Form 3160-3
(June 2015)

FORM APPROVED
OMB No. 1004-0137
Expires: January 31, 2018

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☐ DRILL ☐ REENTER

1b. Type of Well: ☐ Oil Well ☐ Gas Well ☐ Other

1c. Type of Completion: ☐ Hydraulic Fracturing ☐ Single Zone ☐ Multiple Zone

7. If Unit or CA Agreement, Name and No.

8. Lease Name and Well No. **[316707]**

2. Name of Operator **[12361]**

9. API Well No. **30-025-48519**

3a. Address

3b. Phone No. *(include area code)*

10. Field and Pool, or Exploratory **[98259]**

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*

At surface

At proposed prod. zone

11. Sec., T. R. M. or Blk. and Survey or Area

14. Distance in miles and direction from nearest town or post office*

12. County or Parish

13. State

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No of acres in lease	17. Spacing Unit dedicated to this well
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. in file
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, and the Hydraulic Fracturing rule per 43 CFR 3162.3-3 (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 System Lands, the SUPO must be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification.
6. Such other site specific information and/or plans as may be requested by the BLM.

25. Signature	Name *(Printed/Typed)*	Date
Title		
Approved by *(Signature)*	Name *(Printed/Typed)*	Date
Title	Office	

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

GCP Rec 02/23/2021

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APPROVED WITH CONDITIONS

KZ

02/23/2021

(Continued on page 2)

*(Instructions on page 2)

Approval Date: 12/04/2020

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**KAISER FRANCIS OIL COMPANY**
LEASE NO.:	**NMNM0001244A**
WELL NAME & NO.:	**BELL LAKE UNIT NORTH 216H**
SURFACE HOLE FOOTAGE:	2028'/N & 2230'/W
BOTTOM HOLE FOOTAGE	100'/S & 2290'/E
LOCATION:	Section 5, T.23 S., R.34 E., NMPM
COUNTY:	Lea County, New Mexico

COA

H2S	○ Yes	◉ No	
Potash	◉ None	○ Secretary	○ R-111-P
Cave/Karst Potential	◉ Low	○ Medium	○ High
Cave/Karst Potential	○ Critical		
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	☑ 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 **1515 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**

Approval Date: 12/04/2020

hours 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 **4997 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.

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)

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 County
Call 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 2nd 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

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.

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.

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

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

Approval Date: 12/04/2020

AFMSS

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

Operator Certification Data Report

12/04/2020

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

Application Data Report
12/04/2020

APD ID: 10400054262
Submission Date: 02/13/2020
Operator Name: KAISER FRANCIS OIL COMPANY
Well Name: BELL LAKE UNIT NORTH
Well Number: 216H
Well Type: OIL WELL
Well Work Type: Drill

Highlighted data reflects the most recent changes

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Section 1 - General

APD ID: 10400054262
Tie to previous NOS? N
Submission Date: 02/13/2020
BLM Office: CARLSBAD
User: Stormi Davis
Title: Regulatory Analyst
Federal/Indian APD: FED
Is the first lease penetrated for production Federal or Indian? FED
Lease number: NMNM0001244A
Lease Acres: 634.35
Surface access agreement in place?
Allotted?
Reservation:
Agreement in place? YES
Federal or Indian agreement: FEDERAL
Agreement number: NMNM068292X
Agreement name: BELL LAKE
Keep application confidential? Y
Permitting Agent? YES
APD Operator: KAISER FRANCIS OIL COMPANY
Operator letter of designation:

Operator Info

Operator Organization Name: KAISER FRANCIS OIL COMPANY
Operator Address: 6733 S. Yale Ave.
Zip: 74121
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:
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: 216H
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

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH **Well Number:** 216H

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:** NORTH BELL LAKE UNIT **Number:** 16

Well Class: HORIZONTAL **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:** 410 FT

Reservoir well spacing assigned acres Measurement: 480 Acres

Well plat: BLUN_216H_C102_20200213090534.pdf

Pay.gov_20200213094825.pdf

Well work start Date: 07/01/2020 **Duration:** 40 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83 **Vertical Datum:** NAVD88

Survey number: 7671 **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	TVD	Will this well produce from this lease?
SHL Leg #1	2028	FNL	2230	FWL	23S	34E	5	Aliquot SENW	32.3353323	-103.4934923	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 0001244A	3438	0	0	N
KOP Leg #1	2028	FNL	2230	FWL	23S	34E	5	Aliquot SENW	32.3353323	-103.4934923	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 0001244A	-6184	9699	9622	N

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH **Well Number:** 216H

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	2640	FSL	2240	FEL	23S	34E	8	Aliquot NWSE	32.3191305	-103.4908458	LEA	NEW MEXICO	NEW MEXICO	S	STATE	-6757	15839	10195	Y
PPP Leg #1-2	2061	FNL	2640	FEL	23S	34E	5	Aliquot SWNE	32.3352321	-103.4921665	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 0000587	-628	4100	4066	N
PPP Leg #1-3	2600	FSL	2140	FEL	23S	34E	5	Aliquot NWSE	32.333532	-103.4905378	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 0001244A	-6757	10599	10195	Y
PPP Leg #1-4	2640	FSL	2140	FEL	23S	34E	5	Aliquot NWSE	32.3336583	-103.4905364	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 0001244A	-6754	10559	10192	Y
PPP Leg #1-5	0	FNL	2190	FEL	23S	34E	8	Aliquot NWNE	32.3263837	-103.4906903	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 0000279	-6757	13199	10195	Y
EXIT Leg #1	100	FSL	2290	FEL	23S	34E	8	Aliquot SWSE	32.3121501	-103.4909938	LEA	NEW MEXICO	NEW MEXICO	S	STATE	-6757	18379	10195	Y
BHL Leg #1	100	FSL	2290	FEL	23S	34E	8	Aliquot SWSE	32.3121501	-103.4909938	LEA	NEW MEXICO	NEW MEXICO	S	STATE	-6757	18379	10195	Y

Gmail Melanie Wilson <nmogrservices@gmail.com>

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

notification@pay.gov <notification@pay.gov> Thu, Feb 13, 2020 at 9:47 AM
To: nmogrservices@gmail.com

An official email of the United States government

Pay.gov

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: 26NH19DV
Agency Tracking ID: 75951563969
Transaction Type: Sale
Transaction Date: 02/13/2020 11:47:04 AM 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: 10400054262
Lease Numbers: NMNM0001244A
Well Numbers: 216H
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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AFMSS

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

Drilling Plan Data Report

12/04/2020

APD ID: 10400054262

Submission Date: 02/13/2020

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH

Well Number: 216H

Well Type: OIL WELL

Well Work Type: Drill

Highlighted data reflects the most recent changes

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Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
660950	---	3438	0	0	OTHER : Surface	NONE	N
660951	RUSTLER	2238	1200	1200	SANDSTONE	NONE	N
660952	SALADO	1838	1600	1600	SALT	NONE	N
660953	TOP SALT	1638	1800	1800	SALT	NONE	N
660954	BASE OF SALT	-1262	4700	4700	SALT	NONE	N
660955	LAMAR	-1512	4950	4950	SANDSTONE	NATURAL GAS, OIL	N
660956	BELL CANYON	-1712	5150	5150	SANDSTONE	NATURAL GAS, OIL	N
660957	CHERRY CANYON	-2737	6175	6175	SANDSTONE	NATURAL GAS, OIL	N
660958	BRUSHY CANYON	-4062	7500	7500	SANDSTONE	NATURAL GAS, OIL	N
660959	BONE SPRING	-5062	8500	8500	LIMESTONE	NATURAL GAS, OIL	N
660960	AVALON SAND	-5157	8595	8595	SANDSTONE	NATURAL GAS, OIL	N
660961	BONE SPRING 1ST	-6062	9500	9500	SANDSTONE	NATURAL GAS, OIL	N
660968	BONE SPRING 2ND	-6557	9995	9995	SANDSTONE	NATURAL GAS, OIL	Y

Section 2 - Blowout Prevention

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH **Well Number:** 216H

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

Equipment: A 10M BOP Stack with a 5M Annular Variance 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 Annular BOP Variance

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_216H_Choke_Manifold_20200213093638.pdf

BOP Diagram Attachment:

Cactus_Flex_Hose_16C_Certification_20200203142843.pdf

BLUN_216H_BOP_20200213093652.pdf

BLUN_216H_Well_Head_20200213093653.pdf

Annular_BOP_Variance_Request_20200827154455.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	1550	0	1550	3438	1888	1550	J-55	54.5	BUTT	1.9	4.7	DRY	13.3	DRY	12.5
2	INTERMEDIATE	12.25	9.625	NEW	API	N	0	4997	0	4950		-1512	4997	HCP-110	40	LT&C	1.8	3.4	DRY	6.4	DRY	6.4
3	PRODUCTION	8.75	5.5	NEW	API	N	0	18379	0	10195		-6757	18379	P-110	20	OTHER - GBCD	2.4	2.7	DRY	3.3	DRY	3.1

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH **Well Number:** 216H

Casing Attachments

Casing ID: 1 **String Type:** SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

BLUN_216H_Casing_Assumptions_20200827154714.pdf

Casing ID: 2 **String Type:** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

BLUN_216H_Casing_Assumptions_20200827154634.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_216H_Casing_Assumptions_20200827154654.pdf

Section 4 - Cement

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH **Well Number:** 216H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	1250	700	1.7	13.5	1223	75	HALCEM	4% Bentonite
SURFACE	Tail		0	1250	248	1.3	14.8	331	75	Halcem	0.125 #/sk Poly Flake
INTERMEDIATE	Lead		0	4997	790	2.08	12.5	1650	50	EconoCem	3#/sk Kol Seal
INTERMEDIATE	Tail		0	4997	545	1.3	14.8	726	50	Halcem	none
PRODUCTION	Lead		4000	18379	397	3.5	10.5	1386	10	NeoCem	2#/sk Kol Seal
PRODUCTION	Tail		4000	18379	1830	1.2	14.5	2238	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)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
4950	10195	OIL-BASED MUD	8.7	8.9							
1250	4950	OTHER : Diesel-Brine Emulsion	8.7	8.9							
0	1250	OTHER : Fresh Water	8.4	9							

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH **Well Number:** 216H

Section 6 - Test, Logging, Coring

List of production tests including testing procedures, equipment and safety measures:

Top of cement on production casing will be determined by calculation.

List of open and cased hole logs run in the well:

DIRECTIONAL SURVEY,GAMMA RAY LOG,MUD LOG/GEOLOGIC LITHOLOGY LOG,MUD LOG/GEOLOGICAL LITHOLOGY LOG,

Coring operation description for the well:

None planned

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 4718 **Anticipated Surface Pressure:** 2475

Anticipated Bottom Hole Temperature(F): 165

Anticipated abnormal pressures, temperatures, or potential geologic hazards? NO

Describe:

Contingency Plans geoharzards description:

Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

BLUN_H2S_Plan_20200114113955.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

BLUN_216H_Directional_Plan_20200213094148.pdf

Other proposed operations facets description:

Gas Capture Plan attached

Other proposed operations facets attachment:

BLUN_Pad_16_Gas_Capture_Plan_20200213062342.pdf

Other Variance attachment:

Cactus_Flex_Hose_16C_Certification_20200203143842.pdf
BLUN_216H_Well_Head_20200213094159.pdf

Casing Assumptions

Interval	Length	Casing Size	Weight (#/ft)	Grade	Thread	Condition	Hole Size	TVD (ft)
Conductor	120'	20"				New		120
Surface	1550	13-3/8"	54.5	J-55	BTC	New	17-1/2"	1550
Intermediate	4997	9-5/8"	40	HCP-110	LTC	New	12-1/4"	4950
Production	18379	5-1/2"	20	P110	GBCD	New	8-3/4"	10195

Mud Type	Mud Weight Hole Control	Viscosity	Fluid Loss
FW	8.4 - 9.0	32 - 34	NC
DBE	8.7 - 8.9	28	NC
OBM	8.7 - 8.9	28 - 29	NC

Anticipated Mud Weight (ppg)	Max Pore Pressure (psi)	Collapse (psi)	Burst (psi)	Body Tensile Strength	Joint Tensile Strength
9	585	1130	2730	853000	909000
8.9	2291	4230	7900	1260000	1266000
8.9	4718	11100	12640	641000	667000

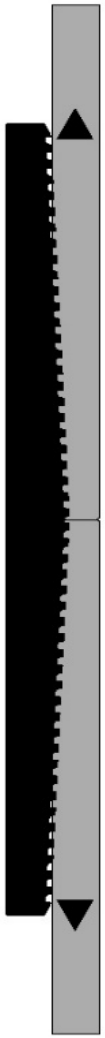
Collapse Safety Factor (Min 1.1)	Burst Safety Factor (Min 1.0)	Body Tensile Safety Factor (Min 1.8)	Joint Tensile Safety Factor (Min 1.8)
1.9	4.7	12.5	13.3
1.8	3.4	6.4	6.4
2.4	2.7	3.1	3.3

GB tubulars
Casings & Connections

GB Connection Performance Properties Sheet

Rev. 3 (08/25/2015)

ENGINEERING THE RIGHT CONNECTIONS™



Casing: 5.5 OD, 20 ppf
Casing Grade: P-110

Connection: GB CD Butt 6.050
Coupling Grade: API P-110

PIPE BODY GEOMETRY					
Nominal OD (in.)	5 1/2	Wall Thickness (in.)	0.361	Drift Diameter (in.)	4.653
Nominal Weight (ppf)	20.00	Nominal ID (in.)	4.778	API Alternate Drift Dia. (in.)	N/A
Plain End Weight (ppf)	19.83	Plain End Area (in.^{2})	5.828		

PIPE BODY PERFORMANCE					
Material Specification	P-110	Min. Yield Str. (psi)	110,000	Min. Ultimate Str. (psi)	125,000
Collapse		**Tension**		**Pressure**	
API (psi)	11,100	Pl. End Yield Str. (kips)	641	Min. Int. Yield Press. (psi)	12,640
High Collapse (psi)	N/A	**Torque**		**Bending**	
		Yield Torque (ft-lbs)	74,420	Build Rate to Yield (°/100 ft)	91.7

GB CD Butt 6.050 COUPLING GEOMETRY			
Coupling OD (in.)	6.050	Makeup Loss (in.)	4.2500
Coupling Length (in.)	8.500	Critical Cross-Sect. (in.^{2})	6.102

GB CD Butt 6.050 CONNECTION PERFORMANCE RATINGS/EFFICIENCIES					
Material Specification	API P-110	Min. Yield Str. (psi)	110,000	Min. Ultimate Str. (psi)	125,000
Tension		**Efficiency**		**Bending**	
Thread Str. (kips)	667	Internal Pressure (%)	98%	Build Rate to Yield (°/100 ft)	83.3
Min. Tension Yield (kips)	638	External Pressure (%)	100%	**Yield Torque**	
Min. Tension Ult. (kips)	725	Tension (%)	100%	Yield Torque (ft-lbs)	31,180
Joint Str. (kips)	667	Compression (%)	100%		
		Ratio of Areas (Cplg/Pipe)	1.05		

MAKEUP TORQUE					
Min. MU Tq. (ft-lbs)	10,000	Max. MU Tq. (ft-lbs)	20,000	Running Tq. (ft-lbs)	See GBT RP
				Max. Operating Tq. (ft-lbs)*	29,620

Units: US Customary (lbm, in., °F, lbf)
1 kip = 1,000 lbs
* See Running Procedure for description and limitations.
See attached: Notes for GB Connection Performance Properties.
GBT Running Procedure (GBT RP): www.gbtubulars.com/pdf/RP-GB-DWC-Connections.pdf
Blanking Dimensions: www.gbtubulars.com/pdf/GB-DWC-Blanking-Dimensions.pdf
Connection yield torque rating based on physical testing or extrapolation therefrom

GB tubulars Casings & Connections

Notes for GB Connection Performance Properties

Rev. 0; (Oct., 2013)

ENGINEERING THE RIGHT CONNECTIONS™

1. All dimensions shown are nominal. Plain end weight is calculated in accordance with API TR 5C3. Performance properties are empirical, based on nominal dimensions, minimum material yield and ultimate strengths, and calculated in general accordance with industry standard formula(s) assuming uniaxial loading. All properties are calculated on the basis of materials at room temperature. NOTE: Material properties change with temperature.
2. Joint strength is the lesser of pipe thread strength and minimum coupling tension as calculated in accordance with API TR 5C3. Tensile efficiency is calculated using coupling strength based on ultimate material strength per API TR 5C3 divided by plain end yield strength of the casing. Minimum Coupling Tension based on material *yield* strength is provided *for information only*. Performance values presented for tension do not account for failure by pull-out (which can occur for casing with larger D/t ratios), effects of internal and external pressure, thermally induced axial loads, casing curvature (bending), and/or other static and dynamic loads that may occur singularly or in combination during downhole deployment and with subsequent well operations.
3. Drift diameters are based on Standard and Alternate drift sizes per API 5CT. Drift diameters are not specified for API 5L pipe. Drift diameters shown on GB Connection Performance Property Sheets represent the diameter of the drift mandrel used for end-drifting after coupling buck on. When shown, the alternate drift diameter is used for end drifting. Drift testing is performed in accordance with currently applicable API Specifications.
4. Minimum Internal Yield Pressure Performance values for Casing (API 5CT), Line Pipe (API 5L), and mill casing proprietary grades are based on API TR 5C3 formulas and assume 87.5% minimum wall thicknesses. Minimum Internal Yield Pressure efficiency for GB Connections is the lesser of the Minimum Internal Yield Pressure of the coupling and Leak Resistance divided by pipe body Minimum Internal Yield Pressure (all based on API TR 5C3 formulas). GB Connections typically demonstrate pressure resistance exceeding the mating pipe body unless otherwise noted with a pressure efficiency < 100%. Pressure efficiency can only be achieved when connections are properly assembled in strict accordance with GB Tubulars' Running Procedures (www.gbtubulars.com/pdf/RP-GB-DWC-Connections.pdf and www.gbtubulars.com/pdf/RP-20-GB-Butt-and-GB-3P.pdf.
5. Compression efficiency of the Casing/Connection combinations does not consider the axial load that causes pipe body buckling. The compressive load that causes buckling is usually less than the pipe body compressive yield strength and is dependent on a number of factors including, but not limited to, string length (or slenderness ratio; L/D), thermally induced axial loads, and annular clearance that may (or may not) lend side support to the casing string.
6. Bending values assume a constant radius of curvature where the casing is in uniformly intimate contact with the wall of the wellbore (i.e. when the upset at the coupling OD is small compared with wellbore wall irregularities). When the radius of curvature is not constant due to large wellbore wall irregularities, varying trajectory, micro doglegs, wash-outs, rock ledges, and other downhole conditions, unpredictable excessive bending stresses can occur that may be detrimental to casing and connection performance.
7. Fatigue failures are a function of material properties, stress range, and number of stress reversal cycles. API 5CT, API 5L, and mill proprietary casing/coupling materials have a finite fatigue life. Higher stress ranges yield lower fatigue life. So as a general rule of thumb, casing should never be rotated at higher RPMs than needed for task accomplishment. For the same stress range, casing rotated at 25 RPMs will generally last 4 times longer (more rotating hours) than casing rotated at 100 RPMs. However with fatigue, there are opportunities for unexpected higher stress reversal levels associated with vibration, thermally induced axial loads, and bending (see above) in addition to all other stress reversals imparted during running, rotating, reciprocating, pressure testing, pumping, etc. The extent and quality of the cement job is also a factor. Under aggressive, high-volume, multi-stage hydraulic fracturing operations, the casing string (including the connections) is severely taxed such that local stress range(s) and actual number of applied cycles cannot be precisely determined without full string instrumentation.
8. External pressure efficiency (expressed in percent) is the ratio of the lesser of Minimum Internal Yield Pressure and Leak Resistance for coupling (calculated per API TR 5C3) divided by the API collapse rating of the casing. External pressure efficiency has not been verified by testing and does not consider other applied loads. External pressure efficiency does not account for any high collapse rating that may be shown on GB Connection Performance Property Sheets.
9. Maximum Makeup Torque is provided for guidance only. This value is not the same as the Connection Yield Torque shown. Connection Yield Torque is the lesser of yield torque rating for the critical cross-section of pipe body, connector body, and pin nose and the threadform load flank bearing area. Connection Yield Torque does not consider radial buckling of the pipe or connection due to excessive jaw pressure during torque application. Torque in connections can increase or decrease over that applied at makeup (connection tightening/loosening) with rotating and stimulation operations due to slip-stick, shock loads, bending, tight spots, vibration(s), temperature, and other downhole factors that may occur individually or in combination. Due to circumstances beyond the control of GB Tubulars, User accepts all risks associated with casing and connection related issues that occur during and after rotating operations.
10. **Every** GB Connection requires the proper amount and distribution of thread compound to all pin and coupling threads and careful field make up in strict accordance with GB Tubulars' Running Procedures to provide expected levels of performance in service.
11. Reactions among water, drilling muds and other fluids, and chemicals introduced by User with downhole formation fluids may result in an environment detrimental to casing and connection performance. User should carefully consider all aspects of the string design including material compatibility with respect to possible corrosion, sour conditions, and other factors that may result in unexpected casing and/or connection failure at or below published ratings.
12. Performance Properties are subject to change without notice. User is advised to obtain the current GB Connection Performance Property Sheet for each application.

Limitations

Data presented in GB Performance Property Sheets and Running Procedures ("GB Information") is provided for informational purposes only and intended to be supplemented by the professional judgment of qualified personnel during design, field handling, deployment, and all subsequent well operations. The use of GB Information is at the User's sole risk.

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GB tubulars	Running Procedure for Casing with GB *Drilling with Casing* Connections	October 29, 2007
		Rev. 12 (11/25/2013)

OVERVIEW

This field running procedure applies to makeup of **GB *Drilling with Casing*** (GB DwC) Connections which include GB CD, GB WS, GB HB, GB CDE, GB WSE, and GB HBE Connections with GB Butt (Buttress), GB 4P, and GB 3P thread forms. All of these connections are suitable for ***Running*** (standard casing applications), ***Rotating*** (to aid string advancement), ***Drilling*** (Drilling with Casing/Drilling with Liners) and ***Driving***. This procedure also applies to the legacy GB Connections known as GB Butt and GB 3P.

Numerous factors impact the makeup torque of Buttress (GB Butt) and Modified Buttress Threads (such as GB 4P and GB 3P). Some of these factors include but are not limited to: allowable threading tolerances, joint characteristics (OD, straightness, and weight), vertical alignment (derrick, top drive, and elevator alignment relative to rotary table), thread compound (amount and distribution), snub line (location and orientation), distance between tongs and backups, temperature/weather, equipment type, efficiencies (electrical, hydraulic and mechanical), grips/dies (type, orientation, location, contact area, and distribution), measurement equipment, gauge calibration, personnel, etc. The nature of these types of connections makes it impossible to provide makeup torque values that will yield proper power tight makeup on every rig under all circumstances with the wide variety of existing connection makeup equipment. This procedure has been designed to determine the ***Running Torque*** required for proper power tight makeup of GB Connections under the circumstances and with the actual equipment, set up conditions, weather, etc. that exist at the time of running. With proper execution of this procedure, GB Connections will be properly and consistently assembled. This GB Running Procedure provides the basic recommended practices and is intended to be supplemented by the professional judgment of qualified personnel based on observation of actual makeups throughout the casing run.

DEFINITIONS

1. Minimum Makeup (MU) Torque: Connections must have at least this amount of torque applied.
2. Shoulder Torque: MU torque required to achieve shoulder engagement.
3. Running Torque: Developed at start of casing run per GB Running Procedure and once established, used for the rest of the joints in the string. The ***Running Torque*** will likely vary with each job due to the factors listed in the Overview section.
4. Delta Torque: Difference between shoulder torque and final makeup torque.
5. Maximum MU Torque: Assembly torque shall not exceed the Maximum Makeup Torque shown on size, weight, and grade-specific GB Performance Property Sheets during routine assembly.
6. Yield Torque: Torque that causes yielding in the connection (usually yielding of the pin nose). Yield torque rating does **NOT** consider the torque that may radially buckle the pipe body at the grip points.
7. Maximum Operating Torque: Yield Torque with 5% Safety Factor. The Maximum Operating Torque is **NOT** the Maximum Makeup Torque and is **NOT** a sustainable rotating torque. Operating at the Maximum Operating Torque for any length of time may damage the connection. User should carefully consider this value to determine if more than a 5% Safety Factor on yield torque is suitable for the application.

KEY INFORMATION

Thread Compound: Best-O-Life 2000, API Modified, API Modified Hi-Pressure, or any industry recognized equivalent to these products. Thread compound may also be referred to as “dope”.

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Torque Values: See individual GB Connection Performance Property Sheets available at the following link; http://www.gbtubulars.com/connection_selector.php.

Continuous Makeup: Makeup of GB Connections **SHALL START AND CONTINUE WITHOUT STOPPING** until full power tight makeup is achieved.

Makeup Speed: Use of high gear at no more than 20 RPMs is permissible once proper starting thread engagement has occurred. **THE FINAL TWO (2) TURNS, AT A MINIMUM, SHALL BE COMPLETED IN LOW GEAR AT LESS THAN 6 RPMS**.

Shoulder Engagement: Pin nose engagement. Shoulder engagement is indicated by a spike on an analog torque gauge or a sharp vertical spike on a torque vs. turn plot. As a secondary check, proper power tight makeup is achieved when the coupling covers approximately half of the API Triangle Stamp on the pin.

Acceptance Criteria: All GB Connections must exhibit shoulder engagement (achieve pin-to-pin or pin-to-shoulder engagement) with a minimum delta torque ≥ 10% of the shoulder torque.

It is imperative that the following procedure be executed carefully at the beginning of the run to determine the ***Running Torque*** (torque to be used for the rest of the string). The ***Running Torque*** is determined while running the first 10 joints exclusive of joints assembled with threadlocking compounds. Sometimes more than the first 10 joints will be needed to establish the ***Running Torque*** due to erratic results and/or rig-specific conditions. The ***Running Torque*** may have to be re-established during the casing run under certain conditions[1]. Use the size-specific GB Connection Performance Property Sheets (http://www.gbtubulars.com/connection_selector.php) for physical properties and torque values.

Each GB Connection Performance Property Sheet presents calculated Yield Torque values for the pipe body and connection which are based on nominal dimensions and minimum material yield strength. The Maximum Operating Torque shown on the GB Connection Performance Property Sheets includes a 5% safety factor on Yield Torque. As such, it represents the limiting torque ***spike*** that can be applied to the connection during rotating operations. The Maximum Operating Torque is **NOT** the Maximum Makeup Torque and is **NOT** a sustainable rotating torque. Operating at the Maximum Operating Torque for any length of time will likely damage the connection.

Connections shall be made up until shoulder engagement with delta torque ≥ 10% of the shoulder torque (not to exceed the maximum makeup torque, see procedure below) using the ***Running Torque*** value established in this procedure. The Maximum Makeup Torque at the beginning and throughout the run shall be limited to the value shown on the applicable GB Connection Performance Property Sheet. The maximum torque value is given as a practical limit for avoidance of thread galling, connection damage, and possible tube damage due to excessive jaw pressure that can occur with application of extreme makeup torque. Contact GB Tubulars if more than the Maximum Makeup Torque value is required for shoulder engagement and/or final make up, or if torque exceeding the Maximum Operating Torque value is required for the intended service.

[1] Examples include but are not limited to more than an occasional low delta torque, string of mixed mills, equipment change, large temperature change, and wobbling or noticeable vibration when joint is turning.

GB tubulars	Running Procedure for Casing with GB *Drilling with Casing* Connections	October 29, 2007
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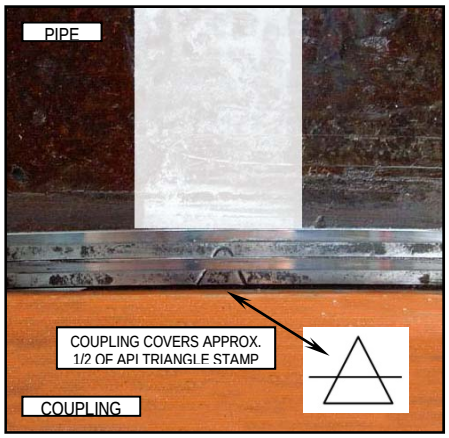
PROCEDURE FOR ESTABLISHING *RUNNING TORQUE*

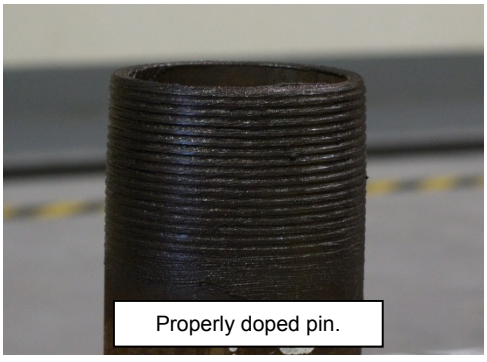
1. Remove coupling thread protectors only after casing is set in V-Door.
2. ***Always apply fresh thread compound to coupling threads and internal shoulder (where applicable).*** See Comment No. 1 (below) for discussion on proper amount of thread compound.
3. Remove pin thread protectors only after joint is raised in the derrick. Visually inspect pin threads for sufficient thread compound as described in Comment No. 1; ***add fresh compound to pin threads and pin nose***.
4. Fresh thread compound should **NEVER** be added on top of dope contaminated with dust, dirt, and/or debris. Threads observed to have contaminated thread compound shall be thoroughly cleaned and dried before applying fresh thread compound.
5. Stab the pin carefully into the coupling of the joint hanging in the rotary table. A stabbing guide is recommended to protect the pin nose and leading thread from physical damage that may contribute to thread galling. Make up each connection until shoulder engagement plus delta torque ≥ 10% of the shoulder torque without exceeding the Maximum Makeup Torque. Record the shoulder torque observed for the first 10 joints (excluding threadlocked accessory joints). The ***Running Torque*** is (a) the Minimum Makeup Torque shown on the GB Connection Performance Property Sheets ***or*** (b) the Maximum Shoulder Torque recorded from the first 10 makeups + 10%, ***whichever is higher*** (rounded to the next highest 500 ft.-lbs.) When making up the initial joints for establishing the ***Running Torque*** carefully watch the torque gauge for the shoulder torque and try to manually shut down the tongs before reaching Maximum Makeup Torque shown on the GB Connection Performance Property Sheets. Alternately, the dump valve should be set to the Maximum Makeup Torque during this initial process.



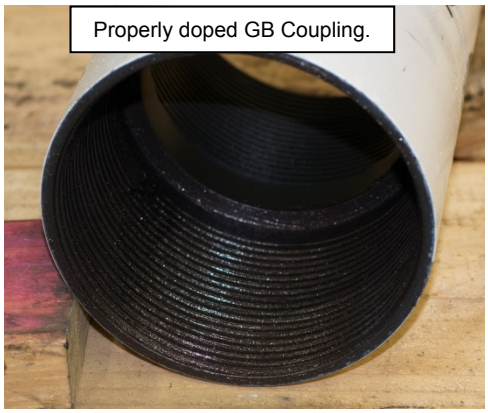
6. After the first 10 makeups (more if necessary due to conditions at the time of the run), use the ***"Running Torque"*** established in Step 5 for the remainder of the string. A dump valve is strongly recommended to stop makeup once the established ***Running Torque*** is achieved.
7. All connections made up with the established ***Running Torque*** should achieve shoulder engagement with the minimum amount of delta torque. Carefully watch for the spike on the torque gauge during each makeup to verify shoulder engagement. As a ***secondary*** verification, randomly check the makeup position relative to the API Triangle Stamp during the run. Proper power tight makeup position is achieved when the coupling covers approximately half of the API Triangle Stamp on the pin (see accompanying photo).

COMMENTS, TROUBLESHOOTING

1. GB Connections are thread compound friendly. Thread compounds shall be handled, mixed, and applied in strict accordance with the manufacturer's instructions. **THREAD COMPOUND SHALL BE APPLIED TO BOTH PIN AND COUPLING THREADS AND SHOULDER OF EVERY CONNECTION**. Sufficient thread compound has been applied when all threads (pin and coupling), pin nose, and coupling ID surfaces are completely covered **WITH NO GAPS OR BARE SPOTS**. The thread form should be discernible beneath the compound; i.e. when the thread valleys appear half full. Be generous with the thread compound; but avoid over-doping to the point where ***excessive*** amounts are squeezed out during assembly.


Properly doped pin.

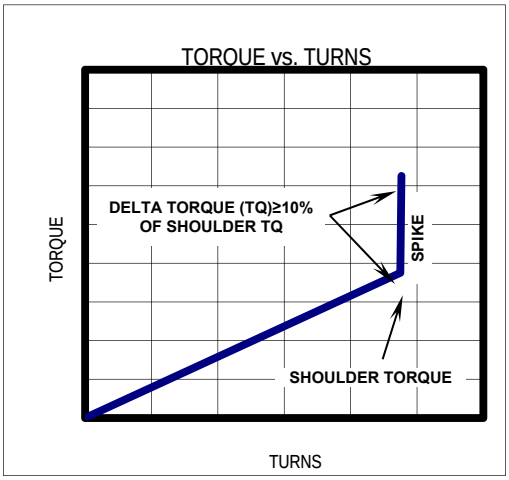
Use of a mustache brush is the preferred method for applying and distributing thread compounds to GB Connections.


Properly doped GB Coupling.

2. If threads are cleaned on racks, new dope shall be applied in a light, even coat to both pin and coupling threads. See Comment No. 1 above for description of sufficient thread compound. Clean thread protectors shall be re-applied to freshly doped pin and coupling threads unless the casing run is imminent (no more than a few hours) to avoid contaminating exposed thread compound.
3. All connections should achieve shoulder engagement before reaching the "***Running Torque***" value determined by this procedure. Any connection that does not achieve shoulder engagement at the established "***Running Torque"*** value shall be visually inspected for position relative to the API Triangle Stamp.
   a) If the coupling is shy of the API Triangle Stamp Base, the connection shall be broken out, cleaned and inspected visually for thread damage, re-doped, and made-up again (or laid down if threads are damaged). Connections that have not achieved shoulder engagement **SHALL NEVER** be backed up a couple of turns and remade. They shall be completely broken out, cleaned and inspected as described above.
   b) If the coupling covers the API Triangle base but does not cover approximately half of the Triangle Stamp, add additional torque to achieve shouldering and finish the makeup. It is common to see high torque (possibly exceeding the recommended maximum torque) to initiate connection turning. This is acceptable as long as the torque drops off once movement starts and then spikes with shoulder engagement. If acceptable makeup doesn't occur with one additional torque application, the connection shall be broken out (as described in 3a above).
   c) Any connection not properly assembled (i.e. not meeting the acceptance criteria) in two (2) attempts (provided threads pass a visual inspection each time) is reject and shall be laid down.
4. At the established ***Running Torque***, the connections will generally shoulder with at least 10% delta torque. High interference connections will tend to have a higher shoulder torque and less delta torque (at least 10% of the shoulder torque is required). Low interference connections will tend to have lower shoulder torque and more delta torque. In general, the GB Connections makeup consistently but will vary due to any of the factors enumerated in the second paragraph of the Overview section of this procedure. However, wide variability on more than a few joints should be investigated for a root cause and, if necessary, a new ***Running Torque*** should be established following the same procedure used at the start of the casing run.
5. It is recommended to have a few spare, loose couplings available in the event coupling threads become damaged on the rig. This allows changing out a coupling without having to lay a joint(s) down. Pin threads shall be cleaned and inspected visually for thread damage and re-doped before installing a replacement coupling (or the joint shall be laid down if pin threads under the removed coupling are damaged and cannot be field repaired).
   - For GB CDE (and other GB Connections with internal shoulders) install the coupling hand tight (use of strap wrenches to assist is permitted) and then make up with power tongs to shoulder engagement using the above established ***Running Torque***.
   - GB CD Connections are made up to a precise position at the threading plant (mill side). Prior to removing a damaged coupling, a radial paint band should be applied to the pipe body to mark the position of the existing coupling. After removal, install the new coupling hand tight (use of strap wrenches to assist is permitted) and then make

up with power tongs to the exact same position using the previously applied paint band as the indicator.

6. ***Torque vs. Turn monitoring systems are recommended for field makeup of GB Connections.*** While Torque vs. Turn plots provide good information about makeup, they **SHALL NOT BE SUBSTITUTED FOR DIRECT VISUAL OBSERVATION OF THE CONNECTION DURING ASSEMBLY**. There is no second chance to watch field assembly of a connection. Torque vs. Turn plots can always be viewed for verification purposes once a makeup is finished. When available, torque vs. turn plots shall finish with a clearly defined spike as shown in the graphic to the right. The general character of torque vs. turn plots for good makeups will become evident after the first ten (10) makeups (again, more may be necessary due to rig- and/or equipment-specific conditions). Any makeup that results in a plot that is "out-of-character"[2] when compared with the majority of plots from previous good makeups should be checked carefully.



When using Torque vs. Turn monitoring equipment, GB recommends setting a reference torque value of 500 ft.-lbs. or 10% of the minimum makeup torque (whichever is lower) to normalize the resulting plots. Plot scales should be set so data spans at least 2/3 of the turns scale on each plot (10 turns will usually be sufficient at the start and can be reduced based on data from the first few joints). **UNDER NO CIRCUMSTANCE SHOULD MAKEUP BE STARTED UNTIL THE MONITORING SYSTEM IS READY TO RECORD DATA**.

7. Occasionally the mill side of a GB Connection may turn during field makeup. When observed, the makeup should continue without stopping per this procedure. It may be helpful to scribe a vertical line across the coupling-pipe interface to aid estimation of mill side turning if it is observed with some frequency. The amount of mill side turn should be carefully observed and estimated. If the mill side turns less than ½ turn and all other aspects of the makeup are good, the connection is acceptable. If the mill side turns more than ½ turn trouble-shooting should be initiated paying particular attention to amount and distribution of thread compound, vertical alignment, weight of joint, hooked end on pipe, and other possible factors that may contribute to possible high torque during field makeup. It should be noted that mill side turning during field makeup occurs occasionally and should not be concerning. Frequent or persistent mill side turning is a symptom that needs troubleshooting and appropriate corrective action.
8. A double wrap of the pick-up sling should be used when raising casing into the derrick when single joint, side-door, or slip elevators are not being used.
9. Higher torque may be required to achieve shoulder engagement when threadlock compounds are applied. User is advised to carefully follow the manufacturer's instructions with respect to mixing, application, temperature, and time. Torque ranges with threadlock compounds cannot be estimated due to many variables including but not limited to temperature, time, connection tolerances, and surface finish. In these cases, carefully monitor makeup to be sure shouldering occurs. The only exception to the shouldering requirement is with float equipment (float shoe and float collar) that will be assembled with a threadlocking compound. In this case, makeup to a position that covers the base of API Triangle Stamp is considered satisfactory.
10. Manual and automated dump valves can miss the established ***Running Torque*** due to a number of factors. Slightly overshooting the ***Running Torque*** is not cause for concern as long as the final "dump" torque is not excessive and the equipment used is generally consistent joint-to-joint.

[2] An "out-of-character" plot may initiate with a high torque, show significantly steeper slope from the start of makeup, wide torque undulations as makeup progresses, no clearly defined spike, insufficient/inconsistent turns, etc.

11. Attached is a "Worksheet for determining GB Connection ***Running Torque*** at the beginning of a Casing Run" for use at the start of any casing run using GB Connections. GB recommends that this worksheet be filled out and maintained with the casing run records.

PROCEDURE SUMMARY

1. Remove coupling protectors after casing is set in V-Door and apply fresh thread compound to coupling threads.
2. Raise joint in derrick, remove pin protectors, and apply fresh thread compound to pin threads and pin nose.
3. Carefully stab pin into coupling and makeup to pin nose engagement. Try to stop makeup without exceeding the Maximum Makeup Torque (shown on GB Connection Performance Property Sheets). Carefully watch for and note the Shoulder Torque.
4. Record Shoulder Torque and Final Torque values, and position relative to API Triangle Stamp for first ten (10) connections, more if necessary due to run/rig-specific conditions.
5. The ***Running Torque*** is (a) the Minimum Makeup Torque shown on the GB Connection Performance Property Sheet or (b) the Maximum Torque required for shoulder engagement + 10% delta torque determined from the first 10 makeups, ***whichever is higher***. Use the attached Worksheet to record this data and determine the ***Running Torque***.
6. Make up the rest of the string at the ***Running Torque*** determined in the previous step.

NOTES:

- *This summary is provided for quick reference and is not a substitute for the comprehensive procedure provided above.*
- *Does not apply to threadlock connections.*

DO's and DONT's

1. **DO** check vertical alignment.
2. **DO** apply thread compound to all pin and coupling threads, pin nose and coupling shoulder area.
3. **DO** establish the ***Running Torque*** in accordance with GB Procedures.
4. **DO** make adjustments to ***Running Torque*** if indicated by inconsistent makeups during the casing run.
5. **DO** check every makeup for a clear indication of shouldering with a minimum delta torque ≥ 10% of the shoulder torque.
6. **DO** reject any coupling that is not properly made up after two (2) attempts.
7. **DO** carefully stab pins into coupling (use a stabbing guide for casing smaller than 9 5/8" OD).
8. **DO** finish the makeup with at least two (2) full turns in low gear at 6 RPMs or less.
9. **DO** make up every connection continuously to pin nose engagement without stopping.
10. **DO NOT** over dope.
11. **DO NOT** exceed the Maximum Makeup Torque as shown on the GB Connection Performance Property Sheets during assembly.

12. **DO NOT** make up any misaligned connection.
13. **DO NOT** exceed 20 RPMs in high gear and 6 RPMs in low gear.
14. **DO NOT** remove pin thread protectors until pipe is hanging in the derrick.
15. **DO NOT** ever back a connection up a couple of turns and remake. Any connection requiring this type of attention **SHALL** be broken out completely, cleaned, visually inspected, and if OK, re-doped and remade.
16. **DO NOT** hesitate to contact GB Tubulars with questions before and during any casing run.

RECOMMENDED EQUIPMENT

- Stabbing Guide
- Mustache Brush
- Torque vs. Turn Monitoring Equipment or Dump Valve

Worksheet for determining GB Connection Running Torque at the beginning of a Casing Run

Ignore joints that are assembled with threadlock compounds. See "Addendum Procedure for GB Connections Assembled with Threadlocking Compounds" available at www.gbtubulars.com.

Pertinent Excerpt from GB Running Procedure

5. Stab the pin carefully into the coupling of the joint hanging in the rotary table. A stabbing guide is recommended to protect the pin nose and leading thread from physical damage that may contribute to thread galling. Make up each connection until shoulder engagement plus delta torque ≥ 10% of the shoulder torque without exceeding the Maximum Makeup Torque. Record the shoulder torque observed for the first 10 joints (excluding threadlocked accessory joints). The Running Torque is (a) the Minimum Makeup Torque shown on the GB Connection Performance Property Sheets or (b) the Maximum Shoulder Torque recorded from the first 10 makeups + 10%, whichever is higher (rounded to the next highest 500 ft.-lbs.) When making up the initial joints for establishing the Running Torque carefully watch the torque gauge for the shoulder torque and try to manually shut down the tongs before reaching Maximum Makeup Torque shown on the GB Connection Performance Property Sheets. Alternately, the dump valve should be set to the Maximum Makeup Torque during this initial process.

6. After the first 10 makeups (more if necessary due to conditions at the time of the run), use the "Running Torque" established in Step 5 for the remainder of the string. A dump valve is strongly recommended to stop makeup once the established Running Torque is achieved.

Casing Data		Comment
OD (in)		See GB Connection Data Sheet
Weight (ppf)		See GB Connection Data Sheet
Grade		See GB Connection Data Sheet
Min MU Torque (ft-lbs)		See GB Connection Data Sheet
Max MU Torque (ft-lbs)		(2 X Min MU Tq)
Max Operating Torque (ft-lbs)		The Maximum Operating Torque is **NOT** the Maximum Makeup Torque and is **NOT** a sustainable rotating torque. Operating at the Maximum Operating Torque for any length of time will likely damage the connection.

Notes	Joint No.	Shoulder Torque (ft-lbs)	Final Torque (ft-lbs)	Triangle Stamp Position Sketch (△)
Required	1			
Required	2			
Required	3			
Required	4			
Required	5			
Required	6			
Required	7			
Required	8			
Required	9			
Required	10			
Optional	11			
Optional	12			
Optional	13			
Optional	14			
Optional	15			
Max. Shoulder Torque				
A Max. Shoulder Torque + 10%				
B Min. Makeup Torque (from GB Conn. Data Sheet)				
Running Torque (ft-lbs)			**A** or **B**, whichever is greater.	

Optional joints should be added if there is wide variability in shoulder torques recorded during the initial 10 joints. Judgement should be used to determine if more than 10 joints are needed for the purpose of establishing the Running Torque and, if so, how many more should be added.

Wide variations in Shoulder Torque during the first ten (10) joints suggest other issues requiring attention such as poor alignment, improper amount and distribution of thread compound, etc. Refer to 2nd paragraph of GB Running Procedure for possible contributing factors to aid troubleshooting.

GB Tubulars
950 Threadneedle, Suite 130
Houston TX 77079
Toll Free: 1-888-245-3848
Main: 713-465-3585
Fax: 713-984-1529

For Techincal Information, contact:
Gene Mannella
genem@gbtubulars.com
Qing Lu
qingl@gbtubulars.com

Casing Assumptions

Interval	Length	Casing Size	Weight (#/ft)	Grade	Thread	Condition	Hole Size	TVD (ft)
Conductor	120'	20"				New		120
Surface	1550	13-3/8"	54.5	J-55	BTC	New	17-1/2"	1550
Intermediate	4997	9-5/8"	40	HCP-110	LTC	New	12-1/4"	4950
Production	18379	5-1/2"	20	P110	GBCD	New	8-3/4"	10195

Mud Type	Mud Weight Hole Control	Viscosity	Fluid Loss
FW	8.4 - 9.0	32 - 34	NC
DBE	8.7 - 8.9	28	NC
OBM	8.7 - 8.9	28 - 29	NC

Anticipated Mud Weight (ppg)	Max Pore Pressure (psi)	Collapse (psi)	Burst (psi)	Body Tensile Strength	Joint Tensile Strength
9	585	1130	2730	853000	909000
8.9	2291	4230	7900	1260000	1266000
8.9	4718	11100	12640	641000	667000

Collapse Safety Factor (Min 1.1)	Burst Safety Factor (Min 1.0)	Body Tensile Safety Factor (Min 1.8)	Joint Tensile Safety Factor (Min 1.8)
1.9	4.7	12.5	13.3
1.8	3.4	6.4	6.4
2.4	2.7	3.1	3.3

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Interval	Length	Casing Size	Weight (#/ft)	Grade	Thread	Condition	Hole Size	TVD (ft)
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KAISER-FRANCIS OIL COMPANY
HYDROGEN SULFIDE (H_2S) 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_2S, but due to the sensitive location, the following is submitted as requested.

TABLE OF CONTENTS

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_2S 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 H_2S 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.
3. 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_2). 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 H_2S, 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)

	OFFCE	MOBILE
Kaiser-Francis Oil Co.	918/494-0000	
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

State Police – Artesia	575/748-9718
State Police – Hobbs	575/392-5580
State Police – Carlsbad	575/885-3138
Lea County Sheriff - Lovington	575/396-3611
Local Emergency Planning Center – Lea County	575/396-8607
Local Emergency Planning Center – Eddy County	575/885-3581
Fire Fighting, Rescue & Ambulance – Carlsbad	911 or 575/885-3125
Fire Fighting, Rescue & Ambulance – Hobbs	911 or 575/397-9308
Fire Fighting – Jal Volunteer Fire Department	911 or 505/395-2221
New Mexico Oil & Gas Commission – Artesia	575/748-1283
New Mexico Oil & Gas Commission – Hobbs	575/393-6161
Air Medical Transport Services – Hobbs	800/550-1025
Med Flight Air Ambulance – Albuquerque	505/842-4433
Angel MedFlight	844/553-9033
DXP	432/580-3770
BJ Services	575/392-5556
Halliburton	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_2S, 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_2S 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_2S safety, shall monitor with detection equipment the H_2S 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_2S, 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 H_2S AND SO_2

Common Name	Chemical Formula	Specific Gravity	Threshold Limit	Hazardous Limit	Lethal Concentration
Hydrogen Sulfide	H_2S	1.189 Air = 1	10 ppm	100 ppm	600 ppm
Sulfur Dioxide	SO_2	2.21 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 **NOT** 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.

Kaiser-Francis Oil Company

Project: Permian NM E'83
County: Lea
Site: BLUN Pad 16
Well: Bell Lake Unit North 216H
Wellbore: #216H OH
Design: Plan #1

TITAN Directional Drilling

CASING DETAILS

TVD	MD	Name
1250.00	1250.00	13 3/8"
4950.00	4997.91	9 5/8"

Azimuths to Grid North
True North: -0.45°
Magnetic North: 6.14°

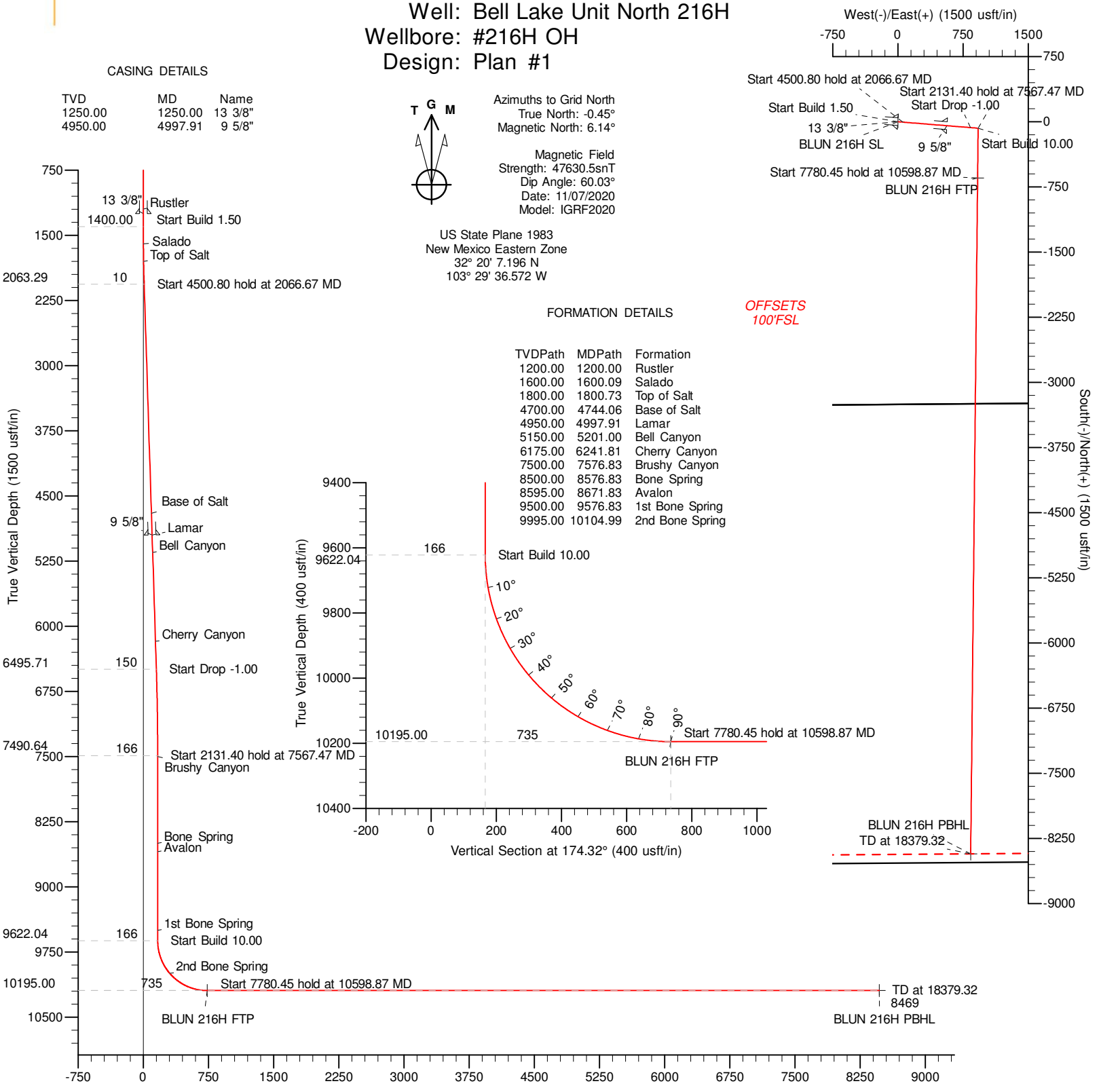
Magnetic Field
Strength: 47630.5snT
Dip Angle: 60.03°
Date: 11/07/2020
Model: IGRF2020

US State Plane 1983
New Mexico Eastern Zone
32° 20' 7.196 N
103° 29' 36.572 W

FORMATION DETAILS

TVDPath	MDPath	Formation
1200.00	1200.00	Rustler
1600.00	1600.09	Salado
1800.00	1800.73	Top of Salt
4700.00	4744.06	Base of Salt
4950.00	4997.91	Lamar
5150.00	5201.00	Bell Canyon
6175.00	6241.81	Cherry Canyon
7500.00	7576.83	Brushy Canyon
8500.00	8576.83	Bone Spring
8595.00	8671.83	Avalon
9500.00	9576.83	1st Bone Spring
9995.00	10104.99	2nd Bone Spring

OFFSETS
100'FSL



DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
BLUN 216H SL	0.00	0.00	0.00	486742.84	800730.22	32° 20' 7.196 N	103° 29' 36.572 W
BLUN 216H FTP	10195.00	-647.80	917.73	486095.05	801647.94	32° 20' 0.715 N	103° 29' 25.936 W
BLUN 216H PBHL	10195.00	-8427.84	838.03	478315.12	801568.24	32° 18' 43.740 N	103° 29' 27.578 W

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	1400.00	0.00	0.00	1400.00	0.00	0.00	0.00	0.00	0.00	
3	2066.67	10.00	94.63	2063.29	-4.69	57.84	1.50	94.63	10.39	
4	6567.47	10.00	94.63	6495.71	-67.83	836.84	0.00	0.00	150.30	
5	7567.47	0.00	0.00	7490.64	-74.86	923.60	1.00	180.00	165.88	
6	9698.87	0.00	0.00	9622.04	-74.86	923.60	0.00	0.00	165.88	
7	10598.87	90.00	180.59	10195.00	-647.79	917.73	10.00	180.59	735.42	
8	18379.32	90.00	180.59	10195.00	-8427.84	838.03	0.00	0.00	8469.40	BLUN 216H PBHL

S5-T23S-R34E SL
1968'FNL 2230'FWL
S5-T23S-R34E FTP
2600'FSL 2140'FEL
S8-T23S-R34E PBHL
100'FSL 2290'FEL

Titan Directional Drilling

Survey Report

Company:	Kaiser-Francis Oil Company	**Local Co-ordinate Reference:**	Well Bell Lake Unit North 216H - Slot G
Project:	Permian NM E'83	**TVD Reference:**	est.GL+KB @ 3464.00usft (planning)
Site:	BLUN Pad 16	**MD Reference:**	est.GL+KB @ 3464.00usft (planning)
Well:	Bell Lake Unit North 216H	**North Reference:**	Grid
Wellbore:	#216H OH	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan #1	**Database:**	EDM 5k-14

Project Permian NM E'83

Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		Using geodetic scale factor

Site BLUN Pad 16, Centered on 215H

Site Position:		**Northing:**	486,712.79 usft	**Latitude:**	32° 20' 6.899 N
From:	Map	**Easting:**	800,730.42 usft	**Longitude:**	103° 29' 36.573 W
Position Uncertainty:	0.00 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.45 °

Well Bell Lake Unit North 216H - Slot G

Well Position	**+N/-S**	0.00 usft	**Northing:**	486,742.84 usft	**Latitude:**	32° 20' 7.196 N
	+E/-W	0.00 usft	**Easting:**	800,730.22 usft	**Longitude:**	103° 29' 36.572 W
Position Uncertainty		0.00 usft	**Wellhead Elevation:**	usft	**Ground Level:**	3,438.90 usft

Wellbore #216H OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	11/07/20	6.59	60.03	47,630.51378029

Design Plan #1

Audit Notes:

Version:		**Phase:**	PROTOTYPE	**Tie On Depth:**	0.00

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	174.32

Planned 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 (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
Rustler									
1,250.00	0.00	0.00	1,250.00	0.00	0.00	0.00	0.00	0.00	0.00
13 3/8"									
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	1.50	94.63	1,499.99	-0.11	1.30	0.23	1.50	1.50	0.00
1,600.00	3.00	94.63	1,599.91	-0.42	5.22	0.94	1.50	1.50	0.00
1,600.09	3.00	94.63	1,600.00	-0.42	5.22	0.94	0.00	0.00	0.00
Salado									
1,700.00	4.50	94.63	1,699.69	-0.95	11.74	2.11	1.50	1.50	0.00
1,800.00	6.00	94.63	1,799.27	-1.69	20.86	3.75	1.50	1.50	0.00
1,800.73	6.01	94.63	1,800.00	-1.70	20.93	3.76	1.50	1.50	0.00
Top of Salt									
1,900.00	7.50	94.63	1,898.57	-2.64	32.57	5.85	1.50	1.50	0.00
2,000.00	9.00	94.63	1,997.54	-3.80	46.87	8.42	1.50	1.50	0.00

Titan Directional Drilling

Survey Report

Company:	Kaiser-Francis Oil Company	**Local Co-ordinate Reference:**	Well Bell Lake Unit North 216H - Slot G
Project:	Permian NM E'83	**TVD Reference:**	est.GL+KB @ 3464.00usft (planning)
Site:	BLUN Pad 16	**MD Reference:**	est.GL+KB @ 3464.00usft (planning)
Well:	Bell Lake Unit North 216H	**North Reference:**	Grid
Wellbore:	#216H OH	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan #1	**Database:**	EDM 5k-14

Planned 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 (°/100usft)
2,066.67	10.00	94.63	2,063.29	-4.69	57.84	10.39	1.50	1.50	0.00
2,100.00	10.00	94.63	2,096.11	-5.16	63.61	11.42	0.00	0.00	0.00
2,200.00	10.00	94.63	2,194.59	-6.56	80.92	14.53	0.00	0.00	0.00
2,300.00	10.00	94.63	2,293.08	-7.96	98.23	17.64	0.00	0.00	0.00
2,400.00	10.00	94.63	2,391.56	-9.36	115.53	20.75	0.00	0.00	0.00
2,500.00	10.00	94.63	2,490.04	-10.77	132.84	23.86	0.00	0.00	0.00
2,600.00	10.00	94.63	2,588.52	-12.17	150.15	26.97	0.00	0.00	0.00
2,700.00	10.00	94.63	2,687.00	-13.57	167.46	30.08	0.00	0.00	0.00
2,800.00	10.00	94.63	2,785.48	-14.98	184.77	33.19	0.00	0.00	0.00
2,900.00	10.00	94.63	2,883.96	-16.38	202.07	36.29	0.00	0.00	0.00
3,000.00	10.00	94.63	2,982.44	-17.78	219.38	39.40	0.00	0.00	0.00
3,100.00	10.00	94.63	3,080.92	-19.19	236.69	42.51	0.00	0.00	0.00
3,200.00	10.00	94.63	3,179.40	-20.59	254.00	45.62	0.00	0.00	0.00
3,300.00	10.00	94.63	3,277.88	-21.99	271.31	48.73	0.00	0.00	0.00
3,400.00	10.00	94.63	3,376.36	-23.39	288.61	51.84	0.00	0.00	0.00
3,500.00	10.00	94.63	3,474.85	-24.80	305.92	54.95	0.00	0.00	0.00
3,600.00	10.00	94.63	3,573.33	-26.20	323.23	58.05	0.00	0.00	0.00
3,700.00	10.00	94.63	3,671.81	-27.60	340.54	61.16	0.00	0.00	0.00
3,800.00	10.00	94.63	3,770.29	-29.01	357.85	64.27	0.00	0.00	0.00
3,900.00	10.00	94.63	3,868.77	-30.41	375.15	67.38	0.00	0.00	0.00
4,000.00	10.00	94.63	3,967.25	-31.81	392.46	70.49	0.00	0.00	0.00
4,100.00	10.00	94.63	4,065.73	-33.21	409.77	73.60	0.00	0.00	0.00
4,200.00	10.00	94.63	4,164.21	-34.62	427.08	76.71	0.00	0.00	0.00
4,300.00	10.00	94.63	4,262.69	-36.02	444.39	79.81	0.00	0.00	0.00
4,400.00	10.00	94.63	4,361.17	-37.42	461.70	82.92	0.00	0.00	0.00
4,500.00	10.00	94.63	4,459.65	-38.83	479.00	86.03	0.00	0.00	0.00
4,600.00	10.00	94.63	4,558.13	-40.23	496.31	89.14	0.00	0.00	0.00
4,700.00	10.00	94.63	4,656.61	-41.63	513.62	92.25	0.00	0.00	0.00
4,744.06	10.00	94.63	4,700.00	-42.25	521.24	93.62	0.00	0.00	0.00
Base of Salt									
4,800.00	10.00	94.63	4,755.10	-43.03	530.93	95.36	0.00	0.00	0.00
4,900.00	10.00	94.63	4,853.58	-44.44	548.24	98.47	0.00	0.00	0.00
4,997.91	10.00	94.63	4,950.00	-45.81	565.18	101.51	0.00	0.00	0.00
Lamar - 9 5/8"									
5,000.00	10.00	94.63	4,952.06	-45.84	565.54	101.57	0.00	0.00	0.00
5,100.00	10.00	94.63	5,050.54	-47.24	582.85	104.68	0.00	0.00	0.00
5,200.00	10.00	94.63	5,149.02	-48.65	600.16	107.79	0.00	0.00	0.00
5,201.00	10.00	94.63	5,150.00	-48.66	600.33	107.82	0.00	0.00	0.00
Bell Canyon									
5,300.00	10.00	94.63	5,247.50	-50.05	617.47	110.90	0.00	0.00	0.00
5,400.00	10.00	94.63	5,345.98	-51.45	634.78	114.01	0.00	0.00	0.00
5,500.00	10.00	94.63	5,444.46	-52.85	652.08	117.12	0.00	0.00	0.00
5,600.00	10.00	94.63	5,542.94	-54.26	669.39	120.23	0.00	0.00	0.00
5,700.00	10.00	94.63	5,641.42	-55.66	686.70	123.34	0.00	0.00	0.00

Titan Directional Drilling

Survey Report

Company:	Kaiser-Francis Oil Company	**Local Co-ordinate Reference:**	Well Bell Lake Unit North 216H - Slot G
Project:	Permian NM E'83	**TVD Reference:**	est.GL+KB @ 3464.00usft (planning)
Site:	BLUN Pad 16	**MD Reference:**	est.GL+KB @ 3464.00usft (planning)
Well:	Bell Lake Unit North 216H	**North Reference:**	Grid
Wellbore:	#216H OH	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan #1	**Database:**	EDM 5k-14

Planned 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 (°/100usft)
5,800.00	10.00	94.63	5,739.90	-57.06	704.01	126.44	0.00	0.00	0.00
5,900.00	10.00	94.63	5,838.38	-58.47	721.32	129.55	0.00	0.00	0.00
6,000.00	10.00	94.63	5,936.86	-59.87	738.62	132.66	0.00	0.00	0.00
6,100.00	10.00	94.63	6,035.35	-61.27	755.93	135.77	0.00	0.00	0.00
6,200.00	10.00	94.63	6,133.83	-62.68	773.24	138.88	0.00	0.00	0.00
6,241.81	10.00	94.63	6,175.00	-63.26	780.48	140.18	0.00	0.00	0.00
Cherry Canyon									
6,300.00	10.00	94.63	6,232.31	-64.08	790.55	141.99	0.00	0.00	0.00
6,400.00	10.00	94.63	6,330.79	-65.48	807.86	145.10	0.00	0.00	0.00
6,500.00	10.00	94.63	6,429.27	-66.88	825.16	148.20	0.00	0.00	0.00
6,567.47	10.00	94.63	6,495.71	-67.83	836.84	150.30	0.00	0.00	0.00
6,600.00	9.67	94.63	6,527.77	-68.28	842.38	151.30	1.00	-1.00	0.00
6,700.00	8.67	94.63	6,626.48	-69.57	858.27	154.15	1.00	-1.00	0.00
6,800.00	7.67	94.63	6,725.47	-70.72	872.45	156.70	1.00	-1.00	0.00
6,900.00	6.67	94.63	6,824.68	-71.73	884.89	158.93	1.00	-1.00	0.00
7,000.00	5.67	94.63	6,924.10	-72.59	895.62	160.86	1.00	-1.00	0.00
7,100.00	4.67	94.63	7,023.69	-73.32	904.60	162.47	1.00	-1.00	0.00
7,200.00	3.67	94.63	7,123.43	-73.91	911.86	163.78	1.00	-1.00	0.00
7,300.00	2.67	94.63	7,223.27	-74.36	917.38	164.77	1.00	-1.00	0.00
7,400.00	1.67	94.63	7,323.20	-74.67	921.16	165.45	1.00	-1.00	0.00
7,500.00	0.67	94.63	7,423.18	-74.83	923.21	165.81	1.00	-1.00	0.00
7,567.47	0.00	0.00	7,490.64	-74.86	923.60	165.88	1.00	-1.00	0.00
7,576.83	0.00	0.00	7,500.00	-74.86	923.60	165.88	0.00	0.00	0.00
Brushy Canyon									
7,600.00	0.00	0.00	7,523.17	-74.86	923.60	165.88	0.00	0.00	0.00
7,700.00	0.00	0.00	7,623.17	-74.86	923.60	165.88	0.00	0.00	0.00
7,800.00	0.00	0.00	7,723.17	-74.86	923.60	165.88	0.00	0.00	0.00
7,900.00	0.00	0.00	7,823.17	-74.86	923.60	165.88	0.00	0.00	0.00
8,000.00	0.00	0.00	7,923.17	-74.86	923.60	165.88	0.00	0.00	0.00
8,100.00	0.00	0.00	8,023.17	-74.86	923.60	165.88	0.00	0.00	0.00
8,200.00	0.00	0.00	8,123.17	-74.86	923.60	165.88	0.00	0.00	0.00
8,300.00	0.00	0.00	8,223.17	-74.86	923.60	165.88	0.00	0.00	0.00
8,400.00	0.00	0.00	8,323.17	-74.86	923.60	165.88	0.00	0.00	0.00
8,500.00	0.00	0.00	8,423.17	-74.86	923.60	165.88	0.00	0.00	0.00
8,576.83	0.00	0.00	8,500.00	-74.86	923.60	165.88	0.00	0.00	0.00
Bone Spring									
8,600.00	0.00	0.00	8,523.17	-74.86	923.60	165.88	0.00	0.00	0.00
8,671.83	0.00	0.00	8,595.00	-74.86	923.60	165.88	0.00	0.00	0.00
Avalon									
8,700.00	0.00	0.00	8,623.17	-74.86	923.60	165.88	0.00	0.00	0.00
8,800.00	0.00	0.00	8,723.17	-74.86	923.60	165.88	0.00	0.00	0.00
8,900.00	0.00	0.00	8,823.17	-74.86	923.60	165.88	0.00	0.00	0.00
9,000.00	0.00	0.00	8,923.17	-74.86	923.60	165.88	0.00	0.00	0.00
9,100.00	0.00	0.00	9,023.17	-74.86	923.60	165.88	0.00	0.00	0.00

Titan Directional Drilling

Survey Report

Company:	Kaiser-Francis Oil Company	**Local Co-ordinate Reference:**	Well Bell Lake Unit North 216H - Slot G
Project:	Permian NM E'83	**TVD Reference:**	est.GL+KB @ 3464.00usft (planning)
Site:	BLUN Pad 16	**MD Reference:**	est.GL+KB @ 3464.00usft (planning)
Well:	Bell Lake Unit North 216H	**North Reference:**	Grid
Wellbore:	#216H OH	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan #1	**Database:**	EDM 5k-14

Planned 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 (°/100usft)
9,200.00	0.00	0.00	9,123.17	-74.86	923.60	165.88	0.00	0.00	0.00
9,300.00	0.00	0.00	9,223.17	-74.86	923.60	165.88	0.00	0.00	0.00
9,400.00	0.00	0.00	9,323.17	-74.86	923.60	165.88	0.00	0.00	0.00
9,500.00	0.00	0.00	9,423.17	-74.86	923.60	165.88	0.00	0.00	0.00
9,576.83	0.00	0.00	9,500.00	-74.86	923.60	165.88	0.00	0.00	0.00
1st Bone Spring									
9,600.00	0.00	0.00	9,523.17	-74.86	923.60	165.88	0.00	0.00	0.00
9,698.87	0.00	0.00	9,622.04	-74.86	923.60	165.88	0.00	0.00	0.00
9,700.00	0.11	180.59	9,623.17	-74.86	923.60	165.89	10.00	10.00	0.00
9,750.00	5.11	180.59	9,673.11	-77.14	923.58	168.15	10.00	10.00	0.00
9,800.00	10.11	180.59	9,722.65	-83.76	923.51	174.73	10.00	10.00	0.00
9,850.00	15.11	180.59	9,771.43	-94.68	923.40	185.58	10.00	10.00	0.00
9,900.00	20.11	180.59	9,819.07	-109.80	923.24	200.62	10.00	10.00	0.00
9,950.00	25.11	180.59	9,865.21	-129.02	923.05	219.72	10.00	10.00	0.00
10,000.00	30.11	180.59	9,909.50	-152.19	922.81	242.75	10.00	10.00	0.00
10,050.00	35.11	180.59	9,951.60	-179.13	922.53	269.53	10.00	10.00	0.00
10,100.00	40.11	180.59	9,991.20	-209.63	922.22	299.85	10.00	10.00	0.00
10,104.99	40.61	180.59	9,995.00	-212.86	922.19	303.07	10.00	10.00	0.00
2nd Bone Spring									
10,150.00	45.11	180.59	10,027.98	-243.47	921.87	333.49	10.00	10.00	0.00
10,200.00	50.11	180.59	10,061.68	-280.39	921.50	370.19	10.00	10.00	0.00
10,250.00	55.11	180.59	10,092.03	-320.10	921.09	409.67	10.00	10.00	0.00
10,300.00	60.11	180.59	10,118.80	-362.31	920.66	451.63	10.00	10.00	0.00
10,350.00	65.11	180.59	10,141.80	-406.69	920.20	495.74	10.00	10.00	0.00
10,400.00	70.11	180.59	10,160.83	-452.90	919.73	541.68	10.00	10.00	0.00
10,450.00	75.11	180.59	10,175.77	-500.60	919.24	589.10	10.00	10.00	0.00
10,500.00	80.11	180.59	10,186.49	-549.42	918.74	637.63	10.00	10.00	0.00
10,550.00	85.11	180.59	10,192.92	-598.98	918.23	686.90	10.00	10.00	0.00
10,598.87	90.00	180.59	10,195.00	-647.79	917.73	735.42	10.00	10.00	0.00
10,600.00	90.00	180.59	10,195.00	-648.92	917.72	736.54	0.00	0.00	0.00
10,700.00	90.00	180.59	10,195.00	-748.92	916.70	835.95	0.00	0.00	0.00
10,800.00	90.00	180.59	10,195.00	-848.91	915.67	935.35	0.00	0.00	0.00
10,900.00	90.00	180.59	10,195.00	-948.91	914.65	1,034.75	0.00	0.00	0.00
11,000.00	90.00	180.59	10,195.00	-1,048.90	913.62	1,134.16	0.00	0.00	0.00
11,100.00	90.00	180.59	10,195.00	-1,148.90	912.60	1,233.56	0.00	0.00	0.00
11,200.00	90.00	180.59	10,195.00	-1,248.89	911.57	1,332.96	0.00	0.00	0.00
11,300.00	90.00	180.59	10,195.00	-1,348.89	910.55	1,432.36	0.00	0.00	0.00
11,400.00	90.00	180.59	10,195.00	-1,448.88	909.53	1,531.77	0.00	0.00	0.00
11,500.00	90.00	180.59	10,195.00	-1,548.88	908.50	1,631.17	0.00	0.00	0.00
11,600.00	90.00	180.59	10,195.00	-1,648.87	907.48	1,730.57	0.00	0.00	0.00
11,700.00	90.00	180.59	10,195.00	-1,748.86	906.45	1,829.97	0.00	0.00	0.00
11,800.00	90.00	180.59	10,195.00	-1,848.86	905.43	1,929.38	0.00	0.00	0.00
11,900.00	90.00	180.59	10,195.00	-1,948.85	904.40	2,028.78	0.00	0.00	0.00
12,000.00	90.00	180.59	10,195.00	-2,048.85	903.38	2,128.18	0.00	0.00	0.00

Titan Directional Drilling

Survey Report

Company:	Kaiser-Francis Oil Company	**Local Co-ordinate Reference:**	Well Bell Lake Unit North 216H - Slot G
Project:	Permian NM E'83	**TVD Reference:**	est.GL+KB @ 3464.00usft (planning)
Site:	BLUN Pad 16	**MD Reference:**	est.GL+KB @ 3464.00usft (planning)
Well:	Bell Lake Unit North 216H	**North Reference:**	Grid
Wellbore:	#216H OH	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan #1	**Database:**	EDM 5k-14

Planned 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 (°/100usft)
12,100.00	90.00	180.59	10,195.00	-2,148.84	902.36	2,227.59	0.00	0.00	0.00
12,200.00	90.00	180.59	10,195.00	-2,248.84	901.33	2,326.99	0.00	0.00	0.00
12,300.00	90.00	180.59	10,195.00	-2,348.83	900.31	2,426.39	0.00	0.00	0.00
12,400.00	90.00	180.59	10,195.00	-2,448.83	899.28	2,525.79	0.00	0.00	0.00
12,500.00	90.00	180.59	10,195.00	-2,548.82	898.26	2,625.20	0.00	0.00	0.00
12,600.00	90.00	180.59	10,195.00	-2,648.82	897.23	2,724.60	0.00	0.00	0.00
12,700.00	90.00	180.59	10,195.00	-2,748.81	896.21	2,824.00	0.00	0.00	0.00
12,800.00	90.00	180.59	10,195.00	-2,848.81	895.18	2,923.40	0.00	0.00	0.00
12,900.00	90.00	180.59	10,195.00	-2,948.80	894.16	3,022.81	0.00	0.00	0.00
13,000.00	90.00	180.59	10,195.00	-3,048.80	893.14	3,122.21	0.00	0.00	0.00
13,100.00	90.00	180.59	10,195.00	-3,148.79	892.11	3,221.61	0.00	0.00	0.00
13,200.00	90.00	180.59	10,195.00	-3,248.79	891.09	3,321.01	0.00	0.00	0.00
13,300.00	90.00	180.59	10,195.00	-3,348.78	890.06	3,420.42	0.00	0.00	0.00
13,400.00	90.00	180.59	10,195.00	-3,448.78	889.04	3,519.82	0.00	0.00	0.00
13,500.00	90.00	180.59	10,195.00	-3,548.77	888.01	3,619.22	0.00	0.00	0.00
13,600.00	90.00	180.59	10,195.00	-3,648.77	886.99	3,718.63	0.00	0.00	0.00
13,700.00	90.00	180.59	10,195.00	-3,748.76	885.97	3,818.03	0.00	0.00	0.00
13,800.00	90.00	180.59	10,195.00	-3,848.75	884.94	3,917.43	0.00	0.00	0.00
13,900.00	90.00	180.59	10,195.00	-3,948.75	883.92	4,016.83	0.00	0.00	0.00
14,000.00	90.00	180.59	10,195.00	-4,048.74	882.89	4,116.24	0.00	0.00	0.00
14,100.00	90.00	180.59	10,195.00	-4,148.74	881.87	4,215.64	0.00	0.00	0.00
14,200.00	90.00	180.59	10,195.00	-4,248.73	880.84	4,315.04	0.00	0.00	0.00
14,300.00	90.00	180.59	10,195.00	-4,348.73	879.82	4,414.44	0.00	0.00	0.00
14,400.00	90.00	180.59	10,195.00	-4,448.72	878.79	4,513.85	0.00	0.00	0.00
14,500.00	90.00	180.59	10,195.00	-4,548.72	877.77	4,613.25	0.00	0.00	0.00
14,600.00	90.00	180.59	10,195.00	-4,648.71	876.75	4,712.65	0.00	0.00	0.00
14,700.00	90.00	180.59	10,195.00	-4,748.71	875.72	4,812.05	0.00	0.00	0.00
14,800.00	90.00	180.59	10,195.00	-4,848.70	874.70	4,911.46	0.00	0.00	0.00
14,900.00	90.00	180.59	10,195.00	-4,948.70	873.67	5,010.86	0.00	0.00	0.00
15,000.00	90.00	180.59	10,195.00	-5,048.69	872.65	5,110.26	0.00	0.00	0.00
15,100.00	90.00	180.59	10,195.00	-5,148.69	871.62	5,209.67	0.00	0.00	0.00
15,200.00	90.00	180.59	10,195.00	-5,248.68	870.60	5,309.07	0.00	0.00	0.00
15,300.00	90.00	180.59	10,195.00	-5,348.68	869.58	5,408.47	0.00	0.00	0.00
15,400.00	90.00	180.59	10,195.00	-5,448.67	868.55	5,507.87	0.00	0.00	0.00
15,500.00	90.00	180.59	10,195.00	-5,548.67	867.53	5,607.28	0.00	0.00	0.00
15,600.00	90.00	180.59	10,195.00	-5,648.66	866.50	5,706.68	0.00	0.00	0.00
15,700.00	90.00	180.59	10,195.00	-5,748.66	865.48	5,806.08	0.00	0.00	0.00
15,800.00	90.00	180.59	10,195.00	-5,848.65	864.45	5,905.48	0.00	0.00	0.00
15,900.00	90.00	180.59	10,195.00	-5,948.64	863.43	6,004.89	0.00	0.00	0.00
16,000.00	90.00	180.59	10,195.00	-6,048.64	862.40	6,104.29	0.00	0.00	0.00
16,100.00	90.00	180.59	10,195.00	-6,148.63	861.38	6,203.69	0.00	0.00	0.00
16,200.00	90.00	180.59	10,195.00	-6,248.63	860.36	6,303.09	0.00	0.00	0.00
16,300.00	90.00	180.59	10,195.00	-6,348.62	859.33	6,402.50	0.00	0.00	0.00

Titan Directional Drilling

Survey Report

Company:	Kaiser-Francis Oil Company	**Local Co-ordinate Reference:**	Well Bell Lake Unit North 216H - Slot G
Project:	Permian NM E'83	**TVD Reference:**	est.GL+KB @ 3464.00usft (planning)
Site:	BLUN Pad 16	**MD Reference:**	est.GL+KB @ 3464.00usft (planning)
Well:	Bell Lake Unit North 216H	**North Reference:**	Grid
Wellbore:	#216H OH	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan #1	**Database:**	EDM 5k-14

Planned 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 (°/100usft)
16,400.00	90.00	180.59	10,195.00	-6,448.62	858.31	6,501.90	0.00	0.00	0.00
16,500.00	90.00	180.59	10,195.00	-6,548.61	857.28	6,601.30	0.00	0.00	0.00
16,600.00	90.00	180.59	10,195.00	-6,648.61	856.26	6,700.71	0.00	0.00	0.00
16,700.00	90.00	180.59	10,195.00	-6,748.60	855.23	6,800.11	0.00	0.00	0.00
16,800.00	90.00	180.59	10,195.00	-6,848.60	854.21	6,899.51	0.00	0.00	0.00
16,900.00	90.00	180.59	10,195.00	-6,948.59	853.19	6,998.91	0.00	0.00	0.00
17,000.00	90.00	180.59	10,195.00	-7,048.59	852.16	7,098.32	0.00	0.00	0.00
17,100.00	90.00	180.59	10,195.00	-7,148.58	851.14	7,197.72	0.00	0.00	0.00
17,200.00	90.00	180.59	10,195.00	-7,248.58	850.11	7,297.12	0.00	0.00	0.00
17,300.00	90.00	180.59	10,195.00	-7,348.57	849.09	7,396.52	0.00	0.00	0.00
17,400.00	90.00	180.59	10,195.00	-7,448.57	848.06	7,495.93	0.00	0.00	0.00
17,500.00	90.00	180.59	10,195.00	-7,548.56	847.04	7,595.33	0.00	0.00	0.00
17,600.00	90.00	180.59	10,195.00	-7,648.56	846.01	7,694.73	0.00	0.00	0.00
17,700.00	90.00	180.59	10,195.00	-7,748.55	844.99	7,794.14	0.00	0.00	0.00
17,800.00	90.00	180.59	10,195.00	-7,848.54	843.97	7,893.54	0.00	0.00	0.00
17,900.00	90.00	180.59	10,195.00	-7,948.54	842.94	7,992.94	0.00	0.00	0.00
18,000.00	90.00	180.59	10,195.00	-8,048.53	841.92	8,092.34	0.00	0.00	0.00
18,100.00	90.00	180.59	10,195.00	-8,148.53	840.89	8,191.75	0.00	0.00	0.00
18,200.00	90.00	180.59	10,195.00	-8,248.52	839.87	8,291.15	0.00	0.00	0.00
18,300.00	90.00	180.59	10,195.00	-8,348.52	838.84	8,390.55	0.00	0.00	0.00
18,379.32	90.00	180.59	10,195.00	-8,427.84	838.03	8,469.40	0.00	0.00	0.00

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
1,250.00	1,250.00	13 3/8"	13-3/8	17-1/2
4,997.91	4,950.00	9 5/8"	9-5/8	12-1/4

Titan Directional Drilling

Survey Report

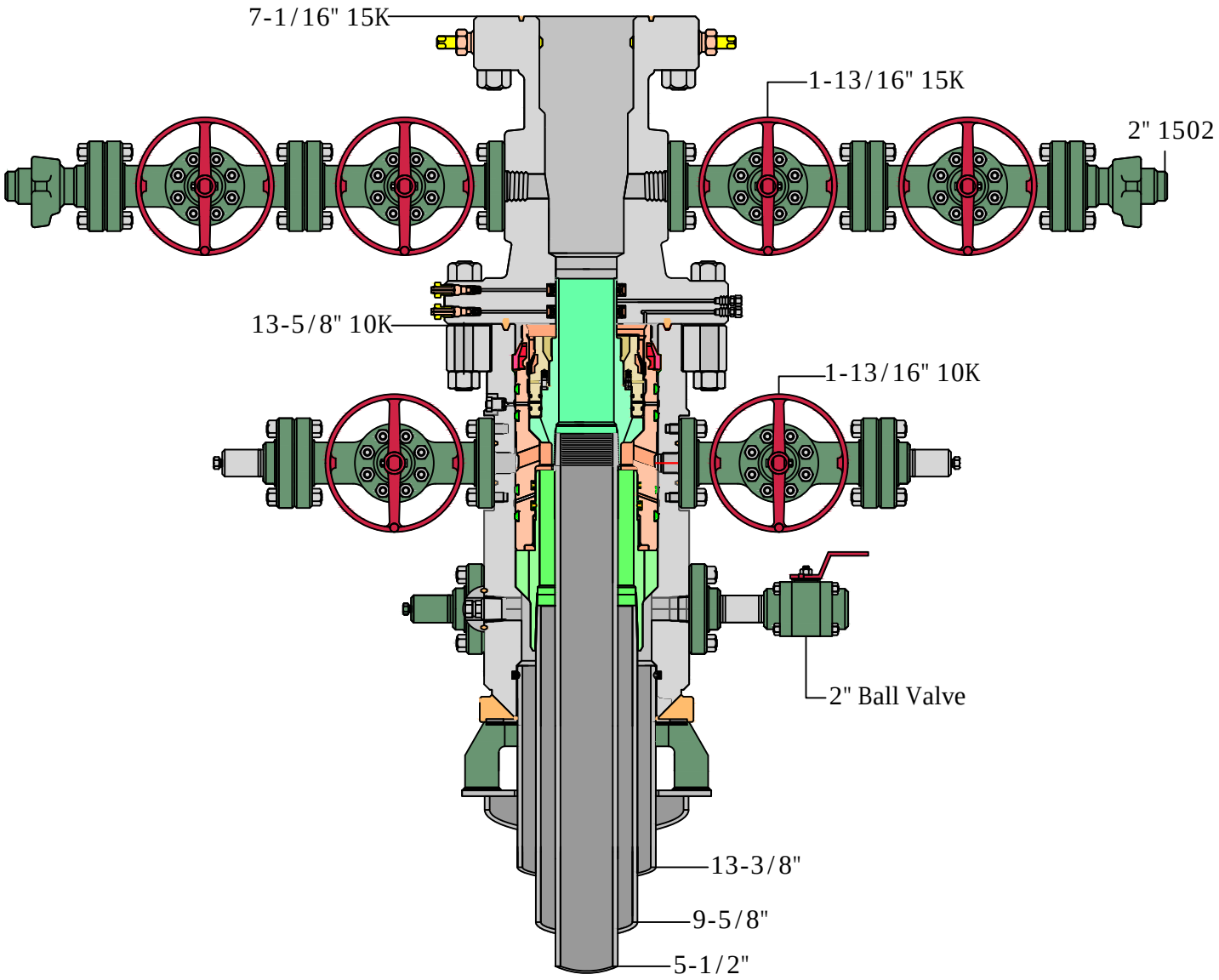
Company:	Kaiser-Francis Oil Company	**Local Co-ordinate Reference:**	Well Bell Lake Unit North 216H - Slot G
Project:	Permian NM E'83	**TVD Reference:**	est.GL+KB @ 3464.00usft (planning)
Site:	BLUN Pad 16	**MD Reference:**	est.GL+KB @ 3464.00usft (planning)
Well:	Bell Lake Unit North 216H	**North Reference:**	Grid
Wellbore:	#216H OH	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan #1	**Database:**	EDM 5k-14

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,200.00	1,200.00	Rustler			
1,600.09	1,600.00	Salado			
1,800.73	1,800.00	Top of Salt			
4,744.06	4,700.00	Base of Salt			
4,997.91	4,950.00	Lamar			
5,201.00	5,150.00	Bell Canyon			
6,241.81	6,175.00	Cherry Canyon			
7,576.83	7,500.00	Brushy Canyon			
8,576.83	8,500.00	Bone Spring			
8,671.83	8,595.00	Avalon			
9,576.83	9,500.00	1st Bone Spring			
10,104.99	9,995.00	2nd Bone Spring			

CAMERON
A Schlumberger Company

13-5/8" 10K MN-DS



RKI

Drawing #:	Date:	Drawing by:
1537083-C	12-11-17	Brandon

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

SUPO Data Report
12/04/2020

APD ID: 10400054262
Submission Date: 02/13/2020
Operator Name: KAISER FRANCIS OIL COMPANY
Well Name: BELL LAKE UNIT NORTH
Well Number: 216H
Well Type: OIL WELL
Well Work Type: Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Existing Roads

Will existing roads be used? YES

Existing Road Map:

BLUN_216H_Existing_Roads_20200213094215.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_216H_Access_Road_20200213094228.pdf

New road type: RESOURCE

Length: 3867 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:

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH **Well Number:** 216H

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_216H_1_MILE_WELLS_20200213094305.pdf

BLUN_216H_1_Mile_Wells_Map_20200213094305.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

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH **Well Number:** 216H

Section 5 - Location and Types of Water Supply

Water Source Table

Water source type: OTHER

Describe type: Brine Water

Water source use type: INTERMEDIATE/PRODUCTION 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

Describe transportation land ownership: Source tra is a mixture of Federal, State and County.

Water source volume (barrels): 20000

Source volume (acre-feet): 2.57786193

Source volume (gal): 840000

Water source type: OTHER

Describe type: FRESH WATER

Water source use type: STIMULATION

OTHER

Describe use type: ROAD/PAD CONSTRUCTION AN

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

Describe transportation land ownership: Source tra is a mixture of Federal, State and County.

Water source volume (barrels): 250000

Source volume (acre-feet): 32.223274

Source volume (gal): 10500000

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH **Well Number:** 216H

Water source and transportation map:

BLUN_Pad_16_Water_Source_Map_20200213062911.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:**

Aquifer 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

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH **Well Number:** 216H

Safe containmant attachment:

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

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH **Well Number:** 216H

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_216H_Wellsite_Layout_20200213094423.pdf

BLUN_Pad_16_Drilling_Layout_20200827154831.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: 16

Recontouring attachment:

BLUN_216H_IR_20200213094443.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.

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH **Well Number:** 216H

Well pad proposed disturbance (acres): 5.96
Road proposed disturbance (acres): 1.638
Powerline proposed disturbance (acres): 0
Pipeline proposed disturbance (acres): 0
Other proposed disturbance (acres): 0
Total proposed disturbance: 7.598

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): 5.05
Road long term disturbance (acres): 1.638
Powerline long term disturbance (acres): 0
Pipeline long term disturbance (acres): 0
Other long term disturbance (acres): 0
Total long term disturbance: 6.688

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

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH **Well Number:** 216H

Seed harvest description:

Seed harvest description attachment:

Seed Management

Seed Table

Seed Summary	
Seed Type	**Pounds/Acre**

Total 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

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH **Well Number:** 216H

Disturbance type: WELL PAD

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

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: BUREAU OF LAND MANAGEMENT,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, 602 N CANAL STE B, CARLSBAD NM 88220

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland: **USFS Ranger District:**

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH **Well Number:** 216H

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

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

PWD Data Report
12/04/2020

APD ID: 10400054262 **Submission Date:** 02/13/2020

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH **Well Number:** 216H

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: **PWD disturbance (acres):**

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:

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH **Well Number:** 216H

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?

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH **Well Number:** 216H

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):

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH **Well Number:** 216H

Other PWD type description:

Other PWD type attachment:

Have other regulatory requirements been met?

Other regulatory requirements attachment:

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

Bond Info Data Report
12/04/2020

APD ID: 10400054262
Submission Date: 02/13/2020
Operator Name: KAISER FRANCIS OIL COMPANY
Well Name: BELL LAKE UNIT NORTH
Well Number: 216H
Well Type: OIL WELL
Well Work Type: Drill

Highlighted data reflects the most 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:

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State of New Mexico
Energy, Minerals and Natural Resources Department

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

Submit Original to Appropriate District Office

GAS CAPTURE PLAN

Date: **01/10/2020**

☒ Original
☐ Amended - Reason for Amendment:

Operator & OGRID No.: Kaiser-Francis Oil Company, 12361

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 116H		5-23S-34E		2000	0	
Bell Lake Unit North 216H		5-23S-34E	**30-025-48519**	2000	0	
Bell Lake Unit North 316H		5-23S-34E		2000	0	
Bell Lake Unit North 416H		5-23S-34E		2000	0	
Bell Lake Unit North 115H		5-23S-34E		2000	0	
Bell Lake Unit North 215H		5-23S-34E		2000	0	
Bell Lake Unit North 315H		5-23S-34E		2000	0	
Bell Lake Unit North 415H		5-23S-34E		2000	0	

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 Targa and will be connected to Targa low/high pressure gathering system located in _Lea_ County, New Mexico. It will require _11,000' of pipeline to connect the facility to low/high pressure gathering system. Kaiser-Francis Oil Company provides (periodically) to Targa a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, Kaiser-Francis Oil Company and Targa have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at Targa Processing Plant located in Sec._36_, Twn.__19S_, Rng._36E, __Lea__ 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 Targa system at that time. Based on current information, it is Kaiser-Francis Oil Company's 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
  - Only a portion of gas is consumed operating the generator, remainder of gas will be flared
- Compressed Natural Gas – On lease
  - Gas flared would be minimal, but might be uneconomical to operate when gas volume declines
- NGL Removal – On lease
  - Plants are expensive, residue gas is still flared, and uneconomical to operate when gas volume declines

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Energy, Minerals and Natural Resources Department

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Santa Fe, NM 87505

Submit Original to Appropriate District Office

GAS CAPTURE PLAN

Date: **01/10/2020**

☒ Original
☐ Amended - Reason for Amendment:_____

Operator & OGRID No.: Kaiser-Francis Oil Company, 12361

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Bell Lake Unit North 416H		5-23S-34E		2000	0	
Bell Lake Unit North 115H		5-23S-34E		2000	0	
Bell Lake Unit North 215H		5-23S-34E		2000	0	
Bell Lake Unit North 315H		5-23S-34E		2000	0	
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  - Plants are expensive, residue gas is still flared, and uneconomical to operate when gas volume declines

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH **Well Number:** 216H

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

Equipment: A 10M BOP Stack with a 5M Annular Variance 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 Annular BOP Variance

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_216H_Choke_Manifold_20200213093638.pdf

BOP Diagram Attachment:

Cactus_Flex_Hose_16C_Certification_20200203142843.pdf

BLUN_216H_BOP_20200213093652.pdf

BLUN_216H_Well_Head_20200213093653.pdf

Annular_BOP_Variance_Request_20200827154455.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	1550	0	1550	3438	1888	1550	J-55	54.5	BUTT	1.9	4.7	DRY	13.3	DRY	12.5
2	INTERMEDIATE	12.25	9.625	NEW	API	N	0	4997	0	4950		-1512	4997	HCP-110	40	LT&C	1.8	3.4	DRY	6.4	DRY	6.4
3	PRODUCTION	8.75	5.5	NEW	API	N	0	18379	0	10195		-6757	18379	P-110	20	OTHER - GBCD	2.4	2.7	DRY	3.3	DRY	3.1

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH **Well Number:** 216H

Casing Attachments

Casing ID: 1 **String Type:** SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

BLUN_216H_Casing_Assumptions_20200827154714.pdf

Casing ID: 2 **String Type:** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

BLUN_216H_Casing_Assumptions_20200827154634.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_216H_Casing_Assumptions_20200827154654.pdf

Section 4 - Cement

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH **Well Number:** 216H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	1250	700	1.7	13.5	1223	75	HALCEM	4% Bentonite
SURFACE	Tail		0	1250	248	1.3	14.8	331	75	Halcem	0.125 #/sk Poly Flake
INTERMEDIATE	Lead		0	4997	790	2.08	12.5	1650	50	EconoCem	3#/sk Kol Seal
INTERMEDIATE	Tail		0	4997	545	1.3	14.8	726	50	Halcem	none
PRODUCTION	Lead		4000	18379	397	3.5	10.5	1386	10	NeoCem	2#/sk Kol Seal
PRODUCTION	Tail		4000	18379	1830	1.2	14.5	2238	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)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
4950	10195	OIL-BASED MUD	8.7	8.9							
1250	4950	OTHER : Diesel-Brine Emulsion	8.7	8.9							
0	1250	OTHER : Fresh Water	8.4	9							

Date: 2/22/2021

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 216H
Sec. 5-23S-34E
Lea Co., NM

C. Van Valkenburg

Charlotte Van Valkenburg
Mgr., Regulatory Compliance
Kaiser-Francis Oil Company

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1625 N. French Dr., Hobbs, NM 88240
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Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
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Santa Fe, NM 87505

CONDITIONS

Action 18556

CONDITIONS OF APPROVAL

Operator:	OGRID:	Action Number:	Action Type:
KAISER-FRANCIS OIL CO P.O. Box 21468 Tulsa, OK74121	12361	18556	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