

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

March 19, 2019

Oxy USA Inc.
5 Gateway Plaza, suite 10
Huston TX 77046

Re:

Sec35, T23S, R31E, Eddy NM
32.26752 103.74800

CLIENT: Oxy USA Inc.
WELL: Cal-Mon 35 Federal 173H
FIELD: Wildcat Wolfcamp

RIG: H&P 636
COUNTY: Eddy
API NO: 30-015-45522
JOB NO: 19MLD4179

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>
Juan Estrada FS	Cal-Mon 35 Federal 173H Original Hole	939.00 Ft to 16599.00 Ft	January 28, 2019 to March 10, 2019	SlimPulse Third Party Corrected

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

Dustin Barlow
Field Service Manager

Schlumberger-Private

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
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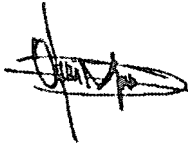
Schlumberger

Well Reference:

Sec35, T23S, R31E, Eddy NM
32.26752 103.74800

I, Juan Estrada certify that; I am employed by Drilling & Measurements, a division of Schlumberger Technology Corporation; that I did on the day(s) of January 28, 2019 through March 10, 2019, conduct or supervise the taking of the SlimPulse & Third Party Corrected surveys from a depth of 939.00 feet to a depth of 16599.00 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 Cal-Mon 35 Federal 173H Well (Original Hole) API No. 30-015-45522 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
Juan Estrada
FS



Subscribed and Sworn to before me this 19th day of March (month) 2019 (yr)

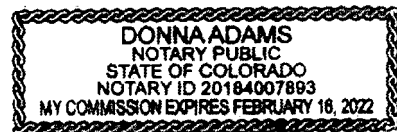
My Commission expires:

2-16-2022

Donna Adams
Notary Public

(signature)

Adams County Colorado
(County State)



Schlumberger

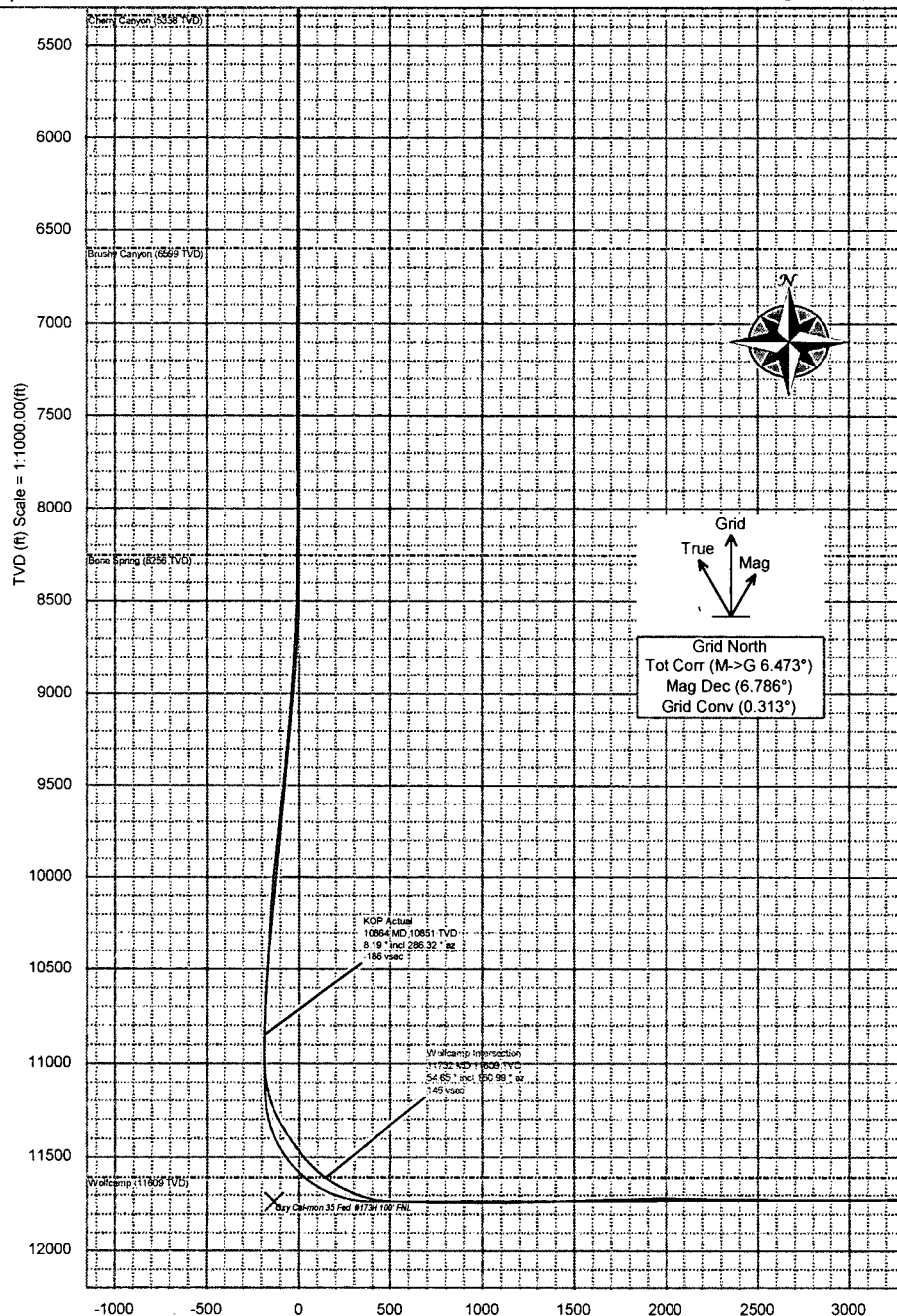
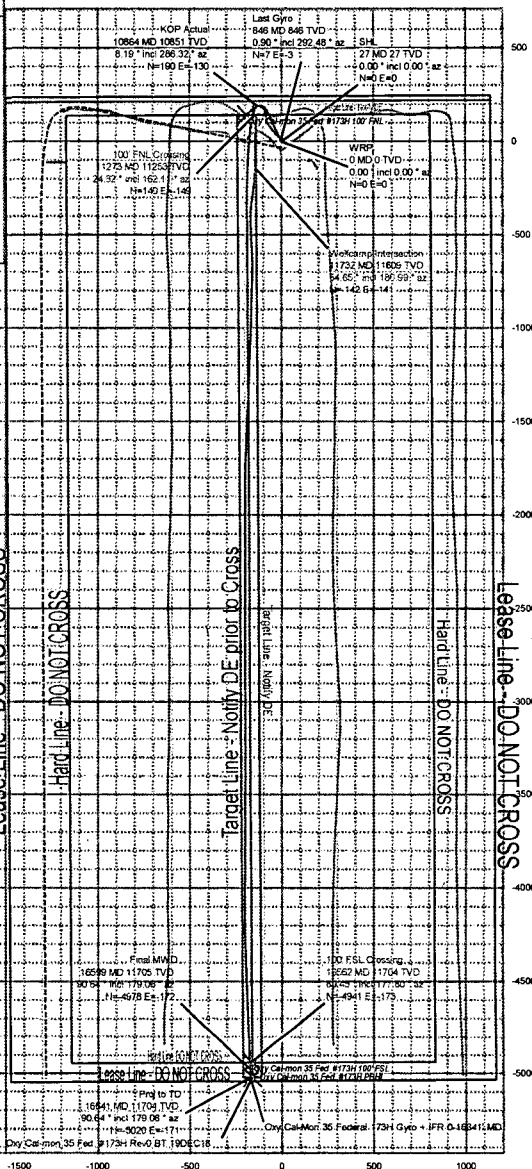
OXY



Borehole:	Well:	Field:	Structure:
Original Borehole	Oxy Cal-Mon 35 Federal 173H	NM Eddy County (NAD 83)	Oxy Cal-Mon 35 Federal 173H

Gravity & Magnetic Parameters				Surface Location				Miscellaneous	
Model: IFR1	Dp: 59.982"	Date: 04-Mar-2019		Lat: N 32 16 3.08	Northing: 461861.19RUS	Grid Conv: 0.3126"		Slot: Oxy Cal-Mon 35 Federal #173H XY	TVD Ref: RKB(3489ft above MSL)
MagDec: 6.786"	FS: 48000.9nT	Gravity FS: 998.446mgm (9.80565 Based)		Lon: W 103 44 52.81	Easting: 722256.87RUS	Scale Fact: 0.9994658		Plan: Oxy Cal-Mon 35 Federal 173H Gyro + IFR 0.16641" MD	

Critical Points								
Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS
WRP	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	846.10	0.90	292.48	846.05	-7.26	7.36	-3.04	0.53
KOP Actual	10864.00	8.19	286.32	10851.47	-185.57	189.85	-129.76	0.74
100' FNL Crossing	11273.00	24.32	162.11	11252.66	-134.67	139.54	-148.77	13.61
Wolfcamp Intersection	11731.72	54.65	180.99	11609.00	146.06	-141.58	-141.27	9.63
100' FSL Crossing	16562.00	89.45	177.80	11704.23	4944.40	-4941.38	-173.40	2.23
Final MWD	16599.00	90.64	179.06	11704.64	4981.31	-4978.35	-172.11	17.97
Pro to TD	16641.00	90.64	179.06	11704.18	5023.26	-5020.34	-171.42	0.00



Vertical Section (ft) Azim = 181.85° Scale = 1:1000.00(ft) Origin = 0N/-S, 0E/-W



Oxy Cal-Mon 35 Federal 173H Gyro + IFR 0-16641' MD Survey Geodetic Report (Def Survey)

Report Date: March 11, 2019 - 12:26 PM
Client: OXY
Field: NM Eddy County (NAD 83)
Structure / Slot: Oxy Cal-Mon 35 Federal 173H / Oxy Cal-mon 35 Federal #173H XY
Well: Oxy Cal-Mon 35 Federal 173H
Borehole: Original Borehole
UWI / API#: Unknown / Unknown
Survey Name: Oxy Cal-Mon 35 Federal 173H Gyro + IFR 0-16641' MD
Survey Date: January 23, 2019
Tort / AHD / DDI / ERD Ratio: 198.937' / 5501.929 ft / 6.191 / 0.469
Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 16' 3.08180", W 103° 44' 52.80615"
Location Grid N/E Y/X: N 461551.190 HUS, E 722255.870 HUS
CRS Grid Convergence Angle: 0.3125°
Grid Scale Factor: 0.99994658
Version / Patch: 2.10.753.0

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 181.847° (Grid North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: RKB
TVD Reference Elevation: 3489.000 ft above MSL
Seabed / Ground Elevation: 3462.500 ft above MSL
Magnetic Declination: 6.786°
Total Gravity Field Strength: 998.4459mgn (9.80665 Based)
Gravity Model: GARM
Total Magnetic Field Strength: 48000.900 nT
Magnetic Dip Angle: 59.982°
Declination Date: March 04, 2019
Magnetic Declination Model: IFR1
North Reference: Grid North
Grid Convergence Used: 0.3125°
Total Corr Mag North→Grid: 6.4735°
North: 6.4735°
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 ° ' ")
WRP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	461551.19	722255.87	N 32 16 3.08	W 103 44 52.81
SHL	26.50	0.00	0.00	26.50	0.00	0.00	0.00	0.00	461551.19	722255.87	N 32 16 3.08	W 103 44 52.81
	98.10	0.83	-0.09	98.10	-0.52	0.52	0.00	1.16	461551.71	722255.87	N 32 16 3.09	W 103 44 52.81
	188.20	0.66	357.42	188.19	-1.69	1.69	-0.02	0.19	461552.88	722255.85	N 32 16 3.10	W 103 44 52.81
	275.30	0.63	347.95	275.28	-2.65	2.66	-0.14	0.13	461553.85	722255.73	N 32 16 3.11	W 103 44 52.81
	370.00	0.61	338.43	369.98	-3.62	3.64	-0.44	0.11	461554.83	722255.43	N 32 16 3.12	W 103 44 52.81
	464.30	0.51	337.16	464.27	-4.46	4.49	-0.79	0.11	461555.68	722255.08	N 32 16 3.13	W 103 44 52.82
	558.90	0.40	336.16	558.87	-5.14	5.18	-1.08	0.12	461556.37	722254.79	N 32 16 3.13	W 103 44 52.82
	653.60	0.50	321.27	653.57	-5.75	5.81	-1.47	0.16	461556.99	722254.40	N 32 16 3.14	W 103 44 52.82
	748.40	0.66	327.54	748.36	-6.52	6.59	-2.03	0.18	461557.78	722253.84	N 32 16 3.15	W 103 44 52.83
Last Gyro	846.10	0.90	292.48	846.05	-7.26	7.36	-3.04	0.53	461558.55	722252.83	N 32 16 3.15	W 103 44 52.84
	939.00	0.13	67.48	938.95	-7.56	7.68	-3.61	1.07	461558.87	722252.26	N 32 16 3.16	W 103 44 52.84
	1033.00	0.14	174.87	1032.95	-7.49	7.60	-3.51	0.23	461558.79	722252.36	N 32 16 3.16	W 103 44 52.84
	1221.00	0.20	340.60	1220.95	-7.56	7.68	-3.59	0.18	461558.87	722252.28	N 32 16 3.16	W 103 44 52.85
	1315.00	0.17	126.81	1314.95	-7.64	7.75	-3.54	0.38	461558.94	722252.33	N 32 16 3.16	W 103 44 52.85
	1409.00	0.17	210.21	1408.95	-7.43	7.55	-3.50	0.24	461558.74	722252.37	N 32 16 3.16	W 103 44 52.85
	1597.00	0.27	151.02	1596.95	-6.81	6.92	-3.42	0.12	461558.11	722252.45	N 32 16 3.15	W 103 44 52.85
	1690.00	0.18	205.53	1689.95	-6.49	6.60	-3.38	0.24	461557.79	722252.49	N 32 16 3.15	W 103 44 52.85
	1791.00	0.17	316.75	1790.95	-6.45	6.56	-3.55	0.29	461557.75	722252.32	N 32 16 3.15	W 103 44 52.85
	1884.00	0.20	187.14	1883.95	-6.38	6.50	-3.66	0.36	461557.69	722252.21	N 32 16 3.15	W 103 44 52.85
	1979.00	0.14	352.80	1978.95	-6.33	6.45	-3.70	0.36	461557.64	722252.17	N 32 16 3.15	W 103 44 52.85
	2167.00	0.13	67.12	2166.95	-6.65	6.77	-3.53	0.09	461557.95	722252.34	N 32 16 3.15	W 103 44 52.85
	2262.00	0.17	146.97	2261.95	-6.58	6.69	-3.35	0.21	461557.88	722252.52	N 32 16 3.15	W 103 44 52.84
	2356.00	0.17	50.55	2355.95	-6.56	6.66	-3.17	0.27	461557.85	722252.70	N 32 16 3.15	W 103 44 52.84
	2451.00	0.17	46.08	2450.95	-6.75	6.85	-2.96	0.01	461558.04	722252.91	N 32 16 3.15	W 103 44 52.84
	2545.00	0.21	289.96	2544.95	-6.90	7.00	-3.02	0.34	461558.19	722252.85	N 32 16 3.15	W 103 44 52.84
	2735.00	0.15	56.31	2734.95	-7.16	7.26	-3.14	0.17	461558.45	722252.73	N 32 16 3.15	W 103 44 52.84
	2829.00	0.08	299.69	2828.95	-7.26	7.36	-3.10	0.21	461558.55	722252.77	N 32 16 3.15	W 103 44 52.84
	2923.00	0.25	243.27	2922.95	-7.19	7.30	-3.34	0.23	461558.49	722252.53	N 32 16 3.15	W 103 44 52.84
	3018.00	0.21	74.68	3017.95	-7.14	7.25	-3.35	0.48	461558.44	722252.52	N 32 16 3.15	W 103 44 52.84
	3112.00	0.17	18.79	3111.94	-7.33	7.43	-3.14	0.19	461558.62	722252.73	N 32 16 3.16	W 103 44 52.84
	3207.00	0.21	347.06	3206.94	-7.63	7.73	-3.14	0.12	461558.92	722252.73	N 32 16 3.16	W 103 44 52.84
	3301.00	0.17	306.39	3300.94	-7.88	7.99	-3.29	0.15	461559.18	722252.58	N 32 16 3.16	W 103 44 52.84
	3395.00	0.22	124.27	3394.94	-7.86	7.97	-3.25	0.41	461559.16	722252.62	N 32 16 3.16	W 103 44 52.84
	3490.00	0.14	86.74	3489.94	-7.77	7.87	-2.98	0.15	461559.06	722252.89	N 32 16 3.16	W 103 44 52.84
	3584.00	0.15	0.43	3583.94	-7.90	8.00	-2.87	0.21	461559.19	722253.00	N 32 16 3.16	W 103 44 52.84
	3679.00	0.25	149.79	3678.94	-7.85	7.95	-2.76	0.41	461559.13	722253.11	N 32 16 3.16	W 103 44 52.84
	3773.00	0.11	2.56	3772.94	-7.77	7.86	-2.66	0.37	461559.05	722253.21	N 32 16 3.16	W 103 44 52.84
	3868.00	0.17	280.76	3867.94	-7.88	7.98	-2.79	0.20	461559.17	722253.08	N 32 16 3.16	W 103 44 52.84
	3962.00	0.21	148.17	3961.94	-7.76	7.86	-2.84	0.37	461559.04	722253.03	N 32 16 3.16	W 103 44 52.84
	4151.00	0.35	154.31	4150.94	-6.96	7.04	-2.40	0.08	461558.23	722253.47	N 32 16 3.15	W 103 44 52.83
	4245.00	0.17	261.07	4244.94	-6.68	6.76	-2.42	0.46	461557.95	722253.45	N 32 16 3.15	W 103 44 52.83
	4340.00	0.17	198.96	4339.94	-6.52	6.61	-2.60	0.18	461557.79	722253.27	N 32 16 3.15	W 103 44 52.84
	4434.00	0.17	136.12	4433.94	-6.29	6.37	-2.55	0.19	461557.56	722253.32	N 32 16 3.14	W 103 44 52.84
	4530.00	0.21	83.12	4529.94	-6.21	6.29	-2.28	0.18	461557.48	722253.59	N 32 16 3.14	W 103 44 52.83
	4624.00	0.14	272.12	4623.94	-6.24	6.32	-2.22	0.37	461557.51	722253.65	N 32 16 3.14	W 103 44 52.83
	4718.00	0.10	309.65	4717.94	-6.29	6.37	-2.40	0.09	461557.56	722253.47	N 32 16 3.14	W 103 44 52.83
	4813.00	0.17	284.11	4812.94	-6.37	6.46	-2.60	0.10	461557.65	722253.27	N 32 16 3.15	W 103 44 52.84
	4907.00	0.18	207.37	4906.94	-6.27	6.36	-2.80	0.23	461557.55	722253.07	N 32 16 3.14	W 103 44 52.84
	5001.00	0.18	187.24	5000.94	-5.99	6.09	-2.89	0.07	461557.28	722252.98	N 32 16 3.14	W 103 44 52.84
	5190.00	0.20	114.63	5189.94	-5.57	5.65	-2.63	0.12	461556.84	722253.24	N 32 16 3.14	W 103 44 52.84
	5379.00	0.18	290.27	5378.94	-5.53	5.62	-2.61	0.20	461556.81	722253.26	N 32 16 3.14	W 103 44 52.84
	5475.00	0.10	238.33	5474.94	-5.53	5.63	-2.82	0.15	461556.82	722253.05	N 32 16 3.14	W 103 44 52.84
	5663.00	0.17	99.87	5662.93	-5.40	5.49	-2.68	0.13	461556.68	722253.19	N 32 16 3.14	W 103 44 52.84
	5758.00	0.20	104.50	5757.93	-5.35	5.43	-2.38	0.04	461556.62	722253.49	N 32 16 3.14	W 103 44 52.83
	5852.00	0.24	314.84	5851.93	-5.45	5.53	-2.36	0.45	461556.71	722253.51	N 32 16 3.14	W 103 44 52.83
	5947.00	0.21	230.32	5946.93	-5.47	5.55	-2.64	0.32	461556.74	722253.23	N 32 16 3.14	W 103 44 52.84
	6135.00	0.12	144.36	6134.93	-5.08	5.17	-2.79	0.12	461556.36	722253.08	N 32 16 3.13	W 103 44 52.84
	6230.00	0.12	52.02	6229.93	-5.07	5.15	-2.65	0.18	461556.34	722253.22	N 32 16 3.13	W 103 44 52.84
	6324.00	0.07	6.05	6323.93	-5.19	5.27	-2.57	0.09	461556.46	722253.30	N 32 16 3.13	W 103 44 52.84
6420.00	0.15	53.38	6419.93	-5.32	5.41	-2.46	0.12	461556.60	722253.41	N 32 16 3.14	W 103 44 52.83	
6514.00	0.21	275.16	6513.93	-5.41	5.49	-2.54	0.36	461556.68	722253.33	N 32 16 3.14	W 103 44 52.84	
6609.00	0.27	155.22	6608.93	-5.22	5.31	-2.62	0.44	461556.50	722253.25	N 32 16 3.13	W 103 44 52.84	
6797.00	0.45	44.67	6796.93	-5.37	5.43	-1.91	0.32	461556.62	722253.96	N 32 16 3.14	W 103 44 52.83	
6892.00	0.73	341.10	6891.93	-6.20	6.27	-1.84	0.70	461557.46	722254.03	N 32 16 3.14	W 103 44 52.83	
7081.00	0.13	236.09	7080.92	-7.21	7.29	-2.41	0.41	461558.48	722253.46	N 32 16 3.15	W 103 44 52.83	
7269.00	0.19	341.55	7268.92	-7.37	7.46	-2.69	0.14	461558.65	722253.18	N 32 16 3.16	W 103 44 52.84	
7459.00	0.14	104.51	7458.92	-7.62	7.70	-2.56	0.15	461558.89	722253.31	N 32 16 3.16	W 103 44 52.84	
7554.00	0.14	120.88	7553.92	-7.54	7.62	-2.35	0.04	461558.81	722253.52	N 32 16 3.16	W 103 44 52.83	
7743.00	0.39	155.13	7742.92	-6.85	6.91	-1.88	0.15	461558.10	722253.99	N 32 16 3.15	W 103 44 52.83	
7837.00	0.10	14.36	7836.92	-6.64	6.70	-1.73	0.50	461557.89	722254.14	N 32 16 3.15	W 103 44 52.83	
8026.00	0.46	133.13	8025.91	-6.30	6.34	-1.13	0.27	461557.53	722254.74	N 32 16 3.14	W 103 44 52.82	
8120.00	0.73	57.20	8119.91	-6.40	6.41	-0.35	0.81	461557.60	722255.52	N 32 16 3.15	W 103 44 52.81	
8214.00	0.15	23.61	8213.91	-6.85	6.85	0.20	0.65	461558.04	722256.07	N 32 16 3.15	W 103 44 52.80	
8310.00	0.29	339.18	8309.91	-7.19	7.19	0.16	0.22	461558.38	722256.03	N 32 16 3.15	W 103 44 52.80	
8408.00	0.67	332.72	8407.90	-7.92	7.93	-0.19	0.39	461559.12	722255.68	N 32 16 3.16	W 103 44 52.81	
8502												

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 ° ° °)
	8880.00	5.49	317.12	8878.87	-29.78	30.40	-18.68	0.65	461581.59	722237.19	N 32 16 3.38 W 103 44 53.02	
	8975.00	6.40	314.05	8973.36	-36.57	37.41	-25.58	1.01	461588.60	722230.29	N 32 16 3.45 W 103 44 53.10	
	9070.00	6.81	314.76	9067.73	-43.96	45.06	-33.38	0.44	461596.25	722222.49	N 32 16 3.53 W 103 44 53.19	
	9164.00	6.68	316.44	9161.07	-51.59	52.95	-41.11	0.25	461604.13	722214.76	N 32 16 3.61 W 103 44 53.28	
	9258.00	6.95	320.81	9254.41	-59.72	61.32	-48.47	0.62	461612.50	722207.40	N 32 16 3.69 W 103 44 53.37	
	9447.00	7.01	323.35	9442.01	-77.37	79.43	-62.58	0.17	461630.62	722193.29	N 32 16 3.87 W 103 44 53.53	
	9639.00	6.86	337.68	9632.62	-97.01	99.44	-73.93	0.90	461650.63	722181.94	N 32 16 4.07 W 103 44 53.66	
	9730.00	7.15	346.81	9722.94	-107.43	109.98	-77.29	1.26	461661.17	722178.59	N 32 16 4.17 W 103 44 53.70	
	9825.00	6.40	349.17	9817.28	-118.31	120.94	-79.63	0.84	461672.12	722176.24	N 32 16 4.28 W 103 44 53.73	
	9919.00	5.89	348.89	9910.74	-128.12	130.82	-81.54	0.54	461682.00	722174.33	N 32 16 4.38 W 103 44 53.75	
	10013.00	5.02	354.75	10004.31	-136.90	139.65	-82.85	1.10	461690.83	722173.03	N 32 16 4.47 W 103 44 53.76	
	10108.00	4.25	354.65	10099.00	-144.52	147.29	-83.56	0.81	461698.47	722172.32	N 32 16 4.54 W 103 44 53.77	
	10202.00	3.70	353.79	10192.78	-150.98	153.77	-84.21	0.59	461704.95	722171.66	N 32 16 4.61 W 103 44 53.78	
	10297.00	2.60	347.62	10287.63	-156.10	158.93	-85.00	1.21	461710.11	722170.87	N 32 16 4.66 W 103 44 53.79	
	10391.00	3.11	338.94	10381.51	-160.52	163.39	-86.38	0.71	461714.57	722169.50	N 32 16 4.70 W 103 44 53.80	
	10486.00	4.84	316.67	10476.29	-165.72	168.71	-90.05	2.41	461719.89	722165.82	N 32 16 4.76 W 103 44 53.84	
	10574.00	7.13	299.42	10563.27	-176.71	180.21	-105.66	1.54	461731.39	722150.21	N 32 16 4.87 W 103 44 54.03	
	10768.00	8.09	291.29	10756.44	-181.61	185.48	-116.91	1.53	461736.66	722138.97	N 32 16 4.92 W 103 44 54.16	
	10864.00	8.19	286.32	10851.47	-185.57	189.85	-129.76	0.74	461741.03	722128.11	N 32 16 4.97 W 103 44 54.31	
	11053.00	6.26	228.27	11039.19	-181.83	186.77	-150.40	3.81	461737.95	722105.48	N 32 16 4.94 W 103 44 54.55	
	11184.00	13.09	176.97	11168.45	-162.07	167.15	-154.96	7.92	461718.33	722100.92	N 32 16 4.74 W 103 44 54.60	
KOP Actual	11273.00	24.32	162.11	11252.66	-134.67	139.54	-148.77	13.61	461690.72	722107.10	N 32 16 4.47 W 103 44 54.53	
100' FNL Crossing	11279.00	25.11	161.58	11258.11	-132.32	137.16	-147.99	13.61	461688.34	722107.89	N 32 16 4.45 W 103 44 54.52	
	11374.00	33.49	177.29	11341.01	-87.13	91.70	-140.36	11.91	461642.89	722115.52	N 32 16 4.00 W 103 44 54.43	
	11468.00	34.37	183.56	11419.02	-34.74	39.30	-140.78	3.84	461590.49	722115.10	N 32 16 3.48 W 103 44 54.44	
	11563.00	40.26	178.69	11494.56	22.80	-18.22	-142.28	6.87	461532.97	722113.60	N 32 16 2.91 W 103 44 54.46	
	11658.00	47.76	178.75	11562.83	88.68	-84.17	-141.35	7.92	461467.03	722114.53	N 32 16 2.26 W 103 44 54.46	
Wolfcamp Intersection	11731.72	54.65	180.99	11509.00	146.06	-141.58	-141.27	9.63	461409.61	722114.61	N 32 16 1.69 W 103 44 54.46	
	11753.00	56.64	181.56	11621.01	163.63	-159.14	-141.66	9.63	461392.05	722114.22	N 32 16 1.51 W 103 44 54.47	
	11847.00	64.43	187.17	11667.24	245.27	-240.63	-148.03	9.78	461310.58	722107.84	N 32 16 0.71 W 103 44 54.55	
	11942.00	70.39	189.36	11703.72	332.38	-327.38	-160.67	6.62	461223.83	722095.21	N 32 15 59.85 W 103 44 54.70	
	12036.00	81.58	178.72	11726.51	423.24	-418.07	-166.87	16.18	461133.14	722089.01	N 32 15 58.95 W 103 44 54.78	
	12131.00	88.69	177.02	11734.56	517.60	-512.60	-163.35	7.69	461038.62	722092.53	N 32 15 58.02 W 103 44 54.74	
	12230.00	88.30	177.25	11737.16	616.23	-611.44	-158.40	0.46	460939.78	722097.48	N 32 15 57.04 W 103 44 54.69	
	12324.00	88.72	181.56	11739.61	710.09	-705.39	-157.42	4.61	460845.84	722098.45	N 32 15 56.11 W 103 44 54.68	
	12419.00	90.47	182.30	11740.28	805.09	-800.32	-160.62	2.00	460750.91	722095.25	N 32 15 55.17 W 103 44 54.73	
	12514.00	89.23	181.18	11740.53	900.08	-895.28	-163.51	1.76	460655.96	722092.37	N 32 15 54.23 W 103 44 54.77	
	12609.00	88.99	181.23	11742.00	995.06	-990.24	-165.51	0.26	460561.00	722090.37	N 32 15 53.29 W 103 44 54.80	
	12703.00	90.61	182.30	11742.33	1089.06	-1084.20	-168.40	2.07	460467.06	722087.48	N 32 15 52.36 W 103 44 54.84	
	12798.00	91.61	182.49	11740.49	1184.04	-1179.09	-172.37	1.07	460372.16	722083.51	N 32 15 51.42 W 103 44 54.89	
	12893.00	91.51	182.35	11737.90	1279.00	-1273.97	-176.38	0.18	460277.29	722079.50	N 32 15 50.49 W 103 44 54.94	
	12988.00	91.64	182.65	11735.29	1373.95	-1368.85	-180.52	0.34	460182.42	722075.36	N 32 15 49.55 W 103 44 55.00	
	13083.00	91.54	182.07	11732.66	1468.91	-1463.73	-184.43	0.62	460087.54	722071.45	N 32 15 48.61 W 103 44 55.05	
	13177.00	91.68	182.25	11730.02	1562.87	-1557.63	-187.97	0.24	459993.65	722067.91	N 32 15 47.68 W 103 44 55.09	
	13272.00	91.61	182.78	11727.29	1657.83	-1652.49	-192.14	0.56	459898.79	722063.74	N 32 15 46.74 W 103 44 55.15	
	13367.00	92.02	182.10	11724.28	1752.77	-1747.36	-196.18	0.84	459803.93	722059.70	N 32 15 45.80 W 103 44 55.20	
	13461.00	91.75	180.32	11721.19	1846.71	-1841.28	-198.17	1.91	459710.01	722057.71	N 32 15 44.87 W 103 44 55.23	
	13556.00	91.20	180.21	11718.74	1941.65	-1936.25	-198.61	0.59	459615.05	722057.27	N 32 15 43.93 W 103 44 55.24	
	13651.00	89.72	179.79	11717.98	2036.59	-2031.25	-198.61	1.62	459520.06	722057.27	N 32 15 42.99 W 103 44 55.25	
	13745.00	88.75	179.62	11719.23	2130.52	-2125.23	-198.12	1.05	459426.07	722057.76	N 32 15 42.06 W 103 44 55.25	
	13840.00	88.99	180.00	11721.11	2225.44	-2220.22	-197.81	0.47	459331.10	722058.07	N 32 15 41.12 W 103 44 55.25	
	13935.00	89.48	180.16	11722.38	2320.38	-2315.21	-197.94	0.54	459236.11	722057.94	N 32 15 40.18 W 103 44 55.26	
	14029.00	89.13	180.35	11723.52	2414.34	-2409.20	-198.36	0.42	459142.13	722057.52	N 32 15 39.25 W 103 44 55.27	
	14123.00	89.85	179.86	11724.35	2508.29	-2503.19	-198.53	0.93	459048.14	722057.35	N 32 15 38.32 W 103 44 55.28	
	14218.00	89.78	179.74	11724.66	2603.23	-2598.19	-198.20	0.15	458953.14	722057.68	N 32 15 37.38 W 103 44 55.28	
	14313.00	89.37	179.71	11725.36	2698.16	-2693.19	-197.74	0.43	458858.15	722058.14	N 32 15 36.44 W 103 44 55.28	
	14408.00	90.13	180.20	11725.78	2793.11	-2788.19	-197.67	0.95	458763.16	722058.21	N 32 15 35.50 W 103 44 55.29	
	14503.00	90.16	179.73	11725.54	2888.06	-2883.19	-197.61	0.50	458668.16	722058.27	N 32 15 34.56 W 103 44 55.29	
	14597.00	89.58	179.83	11725.75	2982.00	-2977.18	-197.25	0.63	458574.17	722058.63	N 32 15 33.63 W 103 44 55.29	
	14692.00	90.71	179.90	11725.51	3076.94	-3072.18	-197.03	1.19	458479.18	722058.85	N 32 15 32.69 W 103 44 55.30	
	14787.00	90.23	179.92	11724.73	3171.88	-3167.18	-196.88	0.51	458384.19	722059.00	N 32 15 31.75 W 103 44 55.30	
	14882.00	90.82	179.66	11723.86	3266.81	-3262.17	-196.53	0.68	458289.20	722059.35	N 32 15 30.81 W 103 44 55.30	
	14976.00	90.34	180.25	11722.91	3360.76	-3356.17	-196.45	0.81	458195.21	722059.43	N 32 15 29.88 W 103 44 55.31	
	15167.00	90.85	180.53	11720.93	3551.68	-3547.15	-197.75	0.30	458004.23	722058.13	N 32 15 27.99 W 103 44 55.33	
	15261.00	90.13	180.13	11720.12	3645.65	-3641.15	-198.30	0.88	457910.24	722057.58	N 32 15 27.06 W 103 44 55.35	
	15356.00	90.44	180.40	11719.65	3740.61	-3736.14	-198.74	0.43	457815.25	722057.15	N 32 15 26.12 W 103 44 55.36	
	15451.00	90.78	180.54	11718.64	3835.58	-3831.14	-199.51	0.39	457720.27	722056.37	N 32 15 25.18 W 103 44 55.37	
	15545.00	90.89	180.41	11717.27	3929.54	-3925.12	-200.29	0.18	457626.29	722055.59	N 32 15 24.25 W 103 44 55.39	
	15640.00	91.40	180.39	11715.37	4024.49	-4020.10	-200.96	0.54	457531.31	722054.92	N 32 15 23.31 W 103 44 55.40	
	15735.00	90.37	180.08	11713.90	4119.44	-4115.09	-201.35	1.13	457436.33	722054.53	N 32 15 22.37 W 103 44 55.41	
	15830.00	91.23	179.58	11712.58	4214.37	-4210.08	-201.06	1.05	457341.35	722054.82	N 32 15 21.43 W 103 44 55.41	
	15925.00	90.37	177.06	11711.25	4309.17	-4305.02	-198.28	2.80	457246.41	722057.60	N 32 15 20.49 W 103 44 55.39	
	16019.00	91.71	178.05	11709.54	4402.89	-4398.91	-194.27	1.77	457152.52	722061.61	N 32 15 19.57 W 103 44 55.35	
	16114.00	92.47	177.77	11708.08	4497.60	-4493.79	-190.81	0.85	457057.65	722065.07	N 32 15 18.63 W 103 44 55.31	
	16209.00	90.58	177.51	11703.55	4592.31	-4588.67	-186.90	2.01	456962.78	722068.98	N 32 15 17.69 W 103 44 55.27	
	16303.00	88.51	177.38	11704.30	4686.02	-4682.57	-182.71	2.21	456868.88	722073.17	N 32 15 16.76 W 103 44	