PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	KAISER FRANCIS OIL COMPANY
LEASE NO.:	NMNM015321
WELL NAME & NO.:	RED HILLS 001H
SURFACE HOLE FOOTAGE:	2250'/S & 350/W
BOTTOM HOLE FOOTAGE	330'/S & 350'/W
LOCATION:	SECTION 31, T25S, R33E, NMPM
COUNTY:	LEA

Potash	◉ None	○ Secretary	○ R-111-P
Cave/Karst Potential	○ Low	◉ Medium	○ High
Variance	○ None	◉ Flex Hose	○ Other
Wellhead	○ Conventional	◉ Multibowl	
Other	☐4 String Area	☐Capitan Reef	☐WIPP

A. Hydrogen Sulfide

1. 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 **910** feet (a minimum of 25 feet 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:

- 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. Excess calculates to 1% - additional cement will be required.**

❖ In **Medium Cave/Karst Areas** if cement does not circulate to surface on the first two casing strings , the cement on the 3rd casing string must come to surface.

3. The minimum required fill of cement behind the **5 1/2** inch production casing is:

- Cement should tie-back at least **200** feet into previous casing string. Operator shall provide method of verification. **Excess calculates to negative 34% - additional cement will be required**

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.

Option 1:

i. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M)** psi.

Option 2:

i. 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 **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. 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.

D. SPECIAL REQUIREMENT(S)

Waste Minimization Plan (WMP)

In the interest of resource development, submission of additional well gas capture development plan information is deferred but may be required by the BLM Authorized Officer at a later date.

MHH 10230218

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)

☒ Chaves and Roosevelt Counties
Call the Roswell Field Office, 2909 West Second St., Roswell NM 88201.
During office hours call (575) 627-0272.
After office hours call (575)

☒ 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.

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.

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: 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.

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.

Form 3160-3
(March 2012)

FORM APPROVED
OMB No. 1004-0137
Expires October 31, 2014

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: DRILL REENTER	5. Lease Serial No.
1b. Type of Well: Oil Well Gas Well Other Single Zone Multiple Zone	6. If Indian, Allotee or Tribe Name
2. Name of Operator	7. If Unit or CA Agreement, Name and No.
3a. Address / 3b. Phone No. *(include area code)*	8. Lease Name and Well No.
4. Location of Well *(Report location clearly and in accordance with any State requirements.*)* At surface / At proposed prod. zone	9. API Well No.
14. Distance in miles and direction from nearest town or post office*	10. Field and Pool, or Exploratory
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	11. Sec., T. R. M. or Blk. and Survey or Area
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. / 19. Proposed Depth / 20. BLM/BIA Bond No. on file	12. County or Parish / 13. State
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, must be attached to this form:

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 required 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.

(Continued on page 2)

*(Instructions on page 2)

Approval Date: 10/31/2018

INSTRUCTIONS

GENERAL: This form is designed for submitting proposals to perform certain well operations, as indicated on Federal and Indian lands and leases for action by appropriate Federal agencies, pursuant to applicable Federal laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from local Federal offices.

ITEM 1: If the proposal is to redrill to the same reservoir at a different subsurface location or to a new reservoir, use this form with appropriate notations. Consult applicable Federal regulations concerning subsequent work proposals or reports on the well.

ITEM 4: Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local Federal offices for specific instructions.

ITEM 14: Needed only when location of well cannot readily be found by road from the land or lease description. A plat, or plats, separate or on the reverse side, showing the roads to, and the surveyed location of, the well, and any other required information, should be furnished when required by Federal agency offices.

ITEMS 15 AND 18: If well is to be, or has been directionally drilled, give distances for subsurface location of hole in any present or objective productive zone.

ITEM 22: Consult applicable Federal regulations, or appropriate officials, concerning approval of the proposal before operations are started.

NOTICES

The Privacy Act of 1974 and regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.
AUTHORITY: 30 U.S.C. 181 et seq., 25 U.S.C. 396; 43 CFR 3160
PRINCIPAL PURPOSES: The information will be used to: (1) process and evaluate your application for a permit to drill a new oil, gas, or service well or to reenter a plugged and abandoned well; and (2) document, for administrative use, information for the management, disposal and use of National Resource Lands and resources including (a) analyzing your proposal to discover and extract the Federal or Indian resources encountered; (b) reviewing procedures and equipment and the projected impact on the land involved; and (c) evaluating the effects of the proposed operation on the surface and subsurface water and other environmental impacts.
ROUTINE USE: Information from the record and/or the record will be transferred to appropriate Federal, State, and local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecution, in connection with congressional inquiries and for regulatory responsibilities.
EFFECT OF NOT PROVIDING INFORMATION: Filing of this application and disclosure of the information is mandatory only if you elect to initiate a drilling or reentry operation on an oil and gas lease.

The Paperwork Reduction Act of 1995 requires us to inform you that:
The BLM collects this information to allow evaluation of the technical, safety, and environmental factors involved with drilling for oil and/or gas on Federal and Indian oil and gas leases. This information will be used to analyze and approve applications. Response to this request is mandatory only if the operator elects to initiate drilling or reentry operations on an oil and gas lease. The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

BURDEN HOURS STATEMENT: Public reporting burden for this form is estimated to average 8 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0137), Bureau Information Collection Clearance Officer (WO-630), 1849 C Street, N.W., Mail Stop 401 LS, Washington, D.C. 20240.

Additional Operator Remarks

Location of Well

1. SHL: LOT 3 / 2250 FSL / 350 FWL / TWSP: 25S / RANGE: 33E / SECTION: 31 / LAT: 32.0858566 / LONG: -103.6183165 (TVD: 0 feet, MD: 0 feet)
   PPP: LOT 3 / 2310 FSL / 350 FWL / TWSP: 25S / RANGE: 33E / SECTION: 31 / LAT: 32.086061 / LONG: -103.618317 (TVD: 9138 feet, MD: 9250 feet)
   BHL: LOT 4 / 330 FSL / 350 FWL / TWSP: 26S / RANGE: 33E / SECTION: 6 / LAT: 32.0660753 / LONG: -103.6182434 (TVD: 9250 feet, MD: 16543 feet)

BLM Point of Contact

Name:

Title:

Phone:

Email:

Review and Appeal Rights

A person contesting a decision shall request a State Director review. This request must be filed within 20 working days of receipt of the Notice with the appropriate State Director (see 43 CFR 3165.3). The State Director review decision may be appealed to the Interior Board of Land Appeals, 801 North Quincy Street, Suite 300, Arlington, VA 22203 (see 43 CFR 3165.4). Contact the above listed Bureau of Land Management office for further information.

KAISER-FRANCIS OIL COMPANY
HYDROGEN SULFIDE (H_2S) CONTINGENCY PLAN
FOR DRILLING/COMPLETION WORKOVER/FACILITY

RED HILLS 001H
SECTION 31-T25S-R33E
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
Matt Warner	918/491-4379	720/556-2313

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:

$X = [(1.589)(concentration)(Q)]^{(0.6258)}$

Calculation for the 500 ppm ROE:

$X+[(0.4546)(concentration)(Q)]^{(.06258)}$

(H2S concentrations in decimal form)
10,000 ppm +=1.+
1,000 ppm +=.1+
100 ppm +=.01+
10 ppm +=.001+

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: Lea County, NM (NAD27)
Site: Red Hill
Well: 001H
Wellbore: OH
Design: Plan 1 05-02-18
Rig: Cactus 171

PHOENIX TECHNOLOGY SERVICES

Azimuths to Grid North
True North: -0.38°
Magnetic North: 6.37°

Magnetic Field
Strength: 47863.1snT
Dip Angle: 59.77°
Date: 6/22/2018
Model: MVHD

RKB @ 3430.70usft (Cactus 171)
3407.70

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
BHL - Red Hill 001H	9250.00	-7195.77	70.31	388496.70	721517.47	32° 3' 57.87101 N	103° 37' 5.67650 W

WELL DETAILS

3407.70

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	395692.47	721447.16	32° 5' 9.08384 N	103° 37' 5.93936 W

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
2	5000.00	0.00	0.00	5000.00	0.00	0.00	0.00	0.00	0.00		KOP1, Begin 2.00°/100' Build
3	5350.08	7.00	359.44	5349.21	21.36	-0.21	2.00	359.44	-21.36		Hold 7.00° Inc at 359.44° Azm
4	7870.45	7.00	359.44	7850.78	328.58	-3.19	0.00	0.00	-328.58		Begin 2.00°/100' Drop
5	8220.54	0.00	0.00	8200.00	349.94	-3.40	2.00	180.00	-349.96		Begin Vertical Hold
6	8633.92	0.00	0.00	8613.38	349.94	-3.40	0.00	0.00	-349.96		KOP2, Begin 9.00°/100' Build
7	9633.92	90.00	179.44	9250.00	-286.65	2.82	9.00	179.44	285.66		LP, Hold 90.00° Inc at 179.44° Azm
8	16543.37	90.00	179.44	9250.00	-7195.77	70.31	0.00	0.00	7196.11	BHL - Red Hill 001H	TD at 16543.37

CASING DETAILS
No casing data is available

LEGEND
Plan 1 05-02-18

Map System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone Name: New Mexico East 3001

Local Origin: Well 001H, Grid North

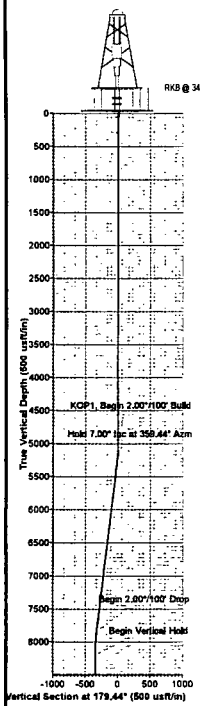
Latitude: 32° 5' 9.08384 N
Longitude: 103° 37' 5.93936 W

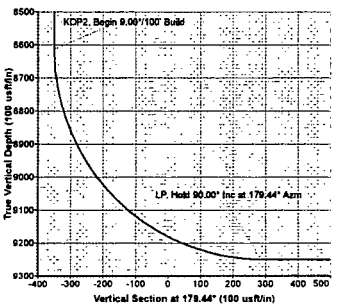
Grid East: 721447.16
Grid North: 395692.47
Scale Factor: 1.000

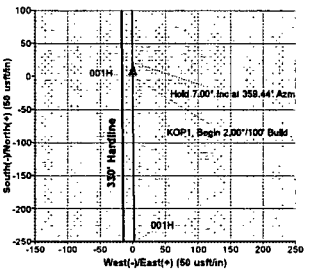
Geomagnetic Model: MVHD
Sample Date: 02-Jun-18
Magnetic Declination: 6.75°
Dip Angle from Horizontal: 59.77°
Magnetic Field Strength: 47863.0816075&nT

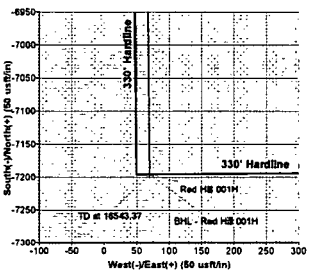
To convert a Magnetic Direction to a Grid Direction, Add 6.37°
To convert a Magnetic Direction to a True Direction, Add 6.75° East
To convert a True Direction to a Grid Direction, Subtract 0.38°

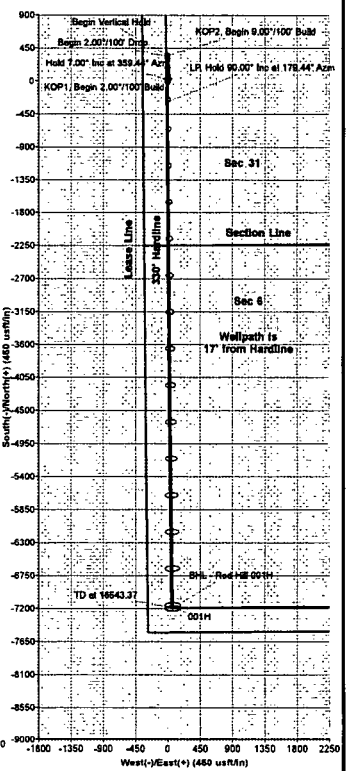
FORMATION TOP DETAILS
No formation data is available

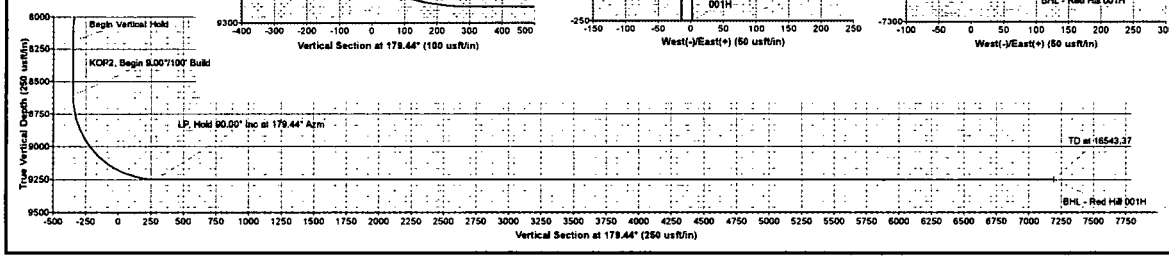












Created By Tim Tate Date 14:10, May 02 2018

Kaiser-Francis Oil Company

Lea County, NM (NAD27)
Red Hill
001H

OH

Plan: Plan 1 05-02-18

Standard Planning Report

02 May, 2018

PHOENIX
TECHNOLOGY SERVICES

Database:	USA Compass	**Local Co-ordinate Reference:**	Well 001H
Company:	Kaiser-Francis Oil Company	**TVD Reference:**	RKB @ 3430.70usft (Cactus 171)
Project:	Lea County, NM (NAD27)	**MD Reference:**	RKB @ 3430.70usft (Cactus 171)
Site:	Red Hill	**North Reference:**	Grid
Well:	001H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1 05-02-18		

Project	Lea County, NM (NAD27)		
Map System:	US State Plane 1927 (Exact solution)	**System Datum:**	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site	Red Hill				
Site Position:		**Northing:**	395,692.47 usft	**Latitude:**	32° 5' 9.08384 N
From:	Map	**Easting:**	721,447.16 usft	**Longitude:**	103° 37' 5.93936 W
Position Uncertainty:	0.00 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.38 °

Well	001H					
Well Position	**+N/-S**	0.00 usft	**Northing:**	395,692.47 usft	**Latitude:**	32° 5' 9.08384 N
	+E/-W	0.00 usft	**Easting:**	721,447.16 usft	**Longitude:**	103° 37' 5.93936 W
Position Uncertainty		0.00 usft	**Wellhead Elevation:**		**Ground Level:**	3,407.70 usft

Wellbore	OH				
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	MVHD	6/2/2018	6.75	59.77	47,863.08160757

Design	Plan 1 05-02-18				
Audit Notes:					
Version:		**Phase:**	PLAN	**Tie On Depth:**	0.00
Vertical Section:	**Depth From (TVD) (usft)**	**+N/-S (usft)**	**+E/-W (usft)**	**Direction (°)**	
	0.00	0.00	0.00	179.44	

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,350.08	7.00	359.44	5,349.21	21.36	-0.21	2.00	2.00	0.00	359.44	
7,870.45	7.00	359.44	7,850.79	328.58	-3.19	0.00	0.00	0.00	0.00	
8,220.54	0.00	0.00	8,200.00	349.94	-3.40	2.00	-2.00	0.00	180.00	
8,633.92	0.00	0.00	8,613.38	349.94	-3.40	0.00	0.00	0.00	0.00	
9,633.92	90.00	179.44	9,250.00	-286.65	2.82	9.00	9.00	17.94	179.44	
16,543.37	90.00	179.44	9,250.00	-7,195.77	70.31	0.00	0.00	0.00	0.00	BHL - Red Hill 001H

Database:	USA Compass	**Local Co-ordinate Reference:**	Well 001H
Company:	Kaiser-Francis Oil Company	**TVD Reference:**	RKB @ 3430.70usft (Cactus 171)
Project:	Lea County, NM (NAD27)	**MD Reference:**	RKB @ 3430.70usft (Cactus 171)
Site:	Red Hill	**North Reference:**	Grid
Well:	001H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1 05-02-18		

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
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00
KOP1, Begin 2.00°/100' Build									
5,100.00	2.00	359.44	5,099.98	1.75	-0.02	-1.75	2.00	2.00	0.00
5,200.00	4.00	359.44	5,199.84	6.98	-0.07	-6.98	2.00	2.00	0.00
5,300.00	6.00	359.44	5,299.45	15.69	-0.15	-15.69	2.00	2.00	0.00
5,350.08	7.00	359.44	5,349.21	21.36	-0.21	-21.36	2.00	2.00	0.00
Hold 7.00° Inc at 359.44° Azm									
5,400.00	7.00	359.44	5,398.76	27.45	-0.27	-27.45	0.00	0.00	0.00
5,500.00	7.00	359.44	5,498.01	39.64	-0.39	-39.64	0.00	0.00	0.00
5,600.00	7.00	359.44	5,597.27	51.83	-0.50	-51.83	0.00	0.00	0.00
5,700.00	7.00	359.44	5,696.52	64.02	-0.62	-64.02	0.00	0.00	0.00
5,800.00	7.00	359.44	5,795.77	76.20	-0.74	-76.21	0.00	0.00	0.00
5,900.00	7.00	359.44	5,895.03	88.39	-0.86	-88.40	0.00	0.00	0.00
6,000.00	7.00	359.44	5,994.28	100.58	-0.98	-100.59	0.00	0.00	0.00
6,100.00	7.00	359.44	6,093.54	112.77	-1.10	-112.78	0.00	0.00	0.00
6,200.00	7.00	359.44	6,192.79	124.96	-1.21	-124.97	0.00	0.00	0.00
6,300.00	7.00	359.44	6,292.05	137.15	-1.33	-137.16	0.00	0.00	0.00
6,400.00	7.00	359.44	6,391.30	149.34	-1.45	-149.35	0.00	0.00	0.00
6,500.00	7.00	359.44	6,490.55	161.53	-1.57	-161.54	0.00	0.00	0.00
6,600.00	7.00	359.44	6,589.81	173.72	-1.69	-173.73	0.00	0.00	0.00
6,700.00	7.00	359.44	6,689.06	185.91	-1.81	-185.92	0.00	0.00	0.00
6,800.00	7.00	359.44	6,788.32	198.10	-1.92	-198.11	0.00	0.00	0.00
6,900.00	7.00	359.44	6,887.57	210.29	-2.04	-210.30	0.00	0.00	0.00
7,000.00	7.00	359.44	6,986.83	222.48	-2.16	-222.49	0.00	0.00	0.00
7,100.00	7.00	359.44	7,086.08	234.66	-2.28	-234.68	0.00	0.00	0.00
7,200.00	7.00	359.44	7,185.33	246.85	-2.40	-246.87	0.00	0.00	0.00
7,300.00	7.00	359.44	7,284.59	259.04	-2.52	-259.06	0.00	0.00	0.00
7,400.00	7.00	359.44	7,383.84	271.23	-2.64	-271.25	0.00	0.00	0.00
7,500.00	7.00	359.44	7,483.10	283.42	-2.75	-283.44	0.00	0.00	0.00
7,600.00	7.00	359.44	7,582.35	295.61	-2.87	-295.62	0.00	0.00	0.00
7,700.00	7.00	359.44	7,681.61	307.80	-2.99	-307.81	0.00	0.00	0.00
7,800.00	7.00	359.44	7,780.86	319.99	-3.11	-320.00	0.00	0.00	0.00
7,870.45	7.00	359.44	7,850.79	328.58	-3.19	-328.59	0.00	0.00	0.00
Begin 2.00°/100' Drop									
7,900.00	6.41	359.44	7,880.13	332.03	-3.23	-332.04	2.00	-2.00	0.00
8,000.00	4.41	359.44	7,979.68	341.46	-3.32	-341.47	2.00	-2.00	0.00
8,100.00	2.41	359.44	8,079.50	347.40	-3.38	-347.42	2.00	-2.00	0.00
8,200.00	0.41	359.44	8,179.46	349.87	-3.40	-349.88	2.00	-2.00	0.00
8,220.54	0.00	0.00	8,200.00	349.94	-3.40	-349.96	2.00	-2.00	0.00
Begin Vertical Hold									
8,633.92	0.00	0.00	8,613.38	349.94	-3.40	-349.96	0.00	0.00	0.00
KOP2, Begin 9.00°/100' Build									
8,700.00	5.95	179.44	8,679.34	346.51	-3.37	-346.53	9.00	9.00	0.00
8,800.00	14.95	179.44	8,777.59	328.40	-3.19	-328.41	9.00	9.00	0.00
8,900.00	23.95	179.44	8,871.78	295.14	-2.86	-295.15	9.00	9.00	0.00
9,000.00	32.95	179.44	8,959.62	247.56	-2.40	-247.57	9.00	9.00	0.00
9,100.00	41.95	179.44	9,038.93	186.82	-1.81	-186.83	9.00	9.00	0.00
9,200.00	50.95	179.44	9,107.76	114.42	-1.10	-114.43	9.00	9.00	0.00
9,300.00	59.95	179.44	9,164.42	32.15	-0.30	-32.15	9.00	9.00	0.00
9,400.00	68.95	179.44	9,207.51	-57.97	0.58	57.97	9.00	9.00	0.00
9,500.00	77.95	179.44	9,235.97	-153.72	1.52	153.73	9.00	9.00	0.00
9,600.00	86.95	179.44	9,249.10	-252.75	2.49	252.76	9.00	9.00	0.00
9,633.92	90.00	179.44	9,250.00	-286.65	2.82	286.66	9.00	9.00	0.00

Database:	USA Compass	**Local Co-ordinate Reference:**	Well 001H
Company:	Kaiser-Francis Oil Company	**TVD Reference:**	RKB @ 3430.70usft (Cactus 171)
Project:	Lea County, NM (NAD27)	**MD Reference:**	RKB @ 3430.70usft (Cactus 171)
Site:	Red Hill	**North Reference:**	Grid
Well:	001H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1 05-02-18		

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)
LP, Hold 90.00° Inc at 179.44° Azm									
9,700.00	90.00	179.44	9,250.00	-352.73	3.46	352.75	0.00	0.00	0.00
9,800.00	90.00	179.44	9,250.00	-452.72	4.44	452.75	0.00	0.00	0.00
9,900.00	90.00	179.44	9,250.00	-552.72	5.42	552.75	0.00	0.00	0.00
10,000.00	90.00	179.44	9,250.00	-652.72	6.39	652.75	0.00	0.00	0.00
10,100.00	90.00	179.44	9,250.00	-752.71	7.37	752.75	0.00	0.00	0.00
10,200.00	90.00	179.44	9,250.00	-852.71	8.35	852.75	0.00	0.00	0.00
10,300.00	90.00	179.44	9,250.00	-952.70	9.32	952.75	0.00	0.00	0.00
10,400.00	90.00	179.44	9,250.00	-1,052.70	10.30	1,052.75	0.00	0.00	0.00
10,500.00	90.00	179.44	9,250.00	-1,152.69	11.28	1,152.75	0.00	0.00	0.00
10,600.00	90.00	179.44	9,250.00	-1,252.69	12.26	1,252.75	0.00	0.00	0.00
10,700.00	90.00	179.44	9,250.00	-1,352.68	13.23	1,352.75	0.00	0.00	0.00
10,800.00	90.00	179.44	9,250.00	-1,452.68	14.21	1,452.75	0.00	0.00	0.00
10,900.00	90.00	179.44	9,250.00	-1,552.67	15.19	1,552.75	0.00	0.00	0.00
11,000.00	90.00	179.44	9,250.00	-1,652.67	16.16	1,652.75	0.00	0.00	0.00
11,100.00	90.00	179.44	9,250.00	-1,752.66	17.14	1,752.75	0.00	0.00	0.00
11,200.00	90.00	179.44	9,250.00	-1,852.66	18.12	1,852.75	0.00	0.00	0.00
11,300.00	90.00	179.44	9,250.00	-1,952.65	19.09	1,952.75	0.00	0.00	0.00
11,400.00	90.00	179.44	9,250.00	-2,052.65	20.07	2,052.75	0.00	0.00	0.00
11,500.00	90.00	179.44	9,250.00	-2,152.64	21.05	2,152.75	0.00	0.00	0.00
11,600.00	90.00	179.44	9,250.00	-2,252.64	22.02	2,252.75	0.00	0.00	0.00
11,700.00	90.00	179.44	9,250.00	-2,352.63	23.00	2,352.75	0.00	0.00	0.00
11,800.00	90.00	179.44	9,250.00	-2,452.63	23.98	2,452.75	0.00	0.00	0.00
11,900.00	90.00	179.44	9,250.00	-2,552.62	24.95	2,552.75	0.00	0.00	0.00
12,000.00	90.00	179.44	9,250.00	-2,652.62	25.93	2,652.75	0.00	0.00	0.00
12,100.00	90.00	179.44	9,250.00	-2,752.62	26.91	2,752.75	0.00	0.00	0.00
12,200.00	90.00	179.44	9,250.00	-2,852.61	27.88	2,852.75	0.00	0.00	0.00
12,300.00	90.00	179.44	9,250.00	-2,952.61	28.86	2,952.75	0.00	0.00	0.00
12,400.00	90.00	179.44	9,250.00	-3,052.60	29.84	3,052.75	0.00	0.00	0.00
12,500.00	90.00	179.44	9,250.00	-3,152.60	30.81	3,152.75	0.00	0.00	0.00
12,600.00	90.00	179.44	9,250.00	-3,252.59	31.79	3,252.75	0.00	0.00	0.00
12,700.00	90.00	179.44	9,250.00	-3,352.59	32.77	3,352.75	0.00	0.00	0.00
12,800.00	90.00	179.44	9,250.00	-3,452.58	33.74	3,452.75	0.00	0.00	0.00
12,900.00	90.00	179.44	9,250.00	-3,552.58	34.72	3,552.75	0.00	0.00	0.00
13,000.00	90.00	179.44	9,250.00	-3,652.57	35.70	3,652.75	0.00	0.00	0.00
13,100.00	90.00	179.44	9,250.00	-3,752.57	36.68	3,752.75	0.00	0.00	0.00
13,200.00	90.00	179.44	9,250.00	-3,852.56	37.65	3,852.75	0.00	0.00	0.00
13,300.00	90.00	179.44	9,250.00	-3,952.56	38.63	3,952.75	0.00	0.00	0.00
13,400.00	90.00	179.44	9,250.00	-4,052.55	39.61	4,052.75	0.00	0.00	0.00
13,500.00	90.00	179.44	9,250.00	-4,152.55	40.58	4,152.75	0.00	0.00	0.00
13,600.00	90.00	179.44	9,250.00	-4,252.54	41.56	4,252.75	0.00	0.00	0.00
13,700.00	90.00	179.44	9,250.00	-4,352.54	42.54	4,352.75	0.00	0.00	0.00
13,800.00	90.00	179.44	9,250.00	-4,452.53	43.51	4,452.75	0.00	0.00	0.00
13,900.00	90.00	179.44	9,250.00	-4,552.53	44.49	4,552.75	0.00	0.00	0.00
14,000.00	90.00	179.44	9,250.00	-4,652.52	45.47	4,652.75	0.00	0.00	0.00
14,100.00	90.00	179.44	9,250.00	-4,752.52	46.44	4,752.75	0.00	0.00	0.00
14,200.00	90.00	179.44	9,250.00	-4,852.51	47.42	4,852.75	0.00	0.00	0.00
14,300.00	90.00	179.44	9,250.00	-4,952.51	48.40	4,952.75	0.00	0.00	0.00
14,400.00	90.00	179.44	9,250.00	-5,052.51	49.37	5,052.75	0.00	0.00	0.00
14,500.00	90.00	179.44	9,250.00	-5,152.50	50.35	5,152.75	0.00	0.00	0.00
14,600.00	90.00	179.44	9,250.00	-5,252.50	51.33	5,252.75	0.00	0.00	0.00
14,700.00	90.00	179.44	9,250.00	-5,352.49	52.30	5,352.75	0.00	0.00	0.00
14,800.00	90.00	179.44	9,250.00	-5,452.49	53.28	5,452.75	0.00	0.00	0.00

Database:	USA Compass	**Local Co-ordinate Reference:**	Well 001H
Company:	Kaiser-Francis Oil Company	**TVD Reference:**	RKB @ 3430.70usft (Cactus 171)
Project:	Lea County, NM (NAD27)	**MD Reference:**	RKB @ 3430.70usft (Cactus 171)
Site:	Red Hill	**North Reference:**	Grid
Well:	001H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1 05-02-18		

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)
14,900.00	90.00	179.44	9,250.00	-5,552.48	54.26	5,552.75	0.00	0.00	0.00
15,000.00	90.00	179.44	9,250.00	-5,652.48	55.23	5,652.75	0.00	0.00	0.00
15,100.00	90.00	179.44	9,250.00	-5,752.47	56.21	5,752.75	0.00	0.00	0.00
15,200.00	90.00	179.44	9,250.00	-5,852.47	57.19	5,852.75	0.00	0.00	0.00
15,300.00	90.00	179.44	9,250.00	-5,952.46	58.16	5,952.75	0.00	0.00	0.00
15,400.00	90.00	179.44	9,250.00	-6,052.46	59.14	6,052.75	0.00	0.00	0.00
15,500.00	90.00	179.44	9,250.00	-6,152.45	60.12	6,152.75	0.00	0.00	0.00
15,600.00	90.00	179.44	9,250.00	-6,252.45	61.10	6,252.75	0.00	0.00	0.00
15,700.00	90.00	179.44	9,250.00	-6,352.44	62.07	6,352.75	0.00	0.00	0.00
15,800.00	90.00	179.44	9,250.00	-6,452.44	63.05	6,452.75	0.00	0.00	0.00
15,900.00	90.00	179.44	9,250.00	-6,552.43	64.03	6,552.75	0.00	0.00	0.00
16,000.00	90.00	179.44	9,250.00	-6,652.43	65.00	6,652.75	0.00	0.00	0.00
16,100.00	90.00	179.44	9,250.00	-6,752.42	65.98	6,752.75	0.00	0.00	0.00
16,200.00	90.00	179.44	9,250.00	-6,852.42	66.96	6,852.75	0.00	0.00	0.00
16,300.00	90.00	179.44	9,250.00	-6,952.41	67.93	6,952.75	0.00	0.00	0.00
16,400.00	90.00	179.44	9,250.00	-7,052.41	68.91	7,052.75	0.00	0.00	0.00
16,500.00	90.00	179.44	9,250.00	-7,152.41	69.89	7,152.75	0.00	0.00	0.00
16,543.37	90.00	179.44	9,250.00	-7,195.77	70.31	7,196.11	0.00	0.00	0.00
TD at 16543.37									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
BHL - Red Hill 001H - plan hits target center - Point	0.00	0.00	9,250.00	-7,195.77	70.31	388,496.70	721,517.47	32° 3' 57.87101 N	103° 37' 5.67650 W

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
5,000.00	5,000.00	0.00	0.00	KOP1, Begin 2.00°/100' Build
5,350.08	5,349.21	21.36	-0.21	Hold 7.00° Inc at 359.44° Azm
7,870.45	7,850.79	328.58	-3.19	Begin 2.00°/100' Drop
8,220.54	8,200.00	349.94	-3.40	Begin Vertical Hold
8,633.92	8,613.38	349.94	-3.40	KOP2, Begin 9.00°/100' Build
9,633.92	9,250.00	-286.65	2.82	LP, Hold 90.00° Inc at 179.44° Azm
16,543.37	9,250.00	-7,195.77	70.31	TD at 16543.37

Surface Use & Operating Plan

Red Hills 001H

- Surface Owner: Bureau of Land Management
- Grazing Tenant: Jeff Robbins
- New Road: 1121' of new road
- Facilities: Production facilities will be installed on well pad

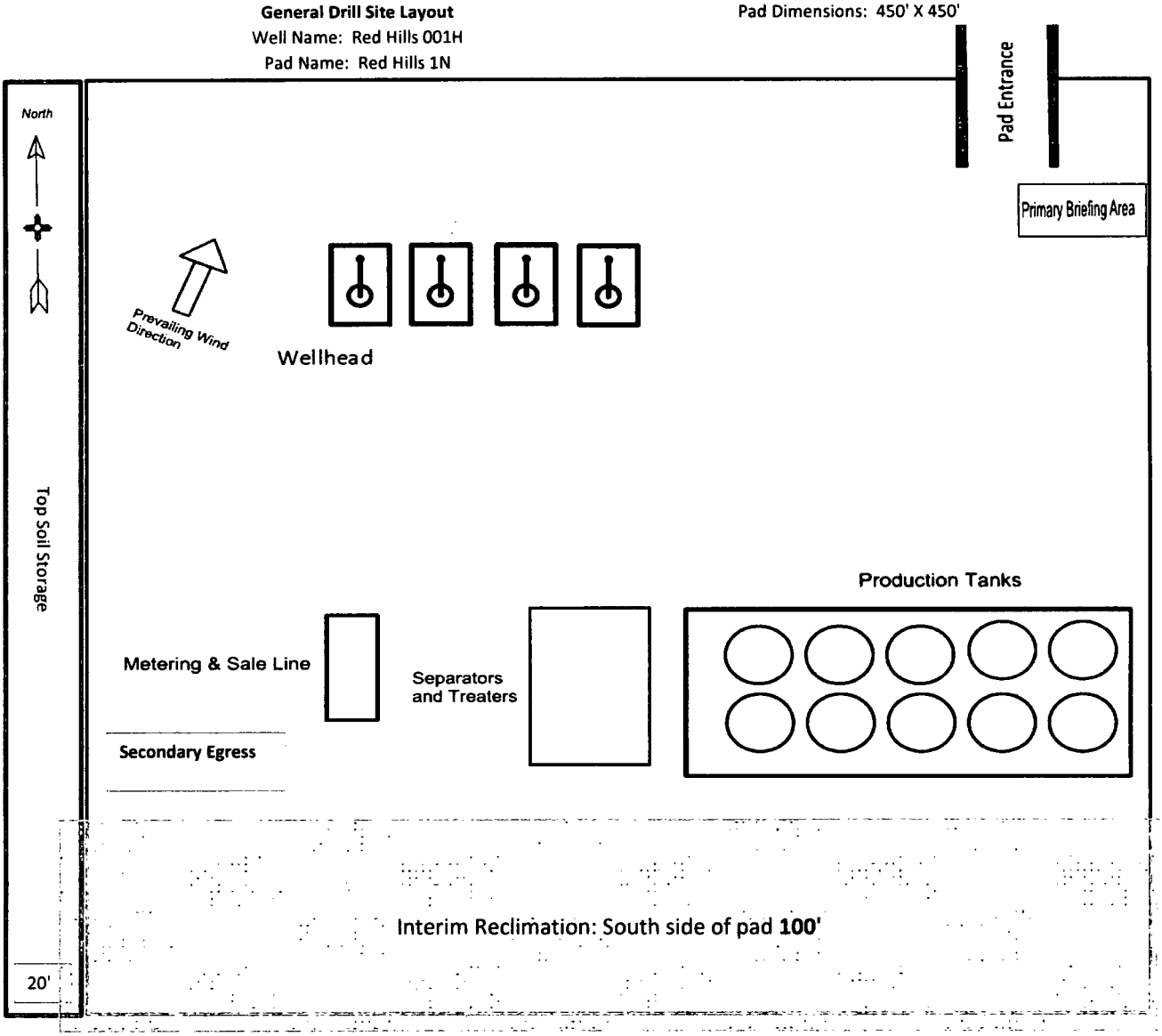
- **Well Site Information**
  V Door: North
  Topsoil: East
  Interim Reclamation: Reclaim 100' on the south side of location.

Notes

Onsite: On-site was done by William DeGrush (BLM); Matt Warner (Kaiser-Francis), Frank Jaramillo (Madron Surveying) and Jeff (APAC Archaeology) on April 19, 2018.

General Drill Site Layout
Well Name: Red Hills 001H
Pad Name: Red Hills 1N

Pad Dimensions: 450' X 450'



SURFACE USE AND OPERATING PLAN

1. Existing & Proposed Access Roads

A. The well site survey and elevation plat for the proposed well is attached with this application. It was staked by Madron Surveying, Carlsbad, New Mexico.

B. All roads to the location are shown on the Existing Road Map attachment. The existing lease roads are illustrated in red and blue and are adequate for travel during drilling and disposal operations. Upgrading existing roads prior to drilling the well will be done where necessary. Proposed new access road is shown in red on the Road Map attachment and is shown in detail on the Access Road Map attachment.

C. Directions to location: See Existing Road Map attachment

D. Based on current road maintenance performed on other roads serving existing wells, we anticipate maintaining the lease roads leading to the proposed well pad at least once a year on dry conditions and twice a year in wetter conditions.

2. Proposed Access Road:

The Access Road Map shows that 1121' of new access road will be required for this location. The access road will be constructed as follows:

The maximum width of the running surface will be 15'. The road will be crowned, ditched and constructed of 6" rolled and compacted caliche. Ditches will be at 3:1 slope and 3' feet wide. Water will be diverted where necessary to avoid ponding, prevent erosion, maintain good drainage, and to be consistent with local drainage patterns.

A. The average grade will be less than 2%.

B. No turnouts are planned.

C. No cattleguard, culvert, gates, low water crossings or fence cuts are necessary.

D. Surfacing material will consist of native caliche. Caliche will be obtained from the actual well site if available. If not available onsite, caliche will be hauled from BLM caliche pit in NWNW Section 23-T25S-R33E or BLM caliche pit in NWNW Section 1-T25S-R33E.

3. Location of Existing Well:

The 1-Mile Radius attachment shows existing wells within a one-mile radius of the proposed wellbore.

4. Location of Existing and/or Proposed Facilities:

A. There are currently no production facilities at this well site.

B. Upon successfully completion of this well, we plan to install a production facility initially consisting of 2-1000 bbl water tanks and 8-1000 bbl oil tanks, a temporary 6x20 horizontal 3-phase separator, a 48" x 10' 3-phase separator, an 8 x 20' heater treater and a 48"x 10' 2-phase separator.

C. Any additional caliche will be obtained from the actual well site. If caliche does not exist or is not plentiful from the well site, the caliche will be hauled from the nearest BLM approved caliche pit in NWNW Section 23-T25S-R33E. Alternate source will be the BLM caliche pit in NWNW Section 1-T25S-R33E. Any additional construction materials will be purchased from contractors.

D. No power line to this location is planned at this time.

E. If completion of the well is successful, rehabilitation plans will include the following:

- The original topsoil from the well site will be returned to the location, and the site will be re-contoured as close as possible to the original site.

5. Location and Type of Water Supply:

The well will be drilled with combination brine and fresh water mud system as outlined in the drilling program. The water will be obtained from a private source. Fresh water will come from Mesquite SWD, Inc.'s Outlaw Fresh water source in Texas and the alternate source is Mesquite SWD, Inc.'s Pulley Fresh water well in Section 26-T24S-R28E. Brine water will come from Mesquite SWD, Inc.'s Loving County Brine Station in Texas and the alternate source is Mesquite SWD, Inc.'s Malaga II Brine Station in Section 20-T24S-R29E. No water well will be drilled on the location.

6. Source of Construction Materials and Location "Turn-Over" Procedure:

Obtaining caliche: One primary way of obtaining caliche to build locations and roads will be by "turning over" the location. This means, caliche will be obtained from the actual well site. Amount will vary for each pad. The procedure below has been approved by BLM personnel:

A. Equipment that is needed to construct the proposed location will be as follows: Two dozers to flip the site for caliche and to move topsoil, one blade to level the surface, one morograder to roll and compact this site, one backhoe to dig the cellar, one water truck to water location and dust abatement and two dump trucks to haul surface material. If

caliche is not available onsite and have to haul caliche from a private pit, in addition to equipment mentioned above we will have 10 belly dumps and one front end loader.

B. The time line to complete construction will be approximately 10 days.

C. The top 6 inches of topsoil is pushed off and stockpiled along the south side of the location. Maximum height of the topsoil stock pile will be 3'.

D. An approximate 160' X 160' area is used within the proposed well site to remove caliche.

E. Subsoil is removed and stockpiled within the surveyed well pad.

F. When caliche is found, material will be stock piled within the pad site to build the location and road.

G. Then subsoil is pushed back in the hole and caliche is spread accordingly across entire location and road.

H. There will be no interim reclamation. Once well is drilled, the stock piled top soil will be seeded in place.

I. Neither caliche, nor subsoil will be stock piled outside of the well pad. Topsoil will be stockpiled along the edge of the pad as depicted in the Well Site Layout or survey plat.

In the event that no caliche is found onsite, caliche will be hauled in from the BLM caliche pit in NWNW Section 23-T25S-R33E or BLM caliche pit in NWNW Section 1-T25S-R33E.

7. Methods of Handling Water Disposal:

A. The well will be drilled utilizing a closed loop mud system. Drill cuttings will be held in roll-off style mud boxes and taken to R360's disposal site located at 4507 West Carlsbad Highway, Hobbs, NM 88240.

B. Drilling fluids will be contained in steel mud pits and taken to R360's disposal site located at 4507 West Carlsbad Highway, Hobbs, NM 88240.

C. Water produced from the well during completion will be held temporarily in steel tanks and then taken to an NMOCD approved commercial disposal facility. R360's disposal site located at 4507 West Carlsbad Highway, Hobbs, NM 88240.

D. It is anticipated that the disposal of produced water will be trucked to Kaiser-Francis Oil Company's North Bell Lake Unit 4-15 SWD located in Section 8 T23S R34E.

E. Garbage and trash produced during drilling or completion operations will be collected in a trash bin and hauled to an approved landfill-Lea Landfill LLC. Located at Mile Marker 64, Highway 62-180 East, P O Box 3247, Carlsbad, NM 88221. No toxic waste or hazardous chemicals will be produced by this operation.

F. Human waste and grey water will need to be properly contained and disposed of. Proper disposal and elimination of waste and grey water may include but are not limited to portable septic systems and/or portable waste gathering systems (i.e. portable toilets).

G. After the rig is moved out and the well is either completed or abandoned, all waste materials will be cleaned up within 30 days. In the event of a dry hole only a dry hole marker will remain.

8. Ancillary Facilities:

No airstrip, campsite or other facilities will be built as a result of the operation on this well.

9. Well Site Layout:

A. The drill pad layout, with elevations staked by Madron Surveying, is shown in the Well Pad Layout attachment. Dimensions of the pad and pits are shown on the Drilling Layout. V door direction is north. Topsoil, if available, will be stockpiled on the east side of location, per BLM specifications. No major cuts will be required. A berm will be constructed on the east side of the pad.

B. The Drilling Layout exhibit shows the proposed orientation of closed loop system and access road. No permanent living facilities are planned, but a temporary foreman/toolpusher's trailer will be on location during the drilling operations.

10. Plans for Restoration of the Surface:

A. Interim Reclamation will take place within six months after the last well on this multi-well pad has been completed. The pad will be downsized by reclaiming the areas not needed for production operations. The portions of the pad that are not needed for production operations will be re-contoured to its original state as much as possible. The caliche that is removed will be reused to either build another pad site or for road repairs within the lease. The stockpiled topsoil will then be spread out reclaimed area and reseeded with a BLM approved seed mixture. In the event that the well must be worked over or maintained, it may be necessary to drive, park, and/or operate machinery on reclaimed land. This area will be repaired or reclaimed after work is complete.

B. Final Reclamation: Upon plugging and abandoning the well all caliche for well pad and lease road will be removed and surface will be recountoured to reflect its surroundings as much as possible within six months. Caliche will be recycled for road repair or reused for another well pad within the lease. If any topsoil remains, it will be spread out and the area will be re-seeded with a BLM approved mixture and re-vegetated as per BLM orders. When required by BLM, the well pad site will be restored to match pre-construction grades.

11. Surface Ownership:

A. The surface is owned by the Bureau of Land Management. Grazing tenant is Jeff Robbins, 301 Orla Rd., Jal, NM 88252. The surface is multiple uses with the primary uses of the region for grazing of livestock and the production of oil and gas.

B. The proposed road routes and surface location will be restored as directed by the BLM.

12. Other Information:

A. The area around the well site is grassland and the topsoil is sandy. The vegetation is moderately sparse with native prairie grasses, some mesquite. No wildlife was observed but it is likely that mule deer, rabbits, coyotes and rodents traverse the area.

B. There is no permanent or live water in the immediate area.

C. There are no dwellings within 2 miles of this location.

D. A Cultural Resources Examination is being prepared by APAC, PO Box 1982, Carlsbad, New Mexico 88221-1982, phone 575-200-7099, and the results will be forwarded to your office in the near future.

13. Bond Coverage:

Bond Coverage is Statewide Bonds # WYB000055.

15. Operator's Representative:

The Kaiser-Francis Oil Company representative responsible for assuring compliance with the surface use plan is as follows:

Robert Sanford
Drilling Engineer
Kaiser-Francis Oil Company
PO Box 21468
Tulsa, OK 74121
Cell: 918-770-2682
Office: 918-491-4201

Matt Warner
Drilling Engineer
Kaiser-Francis Oil Company
PO Box 21468
Tulsa, OK 74121
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Office: 918-491-4379