ft / 6.389 / 0.659
Coordinate Reference System: NAD27 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 11' 32.57065", W 103° 58' 47.73535"
Location Grid N/E Y/X: N 433887.770 ftUS, E 609325.190 ftUS
CRS Grid Convergence Angle: 0.1883 °
Grid Scale Factor: 0.99992278
Version / Patch: 2.9.365.0

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 96.415 ° (Grid North)
Vertical Section Origin: 0.000 ft. 0.000 ft
TVD Reference Datum: RKB
TVD Reference Elevation: 2945.600 ft above MSL
Seabed / Ground Elevation: 2919.100 ft above MSL
Magnetic Declination: 7.230 °
Total Gravity Field Strength: 998.4683mgm (9.80665 Based)
Gravity Model: GARM
Total Magnetic Field Strength: 48224.887 nT
Magnetic Dip Angle: 60.043 °
Declination Date: June 22, 2016
Magnetic Declination Model: HDGM 2016
North Reference: Grid North
Grid Convergence Used: 0.1883 °
Total Corr Mag North->Grid North: 7.0415 °
Local Coord Referenced To: Structure Reference Point

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (ft/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
Tie-In	0.00	0.00	0.00	0.00	-2945.60	0.00	0.00	0.00	N/A	433887.77	609325.19	N 32 11 32.57	W 103 58 47.74
Ground Level	26.50	0.00	0.00	26.50	-2919.10	0.00	0.00	0.00	0.00	433887.77	609325.19	N 32 11 32.57	W 103 58 47.74
	415.00	0.48	117.62	415.00	-2530.80	1.52	-0.75	1.44	0.12	433887.02	609326.63	N 32 11 32.56	W 103 58 47.72
	597.00	0.15	40.00	596.99	-2348.81	2.36	-0.93	2.27	0.26	433886.84	609327.48	N 32 11 32.56	W 103 58 47.71
	689.00	0.11	316.76	688.99	-2258.81	2.36	-0.77	2.29	0.19	433887.00	609327.48	N 32 11 32.56	W 103 58 47.71
	750.00	0.18	114.37	749.99	-2185.81	2.43	-0.76	2.36	0.31	433887.01	609327.55	N 32 11 32.56	W 103 58 47.71
	871.00	0.13	188.98	870.99	-2074.81	2.56	-0.93	2.47	0.21	433886.84	609327.66	N 32 11 32.56	W 103 58 47.71
	1055.00	0.35	186.09	1054.99	-1890.81	2.55	-1.69	2.38	0.12	433886.08	609327.57	N 32 11 32.55	W 103 58 47.71
	1150.00	0.31	209.04	1149.99	-1795.61	2.46	-2.20	2.22	0.14	433885.57	609327.41	N 32 11 32.55	W 103 58 47.71
	1245.00	0.11	229.54	1244.99	-1700.61	2.30	-2.49	2.03	0.22	433885.28	609327.22	N 32 11 32.55	W 103 58 47.71
	1339.00	0.22	325.25	1338.99	-1606.61	2.11	-2.40	1.85	0.27	433885.37	609327.05	N 32 11 32.55	W 103 58 47.71
	1434.00	0.20	337.13	1433.99	-1511.61	1.91	-2.09	1.69	0.05	433885.68	609326.88	N 32 11 32.55	W 103 58 47.72
	1529.00	0.29	328.42	1528.99	-1416.61	1.88	-1.74	1.50	0.10	433886.03	609326.69	N 32 11 32.55	W 103 58 47.72
	1624.00	0.24	351.53	1623.99	-1321.61	1.49	-1.34	1.34	0.12	433886.43	609326.53	N 32 11 32.56	W 103 58 47.72
	1718.00	0.42	327.19	1717.98	-1227.62	1.22	-0.85	1.13	0.24	433886.92	609326.32	N 32 11 32.56	W 103 58 47.72
	1813.00	0.31	328.27	1812.98	-1132.62	0.84	-0.34	0.81	0.12	433887.43	609325.99	N 32 11 32.57	W 103 58 47.73
	1908.00	0.97	349.87	1907.98	-1037.62	0.45	0.67	0.53	0.73	433888.44	609325.72	N 32 11 32.58	W 103 58 47.73
	2003.00	0.15	5.46	2002.97	-942.63	0.22	1.59	0.40	0.87	433889.36	609325.59	N 32 11 32.59	W 103 58 47.73
	2097.00	0.07	197.50	2096.97	-848.63	0.21	1.65	0.39	0.23	433889.42	609325.58	N 32 11 32.59	W 103 58 47.73
	2192.00	0.09	93.12	2191.97	-753.63	0.27	1.59	0.45	0.13	433889.36	609325.64	N 32 11 32.59	W 103 58 47.73
	2287.00	0.13	110.16	2286.97	-658.63	0.45	1.55	0.63	0.05	433889.32	609325.92	N 32 11 32.56	W 103 58 47.73
	2382.00	0.11	72.95	2381.97	-563.63	0.64	1.54	0.81	0.08	433889.31	609326.00	N 32 11 32.59	W 103 58 47.73
	2476.00	0.15	84.14	2475.97	-469.63	0.84	1.58	1.02	0.05	433889.35	609326.21	N 32 11 32.59	W 103 58 47.72
	2571.00	0.13	83.17	2570.97	-374.63	1.07	1.61	1.25	0.02	433889.38	609326.44	N 32 11 32.59	W 103 58 47.72
	2656.00	0.07	242.23	2655.97	-279.63	1.18	1.58	1.37	0.10	433889.35	609326.55	N 32 11 32.59	W 103 58 47.72
	2751.00	0.13	341.25	2750.97	-184.63	1.09	1.65	1.28	0.17	433889.42	609326.67	N 32 11 32.59	W 103 58 47.72
	2850.00	0.18	208.16	2849.97	-9.63	0.99	1.62	1.18	0.31	433889.39	609326.37	N 32 11 32.59	W 103 58 47.72
	3045.00	1.80	208.00	3044.95	99.35	0.39	1.71	0.41	1.71	433887.94	609325.60	N 32 11 32.57	W 103 58 47.73
	3140.00	3.98	208.62	3139.83	194.23	-1.40	-4.04	-1.87	2.29	433863.73	609323.32	N 32 11 32.53	W 103 58 47.76
	3235.00	6.04	209.21	3234.46	288.88	-4.59	-11.30	-5.89	2.17	433876.47	609319.31	N 32 11 32.46	W 103 58 47.80
	3330.00	8.28	208.95	3328.71	383.11	-9.14	-21.65	-11.64	2.38	433866.12	609313.55	N 32 11 32.36	W 103 58 47.87
	3424.00	9.49	207.72	3421.58	475.98	-14.55	-34.43	-18.52	1.30	433853.34	609306.87	N 32 11 32.23	W 103 58 47.95
	3519.00	9.16	205.86	3515.33	569.73	-19.92	-48.17	-25.46	0.47	433839.81	609299.73	N 32 11 32.09	W 103 58 48.03
	3614.00	9.63	203.04	3609.05	663.45	-24.71	-62.29	-31.87	0.69	433825.49	609293.33	N 32 11 31.96	W 103 58 48.11
	3709.00	10.37	201.03	3702.61	757.01	-29.14	-77.58	-39.04	0.86	433810.20	609287.15	N 32 11 31.80	W 103 58 48.18
	3804.00	9.83	198.22	3796.18	850.56	-32.92	-93.11	-43.60	0.93	433794.67	609281.60	N 32 11 31.65	W 103 58 48.25
	3898.00	9.78	197.29	3888.82	943.22	-36.04	-108.20	-48.43	0.23	433779.58	609276.77	N 32 11 31.50	W 103 58 48.30
	3993.00	10.46	198.03	3982.34	1036.74	-39.30	-124.10	-53.50	0.73	433763.68	609271.70	N 32 11 31.34	W 103 58 48.36
	4088.00	11.12	197.81	4075.66	1130.06	-42.84	-141.03	-58.97	0.70	433746.78	609266.23	N 32 11 31.18	W 103 58 48.43
	4183.00	13.03	194.80	4168.58	1222.98	-46.21	-160.10	-64.51	2.12	433727.68	609260.89	N 32 11 30.99	W 103 58 48.49
	4278.00	14.42	193.20	4260.84	1315.24	-49.17	-181.97	-69.94	1.52	433705.81	609255.25	N 32 11 30.77	W 103 58 48.56
	4372.00	14.17	193.40	4351.93	1406.33	-51.95	-204.56	-75.28	0.27	433683.22	609249.91	N 32 11 30.55	W 103 58 48.62
	4467.00	12.94	193.22	4444.28	1498.68	-54.63	-228.23	-80.41	1.30	433661.56	609244.79	N 32 11 30.33	W 103 58 48.68
	4562.00	11.78	192.87	4537.08	1591.48	-58.98	-246.04	-85.00	1.22	433641.75	609240.19	N 32 11 30.14	W 103 58 48.73
	4657.00	11.43	194.82	4630.14	1684.54	-59.41	-264.60	-89.54	0.52	433623.19	609235.66	N 32 11 29.96	W 103 58 48.79
	4751.00	11.08	194.03	4722.33	1778.73	-61.84	-282.39	-94.08	0.39	433605.42	609231.12	N 32 11 29.78	W 103 58 48.84
	4846.00	10.84	191.01	4815.63	1870.03	-63.85	-299.84	-97.97	0.76	433587.95	609227.23	N 32 11 29.61	W 103 58 48.89
	4941.00	9.82	190.17	4909.12	1963.52	-65.09	-318.42	-101.07	0.88	433571.37	609224.13	N 32 11 29.44	W 103 58 48.92
	5036.00	9.10	181.04	5002.83	2057.23	-64.91	-331.91	-102.64	1.75	433555.89	609222.56	N 32 11 29.29	W 103 58 48.94
	5130.00	7.16	189.05	5095.89	2150.29	-62.47	-345.10	-101.66	2.73	433542.70	609223.54	N 32 11 29.16	W 103 58 48.93
	5225.00	7.54	189.14	5190.11	2244.51	-58.85	-357.03	-109.36	0.40	433530.77	609225.84	N 32 11 29.04	W 103 58 48.91
	5320.00	8.09	181.26	5284.23	2338.63	-56.40	-369.84	-109.33	1.82	433517.96	609226.86	N 32 11 28.91	W 103 58 48.89
	5414.00	8.88	189.96	5377.23	2431.63	-56.24	-383.44	-109.71	1.49	433504.36	609225.49	N 32 11 28.78	W 103 58 48.91
	5509.00	8.26	193.07	5471.19	2525.59	-57.48	-397.14	-102.49	0.65	433490.66	609222.71	N 32 11 28.64	W 103 58 48.94
	5604.00	9.34	193.94	5565.07	2619.47	-59.28	-411.27	-105.89	1.15	433476.53	609219.31	N 32 11 28.50	W 103 58 48.98
	5698.00	10.26	194.33	5657.70	2712.10	-61.43	-426.79	-109.80	0.98	433461.02	609215.40	N 32 11 28.35	W 103 58 49.03
	5793.00	10.13	187.29	5751.20	2805.60	-62.72	-443.27	-112.95	1.32	433444.53	609212.24	N 32 11 28.19	W 103 58 49.07
	5888.00	10.75	180.91	5844.63	2899.03	-62.00	-460.42	-114.16	1.38	433427.39	609211.04	N 32 11 28.02	W 103 58 49.08
	5982.00	11.71	175.59	5938.84	2991.24	-59.37	-478.70	-113.56	1.50	433409.11	609211.64	N 32 11 27.84	W 103 58 49.08
	6076.00	11.76	175.12	6021.04	3075.44	-56.01	-496.13	-112.14	0.13	433391.68	609213.05	N 32 11 27.66	W 103 58 49.06
	6170.00	10.00	176.09	6142.80	3157.20	-51.60	-519.46	-110.33	1.43	433368.35	609214.86	N 32 11 27.43	W 103 58 49.04
	6265.00	8.86	176.03	6206.94	3261.34	-49.71	-529.98	-109.61	2.06	433357.84	609215.59	N 32 11 27.33	W 103 58 49.03
	6359.00	7.78	174.40	6300.97	3355.37	-47.08	-543.51	-108.49	0.96	433344.30	609216.71	N 32 11 27.20	W 103 58 49.02
	6453.00	5.91	174.32	6395.29	3449.69	-44.72	-554.78	-107.38	1.97	433333.04	609217.82	N 32 11 27.08	W 103 58 49.01
	6547.00	4.09	175.26	6488.92	3543.32	-43.06	-562.93	-106.62	1.94	433324.88	609218.58	N 32 11 27.00	W 103 58 49.00
	6641.00	0.42	247.80	6677.76	3732.16	-42.36	-569.92	-106.71	2.11				

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (ft/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' '')	Longitude (E/W ° ' '')
	8276.00	11.66	296.91	8221.48	5275.88	-70.13	-548.92	-132.29	7.11	433338.90	609192.91	N 32 11 27.14	W 103 58 49.30
	8332.00	7.63	345.08	8276.76	5331.16	-76.79	-542.75	-138.30	15.47	433345.06	609186.90	N 32 11 27.20	W 103 58 49.37
	8388.00	13.48	355.33	8331.79	5386.19	-79.40	-532.64	-139.79	10.93	433355.17	609185.41	N 32 11 27.30	W 103 58 49.38
	8431.00	20.72	11.74	8372.89	5427.29	-79.66	-520.18	-138.65	20.08	433367.63	609186.55	N 32 11 27.43	W 103 58 49.37
	8475.00	25.08	28.39	8413.45	5467.85	-75.44	-504.33	-132.62	17.66	433383.48	609192.58	N 32 11 27.58	W 103 58 49.30
	8519.00	27.05	48.58	8453.04	5507.44	-65.48	-489.22	-120.90	18.64	433398.59	609204.30	N 32 11 27.73	W 103 58 49.16
	8569.00	27.46	65.65	8497.57	5551.97	-49.21	-476.63	-102.10	17.42	433411.18	609223.09	N 32 11 27.86	W 103 58 48.94
	8618.00	28.73	83.14	8540.87	5595.27	-27.01	-470.55	-80.08	16.95	433417.25	609245.12	N 32 11 27.92	W 103 58 48.69
	8660.00	30.11	97.39	8577.50	5631.90	-6.62	-470.70	-59.58	16.95	433417.10	609265.61	N 32 11 27.91	W 103 58 48.45
	8678.00	32.08	100.36	8592.92	5647.32	2.66	-472.14	-50.40	13.87	433415.66	609274.79	N 32 11 27.90	W 103 58 48.34
	8754.00	43.01	109.09	8653.13	5707.53	48.26	-484.30	-5.89	15.96	433403.51	609319.30	N 32 11 27.78	W 103 58 47.82
	8800.00	53.63	109.76	8683.67	5738.07	81.68	-495.72	26.46	23.11	433392.09	609351.65	N 32 11 27.66	W 103 58 47.45
	8849.00	64.83	110.23	8708.70	5763.10	122.54	-510.10	65.96	22.87	433377.71	609391.14	N 32 11 27.52	W 103 58 46.99
	8918.00	81.72	106.35	8728.49	5782.89	186.98	-530.67	128.49	25.06	433357.14	609453.67	N 32 11 27.32	W 103 58 46.26
	8944.00	87.39	103.38	8730.96	5785.36	212.56	-537.30	153.49	24.59	433350.51	609478.67	N 32 11 27.25	W 103 58 45.97
	8983.00	91.29	102.08	8731.18	5785.58	231.44	-541.49	172.02	21.64	433346.33	609497.20	N 32 11 27.21	W 103 58 45.75
	9014.00	92.03	101.21	8726.70	5784.10	282.21	-551.76	221.95	2.24	433336.04	609547.12	N 32 11 27.10	W 103 58 45.17
	9106.00	92.51	99.69	8726.05	5780.45	373.91	-568.45	312.35	1.73	433319.36	609637.52	N 32 11 26.94	W 103 58 44.12
	9200.00	91.58	96.48	8722.70	5777.10	467.79	-581.65	405.34	3.55	433305.16	609730.50	N 32 11 26.80	W 103 58 43.04
	9292.00	90.10	95.03	8721.35	5775.75	559.77	-590.88	496.86	2.25	433296.93	609822.02	N 32 11 26.71	W 103 58 41.98
	9385.00	89.04	93.10	8722.05	5776.45	652.69	-597.48	589.62	2.37	433290.34	609914.77	N 32 11 26.64	W 103 58 40.90
	9479.00	88.00	90.27	8723.66	5778.08	746.34	-600.24	683.56	3.01	433287.58	610008.69	N 32 11 26.51	W 103 58 39.80
	9572.00	88.28	90.96	8725.86	5780.26	838.84	-601.24	776.53	1.07	433286.58	610101.65	N 32 11 26.50	W 103 58 38.72
	9654.00	88.04	89.66	8728.82	5783.22	930.27	-601.73	868.47	1.44	433286.08	610193.60	N 32 11 26.59	W 103 58 37.65
	9757.00	87.87	87.26	8732.14	5786.54	1022.31	-599.24	961.38	2.59	433286.58	610286.49	N 32 11 26.51	W 103 58 36.57
	9851.00	87.97	86.74	8735.55	5789.95	1114.98	-594.32	1055.18	0.56	433283.50	610380.29	N 32 11 26.66	W 103 58 35.48
	9944.00	88.45	86.02	8738.45	5792.85	1206.51	-588.45	1147.95	0.93	433299.36	610473.05	N 32 11 26.71	W 103 58 34.40
	10039.00	88.49	85.35	8740.99	5795.39	1298.82	-581.31	1242.65	0.71	433306.51	610567.74	N 32 11 26.78	W 103 58 33.30
	10132.00	88.83	86.63	8743.17	5797.57	1391.25	-574.80	1335.39	1.42	433313.01	610660.48	N 32 11 26.84	W 103 58 32.22
	10226.00	89.00	88.19	8744.95	5799.35	1484.08	-570.56	1429.28	1.67	433317.26	610754.35	N 32 11 26.88	W 103 58 31.13
	10318.00	89.24	88.47	8746.36	5800.76	1575.15	-567.88	1521.23	0.40	433319.94	610846.30	N 32 11 26.90	W 103 58 30.06
	10412.00	89.41	89.08	8747.47	5801.87	1668.31	-565.87	1615.20	0.67	433321.95	610940.26	N 32 11 26.92	W 103 58 28.96
	10505.00	89.42	89.66	8748.42	5802.82	1760.60	-564.85	1708.19	0.62	433322.57	611033.24	N 32 11 26.93	W 103 58 27.88
	10598.00	89.90	89.97	8749.78	5804.18	1852.98	-564.55	1801.18	0.65	433323.27	611126.23	N 32 11 26.93	W 103 58 26.80
	10691.00	89.11	89.87	8751.39	5805.79	1945.37	-564.42	1894.16	0.25	433323.40	611218.20	N 32 11 26.92	W 103 58 25.72
	10785.00	89.04	89.40	8752.91	5807.31	2038.70	-563.82	1988.15	0.51	433324.00	611313.18	N 32 11 26.93	W 103 58 24.62
	10878.00	89.04	89.84	8754.47	5808.87	2131.03	-563.20	2081.13	0.47	433324.61	611406.16	N 32 11 26.93	W 103 58 23.54
	10971.00	88.66	90.97	8756.34	5810.74	2223.50	-563.86	2174.11	1.28	433323.96	611499.13	N 32 11 26.92	W 103 58 22.46
	11065.00	88.80	90.72	8758.42	5812.82	2317.03	-565.24	2268.08	0.30	433322.57	611593.09	N 32 11 26.90	W 103 58 21.37
	11159.00	88.59	90.64	8760.56	5814.96	2410.54	-566.36	2362.05	0.24	433321.46	611687.06	N 32 11 26.89	W 103 58 20.27
	11253.00	88.25	88.90	8763.15	5817.55	2503.87	-565.98	2456.01	1.89	433321.83	611781.00	N 32 11 26.89	W 103 58 19.18
	11346.00	88.97	89.16	8765.41	5819.81	2596.07	-564.41	2548.96	0.82	433323.41	611873.95	N 32 11 26.90	W 103 58 18.10
	11439.00	91.07	88.52	8765.38	5819.78	2688.25	-562.52	2641.94	2.36	433325.29	611966.92	N 32 11 26.92	W 103 58 17.01
	11625.00	90.34	90.81	8763.09	5817.49	2872.93	-561.44	2827.91	1.29	433326.38	612152.88	N 32 11 26.92	W 103 58 14.85
	11719.00	90.31	90.99	8762.55	5816.95	2966.50	-562.91	2921.90	0.19	433324.90	612246.85	N 32 11 26.90	W 103 58 13.78
	11812.00	88.24	92.15	8763.73	5818.13	3059.15	-565.46	3014.85	2.55	433322.35	612339.80	N 32 11 26.88	W 103 58 12.68
	11905.00	89.42	91.29	8765.63	5820.03	3151.81	-568.25	3107.78	1.57	433319.56	612432.73	N 32 11 26.85	W 103 58 11.59
	11999.00	88.35	90.85	8767.46	5821.86	3245.39	-570.01	3201.75	1.23	433317.81	612526.68	N 32 11 26.82	W 103 58 10.50
	12092.00	87.32	89.40	8770.97	5825.37	3337.76	-570.21	3294.68	1.91	433317.60	612619.61	N 32 11 26.82	W 103 58 9.42
	12186.00	87.08	88.30	8775.56	5829.96	3430.83	-568.33	3388.54	1.20	433319.49	612713.47	N 32 11 26.83	W 103 58 8.33
	12373.00	87.14	90.06	8784.99	5839.39	3616.09	-565.85	3575.28	0.94	433322.16	612900.19	N 32 11 26.86	W 103 58 6.15
	12465.00	87.52	89.59	8789.28	5843.88	3707.39	-565.37	3667.18	0.66	433322.44	612992.06	N 32 11 26.85	W 103 58 5.09
	12558.00	87.94	90.02	8792.96	5847.36	3799.70	-565.06	3760.11	0.65	433322.76	613085.00	N 32 11 26.85	W 103 58 4.00
	12652.00	88.62	89.38	8795.78	5850.18	3893.01	-564.56	3854.06	0.99	433323.25	613178.95	N 32 11 26.86	W 103 58 2.91
	12745.00	88.25	89.70	8798.32	5852.72	3985.30	-563.82	3947.02	0.53	433324.00	613271.90	N 32 11 26.86	W 103 58 1.83
	12838.00	88.38	88.64	8801.06	5855.46	4077.52	-562.47	4039.97	1.15	433325.34	613364.84	N 32 11 26.87	W 103 58 0.75
	12931.00	88.97	89.34	8803.21	5857.61	4169.72	-560.83	4132.93	0.98	433326.98	613457.79	N 32 11 26.88	W 103 57 59.67
	13024.00	88.93	89.77	8804.91	5859.31	4262.03	-560.11	4225.91	0.46	433327.70	613550.77	N 32 11 26.89	W 103 57 58.58
	13117.00	88.59	89.68	8806.93	5861.33	4354.38	-559.66	4318.89	0.38	433328.15	613643.74	N 32 11 26.89	W 103 57 57.50
	13210.00	89.04	89.15	8808.85	5863.25	4446.67	-558.71	4411.86	0.75	433329.10	613736.70	N 32 11 26.90	W 103 57 56.42
	13302.00	89.00	89.56	8810.42	5864.82	4537.95	-557.68	4503.84	0.45	433330.13	613828.68	N 32 11 26.90	W 103 57 55.35
	13398.00	89.04	89.82	8812.03	5866.43	4631.29	-557.17	4597.83	0.28	433330.64	613922.68	N 32 11 26.90	W 103 57 54.26
	13490.00	88.59	91.22	8813.97	5868.37	4724.77	-558.02	4691.80	1.56	433329.79	614016.62	N 32 11 26.89	W 103 57 53.16
	13583.00	88.83	91.58	8816.07	5870.47	4817.39	-560.30	4784.75	0.47	433327.52	614109.56	N 32 11 26.87	W 103 57 52.08
	13676.00	89.14	90.82	8817.72	5872.12	4909.99	-562.24	4877.72	0.88	433325.57	614202.52	N 32 11 26.84	W 103 57 51.00
	13697.00	89.21	91.04	8818.02	5872.42	4930.90	-562.58	4898.71	1.10	433325.23	614223.51	N 32 11 26.84	W 103 57 50.75
Final Survey Proj. to Bt	13743.00	89.21	91.04	8818.65	5873.05	4976.69	-563.42	4944.70	0.00	433324.40	614269.50	N 32 11 26.83	W 103 57 50.22

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 Sins	30.000	30.000	NAL_MWD_HDGM-Depth Only	Oxy CC 27 Fed. Com 5H Borehole / Survey Oxy Cedar Canyon 27
	1	26.500	415.000	1/98 425	30.000	30.000	NAL_MWD_HDGM	Oxy CC 27 Fed. Com 5H Borehole / Survey Oxy Cedar Canyon 27
	1	415.000	13743.000	Act Sins	30.000	30.000	NAL_MWD_HDGM	Oxy CC 27 Fed. Com 5H Borehole / Survey Oxy Cedar Canyon 27