Form 3160-3 (June 2015)  UNITED STATE DEPARTMENT OF THE BUREAU OF LAND MAI	INTERIOR	Γ		FORM OMB N Expires: Ja 5. Lease Serial No. NMNM0001244A	o. 1004 anuary	4-0137 31, 2018
APPLICATION FOR PERMIT TO	DRILL OR	REENTER		6. If Indian, Allotee	or Tri	be Name
1a. Type of work:	REENTER Other			7. If Unit or CA Ag BELL LAKE / NMN	MM 0	68292X
1c. Type of Completion: Hydraulic Fracturing	Single Zone [	Multiple Zone		8. Lease Name and BELL LAKE UNIT		Н
Name of Operator     KAISER FRANCIS OIL COMPANY     [12361]				0 1 01 11 11 11	0-02	25-48551
3a. Address PO BOX 21468, TULSA, OK 74121-1468	3b. Phone N	o. (include area coa	le)	10. Field and Pool, OJO CHISO/WOL		loratory [98259] P, SOUTHWEST
4. Location of Well (Report location clearly and in accordance At surface SWNE / 2035 FNL / 1985 FEL / LAT 32.3	353097 / LONG	G -103.5071362	000004	11. Sec , T. R. M. of SEC 6/T23S/R34E		nd Survey or Area
At proposed prod. zone SWSE / 100 FSL / 2290 FEL /		45 / LONG -103.5	080921	12. County or Paris	h	13. State
<ol> <li>Distance in miles and direction from nearest town or post of 20 miles</li> </ol>	тпсет			LEA		NM
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig, unit line, if any)	16. No of ac	eres in lease	17. Space 480.0	ing Unit dedicated to t	his we	
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed	d Depth / 18407 feet		/BIA Bond No. in file YB000055		
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3462 feet	22. Approxis	mate date work will	start*	23. Estimated durat	ion	
*	24. Attac	hments		<del></del>		
The following, completed in accordance with the requirements (as applicable)  1. Well plat certified by a registered surveyor.  2. A Drilling Plan.  3. A Surface Use Plan (if the location is on National Forest Sys SUPO must be filed with the appropriate Forest Service Offi	tem Lands, the	4. Bond to cover the Item 20 above). 5. Operator certification.	e operation	Hydraulic Fracturing r ns unless covered by a rmation and/or plans as	n existi	ng bond on file (see
25. Signature		(Printed/Typed)	101 101 1		Date	
(Electronic Submission) Title	STOR	MI DAVIS / Ph: (9	18) 491-0	0000	02/09	9/2020
Regulatory Analyst						
Approved by (Signature) (Electronic Submission)		(Printed/Typed) Layton / Ph: (575)	234-5959		Date 11/30	0/2020
Title Assistant Field Manager Lands & Minerals	Office Carlsb	ead Field Office				
Application approval does not warrant or certify that the application applicant to conduct operations thereon.  Conditions of approval, if any, are attached.	ant holds legal o	or equitable title to the	hose rights	in the subject lease w	hich w	ould entitle the
Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212 of the United States any false, fictitious or fraudulent statement					any der	partment or agency
GCP Rec 03/12/2021		- covnit	10NS	03/1	2/20	7 21
SL	OVED WI	LH COUPLY	and the same of			
(Continued on page 2)	oval Date:	: 11/30/2020		*(In	struct	ions on page 2)

# PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME: KAISER FRANCIS OIL COMPANY

LEASE NO.: | NMNM0001244A

WELL NAME & NO.: BELL LAKE UNIT NORTH 210H

SURFACE HOLE FOOTAGE: 2035'/N & 1985'/E BOTTOM HOLE FOOTAGE 100'/S & 2290'/E

LOCATION: Section 6, T.23 S., R.34 E., NMPM

COUNTY: Lea County, New Mexico

COA

H2S	← Yes	€ No	
Potash	None None	○ Secretary	○ R-111-P
Cave/Karst Potential	• Low	○ Medium	○ High
Cave/Karst Potential	← Critical		THEH
Variance	○ None	Flex Hose	○ Other
Wellhead	← Conventional	Multibowl	Both
Other	□ 4 String Area	Capitan Reef	WIPP
Other	Fluid Filled	Cement Squeeze	Pilot Hole
Special Requirements	□ Water Disposal	COM	V Unit

#### A. HYDROGEN SULFIDE

Hydrogen Sulfide (H2S) monitors shall be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, provide measured values and formations to the BLM.

#### **B. CASING**

- 1. The 13-3/8 inch surface casing shall be set at approximately 1250 feet (a minimum of 25 feet (Lea County) into the Rustler Anhydrite and above the salt) and cemented to the surface.
  - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
  - b. Wait on cement (WOC) time for a primary cement job will be a minimum of 8

Page 1 of 8

- <u>hours</u> or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
- c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
- d. If cement falls back, remedial cementing will be done prior to drilling out that string.
- 2. The 9-5/8 inch intermediate casing shall be set at 4837 feet. The minimum required fill of cement behind the 9-5/8 inch intermediate casing is:

#### Option 1 (Single Stage):

- Cement to surface. If cement does not circulate see B.1.a, c-d above. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.
- 3. The minimum required fill of cement behind the 5-1/2 inch production casing is:

#### **Option 1 (Single Stage):**

- Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.
- Excess cement calculates to less than 25%; More cement may be needed.

#### C. PRESSURE CONTROL

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).

#### 2. BOP Requirements

#### Option 1

a. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be 2000 (2M) psi.

Page 2 of 8

b. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the intermediate casing shoe shall be 3000 (3M) psi.

#### Option 2

Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be 10,000 (10M) psi. Variance is approved to use a 5000 (5M) Annular which shall be tested to 5000 (5M) psi.

- a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
- b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
- c. Manufacturer representative shall install the test plug for the initial BOP test.
- d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
- e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

#### D. SPECIAL REQUIREMENT (S)

#### **Unit Wells**

The well sign for a unit well shall include the unit number in addition to the surface and bottom hole lease numbers. This also applies to participating area numbers. If a participating area has not been established, the operator can use the general unit designation, but will replace the unit number with the participating area number when the sign is replaced.

#### **Commercial Well Determination**

A commercial well determination shall be submitted after production has been established for at least six months. (This is not necessary for secondary recovery unit wells)

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# **GENERAL REQUIREMENTS**

The BLM is to be notified in advance for a representative to witness:

- a. Spudding well (minimum of 24 hours)
- b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
- c. BOPE tests (minimum of 4 hours)
  - Eddy County
    Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (575) 361-2822
  - ✓ Lea CountyCall the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575)393-3612
- 1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
  - a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
  - b. When the operator proposes to set surface casing with Spudder Rig
    - Notify the BLM when moving in and removing the Spudder Rig.
    - Notify the BLM when moving in the 2<sup>nd</sup> Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
    - BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.
- 2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on

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- which the draw works are located, this does not include the dog house or stairway area.
- 3. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

#### A. CASING

- 1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.
- 2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.
- 3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.
- 4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.
- 5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
- 6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.

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- 7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
- 8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

#### B. PRESSURE CONTROL

- 1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
- 2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.
- 3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
- 4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
  - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
  - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
  - c. Manufacturer representative shall install the test plug for the initial BOP test.
  - d. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.
  - e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.

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- 5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
  - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).
  - b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time, except the casing pressure test can be initiated immediately after bumping the plug (only applies to single stage cement jobs).
  - c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).
  - d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
  - e. The results of the test shall be reported to the appropriate BLM office.
  - f. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
  - g. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to

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the test at full stack pressure.

h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

#### C. DRILLING MUD

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the Wolfcamp formation, and shall be used until production casing is run and cemented.

#### D. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

RI11252020

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U.S. Department of the Interior BUREAU OF LAND MANAGEMENT

# Application Data Report

11/30/2020

APD ID: 10400054105

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH

Well Type: OIL WELL

Submission Date: 02/09/2020

Highlighted data reflects the most

recent changes

Submission Date: 02/09/2020

Title: Regulatory Analyst

Well Number: 210H Show Final Text

Well Work Type: Drill

#### Section 1 - General

**APD ID:** 10400054105

0400054105

BLM Office: CARLSBAD

Federal/Indian APD: FED

Lease number: NMNM0001244A

Surface access agreement in place?

Agreement in place? YES

Agreement number: NMNM068292X

Agreement name: BELL LAKE

Keep application confidential? Y

Permitting Agent? YES

Operator letter of designation:

Tie to previous NOS? N

User: Stormi Davis

occiii Davis

Is the first lease penetrated for production Federal or Indian? FED Lease Acres: 634.35

Allotted? Reservation:

Federal or Indian agreement: FEDERAL

APD Operator: KAISER FRANCIS OIL COMPANY

#### **Operator Info**

Operator Organization Name: KAISER FRANCIS OIL COMPANY

Operator Address: 6733 S. Yale Ave.

Operator PO Box: PO Box 21468

Operator City: Tulsa

State: OK

Operator Phone: (918)491-0000
Operator Internet Address:

#### Section 2 - Well Information

Well in Master Development Plan? NO

Master Development Plan name:

Zip: 74121

Well in Master SUPO? NO

Master SUPO name:

Well in Master Drilling Plan? NO

Master Drilling Plan name:

Well Name: BELL LAKE UNIT NORTH

Well Number: 210H

Well API Number:

Field/Pool or Exploratory? Field and Pool

Field Name: OJO CHISO

Pool Name: WOLFCAMP,

SOUTHWEST

Is the proposed well in an area containing other mineral resources? NATURAL GAS,OIL

Page 1 of 3

Well Name: BELL LAKE UNIT NORTH Well Number: 210H

Is the proposed well in an area containing other mineral resources? NATURAL GAS,OIL

Is the proposed well in a Helium production area? N  $\;\;$  Use Existing Well Pad? N

New surface disturbance?

Type of Well Pad: MULTIPLE WELL

Multiple Well Pad Name:

Number: 8

Well Class: HORIZONTAL

NORTH BELL LAKE UNIT

Number of Legs: 1

Well Work Type: Drill Well Type: OIL WELL **Describe Well Type:** 

Well sub-Type: EXPLORATORY (WILDCAT)

Describe sub-type:

Distance to town: 20 Miles

Distance to nearest well: 30 FT

Distance to lease line: 325 FT

Reservoir well spacing assigned acres Measurement: 480 Acres

Well plat:

BLUN\_210H\_C102\_20200209125319.pdf

Pay.gov\_20200209131348.pdf

Well work start Date: 06/01/2020

**Duration: 40 DAYS** 

#### **Section 3 - Well Location Table**

Survey Type: RECTANGULAR

**Describe Survey Type:** 

Datum: NAD83

Vertical Datum: NAVD88

Survey number: 7647A

Reference Datum: GROUND LEVEL

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	DVT	Will this well produce from this lease?
SHL Leg #1	203 5	FNL	198 5	FEL	23S	34E	6	Aliquot SWNE	32.33530 97	- 103.5071 362	LEA	NEW MEXI CO	NEW MEXI CO		NMNM 000058 7	346 2	0	0	N
KOP Leg #1	203 5	FNL	198 5	FEL	23S	34E	6	Aliquot SWNE	32.33530 97	- 103.5071 362	LEA	NEW MEXI CO	NEW MEXI CO		NMNM 000058 7	- 625 5	972 9	971 7	N

Well Name: BELL LAKE UNIT NORTH

Well Number: 210H

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce from this lease?
PPP Leg #1-1	264 0	FSL	220 0	FEL	23S	34E	7	Aliquot NWSE	32.31913 05	- 103.5080 076	LEA	NEW MEXI CO	NEW MEXI CO	S	STATE	- 682 8	158 69	102 90	Υ
PPP Leg #1-2	0	FNL	220 0	FEL	23S	34E	7	Aliquot NWNE	32.32638 64	- 103.5079 201	LEA	NEW MEXI CO	NEW MEXI CO	F	NMLC0 065194		132 29	102 90	Y
PPP Leg #1-3	260 0	FSL	220 0	FEL	23S	34E	6	Aliquot NWSE	32.33353 2	- 103.5078 328	LEA	NEW MEXI CO	NEW MEXI CO	F	NMNM 000124 4A	- 682 8	106 29	102 90	Υ
	264 0	FSL	220 0	FEL	23S	34E	6	Aliquot NWSE	32.33364 07	- 103.5078 316	LEA	NEW MEXI CO	NEW MEXI CO	F	NMNM 000124 4A	- 682 5	105 89	102 87	Υ
EXIT Leg #1	100	FSL	229 0	FEL	23S	34E	7	Aliquot SWSE	32.31215 45	- 103.5080 921	LEA	NEW MEXI CO	NEW MEXI CO	S	STATE	- 682 8	184 07	102 90	Υ
BHL Leg #1	100	FSL	229 0	FEL	23S	34E	7		32.31215 <b>4</b> 5	- 103.5080 921	LEA	NEW MEXI CO	NEW MEXI CO	S	STATE	- 682 8	184 07	102 90	Y



Melanie Wilson <nmogrservices@gmail.com>

# Pay.gov Payment Confirmation: BLM Oil and Gas Online Payment

1 message

notification@pay.gov < notification@pay.gov> To: nmogrservices@gmail.com

Sun, Feb 9, 2020 at 1:12 PM



An official email of the United States government



Your payment has been submitted to Pay.gov and the details are below. If you have any questions regarding this payment, please contact BLM OC CBS Customer Service at (303) 236-6795 or BLM\_OC\_CBS\_Customer\_Service@blm.gov.

Application Name: BLM Oil and Gas Online Payment

Pay.gov Tracking ID: 26NE4SCJ Agency Tracking ID: 75948595725

Transaction Type: Sale

Transaction Date: 02/09/2020 03:12:38 PM EST Account Holder Name: George B Kaiser

Transaction Amount: \$10,230.00

Card Type: Visa

Card Number: \*\*\*\*\*\*\*\*\*0061

Company: Kaiser-Francis Oil Company

APD IDs: 10400054105

Lease Numbers: NMNM0001244A

Well Numbers: 210H

Note: You will need your Pay.gov Tracking ID to complete your APD transaction in AFMSS II. Please ensure

you write this number down upon completion of payment.

THIS IS AN AUTOMATED MESSAGE. PLEASE DO NOT REPLY.



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U.S. Department of the Interior BUREAU OF LAND MANAGEMENT

# Drilling Plan Data Report

11/30/2020

APD ID: 10400054105

Submission Date: 02/09/2020

Highlighted data reflects the most

Operator Name: KAISER FRANCIS OIL COMPANY

recent changes

Well Name: BELL LAKE UNIT NORTH

Well Number: 210H

Show Final Text

Well Type: OIL WELL

Well Work Type: Drill

# **Section 1 - Geologic Formations**

Formation			True Vertical				Producing
ID	Formation Name	Elevation	Depth	Depth	Lithologies	Mineral Resources	Formation
657224		3462	0	Ö	OTHER : Surface	NONE	N
657225	RUSTLER	2312	1150	1150	SANDSTONE	NONE	N
657226	SALADO	2012	1450	1450	SALT	NONE	N
657227	TOP SALT	1712	1750	1750	SALT	NONE	N
657228	BASE OF SALT	-1078	4540	4540	SALT	NONE	N
657229	LAMAR	-1363	4825	4825	SANDSTONE	NATURAL GAS, OIL	N
657230	BELL CANYON	-1688	5150	5150	SANDSTONE	NATURAL GAS, OIL	N
657231	CHERRY CANYON	-2913	6375	6375	SANDSTONE	NATURAL GAS, OIL	N
657232	BRUSHY CANYON	-4538	8000	8000	SANDSTONE	NATURAL GAS, OIL	N
657233	BONE SPRING	-4813	8275	8275	LIMESTONE	NATURAL GAS, OIL	N
657234	AVALON SAND	-5173	8635	8635	SANDSTONE	NATURAL GAS, OIL	N
657235	BONE SPRING 1ST	-6113	9575	9575	SANDSTONE	NATURAL GAS, OIL	N
657242	BONE SPRING 2ND	-6628	10090	10090	SANDSTONE	NATURAL GAS, OIL	Υ

## **Section 2 - Blowout Prevention**

Well Name: BELL LAKE UNIT NORTH Well Number: 210H

Pressure Rating (PSI): 5M Rating Depth: 13000

**Equipment:** A 5M system will be installed according to Onshore Order #2 consisting of an Annular Preventer, BOP with two rams, a blind ram and safety valves and appropriate handles located on the rig floor. BOP will be equipped with 2 side outlets (choke side shall be a minimum 3 line, and kill side will be a minimum 2 line). Kill line will be installed with (2) valves and a check valve (2 min) of proper pressure rating for the system. Remote kill line (2 min) will be installed and ran to the outer edge of the substructure and be unobstructed. A manual and hydraulic valve (3 min) will be installed on the choke line, 3 chokes will be used with one being remotely controlled. Fill up line will be installed above the uppermost preventer. Pressure gauge of proper pressure rating will be installed on choke manifold. Upper and lower kelly cocks will be utilized with handles readily available in plain sight. A float sub will be available at all times. All connections subject to well pressure will be flanged, welded, or clamped.

Requesting Variance? YES

Variance request: Flex Hose Variance MultiBowl Wellhead

**Testing Procedure:** BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all of the components installed will be functional and tested.

#### **Choke Diagram Attachment:**

BLUN\_210H\_Choke\_Manifold\_20200209125829.pdf

#### **BOP Diagram Attachment:**

Cactus\_Flex\_Hose\_16C\_Certification\_20200206080210.pdf
BLUN\_210H\_BOP\_20200209125855.pdf
BLUN\_210H\_Wellhead\_20200209125855.pdf

#### **Section 3 - Casing**

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	17.5	13.375	NEW	API	N	0	1200	0	1200	3462	2262	1200	J-55	54.5	BUTT	2	4.9	DRY	13.9	DRY	13
2	INTERMED IATE	12.2 5	9.625	NEW	API	N	0	4837	0	4825		-1363	4837	HCP -110	40	LT&C	1.9	3.5	DRY	6.6	DRY	6.5
3	PRODUCTI ON	8.75	5.5	NEW	API	N	0	18407	0	10290		-6828	18407	P- 110		OTHER - GBCD	2.3	2.7	DRY	3.2	DRY	3.1

#### **Casing Attachments**

Well Name: BELL LAKE UNIT NORTH Well Number: 210H

**Casing Attachments** 

Casing ID: 1

String Type: SURFACE

**Inspection Document:** 

**Spec Document:** 

**Tapered String Spec:** 

Casing Design Assumptions and Worksheet(s):

BLUN\_210H\_Casing\_Assumptions\_20200209130324.pdf

Casing ID: 2

String Type: INTERMEDIATE

**Inspection Document:** 

**Spec Document:** 

**Tapered String Spec:** 

Casing Design Assumptions and Worksheet(s):

BLUN\_210H\_Casing\_Assumptions\_20200209130227.pdf

Casing ID: 3

String Type: PRODUCTION

**Inspection Document:** 

**Spec Document:** 

**Tapered String Spec:** 

Casing Design Assumptions and Worksheet(s):

 ${\sf GBCD\_5.5} in \_{\sf Connection\_Spec\_Sheet\_20200124075519.pdf}$ 

BLUN\_210H\_Casing\_Assumptions\_20200209130305.pdf

**Section 4 - Cement** 

Well Name: BELL LAKE UNIT NORTH Well Number: 210H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	1200	700	1.7	13.5	1223	75	HALCEM	4% Bentonite
SURFACE	Tail		0	1200	248	1.3	14.8	331	75	Halcem	0.125 #/sk Poly Flake
INTERMEDIATE	Lead		0	4837	787	2.08	12.5	1644	50	EconoCem	3#/sk Kol Seal
INTERMEDIATE	Tail		0	4872	472	1.3	14.8	628	50	Halcem	none
PRODUCTION	Lead		4000	1840 7	397	3.5	10.5	1386	10	NeoCem	2#/sk Kol Seal
PRODUCTION	Tail		4000	1840 7	1835	1.2	14.5	2245	10	Versacem	none

# **Section 5 - Circulating Medium**

Mud System Type: Closed

Will an air or gas system be Used? NO

Description of the equipment for the circulating system in accordance with Onshore Order #2:

Diagram of the equipment for the circulating system in accordance with Onshore Order #2:

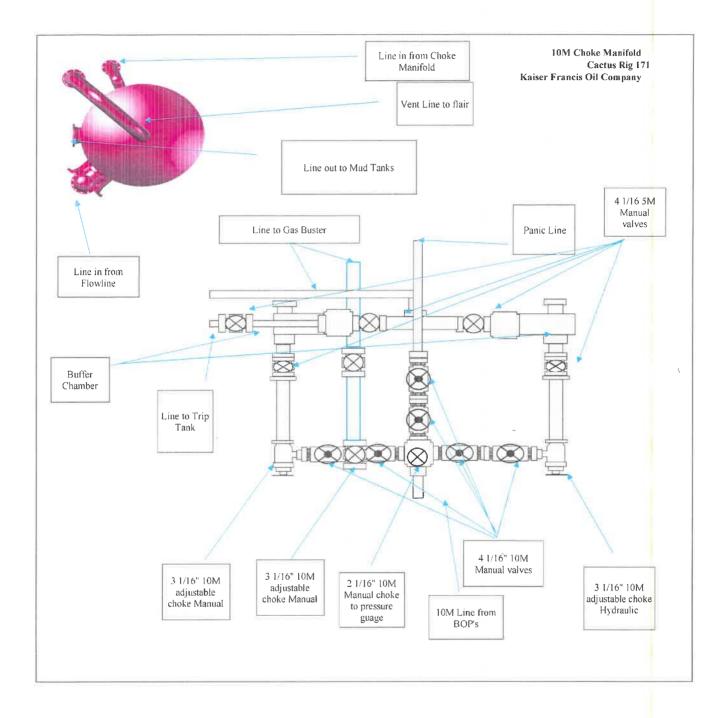
Describe what will be on location to control well or mitigate other conditions: Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all time.

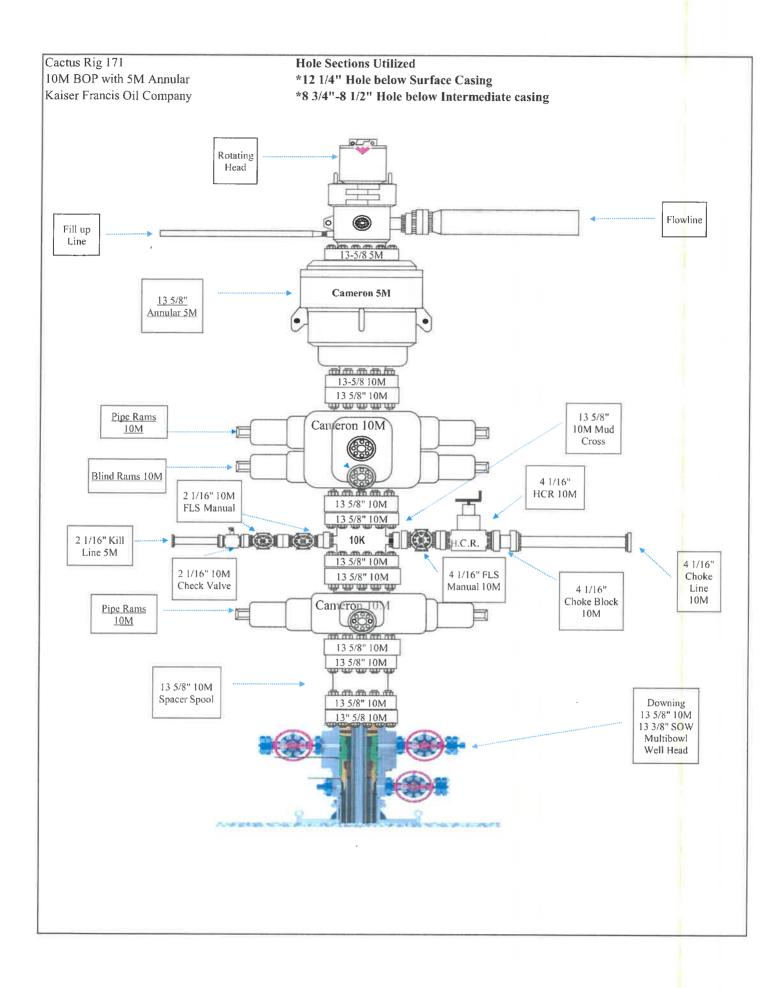
Describe the mud monitoring system utilized: PVT/Pason/Visual Monitoring

## **Circulating Medium Table**

Top Depth	Bottom Depth	Mud Type	Min Weight (Ibs/gal)	Max Weight (Ibs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	Н	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
4825	1029 0	OIL-BASED MUD	8.7	8.9							
1200	4825	OTHER : Diesel- Brine Emulsion	8.7	8.9							
0	1200	OTHER : Fresh Water	8.4	9							Ц

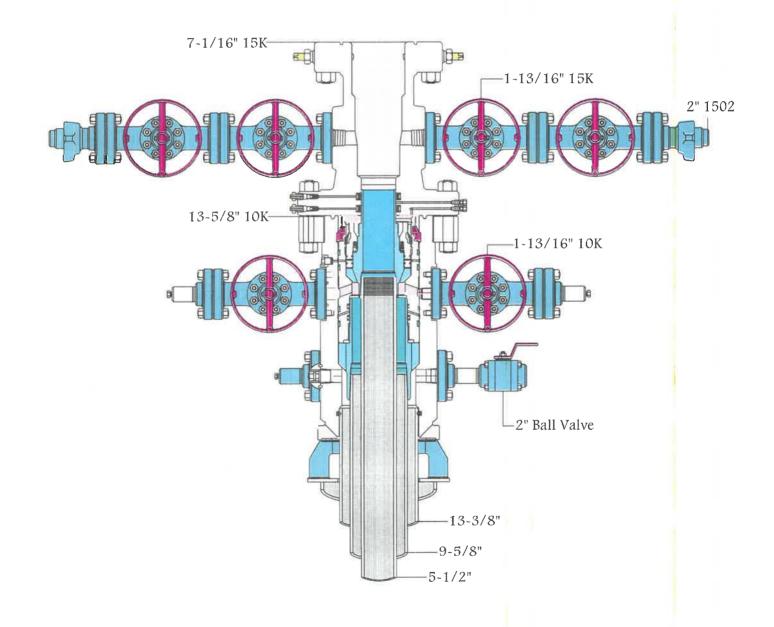
Page 4 of 6







# 13~5/8" 10K MN-DS



**RKI** 

Drawing = 1537083~C Date: 12-11-17 Brandon

Kaiser-Francis Oil Company Bell Lake Unit North 210H Casing Assumptions

dy Joint iile Tensile	_	_	_	-		+	_	2,5
Body					13.0		6.5	3.1
e Burst	Factor	(Min 1.0			9.4		3.5	2.7
Collapse	Factor	(Min 1.1)			2.0		F.3	2.3
Joint	Strength	0			000606	1366000	7200000	667000
Body	Strength	,		0000	853000	1260000	770000	641000
Burst			ı	0100	2730	7900	2000	12640
Collapse	(isd)			4130	TION	4730		11100
Max Pore	(bsi)			633	705	2233	0.000	79/4
Anticipated Mud Weight	(Bdd)			σ	,	6.00	000	6.9
Fluid	Loss			Ž		Ų Z	VIV	,
Viscosity				32 - 34	1	87	28.79	2
Mud	Control		_	8.4 - 9.0	+-	6.7 - 6.9	8.7-89	
Mud	-		1	2	100	UDE	OBM	
9	ואחמאו	120		1700	ŀ	-1	10290	1
Hofe	2710		17,1/2"	7/7/4	12-1/4"	1/1 1/1	8-3/4"	
Thread	TO THE PARTY OF TH	New	MoM	200	New		New	
T d			BTC	4	CL	-	GBCD	
Grade			1-55		HCP-110	0000	P110	
Weight (#/ft)			54.5		40	0	707	
Casing		707	13-3/8"		9-5/8	114/11	2/T-C	
Length	_	-+	1200		4837		12407	
Interval	Conductor		Surface	Indoor a dinte	med mediate	Production		

Interval	Length	Casing Size	Weight (#/ft)	Grade	Thread	Grade Thread Condition	Hofe	TVD (#1)	Mud	Mud Weight Hole	Viscosity	Fluid	Anticipated Mud Weight	Max Pore Pressure	Collapse	Burst	Body	Joint	Collapse Safety	Burst	Body	Joint Tensile
Conductor	120,	20,,				N. W.		120		Control		3	(Bdd)		(isd)		Strength	Strength	Factor (Min 1 1)		_	Sarety
Surface	0000	10 2 /01	272	100	OTO		47 4 64	1											(~	_	-	Min 1 8)
	1700	_ 1	04.0	CC-1	BIC	New	1/-1/2"		FW	8.4 - 9.0	-	Ų	c	27.2	000				- 11	-	-	(0.4
rermed/ate	4837	18/5-6	40	HCP-110	LTC	New	12-1/4"	7875	Jac	0 7 0 0		4		795	1130	2730	853000	000606	2.0	6.4	-	13.9
roduction 18	18407	5-1/7"	20	D110	GRCD	Noise	17700		TOP	0.7.0	4	S	8.0	2233	4230	7900	1260000	1266000	10	t	+	
	100	1 11		ATT.	Second	Men	8-5/4	-9.	OBM	8.7 - 8.9	_	L	58	4762	11100	13640	00000		2	0.0	-	0.0
															7777	15040	041000	000/99	2.3		-	3.2

#### KAISER-FRANCIS OIL COMPANY HYDROGEN SULFIDE (H<sub>2</sub>S) CONTINGENCY PLAN FOR DRILLING/COMPLETION WORKOVER/FACILITY

Bell Lake Unit North SECTION 1 -T23S-R33E SECTION 6 -T23S-R34E SECTION 5 -T23S-R34E

LEA COUNTY, NM

This well/facility is not expected to have H<sub>2</sub>S, but due to the sensitive location, the following is submitted as requested.

## TABLE OF CONTENTS

Emergency Response Activation and General Responsibilities	
Individual Responsibilities During An H <sub>2</sub> S Release	2
Procedure For Igniting An Uncontrollable Condition	5
Emergency Phone Numbers	6
Protection Of The General Public/Roe	7
Characteristics Of H <sub>2</sub> S And SO <sub>2</sub>	8
Training	3
Public Relations	8
Maps	

#### **EMERGENCY RESPONSE ACTIVATION AND GENERAL RESPONSIBILITIES**

#### Activation of the Emergency Action Plan

In the event of any emergency situation, all personnel on location should first ensure that the following items are initiated. After that, they should refer to the appropriate Specific Emergency Guidance sections below for further responsibilities:

- 1. Notify the senior ranking contract representative on site.
- 2. Notify Kaiser-Francis representative in charge.
- 3. Notify civil authorities if the Kaiser-Francis Representative cannot be contacted and the situation dictates.
- 4. Perform rescue and first aid as required (without jeopardizing additional personnel).

#### General Responsibilities

In the event of an H<sub>2</sub>S emergency, the following plan will be initiated.

- 1) All personnel will immediately evacuate to an up-wind and if possible up-hill "safe area".
- 2) If for any reason a person must enter the hazardous area, they must wear a SCBA (Self contained breathing apparatus).
- 3) Always use the "buddy system".
- 4) Isolate the well/problem if possible.
- 5) Account for all personnel
- 6) Display the proper colors, warning all unsuspecting personnel of the danger at hand
- 7) Contact the Company personnel as soon as possible if not at the location. (use the enclosed call list as instructed)

At this point the company representative will evaluate the situation and coordinate the necessary duties to bring the situation under control, and if necessary, the notification of emergency response agencies and residents.

#### INDIVIDUAL RESPONSIBILITIES DURING AN H2S RELEASE

The following procedures and responsibilities will be implemented on activation of the  $H_2S$  siren and lights.

#### All Personnel:

1. On alarm, don escape unit (if available) and report to upwind briefing area.

#### Rig Manager/Tool Pusher:

- 1. Check that all personnel are accounted for and their condition.
- 2. Administer or arrange for first aid treatment, and/or call EMTs as needed.
- Identify two people best suited to secure well and perform rescue, and instruct them to don SCBA.
- 4. Notify Contract management and Kaiser-Francis Representative.
- 5. Remain at the briefing area, assess and monitor personnel and overall situation for hazards or conditions that might warrant a change in the action plan.

#### Two People Responsible for Shut-in and Rescue:

- 1. Don SCBA and acquire tools to secure well and perform rescue, i.e., wrenches, retrieval ropes, etc.
- 2. Utilize the buddy system to secure well and perform rescue(s).
- 3. Return to the briefing area and stand by for further instructions.

#### All Other Personnel:

1. Isolate the area and prevent entry by other persons into the 100 ppm ROE. Additionally the first responder(s) must evacuate any public places encompassed by the 100 ppm ROE. First responder(s) must take care not to injure themselves during this operation. Company and/or local officials must be contacted to aid in this operation. Evacuation of the public should be beyond the 100 ppm ROE.

#### Kaiser-Francis Oil Company Representative:

- 1. Remain at the briefing area, assess and monitor personnel and overall situation for hazards or conditions that might warrant a change in the action plan.
- 2. Notify company management or Local Incident Commander, and Police, Fire Department, or other local emergency services as required.

#### PROCEDURE FOR IGNITING AN UNCONTROLLABLE CONDITION:

Should control of the well be considered lost and ignition considered, take care to protect against exposure to Sulfur Dioxide (SO<sub>2</sub>). Intentional ignition must be coordinated with the NMOCD and local officials. Additionally the NM State Police shall be the Incident Command of any major release.

The decision to ignite a well should be a last resort and one if not both of the following pertain.

- 1) Human life and/or property are in danger.
- 2) There is no hope of bringing the situation under control with the prevailing conditions at the site.

#### INSTRUCTIONS FOR IGNITION:

- 1) Two people are required. They must be equipped with positive pressure; self contained breathing apparatus and a "D"-ring style, full body, OSHA approved safety harness. Non-flammable rope will be attached.
- 2) One of the people will be a qualified safety person who will test the atmosphere for H₂S, Oxygen, & LFL. The other person will be the company supervisor; he is responsible for igniting the well.
- 3) Ignite up-wind from a distance no closer than necessary. Make sure that where you ignite from has the maximum escape avenue available. A 25mm flare gun shall be used, with a +/-500' range to ignite the gas.
- 4) Prior to ignition, make a final check for combustible gases.
- 5) Following ignition, continue with the emergency actions & procedures as before.

#### **CONTACTING AUTHORITIES**

Kaiser-Francis personnel must liaison with local and state agencies to ensure a proper response to a major release. Additionally, the OCD must be notified of the release as soon as possible but no later than 4 hours. Agencies will ask for information such as type and volume of release, wind direction, location of release, etc. Be prepared with all information available. The following call list of essential and potential responders has been prepared for use during a release. This response plan must be in coordination with the State of New Mexico's 'Hazardous Materials Emergency Response Plan' (HMER).

# EMERGENCY CALL LIST: (Start and continue until ONE of these people have been reached)

Kaiser-Francis Oil Co.	<u>OFFCE</u> 918/494-0000	MOBILE
Bill Wilkinson	580/668-2335	580/221-4637
David Zerger	918/491-4350	918/557-6708
Charles Lock	918/491-4337	918/671-6510
Stuart Blake	918/491-4347	918/510-4126
Robert Sanford	918/491-4201	918/770-2682
Eric Hansen	918/491-4339	918/527-5260

## EMERGENCY RESPONSE NUMBERS: Lea County, New Mexico

575/748-9718 575/392-5580 575/885-3138
575/396-3611
575/396-8607 575/885-3581
911 or 575/885-3125 911 or 575/397-9308 911 or 505/395-2221
575/748-1283 575/393-6161
800/550-1025 505/842-4433 844/553-9033
432/580-3770
575/392-5556
575/392-6531 800/844-8451

#### PROTECTION OF THE GENERAL PUBLIC/ROE:

In the event of a release with a concentration greater than 100 ppm H<sub>2</sub>S, the ROE (Radius of Exposure) calculations will be done to determine if the following conditions have been met:

- Does the 100 ppm ROE include any public area (any place not associated with this site)
- Does the 500 ppm ROE include any public road (any road which the general public may travel)
- Is the 100 ppm ROE equal to or greater than 3000 feet

If any one of these conditions have been met then the Contingency Plan will be implemented. The following shows how to calculate the radius of exposure and an example.

#### Calculation for the 100 ppm ROE:

X = [(1.589)(concentration)(Q)] (0.6258)

(H2S concentrations in decimal form)

10,000 ppm +=1.+

1,000 ppm +=.1+ 100 ppm +=.01+

10 ppm +=.001+

Calculation for the 500 ppm ROE:

X+[(0.4546)(concentration)(Q)] (.06258)

EXAMPLE: If a well/facility has been determined to have 150 ppm H<sub>2</sub>S in the gas mixture and the well/facility is producing at a gas rate of 200 MCFPD then:

ROE for 100 PPM X=[(1.589)(.0150)(200)] (0.6258)

X=2.65'

ROE for 500 PPM X=[(.4546)(.0150)(200)] (0.6258)

X=1.2'

(These calculations will be forwarded to the appropriate District NMOCD office when applicable.)

#### PUBLIC EVACUATION PLAN:

(When the supervisor has determined that the General Public will be involved, the following plan will be implemented)

- 1) Notification of the emergency response agencies of the hazardous condition and Implement evacuation procedures.
- 2) A trained person in H<sub>2</sub>S safety, shall monitor with detection equipment the H<sub>2</sub>S Concentration, wind and area of exposure (ROE). This person will determine the outer perimeter of the hazardous area. The extent of the evacuation area will be determined from the data being collected. Monitoring shall continue until the situation has been resolved. (All monitoring equipment will be UL approved, for use in class I groups A,B,C & D, Division I, hazardous locations. All monitors will have a minimum capability of measuring H<sub>2</sub>S, oxygen, and flammable values.)
- 3) Law enforcement shall be notified to set up necessary barriers and maintain such for the duration of the situation as well as aid in the evacuation procedure.
- 4) The company supervising personnel shall stay in communication with all agencies through out the duration of the situation and inform such agencies when the situation has been contained and the effected area(s) is safe to enter.

#### CHARACTERISTICS OF H2S AND SO2

Common	Chemical	Specific	Threshold	Hazardous	Lethal
Name	Formula	Gravity	Limit	Limit	Concentration
Hydrogen		1.189			
Sulfide	H <sub>2</sub> S	Air = 1	10 ppm	100 ppm	600 ppm
		2.21			1
Sulfur Dioxide	SO <sub>2</sub>	Air = 1	2 ppm	N/A	1000 ppm

#### TRAINING:

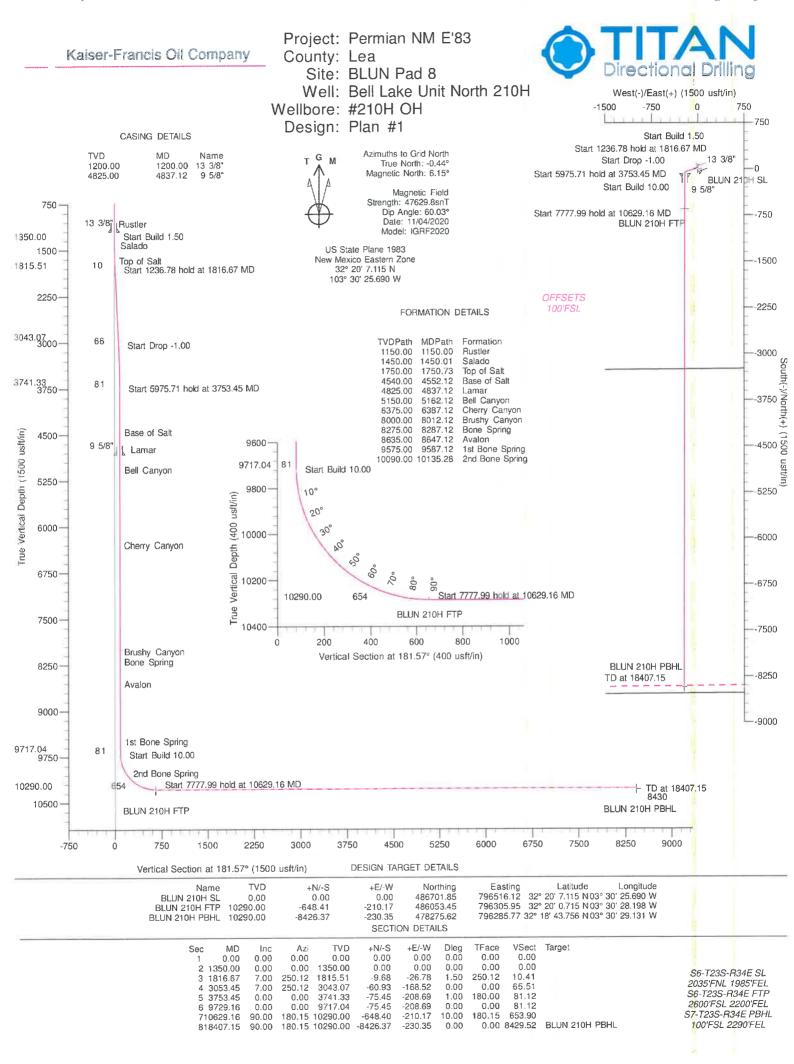
All responders must have training in the detection of  $H_2S$  measures for protection against the gas, equipment used for protection and emergency response. Weekly drills by all crews will be conducted and recorded in the IADC daily log. Additionally, responders must be equipped with  $H_2S$  monitors at all times.

#### **PUBLIC RELATIONS**

Kaiser-Francis recognizes that the news media have a legitimate interest in incidents at Kaiser-Francis facilities that could affect the public. It is to the company's benefit to cooperate with the news media when incidents occur because these media are our best liaison with the public.

Our objective is to see that all reports of any emergency are factual and represent the company's position fairly and accurately. Cooperation with news media representatives is the most reliable guarantee that this objective will be met.

All contract and Kaiser-Francis employees are instructed <u>NOT</u> to make any statement to the media concerning the emergency incident. If a media representative contacts any employee, they should refer them to the designated Emergency Command Center where they should contact the Incident Commander or his designated relief for any information concerning the incident.



Survey Report

Company:

Kaiser-Francis Oil Company

Project:

Permian NM E'83

Site: Well: BLUN Pad 8

Wellhore:

Bell Lake Unit North 210H

Design:

#210H OH Plan #1

Local Co-ordinate Reference:

TVD Reference: MD Reference:

North Reference:

Survey Calculation Method:

Database:

Well Bell Lake Unit North 210H - Slot G

est.GL+KB @ 3488.00usft (planning) est.GL+KB @ 3488.00usft (planning)

Minimum Curvature

EDM 5k-14

Project

Permian NM E'83

Map System: Geo Datum: Map Zone:

US State Plane 1983 North American Datum 1983

New Mexico Eastern Zone

System Datum:

Mean Sea Level

Using geodetic scale factor

Site

BLUN Pad 8, Centered on 209H

Site Position: From: Position Uncertainty:

Мар

0.00 usft

Northing: Easting: Slot Radius: 486,671.88 usft 796,516.28 usft 13-3/16 "

Latitude:

Longitude:

Grid Convergence:

32° 20' 6.818 N 103° 30' 25.691 W

0.44

Well Well Position Bell Lake Unit North 210H - Slot G

0.00 usft

+N/-S +E/-W

0.00 usft 0.00 usft

IGRF2020

Northing: Easting:

Wellhead Elevation:

11/04/20

0.00

486,701.85 usft 796,516.12 usft

Latitude:

Longitude: Ground Level:

32° 20' 7.115 N 103° 30' 25.690 W

3,461.90 usft

0.00

Position Uncertainty

#210H OH

Magnetics Model Name Sample Date

Declination (°)

Dip Angle (°)

60.03

Field Strength

(nT) 47.629.78968693

Design

Wellbore

Plan #1

Audit Notes:

Version:

Phase:

PROTOTYPE

6.60

Tie On Depth:

Vertical Section:

Depth From (TVD) (usft)

+N/-S (usft) 0.00 +E/-W (usft) 0.00 Direction (°)

181.57

			Mandanal			Ventical	Danlan	Build	Turn
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Rate (°/100usft)	Rate (°/100 <mark>u</mark> sft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,150.00	0.00	0.00	1,150.00	0.00	0.00	0.00	0.00	0.00	0.00
Rustler									
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
13 3/8"									
1,350.00	0.00	0.00	1,350.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.75	250.12	1,400.00	-0.11	-0.31	0.12	1.50	1.50	0.00
1,450.01	1.50	250.12	1,450.00	-0.45	-1.23	0.48	1.50	1.50	0.00
Salado									
1,500.00	2.25	250.12	1,499.96	-1.00	-2.77	1.08	1.50	1.50	0.00
1,600.00	3.75	250.12	1,599.82	-2.78	-7.69	2.99	1.50	1.50	0.00
1,700.00	5.25	250.12	1,699.51	-5.45	-15.07	5.86	1.50	1.50	0.00
1,750.73	6.01	250.12	1,750.00	-7.14	-19.75	7.68	1.50	1.50	0.00
Top of Salt									
1,800.00	6.75	250.12	1,798.96	-9.00	-24.90	9.68	1.50	1.50	0.00
1,816.67	7.00	250.12	1,815.51	-9.68	-26.78	10.41	1.50	1.50	0.00

02/04/20 5:41:43PM

Page 1

COMPASS 5000.14 Build 85F

Survey Report

Company:

Kaiser-Francis Oil Company

Project:

Permian NM E'83 BLUN Pad 8

Site: Well:

Bell Lake Unit North 210H

Wellbore:

#210H OH

Local Co-ordinate Reference:

TVD Reference:

North Reference:

Survey Calculation Method:

Well Bell Lake Unit North 210H - Slot G

est.GL+KB @ 3488.00usft (planning) est.GL+KB @ 3488.00usft (planning)

Grid

Minimum Curvature

esign: Plan	1#1			Database:			EDM 5k-14		
anned Survey									
Measured			Vertical			Vertical	Dogleg	Build	Turn
Depth	Inclination	Azimuth	Depth	+N/-S	+E/-W	Section	Rate	Rate	Rate
(usft)	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(°/100usft)	(°/100usft)	(°/100usft)
4 000 00			4 000 00	40.40	26.22	14.10	0.00	0.00	0.00
1,900.00	7.00	250.12	1,898.22	-13.13	-36.33	14.12	0.00		
2,000.00	7.00	250.12	1,997.47	-17.28	-47.79	18.58	0.00	0.00	0.00
2,100.00	7.00	250.12	2,096.73	-21.42	-59.25	23.03	0.00	0.00	0.00
2,200.00	7.00	250.12	2,195.98	-25.56	-70.71	27.49	0.00	0.00	0.00
2,300.00	7.00	250.12	2,295.24	-29.71	-82.17	31.94	0.00	0.00	0.00
	7.00	250.12	2,293.24	-33.85	-93.63	36.40	0.00	0.00	0.00
2,400.00			•			40.85	0.00	0.00	0.00
2,500.00	7.00	250.12	2,493.75	-37.99	-105.09				
2,600.00	7.00	250.12	2,593.00	-42.14	-116.55	45.31	0.00	0.00	0.00
2,700.00	7.00	250.12	2,692.26	-46.28	-128.01	49.76	0.00	0.00	0.00
2,800.00	7.00	250.12	2,791.51	-50.42	-139.48	54.22	0.00	0.00	0.00
2,900.00	7.00	250.12	2,890.76	-54.57	-150.94	58.67	0.00	0.00	0.00
3,000.00	7.00	250.12	2,990.02	-58.71	-162.40	63.13	0.00	0.00	0.00
3,053.45	7.00	250.12	3,043.07	-60.93	-168.52	65.51	0.00	0.00	0.00
5,000.10	, .50		_,	3					
3,100.00	6.53	250.12	3,089.30	-62.79	-173.68	67.51	1.00	-1.00	0.00
3,200.00	5.53	250.12	3,188.74	-66.36	-183.57	71.36	1.00	-1.00	0.00
3,300.00	4.53	250.12	3,288.35	-69.35	-191.82	74.56	1.00	-1.00	0.00
3,400.00	3.53	250.12	3,388.11	-71.74	-198.44	77.14	1.00	-1.00	0.00
3,500.00	2.53	250.12	3,487.96	-73.54	-203.42	79.07	1.00	-1.00	0.00
3,600.00	1.53	250.12	3,587.90	-74.75	-206.75	80.37	1.00	-1.00	0.00
3,700.00	0.53	250.12	3,687.88	-75.36	-208.45	81.03	1.00	-1.00	0.00
3,753.45	0.00	0.00	3,741.33	-75.45	-208.69	81.12	1.00	-1.00	0.00
3,800.00	0.00	0.00	3,787.88	-75.45	-208.69	81.12	0.00	0.00	0.00
3,900.00	0.00	0.00	3,887.88	-75.45	-208.69	81.12	0.00	0.00	0.00
4,000.00	0.00	0.00	3,987.88	-75.45	-208.69	81.12	0.00	0.00	0.00
	0.00	0.00	4,087.88	-75.45	-208.69	81.12	0.00	0.00	0.00
4,100.00				-75.45	-208.69	81.12	0.00	0.00	0.00
4,200.00	0.00	0.00	4,187.88					0.00	0.00
4,300.00	0.00	0.00	4,287.88	-75.45	-208.69	81.12	0.00		
4,400.00	0.00	0.00	4,387.88	-75.45	-208.69	81.12	0.00	0.00	0.00
4,500.00	0.00	0.00	4,487.88	-75.45	-208.69	81.12	0.00	0.00	0.00
4,552.12	0.00	0.00	4,540.00	-75.45	-208.69	81.12	0.00	0.00	0.00
Base of Salt	0.03	3.00	,= . 3.00						
4,600.00	0.00	0.00	4,587.88	-75.45	-208.69	81.12	0.00	0.00	0.00
4,700.00	0.00	0.00	4,687.88	-75.45	-208.69	81.12	0.00	0.00	0.00
4,800.00	0.00	0.00	4,787.88	-75.45	-208.69	81.12	0.00	0.00	0.00
.,000.00	2.20								
4,837.12	0.00	0.00	4,825.00	-75.45	-208.69	81.12	0.00	ò.00	0.00
Lamar - 9 5/8	3"								
4,900.00	0.00	0.00	4,887.88	-75.45	-208.69	81.12	0.00	0.00	0.00
5,000.00	0.00	0.00	4,987.88	-75.45	-208.69	81.12	0.00	0.00	0.00
5,100.00	0.00	0.00	5,087.88	-75.45	-208.69	81.12	0.00	0.00	0.00
5,162.12	0.00	0.00	5,150.00	-75.45	-208.69	81.12	0.00	0.00	0.00
Bell Canyon									
	2.22	0.00	E 407 00	70.40	000.00	04.40	0.00	0.00	0.00
5,200.00	0.00	0.00	5,187.88	-75.45 75.45	-208.69 -208.69	81.12 81.12	0.00	0.00 0.00	0.00
5,300.00	0.00	0.00	5,287.88	-75.45	-200.09	01.12	0.00	0.00	0.00

Survey Report

Company:

Kaiser-Francis Oil Company

Project:

Permian NM E'83

Site:

BLUN Pad 8

Well:

Bell Lake Unit North 210H

Wellbore: Design:

#210H OH Plan #1

Local Co-ordinate Reference:

TVD Reference:

MD Reference:

North Reference:

Well Bell Lake Unit North 210H - Slot G est.GL+KB @ 3488.00usft (planning) est.GL+KB @ 3488.00usft (planning)

**Survey Calculation Method:** 

Minimum Curvature EDM 5k-14

Database:

Measured			Vertical			Vertical	Dogleg	Build	Turn
Depth (usft)	Inclination (°)	Azimuth (°)	Depth (usft)	+N/-S (usft)	+E/-W (usft)	Section (usft)	Rate (°/1 <mark>0</mark> 0usft)	Rate (°/100usft)	Rate (°/100usft)
5,500.00	0.00	0.00	5,487.88	-75.45	-208.69	81.12	0.00	0.00	0.00
5,600.00	0.00	0.00	5,587.88	-75.45	-208.69	81.12	0.00	0.00	<u>:</u> 0.00
5,700.00	0.00	0.00	5,687.88	-75.45	-208.69	81.12	0.00	0.00	0.00
5,800.00	0.00	0.00	5,787.88	-75.45	-208.69	81.12	0.00	0.00	0.00
5,900.00	0.00	0.00	5.887.88	-75.45	-208.69	81.12	0.00	0.00	0.00
6,000.00	0.00	0.00	5,987.88	-75.45	-208.69	81.12	0.00	0.00	0.00
6,100.00	0.00	0.00	6,087.88	-75.45	-208.69	81.12	0.00	0.00	0.00
6,200.00	0.00	0.00	6,187.88	-75.45	-208.69	81.12	0.00	0.00	0.00
6,300.00	0.00	0.00	6,287.88	-75.45	-208.69	81.12	0.00	0.00	0.00
6,387.12	0.00	0.00	6,375.00	-75.45	-208.69	81.12	0.00	0.00	0.00
		0.00	0,373.00	-73.43	-200.03	01.12	0.00	0.00	0.00
Cherry Canyo		0.00	6 207 00	-75.45	-208.69	81.12	0.00	0.00	0.00
6,400.00	0.00	0.00	6,387.88			81.12	0.00	0.00	0.00
6,500.00	0.00	0.00	6,487.88	-75.45	-208.69	01.12	0.00	0.00	0.00
6,600.00	0.00	0.00	6,587.88	-75.45	-208.69	81.12	0.00	0.00	0.00
6,700.00	0.00	0.00	6,687.88	-75.45	-208.69	81.12	0.00	0.00	0.00
6,800.00	0.00	0.00	6,787.88	-75.45	-208.69	81.12	0.00	0.00	0.00
6,900.00	0.00	0.00	6,887.88	-75.45	-208.69	81.12	0.00	0.00	0.00
7,000.00	0.00	0.00	6,987.88	-75.45	-208.69	81.12	0.00	0.00	0.00
7,100.00	0.00	0.00	7,087.88	-75.45	-208.69	81.12	0.00	0.00	0.00
7,200.00	0.00	0.00	7,187.88	-75.45	-208.69	81.12	0.00	0.00	0.00
7,300.00	0.00	0.00	7,287.88	-75.45	-208.69	81.12	0.00	0.00	0.00
7,400.00	0.00	0.00	7,387.88	-75.45	-208.69	81.12	0.00	0.00	0.00
7,500.00	0.00	0.00	7,487.88	-75.45	-208.69	81.12	0.00	0.00	0.00
7,600.00	0.00	0.00	7,587.88	-75.45	-208.69	81.12	0.00	0.00	0.00
7,700.00	0.00	0.00	7,687.88	-75.45	-208.69	81.12	0.00	0.00	0.00
7,800.00	0.00	0.00	7,787.88	-75.45	-208.69	81.12	0.00	0.00	0.00
7,900.00	0.00	0.00	7,887.88	-75.45	-208.69	81.12	0.00	0.00	0.00
8,000.00	0.00	0.00	7,987.88	-75.45	-208.69	81.12	0.00	0.00	0.00
8,012.12	0.00	0.00	8,000.00	-75.45	-208.69	81.12	0.00	0.00	0.00
Brushy Canyo		0.00	0,000.00	, 0. 10	_55.55	U	2.20		
8,100.00	0.00	0.00	8.087.88	-75.45	-208.69	81.12	0.00	0.00	0.00
8,200.00	0.00	0.00	8,187.88	-75.45	-208.69	81.12	0.00	0.00	0.00
8,287.12	0.00	0.00	8,275.00	-75.45	-208.69	81.12	0.00	0.00	0.00
	0.00	0.00	0,270.00	, 0.10	200.00	J2	5.55	2,20	
Bone Spring 8,300.00	0.00	0.00	8,287.88	-75.45	-208.69	81.12	0.00	0.00	0.00
9.400.00	0.00	0.00	8,387.88	-75.45	-208.69	81.12	0.00	0.00	0.00
8,400.00	0.00		8,487.88	-75.45 -75.45	-208.69	81.12	0.00	0.00	0.00
8,500.00	0.00	0.00				81.12	0.00	0.00	0.00
8,600.00	0.00	0.00	8,587.88	-75.45	-208.69			0.00	0.00
8,647.12	0.00	0.00	8,635.00	-75.45	-208.69	81.12	0.00	0.00	0.00
Avalon			0.007.05	75.45	000.00	24.42	0.00	0.00	0.00
8,700.00	0.00	0.00	8,687.88	-75.45	-208.69	81.12	0.00	0.00	0.00
8,800.00	0.00	0.00	8,787.88	-75.45	-208.69	81.12	0.00	0.00	0.00
8,900.00	0.00	0.00	8,887.88	-75.45	-208.69	81.12	0.00	0.00	0.00
9,000.00	0.00	0.00	8,987.88	-75.45	-208.69	81.12	0.00	0.00	0.00

Survey Report

Company:

Kaiser-Francis Oil Company

Project:

Permian NM E'83

Site: Well: BLUN Pad 8

Bell Lake Unit North 210H

Wellbore: Design:

#210H OH Plan #1

Local Co-ordinate Reference:

TVD Reference:

MD Reference:

North Reference: Survey Calculation Method:

Database:

Well Bell Lake Unit North 210H - Slot G

est.GL+KB @ 3488.00usft (planning)

est.GL+KB @ 3488.00usft (planning) Grid

Minimum Curvature

ned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100 <mark>u</mark> sft)
9,100.00	0.00	0.00	9,087.88	-75.45	-208.69	81.12	0.00	0.00	0.00
9,200.00	0.00	0.00	9,187.88	-75.45	-208.69	81.12	0.00	0.00	0.00
9,300.00	0.00	0.00	9,287.88	-75.45	-208.69	81.12	0.00	0.00	0.00
9,400.00	0.00	0.00	9,387.88	-75.45	-208.69	81.12	0.00	0.00	0.00
9,500.00	0.00	0.00	9,487.88	-75.45	-208.69	81.12	0.00	0.00	0.00
9,587.12	0.00	0.00	9,575.00	-75.45	-208.69	81.12	0.00	0.00	0.00
1st Bone Sp	ring								
9,600.00	0.00	0.00	9,587.88	-75.45	-208.69	81.12	0.00	0.00	0.00
9,700.00	0.00	0.00	9,687.88	-75.45	-208.69	81.12	0.00	0.00	0.00
9,729.16	0.00	0.00	9,717.04	-75.45	-208.69	81.12	0.00	0.00	0.00
9,750.00	2.08	180.15	9,737.88	-75.82	-208.69	81.50	10.00	10.00	0.00
9,800.00	7.08	180.15	9,787.70	-79.82	-208.70	85.49	10.00	10.00	0.00
9,850.00	12.08	180.15	9,836.99	-88.14	-208.72	93.81	10.00	10.00	0.00
9,900.00	17.08	180.15	9,885.36	-100.73	-208.75	106.39	10.00	10.00	0.00
9,950.00	22.08	180.15	9,932.45	-117.48	-208.80	123.14	10.00	10.00	0.00
10,000.00	27.08	180.15	9,977.91	-138.28	-208.85	143.93	10.00	10.00	0.00
10,050.00	32.08	180.15	10,021.37	-162.95	-208.91	168.60	10.00	10.00	0.00
10,100.00	37.08	180.15	10,062.53	-191.32	-208.99	196.96	10.00	10.00	0.00
10,135.28	40.61	180.15	10,090.00	-213.45	-209.04	219.08	10.00	10.00	0.00
2nd Bone Sp	oring								
10,150.00	42.08	180.15	10,101.05	-223.17	-209.07	228.80	10.00	10.00	0.00
10,200.00	47.08	180.15	10,136.65	-258.26	-209.16	263.88	10.00	10.00	0.00
10,250.00	52.08	180.15	10,169.06	-296.32	-209.26	301.92	10.00	10.00	0.00
10,300.00	57.08	180.15	10,198.02	-337.05	-209.37	342.65	10.00	10.00	0.00
10,350.00	62.08	180.15	10,223.33	-380.16	-209.48	385.74	10.00	10.00	0.00
10,400.00	67.08	180.15	10,244.78	-425.30	-209.59	430.87	10.00	10.00	0.00
10,450.00	72.08	180.15	10,262.22	-472.15	-209.72	477.70	10.00	10.00	0.00
10,500.00	77.08	180.15	10,275.50	-520.33	-209.84	525.87	10.00	10.00	0.00
10,550.00	82.08	180.15	10,284.54	-569.49	-209.97	575.02	10.00	10.00	0.00
10,600.00	87.08	180.15	10,289.26	-619.25	-210.10	624.76	10.00	10.00	0.00
10,629.16	90.00	180.15	10,290.00	-648.40	-210.17	653.90	10.00	10.00	0.00
10,700.00	90.00	180.15	10,290.00	-719.24	-210.36	724.72	0.00	0.00	0.00
10,800.00	90.00	180.15	10,290.00	-819.24	-210.62	824.69	0.00	0.00	0.00
10,900.00	90.00	180.15	10,290.00	-919.24	-210.88	924.66	0.00	0.00	0.00
11,000.00	90.00	180.15	10,290.00	-1,019.24	-211.14	1,024.63	0.00	0.00	0.00
11,100.00	90.00	180.15	10,290.00	-1,119.24	-211.39	1,124.60	0.00	0.00	0.00
11,200.00	90.00	180.15	10,290.00	-1,219.24	-211.65	1,224.57	0.00	0.00	0.00
11,300.00	90.00	180.15	10,290.00	-1,319.24	-211.91	1,324.54	0.00	0.00	0.00
11,400.00	90.00	180.15	10,290.00	-1,419.24	-212.17	1,424.51	0.00	0.00	0.00
11,500.00	90.00	180.15	10,290.00	-1,519.24	-212.43	1,524.47	0.00	0.00	0.00
11,600.00	90.00	180.15	10,290.00	-1,619.24	-212.69	1,624.44	0.00	0.00	0.00
11,700.00	90.00	180.15	10,290.00	-1,719.24	-212.95	1,724.41	0.00	0.00	0.00
11,800.00	90.00	180.15	10,290.00	-1,819.24	-213.21	1,824.38	0.00	0.00	0.00

Survey Report

Company:

Kaiser-Francis Oil Company

Project:

Permian NM E'83

Site: Well: BLUN Pad 8 Bell Lake Unit North 210H

Wellbore: Design: #210H OH Plan #1 Local Co-ordinate Reference:

TVD Reference:

MD Reference:

North Reference: Survey Calculation Method:

Database:

Well Bell Lake Unit North 210H - Slot G

est.GL+KB @ 3488.00usft (planning) est.GL+KB @ 3488.00usft (planning)

Grid

Minimum Curvature

igii. ria	11.77 1			Database.					
nned Survey									1
Measured Depth	Inclination	Azimuth	Vertical Depth	+N/-S	+E/-W	Vertical Section	Dogleg Rate	Build Rate (°/100usft)	Turn Rat <mark>e</mark> (°/100usft)
(usft)	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(°/100usft)	(7100usit)	('7100usit)
12,000.00	90.00	180.15	10,290.00	-2,019.24	-213.73	2,024.32	0.00	0.00	0.00
12,100.00	90.00	180.15	10,290.00	-2,119.23	-213.99	2,124.29	0.00	0.00	0.00
12,200.00	90.00	180.15	10,290.00	-2,219.23	-214.25	2,224.26	0.00	0.00	0.00
12,300.00	90.00	180.15	10,290.00	-2,319.23	-214.51	2,324.23	0.00	0.00	0.00
12,400.00	90.00	180.15	10,290.00	-2,419.23	-214.77	2,424.20	0.00	0.00	0.00
12,500.00	90.00	180.15	10,290.00	-2,519.23	-215.03	2,524.17	0.00	0.00	0.00
12,600.00	90.00	180.15	10,290.00	-2,619.23	-215.29	2,624.14	0.00	0.00	0.00
12,700.00	90.00	180.15	10,290.00	-2,719.23	-215.55	2,724.11	0.00	0.00	0.00
12,800.00	90.00	180.15	10,290.00	-2,819.23	-215.81	2,824.08	0.00	0.00	0.00
12,900.00	90.00	180.15	10,290.00	-2,919.23	-216.06	2,924.05	0.00	0.00	0.00
13,000.00	90.00	180.15	10,290.00	-3,019.23	-216.32	3,024.02	0.00	0.00	0.00
13,100.00	90.00	180.15	10,290.00	-3,119.23	-216.58	3,123.99	0.00	0.00	0.00
13,200.00	90.00	180.15	10,290.00	-3,219.23	-216.84	3,223.95	0.00	0.00	0.00
13,300.00	90.00	180.15	10,290.00	-3,319.23	-217.10	3,323.92	0.00	0.00	0.00
13,400.00	90.00	180.15	10,290.00	-3,419.23	-217.36	3,423.89	0.00	0.00	0.00
13,500.00	90.00	180.15	10,290.00	-3,519.23	-217.62	3,523.86	0.00	0.00	0.00
13,600.00	90.00	180.15	10,290.00	-3,619.23	-217.88	3,623.83	0.00	0.00	0.00
13,700.00	90.00	180.15	10,290.00	-3,719.23	-217.00	3,723.80	0.00	0.00	0.00
	90.00	180.15	10,290.00	-3,819.23	-218.40	3,823.77	0.00	0.00	0.00
13,800.00 13,900.00	90.00	180.15	10,290.00	-3,919.23	-218.66	3,923.74	0.00	0.00	0.00
·					040.00	1 000 71	0.00	0.00	0.00
14,000.00	90.00	180.15	10,290.00	-4,019.23	-218.92	4,023.71	0.00	0.00	0.00
14,100.00	90.00	180.15	10,290.00	-4,119.23	-219.18	4,123.68	0.00	0.00	0.00
14,200.00	90.00	180.15	10,290.00	-4,219.23	-219.44	4,223.65	0.00	0.00	0.00
14,300.00	90.00	180.15	10,290.00	-4,319.23	-219.70	4,323.62	0.00	0.00	0.00
14,400.00	90.00	180.15	10,290.00	-4,419.23	-219.96	4,423.59	0.00	0.00	0.00
14,500.00	90.00	180.15	10,290.00	-4,519.23	-220.22	4,523.56	0.00	0.00	0.00
14,600.00	90.00	180.15	10,290.00	-4,619.23	-220.48	4,623.53	0.00	0.00	0.00
14,700.00	90.00	180.15	10,290.00	-4,719.23	-220.74	4,723.50	0.00	0.00	0.00
14,800.00	90.00	180.15	10,290.00	-4,819.23	-220.99	4,823.47	0.00	0.00	0.00
14,900.00	90.00	180.15	10,290.00	-4,919.23	-221.25	4,923.43	0.00	0.00	0.00
15,000.00	90.00	180.15	10,290.00	-5,019.23	-221.51	5,023.40	0.00	0.00	0.00
15,100.00	90.00	180.15	10,290.00	-5,119.22	-221.77	5,123.37	0.00	0.00	0.00
15,200.00	90.00	180.15	10,290.00	-5,219.22	-222.03	5,223.34	0.00	0.00	0.00
15,300.00	90.00	180.15	10,290.00	-5,319.22	-222.29	5,323.31	0.00	0.00	0.00
15,400.00	90.00	180.15	10,290.00	-5,419.22	-222.55	5,423.28	0.00	0.00	0.00
15,500.00	90.00	180.15	10,290.00	-5,519.22	-222.81	5,523.25	0.00	0.00	0.00
15,600.00	90.00	180.15	10,290.00	-5,619.22	-223.07	5,623.22	0.00	0.00	0.00
15,700.00	90.00	180.15	10,290.00	-5,719.22	-223.33	5,723.19	0.00	0.00	0.00
15,800.00	90.00	180.15	10,290.00	-5,819.22	-223.59	5,823.16	0.00	0.00	0.00
15,900.00	90.00	180.15	10,290.00	-5,919.22	-223.85	5,923.13	0.00	0.00	0.00
16.000.00	00.00	100 15	10 200 00	_6 010 22	-224.11	6,023.10	0.00	0.00	0.00
16,000.00	90.00	180.15	10,290.00	-6,019.22 6 119.22	-224.11	6,123.07	0.00	0.00	0.00
16,100.00	90.00	180.15	10,290.00	-6,119.22					0.00
16,200.00	90.00	180.15	10,290.00	-6,219.22	-224.63	6,223.04	0.00	0.00	0.00

Survey Report

Company:

Kaiser-Francis Oil Company

Project:

Permian NM E'83

Site:

BLUN Pad 8

Well:

Bell Lake Unit North 210H

Wellbore: Design:

#210H OH

Plan #1

Local Co-ordinate Reference:

TVD Reference:

MD Reference:

North Reference:

Survey Calculation Method:

Database:

Well Bell Lake Unit North 210H - Slot G

est.GL+KB @ 3488.00usft (planning) est.GL+KB @ 3488.00usft (planning)

Minimum Curvature

Measured			Vertical			Vertical	Dogleg	Build	Turn
Depth	Inclination	Azimuth	Depth	+N/-S	+E/-W	Section (usft)	Rate (°/100usft)	Rate (°/100usft)	Rate (°/100usft)
(usft)	(°)	(°)	(usft)	(usft)	(usft)	(usit)	(71000511)	( / loodsit)	( / loodsit)
16,300.00	90.00	180.15	10,290.00	-6,319.22	-224.89	6,323.01	0.00	0.00	0.00
16,400.00	90.00	180.15	10,290.00	-6,419.22	-225.15	6,422.98	0.00	0.00	0.00
16,500.00	90.00	180.15	10,290.00	-6,519.22	-225.41	6,522.95	0.00	0.00	0.00
16,600.00	90.00	180.15	10,290.00	-6,619.22	-225.66	6,622.91	0.00	0.00	0.00
16,700.00	90.00	180.15	10,290.00	-6,719.22	-225.92	6,722.88	0.00	0.00	0.00
16,800.00	90.00	180.15	10,290.00	-6,819.22	-226.18	6,822.85	0.00	0.00	0.00
16,900.00	90.00	180.15	10,290.00	-6,919.22	-226.44	6,922.82	0.00	0.00	0.00
17,000.00	90.00	180.15	10,290.00	-7,019.22	-226.70	7,022.79	0.00	0.00	0.00
17,100.00	90.00	180.15	10,290.00	-7,119.22	-226.96	7,122.76	0.00	0.00	0.00
17,200.00	90.00	180.15	10,290.00	-7,219.22	-227.22	7,222.73	0.00	0.00	0.00
17,300.00	90.00	180.15	10,290.00	-7,319.22	-227.48	7,322.70	0.00	0.00	0.00
17,400.00	90.00	180.15	10,290.00	-7,419.22	-227.74	7,422.67	0.00	0.00	0.00
17,500.00	90.00	180.15	10,290.00	-7,519.22	-228.00	7,522.64	0.00	0.00	0.00
17,600.00	90.00	180.15	10,290.00	-7,619.22	-228.26	7,622.61	0.00	0.00	0.00
17,700.00	90.00	180.15	10,290.00	-7,719.22	-228.52	7,722.58	0.00	0.00	0.00
17,800.00	90.00	180.15	10,290.00	-7,819.22	-228.78	7,822.55	0.00	0.00	0.00
17,900.00	90.00	180.15	10,290.00	-7,919.22	-229.04	7,922.52	0.00	0.00	0.00
18,000.00	90.00	180.15	10,290.00	-8,019.22	-229.30	8,022.49	0.00	0.00	0.00
18,100.00	90.00	180.15	10,290.00	-8,119.21	-229.56	8,122.46	0.00	0.00	0.00
18,200.00	90.00	180.15	10,290.00	-8,219.21	-229.82	8,222.43	0.00	0.00	0.00
18,300.00	90.00	180.15	10,290.00	-8,319.21	-230.08	8,322.39	0.00	0.00	0.00

Casing Points						
	Measured Depth (usft)	Vertical Depth (usft)		Name	Casing Diameter (")	Hole Diameter (")
	1,200.00	1,200.00	13 3/8"		13-3/8	17-1/2
	4,837.12	4,825.00	9 5/8"		9-5/8	12-1/4

## **Titan Directional Drilling**

Survey Report

Company:

Kaiser-Francis Oil Company

Project: Site: Permian NM E'83 BLUN Pad 8

Site: Well:

Bell Lake Unit North 210H

Wellbore: Design: #210H OH Plan #1 Local Co-ordinate Reference:

TVD Reference:

MD Reference: North Reference:

Database:

Well Bell Lake Unit North 210H - Slot G est.GL+KB @ 3488.00usft (planning) est.GL+KB @ 3488.00usft (planning)

Grid

Survey Calculation Method: Minimum Curvature

EDM 5k-14

ormations						
	Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
	1,150.00	1,150.00	Rustler		0.00	
	1,450.01	1,450.00	Salado		0.00	
	1,750.73	1,750.00	Top of Salt		0.00	
	4,552.12	4,540.00	Base of Salt		0.00	
	4,837.12	4,825.00	Lamar		0.00	
	5,162.12	5,150.00	Bell Canyon		0.00	
	6.387.12	6.375.00	Cherry Canyon		0.00	
	8,012.12	8,000.00	Brushy Canyon		0.00	
	8,287.12	8,275.00	Bone Spring		0.00	
	8,647.12	8,635.00	Avalon		0.00	
	9,587.12	9,575.00	1st Bone Spring		0.00	
	10,135.28	10,090.00	2nd Bone Spring		0.00	



U.S. Department of the Interior BUREAU OF LAND MANAGEMENT

SUPO Data Report

APD ID: 10400054105

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH

Well Type: OIL WELL

Submission Date: 02/09/2020

Highlighted data reflects the most recent changes

Well Number: 210H

Well Work Type: Drill

**Show Final Text** 

## **Section 1 - Existing Roads**

Will existing roads be used? YES

**Existing Road Map:** 

BLUN 210H Existing Roads\_20200209130656.pdf

Existing Road Purpose: ACCESS, FLUID TRANSPORT

Row(s) Exist? NO

ROW ID(s)

ID:

Do the existing roads need to be improved? NO

**Existing Road Improvement Description:** 

**Existing Road Improvement Attachment:** 

## Section 2 - New or Reconstructed Access Roads

Will new roads be needed? YES

New Road Map:

BLUN\_210H\_Access\_Road\_20200209130709.pdf

New road type: RESOURCE

Length: 1137 Feet Width (ft.): 30

Max slope (%): 2 Max grade (%): 2

Army Corp of Engineers (ACOE) permit required? N

ACOE Permit Number(s): New road travel width: 20

**New road access erosion control:** Road construction requirements and regular maintenance would alleviate potential impacts to the access road from water erosion damage.

New road access plan or profile prepared? N

New road access plan attachment:

Access road engineering design? N

Access road engineering design attachment:

Page 1 of 10

Well Name: BELL LAKE UNIT NORTH Well Number: 210H

Turnout? N

Access surfacing type: OTHER

Access topsoil source: BOTH

Access surfacing type description: Native caliche

Access onsite topsoil source depth: 6

Offsite topsoil source description: BLM's caliche pit in SWSW Section 22-T24-R34E or NENE Section 20-T23S-R33E.

Onsite topsoil removal process: The top 6 inches of topsoil is pushed off and stockpiled along the side of the location. An approximate 160 X 160 area is used within the proposed well site to remove caliche. Subsoil is removed and stockpiled within the pad site to build the location and road. Then subsoil is pushed back in the hole and caliche is spread accordingly across proposed access road.

Access other construction information:

Access miscellaneous information:

Number of access turnouts: Access turnout map:

**Drainage Control** 

New road drainage crossing: OTHER

**Drainage Control comments:** Proposed access road will be crowned and ditched and constructed of 6 inch rolled and compacted caliche. Water will be diverted where necessary to avoid ponding, maintain good drainage, and to be consistent with local drainage patterns.

Road Drainage Control Structures (DCS) description: The ditches will be 3' wide with 3:1 slopes

Road Drainage Control Structures (DCS) attachment:

**Access Additional Attachments** 

**Section 3 - Location of Existing Wells** 

Existing Wells Map? YES

Attach Well map:

BLUN\_210H\_1\_MILE\_WELLS\_20200209130729.pdf BLUN\_210H\_1\_Mile\_Wells\_Map\_20200209130729.pdf

# Section 4 - Location of Existing and/or Proposed Production Facilities

Submit or defer a Proposed Production Facilities plan? DEFER

**Estimated Production Facilities description:** Production facilities are planned for the south side of pad. Plan for initial wells: 2-1000 bbl water tanks and 5 -1000 bbl oil tanks, a temporary 6X20 horizontal 3-phase sep, a 48 X 10 3-phase sep, a 8 X 20 heater treater and a 48X 10 2-phase sep

Well Name: BELL LAKE UNIT NORTH Well Number: 210H

## **Section 5 - Location and Types of Water Supply**

## **Water Source Table**

Water source type: OTHER Describe type: Brine Water

INTERMEDIATE/PRODUCTION Water source use type:

CASING

Source latitude: Source longitude:

Source datum:

PRIVATE CONTRACT Water source permit type:

**TRUCKING** Water source transport method:

Source land ownership: PRIVATE

Source transportation land ownership: OTHER

Water source volume (barrels): 20000

Source volume (gal): 840000

Describe transportation land ownership: Source tran

is a mixture of Federal, State and County. Source volume (acre-feet): 2.57786193

Water source type: OTHER

Describe type: FRESH WATER

STIMULATION Water source use type:

**OTHER** 

Describe use type: ROAD/PAD CONSTRUCTION ANI

SURFACE CASING

Source latitude: Source longitude:

Source datum:

Water source permit type: PRIVATE CONTRACT

Water source transport method: TRUCKING

Source land ownership: PRIVATE

Source transportation land ownership: OTHER

Water source volume (barrels): 250000

Source volume (gal): 10500000

Describe transportation land ownership: Source tran

is a mixture of Federal, State and County. Source volume (acre-feet): 32.223274

Well Name: BELL LAKE UNIT NORTH Well Number: 210H

Water source and transportation map:

BLUN\_Pad\_8\_Wtr\_Source\_Map\_20200206081912.pdf

Water source comments: Source transportation land ownership is a mixture of Federal, State and County.

New water well? N

#### **New Water Well Info**

Well latitude: Well Longitude: Well datum:

Well target aquifer:

Est. depth to top of aquifer(ft): Est thickness of aquifer:

**Aguifer comments:** 

Aquifer documentation:

Well depth (ft): Well casing type:

Well casing outside diameter (in.): Well casing inside diameter (in.):

New water well casing?

Used casing source:

Drilling method: Drill material:

Grout material: Grout depth:

Casing length (ft.): Casing top depth (ft.):

Well Production type: Completion Method:

Water well additional information:

State appropriation permit:

Additional information attachment:

## **Section 6 - Construction Materials**

Using any construction materials: YES

Construction Materials description: On site caliche will be used for construction if sufficient. In the event insufficient quantities of caliche are available onsite, caliche will be trucked in from BLM's caliche pit in SWSW Section 22-T24-R34E or NENE Section 20-T23S-R33E.

Construction Materials source location attachment:

# **Section 7 - Methods for Handling Waste**

Waste type: DRILLING

Waste content description: Drilling fluids and cuttings

Amount of waste: 3900 barrels

Waste disposal frequency: Weekly

Safe containment description: All drilling fluids will be stored safely and disposed of properly

Page 4 of 10

Well Name: BELL LAKE UNIT NORTH Well Number: 210H

Safe containmant attachment:

Waste disposal type: HAUL TO COMMERCIAL Disposal location ownership: COMMERCIAL

**FACILITY** 

Disposal type description:

Disposal location description: Cuttings will be hauled to R360's facility located in Section 27-T20S-R32E on US 62/180 at

Halfway, NM

Waste type: SEWAGE

Waste content description: Human waste and grey water

Amount of waste: 1000 gallons

Waste disposal frequency: Weekly

Safe containment description: Waste material will be stored safely and disposed of properly

Safe containmant attachment:

Waste disposal type: HAUL TO COMMERCIAL Disposal location ownership: COMMERCIAL

**FACILITY** 

Disposal type description:

Disposal location description: Trucked to an approved disposal facility (Carlsbad sewer plant SENW Section 10-T22S-

R27E)

Waste type: GARBAGE

Waste content description: Miscellaneous trash

Amount of waste: 500 pounds

Waste disposal frequency: Weekly

Safe containment description: Trash produced during drilling and completion operations will be collected in a trash

container and disposed of properly Safe containmant attachment:

Waste disposal type: HAUL TO COMMERCIAL Disposal location ownership: COMMERCIAL,

**FACILITY** 

Disposal type description:

Disposal location description: Trucked to an approved disposal facility (Sandpoint Landfill (solid materials dump) NW/4

Section 11-T21S-R28E)

#### **Reserve Pit**

Reserve Pit being used? NO

Temporary disposal of produced water into reserve pit? NO

Reserve pit length (ft.)

Reserve pit width (ft.)

Reserve pit depth (ft.)

Reserve pit volume (cu. yd.)

Is at least 50% of the reserve pit in cut?

Reserve pit liner

Page 5 of 10

Well Name: BELL LAKE UNIT NORTH Well Number: 210H

Reserve pit liner specifications and installation description

## **Cuttings Area**

Cuttings Area being used? NO

Are you storing cuttings on location? Y

**Description of cuttings location** Cuttings will be stored in roll off bins and hauled to R360 located in Section 27-T20S-R32E on US 62/180 near Halfway.

Cuttings area length (ft.)

Cuttings area width (ft.)

Cuttings area depth (ft.)

Cuttings area volume (cu. yd.)

Is at least 50% of the cuttings area in cut?

WCuttings area liner

Cuttings area liner specifications and installation description

## **Section 8 - Ancillary Facilities**

Are you requesting any Ancillary Facilities?: N

**Ancillary Facilities attachment:** 

Comments:

## **Section 9 - Well Site Layout**

#### Well Site Layout Diagram:

BLUN\_210H\_Wellsite\_Layout\_20200209130837.pdf BLUN\_Pad\_8\_Drilling\_Layout\_20200827120831.pdf

Comments:

## **Section 10 - Plans for Surface Reclamation**

Type of disturbance: New Surface Disturbance Multiple Well Pad Name: NORTH BELL LAKE UNIT

Multiple Well Pad Number: 8

Recontouring attachment:

BLUN\_210H\_IR\_20200209130853.pdf

**Drainage/Erosion control construction:** During construction proper erosion control methods will be used to control erosion, runoff and siltation of the surrounding area.

**Drainage/Erosion control reclamation:** Proper erosion control methods will be used on the area to control erosion, runoff and siltation of the surrounding area.

Page 6 of 10

Well Name: BELL LAKE UNIT NORTH Well Number: 210H

Well pad proposed disturbance

(acres): 5.83

Road proposed disturbance (acres):

0.783

Powerline proposed disturbance

(acres): 0

Pipeline proposed disturbance

(acres): 0

Other proposed disturbance (acres): 0

Total proposed disturbance: 6.613

Well pad interim reclamation (acres):

0.91

Road interim reclamation (acres): 0

Powerline interim reclamation (acres):

0

Pipeline interim reclamation (acres): 0

Other interim reclamation (acres): 0

Total interim reclamation: 0.91

Well pad long term disturbance

(acres): 4.92

Road long term disturbance (acres):

0.783

Powerline long term disturbance

(acres): 0

Pipeline long term disturbance

(acres): 0

Other long term disturbance (acres): 0

Total long term disturbance: 5.703

#### **Disturbance Comments:**

**Reconstruction method:** The areas planned for interim reclamation will then be recontoured to the original contour if feasible, or if not feasible, to an interim contour that blends with the surrounding topography as much as possible. Where applicable, the fill material of the well pad will be backfilled into the cut to bring the area back to the original contour. The interim cut and fill slopes prior to re-seeding will not be steeper than a 3:1 ratio, unless the adjacent native topography is steeper. Note: Constructed slopes may be much steeper during drilling, but will be recontoured to the above ratios during interim reclamation.

**Topsoil redistribution:** Topsoil will be evenly respread and aggressively revegetated over the entire disturbed area not needed for all-weather operations

**Soil treatment:** To seed the area, the proper BLM seed mixture, free of noxious weeds, will be used. Final seedbed preparation will consist of contour cultivating to a depth of 4 to 6 inches within 24 hours prior to seeding, dozer tracking, or other imprinting in order to break the soil crust and create seed germination micro-sites.

Existing Vegetation at the well pad: The historic climax plant community is a grassland dominated by black grama, dropseeds, and blue stems with sand sage and shinnery oak distributed evenly throughout. Current landscape displays mesquite, shinnery oak, yucca, desert sage, fourwing saltbush, snakeweed, and bunch grasses Existing Vegetation at the well pad attachment:

Existing Vegetation Community at the road: Refer to "Existing Vegetation at the well pad"

**Existing Vegetation Community at the road attachment:** 

Existing Vegetation Community at the pipeline: Refer to "Existing Vegetation at the well pad"

Existing Vegetation Community at the pipeline attachment:

Existing Vegetation Community at other disturbances: None

**Existing Vegetation Community at other disturbances attachment:** 

Non native seed used? N

Non native seed description:

Seedling transplant description:

Will seedlings be transplanted for this project? N

Seedling transplant description attachment:

Will seed be harvested for use in site reclamation? N

Page 7 of 10

Well Name: BELL LAKE UNIT NORTH Well Number: 210H

Seed harvest description:

Seed harvest description attachment:

**Seed Management** 

**Seed Table** 

**Seed Summary** 

Total pounds/Acre:

Seed Type

Pounds/Acre

Seed reclamation attachment:

**Operator Contact/Responsible Official Contact Info** 

First Name: Last Name:

Phone: Email:

Seedbed prep:

Seed BMP:

Seed method:

Existing invasive species? N

Existing invasive species treatment description:

Existing invasive species treatment attachment:

Weed treatment plan description: No invasive species present. Standard regular maintenance to maintain a clear location and road.

Weed treatment plan attachment:

**Monitoring plan description:** Identify areas supporting weeds prior to construction; prevent the introduction and spread of weeds from construction equipment during construction; and contain weed seeds and propagules by preventing segregated topsoil from being spread to adjacent areas. No invasive species present. Standard regular maintenance to maintain a clear location and road.

Monitoring plan attachment:

Success standards: To maintain all disturbed areas as per Gold Book standards

Pit closure description: N/A

Pit closure attachment:

Section 11 - Surface Ownership

Well Name: BELL LAKE UNIT NORTH	Well Number: 210H
Disturbance type: WELL PAD	
Describe:	
Surface Owner: STATE GOVERNMENT	
Other surface owner description:	
BIA Local Office:	
BOR Local Office:	
COE Local Office:	
DOD Local Office:	1 4
NPS Local Office:	
State Local Office: NM STATE LAND OFFICE, 60	2 N CANAL ST B, CARLSBAD, NM 88220
Military Local Office:	
USFWS Local Office:	
Other Local Office:	
USFS Region:	
USFS Forest/Grassland:	USFS Ranger District:
Disturbance type: NEW ACCESS ROAD	
Describe:	
Surface Owner: STATE GOVERNMENT	
Other surface owner description:	
BIA Local Office:	
BOR Local Office:	
COE Local Office:	
DOD Local Office:	
NPS Local Office:	
State Local Office: NM STATE LAND OFFICE, 60	02 N CANAL STE B, CARLSBAD NM 88220
Military Local Office:	
USFWS Local Office:	
Other Local Office:	
USFS Region:	
USFS Forest/Grassland:	USFS Ranger District:

Well Name: BELL LAKE UNIT NORTH Well Number: 210H

**Section 12 - Other Information** 

Right of Way needed? N

Use APD as ROW?

ROW Type(s):

**ROW Applications** 

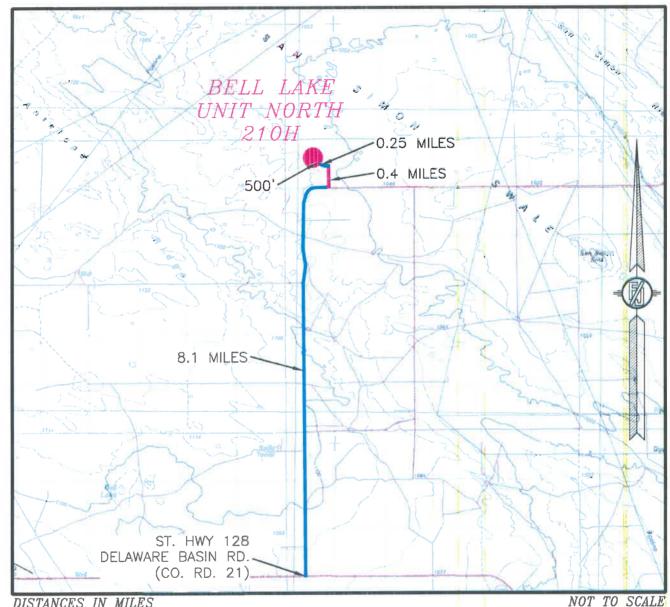
**SUPO Additional Information:** 

Use a previously conducted onsite? Y

**Previous Onsite information:** Onsite conducted 10/24/2019 by Nik MacPhee (BLM), Eric Hansen (Kaiser-Francis) and Frank Jaramillo (Madron Surveying).

Other SUPO Attachment

# SECTION 6, TOWNSHIP 23 SOUTH, RANGE 34 EAST, N.M.P.M. LEA COUNTY, STATE OF NEW MEXICO VICINITY MAP



DISTANCES IN MILES

DIRECTIONS TO LOCATION FROM THE INTERSECTION OF ST. HWY. 128 & DELAWARE BASIN RD. GO NORTH ON DELAWARE BASIN RD. APPROX. 8.1 MILES WHERE ROAD CURVES RIGHT (EAST) AT THE END OF CURVE THE SECOND LEASE ROAD KAISER-FRANCES SIGNS ON LEFT (NORTH), TURN LEFT (NORTH) ON LEASE ROAD, GO NORTH APPROX. O.4 MILES, ROAD TURNS LEFT (WEST) GO WEST APPROX. 0.25 MILES TO A ROAD LATH WITH RED & WHITE FLAGGING, FOLLOW ROAD LATHS NORTH APPROX. 500' TO THE SOUTHEAST PAD CORNER FOR THIS

KAISER-FRANCIS OIL COMPANY BELL LAKE UNIT NORTH 210H LOCATED 2035 FT. FROM THE NORTH LINE AND 1985 FT. FROM THE EAST LINE OF SECTION 6, TOWNSHIP 23 SOUTH,

RANGE 34 EAST, N.M.P.M.

LEA COUNTY, STATE OF NEW MEXICO

DECEMBER 19, 2019

SURVEY NO. 7647A

MADRON SURVEYING, INC. (575) 234-3341 CARLSBAD, NEW MEXICO

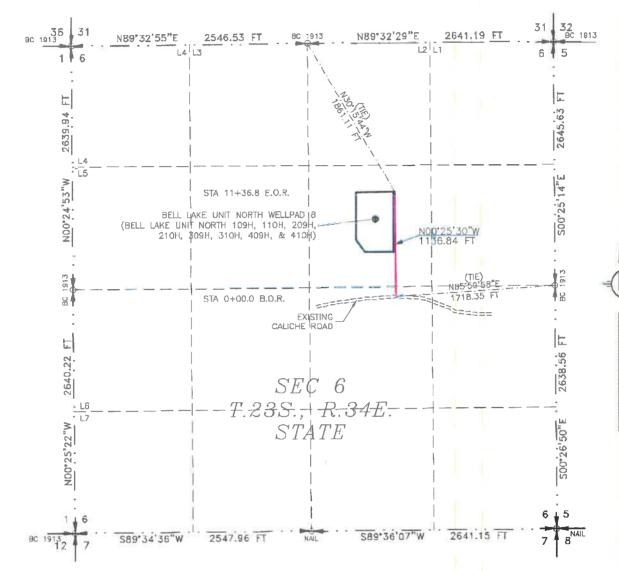
LOCATION.

#### ACCESS ROAD PLAT

ACCESS ROAD FOR BELL LAKE UNIT NORTH WELLPAD 8 (BELL LAKE UNIT NORTH 109H, 110H, 209H, 210H, 309H, 310H, 409H, & 410H)

## KAISER-FRANCIS OIL COMPANY

CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING SECTION 6, TOWNSHIP 23 SOUTH, RANGE 34 EAST, N.M.P.M. LEA COUNTY, STATE OF NEW MEXICO DECEMBER 19, 2019



SEE NEXT SHEET (2-2) FOR DESCRIPTION



#### GENERAL NOTES

1.) THE INTENT OF THIS ROUTE SURVEY IS TO ACQUIRE AN EASEMENT.

2.) BASIS OF BEARING AND DISTANCE IS NMSP EAST (NAD83) MODIFIED TO SURFACE COORDINATES. NAD 83 (FEET) AND NAVD 88 (FEET) COORDINATE SYSTEMS USED IN THE SURVEY.

SHEET: 1-2

SURVEYOR CERTIFICATE

I, FILIMON F. JARAMILLO, A NEW MEXICO PROFESSIONAL SURVEYOR NO. 12797, HEREBY CERTIFY THAT I HAVE CONDUCTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR LAND SURVEYING IN NEW MEXICO.

CERTIFICATE IS EXECUTED AT CARLSBAD.

ADRON SURVEYING, INC. 301 SOUTH CANAL
CARLSBAD, NEW MEXICO 88220
Phone (575) 234-3341

SURVEY NO.

NEW*MEXICO* 

*MADRON SURVEYING, INC* 

#### ACCESS ROAD PLAT

ACCESS ROAD FOR BELL LAKE UNIT NORTH WELLPAD 8 (BELL LAKE UNIT NORTH 109H, 110H, 209H, 210H, 309H, 310H, 409H, & 410H)

## KAISER-FRANCIS OIL COMPANY

CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING SECTION 6, TOWNSHIP 23 SOUTH, RANGE 34 EAST, N.M.P.M. LEA COUNTY, STATE OF NEW MEXICO DECEMBER 19, 2019

## **DESCRIPTION**

A STRIP OF LAND 30 FEET WIDE CROSSING STATE OF NEW MEXICO LAND IN SECTION 6, TOWNSHIP 23 SOUTH, RANGE 34 EAST, N.M.P.M., LEA COUNTY, STATE OF NEW MEXICO AND BEING 15 FEET EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE SURVEY:

BEGINNING AT A POINT WITHIN THE NW/4 SE/4 OF SAID SECTION 6, TOWNSHIP 23 SOUTH, RANGE 34 EAST, N.M.P.M., WHENCE THE EAST QUARTER CORNER OF SAID SECTION 6, TOWNSHIP 23 SOUTH, RANGE 34 EAST, N.M.P.M. BEARS N85'59'58"E, A DISTANCE OF 1718.35 FEET;

THENCE NOO'25'30"W A DISTANCE OF 1136.84 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE NORTH QUARTER CORNER OF SAID SECTION 6, TOWNSHIP 23, SOUTH, RANGE 34 EAST, N.M.P.M. BEARS N30"15'44"W, A DISTANCE OF 1861.11 FEET;

SAID STRIP OF LAND BEING 1136.84 FEET OR 68.90 RODS IN LENGTH, CONTAINING 0.783 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

NW/4 SE/4

108,15 L.F.

6,55 RODS

0.074 ACRES

SW/4 NE/4 1028,691.F.

62.35 RODS

0.708 ACRES

#### SURVEYOR CERTIFICATE

FELIMON

INC 301 SOUTH

#### GENERAL NOTES

- 1.) THE INTENT OF THIS ROUTE SURVEY IS TO ACQUIRE AN EASEMENT.
- 2.) BASIS OF BEARING AND DISTANCE IS NMSP EAST (NAD83) MODIFIED TO SURFACE COORDINATES. NAD 83 (FEET) AND NAVD 88 (FEET) COORDINATE SYSTEMS USED IN THE SURVEY.

SHEET: 2-2

*MADRON SURVEYING.* 

1. FILIMON F. JARAMILLO, A NEW MEXICO PROFESSIONAL SURVEYOR NO. 12797, HEREBY CERTIFY THAT I HAVE CONDUCTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR LAND SURVEYING IN THE STATE OF NEW MEXICO.

IN WITNESS WHEREOF, THIS CERTIFICATE IS EXECUTED AT CARLSBAD,

NEW MEXIC ECEMBER 2019

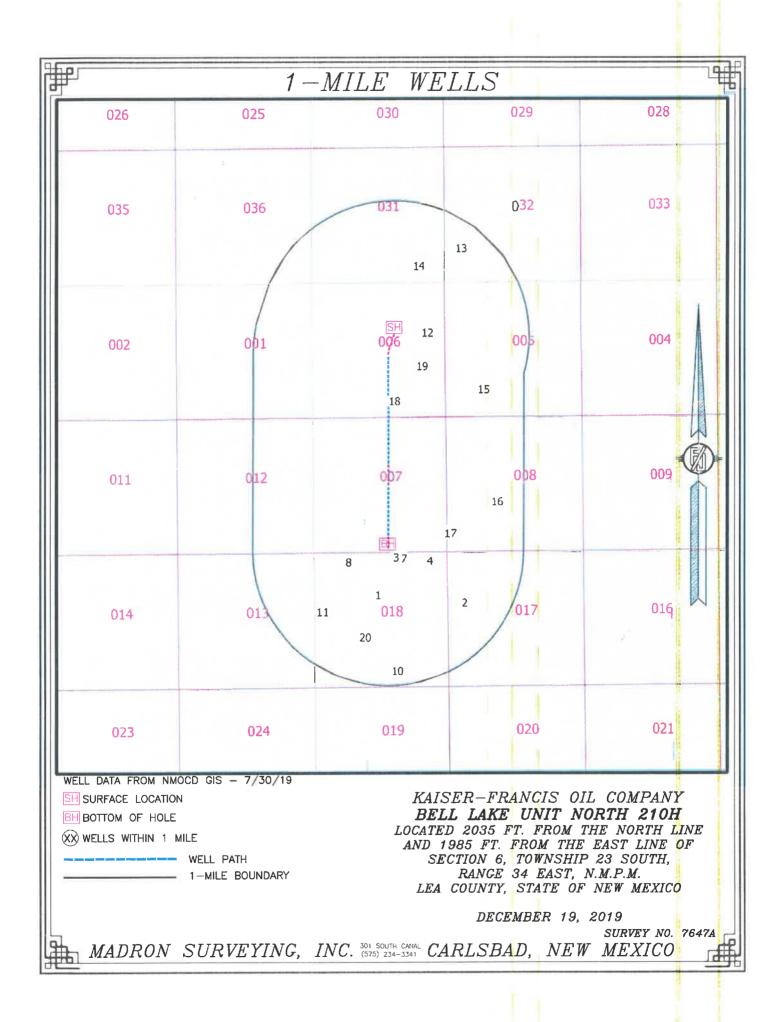
> MADRON SURVEYING, INC. SOUTH CANAL CARLSBAD, NEW MEXICO 88220

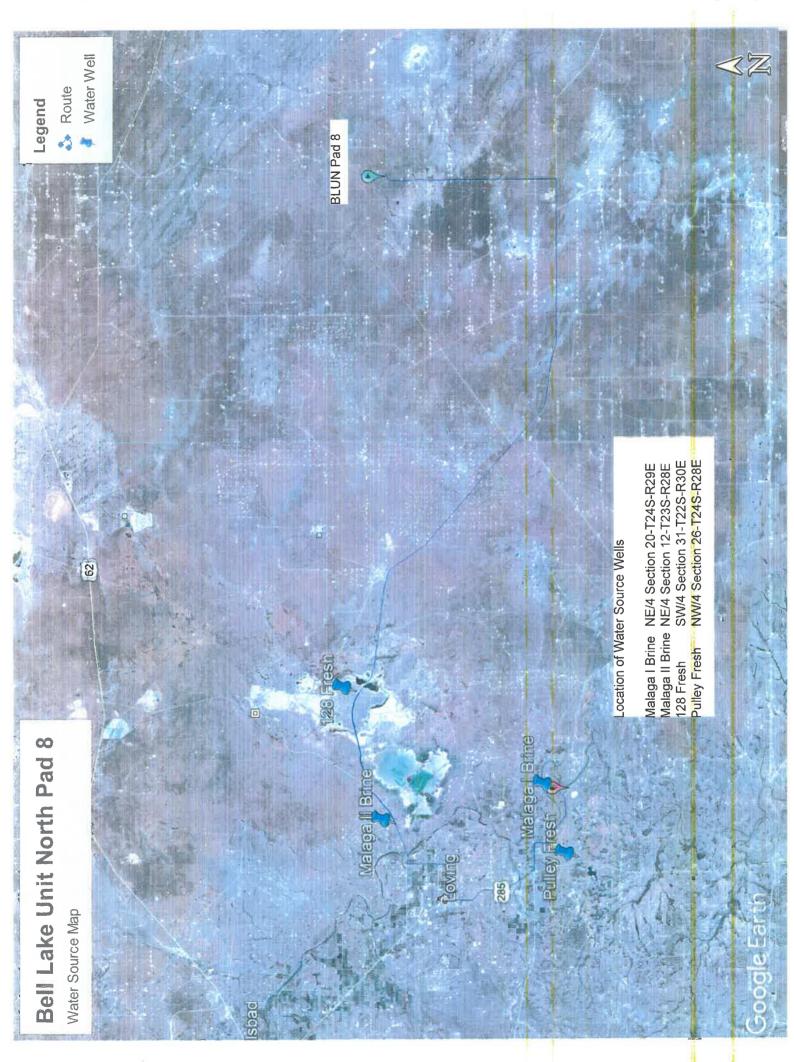
Phone (575) 234-3341

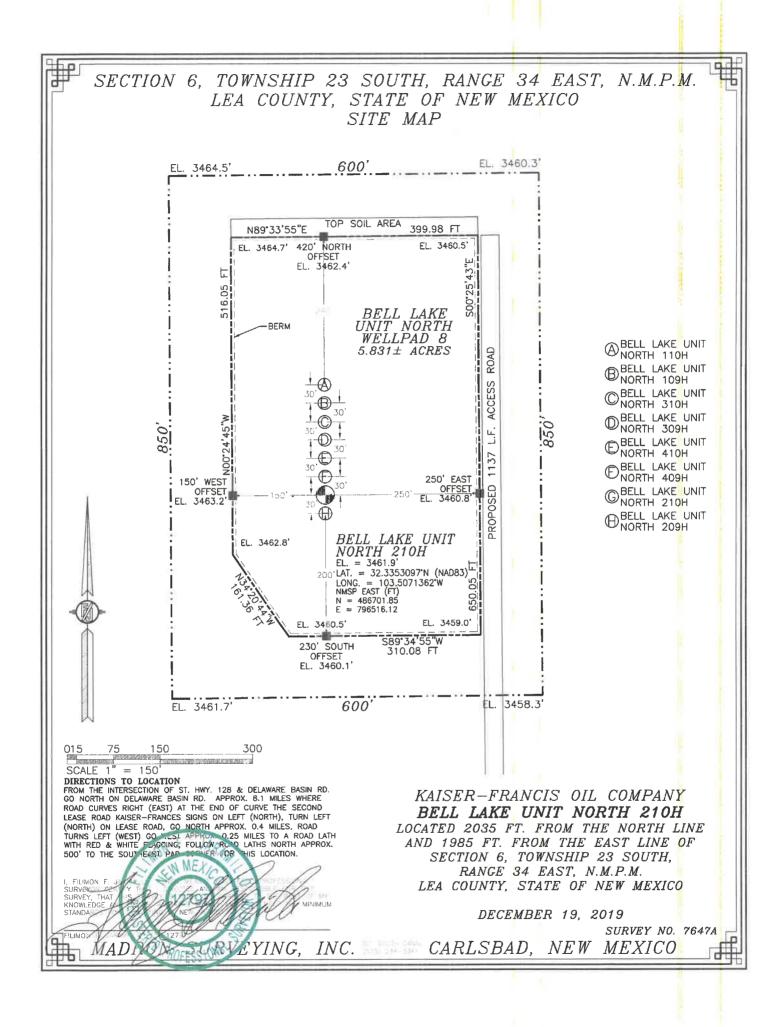
SURVEY NO.

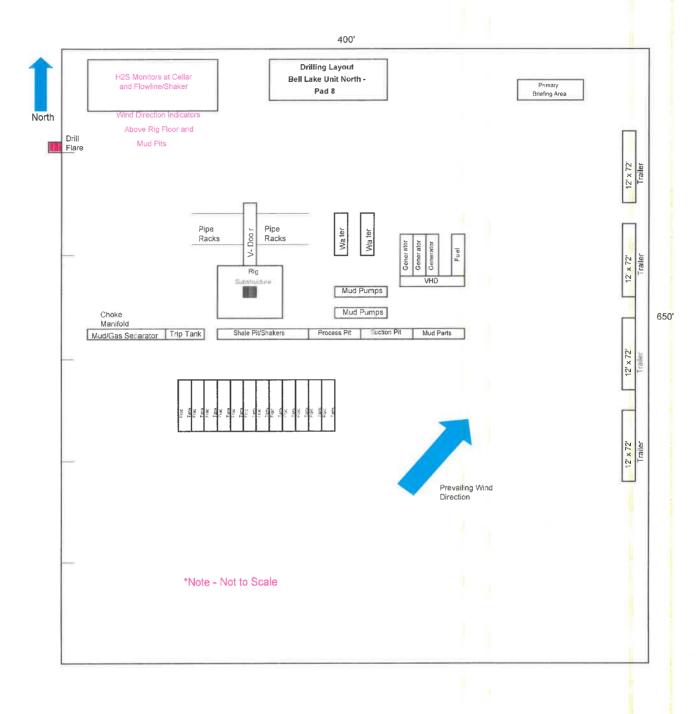
*NEW MEXICO* 

| EPTH DEPTH APR_DATE LATITUDE LONGITUDE POOL_ID_LI | 99999 14755 6/1/1980 32.3073921 -103.5093613 [71880] BELL LAKE, DEVONIAN, MID (GAS) | 13797 13797 3/27/2000 32.3064728 -103.4985046 [5150] BELL LAKE, BS,N; [5166] BELL LAKE, DELW,N; [71920] BELL LAKE, MRW,N[GAS]                   | 14995 10396 10/15/2015 32.3114532 -103.5070874 [5150] BELL LAKE, BONE SPRING, NORTH  | 14836 10394 8/5/2014 32.3110123 -103.5027847 [5150] BELL LAKE, BONE SPRING, NORTH  | 0 0 6/19/2019 32.311302 -103.506067 (5150) BELL LAKE, BONE SPRING, NORTH  | 0 0 6/19/2019 32.311302 -103.506165 [5150] BELL LAKE, BONE SPRING, NORTH  | 0 0 6/19/2019 32.310424 -103.513079 (5150) BELL LAKE, BONE SPRING, NORTH   | 0 0 6/19/2019 32.310424 -103.513177 [5150] BELL LAKE, BONE SPRING, NORTH   | 15228 10434 4/29/2016 32.310973 -103.5130795 [5150] BELL LAKE, BONE SPRING, NORTH  
   
  | 15370 10590 7/29/2016 32.3108492 -103.5126964 [5150] BELL LAKE, BONE SPRING, NORTH  | 13630 13630 1/3/2000 32.2992172 -103.5070343 [97363] BELL LAKE, UPPER PENN, NORTH (GAS)   | 5040 5037 11/5/2013 32.3056374 -103.5164185 [5150] BELL LAKE, BONE SPRING, NORTH  | 17540 17540 8/25/1995 32.3356552 -103.5028305 (71840) BELL LAKE, DEVONIAN, N (GAS); [96385] BELL LAKE, FLIENBURGER, N(GAS)   
   
  | 13407 13407 8/9/2000 32.3446426 -103.4985428 [96665] OJO CHISO, MRW, W(GAS); [97630] BEIL LAKE, DELW,NE; [97724] W.C-025 G-08 52234321, WLF   | 13430 13430 3/23/2001 32.3427773 -103.503891 [96665] OJO CHISO, MORROW, WEST (GAS)  | 17710 17710 9/21/1994 32.3294563 -103.4958344 [77680] GRAMA RIDGE, MRW (GAS); [96385] BELL LAKE, ELEN,N(GAS); [97630] BELL LAKE, DELW,NE   | 13589 13589 6/6/1974 32.3173599 -103.4942551 [71920] BELL LAKE, MORROW, NORTH (GAS); [96.100] SWD, DELAWARE   | 0 0 1/24/2018 32.3139656 -103.5002005 [97869] SWD, DEVONIAN-SILURIAN  
   | 16506 16506 1/1/1900 32.3282585 -103.507103 [71840] BELL LAKE, DEVONIAN, NORTH (GAS)  | 18370 10226 1/19/2016 32:332037 -103.503544 [5150] BELL LAKE, BONE SPRING, NORTH   | 0 8697 1/1/1900 32.3028488 -103.5110779 [5150] BELL LAKE, BONE SPRING, NORTH   |
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   |   |  | PRE-ONGARD WELL OPER   |
| ULSTR   | F-18-235-34E  | E-17-235-34E  | B-18-235-34E   | A-18-235-34E   | B-18-235-34E {  | 8-18-23S-34E  | C-18-235-34E   | C-18-235-34E   | C-18-235-34E   
   
  | C-18-235-34E  | 0-18-235-34E  | 2-18-235-34E (  | H-06-235-34E   
   
  | L-32-225-34E  | P-31-225-34E  | N-05-235-34E   | K-08-23S-34E  | M-08-235-34E  
   | O-06-235-34E  | 1-06-235-34E   | K-18-23S-34E   |
| ID API WELLNAME                                   | 1 30-025-26508 BELL LAKE 7909 JV-P #001   | 2 30-025-35033 PALOMA BLANCO 17 FEDERAL #001  | 3 30-025-42917 STARCASTER 18 FEDERAL COM #003H   | 4 30-025-42025 STARCASTER 18 FEDERAL COM #004H   | 7 30-025-46151 STARCASTER 7909 FEDERAL COM #008H  | 7 30-025-46150 STARCASTER 7909 FEDERAL COM #007H  | 8 30-025-46149 STARCASTER 7909 FEDERAL COM #006H   | 8 30-025-46148 STARCASTER 7909 FEDERAL COM #005H   | 8 30-025-43213 STARCASTER 18 FEDERAL COM #002H   
   
  | 8 30-025-43388 STARCASTER 18 FEDERAL COM #001H  | 10 30-025-34827 BELL LAKE 7909 JV-P #002  | 11 30-025-41481 BELL LAKE 18 23 34 #001   | 12 30-025-33077 NORTH BELL LAKE FEDERAL #003   
   
  | 13 30-025-35118 BELL LAKE UNIT #021   | 14 30-025-35592 BELL LAKE UNIT #022   | 15 30-025-32672 NORTH BELL LAKE FEDERAL #002   | 16 30-025-24771 NORTH BELL LAKE UNIT 4 #015   | 17 30-025-44387 LEVIATHAN STATE SWD #001  
   | 18 30-025-08483 BELL LAKE UNIT #006   | 19 30-025-43033 BELL LAKE UNIT NORTH #230H   | 20 30-025-20261 PRE-ONGARD WELL #009   |
|   | WELLNAME COGRID_NAME ELEV DEPTH DEPTH APR_DATE LATITUDE LONGITUDE                   | WELLNAME ELEV DEPTH APR_DATE LATITUDE L- 025-26508 BELL LAKE 7909 JV-P #001 F-18-235-34E BTA OIL PRODUCERS 3496 99999 14755 6/1/1980 32.3073921 | WELLNAME ELEV DEPTH APR_DATE LATITUDE LX 0GRID_NAME ELEV DEPTH DEPTH APR_DATE LATITUDE LX 025-25508 BELL LAKE 7909 JV-P #001 F-18-235-34E BTA OIL PRODUCERS 3496 99999 14755 6/1/1980 32.3073921 025-35033 PALOMA BLANCO 17 FEDERAL #001 E-17-235-34E DEVON ENERGY PROD CO, LP 3470 13797 13797 3/27/2000 32.3054728 | OSS-5650B         BELL LAKE 7909 JV-P #001         LATITUDE         LICTR         CGRID_NAME         CGRID_NAME         CERV D_NAME         CERV D_NAME         CALL ARE 7909 JV-P #001         LATITUDE         LICA 236-34E         DATO IL PRODUCERS         3496         99999         14755         BG/L JAC 2009         DATO 230-302         DATO 230-302 | V52-526508         BELL LAKE 7909 JV-P #001         F-18-235-34E         BTA OIL PRODUCERS         3496         99999         14755         6/1/2000         32.3073921           025-35039         PELL LAKE 7909 JV-P #001         F-18-235-34E         BTA OIL PRODUCERS         3496         99999         14755         6/1/2000         32.3073921           025-35037         PARROASTER 18 FEDERAL (DM #003H         B-18-235-34E         BTA OIL PRODUCERS, LIC         3490         14995         10372/2015         32.304728           025-43027         STARCASTER 18 FEDERAL (DM #003H         B-18-235-34E         BTA OIL PRODUCERS, LIC         3479         14995         10375/2015         32.3110123 | WELLNAME         WELLNAME         USTR         OGRID_NAME         CERY         DEPTH         APR_DATE         LATITUDE         LG           025-26508         BELL LAKE 7909 JV-P #001         F-18-235-34E         BTA OIL PRODUCERS         3496         9999         14755         6/1/1909         32.3073921           025-35033         PALLOMA BLANCO 17 FEDERAL #001         E-17-235-34E         BTA OIL PRODUCERS, LIC         3490         14995         13797         3377/1030         32.3073921           025-42025         STARCASTER 18 FEDERAL COM #004H         A-18-235-34E         BTA OIL PRODUCERS, LIC         3490         14995         10/15/2015         32.3110123           025-42025         STARCASTER 18 FEDERAL COM #006H         A-18-235-34E         BTA OIL PRODUCERS, LIC         3479         14836         10/39/2014         32.3110123           025-42025         STARCASTER 7909 FEDERAL COM #008H         B-18-235-34E         BTA OIL PRODUCERS, LIC         3499         10/394         8/5/2014         32.311302 | WELLNAME         WELLNAME         USTR         OGRID_NAME         CERY         DEPTH         APR_DATE         LATITUDE         LG           025-35508         BELL LAKE 7909 IV-P #001         F-18-235-34E         BTA OIL PRODUCERS         3496         9399         1475S         6/1/1980         32.3073921           025-35033         PALLOMA BIANCO I7 FEDERAL #001         E-17-235-34E         BTA OIL PRODUCERS, LIC         3490         1475S         6/1/1980         32.3073921           025-40291         STARCASTER 18 FEDERAL COM #004H         A-18-235-34E         BTA OIL PRODUCERS, LIC         3490         14995         10399         10/15/2016         32.3110123           025-4025         STARCASTER 196PERAL COM #004H         A-18-235-34E         BTA OIL PRODUCERS, LIC         3499         10394         8/5/2014         32.3110123           025-46151         STARCASTER 7909 FEDERAL COM #004H         B-18-235-34E         BTA OIL PRODUCERS, LIC         3489         0         6/19/2019         32.311302           025-46151         STARCASTER 7909 FEDERAL COM #004H         B-18-235-34E         BTA OIL PRODUCERS, LIC         3489         0         6/19/2019         32.311302 | WELLNAME         WELLNAME         OLSTR         OGRID_NAME         CERY         DEPTH         APR_DATE         LATITUDE         LG           025-26508         BELL LAKE 7909 JV-P #001         F-18-235-34E         BTA OIL PRODUCERS         3496         14755         6/1/1980         32.3073921           025-35033         PALOMA BLANCO IZ FEDERAL #001         E-17-235-34E         BTA OIL PRODUCERS, LIC         3490         14755         6/1/1980         32.3073921           025-42025         STARCASTER 18 FEDERAL COM #003H         A-18-235-34E         BTA OIL PRODUCERS, LIC         3490         14995         10/15/2015         32.3114532           025-4025         STARCASTER 7909 FEDERAL COM #008H         A-18-235-34E         BTA OIL PRODUCERS, LIC         3489         0         0         6/19/2019         32.311302           025-46153         STARCASTER 7909 FEDERAL COM #008H         B-18-235-34E         BTA OIL PRODUCERS, LIC         3489         0         0         6/19/2019         32.311302           025-46153         STARCASTER 7909 FEDERAL COM #008H         B-18-235-34E         BTA OIL PRODUCERS, LIC         3489         0         6/19/2019         32.311302           025-46153         STARCASTER 7909 FEDERAL COM #008H         C-18-235-34E         BTA OIL PRODUCERS, LIC         3507         0 | O55-26508         BELL LAKE 7909 JV-P #001         LUSTR         OGRID_NAME         CGRID_NAME         CERV D_NAME         ELKY DEPTH         APR_DATE         LARTITUDE         LI           025-35038         BELL LAKE 7909 JV-P #001         FEDERAL #001         F-18-235-34E         BTA OIL PRODUCERS, LC         3496         99999         14755         6/1/3000         32.3064728           025-35033         PALOMA BIANCO JT FEDERAL #001         E-17-235-34E         BTA OIL PRODUCERS, LC         3496         14995         1377/2010         32.3064728           025-42917         STARCASTER IS FEDERAL COM #004H         A-18-235-34E         BTA OIL PRODUCERS, LC         3496         14995         10/35/2015         32.3114532           025-46151         STARCASTER 7909 FEDERAL COM #007H         B-18-235-34E         BTA OIL PRODUCERS, LC         3489         0         6/19/2019         32.311302           025-46150         STARCASTER 7909 FEDERAL COM #005H         B-18-235-34E         BTA OIL PRODUCERS, LC         3489         0         6/19/2019         32.311302           025-46150         STARCASTER 7909 FEDERAL COM #005H         B-18-235-34E         BTA OIL PRODUCERS, LC         3507         0         6/19/2019         32.310424           025-46148         STARCASTER 7909 FEDERAL COM #005H         C-18-235-34E <td< td=""><td>WELLNAME         WELLNAME         OLSTR         OGRID, NAME         CGRID, NAME         CGRID</td><td>VELLNAME         WELLNAME         OLSTR         ORND_NAME         CGRID_NAME         CGRID_NAME         CIRCL         DAPPH         DEPTH         APR_DATE         LAPTITUDE         LI           025-35636         BELL LAKE 7909 IV-P#001         FEARCASTER 18 FEDERAL COM #003H         F-18-235-34E         BTA OIL PRODUCERS, LIC         3496         13979         13797         13770/2015         32.3073921           025-35033         PALOMAGIANCO 17 FEDERAL (DOM #003H)         E-17-235-34E         BTA OIL PRODUCERS, LIC         3499         14955         1671/2016         32.304728           025-40215         STARCASTER 18 FEDERAL COM #003H         B-18-235-34E         BTA OIL PRODUCERS, LIC         3499         14995         10715/2015         32.3114532           025-4615         STARCASTER 7909 FEDERAL COM #003H         B-18-235-34E         BTA OIL PRODUCERS, LIC         3489         0         6/19/2019         32.311302           025-4615         STARCASTER 7909 FEDERAL COM #005H         B-18-235-34E         BTA OIL PRODUCERS, LIC         3489         0         6/19/2019         32.310424           025-4614         STARCASTER 7909 FEDERAL COM #005H         C-18-235-34E         BTA OIL PRODUCERS, LIC         3507         0         6/19/2019         32.310424           025-4313         STARCASTER 7909 FEDERAL COM #00</td><td>WELLNAME         WELLNAME         OLSTR         ORND_NAME         CGRID_NAME         ELFV         DEPTH         APR_DATE         LATITUDE         LG           025-35536         BELL LAKE 7909 IV-# #001         F-18-235-34E         BTA OIL PRODUCERS         3436         93999         1475         6/1/3000         32.3073921           025-35033         PALOMAB LANCO J T F DERAL #001         E-17-235-34E         BTA OIL PRODUCERS, LIC         3499         1475         6/1/3000         32.304728           025-42025         STARCASTER IS FEDERAL COM #003H         B-18-235-34E         BTA OIL PRODUCERS, LIC         3499         14995         10/15/2015         32.3110302           025-40215         STARCASTER 7909 FEDERAL COM #003H         B-18-235-34E         BTA OIL PRODUCERS, LIC         3499         14395         10/15/2015         32.311302           025-4615         STARCASTER 7909 FEDERAL COM #007H         B-18-235-34E         BTA OIL PRODUCERS, LIC         3489         0         6/19/2019         32.311302           025-46149         STARCASTER 7909 FEDERAL COM #002H         C-18-235-34E         BTA OIL PRODUCERS, LIC         3409         0         6/19/2019         32.310424           025-46149         STARCASTER 7909 FEDERAL COM #002H         C-18-235-34E         BTA OIL PRODUCERS, LIC         3507</td><td>OSS-56508         BELL LAKE 7999 JV-P #001         LUSTR         ORRID NAME         CGRID NAME         EIEV DEPTH         APR_DATE         APR_DATE         IATITUDE         LI           025-35538         BELL LAKE 7999 JV-P #001         F-18-235-34E         BTO UP RODUCERS, LC         3496         14955         13797         31,77/2000         32.3049738           025-42917         STARCASTER 18 FEDERAL COM #004H         A-18-235-34E         BTO UP RODUCERS, LC         3496         14955         10/15/2010         32.3114523           025-42025         STARCASTER 18 FEDERAL COM #004H         A-18-235-34E         BTO UP RODUCERS, LC         3499         10/15/2015         32.3114523           025-46151         STARCASTER 19 FEDERAL COM #004H         B-18-235-34E         BTA OIL PRODUCERS, LC         3499         0         0/15/2019         32.3114523           025-46151         STARCASTER 7909 FEDERAL COM #007H         B-18-235-34E         BTA OIL PRODUCERS, LC         360         0         6/19/2019         32.3114622           025-46148         STARCASTER 7909 FEDERAL COM #008H         B-18-235-34E         BTA OIL PRODUCERS, LC         3507         0         6/19/2019         32.310424           025-46128         STARCASTER 18 FEDERAL COM #008H         C-18-235-34E         BTA OIL PRODUCERS, LC         3507         <td< td=""><td>WELLANME         ULSTR         ORND_NAME         CGRID_NAME         CIECA DEPTH         APR_DATE         APR_DATE         IATITUDE         LICATION           055-56508         BELL LAKE 7999 IV-P #001         F-18-235-34E         BTA OIL PRODUCERS, LC         3496         14955         6/1/3000         32.304732           055-5653         PALON BELLANCO 17 FEDERAL #001         E-17-235-34E         BTA OIL PRODUCERS, LC         3496         14995         14755         6/1/3000         32.304732           055-42917         STARCASTER 18 FEDERAL COM #003H         B-18-235-34E         BTA OIL PRODUCERS, LC         3499         14995         10/15/2019         32.3114532           055-46151         STARCASTER 19 FEDERAL COM #004H         B-18-235-34E         BTA OIL PRODUCERS, LC         3489         0         6/19/2019         32.3110123           055-46153         STARCASTER 7909 FEDERAL COM #005H         B-18-235-34E         BTA OIL PRODUCERS, LC         3507         0         6/19/2019         32.310424           055-46124         STARCASTER 7909 FEDERAL COM #002H         L-18-235-34E         BTA OIL PRODUCERS, LC         3507         0         6/19/2019         32.310424           055-46124         STARCASTER 18 FEDERAL COM #002H         C-18-235-34E         BTA OIL PRODUCERS, LC         3507         0</td><td>WELLNAME         WELLNAME         OGRID_NAME         CIRP         OFPTH         DEPTH         APE DATE         LATITUDE         LOGGID_NAME           025-26508         BELL LAKE 3909 JV-P #001         1-12-235-34E         BTA OIL PRODUCERS         3496         14755         6/1/1909         3.3:307331 - 3.3:37331 - 3.3:37331 - 3.3:37331 - 3.3:37331 - 3.3:37331 - 3.3:37331 - 3.3:37331 - 3.3:37331 - 3.3:37331 - 3.3:37331 - 3.3:37331 - 3.3:37331 - 3.3:37           025-4219.7         STARCASTER 18 FEDERAL COM #003H         A-18-235-34E         BTA OIL PRODUCERS, ILC         3499         14757         3/17/2015         3.2:30731 - 3.3:373131 - 3.3:3114532 - 3.3:3114422 - 3.3:31</td><td>WELLNAME         ULSTR         OGRID_NAME         CIEV         DEPTH         DEPTH         APE DATE         LATITUDE         LOG           025-26508         BELL LAKE YOOD 17 EEDERAL (MOL)         E-12-235-34E         BTA OIL PRODUCERS         3496         14755         6/1/1980         3.2307331         3.2307321         3.2307322         3.2307322         3.2307322         3.230732</td><td>WELLINAME         WELLINAME         OGRID_ NAME         CIRP         DEPTH         APE DATE         CATTIODE         LOCATION           025-3658         BELL LACE 1909 JV + #001         L1-232-3-4E         BTA OLI PRODUCERS, LLC         3479         14755         671/1900         3.2.3073921           025-3033         POLOMA BLANCASTER 18 FEDERAL (MOD3H         L1-232-34E         BTA OLI PRODUCERS, LLC         3499         14755         671/1900         3.2.301321           025-4291         STARCASTER 18 FEDERAL COM #003H         A-18-235-34E         BTA OLI PRODUCERS, LLC         3499         14995         10396         10/15/2015         3.2.3114532           025-4202         STARCASTER 1909 FEDERAL COM #008H         A-18-235-34E         BTA OLI PRODUCERS, LLC         3499         0         6/19/2019         32.311013           025-4213         STARCASTER 7909 FEDERAL COM #008H         B-18-235-34E         BTA OLI PRODUCERS, LLC         3507         0         6/19/2019         32.311032           025-46148         STARCASTER 7909 FEDERAL COM #008H         C-18-235-34E         BTA OLI PRODUCERS, LLC         3507         0         6/19/2019         32.310424           025-46148         STARCASTER 7909 FEDERAL COM #008H         C-18-235-34E         BTA OLI PRODUCERS, LLC         3507         0         6/19/2019</td><td>WELLINAME         WELLINAME         OGRID_ NAME         CIRP         OFPTH         OFPTH<td>WELLINAME         WELLINAME         OGRID_NAME         CIRP         OGRID_NAME         CIRP         DEPTH         APR DATE         LATITUDE         LO           025-26508         BELL LAKE 3909 17-F #001         14735         671/1990         14755         671/1900         3.330731         3.307321         3.2310424         3.2310424         3.2310424         3.2310424         3.2310424         3.2310424         3.2310424         3.2310424         3.2310424         3.2310424         3.2310424         3.2310424         &lt;</td><td>WELLNAME         WELLNAME         OGRID_NAME         CIRP         OGRID_NAME         ELIC ADMENTION         OGRID_NAME         CIRP ADMENTION         OFFTH         OFFTH         OFFTH         OFFTH         APE DATE         LATITUDE         LOCA-25-25-36         BELL LAKE 3909 JV-P #001         1475         \$ 6/1/1901         3.2.307-321         3.2.31001&lt;</td><td>VELLINAME         WELLINAME         OGRID_ NAME         CIRP         OFPTH         DEPTH         APR_DATE         LATITUDE         I.C.           205-505508         BELL LAKE 3909 JV+ #001         1-12-235-34E         BTA OIL PRODUCERS, LLC         3479         14755         6/1/1/3000         3.2.3073231           205-525538         BELL LAKE 1909 JV+ #001         E-17-235-34E         BTA OIL PRODUCERS, LLC         3499         14755         6/1/1/2000         3.2.3013231           205-42917         STARCASTER 18 FEDERAL COM #003H         A-18-235-34E         BTA OIL PRODUCERS, LLC         3499         14755         10396         10/15/2015         3.2.3114532           205-42505         STARCASTER 7909 FEDERAL COM #008H         A-18-235-34E         BTA OIL PRODUCERS, LLC         3489         0         6/19/2019         32.3114032           205-46148         STARCASTER 7909 FEDERAL COM #008H         C-18-235-34E         BTA OIL PRODUCERS, LLC         3507         0         6/19/2019         32.3114024           205-46148         STARCASTER 7909 FEDERAL COM #008H         C-18-235-34E         BTA OIL PRODUCERS, LLC         3507         0         6/19/2019         32.3114024           205-46148         STARCASTER 7909 FEDERAL COM #008H         C-18-235-34E         BTA OIL PRODUCERS, LLC         3507         0</td></td></td<></td></td<> | WELLNAME         WELLNAME         OLSTR         OGRID, NAME         CGRID, NAME         CGRID | VELLNAME         WELLNAME         OLSTR         ORND_NAME         CGRID_NAME         CGRID_NAME         CIRCL         DAPPH         DEPTH         APR_DATE         LAPTITUDE         LI           025-35636         BELL LAKE 7909 IV-P#001         FEARCASTER 18 FEDERAL COM #003H         F-18-235-34E         BTA OIL PRODUCERS, LIC         3496         13979         13797         13770/2015         32.3073921           025-35033         PALOMAGIANCO 17 FEDERAL (DOM #003H)         E-17-235-34E         BTA OIL PRODUCERS, LIC         3499         14955         1671/2016         32.304728           025-40215         STARCASTER 18 FEDERAL COM #003H         B-18-235-34E         BTA OIL PRODUCERS, LIC         3499         14995         10715/2015         32.3114532           025-4615         STARCASTER 7909 FEDERAL COM #003H         B-18-235-34E         BTA OIL PRODUCERS, LIC         3489         0         6/19/2019         32.311302           025-4615         STARCASTER 7909 FEDERAL COM #005H         B-18-235-34E         BTA OIL PRODUCERS, LIC         3489         0         6/19/2019         32.310424           025-4614         STARCASTER 7909 FEDERAL COM #005H         C-18-235-34E         BTA OIL PRODUCERS, LIC         3507         0         6/19/2019         32.310424           025-4313         STARCASTER 7909 FEDERAL COM #00 | WELLNAME         WELLNAME         OLSTR         ORND_NAME         CGRID_NAME         ELFV         DEPTH         APR_DATE         LATITUDE         LG           025-35536         BELL LAKE 7909 IV-# #001         F-18-235-34E         BTA OIL PRODUCERS         3436         93999         1475         6/1/3000         32.3073921           025-35033         PALOMAB LANCO J T F DERAL #001         E-17-235-34E         BTA OIL PRODUCERS, LIC         3499         1475         6/1/3000         32.304728           025-42025         STARCASTER IS FEDERAL COM #003H         B-18-235-34E         BTA OIL PRODUCERS, LIC         3499         14995         10/15/2015         32.3110302           025-40215         STARCASTER 7909 FEDERAL COM #003H         B-18-235-34E         BTA OIL PRODUCERS, LIC         3499         14395         10/15/2015         32.311302           025-4615         STARCASTER 7909 FEDERAL COM #007H         B-18-235-34E         BTA OIL PRODUCERS, LIC         3489         0         6/19/2019         32.311302           025-46149         STARCASTER 7909 FEDERAL COM #002H         C-18-235-34E         BTA OIL PRODUCERS, LIC         3409         0         6/19/2019         32.310424           025-46149         STARCASTER 7909 FEDERAL COM #002H         C-18-235-34E         BTA OIL PRODUCERS, LIC         3507 | OSS-56508         BELL LAKE 7999 JV-P #001         LUSTR         ORRID NAME         CGRID NAME         EIEV DEPTH         APR_DATE         APR_DATE         IATITUDE         LI           025-35538         BELL LAKE 7999 JV-P #001         F-18-235-34E         BTO UP RODUCERS, LC         3496         14955         13797         31,77/2000         32.3049738           025-42917         STARCASTER 18 FEDERAL COM #004H         A-18-235-34E         BTO UP RODUCERS, LC         3496         14955         10/15/2010         32.3114523           025-42025         STARCASTER 18 FEDERAL COM #004H         A-18-235-34E         BTO UP RODUCERS, LC         3499         10/15/2015         32.3114523           025-46151         STARCASTER 19 FEDERAL COM #004H         B-18-235-34E         BTA OIL PRODUCERS, LC         3499         0         0/15/2019         32.3114523           025-46151         STARCASTER 7909 FEDERAL COM #007H         B-18-235-34E         BTA OIL PRODUCERS, LC         360         0         6/19/2019         32.3114622           025-46148         STARCASTER 7909 FEDERAL COM #008H         B-18-235-34E         BTA OIL PRODUCERS, LC         3507         0         6/19/2019         32.310424           025-46128         STARCASTER 18 FEDERAL COM #008H         C-18-235-34E         BTA OIL PRODUCERS, LC         3507 <td< td=""><td>WELLANME         ULSTR         ORND_NAME         CGRID_NAME         CIECA DEPTH         APR_DATE         APR_DATE         IATITUDE         LICATION           055-56508         BELL LAKE 7999 IV-P #001         F-18-235-34E         BTA OIL PRODUCERS, LC         3496         14955         6/1/3000         32.304732           055-5653         PALON BELLANCO 17 FEDERAL #001         E-17-235-34E         BTA OIL PRODUCERS, LC         3496         14995         14755         6/1/3000         32.304732           055-42917         STARCASTER 18 FEDERAL COM #003H         B-18-235-34E         BTA OIL PRODUCERS, LC         3499         14995         10/15/2019         32.3114532           055-46151         STARCASTER 19 FEDERAL COM #004H         B-18-235-34E         BTA OIL PRODUCERS, LC         3489         0         6/19/2019         32.3110123           055-46153         STARCASTER 7909 FEDERAL COM #005H         B-18-235-34E         BTA OIL PRODUCERS, LC         3507         0         6/19/2019         32.310424           055-46124         STARCASTER 7909 FEDERAL COM #002H         L-18-235-34E         BTA OIL PRODUCERS, LC         3507         0         6/19/2019         32.310424           055-46124         STARCASTER 18 FEDERAL COM #002H         C-18-235-34E         BTA OIL PRODUCERS, LC         3507         0</td><td>WELLNAME         WELLNAME         OGRID_NAME         CIRP         OFPTH         DEPTH         APE DATE         LATITUDE         LOGGID_NAME           025-26508         BELL LAKE 3909 JV-P #001         1-12-235-34E         BTA OIL PRODUCERS         3496         14755         6/1/1909         3.3:307331 - 3.3:37331 - 3.3:37331 - 3.3:37331 - 3.3:37331 - 3.3:37331 - 3.3:37331 - 3.3:37331 - 3.3:37331 - 3.3:37331 - 3.3:37331 - 3.3:37331 - 3.3:37331 - 3.3:37           025-4219.7         STARCASTER 18 FEDERAL COM #003H         A-18-235-34E         BTA OIL PRODUCERS, ILC         3499         14757         3/17/2015         3.2:30731 - 3.3:373131 - 3.3:3114532 - 3.3:3114422 - 3.3:31</td><td>WELLNAME         ULSTR         OGRID_NAME         CIEV         DEPTH         DEPTH         APE DATE         LATITUDE         LOG           025-26508         BELL LAKE YOOD 17 EEDERAL (MOL)         E-12-235-34E         BTA OIL PRODUCERS         3496         14755         6/1/1980         3.2307331         3.2307321         3.2307322         3.2307322         3.2307322         3.230732</td><td>WELLINAME         WELLINAME         OGRID_ NAME         CIRP         DEPTH         APE DATE         CATTIODE         LOCATION           025-3658         BELL LACE 1909 JV + #001         L1-232-3-4E         BTA OLI PRODUCERS, LLC         3479         14755         671/1900         3.2.3073921           025-3033         POLOMA BLANCASTER 18 FEDERAL (MOD3H         L1-232-34E         BTA OLI PRODUCERS, LLC         3499         14755         671/1900         3.2.301321           025-4291         STARCASTER 18 FEDERAL COM #003H         A-18-235-34E         BTA OLI PRODUCERS, LLC         3499         14995         10396         10/15/2015         3.2.3114532           025-4202         STARCASTER 1909 FEDERAL COM #008H         A-18-235-34E         BTA OLI PRODUCERS, LLC         3499         0         6/19/2019         32.311013           025-4213         STARCASTER 7909 FEDERAL COM #008H         B-18-235-34E         BTA OLI PRODUCERS, LLC         3507         0         6/19/2019         32.311032           025-46148         STARCASTER 7909 FEDERAL COM #008H         C-18-235-34E         BTA OLI PRODUCERS, LLC         3507         0         6/19/2019         32.310424           025-46148         STARCASTER 7909 FEDERAL COM #008H         C-18-235-34E         BTA OLI PRODUCERS, LLC         3507         0         6/19/2019</td><td>WELLINAME         WELLINAME         OGRID_ NAME         CIRP         OFPTH         OFPTH<td>WELLINAME         WELLINAME         OGRID_NAME         CIRP         OGRID_NAME         CIRP         DEPTH         APR DATE         LATITUDE         LO           025-26508         BELL LAKE 3909 17-F #001         14735         671/1990         14755         671/1900         3.330731         3.307321         3.2310424         3.2310424         3.2310424         3.2310424         3.2310424         3.2310424         3.2310424         3.2310424         3.2310424         3.2310424         3.2310424         3.2310424         &lt;</td><td>WELLNAME         WELLNAME         OGRID_NAME         CIRP         OGRID_NAME         ELIC ADMENTION         OGRID_NAME         CIRP ADMENTION         OFFTH         OFFTH         OFFTH         OFFTH         APE DATE         LATITUDE         LOCA-25-25-36         BELL LAKE 3909 JV-P #001         1475         \$ 6/1/1901         3.2.307-321         3.2.31001&lt;</td><td>VELLINAME         WELLINAME         OGRID_ NAME         CIRP         OFPTH         DEPTH         APR_DATE         LATITUDE         I.C.           205-505508         BELL LAKE 3909 JV+ #001         1-12-235-34E         BTA OIL PRODUCERS, LLC         3479         14755         6/1/1/3000         3.2.3073231           205-525538         BELL LAKE 1909 JV+ #001         E-17-235-34E         BTA OIL PRODUCERS, LLC         3499         14755         6/1/1/2000         3.2.3013231           205-42917         STARCASTER 18 FEDERAL COM #003H         A-18-235-34E         BTA OIL PRODUCERS, LLC         3499         14755         10396         10/15/2015         3.2.3114532           205-42505         STARCASTER 7909 FEDERAL COM #008H         A-18-235-34E         BTA OIL PRODUCERS, LLC         3489         0         6/19/2019         32.3114032           205-46148         STARCASTER 7909 FEDERAL COM #008H         C-18-235-34E         BTA OIL PRODUCERS, LLC         3507         0         6/19/2019         32.3114024           205-46148         STARCASTER 7909 FEDERAL COM #008H         C-18-235-34E         BTA OIL PRODUCERS, LLC         3507         0         6/19/2019         32.3114024           205-46148         STARCASTER 7909 FEDERAL COM #008H         C-18-235-34E         BTA OIL PRODUCERS, LLC         3507         0</td></td></td<> | WELLANME         ULSTR         ORND_NAME         CGRID_NAME         CIECA DEPTH         APR_DATE         APR_DATE         IATITUDE         LICATION           055-56508         BELL LAKE 7999 IV-P #001         F-18-235-34E         BTA OIL PRODUCERS, LC         3496         14955         6/1/3000         32.304732           055-5653         PALON BELLANCO 17 FEDERAL #001         E-17-235-34E         BTA OIL PRODUCERS, LC         3496         14995         14755         6/1/3000         32.304732           055-42917         STARCASTER 18 FEDERAL COM #003H         B-18-235-34E         BTA OIL PRODUCERS, LC         3499         14995         10/15/2019         32.3114532           055-46151         STARCASTER 19 FEDERAL COM #004H         B-18-235-34E         BTA OIL PRODUCERS, LC         3489         0         6/19/2019         32.3110123           055-46153         STARCASTER 7909 FEDERAL COM #005H         B-18-235-34E         BTA OIL PRODUCERS, LC         3507         0         6/19/2019         32.310424           055-46124         STARCASTER 7909 FEDERAL COM #002H         L-18-235-34E         BTA OIL PRODUCERS, LC         3507         0         6/19/2019         32.310424           055-46124         STARCASTER 18 FEDERAL COM #002H         C-18-235-34E         BTA OIL PRODUCERS, LC         3507         0 | WELLNAME         WELLNAME         OGRID_NAME         CIRP         OFPTH         DEPTH         APE DATE         LATITUDE         LOGGID_NAME           025-26508         BELL LAKE 3909 JV-P #001         1-12-235-34E         BTA OIL PRODUCERS         3496         14755         6/1/1909         3.3:307331 - 3.3:37331 - 3.3:37331 - 3.3:37331 - 3.3:37331 - 3.3:37331 - 3.3:37331 - 3.3:37331 - 3.3:37331 - 3.3:37331 - 3.3:37331 - 3.3:37331 - 3.3:37331 - 3.3:37           025-4219.7         STARCASTER 18 FEDERAL COM #003H         A-18-235-34E         BTA OIL PRODUCERS, ILC         3499         14757         3/17/2015         3.2:30731 - 3.3:373131 - 3.3:3114532 - 3.3:3114422 - 3.3:31 | WELLNAME         ULSTR         OGRID_NAME         CIEV         DEPTH         DEPTH         APE DATE         LATITUDE         LOG           025-26508         BELL LAKE YOOD 17 EEDERAL (MOL)         E-12-235-34E         BTA OIL PRODUCERS         3496         14755         6/1/1980         3.2307331         3.2307321         3.2307322         3.2307322         3.2307322         3.230732 | WELLINAME         WELLINAME         OGRID_ NAME         CIRP         DEPTH         APE DATE         CATTIODE         LOCATION           025-3658         BELL LACE 1909 JV + #001         L1-232-3-4E         BTA OLI PRODUCERS, LLC         3479         14755         671/1900         3.2.3073921           025-3033         POLOMA BLANCASTER 18 FEDERAL (MOD3H         L1-232-34E         BTA OLI PRODUCERS, LLC         3499         14755         671/1900         3.2.301321           025-4291         STARCASTER 18 FEDERAL COM #003H         A-18-235-34E         BTA OLI PRODUCERS, LLC         3499         14995         10396         10/15/2015         3.2.3114532           025-4202         STARCASTER 1909 FEDERAL COM #008H         A-18-235-34E         BTA OLI PRODUCERS, LLC         3499         0         6/19/2019         32.311013           025-4213         STARCASTER 7909 FEDERAL COM #008H         B-18-235-34E         BTA OLI PRODUCERS, LLC         3507         0         6/19/2019         32.311032           025-46148         STARCASTER 7909 FEDERAL COM #008H         C-18-235-34E         BTA OLI PRODUCERS, LLC         3507         0         6/19/2019         32.310424           025-46148         STARCASTER 7909 FEDERAL COM #008H         C-18-235-34E         BTA OLI PRODUCERS, LLC         3507         0         6/19/2019 | WELLINAME         WELLINAME         OGRID_ NAME         CIRP         OFPTH         OFPTH <td>WELLINAME         WELLINAME         OGRID_NAME         CIRP         OGRID_NAME         CIRP         DEPTH         APR DATE         LATITUDE         LO           025-26508         BELL LAKE 3909 17-F #001         14735         671/1990         14755         671/1900         3.330731         3.307321         3.2310424         3.2310424         3.2310424         3.2310424         3.2310424         3.2310424         3.2310424         3.2310424         3.2310424         3.2310424         3.2310424         3.2310424         &lt;</td> <td>WELLNAME         WELLNAME         OGRID_NAME         CIRP         OGRID_NAME         ELIC ADMENTION         OGRID_NAME         CIRP ADMENTION         OFFTH         OFFTH         OFFTH         OFFTH         APE DATE         LATITUDE         LOCA-25-25-36         BELL LAKE 3909 JV-P #001         1475         \$ 6/1/1901         3.2.307-321         3.2.31001&lt;</td> <td>VELLINAME         WELLINAME         OGRID_ NAME         CIRP         OFPTH         DEPTH         APR_DATE         LATITUDE         I.C.           205-505508         BELL LAKE 3909 JV+ #001         1-12-235-34E         BTA OIL PRODUCERS, LLC         3479         14755         6/1/1/3000         3.2.3073231           205-525538         BELL LAKE 1909 JV+ #001         E-17-235-34E         BTA OIL PRODUCERS, LLC         3499         14755         6/1/1/2000         3.2.3013231           205-42917         STARCASTER 18 FEDERAL COM #003H         A-18-235-34E         BTA OIL PRODUCERS, LLC         3499         14755         10396         10/15/2015         3.2.3114532           205-42505         STARCASTER 7909 FEDERAL COM #008H         A-18-235-34E         BTA OIL PRODUCERS, LLC         3489         0         6/19/2019         32.3114032           205-46148         STARCASTER 7909 FEDERAL COM #008H         C-18-235-34E         BTA OIL PRODUCERS, LLC         3507         0         6/19/2019         32.3114024           205-46148         STARCASTER 7909 FEDERAL COM #008H         C-18-235-34E         BTA OIL PRODUCERS, LLC         3507         0         6/19/2019         32.3114024           205-46148         STARCASTER 7909 FEDERAL COM #008H         C-18-235-34E         BTA OIL PRODUCERS, LLC         3507         0</td> | WELLINAME         WELLINAME         OGRID_NAME         CIRP         OGRID_NAME         CIRP         DEPTH         APR DATE         LATITUDE         LO           025-26508         BELL LAKE 3909 17-F #001         14735         671/1990         14755         671/1900         3.330731         3.307321         3.2310424         3.2310424         3.2310424         3.2310424         3.2310424         3.2310424         3.2310424         3.2310424         3.2310424         3.2310424         3.2310424         3.2310424         < | WELLNAME         WELLNAME         OGRID_NAME         CIRP         OGRID_NAME         ELIC ADMENTION         OGRID_NAME         CIRP ADMENTION         OFFTH         OFFTH         OFFTH         OFFTH         APE DATE         LATITUDE         LOCA-25-25-36         BELL LAKE 3909 JV-P #001         1475         \$ 6/1/1901         3.2.307-321         3.2.31001< | VELLINAME         WELLINAME         OGRID_ NAME         CIRP         OFPTH         DEPTH         APR_DATE         LATITUDE         I.C.           205-505508         BELL LAKE 3909 JV+ #001         1-12-235-34E         BTA OIL PRODUCERS, LLC         3479         14755         6/1/1/3000         3.2.3073231           205-525538         BELL LAKE 1909 JV+ #001         E-17-235-34E         BTA OIL PRODUCERS, LLC         3499         14755         6/1/1/2000         3.2.3013231           205-42917         STARCASTER 18 FEDERAL COM #003H         A-18-235-34E         BTA OIL PRODUCERS, LLC         3499         14755         10396         10/15/2015         3.2.3114532           205-42505         STARCASTER 7909 FEDERAL COM #008H         A-18-235-34E         BTA OIL PRODUCERS, LLC         3489         0         6/19/2019         32.3114032           205-46148         STARCASTER 7909 FEDERAL COM #008H         C-18-235-34E         BTA OIL PRODUCERS, LLC         3507         0         6/19/2019         32.3114024           205-46148         STARCASTER 7909 FEDERAL COM #008H         C-18-235-34E         BTA OIL PRODUCERS, LLC         3507         0         6/19/2019         32.3114024           205-46148         STARCASTER 7909 FEDERAL COM #008H         C-18-235-34E         BTA OIL PRODUCERS, LLC         3507         0 |

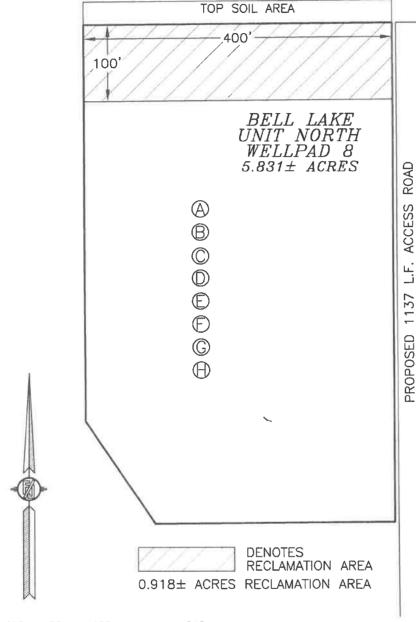












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- ©BELL LAKE UNIT
- ©BELL LAKE UNIT
- ©BELL LAKE UNIT
- ©BELL LAKE UNIT NORTH 210H
- BELL LAKE UNIT

KAISER-FRANCIS OIL COMPANY
BELL LAKE UNIT NORTH 210H
LOCATED 2035 FT. FROM THE NORTH LINE
AND 1985 FT. FROM THE EAST LINE OF
SECTION 6, TOWNSHIP 23 SOUTH,
RANGE 34 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO

DECEMBER 19, 2019

SURVEY NO. 7647A

MADRON SURVEYING, INC. 301 SOUTH CANAL CARLSBAD, NEW MEXICO

SCALE 1" = 120'



U.S. Department of the Interior BUREAU OF LAND MANAGEMENT

PWD Data Report

APD ID: 10400054105 Submission Date: 02/09/2020

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH
Well Type: OIL WELL
Well Work Type: Drill

## **Section 1 - General**

Would you like to address long-term produced water disposal? NO

## **Section 2 - Lined Pits**

Would you like to utilize Lined Pit PWD options? N

Produced Water Disposal (PWD) Location:

PWD surface owner:

Lined pit PWD on or off channel:

Lined pit PWD discharge volume (bbl/day):

Lined pit specifications:

Pit liner description:

Pit liner manufacturers information:

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Lined pit precipitated solids disposal schedule:

Lined pit precipitated solids disposal schedule attachment:

Lined pit reclamation description:

Lined pit reclamation attachment:

Leak detection system description:

Leak detection system attachment:

PWD disturbance (acres):

Well Name: BELL LAKE UNIT NORTH Well Number: 210H

Lined pit Monitor description:

Lined pit Monitor attachment:

Lined pit: do you have a reclamation bond for the pit?

Is the reclamation bond a rider under the BLM bond?

Lined pit bond number:

Lined pit bond amount:

Additional bond information attachment:

## Section 3 - Unlined Pits

Would you like to utilize Unlined Pit PWD options? N

Produced Water Disposal (PWD) Location:

PWD disturbance (acres):

PWD surface owner:

Unlined pit PWD on or off channel:

Unlined pit PWD discharge volume (bbl/day):

Unlined pit specifications:

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Unlined pit precipitated solids disposal schedule:

Unlined pit precipitated solids disposal schedule attachment:

Unlined pit reclamation description:

Unlined pit reclamation attachment:

Unlined pit Monitor description:

**Unlined pit Monitor attachment:** 

Do you propose to put the produced water to beneficial use?

Beneficial use user confirmation:

Estimated depth of the shallowest aquifer (feet):

Does the produced water have an annual average Total Dissolved Solids (TDS) concentration equal to or less than that of the existing water to be protected?

TDS lab results:

Geologic and hydrologic evidence:

State authorization:

**Unlined Produced Water Pit Estimated percolation:** 

Unlined pit: do you have a reclamation bond for the pit?

Well Name: BELL LAKE UNIT NORTH Well Number: 210H

Is the reclamation bond a rider under the BLM bond?

Unlined pit bond number:

Unlined pit bond amount:

Additional bond information attachment:

**Section 4 - Injection** 

Would you like to utilize Injection PWD options? N

Produced Water Disposal (PWD) Location:

PWD surface owner: PWD disturbance (acres):

Injection PWD discharge volume (bbl/day):

Injection well mineral owner:

Injection well type:

Injection well number: Injection well name:

Assigned injection well API number? Injection well API number:

Injection well new surface disturbance (acres):

Minerals protection information:

Mineral protection attachment:

**Underground Injection Control (UIC) Permit?** 

**UIC Permit attachment:** 

Section 5 - Surface Discharge

Would you like to utilize Surface Discharge PWD options? N

Produced Water Disposal (PWD) Location:

PWD surface owner: PWD disturbance (acres):

Surface discharge PWD discharge volume (bbl/day):

**Surface Discharge NPDES Permit?** 

**Surface Discharge NPDES Permit attachment:** 

Surface Discharge site facilities information:

Surface discharge site facilities map:

**Section 6 - Other** 

Would you like to utilize Other PWD options? N

Produced Water Disposal (PWD) Location:

PWD surface owner: PWD disturbance (acres):

Other PWD discharge volume (bbl/day):

Well Name: BELL LAKE UNIT NORTH Well Number: 210H

Other PWD type description:

Other PWD type attachment:

Have other regulatory requirements been met?

Other regulatory requirements attachment:



U.S. Department of the Interior BUREAU OF LAND MANAGEMENT

Bond Info Data Report

**APD ID:** 10400054105

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH

Well Type: OIL WELL

Submission Date: 02/09/2020

Highlighted data reflects the most recent changes

Well Number: 210H

Well Work Type: Drill

recent changes
Show Final Text

## **Bond Information**

Federal/Indian APD: FED

**BLM Bond number: WYB000055** 

**BIA Bond number:** 

Do you have a reclamation bond? NO

Is the reclamation bond a rider under the BLM bond?

Is the reclamation bond BLM or Forest Service?

**BLM** reclamation bond number:

Forest Service reclamation bond number:

Forest Service reclamation bond attachment:

Reclamation bond number:

Reclamation bond amount:

Reclamation bond rider amount:

Additional reclamation bond information attachment:

District I
1025 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Ariesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

Phone: (505) 476-3460 Fax: (505) 476-3462

# State of New Mexico Energy, Minerals & Natural Resources Department OIL CONSERVATION DIVISION 1220 South St. Francis Dr. Santa Fe, NM 87505

Form C-102 Revised August 1, 2011 Submit one copy to appropriate District Office

□ AMENDED REPORT

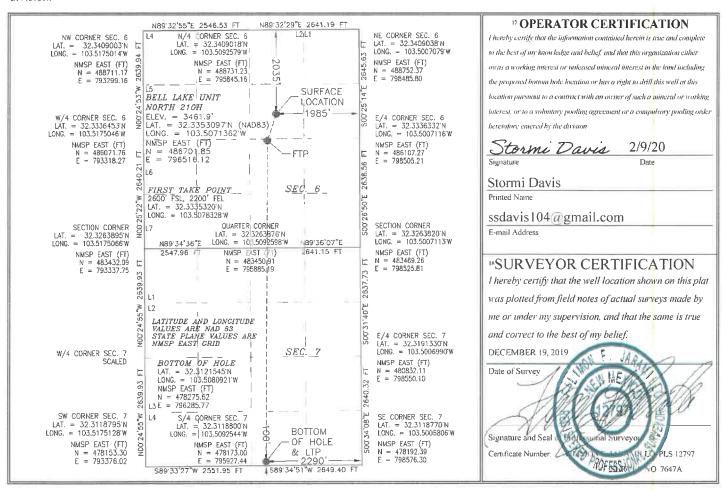
#### WELL LOCATION AND ACREAGE DEDICATION PLAT

<sup>1</sup> API Num	ber	<sup>2</sup> Pool Code	<sup>3</sup> Pool Name				
30-025-	30-025-485	98259	Ojo Chiso; Bone Spring, S	outhwest			
<sup>4</sup> Property Code		5 Pr	operty Name	<sup>6</sup> Well Number			
316707		BELL LAK	KE UNIT NORTH	210H			
<sup>7</sup> OGRID No.		8 OI	perator Name	<sup>9</sup> Elevation			
12361		KAISER-FRAN	NCIS OIL COMPANY	3461.9			

Surface Location

					Surrace	Location						
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County			
G	- 6	23 S	-34 E		2035	NORTH	= 1985 =	EAST =	LEA			
		nn-	пB	ottom H	ole Location	If Different Fro	om Surface					
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County			
О	7	23 S	34E		100	SOUTH	2290	EAST	LEA			
12 Dedicated Acres	s <sup>13</sup> Joint	or Infill 1	Consolidation	1 Code			15 Order No.					
480					R-14527A							

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.



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

## State of New Mexico Energy, Minerals and Natural Resources Department

Submit Original to Appropriate District Office

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

#### GAS CAPTURE PLAN

Date: 01/26/2020		
⊠ Original	Operator & OGRID No.: Kaiser-Francis Oil Company, 12361	
☐ Amended - Reason for Amendment:		

This Gas Capture Plan outlines actions to be taken by the Operator to reduce well/production facility flaring/venting for new completion (new drill, recomplete to new zone, re-frac) activity.

Note: Form C-129 must be submitted and approved prior to exceeding 60 days allowed by Rule (Subsection A of 19.15.18.12 NMAC).

#### Well(s)/Production Facility - Name of facility

The well(s) that will be located at the production facility are shown in the table below.

Well Name	API	Well Location (ULSTR)	Footages	Expected MCF/D	Flared or Vented	Comments
Bell Lake Unit North 209H Bell Lake Unit North 210H	0 025 495	6-23S-34E		2000	0	
Bell Lake Unit North 210H	0-025-485	6-23S-34E		2000	0	
Bell Lake Unit North 309H		6-23S-34E		2000	0	
Bell Lake Unit North 310H		6-23S-34E		2000	0	
Bell Lake Unit North 409H		6-23S-34E		2000	0	
Bell Lake Unit North 410H		6-23S-34E		2000	0	9

#### **Gathering System and Pipeline Notification**

Well(s) will be connected to a production facility after flowback operations are complete, if gas transporter system is in place. The gas produced from production facility is dedicated to <u>Targa</u> and will be connected to <u>Targa</u> low/high pressure gathering system located in <u>Lea</u> County, New Mexico. It will require <u>11,000'</u> of pipeline to connect the facility to low/high pressure gathering system. <u>Kaiser-Francis Oil Company</u> provides (periodically) to <u>Targa</u> a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, <u>Kaiser-Francis Oil Company</u> and <u>Targa</u> have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at <u>Targa</u> Processing Plant located in Sec. <u>36</u>, Twn. <u>19S</u>, Rng. <u>36E</u>, <u>Lea</u> County, New Mexico. The actual flow of the gas will be based on compression operating parameters and gathering system pressures.

#### Flowback Strategy

After the fracture treatment/completion operations, well(s) will be produced to temporary production tanks and gas will be flared or vented. During flowback, the fluids and sand content will be monitored. When the produced fluids contain minimal sand, the wells will be turned to production facilities. Gas sales should start as soon as the wells start flowing through the production facilities, unless there are operational issues on <u>Targa</u> system at that time. Based on current information, it is <u>Kaiser-Francis Oil Company's</u> belief the system can take this gas upon completion of the well(s).

Safety requirements during cleanout operations from the use of underbalanced air cleanout systems may necessitate that sand and non-pipeline quality gas be vented and/or flared rather than sold on a temporary basis.

#### Alternatives to Reduce Flaring

Below are alternatives considered from a conceptual standpoint to reduce the amount of gas flared.

- Power Generation On lease
  - o Only a portion of gas is consumed operating the generator, remainder of gas will be flared
- Compressed Natural Gas On lease
  - o Gas flared would be minimal, but might be uneconomical to operate when gas volume declines
- NGL Removal On lease
  - o Plants are expensive, residue gas is still flared, and uneconomical to operate when gas volume declines

Well Name: BELL LAKE UNIT NORTH Well Number: 210H

Pressure Rating (PSI): 5M

Rating Depth: 13000

**Equipment:** A 5M system will be installed according to Onshore Order #2 consisting of an Annular Preventer, BOP with two rams, a blind ram and safety valves and appropriate handles located on the rig floor. BOP will be equipped with 2 side outlets (choke side shall be a minimum 3 line, and kill side will be a minimum 2 line). Kill line will be installed with (2) valves and a check valve (2 min) of proper pressure rating for the system. Remote kill line (2 min) will be installed and ran to the outer edge of the substructure and be unobstructed. A manual and hydraulic valve (3 min) will be installed on the choke line, 3 chokes will be used with one being remotely controlled. Fill up line will be installed above the uppermost preventer. Pressure gauge of proper pressure rating will be installed on choke manifold. Upper and lower kelly cocks will be utilized with handles readily available in plain sight. A float sub will be available at all times. All connections subject to well pressure will be flanged, welded, or clamped.

Requesting Variance? YES

Variance request: Flex Hose Variance MultiBowl Wellhead

**Testing Procedure:** BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all of the components installed will be functional and tested.

## **Choke Diagram Attachment:**

BLUN\_210H\_Choke\_Manifold\_20200209125829.pdf

#### **BOP Diagram Attachment:**

Cactus\_Flex\_Hose\_16C\_Certification\_20200206080210.pdf

BLUN\_210H\_BOP\_20200209125855.pdf

BLUN\_210H\_Wellhead\_20200209125855.pdf

## **Section 3 - Casing**

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	17.5	13.375	NEW	API	N	0	1200	0	1200	3462	2262	1200	J-55	54.5	BUTT	2	4.9	DRY	13.9	DRY	13
2	INTERMED IATE	12.2 5	9.625	NEW	API	N	0	4837	0	4825		-1363	4837	HCP -110	40	LT&C	1.9	3.5	DRY	6.6	DRY	6.5
3	PRODUCTI ON	8.75	5.5	NĖW	API	N	0	18407	0	10290		-6828	18407	P- 110		OTHER - GBCD	2.3	2.7	DRY	3.2	DRY	3.1

#### **Casing Attachments**

Well Name: BELL LAKE UNIT NORTH Well Number: 210H

Casing Attachments
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Casing ID: 1

String Type: SURFACE

**Inspection Document:** 

**Spec Document:** 

**Tapered String Spec:** 

Casing Design Assumptions and Worksheet(s):

BLUN\_210H\_Casing\_Assumptions\_20200209130324.pdf

Casing ID: 2

String Type: INTERMEDIATE

**Inspection Document:** 

**Spec Document:** 

**Tapered String Spec:** 

Casing Design Assumptions and Worksheet(s):

BLUN\_210H\_Casing\_Assumptions\_20200209130227.pdf

Casing ID: 3

String Type:PRODUCTION

Inspection Document:

**Spec Document:** 

**Tapered String Spec:** 

Casing Design Assumptions and Worksheet(s):

GBCD\_5.5in\_Connection\_Spec\_Sheet\_20200124075519.pdf

 $BLUN\_210H\_Casing\_Assumptions\_20200209130305.pdf$ 

**Section 4 - Cement** 

Well Name: BELL LAKE UNIT NORTH

Well Number: 210H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	1200	700	1.7	13.5	1223	75	HALCEM	4% Bentonite
SURFACE	Tail		0	1200	248	1.3	14.8	331	75	Halcem	0.125 #/sk Poly Flake
INTERMEDIATE	Lead		0	4837	787	2.08	12.5	1644	50	EconoCem	3#/sk Kol Seal
INTERMEDIATE	Tail		0	4872	472	1.3	14.8	628	50	Halcem	none
PRODUCTION	Lead		4000	1840 7	397	3.5	10.5	1386	10	NeoCem	2#/sk Kol Seal
PRODUCTION	Tail		4000	1840 7	1835	1.2	14.5	2245	10	Versacem	none

# **Section 5 - Circulating Medium**

Mud System Type: Closed

Will an air or gas system be Used? NO

Description of the equipment for the circulating system in accordance with Onshore Order #2:

Diagram of the equipment for the circulating system in accordance with Onshore Order #2:

Describe what will be on location to control well or mitigate other conditions: Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all time.

Describe the mud monitoring system utilized: PVT/Pason/Visual Monitoring

# **Circulating Medium Table**

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	ЬН	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
4825	1029 0	OIL-BASED MUD	8.7	8.9							
1200	4825	OTHER : Diesel- Brine Emulsion	8.7	8.9							
0	1200	OTHER : Fresh Water	8.4	9							

Date: 3/11/2021

To: NMOCD

From: Charlotte Van Valkenburg

Re: Closed-Loop System

It is the intention of Kaiser-Francis Oil Company to use a closed-loop system during drilling of the following well:

Bell Lake Unit North #210H Sec. 6-23S-34E Lea Co., NM

Charlotte Van Valkenburg

Mgr., Regulatory Compliance

Kaiser-Francis Oil Company

<u>District I</u> 1625 N. French Dr., Hobbs, NM 88240 Phone:(575) 393-6161 Fax:(575) 393-0720

811 S. First St., Artesia, NM 88210 Phone:(575) 748-1283 Fax:(575) 748-9720 District III
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**State of New Mexico Energy, Minerals and Natural Resources Oil Conservation Division** 1220 S. St Francis Dr. **Santa Fe, NM 87505** 

CONDITIONS

Action 20597

#### **CONDITIONS OF APPROVAL**

Operator:			OGRID:	Action Number:	Action Type:
KAISER-FRANCIS OIL CO	P.O. Box 21468	Tulsa, OK74121	12361	20597	FORM 3160-3

OCD Reviewer	Condition
pkautz	Will require a File As Drilled C-102 and a Directional Survey with the C-104
pkautz	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string