

State of New Mexico
Energy, Minerals and Natural Resources Department

Michelle Lujan Grisham
Governor

Sarah Cottrell Propst
Cabinet Secretary

Todd E. Leahy, JD, PhD
Deputy Secretary

Adrienne Sandoval, Division Director
Oil Conservation Division



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 * C-104 & SUNDRY DATE DOES NOT MATCH
 - ☐ 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) missing

New Well and Recompleted Well Only

- ☒ C-103 Completion Sundry (or BLM equivalent) approved BLM Copy
- ☒ C-105 Completion Report (or BLM equivalent) approved BLM Copy
- ☐ All Logs Run on Well

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

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

DISTRICT/ARTESIA/O.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 OXY USA INC P.O. BOX 4294 HOUSTON, TX 77210		² OGRID Number 16696
⁴ API Number 30-015-45244		³ Reason for Filing Code/ Effective Date - NW
⁵ Pool Name INGLE WELLS; BONE SPRING	⁶ Pool Code 33740	
⁷ Property Code: 321632	⁸ Property Name: IRIDIUM MDP1 28 21 FEDERAL COM	⁹ Well Number: 3H

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
C	33	23S	31E		249'	NORTH	2369'	WEST	EDDY

¹¹ Bottom Hole Location

FTP: 146' FSL 2148' FWL LTP- 135' FNL 2076' FWL

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	21	23S	31E		21'	NORTH	2076'	WEST	EDDY
¹² Lse Code F	¹³ Producing Method Code : F	¹⁴ Gas Connection Date: 5/8/19	¹⁵ C-129 Permit Number	¹⁶ C-129 Effective Date	¹⁷ C-129 Expiration Date				

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 11/24/2019	²² Ready Date 05/01/2019	²³ TD 9814'V/20235'MD	²⁴ PBT 9814'V/20191'M	²⁵ Perforations 10046'-20143'MD	²⁶ DHC, MC
²⁷ Hole Size	²⁸ Casing & Tubing Size	²⁹ Depth Set	³⁰ Sacks Cement		
17-1/2"	13-3/8"	683'	950		
12-1/4"	9-5/8"	4345'	1210		
8-1/2"	7-5/8"	9232'	598		
6-3/4"	5-1/2"	20180'	830		

V. Well Test Data

³¹ Date New Oil 05/09/2019	³² Gas Delivery Date 05/08/2019	³³ Test Date 05/17/2019	³⁴ Test Length 24 HOURS	³⁵ Tbg. Pressure	³⁶ Csg. Pressure 874
³⁷ Choke Size 80/128	³⁸ Oil 3559	³⁹ Water 9267	⁴⁰ Gas 3096		⁴¹ Test Method 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:

DENIED

Title:

See Attached Cover Sheet

Approval Date:

*Teg. 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 29, 2019

Oxy USA Inc.
S. Greenway Plaza Suite 110
Houston, TX 77046

RECEIVED

SEP 06 2019

DISTRICT/ARTESIAO.C.D.

Re:

33, 23 South, 31 EAST, Eddy NM
N 32.26750 W -103.78363

CLIENT: Oxy USA Inc.
WELL: Iridium MDP1 28-21 Federal Com 3H
FIELD: Ingle Wells Bone Spring

RIG: H&P 656
COUNTY: Eddy
API NO: 30-015-45244
JOB NO: 19MLD4329

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>
Ahmed AlTammar FE	Iridium MDP1 28-21 Federal Com 3H Original Hole	755.00 Ft to 20196.00 Ft	March 2, 2019 to April 6, 2019	TelePacer/SlimPulse Third Party Corrected

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

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, 23 South, 31 EAST, Eddy NM
N 32.26750 W -103.78363

I, Ahmed ALTammar certify that; I am employed by Drilling & Measurements, a division of Schlumberger Technology Corporation; that I did on the day(s) of March 02, 2019 through April 06, 2019, conduct or supervise the taking of the TelePacer/SlimPulse & Third Party Corrected surveys from a depth of 755.00 feet to a depth of 20196.00 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 3H Well (Original Hole) API No. 30-015-45244 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
Ahmed ALTammar
FE



Subscribed and Sworn to before me this 29th day of April (month) 2019 (yr)

My Commission expires:

2-16-2022

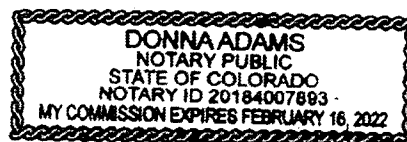
Notary Public

Donna Adams

(signature)

(County State)

Adams County Colorado



Schlumberger

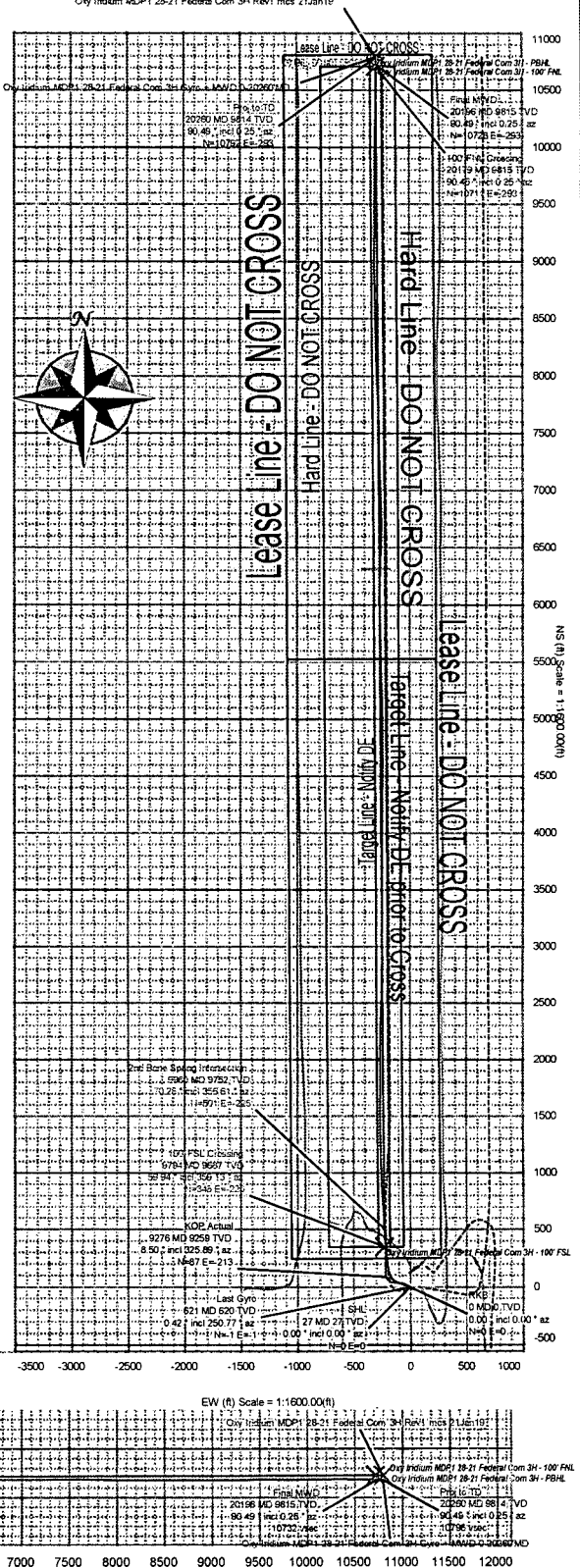
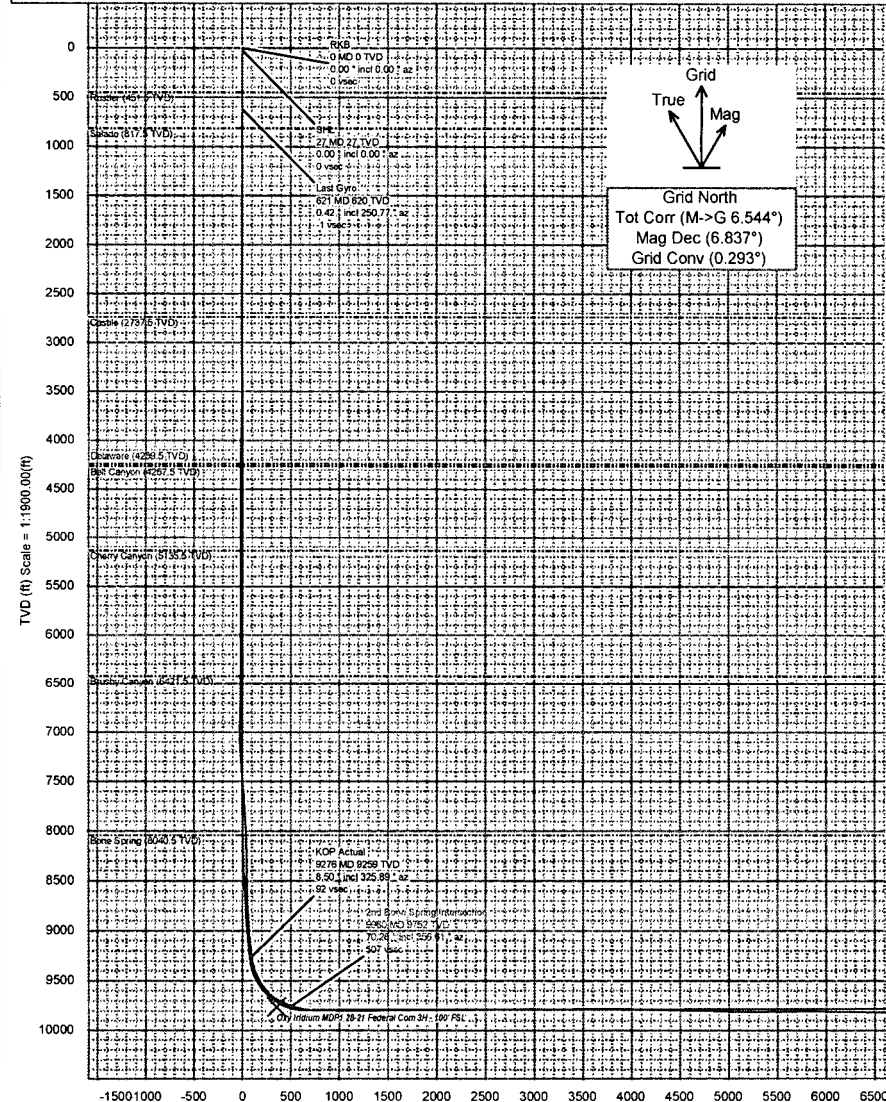
OXY



Borehole:	Well:	Field:	Structure:
Original Borehole	Oxy Iridium MDP1 28-21 Federal Com 3H	NM Eddy County (NAD 83)	Oxy Iridium MDP1 28-21 Federal Com 3H

Gravity & Magnetic Parameters				Surface Location				Miscellaneous			
Model: IFR1	Dip: 59.99°	Date: 23-Mar-2019		Lat: N 32 16 2.99	Northing: 461493.89RUS	Grid Conv: 0.2935°		Slot: Oxy Iridium MDP1	TVD Ref: RKB=26.5'(3412.5ft above MSL)		
MagDec: 6.837°	FS: 47991.6nT	Gravity FS: 998.45mgm (9.80665 Based)		Lon: W 103 47 1.05	Easting: 711245RUS	Scale Fact: 0.99994215		Com 3H			
								Plan: Oxy Iridium MDP1 28-21 Federal Com 3H Gyro + MWD 0-20262/MD			

Critical Points								
Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	OLS
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	620.50	0.42	250.77	620.50	-1.32	-1.35	-1.03	0.64
KOP Actual	9276.00	8.50	325.89	9258.79	92.42	86.61	-213.00	0.75
100' FSL Crossing	9794.00	59.94	359.13	9687.26	353.78	347.87	-220.03	15.33
2nd Bone Spring Intersection	9960.22	70.26	356.61	9752.00	506.68	500.70	-224.83	6.79
100' FNL Crossing	20179.00	90.45	0.25	9814.89	10714.65	10710.64	-293.10	0.22
Final MWD	20196.00	90.49	0.25	9814.75	10731.64	10727.64	-293.03	0.22
Proj to TD	20260.00	90.49	0.25	9814.21	10795.61	10791.64	-292.75	0.00



Vertical Section (ft) Azim = 358.43° Scale = 1:1900.00(ft) Origin = 0N/-S, 0E/-W

Oxy Iridium MDP1 28-21 Federal Com 3H Gyro + MWD 0-20260' MD Survey Geodetic Report (Def Survey)



Report Date: April 08, 2019 - 10:07 AM Client: OXY Field: NM Eddy County (NAD 83) Structure / Slot: Oxy Iridium MDP1 28-21 Federal Com 3H / Oxy Iridium MDP1 28-21 Federal Com 3H Well: Oxy Iridium MDP1 28-21 Federal Com 3H Borehole: Original Borehole UWI / API#: Unknown / 30-015-45244 Survey Name: Oxy Iridium MDP1 28-21 Federal Com 3H Gyro + MWD 0-20260' MD Survey Date: February 20, 2019 Tort / AHD / DDI / ERD Ratio: 219.322' / 11022.223 ft / 6.698' / 1.122 Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet Location Lat / Long: N 32° 16' 2.99203", W 103° 47' 1.05082" Location Grid N/E Y/X: N 461483.890 RUS, E 711245.000 RUS CRS Grid Convergence Angle: 0.2935° Grid Scale Factor: 0.99994215 Version / Patch: 2.10.753.0	Survey / DLS Computation: Minimum Curvature / Lubinski Vertical Section Azimuth: 358.427° (Grid North) Vertical Section Origin: 0.000 ft, 0.000 ft TVD Reference Datum: RKB=26.5' TVD Reference Elevation: 3412.500 ft above MSL Seabed / Ground Elevation: 3386.000 ft above MSL Magnetic Declination: 6.837° Total Gravity Field Strength: 998.4499mgm (9.80665 Based) Gravity Model: GARM Total Magnetic Field Strength: 47991.600 nT Magnetic Dip Angle: 59.990° Declination Date: March 23, 2019 Magnetic Declination Model: IFR1 North Reference: Grid North Grid Convergence Used: 0.2935° Total Corr Mag North->Grid North: 6.5435° Local Coord Referenced To: Well Head	Minimum Curvature / Lubinski 358.427° (Grid North) 0.000 ft, 0.000 ft RKB=26.5' 3412.500 ft above MSL 3386.000 ft above MSL 6.837° 998.4499mgm (9.80665 Based) GARM 47991.600 nT 59.990° March 23, 2019 IFR1 Grid North 0.2935° 6.5435° Well Head
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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	461483.89	711245.00	N 32 16 2.99 W 103 47 1.05	
SHL	26.50	0.00	0.00	26.50	0.00	0.00	0.00	0.00	461483.89	711245.00	N 32 16 2.99 W 103 47 1.05	
	80.50	0.18	228.67	80.50	-0.05	-0.06	-0.06	0.33	461483.83	711244.94	N 32 16 2.99 W 103 47 1.05	
	140.50	0.13	209.60	140.50	-0.17	-0.18	-0.17	0.12	461483.71	711244.83	N 32 16 2.99 W 103 47 1.05	
	200.50	0.17	195.44	200.50	-0.32	-0.32	-0.23	0.09	461483.57	711244.77	N 32 16 2.99 W 103 47 1.05	
	260.50	0.13	218.42	260.50	-0.45	-0.46	-0.29	0.12	461483.43	711244.71	N 32 16 2.99 W 103 47 1.05	
	320.50	0.20	221.88	320.50	-0.58	-0.59	-0.40	0.12	461483.30	711244.60	N 32 16 2.99 W 103 47 1.06	
	380.50	0.23	201.24	380.50	-0.77	-0.78	-0.52	0.14	461483.11	711244.48	N 32 16 2.98 W 103 47 1.06	
	440.50	0.21	219.30	440.50	-0.96	-0.98	-0.63	0.12	461482.91	711244.37	N 32 16 2.98 W 103 47 1.06	
	500.50	0.13	231.83	500.50	-1.09	-1.11	-0.75	0.15	461482.78	711244.25	N 32 16 2.98 W 103 47 1.06	
	560.50	0.12	187.48	560.50	-1.19	-1.21	-0.82	0.16	461482.68	711244.18	N 32 16 2.98 W 103 47 1.06	
Last Gyro	620.50	0.42	250.77	620.50	-1.32	-1.35	-1.03	0.64	461482.54	711243.97	N 32 16 2.98 W 103 47 1.06	
	755.00	0.39	231.68	754.99	-1.74	-1.79	-1.86	0.10	461482.10	711243.14	N 32 16 2.97 W 103 47 1.07	
	867.00	0.58	226.66	866.99	-2.35	-2.42	-2.57	0.17	461481.47	711242.43	N 32 16 2.97 W 103 47 1.08	
	957.00	0.58	255.22	956.99	-2.75	-2.85	-3.34	0.32	461481.04	711241.66	N 32 16 2.96 W 103 47 1.09	
	1047.00	0.46	217.90	1046.98	-3.14	-3.25	-4.00	0.39	461480.64	711241.00	N 32 16 2.96 W 103 47 1.10	
	1139.00	0.46	218.31	1138.98	-3.71	-3.83	-4.46	0.00	461480.06	711240.54	N 32 16 2.95 W 103 47 1.10	
	1230.00	0.44	218.52	1229.98	-4.25	-4.39	-4.90	0.02	461479.50	711240.10	N 32 16 2.95 W 103 47 1.11	
	1415.00	0.56	226.88	1414.97	-5.40	-5.56	-6.00	0.08	461478.33	711239.00	N 32 16 2.94 W 103 47 1.12	
	1506.00	0.56	214.75	1505.96	-6.05	-6.23	-6.58	0.13	461477.66	711238.42	N 32 16 2.93 W 103 47 1.13	
	1596.00	0.44	193.33	1595.96	-6.74	-6.93	-6.91	0.24	461476.96	711238.09	N 32 16 2.92 W 103 47 1.13	
	1785.00	0.16	161.14	1784.96	-7.69	-7.89	-6.99	0.17	461476.00	711238.01	N 32 16 2.91 W 103 47 1.13	
	1974.00	0.20	223.86	1973.96	-8.17	-8.37	-7.14	0.10	461475.52	711237.86	N 32 16 2.91 W 103 47 1.13	
	2163.00	0.18	138.93	2162.96	-8.64	-8.84	-7.17	0.14	461475.06	711237.83	N 32 16 2.90 W 103 47 1.13	
	2351.00	0.18	254.34	2350.96	-8.94	-9.14	-7.26	0.16	461474.75	711237.74	N 32 16 2.90 W 103 47 1.14	
	2446.00	0.07	1.56	2445.96	-8.91	-9.12	-7.40	0.22	461474.77	711237.60	N 32 16 2.90 W 103 47 1.14	
	2540.00	0.23	256.33	2539.96	-8.90	-9.11	-7.58	0.27	461474.78	711237.42	N 32 16 2.90 W 103 47 1.14	
	2635.00	0.25	356.35	2634.96	-8.73	-8.95	-7.78	0.39	461474.95	711237.22	N 32 16 2.90 W 103 47 1.14	
	2729.00	0.39	322.59	2728.95	-8.26	-8.49	-7.99	0.24	461475.40	711237.01	N 32 16 2.91 W 103 47 1.14	
	2823.00	0.21	294.09	2822.95	-7.93	-8.16	-8.34	0.24	461475.73	711236.66	N 32 16 2.91 W 103 47 1.15	
	2917.00	0.44	280.51	2916.95	-7.78	-8.03	-8.85	0.26	461475.86	711236.15	N 32 16 2.91 W 103 47 1.15	
	3012.00	0.35	250.10	3011.95	-7.79	-8.06	-9.49	0.24	461475.83	711235.51	N 32 16 2.91 W 103 47 1.16	
	3106.00	0.12	266.29	3105.95	-7.89	-8.16	-9.85	0.25	461475.73	711235.15	N 32 16 2.91 W 103 47 1.17	
	3200.00	0.31	4.55	3199.95	-7.64	-7.92	-9.93	0.37	461475.98	711235.07	N 32 16 2.91 W 103 47 1.17	
	3389.00	0.23	40.88	3388.95	-6.85	-7.12	-9.64	0.10	461476.77	711235.36	N 32 16 2.92 W 103 47 1.16	
	3483.00	0.91	127.87	3482.94	-7.19	-7.43	-8.93	0.99	461476.46	711236.07	N 32 16 2.92 W 103 47 1.16	
	3578.00	1.33	112.99	3577.92	-8.12	-8.33	-7.32	0.53	461475.56	711237.68	N 32 16 2.91 W 103 47 1.14	
	3672.00	1.18	126.65	3671.90	-9.18	-9.33	-5.54	0.35	461474.56	711239.46	N 32 16 2.90 W 103 47 1.12	
	3766.00	1.84	123.27	3765.87	-10.64	-10.74	-3.50	0.71	461473.15	711241.50	N 32 16 2.89 W 103 47 1.09	
	3861.00	1.87	125.33	3860.82	-12.44	-12.47	-0.96	0.08	461471.42	711244.04	N 32 16 2.87 W 103 47 1.06	
	3955.00	2.29	125.65	3954.76	-14.50	-14.45	1.82	0.45	461469.44	711246.82	N 32 16 2.85 W 103 47 1.03	
	3973.00	2.38	128.38	3972.74	-14.95	-14.89	2.40	0.79	461469.00	711247.40	N 32 16 2.84 W 103 47 1.02	
	4050.00	2.43	132.27	4049.67	-17.11	-16.98	4.86	0.22	461466.91	711249.88	N 32 16 2.82 W 103 47 1.00	
	4144.00	1.01	123.51	4143.63	-18.97	-18.78	7.03	1.53	461465.11	711252.03	N 32 16 2.81 W 103 47 0.97	
	4238.00	0.17	15.56	4237.62	-19.31	-19.11	7.76	1.14	461464.79	711252.76	N 32 16 2.80 W 103 47 0.96	
	4400.00	0.08	85.38	4399.62	-19.08	-18.86	7.93	0.10	461465.03	711252.93	N 32 16 2.80 W 103 47 0.96	
	4464.00	0.03	170.04	4463.62	-19.09	-18.88	7.98	0.13	461465.01	711252.98	N 32 16 2.80 W 103 47 0.96	
	4559.00	0.07	185.50	4558.62	-19.17	-18.96	7.98	0.04	461464.93	711252.98	N 32 16 2.80 W 103 47 0.96	
	4653.00	0.03	237.31	4652.62	-19.24	-19.03	7.95	0.06	461464.86	711252.95	N 32 16 2.80 W 103 47 0.96	
	4842.00	0.03	306.49	4841.62	-19.24	-19.03	7.87	0.02	461464.86	711252.87	N 32 16 2.80 W 103 47 0.96	
	4936.00	0.03	8.21	4935.62	-19.20	-18.99	7.86	0.03	461464.90	711252.86	N 32 16 2.80 W 103 47 0.96	
	5125.00	0.03	104.40	5124.62	-19.16	-18.95	7.91	0.02	461464.94	711252.91	N 32 16 2.80 W 103 47 0.96	
	5314.00	0.03	179.03	5313.62	-19.22	-19.01	7.96	0.02	461464.88	711252.96	N 32 16 2.80 W 103 47 0.96	
	5408.00	0.03	8.46	5407.62	-19.23	-19.01	7.96	0.06	461464.88	711252.96	N 32 16 2.80 W 103 47 0.96	
	5502.00	0.03	131.26	5501.62	-19.22	-19.01	7.99	0.06	461464.89	711252.99	N 32 16 2.80 W 103 47 0.96	
	5597.00	0.03	147.07	5596.62	-19.26	-19.04	8.02	0.01	461464.85	711253.02	N 32 16 2.80 W 103 47 0.96	
	5691.00	0.03	84.34	5690.62	-19.28	-19.06	8.06	0.03	461464.83	711253.06	N 32 16 2.80 W 103 47 0.96	
	5785.00	0.03	354.32	5784.62	-19.25	-19.03	8.08	0.05	461464.86	711253.08	N 32 16 2.80 W 103 47 0.96	
	5974.00	0.07	235.48	5973.62	-19.26	-19.05	7.98	0.05	461464.84	711252.98	N 32 16 2.80 W 103 47 0.96	
	6069.00	0.03	210.93	6068.62	-19.31	-19.10	7.92	0.05	461464.79	711252.92	N 32 16 2.80 W 103 47 0.96	
	6163.00	0.08	223.90	6162.62	-19.38	-19.17	7.86	0.05	461464.72	711252.86	N 32 16 2.80 W 103 47 0.96	
	6257.00	0.22	337.09	6256.62	-19.26	-19.05	7.74	0.28	461464.84	711252.74	N 32 16 2.80 W 103 47 0.96	
	6352.00	0.28	239.62	6351.62	-19.20	-19.00	7.47	0.40	461464.89	711252.47	N 32 16 2.80 W 103 47 0.96	
	6446.00	0.15	159.92	6445.62	-19.43	-19.24	7.32	0.31	461464.66	711252.32	N 32 16 2.80 W 103 47 0.97	
	6540.00	0.05	157.53	6539.62	-19.58	-19.39	7.37	0.11	461464.50	711252.37	N 32 16 2.80 W 103 47 0.97	
	6729.00	1.20	165.24	6728.61	-21.59	-21.38	7.91	0.61	461462.51	711252.91	N 32 16 2.78 W 103 47 0.96	
	6824.00	1.59	164.53	6823.58	-23.84	-23.61	8.51	0.41	461460.28	711253.51	N 32 16 2.76 W 103 47 0.95	
	6918.00	1.40	165.03	6917.55	-26.22	-25.98	9.16	0.20	461457.91	711254.16	N 32 16 2.73 W 103 47 0.95	
	7012.00	0.05	357.79	7011.54	-27.29	-27.05	9.45	1.54	461456.85	711254.45	N 32 16 2.72 W 103 47 0.94	
7107.00	1.86	344.19	7106.52	-25.76	-25.52	9.03	1.91	461458.37	711254.03	N 32 16 2.74 W 103 47 0.95		
7201.00	3.62	340.85	7200.41	-21.45	-21.25	7.64	1.88	461462.64	711252.64	N 32 16 2.78 W 103 47 0.96		
7296.00	4.85	332.94	7295.15	-14.97	-14.84	4.83	1.43	461469.05	711249.83	N 32 16 2.84 W 103 47 1.00		
7390.00	5.71	322.19	7388.75	-7.61	-7.61	0.16	1.39	461476.28	711245.16	N 32 16 2.92 W 103 47 1.05		
7484.00	6.17	312.51	7482.25	-0.32	-0.50	-6.43	1.17	461483.39	711238.57	N 32 16 2.99 W 103 47 1.13		
7673.00	7.32	300.98	7669.95	13.22	12.56	-24.24	0.94	461496.45	711220.76	N 32 16 3.12 W 103 47 1.33		
7768.00	7.75	294.95	7764.13	19.34	18.38	-35.24	0.95	461502.27	711209.76	N 32 16 3.18 W 103 47 1.46		
7862.00	8.14	291.59	7857.23	24.79	23.50	-47.18	0.65	461507.39	711197.83	N 32 16 3.23 W 103 47 1.65		

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (RUS)	Easting (RUS)	Latitude (N/S ° ' '')	Longitude (E/W ° ' '')
	7957.00	8.44	287.54	7951.23	29.72	28.08	-60.08	0.69	461511.97	711184.93	N 32 16 3.27 W 103 47	1.75
	8051.00	8.20	285.01	8044.24	33.89	31.89	-73.13	0.47	461515.78	711171.87	N 32 16 3.31 W 103 47	1.90
	8145.00	7.44	280.74	8137.37	37.10	34.76	-85.58	1.02	461518.65	711159.42	N 32 16 3.34 W 103 47	2.05
	8240.00	6.63	275.87	8231.66	39.12	36.47	-97.08	1.06	461520.36	711147.92	N 32 16 3.36 W 103 47	2.18
	8334.00	7.03	272.09	8324.99	40.19	37.24	-108.23	0.64	461521.12	711136.78	N 32 16 3.37 W 103 47	2.31
	8429.00	9.09	269.67	8419.05	40.73	37.41	-121.54	2.20	461521.29	711123.46	N 32 16 3.37 W 103 47	2.46
	8523.00	8.77	276.35	8511.91	41.88	38.16	-136.09	1.15	461522.04	711108.92	N 32 16 3.38 W 103 47	2.63
	8618.00	7.52	279.20	8605.91	44.09	40.00	-149.67	1.10	461523.89	711095.34	N 32 16 3.40 W 103 47	2.79
	8901.00	6.31	293.25	8792.49	50.84	46.15	-171.79	1.21	461530.03	711073.23	N 32 16 3.46 W 103 47	3.05
	8995.00	6.16	303.06	8886.94	55.93	50.99	-180.85	1.13	461534.88	711064.16	N 32 16 3.51 W 103 47	3.15
	9114.00	7.82	314.92	8980.36	62.69	57.53	-188.88	1.45	461541.41	711056.13	N 32 16 3.57 W 103 47	3.25
	9276.00	8.50	325.89	9258.79	92.42	68.41	-199.02	1.14	461552.29	711045.99	N 32 16 3.68 W 103 47	3.36
KOP Actual	9370.00	16.66	354.92	9350.54	111.78	105.63	-213.00	0.75	461570.49	711032.01	N 32 16 3.86 W 103 47	3.53
	9465.00	25.50	2.42	9439.11	145.84	139.90	-218.10	10.73	461589.71	711026.91	N 32 16 4.05 W 103 47	3.58
	9560.00	30.90	359.40	9522.80	190.67	184.76	-217.84	9.71	461623.78	711026.57	N 32 16 4.39 W 103 47	3.59
	9655.00	42.05	359.34	9599.07	247.05	241.14	-218.46	5.88	461668.64	711027.18	N 32 16 4.83 W 103 47	3.58
	9749.00	53.04	359.07	9662.43	316.29	310.38	-219.44	11.74	461725.02	711026.55	N 32 16 5.39 W 103 47	3.58
100' FSL Crossing	9794.00	59.94	359.13	9687.26	353.78	347.87	-220.03	15.33	461831.74	711024.99	N 32 16 6.45 W 103 47	3.59
	9844.00	67.60	359.18	9709.34	398.60	392.69	-220.69	15.33	461876.55	711024.33	N 32 16 6.89 W 103 47	3.60
2nd Bone Spring Intersection	9939.00	68.85	356.91	9744.59	486.81	480.85	-223.70	2.58	461964.71	711021.31	N 32 16 7.76 W 103 47	3.63
	9960.22	70.26	356.61	9752.00	506.68	500.70	-224.83	6.79	461984.56	711020.18	N 32 16 7.96 W 103 47	3.64
	10033.00	75.11	355.60	9773.65	576.08	570.00	-229.56	6.79	462053.85	711015.46	N 32 16 8.64 W 103 47	3.69
	10128.00	85.11	356.92	9789.95	669.48	663.27	-235.64	10.61	462147.12	711009.38	N 32 16 9.57 W 103 47	3.76
	10223.00	89.69	356.26	9794.26	764.31	757.97	-241.28	4.87	462241.82	711003.73	N 32 16 10.50 W 103 47	3.82
	10260.00	90.20	356.19	9794.29	801.28	794.89	-243.72	1.39	462278.74	711001.30	N 32 16 10.87 W 103 47	3.84
	10458.00	87.80	358.18	9797.75	999.18	992.60	-253.44	1.57	462476.43	710991.57	N 32 16 12.83 W 103 47	3.94
	10551.00	89.38	358.32	9800.04	1092.15	1085.53	-256.28	1.71	462569.35	710988.74	N 32 16 13.75 W 103 47	3.97
	10645.00	90.66	358.67	9800.00	1186.15	1179.49	-258.75	1.41	462663.31	710986.27	N 32 16 14.68 W 103 47	3.99
	10738.00	90.38	358.13	9799.16	1279.15	1272.45	-261.35	0.65	462756.26	710983.67	N 32 16 15.60 W 103 47	4.02
	10925.00	91.59	0.57	9795.95	1466.08	1459.39	-263.47	1.46	462943.20	710981.55	N 32 16 17.45 W 103 47	4.03
	11113.00	90.93	0.07	9791.81	1653.93	1647.34	-262.42	0.44	463131.13	710982.60	N 32 16 19.31 W 103 47	4.01
	11303.00	90.21	0.32	9789.92	1843.83	1837.33	-261.77	0.40	463321.11	710983.24	N 32 16 21.19 W 103 47	3.99
	11492.00	90.38	0.35	9788.95	2032.72	2026.33	-260.67	0.09	463510.09	710984.35	N 32 16 23.06 W 103 47	3.97
	11682.00	91.45	1.19	9785.91	2222.53	2216.28	-258.11	0.72	463700.04	710986.90	N 32 16 24.94 W 103 47	3.92
	11777.00	89.53	1.20	9785.10	2317.41	2311.25	-256.13	2.02	463795.00	710988.88	N 32 16 25.87 W 103 47	3.90
	11872.00	89.05	1.65	9786.28	2412.27	2406.21	-253.77	0.69	463889.96	710991.25	N 32 16 26.81 W 103 47	3.86
	11967.00	90.42	2.59	9786.72	2507.07	2501.14	-250.26	1.75	463984.89	710994.76	N 32 16 27.75 W 103 47	3.82
	12061.00	90.52	0.69	9785.95	2600.92	2595.10	-247.57	2.02	464078.83	710997.45	N 32 16 28.68 W 103 47	3.78
	12156.00	90.08	0.23	9785.45	2695.86	2690.09	-246.80	0.67	464173.82	710998.21	N 32 16 29.62 W 103 47	3.76
	12345.00	90.52	0.06	9784.46	2884.77	2879.09	-246.32	0.25	464362.81	710998.69	N 32 16 31.49 W 103 47	3.75
	12535.00	89.42	359.81	9784.56	3074.70	3069.09	-246.54	0.59	464552.79	710998.47	N 32 16 33.37 W 103 47	3.74
	12630.00	89.49	359.36	9785.46	3169.67	3164.08	-247.23	0.48	464647.78	710997.79	N 32 16 34.31 W 103 47	3.74
	12724.00	90.35	0.05	9785.59	3263.65	3258.08	-247.71	1.17	464741.77	710997.30	N 32 16 35.24 W 103 47	3.74
	12914.00	90.56	359.99	9784.09	3453.57	3448.07	-247.65	0.11	464931.75	710997.37	N 32 16 37.12 W 103 47	3.73
	13103.00	90.63	0.63	9782.12	3642.46	3637.06	-246.62	0.34	465120.73	710998.39	N 32 16 38.99 W 103 47	3.71
	13198.00	89.32	0.26	9782.16	3737.40	3732.05	-245.89	1.43	465215.72	710999.13	N 32 16 39.93 W 103 47	3.69
	13292.00	90.08	0.10	9782.66	3831.35	3826.05	-245.59	0.83	465309.71	710999.42	N 32 16 40.86 W 103 47	3.68
	13481.00	88.87	1.14	9784.39	4020.20	4015.02	-243.55	0.84	465498.67	711001.47	N 32 16 42.73 W 103 47	3.65
	13576.00	88.98	0.56	9786.17	4115.09	4110.00	-242.14	0.62	465593.64	711002.88	N 32 16 43.67 W 103 47	3.63
	13670.00	88.19	359.97	9788.49	4209.02	4203.97	-241.70	1.05	465687.60	711003.31	N 32 16 44.60 W 103 47	3.62
	13765.00	88.74	0.18	9791.04	4303.94	4298.93	-241.58	0.62	465782.56	711003.44	N 32 16 45.54 W 103 47	3.61
	13955.00	88.67	0.60	9795.33	4493.78	4488.88	-240.28	0.22	465972.50	711004.73	N 32 16 47.42 W 103 47	3.58
	14144.00	88.70	0.30	9799.67	4682.61	4677.82	-238.80	0.16	466161.43	711006.21	N 32 16 49.29 W 103 47	3.55
	14239.00	88.67	359.42	9801.85	4777.56	4772.80	-239.03	0.93	466256.40	711005.98	N 32 16 50.23 W 103 47	3.55
	14333.00	89.25	359.59	9803.55	4871.53	4866.78	-239.84	0.64	466350.38	711005.17	N 32 16 51.16 W 103 47	3.55
	14428.00	88.77	359.64	9805.20	4966.49	4961.76	-240.48	0.51	466445.35	711004.53	N 32 16 52.10 W 103 47	3.56
	14523.00	88.74	359.15	9807.26	5061.46	5056.73	-241.49	0.52	466540.32	711003.53	N 32 16 53.04 W 103 47	3.56
	14618.00	88.87	358.79	9809.24	5156.43	5151.70	-243.19	0.40	466635.28	711001.82	N 32 16 53.98 W 103 47	3.58
	14712.00	90.18	358.02	9810.02	5250.42	5245.65	-245.81	1.62	466729.23	710999.21	N 32 16 54.91 W 103 47	3.60
	14807.00	90.28	357.96	9809.64	5345.42	5340.59	-249.14	0.12	466824.16	710995.87	N 32 16 55.85 W 103 47	3.63
	14901.00	90.08	358.42	9809.34	5439.42	5434.55	-252.11	0.53	466918.11	710992.90	N 32 16 56.78 W 103 47	3.66
	14996.00	90.32	357.82	9809.01	5534.42	5529.49	-255.23	0.68	467013.05	710989.79	N 32 16 57.72 W 103 47	3.69
	15091.00	91.59	0.34	9807.43	5629.39	5624.46	-256.75	2.97	467108.01	710988.26	N 32 16 58.66 W 103 47	3.71
	15185.00	90.39	358.87	9805.80	5723.35	5718.44	-257.40	2.02	467201.99	710987.62	N 32 16 59.59 W 103 47	3.71
	15375.00	89.66	357.99	9805.72	5913.35	5908.36	-262.61	0.60	467391.90	710982.41	N 32 17 1.47 W 103 47	3.76
	15469.00	89.25	358.52	9806.62	6007.34	6002.32	-265.47	0.71	467485.85	710979.55	N 32 17 2.40 W 103 47	3.78
	15564.00	89.36	0.54	9807.77	6102.31	6097.30	-266.25	2.13	467580.83	710978.77	N 32 17 3.34 W 103 47	3.79
	15658.00	89.11	1.86	9809.02	6196.19	6191.27	-264.28	1.43	467674.79	710980.74	N 32 17 4.27 W 103 47	3.76
	15753.00	88.94	1.97	9810.64	6291.00	6286.20	-261.10	0.21	467769.72	710983.91	N 32 17 5.21 W 103 47	3.72
	15842.00	88.98	2.07	9814.07	6479.60	6475.05	-254.44	0.06	467958.56	710990.57	N 32 17 7.08 W 103 47	3.63
	16037.00	89.46	1.68	9815.36	6574.42	6569.99	-251.34	0.65	468053.49	710993.68	N 32 17 8.01 W 103 47	3.59
	16132.00	90.35	1.09	9815.52	6669.29	6664.98	-249.04	1.12	468148.46	710995.97	N 32 17 8.95 W 103 47	3.55
	16226.00	90.39	358.44	9814.91	6763.25	6758.95	-249.43	2.82	468242.44	710995.59	N 32 17 9.88 W 103 47	3.55
	16415.00	90.32	357.96	9813.74	6952.25	6947.86	-255.36	0.26	468431.33	710989.85	N 32 17 11.75 W 103 47	3.61
	16509.00	90.25	358.19	9813.27	7046.24	7041.80	-258.52	0.26	468525.27	710986.50	N 32 17 12.68 W 103 47	3.64
	16604.00	90.15	357.84	9812.94	7141.24	7136.74	-261.81	0.38	468620.21	710983.21	N 32 17 13.62 W 103 47	3.67
	16699.00	89.94	358.69	9812.87	7236.24	7231.70	-264.69	0.92	468715.16	710980.33	N 32 17 14.56 W 103	

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 ° ' ")
	19628.00	91.14	1.80	9813.80	10164.10	10159.73	-298.90	1.56	471643.01	710946.12	N 32 17 43.54	W 103 47 3.93
	19723.00	90.66	0.43	9812.31	10258.98	10254.69	-297.05	1.53	471737.97	710947.97	N 32 17 44.48	W 103 47 3.90
	19818.00	89.53	0.56	9812.15	10353.92	10349.69	-296.23	1.20	471832.96	710948.79	N 32 17 45.42	W 103 47 3.88
	19912.00	89.91	0.67	9812.61	10447.85	10443.68	-295.22	0.42	471926.95	710949.80	N 32 17 46.35	W 103 47 3.87
	20007.00	88.22	0.63	9814.16	10542.76	10538.66	-294.15	1.78	472021.92	710950.87	N 32 17 47.29	W 103 47 3.85
	20101.00	90.28	0.24	9815.39	10636.69	10632.64	-293.43	2.23	472115.90	710951.59	N 32 17 48.22	W 103 47 3.83
100' FNL Crossing	20179.00	90.45	0.25	9814.89	10714.65	10710.64	-293.10	0.22	472193.89	710951.92	N 32 17 48.99	W 103 47 3.83
Final MWVD	20196.00	90.49	0.25	9814.75	10731.64	10727.64	-293.03	0.22	472210.89	710951.99	N 32 17 49.16	W 103 47 3.82
Proj to TD	20260.00	90.49	0.25	9814.21	10795.61	10791.64	-292.75	0.00	472274.88	710952.27	N 32 17 49.79	W 103 47 3.82

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	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 Federal Com 3H Gyro + MWD 0-20260'MD
	1	26.500	26.500	Act Stns	30.000	30.000	NAL_NSG+MSHOT-Depth Only	Original Borehole / Oxy Iridium MDP1 28-21 Federal Com 3H Gyro + MWD 0-20260'MD
	1	26.500	620.500	Act Stns	30.000	30.000	NAL_NSG+MSHOT	Original Borehole / Oxy Iridium MDP1 28-21 Federal Com 3H
	1	620.500	3973.000	Act Stns	30.000	30.000	NAL_MWD_IFR1+MS	Original Borehole / Oxy Iridium MDP1 28-21 Federal Com 3H
	1	3973.000	4238.000	Act Stns	30.000	30.000	NAL_MWD_PLUS_0.5_DEG	Original Borehole / Oxy Iridium MDP1 28-21 Federal Com 3H
	1	4238.000	20260.000	Act Stns	30.000	30.000	NAL_MWD_IFR1+MS	Original Borehole / Oxy Iridium MDP1 28-21 Federal Com 3H



Iridium MDP1 28-21 Federal Com 3H Wellbore Diagram

Elevation: GL 3386'

API: 30-015-45244

17-1/2" hole – 13-3/8" 45.5# J-55 csg
Set @ 683'

12-1/4" hole – 9-5/8" 43.5# HCL-80 csg
Set @ 4345'

8-1/2" hole – 7-5/8" 26.4# HCL-80 csg
Set @ 9232'

6-3/4" hole – 5-1/2" 20# P-110 csg
Set @ 20180'

Frac'd 10046'-20143'
50 stages

*Note: Diagram not to scale

PBTD – 20191' MD

TD – 20235' MD/9814' TVD