

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

RECEIVED

June 5, 2019

JUN 08 2019

OXY USA, Inc.

DISTRICT II-ARTESIA O.C.D.

Re:

S6, T24S, R29E Eddy NM
N 32° 15' 10.97977" W 104° 1' 48.22205"

CLIENT: OXY USA Incorporated
WELL: Length CC 6_7 Federal Com 21H
FIELD: Pierce Crossing Bone Spring

RIG: H&P 635
COUNTY: Eddy
API NO: 30-015-45553
JOB NO: 19MLH0086

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>
JOSEPH AJAYI FE	Length CC 6_7 Federal Com 21H Original Hole	560.00 Ft to 18747.00 Ft	April 12, 2019 to June 1, 2019	SlimPulse

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

ANDREW SALOMON
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:
S6, T24S, R29E Eddy NM
N 32° 15' 10.97977" W 104° 1' 48.22205"

I, JOSEPH AJAYI certify that; I am employed by Drilling & Measurements, a division of Schlumberger Technology Corporation; that I did on the day(s) of April 12, 2019 through June 01, 2019, conduct or supervise the taking of the SlimPulse surveys from a depth of 560.00 feet to a depth of 18747.00 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 Length CC 6_7 Federal Com 21H Well (Original Hole) API No. 30-015-45553 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
JOSEPH AJAYI
FE

J. Ajayi

Subscribed and Sworn to before me this 10 day of June (month) 2019 (yr)

My Commission expires:

5-22-2023

[Signature]
Notary Public

(signature)

Grady OK
(County State)

JODY LEON BARE
Notary Public, State of Oklahoma
Commission # 19005260
My Commission Expires 05-22-2023

Schlumberger

OXY

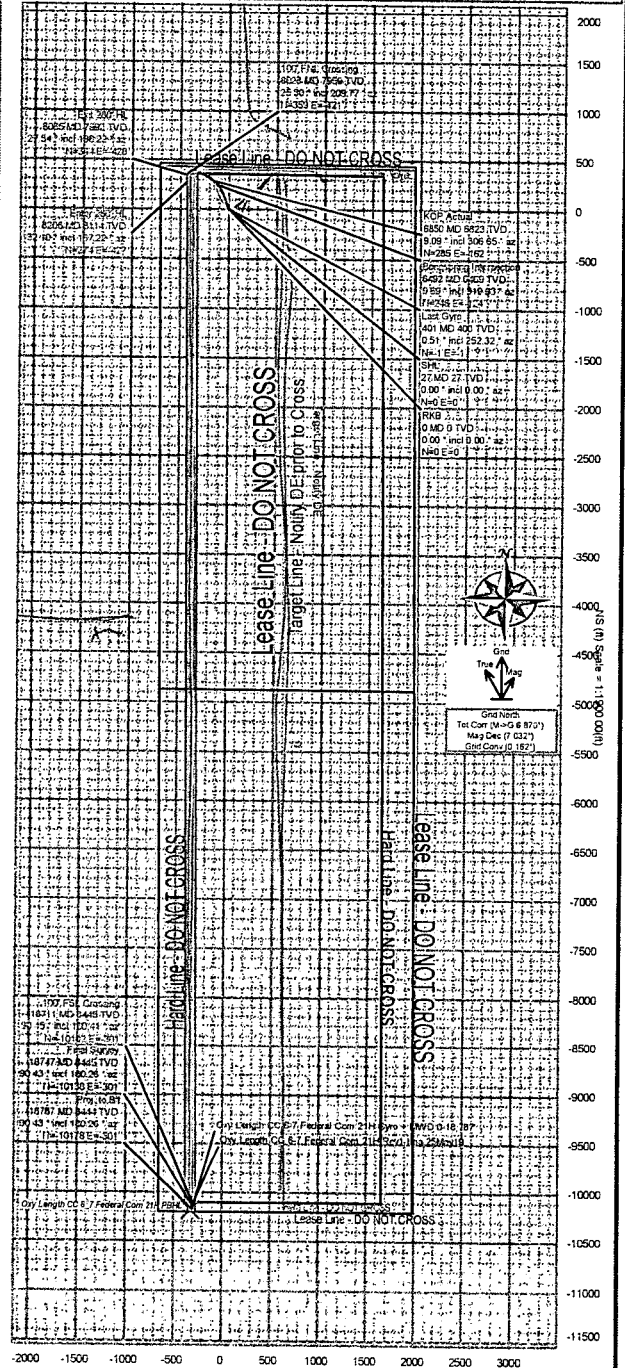
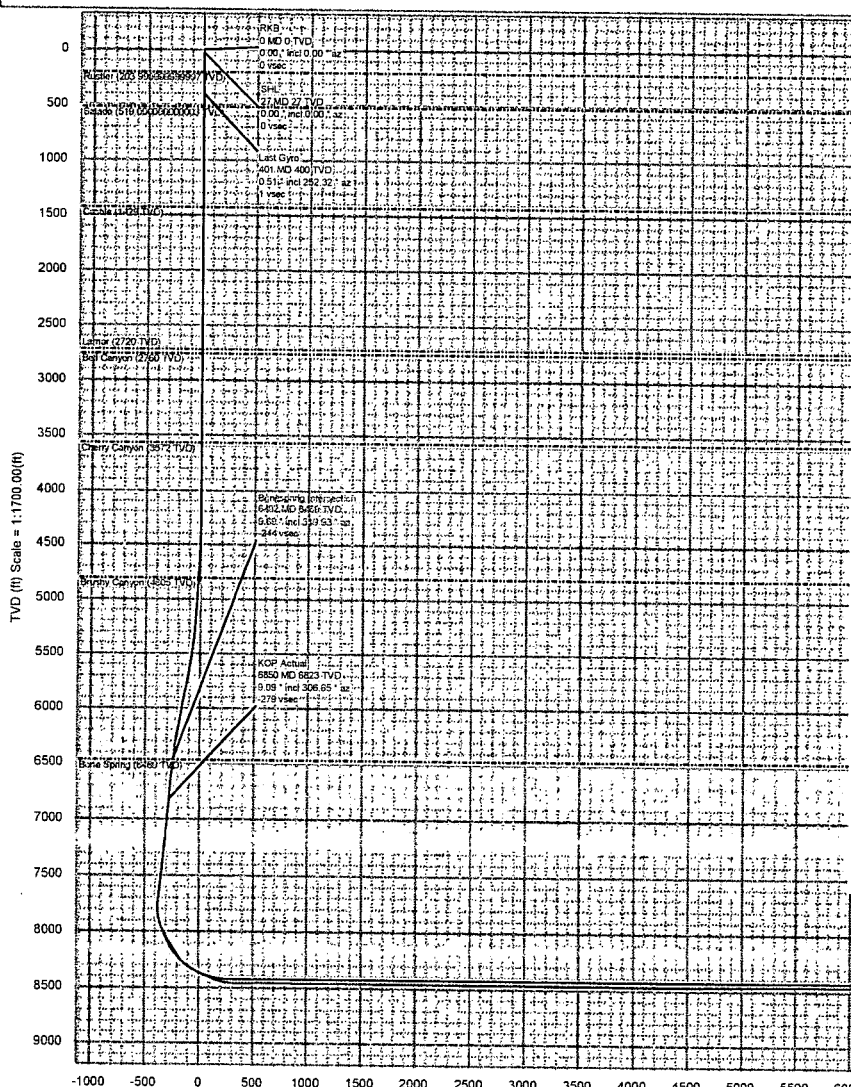


Borehole:	Well:	Field:	Structure:
Original Borehole	Oxy Length CC 6-7 Federal Com 21H	NM Eddy County (NAD 83)	Oxy Length CC 6-7 Federal Com 21H

Gravity & Magnetic Parameters	Surface Location	Miscellaneous
Model: IFR1 Dip: 60.019° Date: 24-May-2019	NAD83 New Mexico State Plane, Eastern Zone, US Feet	Oxy Length CC 6-7 Federal Com
MagDec: 7.032° FS: 47917.4mT Gravity FS: 988.471mg (9.80665 Based)	Lat: N 32 15 10.98 Northing: 45926.27HUS Grid Conv: 0.1618°	Slot: 7 Federal Com TVD Ref: RKB=26.5' (2990ft above HSL)
	Lon: W 104 1 48.22 Easting: 635089.17HUS Scale Fact: 0.99991916	Plan: Oxy Length CC 6-7 Federal Com 21H Gyro + MWD 0-18.787

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	400.50	0.51	252.32	400.49	1.12	-1.08	-1.46	0.52
Bonespring Intersection	6491.90	9.69	319.93	6469.00	-243.53	247.57	-123.59	0.67
KOP Actual	6850.00	9.09	306.65	6823.08	-279.29	284.56	-161.76	0.95
100' FNL Crossing	8027.88	25.30	209.77	7958.87	-345.20	358.72	-421.08	14.93
Exit 280' HL	8065.40	27.54	198.22	7992.49	-329.78	343.51	-427.78	13.69
Enter 280' HL	8206.00	32.10	167.22	8114.27	-260.56	274.24	-427.44	6.83
100' FSL Crossing	18710.76	90.45	180.41	8444.97	10106.19	-10101.73	-300.64	0.42
Final Survey	18747.00	90.43	180.26	8444.69	10142.41	-10137.97	-300.85	0.42
Proj. to Bit	18787.00	90.43	180.26	8444.39	10182.40	-10177.97	-301.03	0.00



Oxy Length CC 6-7 Federal Com 21H Gyro + MWD 0-18,787' Survey

Geodetic Report

(Def Survey)



Report Date: June 04, 2019 - 11:01 AM
 Client: OXY
 Field: NM Eddy County (NAD 83)
 Structure / Slot: Oxy Length CC 6-7 Federal Com 21H / Oxy Length CC 6-7 Federal Com 21H
 Well: Oxy Length CC 6-7 Federal Com 21H
 Borehole: Original Borehole
 UWI / API#: H&P635 / 30-015-45574
 Survey Name: Oxy Length CC 6-7 Federal Com 21H Gyro + MWD 0-18,787'
 Survey Date: May 26, 2019
 Tort / AHD / DDI / ERD Ratio: 223.983 ° / 11189.082 ft / 6.745 / 1.321
 Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
 Location Lat / Long: N 32° 15' 10.97977", W 104° 1' 48.22205"
 Location Grid N/E Y/X: N 455925 270 ftUS, E 635089 170 ftUS
 CRS Grid Convergence Angle: 0.1618 °
 Grid Scale Factor: 0.99991916
 Version / Patch: 2.10.760.0

Survey / DLS Computation: Minimum Curvature / Lubinski
 Vertical Section Azimuth: 181.816 ° (Grid North)
 Vertical Section Origin: 0.000 ft, 0.000 ft
 TVD Reference Datum: RKB=26.5'
 TVD Reference Elevation: 2990.000 ft above MSL
 Seabed / Ground Elevation: 2963.500 ft above MSL
 Magnetic Declination: 7.032 °
 Total Gravity Field Strength: 998.4712mgN (9.80665 Based)
 Gravity Model: GARM
 Total Magnetic Field Strength: 47917.400 nT
 Magnetic Dip Angle: 60.019 °
 Declination Date: May 24, 2019
 Magnetic Declination Model: IFR1
 North Reference: Grid North
 Grid Convergence Used: 0.1618 °
 Total Corr Mag North->Grid North: 6.8702 °
 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	455925.27	635089.17	N 32 15 10.98 W 104	1 48 22
SHL	26.50	0.00	0.00	26.50	0.00	0.00	0.00	0.00	455925.27	635089.17	N 32 15 10.98 W 104	1 48 22
	70.50	0.09	224.54	70.50	0.03	-0.02	-0.02	0.20	455925.25	635089.15	N 32 15 10.98 W 104	1 48 22
	85.50	0.10	239.36	85.50	0.04	-0.04	-0.04	0.18	455925.23	635089.13	N 32 15 10.98 W 104	1 48 22
	100.50	0.17	246.33	100.50	0.06	-0.06	-0.08	0.48	455925.21	635089.09	N 32 15 10.98 W 104	1 48 22
	115.50	0.19	259.45	115.50	0.07	-0.07	-0.12	0.30	455925.20	635089.05	N 32 15 10.98 W 104	1 48 22
	130.50	0.22	245.80	130.50	0.09	-0.09	-0.17	0.38	455925.18	635089.00	N 32 15 10.98 W 104	1 48 22
	145.50	0.24	241.73	145.50	0.12	-0.11	-0.22	0.17	455925.16	635088.95	N 32 15 10.98 W 104	1 48 22
	160.50	0.21	230.94	160.50	0.15	-0.14	-0.27	0.35	455925.13	635088.90	N 32 15 10.98 W 104	1 48 23
	175.50	0.26	226.81	175.50	0.19	-0.18	-0.32	0.35	455925.09	635088.85	N 32 15 10.98 W 104	1 48 23
	190.50	0.20	217.39	190.50	0.24	-0.23	-0.36	0.47	455925.04	635088.81	N 32 15 10.98 W 104	1 48 23
	205.50	0.21	227.94	205.50	0.28	-0.27	-0.40	0.26	455925.00	635088.77	N 32 15 10.98 W 104	1 48 23
	220.50	0.22	227.80	220.50	0.32	-0.31	-0.44	0.07	455924.96	635088.73	N 32 15 10.98 W 104	1 48 23
	235.50	0.28	231.64	235.50	0.36	-0.35	-0.49	0.42	455924.92	635088.68	N 32 15 10.98 W 104	1 48 23
	250.50	0.36	231.67	250.50	0.42	-0.40	-0.55	0.53	455924.87	635088.62	N 32 15 10.98 W 104	1 48 23
	265.50	0.42	221.86	265.50	0.49	-0.47	-0.63	0.60	455924.80	635088.54	N 32 15 10.98 W 104	1 48 23
	280.50	0.46	230.23	280.50	0.57	-0.55	-0.71	0.50	455924.72	635088.46	N 32 15 10.97 W 104	1 48 23
	295.50	0.46	226.36	295.50	0.65	-0.63	-0.80	0.21	455924.64	635088.37	N 32 15 10.97 W 104	1 48 23
	310.50	0.49	225.29	310.50	0.74	-0.72	-0.89	0.21	455924.55	635088.28	N 32 15 10.97 W 104	1 48 23
	325.50	0.47	225.94	325.50	0.83	-0.80	-0.98	0.14	455924.47	635088.19	N 32 15 10.97 W 104	1 48 23
	340.50	0.39	233.96	340.50	0.91	-0.88	-1.07	0.67	455924.39	635088.10	N 32 15 10.97 W 104	1 48 23
	355.50	0.36	235.36	355.50	0.97	-0.93	-1.15	0.21	455924.34	635088.02	N 32 15 10.97 W 104	1 48 24
	370.50	0.41	245.78	370.50	1.02	-0.98	-1.23	0.57	455924.29	635087.94	N 32 15 10.97 W 104	1 48 24
	385.50	0.46	245.34	385.49	1.07	-1.03	-1.34	0.33	455924.24	635087.83	N 32 15 10.97 W 104	1 48 24
Last Gyro	400.50	0.51	252.32	400.49	1.12	-1.08	-1.46	0.52	455924.20	635087.71	N 32 15 10.97 W 104	1 48 24
	560.00	0.10	315.27	559.99	1.26	-1.19	-2.23	0.30	455924.08	635086.94	N 32 15 10.97 W 104	1 48 25
	634.00	0.03	169.42	633.99	1.24	-1.16	-2.27	0.17	455924.11	635086.90	N 32 15 10.97 W 104	1 48 25
	730.00	0.04	356.80	729.99	1.23	-1.16	-2.27	0.07	455924.11	635086.90	N 32 15 10.97 W 104	1 48 25
	822.00	0.08	284.31	821.99	1.18	-1.11	-2.33	0.08	455924.16	635086.84	N 32 15 10.97 W 104	1 48 25
	915.00	0.19	349.90	914.99	1.02	-0.94	-2.42	0.19	455924.33	635086.75	N 32 15 10.97 W 104	1 48 25
	1100.00	0.11	39.60	1099.99	0.58	-0.50	-2.36	0.08	455924.77	635086.81	N 32 15 10.97 W 104	1 48 25
	1190.00	0.22	28.38	1189.99	0.35	-0.28	-2.23	0.13	455924.99	635086.94	N 32 15 10.98 W 104	1 48 25
	1284.00	0.23	145.22	1283.99	0.34	-0.28	-2.03	0.41	455924.99	635087.14	N 32 15 10.98 W 104	1 48 25
	1469.00	0.17	250.31	1468.99	0.74	-0.68	-2.08	0.17	455924.59	635087.09	N 32 15 10.97 W 104	1 48 25
	1561.00	0.11	310.20	1560.99	0.74	-0.67	-2.28	0.16	455924.60	635086.89	N 32 15 10.97 W 104	1 48 25
	1656.00	0.11	227.52	1655.99	0.74	-0.67	-2.41	0.15	455924.60	635086.76	N 32 15 10.97 W 104	1 48 25
	1750.00	0.23	73.09	1749.99	0.75	-0.67	-2.30	0.35	455924.60	635086.87	N 32 15 10.97 W 104	1 48 25
	1939.00	0.22	121.90	1938.99	0.81	-0.76	-1.63	0.10	455924.51	635087.54	N 32 15 10.97 W 104	1 48 24
	2034.00	0.22	324.61	2033.99	0.75	-0.70	-1.58	0.45	455924.57	635087.59	N 32 15 10.97 W 104	1 48 24
	2129.00	0.04	13.98	2128.99	0.58	-0.52	-1.68	0.21	455924.75	635087.49	N 32 15 10.97 W 104	1 48 24
	2223.00	0.21	268.23	2222.99	0.55	-0.50	-1.84	0.24	455924.77	635087.33	N 32 15 10.97 W 104	1 48 24
	2318.00	0.27	281.55	2317.99	0.53	-0.46	-2.23	0.09	455924.81	635086.94	N 32 15 10.98 W 104	1 48 25
	2412.00	0.22	219.74	2411.99	0.63	-0.55	-2.57	0.27	455924.72	635086.60	N 32 15 10.97 W 104	1 48 25
	2506.00	0.25	231.17	2505.98	0.91	-0.82	-2.84	0.06	455924.45	635086.33	N 32 15 10.97 W 104	1 48 26
	2601.00	0.23	227.83	2600.98	1.18	-1.08	-3.14	0.03	455924.19	635086.03	N 32 15 10.97 W 104	1 48 26
	2695.00	0.07	296.36	2694.98	1.28	-1.18	-3.33	0.23	455924.09	635085.84	N 32 15 10.97 W 104	1 48 26
	2790.00	0.22	219.74	2789.98	1.40	-1.29	-3.50	0.23	455923.98	635085.67	N 32 15 10.97 W 104	1 48 26
	2978.00	0.23	332.02	2977.98	1.36	-1.24	-3.91	0.20	455924.03	635085.26	N 32 15 10.97 W 104	1 48 27
	3073.00	0.18	12.81	3072.98	1.05	-0.92	-3.97	0.16	455924.35	635085.20	N 32 15 10.97 W 104	1 48 27
	3261.00	0.25	97.21	3260.98	0.80	-0.69	-3.50	0.16	455924.58	635085.68	N 32 15 10.97 W 104	1 48 26
	3356.00	0.25	137.40	3355.98	0.96	-0.86	-3.15	0.18	455924.41	635086.02	N 32 15 10.97 W 104	1 48 26
	3544.00	0.17	287.38	3543.98	1.18	-1.08	-3.14	0.22	455924.19	635086.03	N 32 15 10.97 W 104	1 48 26
	3639.00	0.14	307.88	3638.98	1.08	-0.97	-3.36	0.07	455924.30	635086.03	N 32 15 10.97 W 104	1 48 26
	3733.00	0.22	280.85	3732.98	0.98	-0.87	-3.63	0.12	455924.40	635085.54	N 32 15 10.97 W 104	1 48 26
	3828.00	0.12	279.66	3827.98	0.94	-0.81	-3.91	0.11	455924.46	635085.26	N 32 15 10.97 W 104	1 48 26
	4016.00	0.32	332.25	4015.98	0.45	-0.32	-4.35	0.14	455924.95	635084.82	N 32 15 10.98 W 104	1 48 27
	4111.00	0.17	334.81	4110.98	0.10	0.05	-4.53	0.16	455925.32	635084.64	N 32 15 10.98 W 104	1 48 27
	4205.00	0.25	338.89	4204.98	-0.22	0.36	-4.66	0.09	455925.63	635084.51	N 32 15 10.98 W 104	1 48 27
	4299.00	0.44	325.08	4298.97	-0.69	0.85	-4.94	0.22	455926.12	635084.23	N 32 15 10.99 W 104	1 48 28
	4393.00	1.17	341.73	4392.96	-1.88	2.06	-5.45	0.81	455927.33	635083.72	N 32 15 11.00 W 104	1 48 29
	4488.00	1.70	339.52	4487.93	-4.10	4.30	-6.25	0.56	455929.57	635082.92	N 32 15 11.02 W 104	1 48 29
	4582.00	2.29	344.22	4581.88	-7.18	7.41	-7.25	0.65	455932.68	635081.92	N 32 15 11.05 W 104	1 48 31
	4677.00	2.77	345.45	4676.78	-11.19	11.46	-8.34	0.51	455936.73	635080.83	N 32 15 11.09 W 104	1 48 32
	4771.00	3.38	346.00	4770.65	-16.04	16.35	-9.58	0.65	455941.62	635079.59	N 32 15 11.14 W 104	1 48 33
	4960.00	3.75	341.78	4959.28	-27.20	27.63	-12.86	0.24	455952.89	635076.31	N 32 15 11.25 W 104	1 48 37
	5054.00	3.99	338.96	5053.07	-33.11	33.60	-15.00	0.33	455958.87	635074.17	N 32 15 11.31 W 104	1 48 40
	5242.00	5.73	337.61	5240.38	-47.69	48.38	-20.92	0.93	455973.65	635068.25	N 32 15 11.46 W 104	1 48 46
	5336.00	6.74	337.49	5333.83	-57.00	57.82	-24.82	1.07	455983.08	635064.35	N 32 15 11.55 W 104	1 48 51
	5431.00	7.88	339.05	5428.05	-68.09	69.05	-29.28	1.22	455994.31	635059.89	N 32 15 11.66 W 104	1 48 56
	5525.00	8.80	339.31	5521.06	-80.67	81.79	-34.13	0.98	456007.06	635055.05	N 32 15 11.79 W 104	1 48 62
	5715.00	11.17	339.59	5708.17	-111.14	112.64	-45.68	1.25	456037.90	635043.49	N 32 15 12.10 W 104	1 48 75
	5810.00	12.33	339.87	5801.18	-129.06	130.79	-52.38	1.22	456056.05	635036.79	N 32 15 12.28 W 104	1 48 83
	5999.00	12.32	330.16	5985.84	-164.95	167.23	-69.36	1.10	456092.49	635019.81	N 32 15 12.64 W 104	1 49 02
	6094.00	12.62	329.92	6078.60	-182.39	185.00	-79.61	0.32	456110.26	635009.57	N 32 15 12.81 W 104	1 49 14
	6189.00	11.91	329.36	6171.43	-199.47	202.42	-89.80	0.76	456127.67	634999.37	N 32 15 12.99 W 104	1 49 26
	6378.00	10.45	319.96	63								

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 ° ' ")
KOP Actual	6568.00	9.18	319.90	6544.07	-252.81	257.11	-131.62	0.67	456182.36	634957.56	N 32 15 13.53 W 104	149.75
	6665.00	7.65	315.29	6640.02	-263.01	267.62	-141.15	1.72	456192.87	634948.03	N 32 15 13.63 W 104	149.86
	6755.00	8.22	308.33	6729.16	-270.96	275.87	-150.41	1.24	456201.11	634938.77	N 32 15 13.71 W 104	149.96
	6850.00	9.09	306.65	6823.08	-279.29	284.56	-161.76	0.95	456209.80	634927.43	N 32 15 13.80 W 104	150.10
	6943.00	10.41	307.08	6914.73	-288.34	294.01	-174.36	1.42	456219.25	634914.83	N 32 15 13.89 W 104	150.24
	7132.00	10.90	305.38	7100.48	-308.07	314.65	-202.55	0.31	456239.89	634886.64	N 32 15 14.10 W 104	150.57
	7227.00	12.10	301.34	7193.57	-317.95	325.03	-218.38	1.52	456250.27	634870.81	N 32 15 14.20 W 104	150.75
	7415.00	13.64	294.04	7376.85	-336.04	344.31	-255.45	1.19	456269.55	634833.74	N 32 15 14.39 W 104	151.19
	7604.00	15.79	298.24	7559.65	-355.92	365.56	-298.47	1.27	456290.80	634790.73	N 32 15 14.61 W 104	151.69
	7698.00	16.07	299.62	7650.04	-367.68	378.04	-321.04	0.50	456303.28	634768.15	N 32 15 14.73 W 104	151.95
	7736.00	15.85	299.24	7686.57	-372.52	383.18	-330.14	0.64	456308.41	634759.05	N 32 15 14.78 W 104	152.05
	7876.00	22.21	265.64	7819.24	-378.50	390.53	-373.38	8.87	456315.77	634715.82	N 32 15 14.85 W 104	152.56
100' FNL Crossing	7971.00	23.91	229.98	7907.07	-363.66	376.72	-406.19	14.60	456301.96	634683.02	N 32 15 14.72 W 104	152.94
Exit 280' HL	8027.88	25.30	209.77	7958.87	-345.20	358.72	-421.08	14.93	456283.96	634668.13	N 32 15 14.54 W 104	153.11
	8065.00	27.53	198.34	7992.14	-329.96	343.68	-427.72	14.93	456268.93	634661.49	N 32 15 14.39 W 104	153.19
	8065.40	27.54	198.22	7992.49	-329.78	343.51	-427.78	13.69	456268.75	634661.43	N 32 15 14.39 W 104	153.19
	8159.00	31.38	173.17	8074.29	-284.74	298.57	-431.66	13.69	456223.82	634657.55	N 32 15 13.95 W 104	153.24
	8206.00	32.10	167.22	8114.27	-260.56	274.24	-427.44	6.83	456199.49	634661.76	N 32 15 13.71 W 104	153.19
	8254.00	33.11	161.43	8154.71	-235.92	249.37	-420.44	6.83	456174.62	634668.76	N 32 15 13.46 W 104	153.11
	8349.00	39.13	167.45	8231.44	-182.49	195.44	-405.65	7.35	456120.70	634683.56	N 32 15 12.93 W 104	152.94
	8443.00	54.08	174.59	8295.88	-115.57	128.17	-395.55	16.82	456053.43	634693.65	N 32 15 12.26 W 104	152.82
	8538.00	62.93	173.14	8345.46	-35.44	47.72	-386.85	9.41	455972.99	634702.35	N 32 15 11.46 W 104	152.73
	8632.00	66.97	174.81	8385.26	48.91	36.95	-377.94	4.59	455888.32	634711.26	N 32 15 10.62 W 104	152.62
	8727.00	70.94	175.47	8419.37	136.95	-125.28	-370.43	4.23	455800.00	634718.77	N 32 15 9.75 W 104	152.54
	8821.00	78.64	178.46	8444.02	227.26	-215.78	-365.68	8.75	455709.51	634723.52	N 32 15 8.85 W 104	152.49
Enter 280' HL	9010.00	91.13	182.27	8455.60	321.43	-310.03	-364.76	10.16	455615.27	634724.44	N 32 15 7.92 W 104	152.48
	9119.00	91.12	182.00	8455.60	415.41	-403.98	-366.95	3.79	455521.32	634722.25	N 32 15 6.99 W 104	152.51
	9213.00	89.70	182.00	8453.46	524.39	-512.89	-371.01	0.25	455412.43	634718.19	N 32 15 5.92 W 104	152.56
	9306.00	89.65	182.12	8452.79	618.38	-606.82	-374.39	1.52	455318.50	634714.82	N 32 15 4.99 W 104	152.60
	9399.00	89.90	182.40	8453.32	711.38	-699.75	-378.05	0.31	455225.58	634711.15	N 32 15 4.07 W 104	152.65
	9493.00	89.74	181.37	8453.68	804.37	-792.70	-381.11	1.14	455132.64	634708.09	N 32 15 3.15 W 104	152.69
	9586.00	89.93	180.39	8453.98	898.36	-886.68	-382.56	1.06	455038.66	634706.65	N 32 15 2.22 W 104	152.71
	9679.00	89.85	180.43	8454.25	991.33	-979.68	-383.22	0.21	454945.67	634705.98	N 32 15 1.30 W 104	152.72
	9772.00	89.70	178.78	8454.63	1084.26	-1072.67	-382.58	1.78	454852.68	634706.62	N 32 15 0.38 W 104	152.71
	9865.00	89.94	177.70	8454.79	1177.10	-1165.64	-380.05	0.75	454759.73	634709.15	N 32 14 59.46 W 104	152.69
	9959.00	89.81	177.55	8455.08	1269.88	-1258.58	-376.64	0.50	454666.80	634712.56	N 32 14 58.54 W 104	152.65
	10052.00	89.69	177.55	8455.29	1363.63	-1352.49	-372.75	0.21	454572.89	634716.46	N 32 14 57.61 W 104	152.61
10145.00	89.67	178.36	8455.69	1456.41	-1445.43	-369.43	0.88	454479.96	634719.77	N 32 14 56.69 W 104	152.57	
10239.00	89.74	178.35	8456.21	1549.24	-1538.39	-366.76	0.02	454387.00	634722.44	N 32 14 55.77 W 104	152.54	
10332.00	89.71	178.50	8456.70	1643.06	-1632.35	-363.90	0.21	454293.06	634725.30	N 32 14 54.84 W 104	152.51	
10425.00	90.08	178.96	8457.14	1735.89	-1725.31	-361.20	0.36	454200.10	634728.00	N 32 14 53.92 W 104	152.48	
10519.00	89.77	178.86	8457.31	1828.75	-1818.28	-359.14	0.63	454107.14	634730.06	N 32 14 53.00 W 104	152.46	
10612.00	89.74	178.86	8457.44	1922.63	-1912.27	-357.35	0.35	454013.16	634731.85	N 32 14 52.07 W 104	152.45	
10706.00	89.74	178.48	8457.83	2015.49	-2005.24	-355.19	0.41	453920.19	634734.01	N 32 14 51.15 W 104	152.42	
10799.00	89.60	178.82	8458.26	2109.35	-2099.21	-352.98	0.36	453826.23	634736.22	N 32 14 50.22 W 104	152.40	
10892.00	89.47	178.53	8458.80	2202.20	-2192.19	-350.83	0.35	453733.26	634738.37	N 32 14 49.30 W 104	152.38	
10986.00	89.50	176.84	8459.55	2294.96	-2285.11	-347.07	1.82	453640.35	634742.13	N 32 14 48.38 W 104	152.34	
11081.00	89.77	178.19	8460.40	2388.69	-2379.01	-343.00	1.44	453546.46	634746.20	N 32 14 47.45 W 104	152.29	
11270.00	89.78	178.31	8461.00	2483.50	-2473.96	-340.09	0.31	453451.51	634749.10	N 32 14 46.51 W 104	152.28	
11460.00	90.10	178.47	8461.74	2672.16	-2662.89	-334.78	0.08	453262.60	634754.41	N 32 14 44.64 W 104	152.21	
11649.00	89.73	178.84	8461.94	2861.87	-2852.84	-330.32	0.26	453072.67	634758.87	N 32 14 42.76 W 104	152.16	
11839.00	89.96	178.56	8462.22	3050.59	-3041.79	-326.04	0.25	452883.74	634763.16	N 32 14 40.89 W 104	152.12	
11933.00	89.86	178.45	8462.74	3240.27	-3231.72	-321.08	0.13	452693.82	634768.12	N 32 14 39.01 W 104	152.07	
12123.00	89.53	178.00	8462.88	3334.09	-3325.68	-318.17	0.49	452599.87	634771.03	N 32 14 38.08 W 104	152.04	
12218.00	89.70	180.02	8463.90	3523.85	-3515.63	-314.89	1.08	452409.93	634774.03	N 32 14 36.20 W 104	152.00	
12312.00	89.88	180.32	8464.53	3618.81	-3610.63	-315.17	0.36	452314.94	634774.03	N 32 14 35.26 W 104	152.01	
12407.00	89.60	181.40	8464.88	3712.79	-3704.62	-316.58	1.16	452220.96	634772.62	N 32 14 34.33 W 104	152.03	
12596.00	89.68	180.26	8465.31	3807.77	-3799.61	-317.95	1.24	452125.98	634771.24	N 32 14 33.39 W 104	152.05	
12691.00	89.68	180.10	8466.50	3996.69	-3988.60	-318.55	0.09	451937.00	634770.65	N 32 14 31.52 W 104	152.06	
12786.00	89.75	180.27	8466.97	4091.65	-4083.60	-318.86	0.19	451842.01	634770.34	N 32 14 30.58 W 104	152.07	
12876.00	89.57	179.95	8467.53	4186.61	-4178.60	-319.04	0.39	451747.02	634770.16	N 32 14 29.64 W 104	152.07	
12976.00	90.63	180.29	8467.20	4378.52	-4368.59	-319.44	0.59	451652.04	634769.76	N 32 14 27.76 W 104	152.08	
13166.00	90.31	180.13	8468.64	4568.44	-4558.59	-320.13	0.19	451557.04	634769.06	N 32 14 25.88 W 104	152.10	
13261.00	90.28	180.86	8469.15	4661.41	-4653.58	-320.95	0.77	451462.08	634768.24	N 32 14 24.94 W 104	152.11	
13356.00	90.66	180.06	8469.38	4756.38	-4748.57	-321.72	0.93	451367.06	634767.48	N 32 14 24.00 W 104	152.12	
13451.00	91.04	179.53	8469.97	4851.31	-4843.56	-321.38	0.69	451272.08	634767.82	N 32 14 23.06 W 104		

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 ° ' '')
	18188.00	90.68	178.86	8453.46	9583.83	-9579.07	-302.09	1.60	446347.00	634787.11	N 32 13 36.20 W 104	1 52.05
	18282.00	90.97	179.84	8452.11	9677.73	-9673.05	-301.02	1.09	446253.02	634788.17	N 32 13 35.27 W 104	1 52.04
	18377.00	90.91	180.20	8450.55	9772.67	-9768.04	-301.05	0.38	446158.04	634788.14	N 32 13 34.33 W 104	1 52.05
	18472.00	90.71	179.12	8449.21	9867.58	-9863.02	-300.49	1.16	446063.06	634788.70	N 32 13 33.39 W 104	1 52.04
	18567.00	91.73	179.95	8447.18	9962.49	-9958.00	-299.72	1.38	445968.10	634789.48	N 32 13 32.45 W 104	1 52.04
	18661.00	90.48	180.62	8445.37	10056.44	-10051.98	-300.19	1.51	445874.13	634789.01	N 32 13 31.52 W 104	1 52.05
100' FSL												
Crossing	18710.76	90.45	180.41	8444.97	10106.19	-10101.73	-300.64	0.42	445824.37	634788.56	N 32 13 31.03 W 104	1 52.05
Final Survey	18747.00	90.43	180.26	8444.69	10142.41	-10137.97	-300.85	0.42	445788.14	634788.35	N 32 13 30.67 W 104	1 52.06
Proj. to Bit	18787.00	90.43	180.26	8444.39	10182.40	-10177.97	-301.03	0.00	445748.14	634788.17	N 32 13 30.28 W 104	1 52.06

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 Length CC 6-7 Federal Com 21H Gyro + MWD 0-18,787'
	1	26.500	26.500	Act Stns	30.000	30.000	NAL_NSG+MSHOT-Depth Only	Original Borehole / Oxy Length CC 6-7 Federal Com 21H Gyro + MWD 0-18,787'
	1	26.500	400.500	Act Stns	30.000	30.000	NAL_NSG+MSHOT	Original Borehole / Oxy Length CC 6-7 Federal Com 21H Gyro +
	1	400.500	7876.000	Act Stns	30.000	30.000	NAL_MWD_IFR1+MS	Original Borehole / Oxy Length CC 6-7 Federal Com 21H Gyro +
	1	7876.000	7971.000	Act Stns	30.000	30.000	NAL_MWD_PLUS_0.5_DEG	Original Borehole / Oxy Length CC 6-7 Federal Com 21H Gyro +
	1	7971.000	18787.000	Act Stns	30.000	30.000	NAL_MWD_IFR1+MS	Original Borehole / Oxy Length CC 6-7 Federal Com 21H Gyro +

...Original Borehole\Oxy Length CC 6-7 Federal Com 21H Gyro + MWD 0-18,787'