Form 3160-3
(June 2015)

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

OCD – HOBBS
05/13/2020
RECEIVED

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.: NMNM122620

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.: RED HILLS FEDERAL [5467] 705H

2. Name of Operator: KAISER FRANCIS OIL COMPANY [12361]

9. API Well No.: 30-025-47184

3a. Address: 6733 S. Yale Ave., Tulsa, OK 74121

3b. Phone No. *(include area code)*: (918) 491-0000

10. Field and Pool, or Exploratory: [97903] WC-025 G-06 S253329E/UPPER BONE S

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

At surface: NWNE / 200 FNL / 2370 FEL / LAT 32.0937704 / LONG -103.6105067

At proposed prod. zone: SWSE / 100 FSL / 2240 FEL / LAT 32.0655732 / LONG -103.6100793

11. Sec., T. R. M. or Blk. and Survey or Area: SEC 31/T25S/R33E/NMP

14. Distance in miles and direction from nearest town or post office*: 25 miles

12. County or Parish: LEA

13. State: NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any): 200 feet

16. No of acres in lease: 440.2

17. Spacing Unit dedicated to this well: 320.0

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.: 20 feet

19. Proposed Depth: 10500 feet / 21212 feet

20. BLM/BIA Bond No. in file: FED: WYB000055

21. Elevations (Show whether DF, KDB, RT, GL, etc.): 3410 feet

22. Approximate date work will start*: 03/01/2020

23. Estimated duration: 40 days

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
(Electronic Submission)	Stormi Davis / Ph: (918) 491-0000	01/09/2020

Title: Regulatory Analyst

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
(Electronic Submission)	Christopher Walls / Ph: (575) 234-2234	04/30/2020

Title	Office
Petroleum Engineer	Carlsbad Field 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 05/13/2020

SL

APPROVED WITH CONDITIONS

KZ 05/15/2020

Approval Date: 04/30/2020

(Continued on page 2)

*(Instructions on page 2)

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	KAISER FRANCIS OIL COMPANY
WELL NAME & NO.:	RED HILLS FEDERAL 706H
SURFACE HOLE FOOTAGE:	200'/N & 2370'/E
BOTTOM HOLE FOOTAGE	100'/S & 2240'/E
LOCATION:	Section 31, T.25 S., R.33 E., NMP
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

Casing Design:

1. The **13-3/8** inch surface casing shall be set at approximately **950** 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 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 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.

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. 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.

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.

RI04292020

Operator Certification

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of state and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

NAME: Stormi Davis **Signed on:** 01/08/2020

Title: Regulatory Analyst

Street Address: 106 W. Riverside Drive

City: Carlsbad **State:** NM **Zip:** 88220

Phone: (575)308-3765

Email address: nmogrservices@gmail.com

Field Representative

Representative Name:

Street Address:

City: **State:** **Zip:**

Phone:

Email address:

APD ID: 10400053004 **Submission Date:** 01/09/2020

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: RED HILLS FEDERAL **Well Number:** 705H

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

Highlighted data reflects the most recent changes

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Section 1 - General

APD ID: 10400053004 **Tie to previous NOS?** N **Submission Date:** 01/09/2020

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: NMNM122620 **Lease Acres:** 440.2

Surface access agreement in place? **Allotted?** **Reservation:**

Agreement in place? NO **Federal or Indian agreement:**

Agreement number:

Agreement name:

Keep application confidential? Y

Permitting Agent? NO **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: RED HILLS FEDERAL **Well Number:** 705H **Well API Number:**

Field/Pool or Exploratory? Field and Pool **Field Name:** WC-025 G-06 S253329E **Pool Name:** UPPER BONE SPRING

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

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: RED HILLS FEDERAL **Well Number:** 705H

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:** RED HILLS **Number:** 7

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: 25 Miles **Distance to nearest well:** 20 FT **Distance to lease line:** 200 FT

Reservoir well spacing assigned acres Measurement: 320 Acres

Well plat: RED_HILLS_705H_C102_20200109094013.pdf

RED_HILLS___PAYMENT_CONF_20200109094039.pdf

Well work start Date: 03/01/2020 **Duration:** 40 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83 **Vertical Datum:** NAVD88

Survey number: 7587B **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	200	FNL	2370	FEL	25S	33E	31	Aliquot NWNE	32.0937704	-103.6105067	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 122620	3410	0	0	Y
KOP Leg #1	200	FNL	2370	FEL	25S	33E	31	Aliquot NWNE	32.0937704	-103.6105067	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 122620	-6473	9909	9883	Y

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: RED HILLS FEDERAL **Well Number:** 705H

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	0	FNL	2240	FEL	26S	33E	6	Aliquot NWNE	32.0798088	-103.6100851	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 015321	-7090	16033	10500	Y
PPP Leg #1-2	100	FNL	2240	FEL	25S	33E	31	Aliquot NWNE	32.0940451	-103.610087	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 122620	-7090	10853	10500	Y
EXIT Leg #1	100	FSL	2240	FEL	26S	33E	6	Aliquot SWSE	32.0655732	-103.6100793	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 015321	-7090	21212	10500	Y
BHL Leg #1	100	FSL	2240	FEL	26S	33E	6	Aliquot SWSE	32.0655732	-103.6100793	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 015321	-7090	21212	10500	Y

We value your feedback!

Let us know how we did. Complete our short two minute survey.

Tracking Information

Pay.gov Tracking ID: 26MM0MMM

Agency Tracking ID: 75923295565

Form Name: Bureau of Land Management (BLM) Application for Permit to Drill (APD) Fee

Application Name: BLM Oil and Gas Online Payment

Payment Information

Payment Type: Bank account (ACH)

Payment Amount: $112,530.00

Transaction Date: 01/07/2020 06:06:24 PM EST

Payment Date: 01/08/2020

Company: KAISER FRANCIS OIL COMPANY

APD IDs: 10400052977, 10400052992, 10400053005, 10400053006, 10400052983, 10400053001, 10400053004, 10400052994, 10400053000, 10400052998, 10400052997

Lease Numbers: NMNM-122620, NMNM-122620, NMNM-122620, NMNM-122620, NMNM-122620, NMNM-122620, NMNM-122620, NMNM-122620, NMNM-122620, NMNM-122620, NMNM-122620

Well Numbers: 201H, 701H, 203H, 703H, 604H, 605H, 705H, 206H, 506H, 606H, 706H

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.

Account Information

Account Holder Name: Kaiser-Francis Oil Co

Routing Number: 103900036

Account Number: **********1125

APD ID: 10400053004 **Submission Date:** 01/09/2020

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: RED HILLS FEDERAL **Well Number:** 705H

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
628901	---	3410	0	0	OTHER : Surface	NONE	N
628902	RUSTLER	2550	860	860	SANDSTONE	NONE	N
628903	SALADO	2210	1200	1200	SALT	NONE	N
628904	TOP SALT	1410	2000	2000	SALT	NONE	N
628905	BASE OF SALT	-1040	4450	4450	SALT	NONE	N
628906	LAMAR	-1340	4750	4750	SANDSTONE	NATURAL GAS, OIL	N
628907	BELL CANYON	-1460	4870	4870	SANDSTONE	NATURAL GAS, OIL	N
628908	CHERRY CANYON	-2450	5860	5860	SANDSTONE	NATURAL GAS, OIL	N
628909	BRUSHY CANYON	-5190	8600	8600	SANDSTONE	NATURAL GAS, OIL	N
628917	BONE SPRING	-5390	8800	8800	LIMESTONE	NATURAL GAS, OIL	N
628918	AVALON SAND	-5600	9010	9010	SANDSTONE	NATURAL GAS, OIL	N
628912	BONE SPRING 1ST	-6540	9950	9950	SANDSTONE	NATURAL GAS, OIL	Y
628919	BONE SPRING 2ND	-7100	10510	10510	SANDSTONE	NATURAL GAS, OIL	N

Section 2 - Blowout Prevention

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: RED HILLS FEDERAL **Well Number:** 705H

Pressure Rating (PSI): 10M **Rating Depth:** 15000

Equipment: A 10M system will be installed according to Onshore Order #2 consisting of an Annular Preventer, BOP with two rams, a blind ram and safety valves and appropriate handles located on the rig floor. BOP will be equipped with 2 side outlets (choke side shall be a minimum 3 line, and kill side will be a minimum 2 line). Kill line will be installed with (2) valves and a check valve (2 min) of proper pressure rating for the system. Remote kill line (2 min) will be installed and ran to the outer edge of the substructure and be unobstructed. A manual and hydraulic valve (3 min) will be installed on the choke line, 3 chokes will be used with one being remotely controlled. Fill up line will be installed above the uppermost preventer. Pressure gauge of proper pressure rating will be installed on choke manifold. Upper and lower kelly cocks will be utilized with handles readily available in plain sight. A float sub will be available at all times. All connections subject to well pressure will be flanged, welded, or clamped.

Requesting Variance? YES

Variance request: Flex Hose Variance

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 stated. If the system is upgraded all the components installed will be functional and tested. Pipe rams will be operationally checked each 24 hour period. The Annular shall be functionally operated at least weekly. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets.

Choke Diagram Attachment:

Red_Hills_705H_Choke_Manifold_20200108094628.pdf

BOP Diagram Attachment:

Cactus_Flex_Hose_16C_Certification_20200103112755.pdf

Well_Control_Plan_20200103112759.pdf

Red_Hills_705H_BOP_20200108094646.PDF

Red_Hills_705H_Well_Head_Diagram_20200108094647.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	950	0	950	3410	2460	950	J-55	54.5	BUTT	2.5	6.1	DRY	17.6	DRY	16.5
2	INTERMEDIATE	12.25	9.625	NEW	API	N	0	4961	0	4950		-1540	4961	L-80	40	LT&C	1.2	2.2	DRY	3.7	DRY	4.6
3	PRODUCTION	8.5	5.5	NEW	API	N	0	21212	0	10500		-7090	21212	P-110	20	OTHER - GBCD	2.2	2.5	DRY	3.2	DRY	3.1

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: RED HILLS FEDERAL **Well Number:** 705H

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Red_Hills_705H_Casing_Assumptions_20200108095012.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Red_Hills_705H_Casing_Assumptions_20200108094859.pdf

Casing ID: 3 **String Type:** PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Red_Hills_705H_Casing_Assumptions_20200108095132.pdf

GBCD_5.5in_Connection_Spec_Sheet_20200108095212.pdf

Section 4 - Cement

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: RED HILLS FEDERAL **Well Number:** 705H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	950	480	1.74	13.5	741	50	Halcem	Kol Seal
SURFACE	Tail		0	950	117	1.33	14.8	156	50	Halcem	Poly E-Flake
INTERMEDIATE	Lead		0	4961	775	2.08	12.5	1619	30	Econocem	Salt/Kol Seal
INTERMEDIATE	Tail		0	4961	310	1.34	14.8	414	30	Halcem	none
PRODUCTION	Lead		3800	21212	645	3.48	10.5	2249	10	Neocem	Kol Seal/ Poly E-Flake
PRODUCTION	Tail		0	21212	2190	1.22	14.5	2678	10	Versacem	Halad/HR-610

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 times

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
950	4950	OTHER : Brine	9.8	10.2							
4950	10500	OTHER : Cut Brine	8.7	9.2							
0	950	OTHER : FRESH WATER	8.4	9							

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: RED HILLS FEDERAL **Well Number:** 705H

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,

Coring operation description for the well:

None planned

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 5023 **Anticipated Surface Pressure:** 2712

Anticipated Bottom Hole Temperature(F): 191

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:

Red_Hills_H2S_Contingency_Plan_20200103114217.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Red_Hills_705H_Directional_Plan_20200108100237.pdf

Other proposed operations facets description:

Gas Capture Plan attached

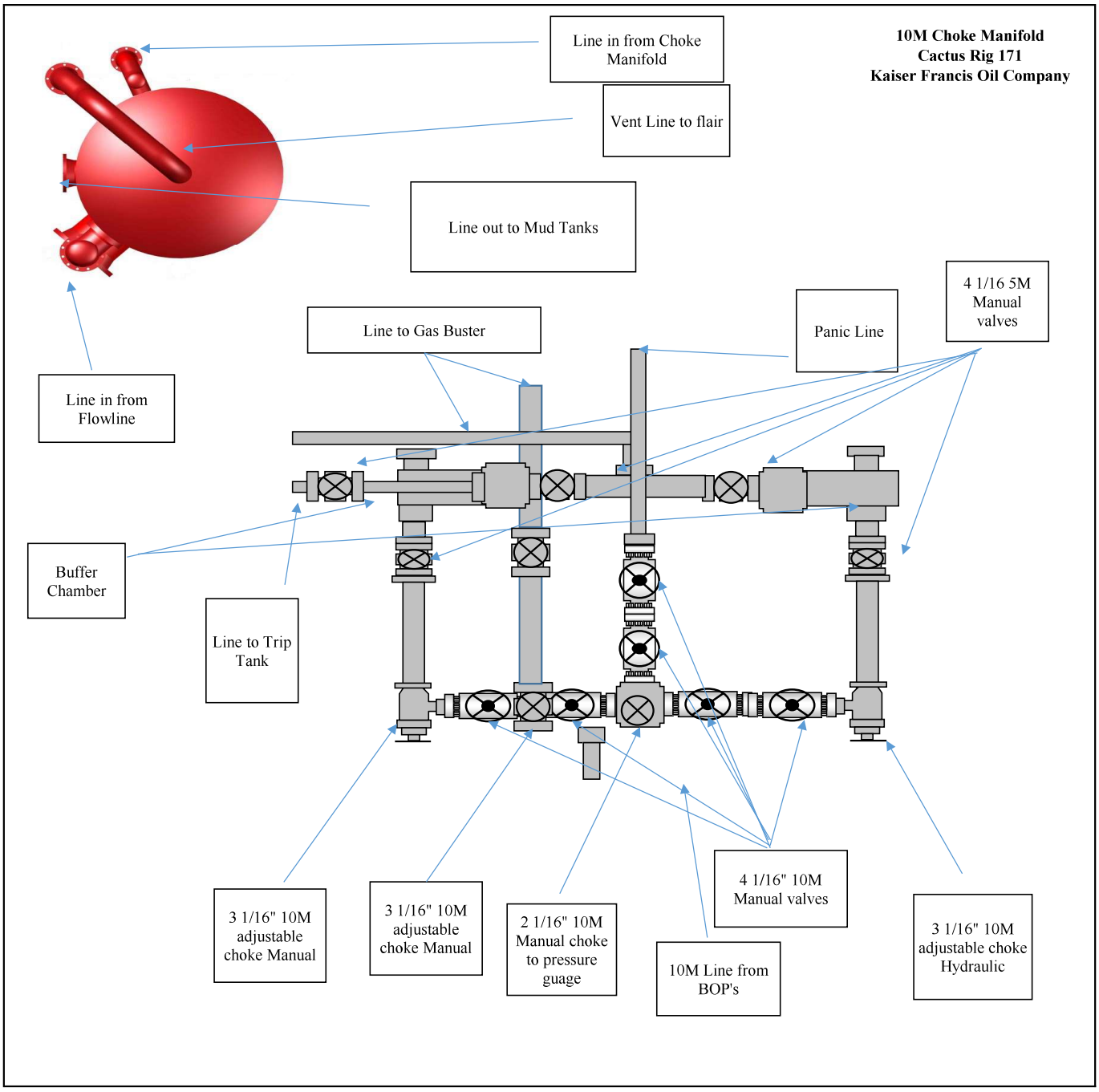
Other proposed operations facets attachment:

Red_Hills_Pad_7_Gas_Capture_Plan_20200103114659.pdf

Other Variance attachment:

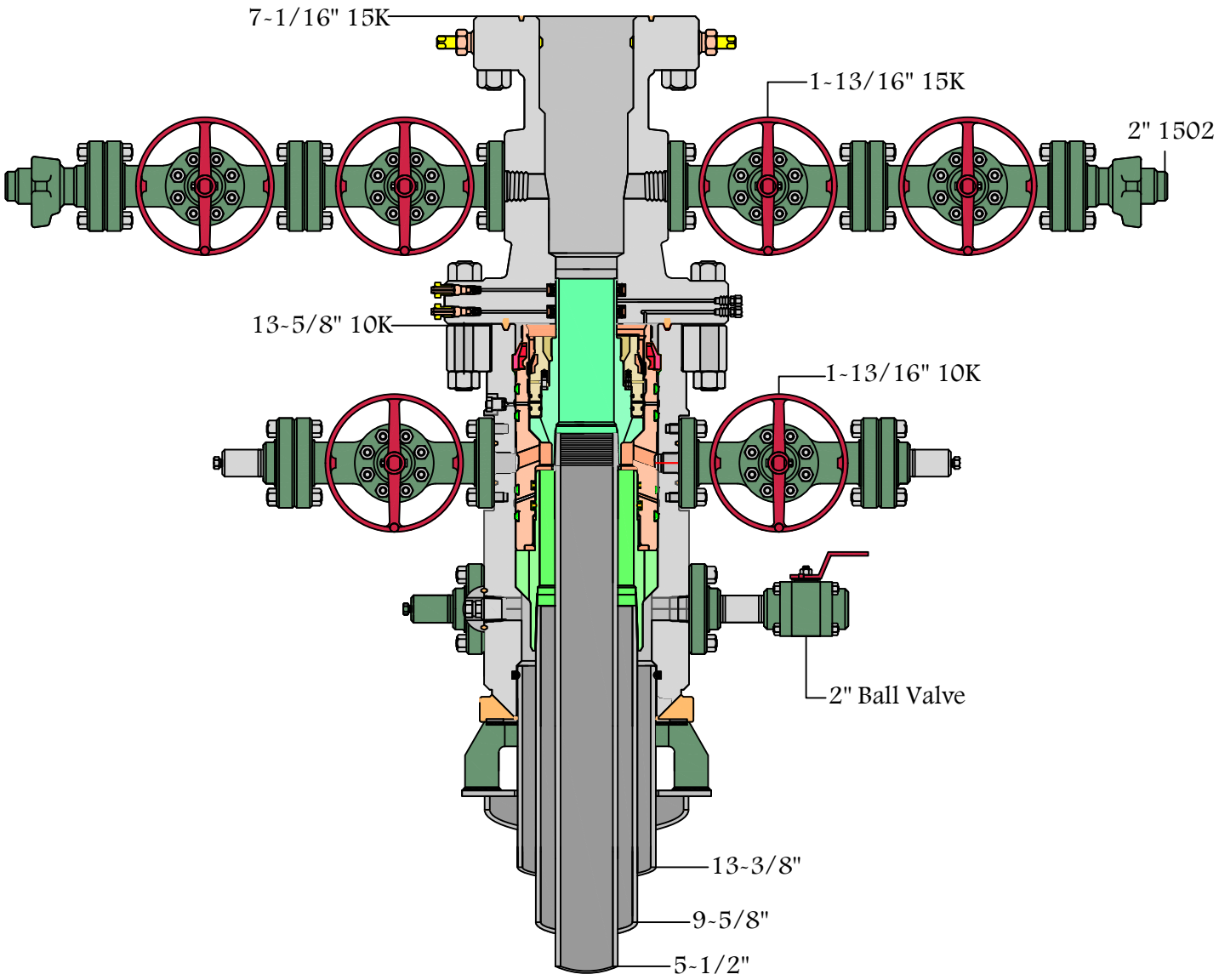
Cactus_Flex_Hose_16C_Certification_20200103114733.pdf

10M Choke Manifold
Cactus Rig 171
Kaiser Francis Oil Company



CAMERON
A Schlumberger Company

13-5/8" 10K MN-DS



RKI

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

Red Hills Federal 705H

Casing Assumptions

Interval	Length	Casing Size	Weight (#/ft)	Grade	Thread	Condition	Hole Size	TVD (ft)
Conductor	120	20"				New		120
Surface	950	13-3/8"	54.5	J-55	BTC	New	17.5	950
Intermediate	4961	9-5/8"	40	L-80	LTC	New	12.25	4950
Production	21212	5-1/2"	20	P110	GBCD	New	8.5	10500

Mud Type	Mud Weight Hole Control	Depth	Viscosity	Fluid Loss
FW	8.4 - 9.0	900	32 - 34	NC
Brine	9.8 - 10.2	4800	28	NC
CBrine	8.7 - 9.2	21212	28 - 29	NC

Anticipated Mud Weight (ppg)	Max Pore Pressure (psi)	Collapse (psi)	Burst (psi)	Body Tensile Strength	Joint Tensile Strength
9	445	1130	2730	853000	909000
10	2574	3090	5750	916000	727000
9.2	5023	11000	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)
2.5	6.1	16.5	17.6
1.2	2.2	4.6	3.7
2.2	2.5	3.1	3.2

Red Hills Federal 705H

Casing Assumptions

Interval	Length	Casing Size	Weight (#/ft)	Grade	Thread	Condition	Hole Size	TVD (ft)
Conductor	120	20"				New		120
Surface	950	13-3/8"	54.5	J-55	BTC	New	17.5	950
Intermediate	4961	9-5/8"	40	L-80	LTC	New	12.25	4950
Production	21212	5-1/2"	20	P110	GBCD	New	8.5	10500

Mud Type	Mud Weight Hole Control	Depth	Viscosity	Fluid Loss
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2.5	6.1	16.5	17.6
1.2	2.2	4.6	3.7
2.2	2.5	3.1	3.2

Red Hills Federal 705H

Casing Assumptions

Interval	Length	Casing Size	Weight (#/ft)	Grade	Thread	Condition	Hole Size	TVD (ft)
Conductor	120	20"				New		120
Surface	950	13-3/8"	54.5	J-55	BTC	New	17.5	950
Intermediate	4961	9-5/8"	40	L-80	LTC	New	12.25	4950
Production	21212	5-1/2"	20	P110	GBCD	New	8.5	10500

Mud Type	Mud Weight Hole Control	Depth	Viscosity	Fluid Loss
FW	8.4 - 9.0	900	32 - 34	NC
Brine	9.8 - 10.2	4800	28	NC
CBrine	8.7 - 9.2	21212	28 - 29	NC

Anticipated Mud Weight (ppg)	Max Pore Pressure (psi)	Collapse (psi)	Burst (psi)	Body Tensile Strength	Joint Tensile Strength
9	445	1130	2730	853000	909000
10	2574	3090	5750	916000	727000
9.2	5023	11000	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)
2.5	6.1	16.5	17.6
1.2	2.2	4.6	3.7
2.2	2.5	3.1	3.2

Kaiser-Francis Oil Company

Project: Permian NM E'83
County: Lea
Site: Red Hills Pad 7
Well: Red Hills 705H
Wellbore: #705H OH
Design: Plan #2

TITAN Directional Drilling

CASING DETAILS

TVD	MD	Name
950.00	950.00	13 3/8"
4950.00	4961.33	9 5/8"

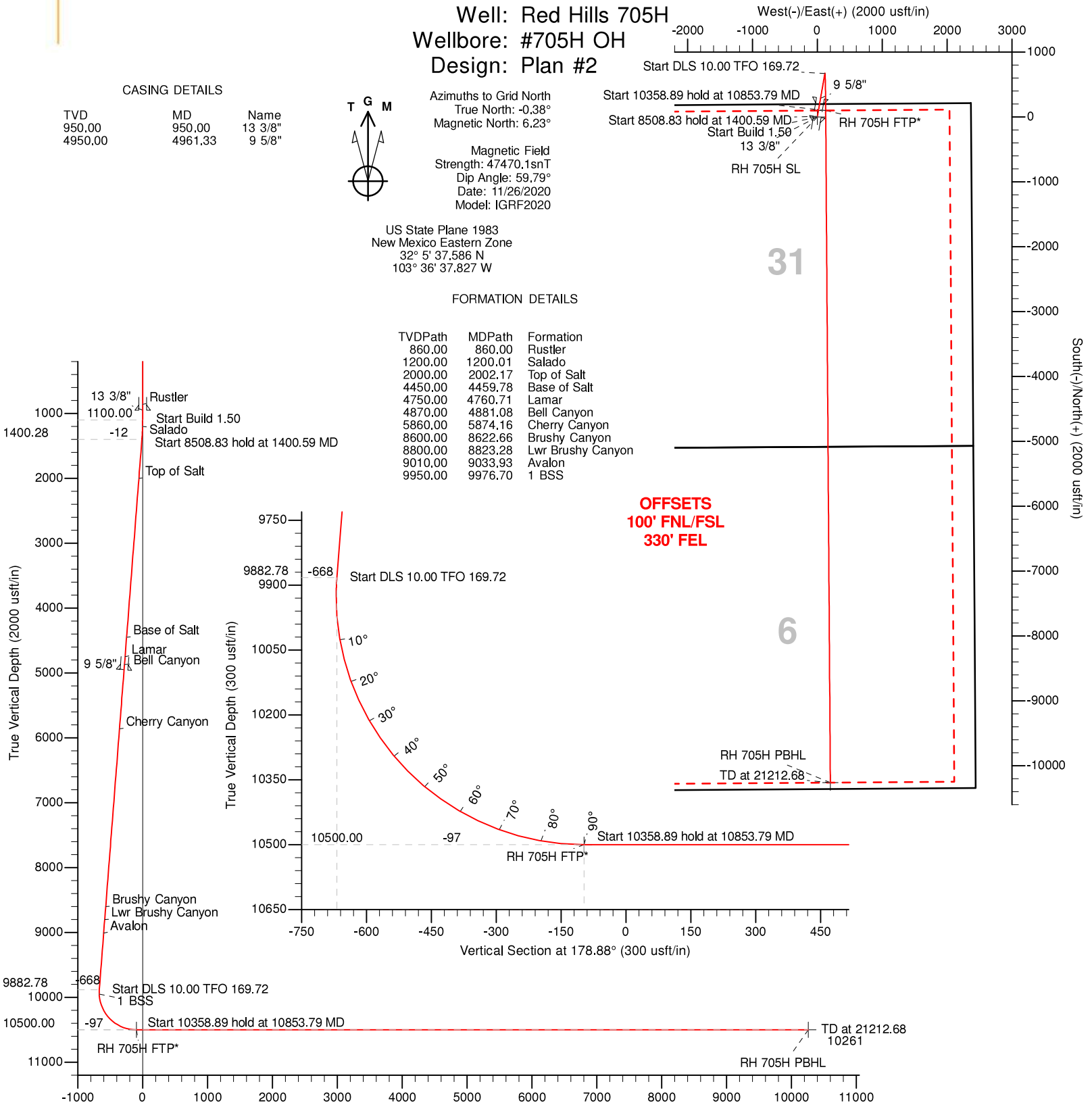
Azimuths to Grid North
True North: -0.38°
Magnetic North: 6.23°

Magnetic Field
Strength: 47470.1snT
Dip Angle: 59.79°
Date: 11/26/2020
Model: IGRF2020

US State Plane 1983
New Mexico Eastern Zone
32° 5' 37.586 N
103° 36' 37.827 W

FORMATION DETAILS

TVDPath	MDPath	Formation
860.00	860.00	Rustler
1200.00	1200.01	Salado
2000.00	2002.17	Top of Salt
4450.00	4459.78	Base of Salt
4750.00	4760.71	Lamar
4870.00	4881.08	Bell Canyon
5860.00	5874.16	Cherry Canyon
8600.00	8622.66	Brushy Canyon
8800.00	8823.28	Lwr Brushy Canyon
9010.00	9033.93	Avalon
9950.00	9976.70	1 BSS



DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
RH 705H SL	0.00	0.00	0.00	398601.91	765179.17	32° 5' 37.586 N	103° 36' 37.827 W
RH 705H FTP*	10500.00	99.52	129.12	398701.43	765308.29	32° 5' 38.562 N	103° 36' 36.318 W
RH 705H PBHL	10500.00	-10259.11	201.19	388343.14	765380.35	32° 3' 56.057 N	103° 36' 36.288 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	1100.00	0.00	0.00	1100.00	0.00	0.00	0.00	0.00	0.00	
3	1400.59	4.51	9.85	1400.28	11.65	2.02	1.50	9.85	-11.61	
4	9909.42	4.51	9.85	9882.78	670.69	116.49	0.00	0.00	-668.28	
5	10853.79	90.00	179.60	10500.00	99.52	129.12	10.00	169.72	-96.97	RH 705H FTP*
6	21212.68	90.00	179.60	10500.00	-10259.11	201.19	0.00	0.00	10261.09	RH 705H PBHL

S31-T25S-R33E SL
200'FNL 2370'FEL
S31-T25S-R33E FTP
100'FNL 2240'FEL
S6-T26S-R33E PBHL
100'FSL 2240'FEL

Titan Directional Drilling

Survey Report

Company:	Kaiser-Francis Oil Company	**Local Co-ordinate Reference:**	Well Red Hills 705H - Slot H
Project:	Permian NM E'83	**TVD Reference:**	est.GL+KB @ 3436.00usft (planning)
Site:	Red Hills Pad 7	**MD Reference:**	est.GL+KB @ 3436.00usft (planning)
Well:	Red Hills 705H	**North Reference:**	Grid
Wellbore:	#705H OH	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan #2	**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	Red Hills Pad 7, Centered on 405H				
Site Position:		**Northing:**	398,599.80 usft	**Latitude:**	32° 5' 37.571 N
From:	Map	**Easting:**	765,079.55 usft	**Longitude:**	103° 36' 38.985 W
Position Uncertainty:	0.00 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.38 °

Well	Red Hills 705H - Slot H					
Well Position	**+N/-S**	0.00 usft	**Northing:**	398,601.91 usft	**Latitude:**	32° 5' 37.586 N
	+E/-W	0.00 usft	**Easting:**	765,179.17 usft	**Longitude:**	103° 36' 37.827 W
Position Uncertainty		0.00 usft	**Wellhead Elevation:**	usft	**Ground Level:**	3,410.10 usft

Wellbore	#705H OH			
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF2020	11/26/20	6.62	59.79	47,470.06703818

Design	Plan #2				
Audit Notes:	p2 for depth correction				
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	178.88

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
860.00	0.00	0.00	860.00	0.00	0.00	0.00	0.00	0.00	0.00
Rustler									
950.00	0.00	0.00	950.00	0.00	0.00	0.00	0.00	0.00	0.00
13 3/8"									
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	1.50	9.85	1,199.99	1.29	0.22	-1.28	1.50	1.50	0.00
1,200.01	1.50	9.85	1,200.00	1.29	0.22	-1.29	0.00	0.00	0.00
Salado									
1,300.00	3.00	9.85	1,299.91	5.16	0.90	-5.14	1.50	1.50	0.00
1,400.59	4.51	9.85	1,400.28	11.65	2.02	-11.61	1.50	1.50	0.00
1,500.00	4.51	9.85	1,499.38	19.35	3.36	-19.28	0.00	0.00	0.00
1,600.00	4.51	9.85	1,599.07	27.09	4.71	-26.99	0.00	0.00	0.00
1,700.00	4.51	9.85	1,698.76	34.84	6.05	-34.71	0.00	0.00	0.00
1,800.00	4.51	9.85	1,798.45	42.58	7.40	-42.43	0.00	0.00	0.00
1,900.00	4.51	9.85	1,898.14	50.33	8.74	-50.15	0.00	0.00	0.00

Titan Directional Drilling

Survey Report

Company:	Kaiser-Francis Oil Company	**Local Co-ordinate Reference:**	Well Red Hills 705H - Slot H
Project:	Permian NM E'83	**TVD Reference:**	est.GL+KB @ 3436.00usft (planning)
Site:	Red Hills Pad 7	**MD Reference:**	est.GL+KB @ 3436.00usft (planning)
Well:	Red Hills 705H	**North Reference:**	Grid
Wellbore:	#705H OH	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan #2	**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)
2,000.00	4.51	9.85	1,997.83	58.07	10.09	-57.86	0.00	0.00	0.00
2,002.17	4.51	9.85	2,000.00	58.24	10.12	-58.03	0.00	0.00	0.00
Top of Salt									
2,100.00	4.51	9.85	2,097.53	65.82	11.43	-65.58	0.00	0.00	0.00
2,200.00	4.51	9.85	2,197.22	73.56	12.78	-73.30	0.00	0.00	0.00
2,300.00	4.51	9.85	2,296.91	81.31	14.12	-81.02	0.00	0.00	0.00
2,400.00	4.51	9.85	2,396.60	89.06	15.47	-88.73	0.00	0.00	0.00
2,500.00	4.51	9.85	2,496.29	96.80	16.81	-96.45	0.00	0.00	0.00
2,600.00	4.51	9.85	2,595.98	104.55	18.16	-104.17	0.00	0.00	0.00
2,700.00	4.51	9.85	2,695.67	112.29	19.50	-111.89	0.00	0.00	0.00
2,800.00	4.51	9.85	2,795.36	120.04	20.85	-119.60	0.00	0.00	0.00
2,900.00	4.51	9.85	2,895.05	127.78	22.19	-127.32	0.00	0.00	0.00
3,000.00	4.51	9.85	2,994.74	135.53	23.54	-135.04	0.00	0.00	0.00
3,100.00	4.51	9.85	3,094.43	143.27	24.88	-142.76	0.00	0.00	0.00
3,200.00	4.51	9.85	3,194.12	151.02	26.23	-150.47	0.00	0.00	0.00
3,300.00	4.51	9.85	3,293.81	158.76	27.57	-158.19	0.00	0.00	0.00
3,400.00	4.51	9.85	3,393.50	166.51	28.92	-165.91	0.00	0.00	0.00
3,500.00	4.51	9.85	3,493.19	174.25	30.26	-173.63	0.00	0.00	0.00
3,600.00	4.51	9.85	3,592.88	182.00	31.61	-181.34	0.00	0.00	0.00
3,700.00	4.51	9.85	3,692.57	189.75	32.96	-189.06	0.00	0.00	0.00
3,800.00	4.51	9.85	3,792.26	197.49	34.30	-196.78	0.00	0.00	0.00
3,900.00	4.51	9.85	3,891.95	205.24	35.65	-204.50	0.00	0.00	0.00
4,000.00	4.51	9.85	3,991.65	212.98	36.99	-212.22	0.00	0.00	0.00
4,100.00	4.51	9.85	4,091.34	220.73	38.34	-219.93	0.00	0.00	0.00
4,200.00	4.51	9.85	4,191.03	228.47	39.68	-227.65	0.00	0.00	0.00
4,300.00	4.51	9.85	4,290.72	236.22	41.03	-235.37	0.00	0.00	0.00
4,400.00	4.51	9.85	4,390.41	243.96	42.37	-243.09	0.00	0.00	0.00
4,459.78	4.51	9.85	4,450.00	248.59	43.18	-247.70	0.00	0.00	0.00
Base of Salt									
4,500.00	4.51	9.85	4,490.10	251.71	43.72	-250.80	0.00	0.00	0.00
4,600.00	4.51	9.85	4,589.79	259.45	45.06	-258.52	0.00	0.00	0.00
4,700.00	4.51	9.85	4,689.48	267.20	46.41	-266.24	0.00	0.00	0.00
4,760.71	4.51	9.85	4,750.00	271.90	47.22	-270.92	0.00	0.00	0.00
Lamar									
4,800.00	4.51	9.85	4,789.17	274.94	47.75	-273.96	0.00	0.00	0.00
4,881.08	4.51	9.85	4,870.00	281.22	48.84	-280.21	0.00	0.00	0.00
Bell Canyon									
4,900.00	4.51	9.85	4,888.86	282.69	49.10	-281.67	0.00	0.00	0.00
4,961.33	4.51	9.85	4,950.00	287.44	49.92	-286.41	0.00	0.00	0.00
9 5/8"									
5,000.00	4.51	9.85	4,988.55	290.44	50.44	-289.39	0.00	0.00	0.00
5,100.00	4.51	9.85	5,088.24	298.18	51.79	-297.11	0.00	0.00	0.00
5,200.00	4.51	9.85	5,187.93	305.93	53.13	-304.83	0.00	0.00	0.00
5,300.00	4.51	9.85	5,287.62	313.67	54.48	-312.54	0.00	0.00	0.00

Titan Directional Drilling

Survey Report

Company:	Kaiser-Francis Oil Company	**Local Co-ordinate Reference:**	Well Red Hills 705H - Slot H
Project:	Permian NM E'83	**TVD Reference:**	est.GL+KB @ 3436.00usft (planning)
Site:	Red Hills Pad 7	**MD Reference:**	est.GL+KB @ 3436.00usft (planning)
Well:	Red Hills 705H	**North Reference:**	Grid
Wellbore:	#705H OH	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan #2	**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)
5,400.00	4.51	9.85	5,387.31	321.42	55.82	-320.26	0.00	0.00	0.00
5,500.00	4.51	9.85	5,487.00	329.16	57.17	-327.98	0.00	0.00	0.00
5,600.00	4.51	9.85	5,586.69	336.91	58.51	-335.70	0.00	0.00	0.00
5,700.00	4.51	9.85	5,686.38	344.65	59.86	-343.41	0.00	0.00	0.00
5,800.00	4.51	9.85	5,786.07	352.40	61.21	-351.13	0.00	0.00	0.00
5,874.16	4.51	9.85	5,860.00	358.14	62.20	-356.85	0.00	0.00	0.00
Cherry Canyon									
5,900.00	4.51	9.85	5,885.77	360.14	62.55	-358.85	0.00	0.00	0.00
6,000.00	4.51	9.85	5,985.46	367.89	63.90	-366.57	0.00	0.00	0.00
6,100.00	4.51	9.85	6,085.15	375.63	65.24	-374.28	0.00	0.00	0.00
6,200.00	4.51	9.85	6,184.84	383.38	66.59	-382.00	0.00	0.00	0.00
6,300.00	4.51	9.85	6,284.53	391.13	67.93	-389.72	0.00	0.00	0.00
6,400.00	4.51	9.85	6,384.22	398.87	69.28	-397.44	0.00	0.00	0.00
6,500.00	4.51	9.85	6,483.91	406.62	70.62	-405.15	0.00	0.00	0.00
6,600.00	4.51	9.85	6,583.60	414.36	71.97	-412.87	0.00	0.00	0.00
6,700.00	4.51	9.85	6,683.29	422.11	73.31	-420.59	0.00	0.00	0.00
6,800.00	4.51	9.85	6,782.98	429.85	74.66	-428.31	0.00	0.00	0.00
6,900.00	4.51	9.85	6,882.67	437.60	76.00	-436.02	0.00	0.00	0.00
7,000.00	4.51	9.85	6,982.36	445.34	77.35	-443.74	0.00	0.00	0.00
7,100.00	4.51	9.85	7,082.05	453.09	78.69	-451.46	0.00	0.00	0.00
7,200.00	4.51	9.85	7,181.74	460.83	80.04	-459.18	0.00	0.00	0.00
7,300.00	4.51	9.85	7,281.43	468.58	81.38	-466.89	0.00	0.00	0.00
7,400.00	4.51	9.85	7,381.12	476.32	82.73	-474.61	0.00	0.00	0.00
7,500.00	4.51	9.85	7,480.81	484.07	84.07	-482.33	0.00	0.00	0.00
7,600.00	4.51	9.85	7,580.50	491.82	85.42	-490.05	0.00	0.00	0.00
7,700.00	4.51	9.85	7,680.19	499.56	86.76	-497.76	0.00	0.00	0.00
7,800.00	4.51	9.85	7,779.88	507.31	88.11	-505.48	0.00	0.00	0.00
7,900.00	4.51	9.85	7,879.58	515.05	89.45	-513.20	0.00	0.00	0.00
8,000.00	4.51	9.85	7,979.27	522.80	90.80	-520.92	0.00	0.00	0.00
8,100.00	4.51	9.85	8,078.96	530.54	92.15	-528.63	0.00	0.00	0.00
8,200.00	4.51	9.85	8,178.65	538.29	93.49	-536.35	0.00	0.00	0.00
8,300.00	4.51	9.85	8,278.34	546.03	94.84	-544.07	0.00	0.00	0.00
8,400.00	4.51	9.85	8,378.03	553.78	96.18	-551.79	0.00	0.00	0.00
8,500.00	4.51	9.85	8,477.72	561.52	97.53	-559.50	0.00	0.00	0.00
8,600.00	4.51	9.85	8,577.41	569.27	98.87	-567.22	0.00	0.00	0.00
8,622.66	4.51	9.85	8,600.00	571.02	99.18	-568.97	0.00	0.00	0.00
Brushy Canyon									
8,700.00	4.51	9.85	8,677.10	577.01	100.22	-574.94	0.00	0.00	0.00
8,800.00	4.51	9.85	8,776.79	584.76	101.56	-582.66	0.00	0.00	0.00
8,823.28	4.51	9.85	8,800.00	586.56	101.88	-584.45	0.00	0.00	0.00
Lwr Brushy Canyon									
8,900.00	4.51	9.85	8,876.48	592.51	102.91	-590.37	0.00	0.00	0.00
9,000.00	4.51	9.85	8,976.17	600.25	104.25	-598.09	0.00	0.00	0.00
9,033.93	4.51	9.85	9,010.00	602.88	104.71	-600.71	0.00	0.00	0.00

Titan Directional Drilling

Survey Report

Company:	Kaiser-Francis Oil Company	**Local Co-ordinate Reference:**	Well Red Hills 705H - Slot H
Project:	Permian NM E'83	**TVD Reference:**	est.GL+KB @ 3436.00usft (planning)
Site:	Red Hills Pad 7	**MD Reference:**	est.GL+KB @ 3436.00usft (planning)
Well:	Red Hills 705H	**North Reference:**	Grid
Wellbore:	#705H OH	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan #2	**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)
Avalon									
9,100.00	4.51	9.85	9,075.86	608.00	105.60	-605.81	0.00	0.00	0.00
9,200.00	4.51	9.85	9,175.55	615.74	106.94	-613.53	0.00	0.00	0.00
9,300.00	4.51	9.85	9,275.24	623.49	108.29	-621.24	0.00	0.00	0.00
9,400.00	4.51	9.85	9,374.93	631.23	109.63	-628.96	0.00	0.00	0.00
9,500.00	4.51	9.85	9,474.62	638.98	110.98	-636.68	0.00	0.00	0.00
9,600.00	4.51	9.85	9,574.31	646.72	112.32	-644.40	0.00	0.00	0.00
9,700.00	4.51	9.85	9,674.00	654.47	113.67	-652.11	0.00	0.00	0.00
9,800.00	4.51	9.85	9,773.70	662.21	115.01	-659.83	0.00	0.00	0.00
9,909.42	4.51	9.85	9,882.78	670.69	116.49	-668.28	0.00	0.00	0.00
9,950.00	0.89	64.36	9,923.31	672.40	117.04	-669.97	10.00	-8.92	134.33
9,976.70	2.43	160.27	9,950.00	671.95	117.42	-669.52	10.00	5.76	359.22
1 BSS									
10,000.00	4.69	169.75	9,973.25	670.55	117.76	-668.11	10.00	9.71	40.69
10,050.00	9.65	174.87	10,022.85	664.36	118.50	-661.91	10.00	9.93	10.23
10,100.00	14.64	176.52	10,071.71	653.87	119.25	-651.41	10.00	9.98	3.31
10,150.00	19.64	177.35	10,119.48	639.16	120.03	-636.68	10.00	9.99	1.65
10,200.00	24.63	177.85	10,165.78	620.34	120.81	-617.86	10.00	9.99	1.00
10,250.00	29.63	178.19	10,210.26	597.56	121.59	-595.06	10.00	10.00	0.68
10,300.00	34.63	178.44	10,252.59	570.99	122.37	-568.48	10.00	10.00	0.50
10,350.00	39.63	178.63	10,292.44	540.83	123.14	-538.31	10.00	10.00	0.39
10,400.00	44.63	178.79	10,329.51	507.31	123.89	-504.78	10.00	10.00	0.31
10,450.00	49.63	178.92	10,363.52	470.69	124.62	-468.15	10.00	10.00	0.26
10,500.00	54.62	179.03	10,394.21	431.24	125.33	-428.70	10.00	10.00	0.23
10,550.00	59.62	179.13	10,421.34	389.26	126.00	-386.72	10.00	10.00	0.20
10,600.00	64.62	179.22	10,444.71	345.08	126.64	-342.53	10.00	10.00	0.18
10,650.00	69.62	179.30	10,464.14	299.04	127.23	-296.48	10.00	10.00	0.17
10,700.00	74.62	179.38	10,479.49	251.47	127.78	-248.91	10.00	10.00	0.16
10,750.00	79.62	179.45	10,490.63	202.74	128.27	-200.19	10.00	10.00	0.15
10,800.00	84.62	179.53	10,497.48	153.23	128.71	-150.68	10.00	10.00	0.14
10,853.79	90.00	179.60	10,500.00	99.52	129.12	-96.97	10.00	10.00	0.14
10,900.00	90.00	179.60	10,500.00	53.31	129.44	-50.77	0.00	0.00	0.00
11,000.00	90.00	179.60	10,500.00	-46.68	130.14	49.23	0.00	0.00	0.00
11,100.00	90.00	179.60	10,500.00	-146.68	130.84	149.22	0.00	0.00	0.00
11,200.00	90.00	179.60	10,500.00	-246.68	131.53	249.21	0.00	0.00	0.00
11,300.00	90.00	179.60	10,500.00	-346.68	132.23	349.20	0.00	0.00	0.00
11,400.00	90.00	179.60	10,500.00	-446.67	132.92	449.19	0.00	0.00	0.00
11,500.00	90.00	179.60	10,500.00	-546.67	133.62	549.19	0.00	0.00	0.00
11,600.00	90.00	179.60	10,500.00	-646.67	134.31	649.18	0.00	0.00	0.00
11,700.00	90.00	179.60	10,500.00	-746.67	135.01	749.17	0.00	0.00	0.00
11,800.00	90.00	179.60	10,500.00	-846.66	135.70	849.16	0.00	0.00	0.00
11,900.00	90.00	179.60	10,500.00	-946.66	136.40	949.15	0.00	0.00	0.00
12,000.00	90.00	179.60	10,500.00	-1,046.66	137.10	1,049.15	0.00	0.00	0.00
12,100.00	90.00	179.60	10,500.00	-1,146.66	137.79	1,149.14	0.00	0.00	0.00

Titan Directional Drilling

Survey Report

Company:	Kaiser-Francis Oil Company	**Local Co-ordinate Reference:**	Well Red Hills 705H - Slot H
Project:	Permian NM E'83	**TVD Reference:**	est.GL+KB @ 3436.00usft (planning)
Site:	Red Hills Pad 7	**MD Reference:**	est.GL+KB @ 3436.00usft (planning)
Well:	Red Hills 705H	**North Reference:**	Grid
Wellbore:	#705H OH	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan #2	**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)
12,200.00	90.00	179.60	10,500.00	-1,246.65	138.49	1,249.13	0.00	0.00	0.00
12,300.00	90.00	179.60	10,500.00	-1,346.65	139.18	1,349.12	0.00	0.00	0.00
12,400.00	90.00	179.60	10,500.00	-1,446.65	139.88	1,449.11	0.00	0.00	0.00
12,500.00	90.00	179.60	10,500.00	-1,546.65	140.57	1,549.11	0.00	0.00	0.00
12,600.00	90.00	179.60	10,500.00	-1,646.64	141.27	1,649.10	0.00	0.00	0.00
12,700.00	90.00	179.60	10,500.00	-1,746.64	141.97	1,749.09	0.00	0.00	0.00
12,800.00	90.00	179.60	10,500.00	-1,846.64	142.66	1,849.08	0.00	0.00	0.00
12,900.00	90.00	179.60	10,500.00	-1,946.64	143.36	1,949.07	0.00	0.00	0.00
13,000.00	90.00	179.60	10,500.00	-2,046.63	144.05	2,049.07	0.00	0.00	0.00
13,100.00	90.00	179.60	10,500.00	-2,146.63	144.75	2,149.06	0.00	0.00	0.00
13,200.00	90.00	179.60	10,500.00	-2,246.63	145.44	2,249.05	0.00	0.00	0.00
13,300.00	90.00	179.60	10,500.00	-2,346.63	146.14	2,349.04	0.00	0.00	0.00
13,400.00	90.00	179.60	10,500.00	-2,446.63	146.84	2,449.03	0.00	0.00	0.00
13,500.00	90.00	179.60	10,500.00	-2,546.62	147.53	2,549.03	0.00	0.00	0.00
13,600.00	90.00	179.60	10,500.00	-2,646.62	148.23	2,649.02	0.00	0.00	0.00
13,700.00	90.00	179.60	10,500.00	-2,746.62	148.92	2,749.01	0.00	0.00	0.00
13,800.00	90.00	179.60	10,500.00	-2,846.62	149.62	2,849.00	0.00	0.00	0.00
13,900.00	90.00	179.60	10,500.00	-2,946.61	150.31	2,948.99	0.00	0.00	0.00
14,000.00	90.00	179.60	10,500.00	-3,046.61	151.01	3,048.99	0.00	0.00	0.00
14,100.00	90.00	179.60	10,500.00	-3,146.61	151.71	3,148.98	0.00	0.00	0.00
14,200.00	90.00	179.60	10,500.00	-3,246.61	152.40	3,248.97	0.00	0.00	0.00
14,300.00	90.00	179.60	10,500.00	-3,346.60	153.10	3,348.96	0.00	0.00	0.00
14,400.00	90.00	179.60	10,500.00	-3,446.60	153.79	3,448.95	0.00	0.00	0.00
14,500.00	90.00	179.60	10,500.00	-3,546.60	154.49	3,548.95	0.00	0.00	0.00
14,600.00	90.00	179.60	10,500.00	-3,646.60	155.18	3,648.94	0.00	0.00	0.00
14,700.00	90.00	179.60	10,500.00	-3,746.59	155.88	3,748.93	0.00	0.00	0.00
14,800.00	90.00	179.60	10,500.00	-3,846.59	156.58	3,848.92	0.00	0.00	0.00
14,900.00	90.00	179.60	10,500.00	-3,946.59	157.27	3,948.91	0.00	0.00	0.00
15,000.00	90.00	179.60	10,500.00	-4,046.59	157.97	4,048.91	0.00	0.00	0.00
15,100.00	90.00	179.60	10,500.00	-4,146.58	158.66	4,148.90	0.00	0.00	0.00
15,200.00	90.00	179.60	10,500.00	-4,246.58	159.36	4,248.89	0.00	0.00	0.00
15,300.00	90.00	179.60	10,500.00	-4,346.58	160.05	4,348.88	0.00	0.00	0.00
15,400.00	90.00	179.60	10,500.00	-4,446.58	160.75	4,448.87	0.00	0.00	0.00
15,500.00	90.00	179.60	10,500.00	-4,546.57	161.44	4,548.87	0.00	0.00	0.00
15,600.00	90.00	179.60	10,500.00	-4,646.57	162.14	4,648.86	0.00	0.00	0.00
15,700.00	90.00	179.60	10,500.00	-4,746.57	162.84	4,748.85	0.00	0.00	0.00
15,800.00	90.00	179.60	10,500.00	-4,846.57	163.53	4,848.84	0.00	0.00	0.00
15,900.00	90.00	179.60	10,500.00	-4,946.56	164.23	4,948.83	0.00	0.00	0.00
16,000.00	90.00	179.60	10,500.00	-5,046.56	164.92	5,048.83	0.00	0.00	0.00
16,100.00	90.00	179.60	10,500.00	-5,146.56	165.62	5,148.82	0.00	0.00	0.00
16,200.00	90.00	179.60	10,500.00	-5,246.56	166.31	5,248.81	0.00	0.00	0.00
16,300.00	90.00	179.60	10,500.00	-5,346.56	167.01	5,348.80	0.00	0.00	0.00
16,400.00	90.00	179.60	10,500.00	-5,446.55	167.71	5,448.79	0.00	0.00	0.00

Titan Directional Drilling

Survey Report

Company:	Kaiser-Francis Oil Company	**Local Co-ordinate Reference:**	Well Red Hills 705H - Slot H
Project:	Permian NM E'83	**TVD Reference:**	est.GL+KB @ 3436.00usft (planning)
Site:	Red Hills Pad 7	**MD Reference:**	est.GL+KB @ 3436.00usft (planning)
Well:	Red Hills 705H	**North Reference:**	Grid
Wellbore:	#705H OH	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan #2	**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)
16,500.00	90.00	179.60	10,500.00	-5,546.55	168.40	5,548.79	0.00	0.00	0.00
16,600.00	90.00	179.60	10,500.00	-5,646.55	169.10	5,648.78	0.00	0.00	0.00
16,700.00	90.00	179.60	10,500.00	-5,746.55	169.79	5,748.77	0.00	0.00	0.00
16,800.00	90.00	179.60	10,500.00	-5,846.54	170.49	5,848.76	0.00	0.00	0.00
16,900.00	90.00	179.60	10,500.00	-5,946.54	171.18	5,948.75	0.00	0.00	0.00
17,000.00	90.00	179.60	10,500.00	-6,046.54	171.88	6,048.75	0.00	0.00	0.00
17,100.00	90.00	179.60	10,500.00	-6,146.54	172.58	6,148.74	0.00	0.00	0.00
17,200.00	90.00	179.60	10,500.00	-6,246.53	173.27	6,248.73	0.00	0.00	0.00
17,300.00	90.00	179.60	10,500.00	-6,346.53	173.97	6,348.72	0.00	0.00	0.00
17,400.00	90.00	179.60	10,500.00	-6,446.53	174.66	6,448.71	0.00	0.00	0.00
17,500.00	90.00	179.60	10,500.00	-6,546.53	175.36	6,548.71	0.00	0.00	0.00
17,600.00	90.00	179.60	10,500.00	-6,646.52	176.05	6,648.70	0.00	0.00	0.00
17,700.00	90.00	179.60	10,500.00	-6,746.52	176.75	6,748.69	0.00	0.00	0.00
17,800.00	90.00	179.60	10,500.00	-6,846.52	177.45	6,848.68	0.00	0.00	0.00
17,900.00	90.00	179.60	10,500.00	-6,946.52	178.14	6,948.67	0.00	0.00	0.00
18,000.00	90.00	179.60	10,500.00	-7,046.51	178.84	7,048.67	0.00	0.00	0.00
18,100.00	90.00	179.60	10,500.00	-7,146.51	179.53	7,148.66	0.00	0.00	0.00
18,200.00	90.00	179.60	10,500.00	-7,246.51	180.23	7,248.65	0.00	0.00	0.00
18,300.00	90.00	179.60	10,500.00	-7,346.51	180.92	7,348.64	0.00	0.00	0.00
18,400.00	90.00	179.60	10,500.00	-7,446.50	181.62	7,448.63	0.00	0.00	0.00
18,500.00	90.00	179.60	10,500.00	-7,546.50	182.32	7,548.63	0.00	0.00	0.00
18,600.00	90.00	179.60	10,500.00	-7,646.50	183.01	7,648.62	0.00	0.00	0.00
18,700.00	90.00	179.60	10,500.00	-7,746.50	183.71	7,748.61	0.00	0.00	0.00
18,800.00	90.00	179.60	10,500.00	-7,846.49	184.40	7,848.60	0.00	0.00	0.00
18,900.00	90.00	179.60	10,500.00	-7,946.49	185.10	7,948.59	0.00	0.00	0.00
19,000.00	90.00	179.60	10,500.00	-8,046.49	185.79	8,048.59	0.00	0.00	0.00
19,100.00	90.00	179.60	10,500.00	-8,146.49	186.49	8,148.58	0.00	0.00	0.00
19,200.00	90.00	179.60	10,500.00	-8,246.49	187.19	8,248.57	0.00	0.00	0.00
19,300.00	90.00	179.60	10,500.00	-8,346.48	187.88	8,348.56	0.00	0.00	0.00
19,400.00	90.00	179.60	10,500.00	-8,446.48	188.58	8,448.55	0.00	0.00	0.00
19,500.00	90.00	179.60	10,500.00	-8,546.48	189.27	8,548.55	0.00	0.00	0.00
19,600.00	90.00	179.60	10,500.00	-8,646.48	189.97	8,648.54	0.00	0.00	0.00
19,700.00	90.00	179.60	10,500.00	-8,746.47	190.66	8,748.53	0.00	0.00	0.00
19,800.00	90.00	179.60	10,500.00	-8,846.47	191.36	8,848.52	0.00	0.00	0.00
19,900.00	90.00	179.60	10,500.00	-8,946.47	192.05	8,948.51	0.00	0.00	0.00
20,000.00	90.00	179.60	10,500.00	-9,046.47	192.75	9,048.51	0.00	0.00	0.00
20,100.00	90.00	179.60	10,500.00	-9,146.46	193.45	9,148.50	0.00	0.00	0.00
20,200.00	90.00	179.60	10,500.00	-9,246.46	194.14	9,248.49	0.00	0.00	0.00
20,300.00	90.00	179.60	10,500.00	-9,346.46	194.84	9,348.48	0.00	0.00	0.00
20,400.00	90.00	179.60	10,500.00	-9,446.46	195.53	9,448.47	0.00	0.00	0.00
20,500.00	90.00	179.60	10,500.00	-9,546.45	196.23	9,548.47	0.00	0.00	0.00
20,600.00	90.00	179.60	10,500.00	-9,646.45	196.92	9,648.46	0.00	0.00	0.00
20,700.00	90.00	179.60	10,500.00	-9,746.45	197.62	9,748.45	0.00	0.00	0.00

Titan Directional Drilling

Survey Report

Company:	Kaiser-Francis Oil Company	**Local Co-ordinate Reference:**	Well Red Hills 705H - Slot H
Project:	Permian NM E'83	**TVD Reference:**	est.GL+KB @ 3436.00usft (planning)
Site:	Red Hills Pad 7	**MD Reference:**	est.GL+KB @ 3436.00usft (planning)
Well:	Red Hills 705H	**North Reference:**	Grid
Wellbore:	#705H OH	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan #2	**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)
20,800.00	90.00	179.60	10,500.00	-9,846.45	198.32	9,848.44	0.00	0.00	0.00
20,900.00	90.00	179.60	10,500.00	-9,946.44	199.01	9,948.43	0.00	0.00	0.00
21,000.00	90.00	179.60	10,500.00	-10,046.44	199.71	10,048.43	0.00	0.00	0.00
21,100.00	90.00	179.60	10,500.00	-10,146.44	200.40	10,148.42	0.00	0.00	0.00
21,200.00	90.00	179.60	10,500.00	-10,246.44	201.10	10,248.41	0.00	0.00	0.00
21,212.68	90.00	179.60	10,500.00	-10,259.11	201.19	10,261.09	0.00	0.00	0.00

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
950.00	950.00	13 3/8"	13-3/8	17-1/2
4,961.33	4,950.00	9 5/8"	9-5/8	12-1/4

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
860.00	860.00	Rustler			
1,200.01	1,200.00	Salado			
2,002.17	2,000.00	Top of Salt			
4,459.78	4,450.00	Base of Salt			
4,760.71	4,750.00	Lamar			
4,881.08	4,870.00	Bell Canyon			
5,874.16	5,860.00	Cherry Canyon			
8,622.66	8,600.00	Brushy Canyon			
8,823.28	8,800.00	Lwr Brushy Canyon			
9,033.93	9,010.00	Avalon			
9,976.70	9,950.00	1 BSS			

APD ID: 10400053004 **Submission Date:** 01/09/2020

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: RED HILLS FEDERAL **Well Number:** 705H

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:

RED_HILLS_705H_Existing_Roads_20200108100308.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:

RED_HILLS_705H_Access_Road_20200108100326.pdf

New road type: RESOURCE

Length: 862 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: 15

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:

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: Material will be obtained from BLM caliche pit in NWNW Section 23-T25S-R33E or BLM pit in NWNW Section 1-T25S-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:

RED_HILLS_705H_1_Mile_Wells_Map_20200108100357.pdf

RED_HILLS_705H_1_MILE_WELLS_20200108100358.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 8-1000 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 48"X 10' 2-phase sep

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: RED HILLS FEDERAL **Well Number:** 705H

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: Water sour ownership is a mixture of Federal, State and County.

Water source volume (barrels): 20000

Source volume (acre-feet): 2.577862

Source volume (gal): 840000

Water source type: OTHER

Describe type: FRESH WATER

Water source use type: OTHER
STIMULATION
SURFACE CASING

Describe use type: ROAD & PAD CONSTRUCTION &

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: Water sour ownership is a mixture of Federal, State and County.

Water source volume (barrels): 250000

Source volume (acre-feet): 32.223274

Source volume (gal): 10500000

Water source and transportation map:

Red_Hills_Pad_7_Water_Source_Map_20200103120254.pdf

Water source comments: Water 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 NWNW Section 23-T25S-R33E or NWNW Section 1-T25S-R33E

Construction Materials source location attachment:

Section 7 - Methods for Handling Waste

Waste type: GARBAGE

Waste content description: Miscellaneous trash

Amount of waste: 500 pounds

Waste disposal frequency : One Time Only

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)

Waste type: SEWAGE

Waste content description: Human waste and grey water

Amount of waste: 1000 gallons

Waste disposal frequency : One Time Only

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-T22SR27E)

Waste type: DRILLING

Waste content description: Drilling fluids and cuttings

Amount of waste: 3900 barrels

Waste disposal frequency : One Time Only

Safe containment description: All drilling fluids 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: Cuttings will be hauled to R360's facility located in Section 27-T20S-R32E on US 62/180 at Halfway, NM

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

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 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:

Red_Hills_Pad_7_Drilling_layout_20200103120508.pdf
RED_HILLS_705H_Well_Site_Layout_20200109095450.pdf

Comments:

Section 10 - Plans for Surface Reclamation

Type of disturbance: New Surface Disturbance

Multiple Well Pad Name: RED HILLS

Multiple Well Pad Number: 7

Recontouring attachment:

RED_HILLS_705H_IR_20200108100758.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: RED HILLS FEDERAL **Well Number:** 705H

Well pad proposed disturbance (acres): 4.895
Road proposed disturbance (acres): 0.593664
Powerline proposed disturbance (acres): 0
Pipeline proposed disturbance (acres): 0
Other proposed disturbance (acres): 0

Total proposed disturbance: 5.488664

Well pad interim reclamation (acres): 0.918
Road interim reclamation (acres): 0
Powerline interim reclamation (acres): 0
Pipeline interim reclamation (acres): 0
Other interim reclamation (acres): 0

Total interim reclamation: 0.918

Well pad long term disturbance (acres): 3.977
Road long term disturbance (acres): 0.593664
Powerline long term disturbance (acres): 0
Pipeline long term disturbance (acres): 0
Other long term disturbance (acres): 0

Total long term disturbance: 4.570664

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: N/A

Existing Vegetation Community at the pipeline attachment:

Existing Vegetation Community at other disturbances: N/A

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

APD ID: 10400053004 **Submission Date:** 01/09/2020

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: RED HILLS FEDERAL **Well Number:** 705H

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: RED HILLS FEDERAL **Well Number:** 705H

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: RED HILLS FEDERAL **Well Number:** 705H

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: RED HILLS FEDERAL **Well Number:** 705H

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

05/06/2020

APD ID: 10400053004

Submission Date: 01/09/2020

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: RED HILLS FEDERAL

Well Number: 705H

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: