State of New Mexico
Energy, Minerals and Natural Resources Department

Notice of C-104 Denial and Request for Information

OCD denies your C-104 – *Request for Allowable and Authorization to Transport* because it is incomplete or conflicts with other information provided to OCD.

The sale or transport of product without a C-104 approved by OCD violates the Oil and Gas Act and the implementing rules, including 19.15.7.15 and 19.15.16.19 NMAC.

To avoid an enforcement action, you must submit the indicated information no later than 30 days after receipt of this notice.

Test Allowable, New Well and Recompleted Well Amend C-104

- ☐ C-103 (or BLM equivalent) for all casing strings
  - ☐ Spud Notice
  - ☐ Surface Casing
  - ☐ Intermediate Casing (if applicable)
  - ☐ Additional Intermediate Casing (if applicable)
  - ☐ Production Casing or Liner
- ☐ Applicable Order (NSL, NSP, Other _____)
- ☐ Deviation Survey for Vertical Wells
- ☐ Directional Survey
  - ☒ C-102 (As-Drilled Plat for Horizontal Well)

New Well and Recompleted Well Only

- ☐ C-103 Completion Sundry (or BLM equivalent)
- ☑ C-105 Completion Report (or BLM equivalent) Need BLM approved copy
- ☐ All Logs Run on Well

If you have any questions please contact the local OCD District Office

1220 South St. Francis Drive • Santa Fe, New Mexico 87505
Phone (505) 476-3460 • Fax (505) 476-3462 • www.emnrd.state.nm.us/ocd

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

RECEIVED
SEP 06 2019
DISTRICTII-ARTESIAO.C.D.

Form C-104
Revised August 1, 2011
Submit one copy to appropriate District Office
☐ AMENDED REPORT

I. REQUEST FOR ALLOWABLE AND AUTHORIZATION TO TRANSPORT

[1] Operator name and Address	[2] OGRID Number
OXY USA INC P.O. BOX 4294 HOUSTON, TX 77210	16696
	[3] Reason for Filing Code/ Effective Date - NW

[4] API Number	[5] Pool Name	[6] Pool Code
30-015-45246	INGLE WELLS; BONE SPRING	33740
[7] Property Code: 321632	[8] Property Name: IRIDIUM MDP1 28 21 FEDERAL COM	[9] Well Number: 5H

II. [10] Surface Location

Ul or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South Line	Feet from the	East/West line	County
A	33	23S	31E		276'	NORTH	634'	EAST	EDDY

[11] Bottom Hole Location FTP: 314' FSL 2111' FEL LTP: 153' FNL 2152' FEL

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	21	23S	31E		28'	NORTH	2474'	EAST	EDDY

[12] Lse Code	[13] Producing Method Code :	[14] Gas Connection Date:	[15] C-129 Permit Number	[16] C-129 Effective Date	[17] C-129 Expiration Date
F	F	05/23/2019			

III. Oil and Gas Transporters

[18] Transporter OGRID	[19] Transporter Name and Address	[20] O/G/W
237722	CENTURION PIPELINE L.P.	O
151618	ENTERPRISE FIELD SERVICES LLC	G

IV. Well Completion Data

[21] Spud Date	[22] Ready Date	[23] TD	[24] PBTD	[25] Perforations	[26] DHC, MC
11/02/2018	05/23/2019	~~9946'V/20571'M~~	9946'V/20531'M	10375'-20474'	

[27] Hole Size	[28] Casing & Tubing Size *	[29] Depth Set	[30] Sacks Cement
17-1/2"	13-3/8"	573'	685
12-1/4"	9-5/8"	4391'	1394
8-1/2"	7-5/8"	9574'	575
6-3/4"	5-1/2"	20571'	890

V. Well Test Data

[31] Date New Oil	[32] Gas Delivery Date	[33] Test Date	[34] Test Length	[35] Tbg. Pressure	[36] Csg. Pressure
05/24/2019	05/23/2019	05/27/2019	24 HOURS		830
[37] Choke Size	**[38] Oil**	**[39] Water**	**[40] Gas**		**[41] Test Method**
120/128	3420	9260	3474		FLOWING

[42] I hereby certify that the rules of the Oil Conservation Division have been complied with and that the information given above is true and complete to the best of my knowledge and belief.

Signature:

Printed name: LESLIE REEVES

Title: REGULATORY ADVISOR

E-mail Address: LESLIE_REEVES@OXY.COM

Date: 08/29/2019

Phone: 713-497-2492

OIL CONSERVATION DIVISION

Approved by:

Title:

Approval D

DENIED
See Attached Cover Sheet

*tbg. size & Class Missing

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

April 4, 2019

Oxy USA INC.
5 Greenway Plaza, Suite 110
Houston TX, 77046

Re:

33, 23S, 31E, Eddy NM
N 32.26743 W 103.77626

CLIENT: Oxy USA INC.
WELL: Iridium MDP1 28-21 Federal Com 5H
FIELD: Ingle Wells Bone Spring

RIG: H&P 639
COUNTY: Eddy
API NO: 30-015-45246
JOB NO: 19MLD0940

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.

Name & Title of Surveyor	Drainhole Number	Surveyed Depths		Dates Performed		Type of Survey
Jamie Castille FS	Iridium MDP1 28-21 Federal Com 5H Original Hole	681.00 Ft	to 20553.00 Ft	March 4, 2018	to April 1, 2018	TelePacer/SlimPulse Third Party Corrected

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

Andrew Salomon
Field Service Manager

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:
33, 23S, 31E, Eddy NM
N 32.26743 W 103.77626

I, Jamie Castille certify that; I am employed by Drilling & Measurements, a division of Schlumberger Technology Corporation; that I did on the day(s) of March 04, 2018 through April 01, 2018, conduct or supervise the taking of the TelePacer/SlimPulse & Third Party Corrected surveys from a depth of 681.00 feet to a depth of 20553.00 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 Iridium MDP1 28-21 Federal Com 5H Well (Original Hole) API No. 30-015-45246 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
Jamie Castille
FS

Subscribed and Sworn to before me this 4th day of April (month) 2019 (yr)

My Commission expires:

2-16-2022

D. Adams (signature)
Notary Public

Adams County Colorado
(County State)

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

Schlumberger

OXY

Borehole:	Well:	Field:	Structure:
Original Borehole	Oxy Iridium MDP1 28-21 Federal Com 5H	NM Eddy County (NAD 83)	Oxy Iridium MDP1 28-21 Federal Com 5H

Gravity & Magnetic Parameters

Model: IFR1' Dip: 59.988° Date: 24-Mar-2019
MagDec: 6.824° FS: 47993.1nT Gravity FS: 998.449mgn (9.80665 Based)

Surface Location NAD83 New Mexico State Plane, Eastern Zone, US Feet

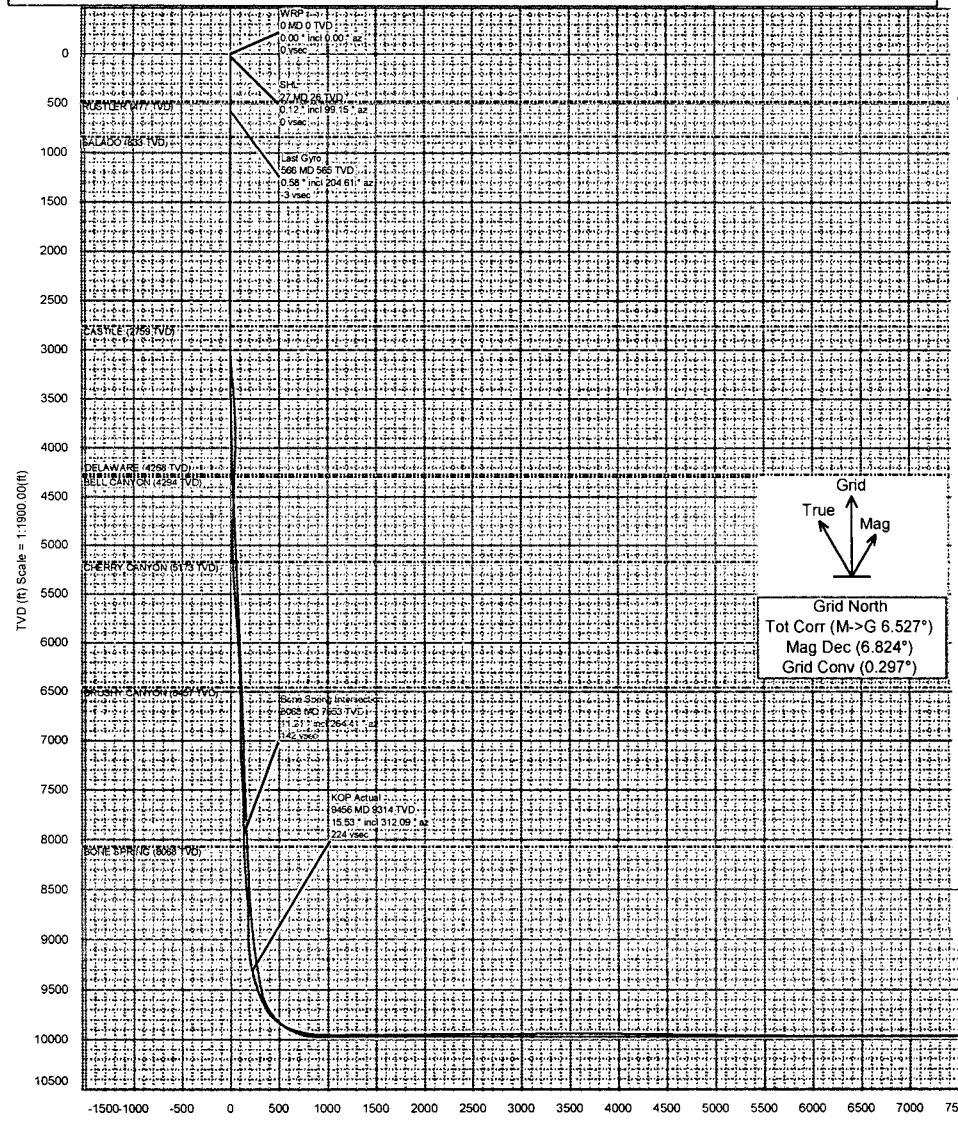
Lat: N 32 16 2.73 Northing: 461468.77ftUS Grid Conv: 0.2974°
Lon: W 103 46 34.53 Easting: 713522.3ftUS Scale Fact: 0.99994305

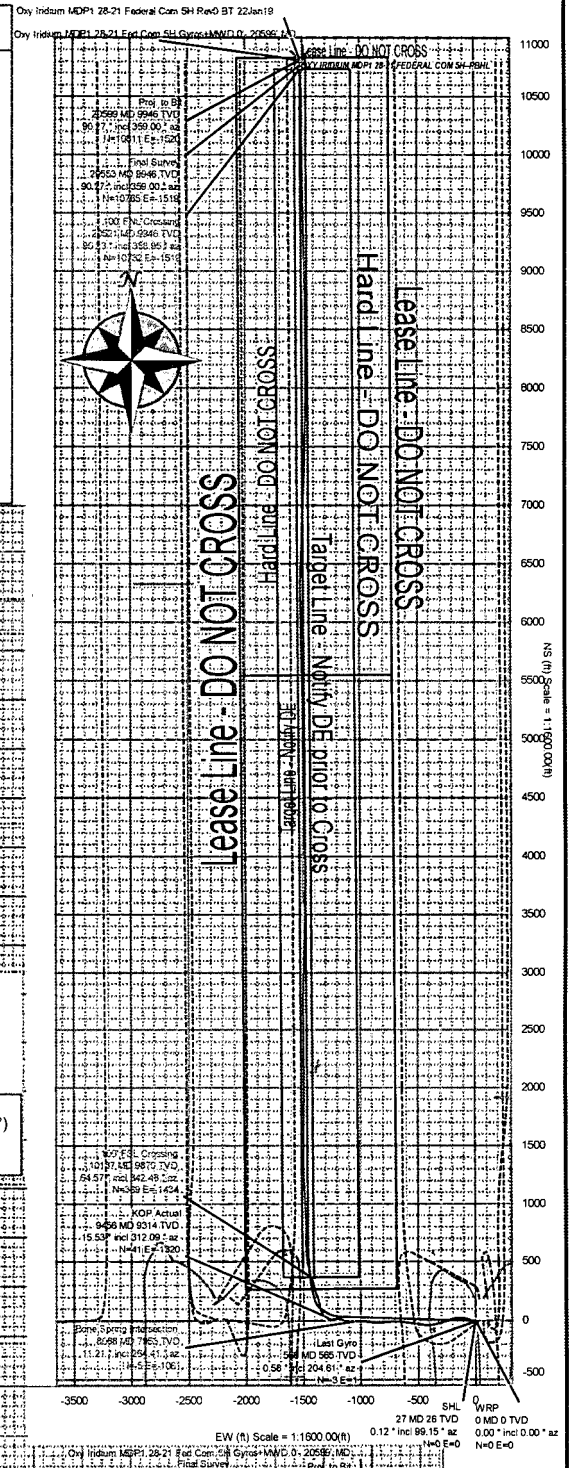
Miscellaneous

Oxy Iridium MDP1
Slot: 28-21 Federal Com 5H TVD Ref: RKB(3429.5ft above MSL)
Plan: Oxy Iridium MDP1 28-21 Fed Com SH Gyros+MWD 0'- 20599' 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	0.12	99.15	26.50	-0.01	0.00	0.03	0.45
Last Gyro	565.50	0.58	204.61	565.48	-3.16	-3.02	1.22	0.18
Bone Spring Intersection	8068.00	11.21	264.41	7952.59	142.03	-5.45	-1061.27	0.69
KOP Actual	9456.00	15.53	312.09	9313.57	223.78	40.84	-1319.75	2.24
100' FSL Crossing	10136.75	64.57	342.48	9870.36	564.22	368.59	-1434.02	10.59
100' FNL Crossing	20520.63	90.23	358.95	9946.47	10839.37	10732.44	-1518.78	0.20
Final Survey	20553.00	90.27	359.00	9946.33	10871.50	10764.81	-1519.36	0.20
Proj. to Bit	20599.00	90.27	359.00	9946.11	10917.16	10810.80	-1520.17	0.00





Schlumberger

Oxy Iridium MDP1 28-21 Fed Com 5H Gyros+MWD 0'- 20599' MD Survey
Geodetic Report
(Def Survey)

Report Date:	April 01, 2019 - 11:43 AM	**Survey / DLS Computation:**	Minimum Curvature / Lubinski
Client:	OXY	**Vertical Section Azimuth:**	352.015 ° (Grid North)
Field:	NM Eddy County (NAD 83)	**Vertical Section Origin:**	0.000 ft, 0.000 ft
Structure / Slot:	Oxy Iridium MDP1 28-21 Federal Com 5H / Oxy Iridium MDP1 28-21 Federal Com 5H	**TVD Reference Datum:**	RKB
Well:	Oxy Iridium MDP1 28-21 Federal Com 5H	**TVD Reference Elevation:**	3429.500 ft above MSL
Borehole:	Original Borehole	**Seabed / Ground Elevation:**	3403.000 ft above MSL
UWI / API#:	Unknown / Unknown	**Magnetic Declination:**	6.824 °
Survey Name:	Oxy Iridium MDP1 28-21 Fed Com 5H Gyros+MWD 0'- 20599' MD	**Total Gravity Field Strength:**	998.4488mgn (9.80665 Based)
Survey Date:	February 21, 2019	**Gravity Model:**	GARM
Tort / AHD / DDI / ERD Ratio:	222.833 ° / 12157.236 ft / 6.748 / 1.220	**Total Magnetic Field Strength:**	47993.100 nT
Coordinate Reference System:	NAD83 New Mexico State Plane, Eastern Zone, US Feet	**Magnetic Dip Angle:**	59.988 °
Location Lat / Long:	N 32° 16' 2.72620", W 103° 46' 34.52860"	**Declination Date:**	March 24, 2019
Location Grid N/E Y/X:	N 461468.770 ftUS, E 713522.300 ftUS	**Magnetic Declination Model:**	IFR1
CRS Grid Convergence Angle:	0.2974 °	**North Reference:**	Grid North
Grid Scale Factor:	0.99994305	**Grid Convergence Used:**	0.2974 °
Version / Patch:	2.10.753.0	**Total Corr Mag North->Grid North:**	6.5266 °
		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	461468.77	713522.30	N 32 16 2.73	W 103 46 34.53
SHL	26.50	0.12	99.15	26.50	-0.01	0.00	0.03	0.45	461468.77	713522.33	N 32 16 2.73	W 103 46 34.53
	99.50	0.45	99.15	99.50	-0.12	-0.06	0.39	0.45	461468.71	713522.69	N 32 16 2.73	W 103 46 34.52
	130.50	0.49	106.84	130.50	-0.21	-0.12	0.63	0.24	461468.65	713522.93	N 32 16 2.72	W 103 46 34.52
	214.50	0.40	135.07	214.50	-0.59	-0.43	1.18	0.28	461468.34	713523.48	N 32 16 2.72	W 103 46 34.51
	304.50	0.29	156.17	304.49	-1.06	-0.86	1.50	0.18	461467.91	713523.80	N 32 16 2.72	W 103 46 34.51
	398.50	0.50	183.65	398.49	-1.69	-1.49	1.57	0.29	461467.28	713523.87	N 32 16 2.71	W 103 46 34.51
	493.50	0.55	192.02	493.49	-2.53	-2.35	1.45	0.10	461466.42	713523.75	N 32 16 2.70	W 103 46 34.51
Last Gyro	565.50	0.58	204.61	565.48	-3.16	-3.02	1.22	0.18	461465.75	713523.52	N 32 16 2.70	W 103 46 34.51
	681.00	0.91	226.73	680.97	-4.18	-4.18	0.31	0.37	461464.59	713522.61	N 32 16 2.68	W 103 46 34.53
	772.00	0.76	232.56	771.96	-4.90	-5.04	-0.69	0.19	461463.73	713521.61	N 32 16 2.68	W 103 46 34.54
	863.00	0.51	233.17	862.96	-5.39	-5.65	-1.50	0.27	461463.12	713520.80	N 32 16 2.67	W 103 46 34.55
	955.00	0.05	227.01	954.96	-5.61	-5.92	-1.85	0.50	461462.85	713520.45	N 32 16 2.67	W 103 46 34.55
	1048.00	0.35	226.34	1047.96	-5.80	-6.15	-2.09	0.32	461462.62	713520.21	N 32 16 2.67	W 103 46 34.55
	1229.00	0.21	288.57	1228.96	-5.97	-6.42	-2.80	0.17	461462.35	713519.50	N 32 16 2.66	W 103 46 34.56
	1320.00	0.30	187.95	1319.95	-6.13	-6.61	-3.00	0.44	461462.16	713519.31	N 32 16 2.66	W 103 46 34.56
	1507.00	0.24	145.23	1506.95	-6.95	-7.41	-2.84	0.11	461461.36	713519.46	N 32 16 2.65	W 103 46 34.56
	1696.00	0.19	323.24	1695.95	-7.02	-7.49	-2.80	0.23	461461.28	713519.50	N 32 16 2.65	W 103 46 34.56
	1790.00	0.19	308.69	1789.95	-6.77	-7.26	-3.02	0.05	461461.51	713519.28	N 32 16 2.65	W 103 46 34.56
	1885.00	0.24	183.39	1884.95	-6.86	-7.36	-3.15	0.40	461461.41	713519.15	N 32 16 2.65	W 103 46 34.57
	1979.00	0.23	337.80	1978.95	-6.87	-7.39	-3.23	0.49	461461.38	713519.07	N 32 16 2.65	W 103 46 34.57
	2074.00	0.46	265.98	2073.95	-6.65	-7.24	-3.69	0.47	461461.53	713518.61	N 32 16 2.65	W 103 46 34.57
	2169.00	0.47	297.19	2168.95	-6.40	-7.08	-4.41	0.26	461461.69	713517.89	N 32 16 2.66	W 103 46 34.58
	2264.00	0.05	5.54	2263.95	-6.14	-6.87	-4.76	0.48	461461.90	713517.54	N 32 16 2.66	W 103 46 34.58
	2358.00	0.43	289.35	2357.94	-5.94	-6.71	-5.08	0.45	461462.06	713517.22	N 32 16 2.66	W 103 46 34.59
	2453.00	0.46	318.56	2452.94	-5.45	-6.30	-5.67	0.24	461462.47	713516.63	N 32 16 2.66	W 103 46 34.60
	2547.00	0.33	323.79	2546.94	-4.90	-5.80	-6.08	0.14	461462.97	713516.22	N 32 16 2.67	W 103 46 34.60
	2641.00	0.19	333.50	2640.94	-4.52	-5.44	-6.31	0.16	461463.33	713515.99	N 32 16 2.67	W 103 46 34.60
	2736.00	0.38	36.09	2735.94	-4.14	-5.05	-6.20	0.36	461463.72	713516.10	N 32 16 2.68	W 103 46 34.60
	2830.00	0.35	81.63	2829.94	-3.91	-4.76	-5.73	0.30	461464.01	713516.57	N 32 16 2.68	W 103 46 34.60
	2925.00	1.69	284.56	2924.92	-3.37	-4.36	-6.80	2.12	461464.41	713515.50	N 32 16 2.68	W 103 46 34.61
	3019.00	5.22	284.89	3018.74	-1.18	-2.91	-12.27	3.76	461465.86	713510.03	N 32 16 2.70	W 103 46 34.67
	3113.00	7.86	285.78	3112.12	3.07	-0.07	-22.59	2.81	461468.70	713499.71	N 32 16 2.73	W 103 46 34.79
	3207.00	10.33	287.11	3204.93	9.24	4.16	-36.84	2.64	461472.93	713485.47	N 32 16 2.77	W 103 46 34.96
	3302.00	11.32	288.79	3298.24	17.05	9.67	-53.80	1.09	461478.44	713468.50	N 32 16 2.82	W 103 46 35.15
	3397.00	11.38	286.07	3391.38	25.07	15.27	-71.64	0.57	461484.04	713450.67	N 32 16 2.88	W 103 46 35.36
	3491.00	11.01	285.80	3483.59	32.47	20.28	-89.19	0.40	461489.05	713433.12	N 32 16 2.93	W 103 46 35.57
	3586.00	11.00	277.65	3576.85	38.57	23.96	-106.90	1.64	461492.73	713415.41	N 32 16 2.97	W 103 46 35.77
	3680.00	10.97	275.23	3669.13	43.04	25.97	-124.69	0.49	461494.73	713397.61	N 32 16 2.99	W 103 46 35.98
	3775.00	10.85	270.04	3762.41	46.35	26.80	-142.64	1.04	461495.56	713379.67	N 32 16 3.00	W 103 46 36.19
	3869.00	11.00	263.20	3854.71	47.77	25.74	-160.39	1.39	461494.51	713361.92	N 32 16 2.99	W 103 46 36.39
	3964.00	11.05	258.29	3947.96	47.37	22.82	-178.30	0.99	461491.59	713344.01	N 32 16 2.96	W 103 46 36.60
	4059.00	10.93	252.05	4041.22	45.22	18.20	-195.79	1.26	461486.96	713326.52	N 32 16 2.92	W 103 46 36.81
	4153.00	10.69	252.22	4133.56	42.19	12.79	-212.57	0.26	461481.56	713309.75	N 32 16 2.86	W 103 46 37.00
	4248.00	10.95	250.65	4226.87	38.91	7.11	-229.47	0.41	461475.88	713292.84	N 32 16 2.81	W 103 46 37.20
	4268.00	11.09	251.77	4246.50	38.20	5.88	-233.09	1.28	461474.65	713289.22	N 32 16 2.80	W 103 46 37.24
	4465.00	11.81	253.62	4439.58	31.89	-5.74	-270.43	0.41	461463.03	713251.89	N 32 16 2.68	W 103 46 37.68
	4500.00	12.16	253.46	4473.81	30.81	-7.80	-277.40	1.00	461460.97	713244.92	N 32 16 2.66	W 103 46 37.76
	4594.00	12.27	253.57	4565.69	27.87	-13.44	-296.47	0.12	461455.33	713225.85	N 32 16 2.61	W 103 46 37.98
	4784.00	12.14	255.76	4751.39	22.73	-24.06	-335.20	0.25	461444.71	713187.12	N 32 16 2.51	W 103 46 38.43
	4878.00	12.14	259.30	4843.29	21.19	-28.33	-354.49	0.79	461440.44	713167.83	N 32 16 2.46	W 103 46 38.66
	4973.00	12.39	262.24	4936.12	20.75	-31.56	-374.41	0.71	461437.21	713147.92	N 32 16 2.43	W 103 46 38.89
	5068.00	12.47	264.60	5028.90	21.26	-33.90	-394.72	0.54	461434.87	713127.61	N 32 16 2.41	W 103 46 39.13
	5162.00	12.27	267.40	5120.72	22.65	-35.31	-414.80	0.67	461433.46	713107.53	N 32 16 2.40	W 103 46 39.36
	5257.00	12.24	272.70	5213.56	25.47	-35.30	-434.94	1.18	461433.48	713087.38	N 32 16 2.40	W 103 46 39.60
	5352.00	12.04	275.83	5306.43	29.70	-33.81	-454.86	0.72	461434.96	713067.47	N 32 16 2.41	W 103 46 39.83
	5447.00	12.54	279.33	5399.26	35.14	-31.14	-474.89	0.94	461437.64	713047.44	N 32 16 2.44	W 103 46 40.06
	5541.00	13.45	278.59	5490.85	41.29	-27.85	-495.77	0.98	461440.92	713026.56	N 32 16 2.48	W 103 46 40.30
	5636.00	13.70	277.58	5583.19	47.46	-24.71	-517.85	0.36	461444.06	713004.48	N 32 16 2.51	W 103 46 40.56
	5730.00	13.44	278.30	5674.57	53.51	-21.67	-539.69	0.33	461447.10	712982.64	N 32 16 2.54	W 103 46 40.82
	5825.00	13.20	278.67	5767.01	59.72	-18.44	-561.34	0.27	461450.33	712960.99	N 32 16 2.57	W 103 46 41.07
	6013.00	13.87	278.12	5949.79	72.12	-12.02	-604.87	0.36	461456.75	712917.47	N 32 16 2.64	W 103 46 41.57
	6108.00	13.76	275.65	6042.04	77.94	-9.30	-627.38	0.63	461459.47	712894.95	N 32 16 2.67	W 103 46 41.84
	6203.00	13.94	274.74	6134.28	83.13	-7.24	-650.03	0.30	461461.53	712872.31	N 32 16 2.69	W 103 46 42.10
	6297.00	13.90	272.27	6225.52	87.63	-5.86	-672.60	0.63	461462.91	712849.74	N 32 16 2.70	W 103 46 42.36
	6487.00	13.99	267.98	6409.93	94.08	-5.77	-718.35	0.55	461463.00	712803.99	N 32 16 2.71	W 103 46 42.89
	6581.00	13.76	267.06	6501.18	96.24	-6.74	-740.87	0.34	461462.03	712781.47	N 32 16 2.70	W 103 46 43.16
	6676.00	13.77	265.04	6593.46	97.83	-8.30	-763.42	0.51	461460.47	712758.93	N 32 16 2.68	W 103 46 43.42
	6770.00	13.70	264.99	6684.77	99.00	-10.24	-785.65	0.08	461458.53	712736.69	N 32 16 2.67	W 103 46 43.68
	6865.00	13.78	265.31	6777.05	100.24	-12.14	-808.14	0.12	461456.63	712714.21	N 32 16 2.65	W 103 46 43.94
	6959.00	13.51	268.23	6868.40	102.07	-13.40	-830.27	0.79	461455.37	712692.08	N 32 16 2.64	W 103 46 44.20
	7149.00	13.12	270.63	7053.29	107.70	-13.85	-874.02	0.36	461454.92	712648.34	N 32 16 2.63	W 103 46 44.71
	7338.00	13.55	276.60	7237.20	116.49	-11.07	-917.46	0.76	461457.70	712604.89	N 32 16 2.66	W 103 46 45.21
	7432.00	13.80	276.12	7328.54	121.99	-8.60	-939.55	0.29	461460.17	712582.81	N 32 16 2.69	W 103 46 45.47
	7622.00	11.11	276.18	7514.05	132.00	-4.22	-980.29	1.42	461464.55	712542.07	N 32 16 2.73	W 103 46 45.95
	7717.00	10.35	273.68	7607.39	135.96	-2.68	-997.90	0.94	461466.09	712524.46	N 32 16 2.75	W 103 46 46.15
	7906.00	10.12	265.69	7793.39	140.46	-2.84	-1031.41	0.76	461465.93	712490.96	N 32 16 2.75	W 103 46 46.54

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 ° ' ")
Bone Spring Intersection	*8068.00*	*11.21*	*264.41*	*7952.59*	*142.03*	*-5.45*	*-1061.27*	*0.69*	*461463.32*	*712461.09*	*N 32 16 2.73*	*W 103 46 46.89*
	8095.00	11.39	264.22	7979.07	142.24	-5.97	-1066.53	0.69	461462.80	712455.83	N 32 16 2.72	W 103 46 46.95
	8284.00	11.08	274.61	8164.47	146.92	-6.39	-1103.21	1.08	461462.38	712419.16	N 32 16 2.72	W 103 46 47.38
	8473.00	10.50	287.70	8350.15	158.35	0.31	-1137.72	1.33	461469.08	712384.65	N 32 16 2.79	W 103 46 47.78
	8568.00	10.64	287.92	8443.54	165.93	5.64	-1154.31	0.15	461474.41	712368.06	N 32 16 2.84	W 103 46 47.97
	8757.00	9.70	281.40	8629.57	178.84	14.15	-1186.52	0.79	461482.92	712335.85	N 32 16 2.93	W 103 46 48.35
	8852.00	8.89	274.94	8723.33	183.14	16.37	-1201.68	1.39	461485.14	712320.69	N 32 16 2.95	W 103 46 48.52
	8946.00	10.15	264.71	8816.04	185.15	16.23	-1217.17	2.24	461485.00	712305.20	N 32 16 2.95	W 103 46 48.70
	9041.00	11.97	256.99	8909.28	184.68	13.24	-1235.10	2.47	461482.01	712287.27	N 32 16 2.92	W 103 46 48.91
	9136.00	11.98	268.10	9002.22	184.87	10.69	-1254.56	2.42	461479.46	712267.82	N 32 16 2.90	W 103 46 49.14
	9230.00	12.35	286.06	9094.14	190.00	13.15	-1273.98	4.03	461481.92	712248.40	N 32 16 2.92	W 103 46 49.36
	9325.00	13.47	299.19	9186.76	200.83	21.36	-1293.40	3.30	461490.13	712228.97	N 32 16 3.00	W 103 46 49.59
	9420.00	15.06	309.61	9278.84	216.63	34.63	-1312.58	3.17	461503.40	712209.80	N 32 16 3.14	W 103 46 49.81
KOP Actual	9456.00	15.53	312.09	9313.57	223.78	40.84	-1319.75	2.24	461509.61	712202.62	N 32 16 3.20	W 103 46 49.90
	9653.00	21.39	339.87	9500.70	279.28	92.39	-1351.78	5.29	461561.16	712170.60	N 32 16 3.71	W 103 46 50.27
	9759.00	22.46	352.02	9599.09	318.44	130.61	-1361.25	4.39	461599.38	712161.13	N 32 16 4.09	W 103 46 50.37
	9853.00	30.44	340.90	9683.23	359.86	170.99	-1371.55	9.96	461639.75	712150.83	N 32 16 4.49	W 103 46 50.49
	9948.00	41.58	340.88	9759.96	414.57	223.68	-1389.81	11.73	461692.43	712132.57	N 32 16 5.01	W 103 46 50.70
	10042.00	54.72	344.24	9822.54	483.51	290.38	-1410.54	14.23	461759.13	712111.84	N 32 16 5.67	W 103 46 50.94
	10136.00	64.50	342.45	9870.04	563.55	367.94	-1433.81	10.53	461836.69	712088.57	N 32 16 6.44	W 103 46 51.20
100' FSL Crossing	*10136.75*	*64.57*	*342.48*	*9870.36*	*564.22*	*368.59*	*-1434.02*	*10.59*	*461837.34*	*712088.37*	*N 32 16 6.45*	*W 103 46 51.21*
	10231.00	73.97	346.08	9903.69	651.46	453.35	-1457.79	10.59	461922.10	712064.60	N 32 16 7.29	W 103 46 51.48
	10326.00	73.79	354.65	9930.12	742.59	543.23	-1473.05	8.67	462011.97	712049.34	N 32 16 8.18	W 103 46 51.65
	10420.00	83.00	357.48	9949.01	834.33	634.99	-1479.32	10.23	462103.72	712043.07	N 32 16 9.09	W 103 46 51.72
	10515.00	88.56	1.41	9956.00	928.22	729.67	-1480.23	7.16	462198.40	712042.16	N 32 16 10.02	W 103 46 51.72
	10677.00	90.18	358.11	9957.78	1088.70	891.63	-1480.91	2.27	462360.35	712041.48	N 32 16 11.62	W 103 46 51.72
	10770.00	90.28	357.15	9957.41	1181.26	984.55	-1484.75	1.04	462453.26	712037.64	N 32 16 12.54	W 103 46 51.76
	10863.00	90.35	356.94	9956.90	1273.90	1077.42	-1489.55	0.24	462546.13	712032.84	N 32 16 13.46	W 103 46 51.81
	10957.00	90.28	356.65	9956.38	1367.57	1171.28	-1494.80	0.32	462639.98	712027.59	N 32 16 14.39	W 103 46 51.87
	11050.00	90.11	358.10	9956.06	1460.16	1264.17	-1499.06	1.57	462732.87	712023.33	N 32 16 15.31	W 103 46 51.91
	11145.00	90.14	359.25	9955.86	1554.52	1359.15	-1501.26	1.21	462827.84	712021.13	N 32 16 16.25	W 103 46 51.93
	11239.00	90.42	359.49	9955.40	1647.74	1453.14	-1502.29	0.39	462921.83	712020.10	N 32 16 17.18	W 103 46 51.94
	11334.00	90.45	0.43	9954.68	1741.83	1548.14	-1502.36	0.99	463016.82	712020.03	N 32 16 18.12	W 103 46 51.93
	11428.00	90.73	1.05	9953.71	1834.73	1642.12	-1501.14	0.72	463110.80	712021.24	N 32 16 19.05	W 103 46 51.91
	11522.00	90.59	0.90	9952.62	1927.58	1736.10	-1499.54	0.22	463204.77	712022.84	N 32 16 19.98	W 103 46 51.89
	11617.00	90.62	0.98	9951.62	2021.42	1831.09	-1497.99	0.09	463299.75	712024.40	N 32 16 20.92	W 103 46 51.86
	11712.00	90.73	0.88	9950.50	2115.27	1926.07	-1496.44	0.16	463394.72	712025.94	N 32 16 21.86	W 103 46 51.84
	11807.00	90.62	0.06	9949.38	2209.23	2021.06	-1495.66	0.87	463489.71	712026.72	N 32 16 22.80	W 103 46 51.83
	11901.00	90.42	358.87	9948.53	2302.43	2115.05	-1496.54	1.28	463583.69	712025.85	N 32 16 23.73	W 103 46 51.83
	11996.00	90.32	359.30	9947.92	2396.71	2210.03	-1498.06	0.46	463678.67	712024.33	N 32 16 24.67	W 103 46 51.84
	12091.00	90.32	359.12	9947.39	2490.96	2305.02	-1499.37	0.19	463773.66	712023.02	N 32 16 25.61	W 103 46 51.85
	12185.00	90.52	359.29	9946.70	2584.21	2399.01	-1500.67	0.28	463867.64	712021.72	N 32 16 26.54	W 103 46 51.86
	12280.00	90.04	359.19	9946.23	2678.46	2494.00	-1501.93	0.52	463962.62	712020.46	N 32 16 27.48	W 103 46 51.87
	12374.00	90.21	359.36	9946.03	2771.70	2587.99	-1503.12	0.26	464056.61	712019.27	N 32 16 28.41	W 103 46 51.88
	12563.00	90.32	1.56	9945.15	2958.64	2776.97	-1501.61	1.17	464245.58	712020.78	N 32 16 30.28	W 103 46 51.85
	12658.00	89.97	1.53	9944.91	3052.33	2871.94	-1499.04	0.37	464340.54	712023.34	N 32 16 31.22	W 103 46 51.81
	12752.00	90.18	1.95	9944.79	3144.98	2965.89	-1496.19	0.50	464434.49	712026.20	N 32 16 32.15	W 103 46 51.78
	12847.00	90.04	1.99	9944.61	3238.55	3060.84	-1492.92	0.15	464529.43	712029.46	N 32 16 33.09	W 103 46 51.73
	12941.00	90.35	1.79	9944.29	3331.16	3154.79	-1489.82	0.39	464623.37	712032.56	N 32 16 34.02	W 103 46 51.69
	13036.00	90.69	1.21	9943.43	3424.85	3249.75	-1487.34	0.71	464718.33	712035.05	N 32 16 34.96	W 103 46 51.66
	13225.00	89.73	0.92	9942.73	3611.50	3438.71	-1483.82	0.53	464907.28	712038.56	N 32 16 36.83	W 103 46 51.60
	13413.00	89.59	0.72	9943.85	3797.28	3626.69	-1481.13	0.13	465095.25	712041.25	N 32 16 38.69	W 103 46 51.56
	13508.00	89.80	1.23	9944.35	3891.12	3721.67	-1479.52	0.58	465190.22	712042.87	N 32 16 39.63	W 103 46 51.54
	13602.00	89.90	0.90	9944.60	3983.95	3815.66	-1477.77	0.37	465284.20	712044.62	N 32 16 40.56	W 103 46 51.51
	13697.00	89.66	359.23	9944.97	4078.00	3910.65	-1477.66	1.78	465379.19	712044.72	N 32 16 41.50	W 103 46 51.50
	13792.00	89.35	358.84	9945.79	4172.29	4005.64	-1479.26	0.52	465474.17	712043.12	N 32 16 42.44	W 103 46 51.52
	13886.00	88.97	359.11	9947.16	4265.59	4099.61	-1480.94	0.50	465568.14	712041.44	N 32 16 43.37	W 103 46 51.53
	14075.00	89.39	358.63	9949.87	4453.21	4288.55	-1484.67	0.34	465757.07	712037.72	N 32 16 45.24	W 103 46 51.56
	14170.00	89.32	358.81	9950.94	4547.56	4383.52	-1486.79	0.20	465852.03	712035.59	N 32 16 46.18	W 103 46 51.58
	14359.00	89.11	358.51	9953.53	4735.27	4572.45	-1491.21	0.19	466040.95	712031.18	N 32 16 48.05	W 103 46 51.62
	14453.00	89.08	359.06	9955.01	4828.60	4666.42	-1493.21	0.59	466134.92	712029.18	N 32 16 48.98	W 103 46 51.64
	14548.00	89.28	359.43	9956.37	4922.84	4761.40	-1494.46	0.44	466229.89	712027.93	N 32 16 49.92	W 103 46 51.65
	14737.00	89.15	359.54	9958.96	5110.22	4950.38	-1496.16	0.09	466418.85	712026.23	N 32 16 51.79	W 103 46 51.66
	14926.00	89.42	359.44	9961.32	5297.60	5139.35	-1497.84	0.15	466607.82	712024.55	N 32 16 53.66	W 103 46 51.66
	15116.00	89.83	359.02	9962.56	5486.09	5329.33	-1500.39	0.31	466797.79	712022.00	N 32 16 55.54	W 103 46 51.68
	15304.00	89.42	358.65	9963.79	5672.75	5517.29	-1504.21	0.29	466985.73	712018.18	N 32 16 57.40	W 103 46 51.72
	15493.00	89.39	358.66	9965.76	5860.47	5706.23	-1508.65	0.02	467174.66	712013.74	N 32 16 59.27	W 103 46 51.76
	15682.00	90.25	359.30	9966.35	6048.08	5895.19	-1512.01	0.57	467363.62	712010.38	N 32 17 1.14	W 103 46 51.78
	15871.00	89.70	358.70	9966.43	6235.67	6084.16	-1515.31	0.43	467552.57	712007.08	N 32 17 3.01	W 103 46 51.81
	15966.00	89.83	358.49	9966.82	6330.04	6179.13	-1517.64	0.26	467647.54	712004.75	N 32 17 3.95	W 103 46 51.83
	16155.00	90.11	1.73	9966.92	6517.14	6368.11	-1517.28	1.72	467836.50	712005.11	N 32 17 5.82	W 103 46 51.82
	16249.00	90.14	2.14	9966.72	6609.73	6462.05	-1514.10	0.44	467930.44	712008.28	N 32 17 6.75	W 103 46 51.77
	16438.00	90.38	2.16	9965.86	6795.78	6650.92	-1507.01	0.13	468119.30	712015.37	N 32 17 8.61	W 103 46 51.68
	16627.00	90.04	1.46	9965.17	6982.02	6839.82	-1501.04	0.41	468308.19	712021.34	N 32 17 10.48	W 103 46 51.60
	16816.00	90.38	2.78	9964.47	7168.08	7028.69	-1494.05	0.72	468497.04	712028.33	N 32 17 12.35	W 103 46 51.51
	16910.00	90.18	1.76	9964.01	7260.58	7122.61	-1490.33	1.11	468590.96	712032.06	N 32 17 13.28	W 103 46 51.46
	17099.00	90.35	1.43	9963.14	7446.94	7311.53	-1485.07	0.20	468779.87	712037.32	N 32 17 15.15	W 103 46 51.39
	17194.00	89.63	1.39	9963.16	7540.67	7406.50	-1482.73	0.76	468874.84	712039.66	N 32 17 16.09	W 103 46 51.35
	17289.00	89.94	0.82	9963.51	7634.47	7501.49	-1480.90	0.68	468969.81	712041.49	N 32 17 17.03	W 103 46 51.33
	17383.00	90.56	0.92	9963.10	7727.35	7595.47	-1479.47	0.67	469063.80	712042.91	N 32 17 17.96	W 103 46 51.30
	17478.00	90.38	1.68	9962.32	7821.10	7690.45	-1477.32	0.82	469158.76	712045.07	N 32 17 18.90	W 103 46 51.27
	17572.00	89.76	1.15	9962.21	7913.84	7784.42	-1475.00	0.87	469252.73	712047.39	N 32 17 19.83	W 103 46 51.24
	17667.00	90.52	0.30	9961.98	8007.74	7879.41	-1473.79	1.20	469347.71	712048.59	N 32 17 20.77	W 103 46 51.22
	17856.00	90.25	0.82	9960.71	8194.64	8068.39	-1471.95	0.31	469536.69	712050.44	N 32 17 22.64	W 103 46 51.19
	17950.00	90.76	0.24	9959.88	8287.60	8162.38	-1471.08	0.82	469630.67	712051.31	N 32 17 23.57	W 103 46 51.17
	18044.00	90.18	359.78	9959.11	8380.68	8256.38	-1471.06	0.79	469724.66	712051.33	N 32 17 24.50	W 103 46 51.17
	18139.00	90.62	359.78	9958.44	8474.81	8351.38	-1471.43	0.46	469819.65	712050.96	N 32 17 25.44	W 103 46 51.16
	18328.00	90.35	359.15	9956.84	8662.20	8540.36	-1473.19	0.36	470008.63	712049.20	N 32 17 27.31	W 103 46 51.17
	18423.00	90.52	359.56	9956.12	8756.42	8635.35	-1474.26	0.47	470103.61	712048.13	N 32 17 28.25	W 103 46 51.18
	18587.00	90.03	359.42	9955.34	8919.03	8799.34	-1475.72	0.31	470267.59	712046.67	N 32 17 29.87	W 103 46 51.19
	18682.00	90.10	357.89	9955.23	9013.39	8894.31	-1477.95	1.61	470362.56	712044.44	N 32 17 30.81	W 103 46 51.21
	18871.00	90.17	358.55	9954.78	9201.28	9083.22	-1483.82	0.35	470551.46	712038.57	N 32 17 32.68	W 103 46 51.26
	18965.00	90.13	358.92	9954.54	9294.63	9177.20	-1485.90	0.40	470645.43	712036.49	N 32 17 33.61	W 103 46 51.28
	19059.00	90.20	358.13	9954.27	9388.02	9271.17	-1488.32	0.84	470739.39	712034.07	N 32 17 34.54	W 103 46 51.31
	19154.00	90.37	358.92	9953.79	9482.41	9366.13	-1490.76	0.85	470834.35	712031.63	N 32 17 35.48	W 103 46 51.33
	19248.00	90.27	358.76	9953.27	9575.74	9460.11	-1492.66	0.20	470928.32	712029.72	N 32 17 36.41	W 103 46 51.34
	19343.00	90.27	358.51	9952.82	9670.11	9555.08	-1494.93	0.26	471023.29	712027.46	N 32 17 37.35	W 103 46 51.37
	19438.00	90.41	359.38	9952.26	9764.41	9650.06	-1496.68	0.93	471118.27	712025.71	N 32 17 38.29	W 103 46 51.38
	19532.00	90.44	359.07	9951.56	9857.66	9744.05	-1497.95	0.33	471212.25	712024.44	N 32 17 39.22	W 103 46 51.39
	19627.00	90.41	358.48	9950.85	9952.00	9839.03	-1499.98	0.62	471307.22	712022.41	N 32 17 40.16	W 103 46 51.41
	19816.00	90.24	358.77	9949.78	10139.74	10027.97	-1504.51	0.18	471496.15	712017.88	N 32 17 42.03	W 103 46 51.45
	19911.00	90.44	358.65	9949.22	10234.09	10122.94	-1506.65	0.25	471591.12	712015.74	N 32 17 42.97	W 103 46 51.47
	20005.00	90.20	358.51	9948.69	10327.47	10216.91	-1508.98	0.30	471685.08	712013.41	N 32 17 43.90	W 103 46 51.49
	20099.00	90.27	358.93	9948.31	10420.83	10310.89	-1511.08	0.45	471779.05	712011.31	N 32 17 44.83	W 103 46 51.51
	20289.00	90.20	359.14	9947.53	10609.40	10500.86	-1514.28	0.12	471969.01	712008.11	N 32 17 46.71	W 103 46 51.53
	20383.00	90.37	358.74	9947.06	10702.72	10594.84	-1516.02	0.46	472062.99	712006.37	N 32 17 47.64	W 103 46 51.55
	20477.00	90.17	358.89	9946.62	10796.05	10688.82	-1517.96	0.27	472156.96	712004.43	N 32 17 48.57	W 103 46 51.57

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 ° ' ")
100' FNL Crossing	*20520.63*	*90.23*	*358.95*	*9946.47*	*10839.37*	*10732.44*	*-1518.78*	*0.20*	*472200.58*	*712003.60*	*N 32 17 49.00*	*W 103 46 51.57*
Final Survey	20553.00	90.27	359.00	9946.33	10871.50	10764.81	-1519.36	0.20	472232.94	712003.03	N 32 17 49.32	W 103 46 51.58
Proj. to Bit	20599.00	90.27	359.00	9946.11	10917.16	10810.80	-1520.17	0.00	472278.93	712002.22	N 32 17 49.78	W 103 46 51.58

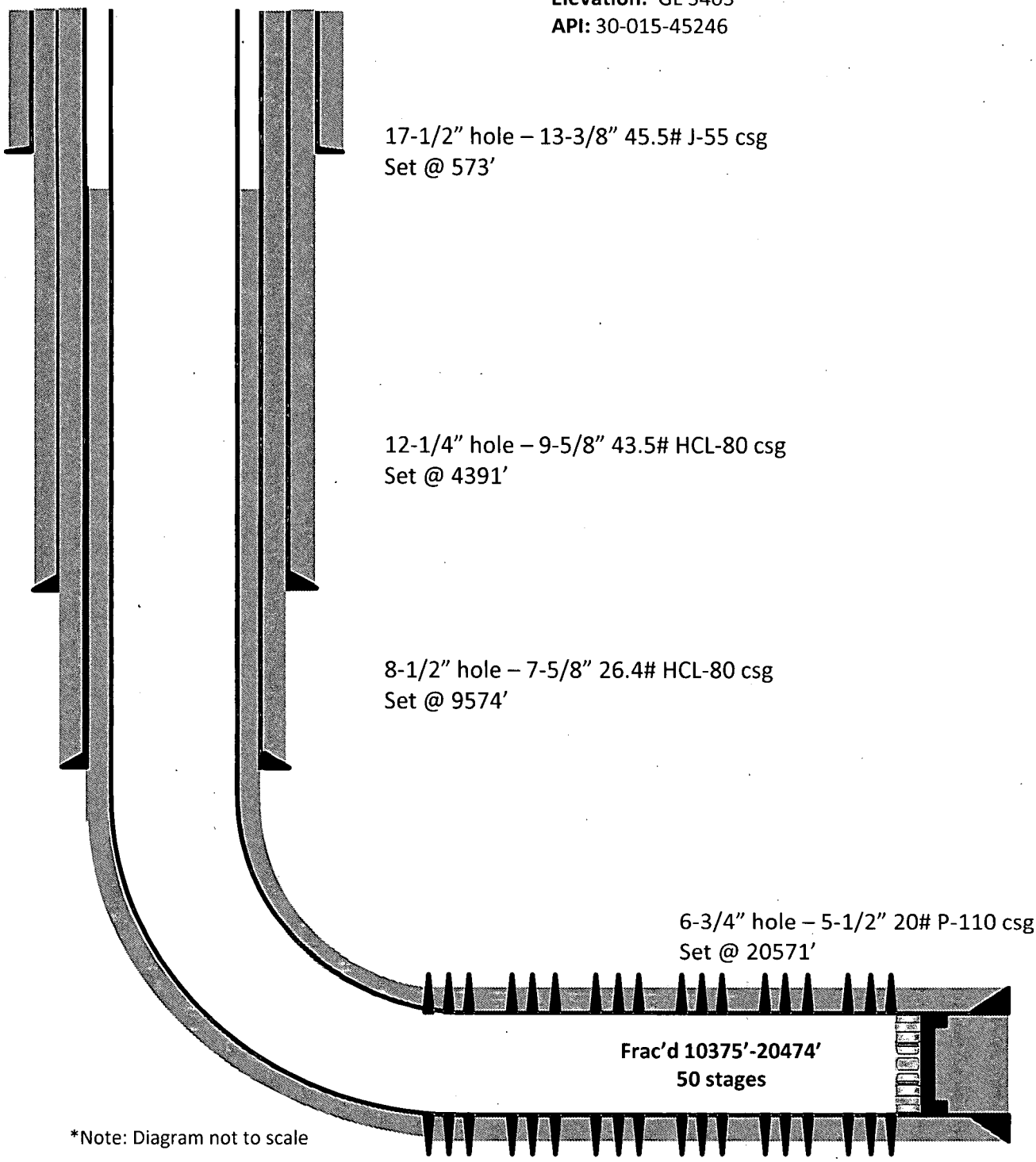
Survey Type: Def Survey

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 Iridium MDP1 28-21 Fed Com 5H Gyros+MWD 0'- 20599' MD
	1	26.500	26.500	Act Stns	30.000	30.000	NAL_NSG+MSHOT-Depth Only	Original Borehole / Oxy Iridium MDP1 28-21 Fed Com 5H Gyros+MWD 0'- 20599' MD
	1	26.500	565.500	Act Stns	30.000	30.000	NAL_NSG+MSHOT	Original Borehole / Oxy Iridium MDP1 28-21 Fed Com 5H
	1	565.500	20599.000	Act Stns	30.000	30.000	NAL_MWD_IFR1+MS	Original Borehole / Oxy Iridium MDP1 28-21 Fed Com 5H

Iridium MDP1 28-21 Federal Com 5H Wellbore Diagram

Elevation: GL 3403'
API: 30-015-45246



17-1/2" hole – 13-3/8" 45.5# J-55 csg
Set @ 573'

12-1/4" hole – 9-5/8" 43.5# HCL-80 csg
Set @ 4391'

8-1/2" hole – 7-5/8" 26.4# HCL-80 csg
Set @ 9574'

6-3/4" hole – 5-1/2" 20# P-110 csg
Set @ 20571'

Frac'd 10375'-20474'
50 stages

*Note: Diagram not to scale

PBTD – 20531' MD
TD – 20571' MD/9946' TVD