

30-015-44096

III 9 4 2017

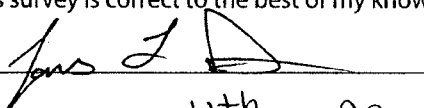
OXY

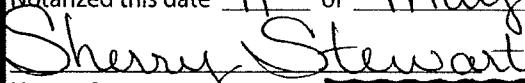
CYPRESS 33 FEDERAL COM # 10H

H&P 639

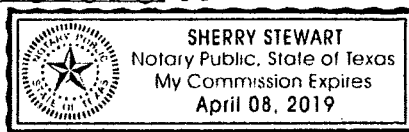
4/20/2017

This survey is correct to the best of my knowledge and is supported by actual field data.


Notarized this date 11th of May, 2017.



Notary Signature
County of Midland
State of Texas



SURVEY REPORT

CYPRESS 33 FEDERAL COM # 10H

COMPUTED KEEPER GYRO SURVEY

CUSTOMER OXY
PROJECT Cypress 33 Federal Com # 10H
FIELD Cypress 33 Federal Com # 10H

SDI JOB NO. OP.000774
SDI DISTRICT Midland
SDI KIT/UNIT

SITE INFORMATION

Site Name Cypress 33 Federal Com # 10H
Lat/Long 32.2534488° N, 103.9937694° W
Northing 456,103.96 ft
Easting 646,307.95 ft

Section
Township
Range

MAP INFORMATION

North Reference Grid North
Grid Correction -0.18 deg
System US State Plane 1983
Datum North American Datum 1983 (GRS 1980)
Map Zone New Mexico East: 3001

WELL INFORMATION

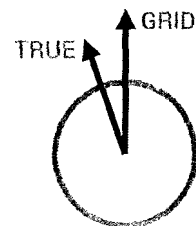
Lat/Long 32.2534488° N, 103.9937694° W
Northing 456,103.96 ft
Easting 646,307.95 ft
UWI 30-015-44096

DEPTH AND ELEVATION REFERENCE

Ground Level 3081.3 ft above Mean Sea
Level
Reference Datum RKB
Reference Height 26.5 ft above G.L.
Reference Elevation 3107.8 ft

VERTICAL SECTION REFERENCE

+N/-S 0 ft
+E/-W 0 ft
Proposal Direction 250.96°
Calculation Method Minimum Curvature

**LOCAL GRAVITY REFERENCE INFORMATION**

Local Gravity 998.534 mG [computed]
True to Grid subtract 0.18°

WELL NOTES

Drop Gyro in 4 1/2 DP to 3000'

OPERATORS

Nathan Yerby

SDI Operator Name (Printed)

SIGNATURE

DATE

SURVEY REPORT

CYPRESS 33 FEDERAL COM # 10H

COMPUTED KEEPER GYRO SURVEY

MB	INC	AZIM	TVD	V/S	H/V/S	H/E/W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	ft/100ft	ft	deg
0.00	0.00	0.00	0.00	0.00	0.00	0.00	Invalid	0.00	0.00
20.26	0.10	298.80	20.26	0.01	0.01	-0.02	0.49	0.02	298.80
111.93	0.25	231.91	111.93	0.25	-0.08	-0.24	0.25	0.25	252.58
203.17	0.50	192.01	203.17	0.65	-0.59	-0.48	0.38	0.76	219.38
290.05	0.78	184.83	290.04	1.08	-1.55	-0.61	0.34	1.66	201.50
383.19	0.93	200.20	383.17	1.82	-2.89	-0.92	0.29	3.04	197.73
472.82	1.27	223.71	472.79	3.16	-4.29	-1.86	0.62	4.68	203.44
562.38	1.48	231.62	562.32	5.14	-5.73	-3.46	0.32	6.69	211.10
652.53	1.59	232.54	652.44	7.43	-7.22	-5.37	0.12	8.99	216.63
742.21	1.76	234.51	742.08	9.93	-8.77	-7.48	0.20	11.53	220.43
832.28	1.99	236.54	832.10	12.77	-10.44	-9.91	0.27	14.39	223.50
922.32	2.24	240.14	922.08	16.01	-12.18	-12.73	0.31	17.62	226.29
1012.69	2.40	243.41	1012.38	19.62	-13.90	-15.96	0.24	21.16	228.94
1107.54	2.48	243.98	1107.14	23.62	-15.69	-19.58	0.09	25.09	231.29
1201.91	2.38	252.71	1201.42	27.61	-17.17	-23.28	0.41	28.93	233.59
1296.17	2.07	288.33	1295.62	30.92	-17.21	-26.77	1.48	31.82	237.26
1391.20	2.56	292.19	1390.57	33.88	-15.87	-30.36	0.53	34.26	242.41
1485.65	2.71	290.41	1484.92	37.19	-14.29	-34.41	0.19	37.26	247.44
1580.60	2.17	290.82	1579.78	40.31	-12.87	-38.20	0.57	40.31	251.38
1675.35	2.01	289.78	1674.47	42.98	-11.67	-41.44	0.17	43.05	254.27
1769.59	1.94	289.97	1768.65	45.51	-10.57	-44.50	0.08	45.73	256.64
1864.31	1.94	287.07	1863.32	48.05	-9.55	-47.53	0.10	48.48	258.64
1958.50	1.84	283.14	1957.46	50.61	-8.74	-50.53	0.17	51.28	260.19
2052.94	1.70	281.37	2051.85	53.10	-8.12	-53.37	0.16	53.99	261.35
2147.58	1.44	276.46	2146.46	55.38	-7.71	-55.93	0.31	56.45	262.15
2242.43	0.98	276.64	2241.29	57.19	-7.48	-57.91	0.48	58.39	262.64
2337.14	0.79	200.87	2335.99	58.33	-7.99	-58.95	1.16	59.49	262.28
2431.60	0.77	219.91	2430.44	59.29	-9.09	-59.59	0.27	60.28	261.33
2494.39	0.43	219.07	2493.23	59.85	-9.60	-60.01	0.55	60.77	260.91
2557.32	0.29	143.14	2556.16	60.01	-9.90	-60.06	0.72	60.87	260.64
2652.02	1.13	121.90	2650.85	59.34	-10.59	-59.13	0.92	60.07	259.85
2746.55	1.98	137.02	2745.34	58.10	-12.27	-57.22	0.99	58.52	257.90

SURVEY REPORT

CYPRESS 33 FEDERAL COM # 10H

COMPUTED KEEPER GYRO SURVEY

MD	INC	AZIM	TVD	VS	AN/S	HE/W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	%100ft	ft	deg
2840.81	2.61	147.48	2839.53	56.94	-15.27	-54.96	0.80	57.04	254.47
2919.82	2.61	147.37	2918.46	56.09	-18.30	-53.03	0.01	56.09	250.96

Oxy Cypress 33 Federal 10H Gyro+ MWD 0-15043 ftMD Survey Geodetic Report

(Def Survey)



NM OIL CONSERVATION
ARTESIA DISTRICT

JUL 24 2017

RECEIVED

Report Date: May 03, 2017 - 05:44 PM
Client: OXY
Field: NM Eddy County (NAD 83)
Structure / Slot: Oxy Cypress 33 Federal 10H / Oxy Cypress 33 Federal 10H
Well: Oxy Cypress 33 Federal 10H
Borehole: Original Borehole
UWI / API#: Unknown / Unknown
Survey Name: Oxy Cypress 33 Federal 10H Gyro+ MWD 0-15043 ftMD
Survey Date: April 13, 2017
Tort / AHD / DDI / ERD Ratio: 280 931 ± / 6195 243 ft / 6.419 / 0.621
Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 15' 12.41570", W 103° 59' 37.56989"
Location Grid N/E Y/X: N 456103 960 ftUS E 646307 950 ftUS
CRS Grid Convergence Angle: 0.1812 °
Grid Scale Factor: 0.99992171
Version / Patch: 2 10 254 0

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 348.639 ° (Grid North)
Vertical Section Origin: 0 000 ft, 0 000 ft
TVD Reference Datum: RKB=26.5'
TVD Reference Elevation: 3107.800 ft above MSL
Seabed / Ground Elevation: 3081.300 ft above MSL
Magnetic Declination: 7.216 °
Total Gravity Field Strength: 998.4594mgm (9.80665 Based)
Gravity Model: GARM
Total Magnetic Field Strength: 48151.231 nT
Magnetic Dip Angle: 60.107 °
Declination Date: April 13, 2017
Magnetic Declination Model: HDGM 2016
North Reference: Grid North
Grid Convergence Used: 0.1812 °
Total Corr Mag North->Grid North: 7.0349 °
Local Coord Referenced To: Well Head

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 ° ' ")
SHL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	456103.96	646307.95	N 32 15 12.42	W 103 59 37.57
	111.93	0.25	231.91	111.93	-0.11	-0.15	-0.19	0.22	456103.81	646307.76	N 32 15 12.41	W 103 59 37.57
	203.17	0.50	192.01	203.17	-0.56	-0.66	-0.43	0.38	456103.30	646307.52	N 32 15 12.41	W 103 59 37.57
	290.05	0.78	184.83	290.04	-1.48	-1.62	-0.56	0.33	456102.34	646307.39	N 32 15 12.40	W 103 59 37.58
	383.19	0.93	200.20	383.17	-2.73	-2.96	-0.87	0.29	456101.00	646307.08	N 32 15 12.39	W 103 59 37.58
	472.82	1.27	223.71	472.79	-3.92	-4.36	-1.81	0.62	456099.80	646306.14	N 32 15 12.37	W 103 59 37.59
	562.38	1.48	231.62	562.32	-5.02	-5.80	-3.40	0.32	456098.16	646304.55	N 32 15 12.36	W 103 59 37.61
	652.53	1.59	232.54	652.44	-6.09	-7.28	-5.31	0.13	456096.68	646302.64	N 32 15 12.34	W 103 59 37.63
	742.21	1.76	234.51	742.08	-7.21	-8.84	-7.42	0.20	456095.12	646300.53	N 32 15 12.33	W 103 59 37.66
	832.28	1.99	236.54	832.10	-8.36	-10.51	-9.85	0.27	456093.46	646298.10	N 32 15 12.31	W 103 59 37.68
	922.32	2.24	240.14	922.08	-9.51	-12.24	-12.68	0.31	456091.72	646295.27	N 32 15 12.29	W 103 59 37.72
	1012.69	2.40	243.41	1012.38	-10.56	-13.97	-15.90	0.23	456089.99	646292.05	N 32 15 12.28	W 103 59 37.76
	1107.54	2.48	243.98	1107.14	-11.60	-15.76	-19.52	0.09	456088.20	646288.43	N 32 15 12.26	W 103 59 37.80
	1201.91	2.38	252.71	1201.43	-12.32	-17.24	-23.23	0.41	456086.72	646284.72	N 32 15 12.25	W 103 59 37.84
	1296.17	2.07	288.33	1295.62	-11.68	-17.28	-26.71	1.48	456086.68	646281.24	N 32 15 12.25	W 103 59 37.88
	1391.20	2.56	292.19	1390.57	-9.66	-15.94	-30.31	0.54	456088.02	646277.74	N 32 15 12.26	W 103 59 37.92
	1485.65	2.71	290.41	1484.92	-7.32	-14.37	-34.35	0.18	456089.59	646273.60	N 32 15 12.27	W 103 59 37.97
	1580.60	2.17	290.82	1579.78	-5.18	-12.94	-38.14	0.57	456091.02	646269.81	N 32 15 12.29	W 103 59 38.01
	1675.35	2.01	289.78	1674.47	-3.36	-11.74	-41.38	0.17	456092.22	646266.57	N 32 15 12.30	W 103 59 38.05
	1769.59	1.94	289.97	1768.66	-1.68	-10.64	-44.43	0.07	456093.32	646263.52	N 32 15 12.31	W 103 59 38.09
	1864.31	1.94	287.07	1863.32	-0.08	-9.62	-47.47	0.10	456094.34	646260.48	N 32 15 12.32	W 103 59 38.12
	1958.50	1.84	283.14	1957.46	1.30	-8.81	-50.47	0.17	456095.15	646257.48	N 32 15 12.33	W 103 59 38.16
	2052.94	1.70	281.37	2051.85	2.47	-8.19	-53.32	0.16	456095.77	646254.64	N 32 15 12.34	W 103 59 38.19
	2147.58	1.44	276.46	2146.46	3.38	-7.78	-55.88	0.31	456096.18	646252.08	N 32 15 12.34	W 103 59 38.22
	2242.43	0.98	276.64	2241.29	4.00	-7.55	-57.87	0.48	456096.41	646250.09	N 32 15 12.34	W 103 59 38.24
	2337.14	0.79	200.87	2335.99	3.69	-8.07	-58.90	1.16	456095.89	646249.05	N 32 15 12.34	W 103 59 38.26
	2431.60	0.77	219.91	2430.44	2.75	-9.16	-59.54	0.27	456094.80	646248.41	N 32 15 12.33	W 103 59 38.26
	2494.39	0.43	219.07	2493.23	2.33	-9.67	-59.96	0.54	456094.29	646247.99	N 32 15 12.32	W 103 59 38.27
	2557.32	0.29	143.14	2556.16	2.04	-9.98	-60.02	0.73	456093.98	646247.94	N 32 15 12.32	W 103 59 38.27
	2652.02	1.13	121.90	2650.85	1.18	-10.67	-59.08	0.91	456093.30	646248.88	N 32 15 12.31	W 103 59 38.26
	2746.55	1.98	137.02	2745.34	-0.85	-12.35	-57.17	0.99	456091.61	646250.78	N 32 15 12.30	W 103 59 38.24
	2840.81	2.61	147.48	2839.53	-4.24	-15.35	-54.91	0.80	456088.61	646253.04	N 32 15 12.27	W 103 59 38.21
Last Gyro	2919.82	2.61	147.37	2918.46	-7.59	-18.39	-52.97	0.01	456085.58	646254.98	N 32 15 12.24	W 103 59 38.19
	3118.00	2.30	148.66	3116.45	-15.53	-25.58	-48.47	0.16	456078.38	646259.48	N 32 15 12.16	W 103 59 38.14
	3213.00	0.08	312.46	3211.43	-17.27	-27.17	-47.53	2.50	456076.80	646260.42	N 32 15 12.15	W 103 59 38.12
	3308.00	0.13	340.04	3306.43	-17.11	-27.02	-47.62	0.07	456076.94	646260.34	N 32 15 12.15	W 103 59 38.13
	3403.00	0.08	93.53	3401.43	-17.02	-26.92	-47.59	0.19	456077.04	646260.37	N 32 15 12.15	W 103 59 38.12
	3497.00	0.13	129.25	3495.43	-17.12	-26.99	-47.44	0.09	456076.97	646260.52	N 32 15 12.15	W 103 59 38.12
	3592.00	0.13	48.98	3590.43	-17.15	-26.99	-47.27	0.18	456076.97	646260.68	N 32 15 12.15	W 103 59 38.12
	3686.00	0.08	314.08	3684.43	-17.04	-26.88	-47.24	0.17	456077.09	646260.71	N 32 15 12.15	W 103 59 38.12
	3781.00	0.08	71.86	3779.43	-16.98	-26.81	-47.22	0.14	456077.15	646260.73	N 32 15 12.15	W 103 59 38.12
	3875.00	0.17	314.49	3873.43	-16.86	-26.69	-47.26	0.23	456077.27	646260.69	N 32 15 12.15	W 103 59 38.12
	3969.00	0.18	12.79	3967.43	-16.61	-26.45	-47.33	0.18	456077.51	646260.63	N 32 15 12.16	W 103 59 38.12
	4064.00	0.08	297.68	4062.43	-16.43	-26.27	-47.35	0.19	456077.69	646260.60	N 32 15 12.16	W 103 59 38.12
	4159.00	0.06	33.09	4157.43	-16.35	-26.20	-47.39	0.11	456077.76	646260.57	N 32 15 12.16	W 103 59 38.12
	4254.00	0.16	353.21	4252.43	-16.19	-26.03	-47.37	0.13	456077.93	646260.58	N 32 15 12.16	W 103 59 38.12
	4349.00	0.06	308.01	4347.43	-16.02	-25.86	-47.43	0.13	456078.10	646260.53	N 32 15 12.16	W 103 59 38.12
	4436.00	0.23	300.53	4434.43	-15.86	-25.75	-47.62	0.20	456078.21	646260.34	N 32 15 12.16	W 103 59 38.13
	4531.00	3.28	285.06	4529.37	-14.53	-24.94	-50.40	3.22	456079.02	646257.55	N 32 15 12.17	W 103 59 38.16
	4625.00	7.17	286.14	4622.96	-10.62	-22.61	-58.64	4.14	456081.35	646249.32	N 32 15 12.19	W 103 59 38.25
	4720.00	10.20	287.14	4716.86	-3.87	-19.49	-72.38	3.19	456085.47	646235.58	N 32 15 12.24	W 103 59 38.41
	4815.00	13.08	243.05	4810.07	-2.74	-20.88	-90.03	9.57	456083.08	646217.92	N 32 15 12.21	W 103 59 38.62
	4909.00	13.23	287.46	4901.83	-0.41	-22.48	-109.82	10.50	456081.48	646198.13	N 32 15 12.20	W 103 59 38.85
	5004.00	12.82	286.65	4994.39	9.78	-16.20	-130.29	0.47	456087.76	646177.67	N 32 15 12.26	W 103 59 39.09
	5098.00	12.29	285.88	5086.14	19.26	-10.47	-149.91	0.59	456093.49	646158.06	N 32 15 12.32	W 103 59 39.32
	5193.00	11.64	284.75	5179.08	28.11	-5.27	-168.90	0.73	456098.69	646139.06	N 32 15 12.37	W 103 59 39.54
	5288.00	13.09	281.36	5271.87	36.48	-0.71	-188.72	1.71	456103.25	646119.25	N 32 15 12.41	W 103 59 39.77
	5382.00	13.06	280.83	5363.44	44.60	3.38	-209.58	0.13	456107.34	646098.38	N 32 15 12.46	W 103 59 40.01
	5477.00	12.10	280.16	5456.15	52.31	7.16	-229.93	1.02	456111.12	646078.04	N 32 15 12.49	W 103 59 40.25
	5571.00	10.19	278.73	5548.38	58.78	10.16	-247.84	2.05	456114.12	646060.12	N 32 15 12.52	W 103 59 40.46
	5665.00	9.56	275.43	5640.98	63.89	12.16	-263.83	0.90	456116.12	646044.14	N 32 15 12.54	W 103 59 40.64
	5760.00	12.89	274.46	5734.15	69.06	13.73	-282.26	3.51	456117.69	646025.72	N 32 15 12.56	W 103 59 40.86
	5949.00	11.49	274.62	5918.89	79.99	16.88	-322.04	0.74	456120.84	645985.94	N 32 15 12.59	W 103 59 41.32
	6044.00	11.16	275.19	6012.04	85.22	18.48	-340.63	0.37	456122.44	645967.35	N 32 15 12.61	W 103 59 41.54
	6139.00	12.29	272.25	6105.06	90.21	19.71	-359.89	1.35	456123.67	645948.09	N 32 15 12.62	W 103 59 41.76
	6233.00	12.19	271.27	6196.92	94.74	20.32	-379.80	0.25	456124.28	645928.18	N 32 15 12.63	W 103 59 41.99
	6328.00	10.94	270.00	6289.99	98.71	20.54	-398.85	1.34	456124.50	645909.13	N 32 15 12.63	W 103 59 42.21
	6423.00	10.16	269.82	6383.38	102.11	20.52	-416.24	0.82	456124.47	645891.74	N 32 15 12.63	W 103 59 42.42
	6517.00	8.71	270.92	6476.11	105.23	20.60	-431.65	1.55	456124.56	645876.34	N 32 15 12.63	W 103 59 42.60
	6611.00	8.50	269.74	6569.05	108.08	20.69	-445.71	0.29	456124.64	645862.27	N 32 15 12.63	W 103 59 42.76
	6706.00	10.40	275.36	6662.76	111.90	21.46	-461.27	2.22	456125.41	645846.71	N 32 15 12.64	W 103 59 42.94
	6800.00	11.25	274.98	6755.08	116.92	23.04	-478.85	0.91	456127.00	645829.13	N 32 15 12.66	

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 ° ' ")
	6895.00	10.83	273.62	6848.33	121.84	24.41	-496.99	0.52	456128.37	645811.00	N 32 15 12.67	W 103 59 43.36
	7084.00	8.70	270.30	7034.58	129.32	25.61	-529.01	1.17	456129.57	645778.98	N 32 15 12.69	W 103 59 43.73
	7178.00	8.91	272.18	7127.47	132.46	25.92	-543.40	0.38	456129.88	645764.60	N 32 15 12.69	W 103 59 43.90
	7273.00	10.07	282.27	7221.18	137.51	27.97	-558.86	2.13	456131.93	645749.13	N 32 15 12.71	W 103 59 44.08
	7482.00	11.31	285.85	7406.89	152.61	36.54	-592.84	0.74	456140.50	645715.16	N 32 15 12.80	W 103 59 44.47
	7557.00	9.16	281.30	7500.38	159.78	40.57	-609.22	2.42	456144.52	645698.78	N 32 15 12.84	W 103 59 44.66
	7652.00	8.99	285.17	7594.19	166.01	43.99	-623.80	0.67	456147.95	645684.20	N 32 15 12.87	W 103 59 44.83
	7746.00	12.13	279.47	7686.59	172.81	47.54	-640.63	3.52	456151.50	645667.37	N 32 15 12.91	W 103 59 45.03
	7840.00	11.32	276.16	7778.63	179.09	50.15	-659.55	1.12	456154.11	645648.46	N 32 15 12.93	W 103 59 45.25
	7935.00	9.43	276.22	7872.07	184.25	52.00	-676.58	1.99	456155.95	645631.45	N 32 15 12.95	W 103 59 45.45
	8058.00	8.55	272.21	7993.56	189.44	53.44	-695.71	0.88	456157.40	645612.30	N 32 15 12.97	W 103 59 45.67
	8153.00	8.24	271.32	8087.54	192.59	53.87	-709.57	0.35	456157.83	645598.43	N 32 15 12.97	W 103 59 45.83
	8247.00	7.80	266.01	8180.62	194.89	53.58	-722.67	0.92	456157.54	645585.34	N 32 15 12.97	W 103 59 45.98
	8342.00	6.43	262.46	8274.89	196.07	52.44	-734.38	1.51	456156.39	645573.03	N 32 15 12.96	W 103 59 46.12
	8437.00	4.64	263.58	8369.44	196.76	51.31	-743.47	1.89	456155.26	645564.54	N 32 15 12.95	W 103 59 46.23
	8626.00	0.98	189.85	8558.22	195.91	48.86	-751.34	2.36	456152.82	645556.67	N 32 15 12.92	W 103 59 46.32
	8720.00	1.01	243.05	8652.20	194.94	47.69	-752.22	0.95	456151.65	645555.79	N 32 15 12.91	W 103 59 46.33
	8814.00	4.62	244.42	8746.07	193.78	45.68	-756.38	3.84	456149.64	645551.64	N 32 15 12.89	W 103 59 46.38
	8909.00	7.48	238.31	8840.54	190.70	40.78	-765.09	3.08	456144.74	645542.92	N 32 15 12.84	W 103 59 46.48
	8972.00	7.43	231.12	8903.01	187.39	36.07	-771.75	1.48	456140.03	645536.26	N 32 15 12.80	W 103 59 46.56
	9036.00	7.03	225.65	8966.50	183.34	30.73	-777.77	1.24	456134.69	645530.24	N 32 15 12.74	W 103 59 46.63
	9225.00	8.60	309.65	9154.25	188.04	31.67	-796.98	5.56	456135.63	645511.04	N 32 15 12.75	W 103 59 46.85
	9319.00	10.02	322.67	9247.02	200.86	42.66	-807.35	2.69	456146.61	645500.67	N 32 15 12.86	W 103 59 46.97
	9414.00	24.67	325.29	9337.45	226.63	65.65	-823.74	15.44	456169.61	645484.28	N 32 15 13.09	W 103 59 47.16
	9508.00	24.56	304.72	9423.07	258.78	92.96	-851.02	9.07	456196.91	645467.91	N 32 15 13.36	W 103 59 47.48
	9603.00	18.86	308.57	9511.30	284.77	113.79	-879.28	6.18	456217.74	645428.75	N 32 15 13.57	W 103 59 47.80
	9698.00	25.42	323.24	9599.31	315.00	139.75	-903.53	8.98	456243.70	645404.50	N 32 15 13.83	W 103 59 48.09
	9792.00	23.75	332.90	9684.82	351.46	172.78	-924.23	4.82	456276.73	645383.79	N 32 15 14.15	W 103 59 48.33
	9887.00	33.95	356.81	9768.20	396.39	216.55	-934.49	16.03	456320.50	645373.54	N 32 15 14.59	W 103 59 48.44
	9981.00	47.41	3.97	9839.36	456.05	277.59	-933.55	15.14	456381.53	645374.48	N 32 15 15.19	W 103 59 48.43
	10076.00	61.54	4.08	9894.42	530.41	354.52	-928.13	14.87	456458.46	645379.90	N 32 15 15.95	W 103 59 48.36
	10171.00	75.57	358.26	9929.09	616.51	442.66	-926.54	15.82	456546.59	645381.48	N 32 15 16.82	W 103 59 48.34
	10265.00	89.42	356.64	9941.34	708.38	535.54	-930.70	14.83	456639.45	645377.33	N 32 15 17.74	W 103 59 48.39
	10360.00	88.18	359.50	9943.33	802.06	630.45	-933.90	3.28	456734.36	645374.13	N 32 15 18.68	W 103 59 48.42
	10547.00	89.35	352.31	9947.36	987.39	816.80	-947.24	3.89	456920.70	645360.78	N 32 15 20.53	W 103 59 48.57
	10644.00	88.14	352.26	9949.49	1084.17	912.90	-960.26	1.25	457016.79	645347.77	N 32 15 21.48	W 103 59 48.72
	10789.00	88.73	354.51	9953.45	1228.61	1056.87	-976.96	1.60	457160.75	645331.07	N 32 15 22.90	W 103 59 48.91
	10833.00	91.89	355.51	9953.21	1272.33	1100.70	-980.78	7.53	457204.57	645327.24	N 32 15 23.34	W 103 59 48.95
	10927.00	90.21	355.83	9951.49	1365.61	1194.41	-987.88	1.82	457298.27	645320.15	N 32 15 24.27	W 103 59 49.03
	11022.00	88.62	356.84	9952.46	1459.74	1289.21	-993.95	1.98	457393.06	645314.08	N 32 15 25.20	W 103 59 49.10
	11211.00	89.45	358.12	9955.64	1646.47	1477.99	-1002.26	0.81	457581.83	645305.77	N 32 15 27.07	W 103 59 49.19
	11305.00	89.42	357.95	9956.57	1739.20	1571.93	-1005.48	0.18	457675.77	645302.55	N 32 15 28.00	W 103 59 49.22
	11400.00	90.24	358.53	9956.85	1832.87	1666.89	-1008.40	1.06	457770.71	645299.63	N 32 15 28.94	W 103 59 49.25
	11495.00	87.42	358.41	9958.79	1926.44	1761.82	-1010.94	2.97	457865.64	645297.09	N 32 15 29.88	W 103 59 49.28
	11589.00	86.80	359.19	9963.53	2018.85	1855.68	-1012.90	1.06	457959.49	645295.13	N 32 15 30.81	W 103 59 49.30
	11683.00	88.76	0.86	9967.17	2110.92	1949.60	-1012.86	2.74	458053.41	645295.17	N 32 15 31.74	W 103 59 49.29
	11778.00	89.35	0.89	9968.74	2203.75	2044.58	-1011.41	0.62	458148.37	645296.62	N 32 15 32.68	W 103 59 49.27
	11873.00	90.48	1.27	9968.88	2296.52	2139.56	-1009.62	1.25	458243.35	645298.41	N 32 15 33.62	W 103 59 49.25
	11967.00	90.17	359.49	9968.34	2388.55	2233.55	-1009.00	1.92	458337.33	645299.03	N 32 15 34.55	W 103 59 49.24
	12062.00	91.38	359.60	9967.06	2481.82	2328.54	-1009.75	1.28	458432.31	645298.28	N 32 15 35.49	W 103 59 49.24
	12251.00	91.86	359.15	9961.72	2667.44	2517.45	-1011.81	0.35	458621.21	645296.22	N 32 15 37.36	W 103 59 49.26
	12346.00	91.55	359.98	9958.89	2760.67	2612.41	-1012.53	0.93	458716.16	645295.50	N 32 15 38.30	W 103 59 49.26
	12534.00	90.64	359.64	9955.30	2945.08	2800.37	-1013.16	0.52	458904.10	645294.88	N 32 15 40.16	W 103 59 49.27
	12628.00	90.21	359.74	9954.60	3037.33	2894.36	-1013.66	0.47	458998.09	645294.37	N 32 15 41.09	W 103 59 49.27
	12816.00	89.90	359.59	9954.42	3221.86	3082.36	-1014.76	0.18	459186.07	645293.27	N 32 15 42.95	W 103 59 49.27
	12911.00	90.14	358.81	9954.39	3315.25	3177.35	-1016.09	0.86	459281.05	645291.94	N 32 15 43.89	W 103 59 49.29
	13100.00	90.17	359.76	9953.87	3500.99	3366.33	-1018.45	0.50	459470.02	645289.58	N 32 15 45.76	W 103 59 49.31
	13289.00	90.86	0.74	9952.18	3686.12	3555.32	-1017.62	0.63	459658.99	645290.41	N 32 15 47.63	W 103 59 49.29
	13384.00	91.27	359.44	9950.41	3779.21	3650.30	-1017.47	1.43	459753.97	645290.56	N 32 15 48.57	W 103 59 49.28
	13573.00	91.41	356.98	9945.99	3965.51	3839.14	-1023.38	1.30	459942.79	645284.66	N 32 15 50.44	W 103 59 49.35
	13762.00	90.55	357.08	9942.76	4152.46	4027.86	-1033.17	0.46	460131.50	645274.87	N 32 15 52.30	W 103 59 49.45
	13950.00	90.52	357.65	9941.00	4338.27	4215.65	-1041.81	0.30	460319.27	645266.22	N 32 15 54.16	W 103 59 49.55
	14138.00	90.48	357.23	9939.36	4524.05	4403.46	-1050.21	0.22	460507.06	645257.83	N 32 15 56.02	W 103 59 49.64
	14326.00	91.48	358.81	9936.15	4709.50	4591.31	-1056.70	0.99	460694.90	645251.33	N 32 15 57.88	W 103 59 49.71
	14515.00	90.83	0.20	9932.34	4895.07	4780.26	-1058.33	0.81	460883.83	645249.70	N 32 15 59.75	W 103 59 49.72
	14609.00	90.10	359.73	9931.57	4987.24	4874.25	-1058.39	0.92	460977.82	645249.64	N 32 16 0.68	W 103 59 49.72
	14703.00	90.00	359.81	9931.49	5079.47	4968.25	-1058.77	0.14	461071.81	645249.27	N 32 16 1.61	W 103 59 49.72
	14892.00	90.41	359.79	9930.81	5264.89	5157.25	-1059.43	0.22	461260.79	645248.61	N 32 16 3.48	W 103 59 49.72
	14987.00	90.03	359.90	9930.45	5358.08	5252.25	-1059.68	0.42	461355.79	645248.35	N 32 16 4.42	W 103 59 49.72
Final MWD	15003.00	90.34	0.19	9930.40	5373.76	5268.25	-1059.67	2.65	461371.78	645248.36	N 32 16 4.58	W 103 59 49.72
Survey	15043.00	90.34	0.19	9930.16	5412.95	5308.25	-1059.54	0.00	461411.78	645248.50	N 32 16 4.97	W 103 59 49.71
Projection to bit												

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	1/98.425	30.000	30.000	NAL_NSG+MSHOT-Depth Only	Original Borehole / Oxy Cypress 33 Federal 10H Gyro+ MWD 0-15043 ftMD
	1	26.500	26.500	Act Stns	30.000	30.000	NAL_NSG+MSHOT-Depth Only	Original Borehole / Oxy Cypress 33 Federal 10H Gyro+ MWD 0-15043 ftMD
	1	26.500	2919.820	Act Stns	30.000	30.000	NAL_NSG+MSHOT	Original Borehole / Oxy Cypress 33 Federal 10H Gyro+ MWD 0-2919.820 ftMD
	1	2919.820	15043.000	Act Stns	30.000	30.000	NAL_MWD_PLUS_0.5_DEG	Original Borehole / Oxy Cypress 33 Federal 10H Gyro+ MWD 0-15043 ftMD

OXY USA Inc.
Cypress 33 Federal Com 10H
API No. 30-015-44096

17-1/2" hole @ 345'
13-3/8" csg @ 345'
w/ 400sx-TOC-Surf Circ.

12-1/4" hole @ 3035'
9-5/8" csg @ 3026'
w/ 930sx-TOC-Surf Circ.

8-1/2" hole @ 15043'
5-1/2" csg @ 15033'
w/ 2543sx-TOC-Surf Circ.

Borehole:	Well:	Field:	Structure:
Original Borehole	Oxy Cypress 33 Federal 10H	NM Eddy County (NAD 83)	Oxy Cypress 33 Federal 10H
Gravity & Magnetic Parameters			
Model: HDGM 2016	Dip: 90.106°	Date: 27-Apr-2017	Surface Location: NAD83 New Mexico State Plane, Eastern Zone, US Feet
MagDec: 7.212°	FS: 48147.9550T	Gravity FS: 988.459mgal (8.80665 Based)	Lat: N 32 15 12.42
			North: 458103.86NUS
			Grid Conv: 0.1812°
			Scale Fact: 0.99992171
Miscellaneous			
			Slot: Oxy Cypress 33 Federal 10H
			Plan: Oxy Cypress 33 Federal 10H REV7 LBN 27Apr17
			TVD Ref: RKB=26.5(107.8ft above MSL)

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	8972.00	7.43	231.12	8903.01	187.39	36.07	-771.75	N 32 15 12.797	W 103 59 46.555	645536.26	456140.03	1.48	231.20
Proj to Bit	9051.00	7.43	231.20	8981.34	182.67	29.66	-779.71	N 32 15 12.734	W 103 59 46.648	645528.31	456133.62	0.01	231.20
KOP, Build 8 25° DLS	9239.99	7.43	231.20	9168.75	171.41	14.35	-798.75	N 32 15 12.583	W 103 59 46.870	645509.26	456118.31	0.00	350.70
Hold 120'	10134.31	70.00	350.70	9863.91	629.86	455.50	-930.44	N 32 15 16.952	W 103 59 48.388	645377.58	456559.42	8.25	0.00
Build and Turn 8 25°/100'	10254.31	70.00	350.70	9904.96	742.55	566.78	-948.67	N 32 15 18.054	W 103 59 48.596	645359.36	456670.59	0.00	22.30
Landing Point	10517.16	90.20	358.76	9950.00	958.41	823.12	-971.74	N 32 15 20.591	W 103 59 48.855	645336.28	456927.01	8.25	
Cypress 33 Federal 10H PBHL	15015.60	90.20	358.76	9934.55	5426.81	5320.48	-1069.02	N 32 16 5.095	W 103 59 49.824	645239.02	461424.01	0.00	

Grid
True
Mag

Grid North
Tot Corr (M→G 7.031°)
Mag Dec (7.212°)
Grid Conv (0.181°)

