Oilfield Services Central U.S. Land
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:
28, T24S, R29E, EDDY NM
N 32.19311 W 103.99709

I, Ryland Matthews certify that; I am employed by Drilling & Measurements, a division of Schlumberger Technology Corporation; that I did on the day(s) of November 07, 2018 through December 08, 2018, conduct or supervise the taking of the SlimPulse & Third Party Corrected surveys from a depth of 816.00 feet to a depth of 14735.00 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 INCORPORATED for the CEDAR CANYON 28 FED COM 41H Well (Original Hole) API No. 30-015-44439 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.

Ryland Matthews
FE

Subscribed and Sworn to before me this 21st day of January (month) 2019 (yr)

My Commission expires:
2-16-2022

D. Adams
Notary Public (signature)

Adams County Colorado
(County State)

DONNA ADAMS
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID 20184007893
MY COMMISSION EXPIRES FEBRUARY 16, 2022

Final PvA - Rev1 H&P 639 (RKB=26.5')

Schlumberger

OXY

Borehole:	Well:	Field:	Structure:
Original Borehole	Cedar Canyon 28 Fed 41H	NM Eddy County (NAD 83)	OXY Cedar Canyon 28 Fed 41H

Gravity & Magnetic Parameters
Model: IIFR Dip: 59.948° Date: 30-Nov-2018
MagDec: 6.979° FS: 47952.5nT Gravity FS: 998.465mgn (9.80655 Based)

Surface Location NAD83 New Mexico State Plane, Eastern Zone, US Feet
Lat: N 32 11 35.18 Northing: 434149.28ftUS Grid Conv: 0.1791°
Lon: W 103 59 49.52 Easting: 645350.72ftUS Scale Fact: 0.99992148

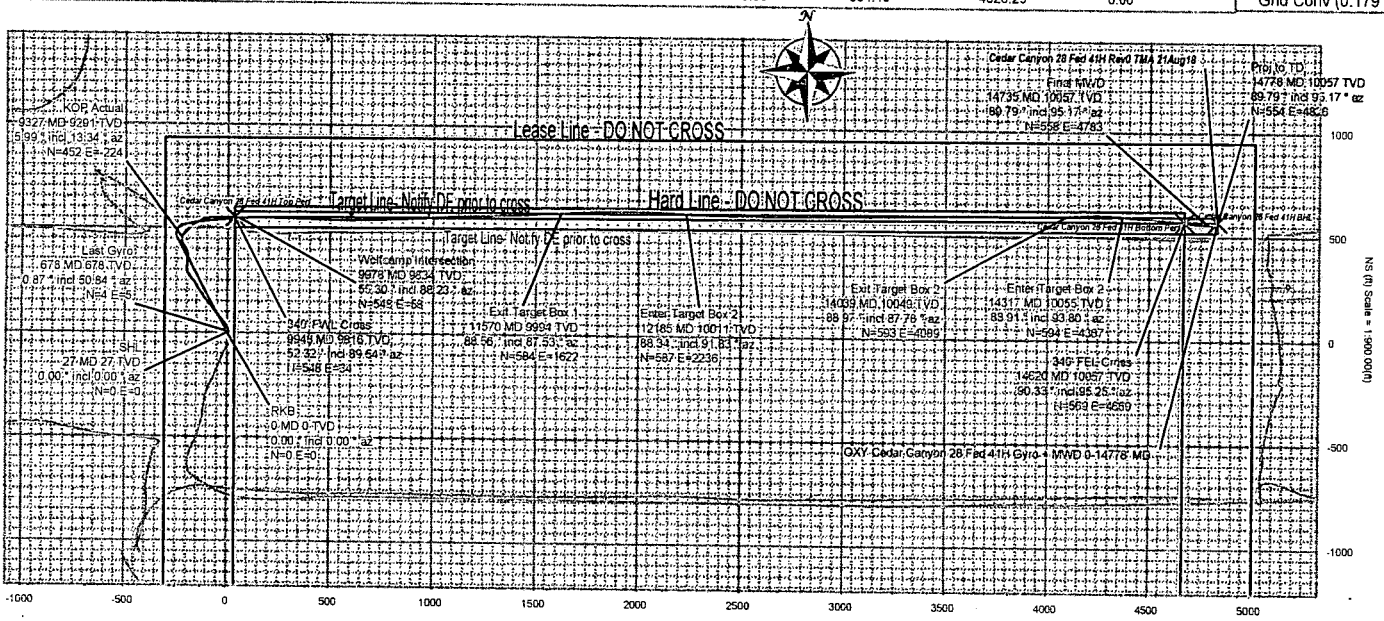
Miscellaneous
OXY Cedar
Slot: Canyon 28 Fed 41H TVD Ref: RKB(2974.4ft above MSL)
Plan: OXY Cedar Canyon 28 Fed 41H Gyro + MWD 0-14778' MD

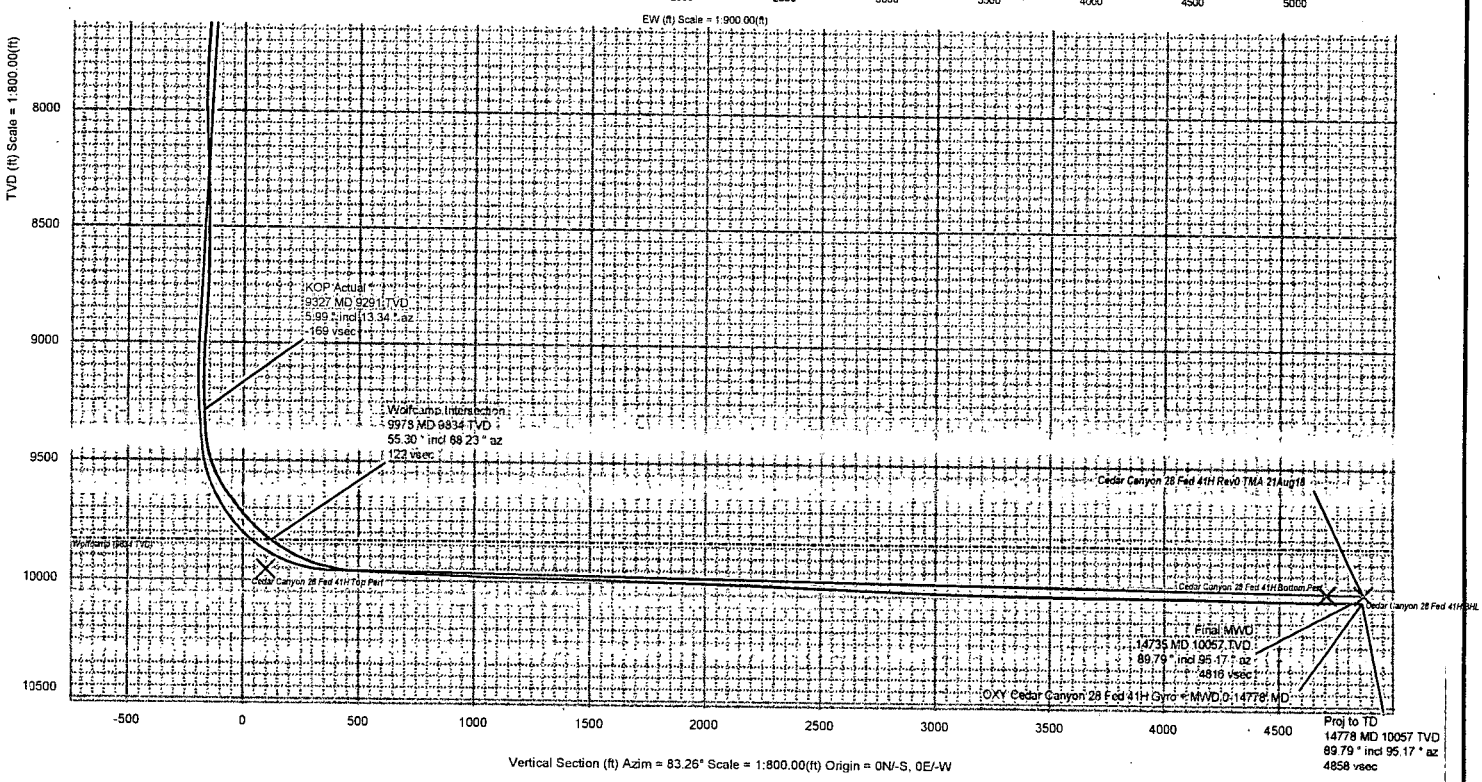
Critical Points

Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS
RKB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
SHL	26.50	0.00	0.00	26.50	0.00	0.00	0.00	0.00
Last Gyro	678.20	0.87	50.84	678.15	5.58	4.32	5.11	0.45
KOP Actual	9327.00	5.99	13.34	9291.40	-169.13	452.00	-223.72	1.22
340' FWL Cross	9948.00	52.32	89.64	9816.10	97.84	547.83	33.78	10.51
Wolfcamp Intersection	9978.31	55.30	88.23	9834.00	122.18	548.29	58.24	10.51
Exit Target Box 1	11570.00	88.56	87.53	9994.29	1679.03	584.37	1621.65	0.52
Enter Target Box 1	12184.50	88.34	91.83	10011.29	2288.99	586.66	2235.59	0.27
Exit Target Box 2	14038.50	88.97	87.78	10048.61	4130.19	593.02	4088.85	1.78
Enter Target Box 2	14317.00	88.91	93.80	10055.05	4406.57	594.09	4367.03	1.27
340' FEL Cross	14620.00	90.33	95.25	10056.91	4703.42	568.71	4668.94	0.47
Final MWD	14735.00	89.79	95.17	10056.80	4815.93	558.27	4783.47	0.47
Proj to TD	14778.00	89.79	95.17	10056.95	4858.00	554.40	4826.29	0.00

Grid / True / Mag

Grid North
Tot Corr (M->G 6.800°)
Mag Dec (6.979°)
Grid Conv (0.179°)





Schlumberger

OXY Cedar Canyon 28 Fed 41H Gyro + MWD 0-14778' MD Survey Geodetic Report

(Non-Def Survey)

Report Date:	December 10, 2018 - 05:26 PM	**Survey / DLS Computation:**	Minimum Curvature / Lubinski
Client:	OXY	**Vertical Section Azimuth:**	83.260 ° (Grid North)
Field:	NM Eddy County (NAD 83)	**Vertical Section Origin:**	0.000 ft, 0.000 ft
Structure / Slot:	OXY Cedar Canyon 28 Fed 41H / OXY Cedar Canyon 28 Fed 41H	**TVD Reference Datum:**	RKB
Well:	Cedar Canyon 28 Fed 41H	**TVD Reference Elevation:**	2974.400 ft above MSL
Borehole:	Original Borehole	**Seabed / Ground Elevation:**	2947.900 ft above MSL
UWI / API#:	Unknown / Unknown	**Magnetic Declination:**	6.979 °
Survey Name:	OXY Cedar Canyon 28 Fed 41H Gyro + MWD 0-14778' MD	**Total Gravity Field Strength:**	998.4645mgn (9.80665 Based)
Survey Date:	September 25, 2018	**Gravity Model:**	GARM
Tort / AHD / DDI / ERD Ratio:	211.846 ° / 5654.037 ft / 6.246 / 0.562	**Total Magnetic Field Strength:**	47952.500 nT
Coordinate Reference System:	NAD83 New Mexico State Plane, Eastern Zone, US Feet	**Magnetic Dip Angle:**	59.948 °
Location Lat / Long:	N 32° 11' 35.18431", W 103° 59' 49.51717"	**Declination Date:**	November 30, 2018
Location Grid N/E Y/X:	N 434149.280 ftUS, E 645350.720 ftUS	**Magnetic Declination Model:**	IIFR
CRS Grid Convergence Angle:	0.1791 °	**North Reference:**	Grid North
Grid Scale Factor:	0.99992148	**Grid Convergence Used:**	0.1791 °
Version / Patch:	2.10.753.0	**Total Corr Mag North->Grid North:**	6.7999 °
		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 ° ' ")
RKB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	434149.28	645350.72	N 32 11 35.18	W 103 59 49.52
SHL	26.50	0.00	0.00	26.50	0.00	0.00	0.00	0.00	434149.28	645350.72	N 32 11 35.18	W 103 59 49.52
	66.69	0.11	231.09	66.69	-0.03	-0.02	-0.03	0.27	434149.26	645350.69	N 32 11 35.18	W 103 59 49.52
	123.44	0.10	202.20	123.44	-0.10	-0.10	-0.09	0.09	434149.18	645350.63	N 32 11 35.18	W 103 59 49.52
	210.79	0.34	73.34	210.79	0.12	-0.10	0.13	0.47	434149.18	645350.85	N 32 11 35.18	W 103 59 49.52
	298.30	0.44	54.59	298.30	0.67	0.17	0.65	0.18	434149.45	645351.37	N 32 11 35.19	W 103 59 49.51
	392.82	0.92	43.15	392.81	1.57	0.93	1.47	0.53	434150.21	645352.19	N 32 11 35.19	W 103 59 49.50
	487.32	0.80	45.83	487.30	2.67	1.95	2.46	0.13	434151.23	645353.18	N 32 11 35.20	W 103 59 49.49
	581.91	1.30	47.92	581.87	4.07	3.12	3.73	0.53	434152.40	645354.45	N 32 11 35.22	W 103 59 49.47
Last Gyro	678.20	0.87	50.84	678.15	5.58	4.32	5.11	0.45	434153.60	645355.82	N 32 11 35.23	W 103 59 49.46
	816.00	0.36	22.46	815.94	6.67	5.38	6.08	0.42	434154.66	645356.80	N 32 11 35.24	W 103 59 49.45
	907.00	0.46	345.95	906.94	6.76	6.00	6.10	0.30	434155.28	645356.82	N 32 11 35.24	W 103 59 49.45
	998.00	0.67	315.27	997.93	6.39	6.73	5.64	0.40	434156.01	645356.36	N 32 11 35.25	W 103 59 49.45
	1088.00	0.25	329.89	1087.93	5.99	7.27	5.17	0.48	434156.55	645355.89	N 32 11 35.26	W 103 59 49.46
	1180.00	0.49	338.39	1179.93	5.81	7.81	4.92	0.27	434157.09	645355.64	N 32 11 35.26	W 103 59 49.46
	1271.00	0.22	232.52	1270.93	5.56	8.07	4.64	0.65	434157.35	645355.36	N 32 11 35.26	W 103 59 49.46
	1450.00	0.38	200.49	1449.92	4.99	7.30	4.16	0.13	434156.58	645354.88	N 32 11 35.26	W 103 59 49.47
	1542.00	0.40	138.58	1541.92	5.03	6.78	4.27	0.44	434156.06	645354.99	N 32 11 35.25	W 103 59 49.47
	1634.00	0.42	201.66	1633.92	5.06	6.22	4.36	0.47	434155.50	645355.08	N 32 11 35.25	W 103 59 49.47
	1727.00	0.42	133.60	1726.92	5.11	5.67	4.48	0.51	434154.95	645355.20	N 32 11 35.24	W 103 59 49.46
	1817.00	0.23	136.84	1816.92	5.43	5.31	4.84	0.21	434154.59	645355.56	N 32 11 35.24	W 103 59 49.46
	1909.00	0.29	207.58	1908.92	5.41	4.97	4.86	0.33	434154.25	645355.58	N 32 11 35.23	W 103 59 49.46
	2000.00	0.44	225.18	1999.91	5.00	4.52	4.50	0.20	434153.80	645355.22	N 32 11 35.23	W 103 59 49.46
	2094.00	0.31	103.76	2093.91	4.96	4.21	4.49	0.70	434153.48	645355.21	N 32 11 35.23	W 103 59 49.46
	2189.00	0.45	57.86	2188.91	5.53	4.34	5.06	0.34	434153.62	645355.78	N 32 11 35.23	W 103 59 49.46
	2284.00	0.37	38.70	2283.91	6.09	4.78	5.57	0.17	434154.06	645356.29	N 32 11 35.23	W 103 59 49.45
	2378.00	0.25	171.29	2377.91	6.31	4.81	5.79	0.61	434154.09	645356.51	N 32 11 35.23	W 103 59 49.45
	2473.00	0.44	73.20	2472.91	6.68	4.72	6.17	0.56	434153.99	645356.89	N 32 11 35.23	W 103 59 49.45
	2567.00	0.43	80.97	2566.90	7.39	4.87	6.86	0.06	434154.15	645357.58	N 32 11 35.23	W 103 59 49.44
	2662.00	0.45	69.28	2661.90	8.11	5.06	7.56	0.10	434154.34	645358.28	N 32 11 35.23	W 103 59 49.43
	2757.00	0.24	303.67	2756.90	8.32	5.31	7.75	0.65	434154.58	645358.47	N 32 11 35.24	W 103 59 49.43
	2851.00	0.25	289.44	2850.90	7.98	5.48	7.39	0.07	434154.76	645358.11	N 32 11 35.24	W 103 59 49.43
	2946.00	0.26	225.89	2945.90	7.63	5.40	7.04	0.28	434154.68	645357.76	N 32 11 35.24	W 103 59 49.44
	3041.00	0.26	206.86	3040.90	7.33	5.06	6.79	0.09	434154.34	645357.51	N 32 11 35.23	W 103 59 49.44
	3135.00	0.41	196.51	3134.90	7.08	4.55	6.60	0.17	434153.83	645357.32	N 32 11 35.23	W 103 59 49.44
	3230.00	0.35	212.79	3229.89	6.77	3.98	6.34	0.13	434153.26	645357.06	N 32 11 35.22	W 103 59 49.44
	3324.00	0.30	219.43	3323.89	6.40	3.55	6.03	0.07	434152.82	645356.75	N 32 11 35.22	W 103 59 49.45
	3419.00	0.45	180.88	3418.89	6.18	2.98	5.87	0.30	434152.26	645356.59	N 32 11 35.21	W 103 59 49.45
	3514.00	0.38	110.26	3513.89	6.41	2.50	6.16	0.51	434151.78	645356.88	N 32 11 35.21	W 103 59 49.45
	3703.00	0.25	115.46	3702.89	7.31	2.10	7.12	0.07	434151.38	645357.84	N 32 11 35.20	W 103 59 49.43
	3798.00	0.24	124.00	3797.88	7.64	1.90	7.47	0.04	434151.18	645358.19	N 32 11 35.20	W 103 59 49.43
	3893.00	0.17	184.89	3892.88	7.76	1.65	7.62	0.23	434150.93	645358.34	N 32 11 35.20	W 103 59 49.43
	4082.00	0.25	176.69	4081.88	7.68	0.96	7.62	0.05	434150.24	645358.34	N 32 11 35.19	W 103 59 49.43
	4177.00	0.16	209.46	4176.88	7.59	0.64	7.57	0.15	434149.92	645358.29	N 32 11 35.19	W 103 59 49.43
	4366.00	0.27	234.29	4365.88	7.05	0.15	7.08	0.07	434149.43	645357.80	N 32 11 35.19	W 103 59 49.43
	4556.00	0.17	232.86	4555.88	6.41	-0.28	6.49	0.05	434149.00	645357.21	N 32 11 35.18	W 103 59 49.44
	4745.00	0.41	257.73	4744.88	5.50	-0.60	5.60	0.14	434148.68	645356.32	N 32 11 35.18	W 103 59 49.45
	4840.00	0.31	257.39	4839.87	4.90	-0.72	5.02	0.11	434148.56	645355.74	N 32 11 35.18	W 103 59 49.46
	4935.00	0.39	99.80	4934.87	4.96	-0.84	5.09	0.72	434148.44	645355.81	N 32 11 35.18	W 103 59 49.46
	5029.00	2.55	101.44	5028.84	7.25	-1.30	7.45	2.30	434147.98	645358.17	N 32 11 35.17	W 103 59 49.43
	5124.00	0.33	353.23	5123.81	9.26	-1.45	9.49	2.81	434147.83	645360.21	N 32 11 35.17	W 103 59 49.41
	5219.00	3.08	336.85	5218.76	8.54	1.17	8.46	2.91	434150.45	645359.18	N 32 11 35.20	W 103 59 49.42
	5313.00	5.61	337.91	5312.48	6.61	7.75	5.74	2.69	434157.03	645356.46	N 32 11 35.26	W 103 59 49.45
	5408.00	7.16	336.80	5406.89	3.70	17.49	1.66	1.64	434166.77	645352.38	N 32 11 35.36	W 103 59 49.50
	5503.00	7.68	328.50	5501.09	-0.64	28.35	-3.99	1.25	434177.62	645346.73	N 32 11 35.46	W 103 59 49.56
	5597.00	8.85	325.40	5594.12	-6.65	39.65	-11.38	1.33	434188.93	645339.34	N 32 11 35.58	W 103 59 49.65
	5691.00	8.48	323.21	5687.04	-13.50	51.16	-19.64	0.53	434200.43	645331.09	N 32 11 35.69	W 103 59 49.74
	5786.00	9.22	323.84	5780.91	-20.74	62.91	-28.32	0.79	434212.19	645322.40	N 32 11 35.81	W 103 59 49.84
	5975.00	10.56	320.91	5967.10	-37.45	88.58	-48.18	0.76	434237.85	645302.55	N 32 11 36.06	W 103 59 50.07
	6070.00	11.40	321.34	6060.36	-47.07	102.67	-59.53	0.89	434251.94	645291.19	N 32 11 36.20	W 103 59 50.21
	6164.00	11.03	321.74	6152.56	-56.68	116.98	-70.90	0.40	434266.25	645279.82	N 32 11 36.34	W 103 59 50.34
	6259.00	9.77	321.05	6246.00	-65.73	130.39	-81.60	1.33	434279.66	645269.13	N 32 11 36.48	W 103 59 50.46
	6353.00	8.12	319.81	6338.86	-73.64	141.66	-90.90	1.77	434290.93	645259.83	N 32 11 36.59	W 103 59 50.57
	6448.00	6.54	319.93	6433.08	-80.31	150.93	-98.71	1.66	434300.20	645252.02	N 32 11 36.68	W 103 59 50.66
	6542.00	5.71	320.02	6526.54	-85.82	158.61	-105.16	0.88	434307.87	645245.57	N 32 11 36.76	W 103 59 50.74
	6637.00	5.56	324.38	6621.08	-90.63	165.97	-110.88	0.48	434315.24	645239.85	N 32 11 36.83	W 103 59 50.80
	6732.00	5.61	331.00	6715.63	-94.61	173.77	-115.81	0.68	434323.04	645234.92	N 32 11 36.91	W 103 59 50.86
	6826.00	5.64	323.09	6809.18	-98.67	181.48	-120.81	0.82	434330.75	645229.92	N 32 11 36.98	W 103 59 50.92
	6921.00	6.24	315.44	6903.67	-104.19	188.90	-127.24	1.04	434338.16	645223.49	N 32 11 37.06	W 103 59 50.99
	7016.00	6.27	325.34	6998.11	-109.78	196.84	-133.81	1.13	434346.11	645216.92	N 32 11 37.14	W 103 59 51.07
	7086.00	7.19	327.77	7067.62	-113.46	203.69	-138.32	1.38	434352.96	645212.41	N 32 11 37.20	W 103 59 51.12
	7111.00	7.28	328.19	7092.42	-114.80	206.36	-139.99	0.42	434355.62	645210.74	N 32 11 37.23	W 103 59 51.14
	7205.00	8.13	327.11	7185.58	-120.25	217.00	-146.74	0.92	434366.27	645203.99	N 32 11 37.34	W 103 59 51.22
	7394.00	7.58	326.21	7372.80	-131.81	238.59	-160.93	0.30	434387.85	645189.81	N 32 11 37.55	W 103 59 51.38
	7489.00	6.74	313.10	7467.07	-138.26	247.60	-168.48	1.93	434396.86	645182.25	N 32 11 37.64	W 103 59 51.47
	7583.00	6.90	317.49	7560.40	-145.12	255.53	-176.33	0.58	434404.79	645174.41	N 32 11 37.72	W 103 59 51.56
	7678.00	7.98	324.29	7654.60	-151.65	265.10	-184.03	1.46	434414.35	645166.70	N 32 11 37.81	W 103 59 51.65
	7772.00	7.48	329.79	7747.75	-157.24	275.68	-190.92	0.95	434424.94	645159.82	N 32 11 37.92	W 103 59 51.73
	7867.00	6.63	330.42	7842.03	-161.84	285.80	-196.74	0.90	434435.05	645154.00	N 32 11 38.02	W 103 59 51.80

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 ° ' ")
	7962.00	7.96	351.71	7936.28	-164.14	297.08	-200.39	3.15	434446.33	645150.34	N 32 11 38.13	W 103 59 51.84
	8057.00	8.77	6.85	8030.28	-162.62	310.78	-200.48	2.46	434460.03	645150.26	N 32 11 38.27	W 103 59 51.84
	8151.00	7.37	10.11	8123.34	-159.19	323.83	-198.57	1.57	434473.08	645152.17	N 32 11 38.39	W 103 59 51.82
	8246.00	5.64	3.78	8217.73	-156.57	334.49	-197.19	1.97	434483.74	645153.55	N 32 11 38.50	W 103 59 51.80
	8340.00	4.98	5.16	8311.32	-154.88	343.16	-196.52	0.72	434492.41	645154.22	N 32 11 38.59	W 103 59 51.79
	8434.00	5.56	2.73	8404.93	-153.29	351.77	-195.93	0.66	434501.02	645154.80	N 32 11 38.67	W 103 59 51.78
	8529.00	6.34	357.48	8499.42	-152.15	361.61	-195.94	1.00	434510.86	645154.79	N 32 11 38.77	W 103 59 51.78
	8623.00	7.65	351.61	8592.71	-151.95	372.98	-197.09	1.59	434522.23	645153.65	N 32 11 38.88	W 103 59 51.80
	8718.00	8.15	343.17	8686.82	-153.31	385.69	-199.96	1.33	434534.93	645150.78	N 32 11 39.01	W 103 59 51.83
	8812.00	7.71	336.28	8779.92	-156.32	397.84	-204.42	1.11	434547.08	645146.31	N 32 11 39.13	W 103 59 51.88
	8907.00	7.57	328.69	8874.08	-160.78	409.02	-210.24	1.07	434558.26	645140.50	N 32 11 39.24	W 103 59 51.95
	9002.00	7.25	320.98	8968.29	-166.59	419.02	-217.26	1.10	434568.27	645133.47	N 32 11 39.34	W 103 59 52.03
	9096.00	6.05	338.22	9061.66	-171.04	428.23	-222.84	2.46	434577.48	645127.90	N 32 11 39.43	W 103 59 52.09
	9190.00	6.08	356.59	9155.14	-172.04	437.80	-224.97	2.06	434587.05	645125.77	N 32 11 39.52	W 103 59 52.12
	9285.00	5.97	8.44	9249.62	-170.45	447.71	-224.55	1.31	434596.95	645126.19	N 32 11 39.62	W 103 59 52.11
KOP Actual	9327.00	5.99	13.34	9291.40	-169.13	452.00	-223.72	1.22	434601.25	645127.02	N 32 11 39.66	W 103 59 52.10
	9414.00	7.85	25.56	9377.76	-164.39	461.78	-220.11	2.72	434611.02	645130.63	N 32 11 39.76	W 103 59 52.06
	9509.00	18.62	40.62	9470.13	-149.72	479.20	-207.40	11.81	434628.44	645143.34	N 32 11 39.93	W 103 59 51.91
	9603.00	29.73	48.99	9555.77	-119.32	505.98	-179.94	12.34	434655.22	645170.79	N 32 11 40.20	W 103 59 51.59
	9698.00	37.34	66.52	9635.09	-72.08	533.02	-135.57	12.90	434682.25	645215.16	N 32 11 40.46	W 103 59 51.08
	9793.00	41.51	84.65	9708.70	-12.79	547.49	-77.59	12.85	434696.72	645273.14	N 32 11 40.60	W 103 59 50.40
	9888.00	46.49	92.80	9777.07	52.74	548.74	-11.74	7.93	434697.98	645338.98	N 32 11 40.61	W 103 59 49.63
340' FWL Cross	*9948.00*	*52.32*	*89.64*	*9816.10*	*97.84*	*547.83*	*33.78*	*10.51*	*434697.06*	*645384.50*	*N*	*32 11 40.60* *W 103 59 49.10*
Wolfcamp Intersection	*9978.31*	*55.30*	*88.23*	*9834.00*	*122.18*	*548.29*	*58.24*	*10.51*	*434697.52*	*645408.95*	*N*	*32 11 40.61* *W 103 59 48.82*
	9983.00	55.76	88.02	9836.65	126.04	548.41	62.10	10.51	434697.65	645412.82	N 32 11 40.61	W 103 59 48.77
	10078.00	62.00	89.35	9885.73	206.95	550.25	143.37	6.68	434699.48	645494.07	N 32 11 40.62	W 103 59 47.83
	10173.00	71.13	91.18	9923.47	293.36	549.80	230.43	9.77	434699.03	645581.13	N 32 11 40.62	W 103 59 46.82
	10268.00	78.13	90.49	9948.64	384.11	548.47	321.97	7.40	434697.71	645672.66	N 32 11 40.60	W 103 59 45.75
	10363.00	87.91	92.78	9960.17	477.28	545.77	416.10	10.57	434695.00	645766.79	N 32 11 40.57	W 103 59 44.66
	10414.00	87.59	91.47	9962.17	527.63	543.88	467.03	2.64	434693.11	645817.71	N 32 11 40.55	W 103 59 44.06
	10509.00	88.14	89.88	9965.71	621.77	542.76	561.95	1.77	434691.99	645912.63	N 32 11 40.54	W 103 59 42.96
	10604.00	87.42	88.68	9969.39	716.17	543.95	656.87	1.47	434693.19	646007.54	N 32 11 40.55	W 103 59 41.85
	10699.00	88.41	87.81	9972.85	810.75	546.86	751.76	1.39	434696.09	646102.42	N 32 11 40.57	W 103 59 40.75
	10794.00	88.07	87.86	9975.77	905.40	550.45	846.65	0.36	434699.68	646197.30	N 32 11 40.60	W 103 59 39.64
	10889.00	87.73	87.41	9979.25	1000.06	554.36	941.50	0.59	434703.60	646292.15	N 32 11 40.64	W 103 59 38.54
	10984.00	89.00	87.37	9981.96	1094.77	558.69	1036.36	1.34	434707.92	646387.00	N 32 11 40.68	W 103 59 37.44
	11079.00	89.48	87.31	9983.22	1189.52	563.10	1131.25	0.51	434712.33	646481.88	N 32 11 40.72	W 103 59 36.33
	11174.00	89.14	87.45	9984.36	1284.27	567.44	1226.15	0.39	434716.67	646576.77	N 32 11 40.76	W 103 59 35.23
	11269.00	89.07	87.74	9985.85	1378.98	571.42	1321.05	0.31	434720.66	646671.66	N 32 11 40.80	W 103 59 34.12
	11364.00	88.17	87.64	9988.13	1473.67	575.25	1415.94	0.95	434724.49	646766.55	N 32 11 40.83	W 103 59 33.02
	11459.00	88.21	87.32	9991.13	1568.37	579.43	1510.81	0.34	434728.66	646861.40	N 32 11 40.87	W 103 59 31.92
	11554.10	88.48	87.54	9993.88	1663.18	583.69	1605.77	0.37	434732.92	646956.36	N 32 11 40.91	W 103 59 30.81
Exit Target Box 1	*11570.00*	*88.56*	*87.53*	*9994.29*	*1679.03*	*584.37*	*1621.65*	*0.52*	*434733.60*	*646972.24*	*N*	*32 11 40.92* *W 103 59 30.62*
	11649.10	88.97	87.51	9995.99	1757.89	587.79	1700.66	0.52	434737.02	647051.24	N 32 11 40.95	W 103 59 29.71
	11743.10	88.24	87.44	9998.28	1851.61	591.93	1794.54	0.78	434741.16	647145.11	N 32 11 40.99	W 103 59 28.61
	11933.00	88.31	91.33	10004.00	2040.30	593.97	1984.30	2.05	434743.20	647334.86	N 32 11 41.00	W 103 59 26.40
	12028.00	88.24	91.58	10006.86	2134.29	591.56	2079.23	0.27	434740.79	647429.78	N 32 11 40.97	W 103 59 25.30
	12123.00	88.48	91.91	10009.58	2228.21	588.66	2174.15	0.43	434737.90	647524.69	N 32 11 40.94	W 103 59 24.20
Enter Target Box 1	*12184.50*	*88.34*	*91.83*	*10011.29*	*2288.99*	*586.66*	*2235.59*	*0.27*	*434735.89*	*647586.13*	*N*	*32 11 40.92* *W 103 59 23.48*
	12310.00	88.04	91.66	10015.26	2413.06	582.84	2360.97	0.27	434732.08	647711.50	N 32 11 40.88	W 103 59 22.02
	12499.00	87.86	90.43	10022.02	2600.19	579.40	2549.81	0.66	434728.63	647900.33	N 32 11 40.84	W 103 59 19.82
	12689.00	88.14	89.53	10028.65	2788.77	579.46	2739.70	0.50	434728.70	648090.19	N 32 11 40.83	W 103 59 17.61
	12784.00	87.86	89.48	10031.97	2883.15	580.28	2834.63	0.30	434729.52	648185.13	N 32 11 40.84	W 103 59 16.51
	12879.00	88.52	89.21	10034.97	2977.57	581.37	2929.58	0.75	434730.60	648280.06	N 32 11 40.85	W 103 59 15.40
	12974.00	88.28	89.75	10037.62	3071.97	582.23	3024.54	0.62	434731.46	648375.01	N 32 11 40.85	W 103 59 14.30
	13069.00	88.73	88.75	10040.10	3166.42	583.47	3119.50	1.15	434732.71	648469.97	N 32 11 40.86	W 103 59 13.19
	13164.00	89.34	89.50	10041.70	3260.90	584.93	3214.47	1.02	434734.16	648564.93	N 32 11 40.87	W 103 59 12.09
	13354.00	89.24	89.13	10044.05	3449.83	587.20	3404.44	0.20	434736.43	648754.89	N 32 11 40.89	W 103 59 9.88
	13448.03	89.10	89.16	10045.41	3543.35	588.60	3498.45	0.15	434737.83	648848.89	N 32 11 40.90	W 103 59 8.78
	13544.00	89.31	89.15	10046.75	3638.81	590.01	3594.40	0.22	434739.25	648944.83	N 32 11 40.91	W 103 59 7.67
	13639.10	90.10	90.48	10047.24	3733.28	590.32	3689.50	1.63	434739.55	649039.92	N 32 11 40.91	W 103 59 6.56
	13734.10	89.72	90.20	10047.38	3827.56	589.76	3784.50	0.50	434738.99	649134.91	N 32 11 40.90	W 103 59 5.46
	13924.10	90.10	89.48	10047.68	4016.30	590.29	3974.49	0.43	434739.52	649324.89	N 32 11 40.90	W 103 59 3.25
Exit Target Box 2	*14038.50*	*88.97*	*87.78*	*10048.61*	*4130.19*	*593.02*	*4088.85*	*1.78*	*434742.26*	*649439.24*	*N*	*32 11 40.92* *W 103 59 1.91*
	14113.10	88.24	86.67	10050.42	4204.59	596.63	4163.34	1.78	434745.87	649513.72	N 32 11 40.96	W 103 59 1.05
	14208.10	88.86	90.82	10052.83	4299.10	598.71	4258.26	4.42	434747.95	649608.64	N 32 11 40.97	W 103 58 59.94
	14303.10	88.79	93.67	10054.78	4392.91	594.99	4353.16	3.00	434744.23	649703.53	N 32 11 40.93	W 103 58 58.84
Enter Target Box 2	*14317.00*	*88.91*	*93.80*	*10055.05*	*4406.57*	*594.09*	*4367.03*	*1.27*	*434743.32*	*649717.40*	*N*	*32 11 40.92* *W 103 58 58.68*
	14398.10	89.62	94.55	10056.09	4486.20	588.19	4447.91	1.27	434737.42	649798.27	N 32 11 40.86	W 103 58 57.74
	14492.10	89.31	95.08	10056.97	4578.29	580.30	4541.57	0.65	434729.53	649891.93	N 32 11 40.78	W 103 58 56.65
	14587.00	90.48	95.27	10057.14	4671.14	571.74	4636.08	1.25	434720.97	649986.43	N 32 11 40.70	W 103 58 55.55
340' FEL Cross	*14620.00*	*90.33*	*95.25*	*10056.91*	*4703.42*	*568.71*	*4668.94*	*0.47*	*434717.95*	*650019.29*	*N*	*32 11 40.66* *W 103 58 55.16*
Final MWD	14735.00	89.79	95.17	10056.80	4815.93	558.27	4783.47	0.47	434707.51	650133.80	N 32 11 40.56	W 103 58 53.83
Proj to TD	14778.00	89.79	95.17	10056.95	4858.00	554.40	4826.29	0.00	434703.63	650176.62	N 32 11 40.52	W 103 58 53.33

Survey Type: Non-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 Cedar Canyon 28 Fed 41H Gyro + MWD 0-14778' MD
	1	26.500	26.500	Act Stns	30.000	30.000	NAL_NSG+MSHOT-Depth Only	Original Borehole / OXY Cedar Canyon 28 Fed 41H Gyro + MWD 0-14778' MD
	1	26.500	678.200	Act Stns	30.000	30.000	NAL_NSG+MSHOT	Original Borehole / OXY Cedar Canyon 28 Fed 41H Gyro + MWD
	1	678.200	14778.000	Act Stns	30.000	30.000	NAL_MWD_IFR1+MS	Original Borehole / OXY Cedar Canyon 28 Fed 41H Gyro + MWD