Form 3160-3
(June 2015)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.: NMNM32636

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.: MOSAIC FEDERAL 2419 551H

2. Name of Operator: KAISER FRANCIS OIL COMPANY

9. API Well No.: 30-015-55896

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

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

10. Field and Pool, or Exploratory: CULEBRA BLUFF/BONE SPRING, SOUT

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

At surface: NWNW / 971 FNL / 633 FWL / LAT 32.2955927 / LONG -104.0475913

At proposed prod. zone: NENE / 660 FNL / 25 FEL / LAT 32.2960322 / LONG -104.0156146

11. Sec., T. R. M. or Blk. and Survey or Area: SEC 24/T23S/R28E/NMP

14. Distance in miles and direction from nearest town or post office*: 3 miles

12. County or Parish: EDDY

13. State: NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any): 100 feet

16. No of acres in lease:

17. Spacing Unit dedicated to this well: 322.0

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

19. Proposed Depth: 10200 feet / 20470 feet

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

21. Elevations (Show whether DF, KDB, RT, GL, etc.): 2986 feet

22. Approximate date work will start*: 11/01/2024

23. Estimated duration: 20 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)	CURT JONES / Ph: (918) 491-0000	06/21/2024

Title: Drilling Engineer

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
(Electronic Submission)	CODY LAYTON / Ph: (575) 234-5959	12/19/2024

Title	Office
Assistant Field Manager Lands & Minerals	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.

APPROVED WITH CONDITIONS

(Continued on page 2)

*(Instructions on page 2)

Approval Date: 12/19/2024

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 I: 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 wen, 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 directionany 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.

ITEM 24: If the proposal will involve hydraulic fracturing operations, you must comply with 43 CFR 3162.3-3, including providing information about the protection of usable water. Operators should provide the best available information about all formations containing water and their depths. This information could include data and interpretation of resistivity logs run on nearby wells. Information may also be obtained from state or tribal regulatory agencies and from local BLM offices.

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 wen 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 win 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 conects this information to anow 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 Conection Clearance Officer (WO-630), 1849 C Street, N.W., Mail Stop 401 LS, Washington, D.C. 20240.

(Continued on page 3)

Additional Operator Remarks

Location of Well

0. SHL: NWNW / 971 FNL / 633 FWL / TWSP: 23S / RANGE: 28E / SECTION: 24 / LAT: 32.2955927 / LONG: -104.0475913 (TVD: 0 feet, MD: 0 feet)

PPP: NWNW / 660 FNL / 100 FWL / TWSP: 23S / RANGE: 28E / SECTION: 24 / LAT: 32.2964557 / LONG: -104.0493241 (TVD: 10200 feet, MD: 10575 feet)

PPP: NENW / 686 FNL / 2702 FWL / TWSP: 23S / RANGE: 28E / SECTION: 24 / LAT: 32.2963507 / LONG: -104.0409016 (TVD: 10200 feet, MD: 12656 feet)

PPP: LOT 1 / 713 FNL / 0 FWL / TWSP: 23S / RANGE: 29E / SECTION: 19 / LAT: 32.2962407 / LONG: -104.0321178 (TVD: 10200 feet, MD: 15290 feet)

PPP: NENE / 700 FNL / 1352 FEL / TWSP: 23S / RANGE: 28E / SECTION: 24 / LAT: 32.2962944 / LONG: -104.0363963 (TVD: 10200 feet, MD: 14008 feet)

BHL: NENE / 660 FNL / 25 FEL / TWSP: 23S / RANGE: 29E / SECTION: 19 / LAT: 32.2960322 / LONG: -104.0156146 (TVD: 10200 feet, MD: 20470 feet)

BLM Point of Contact

Name: TENILLE C MOLINA
Title: Land Law Examiner
Phone: (575) 234-2224
Email: TCMOLINA@BLM.GOV

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.

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Kaiser Francis
LEASE NO.:	**NMNM32636**
LOCATION:	Sec. 24, T.23 S, R 28 E
COUNTY:	Eddy County, New Mexico
WELL NAME & NO.:	Mosaic Fed 2419 551H
SURFACE HOLE FOOTAGE:	971'/N & 633'/W
BOTTOM HOLE FOOTAGE:	660'/N & 25'/E

COA

H_2S	○ No		○ Yes	
Potash / WIPP	◉ None	○ Secretary	○ R-111-Q	☐ Open Annulus ☐ WIPP
	Choose an option (including blank option.)			
Cave / Karst	○ Low	◉ Medium	○ High	○ Critical
Wellhead	○ Conventional	◉ Multibowl	○ Both	○ Diverter
Cementing	☐ Primary Squeeze	☐ Cont. Squeeze	☐ EchoMeter	☐ DV Tool
Special Req	☐ Capitan Reef	☐ Water Disposal	☐ COM	☐ Unit
Waste Prev.	○ Self-Certification	◉ Waste Min. Plan	○ APD Submitted prior to 06/10/2024	
Additional Language	☑ Flex Hose	☐ Casing Clearance	☐ Pilot Hole	☐ Break Testing
	☐ Four-String	☐ Offline Cementing	☐ Fluid-Filled	

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 43 CFR 3176 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 **450** feet (a minimum of 70 feet (Eddy County) into the Rustler Anhydrite, above the salt, and below usable fresh water) 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 **10-3/4** inch 1st 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.

❖ 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 **7-5/8** inch 2nd Intermediate casing is:
- Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification. **Excess calculates to 21%. Additional cement maybe required.**

Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst.

4. The minimum required fill of cement behind the **5-1/2** inch production casing is:
- Cement should tie-back **200 feet** into the previous casing. Operator shall provide method of verification. **Excess calculates to 24%. Additional cement maybe 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. Operator has proposed a multi-bowl wellhead assembly. 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. 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 43 CFR 3172 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)

Contact Eddy County Petroleum Engineering Inspection Staff:

Email or call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220; **BLM_NM_CFO_DrillingNotifications@BLM.GOV**; (575) 361-2822

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
        i. Notify the BLM when moving in and removing the Spudder Rig.
        ii. 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.
        iii. BOP/BOPE test to be conducted per **43 CFR 3172** 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. For intervals in which cement to surface is required, cement to surface should be verified with a visual check and density or pH check to differentiate cement from spacer and drilling mud. The results should be documented in the driller's log and daily reports.

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 of both lead and tail cement, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. The casing integrity 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 integrity 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-Q 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 **43 CFR 3172**.
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:
    i. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
    ii. 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.
    iii. Manufacturer representative shall install the test plug for the initial BOP test.
    iv. Whenever any seal subject to test pressure is broken, all the tests in 43 CFR 3172.6(b)(9) must be followed.
    v. 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.
    i. 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 cement), 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).
    ii. 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 cement plug. The BOPE test can be initiated after bumping the cement plug with the casing valve

open. (only applies to single stage cement jobs, prior to the cement setting up.)

iii. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer and can be initiated immediately with the casing valve open. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to **43 CFR 3172** 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 8 hours or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

iv. 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.

v. The results of the test shall be reported to the appropriate BLM office.

vi. 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.

vii. 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.

viii. 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 **43 CFR 3172**.

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.

Approved by Zota Stevens on 11/4/2024
575-234-5998 / zstevens@blm.gov

C-102 Submit Electronically VIA OCD Permitting	State of New Mexico Energy, Minerals & Natural Resources Department OIL CONSERVATION DIVISION	Revised July 9, 2024 Submittal Type: ☒ Initial Submission ☐ Amended Report ☐ As Drilled

WELL LOCATION INFORMATION

API Number: 30-015-55896	Pool Code: 15011	Pool Name: Culebra Bluff; Bone Spring, South
Property Code: 336590	Property Name: Mosaic Federal 2419	Well Number: 551H
OGRID No.: 12361	Operator Name: Kaiser-Francis Oil Company	Grand Level Elevation: 2966
Surface Owner: ☐ State ☒ Fee ☐ Tribal ☐ Federal	Mineral Owner: ☐ State ☒ Fee ☐ Tribal ☐ Federal	

Surface Location

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
D	24	23S	28E		971 FNL	633 FWL	32.2955927	-104.0475913	Eddy

Bottom Hole Location

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
A	19	23S	29E		660 FNL	25 FEL	32.29260322	-104.0156146	Eddy

Dedicated Acres	Infill or Defining Well	Defining Well API	Overlapping Spacing Unit	Consolidation Code
321.85			☐ Yes ☐ No	
Order Numbers:			Well setbacks are under Common Ownership: ☐ Yes ☐ No	

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
D	24	23S	28E		971 FNL	633 FWL	32.2955927	-104.0475913	Eddy

First Take Point (FTP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
D	24	23S	28E		660 FNL	100 FWL	32.2964557	-104.0493241	Eddy

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
A	19	23S	29E		661 FNL	100 FEL	32.2960353	-104.0158573	Eddy

Unitized Area or Area of Uniform Interest:	Spacing Unit Type ☒ Horizontal ☐ Vertical	Ground Floor Elevation: 2966

OPERATOR CERTIFCATIONS

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and, if the well is a vertical or directional well, that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of a working interest or unleased mineral interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

If this well is a horizontal well, I further certify that this organization has received the consent of at least one lessee or owner of a working interest or unleased mineral interest in each tract (in the target pool or formation) in which any part of the well's completed interval will be located or obtained a compulsory pooling order from the division.

Signature: Christina Opfer

Printed Name: Christina Opfer

Email Address: ChristinaO@kfoc.net

SURVEYOR CERTIFICATIONS

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

Signature and Seal of Professional Surveyor

Certificate Number

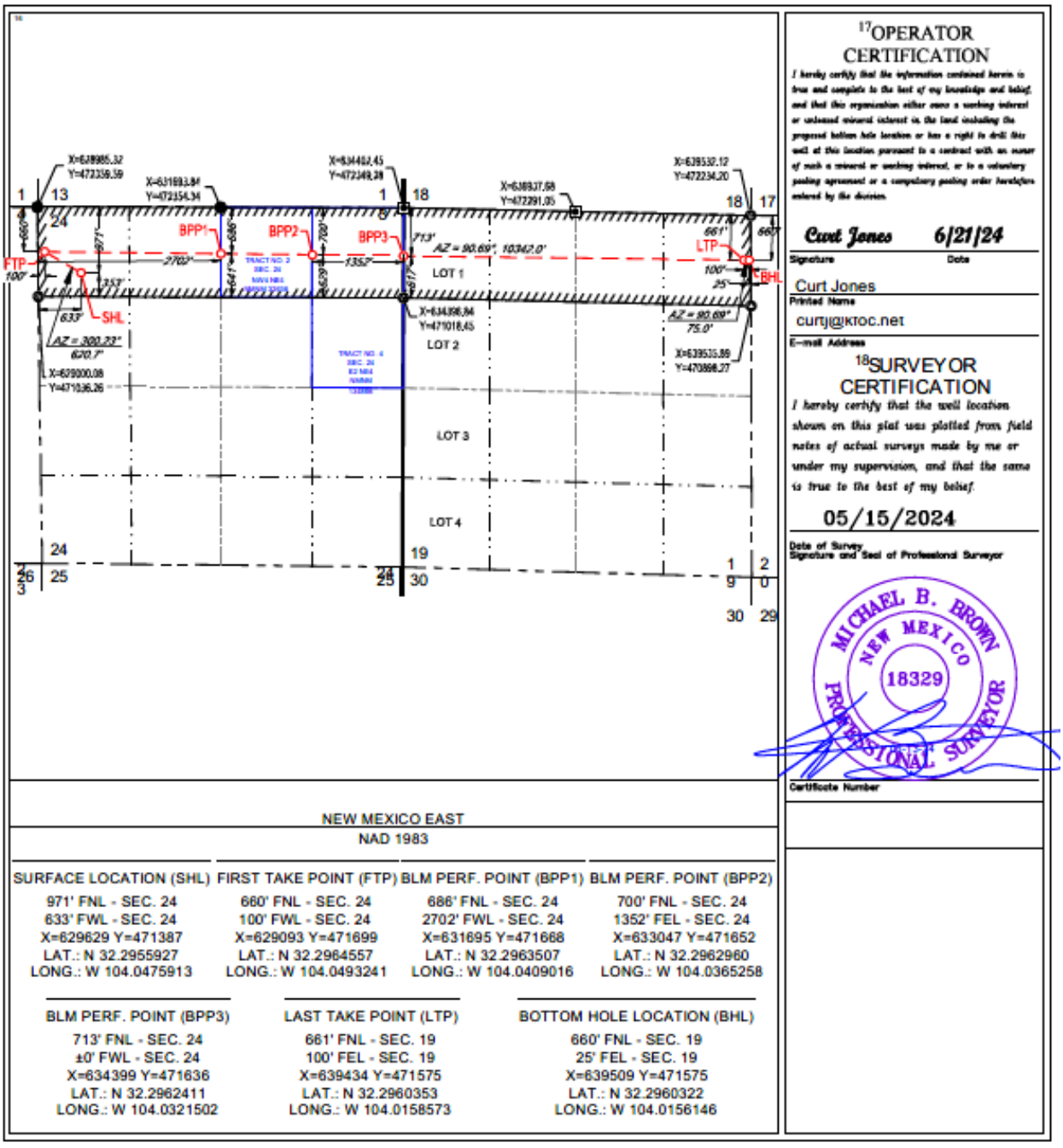
Date of Survey

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

ACREAGE DEDICATION PLATS

This grid represents a standard section. You may superimpose a non-standard section, or larger area, over this grid. Operators must outline the dedicated acreage in a red box, clearly show the well surface location and bottom hole location, if it is directionally drilled, with the dimensions from the section lines in the cardinal directions. If this is a horizontal wellbore show on this plat the location of the First Take Point and Last Take Point, and the point within the Completed interval (other than the First Take Point or Last Take Point) that is closest to any outer boundary of the tract.

Surveyors shall use the latest United States government survey or dependent resurvey. Well locations will be in reference to the New Mexico Principal Meridian. If the land is not surveyed, contact the OCD Engineering Bureau. Independent subdivision surveys will not be acceptable.



District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

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

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1]API Number	[2]Pool Code	[3]Pool Name
30-015-	15001	Culebra Bluff, Bone Spring, South

[4]Property Code	[5]Property Name	[6]Well Number
324995	MOSAIC FEDERAL 2419	#551H

[7]OGRID No.	[8]Operator Name	[9]Elevation
12361	KAISER-FRANCIS OIL COMPANY	2986'

[10]Surface Location

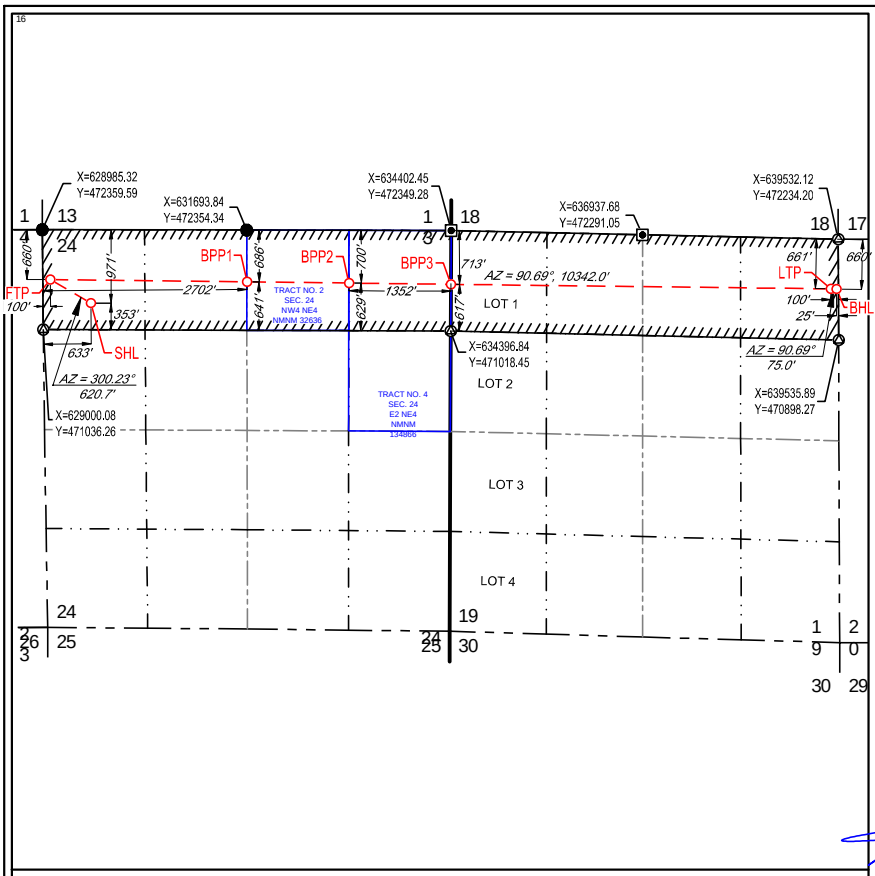
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	24	23-S	28-E	-	971'	NORTH	633'	WEST	EDDY

[11]Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	19	23-S	29-E	-	660'	NORTH	25'	EAST	EDDY

[12]Dedicated Acres	[13]Joint or Infill	[14]Consolidation Code	[15]Order No.
321.85			

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



[17]OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Curt Jones 6/21/24
Signature Date

Curt Jones
Printed Name

curtj@ktoc.net
E-mail Address

[18]SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true to the best of my belief.

05/15/2024
Date of Survey
Signature and Seal of Professional Surveyor

MICHAEL B. BROWN
NEW MEXICO
18329
PROFESSIONAL SURVEYOR
06-15-24

Certificate Number

NEW MEXICO EAST
NAD 1983

SURFACE LOCATION (SHL)	FIRST TAKE POINT (FTP)	BLM PERF. POINT (BPP1)	BLM PERF. POINT (BPP2)
971' FNL - SEC. 24 633' FWL - SEC. 24 X=629629 Y=471387 LAT.: N 32.2955927 LONG.: W 104.0475913	660' FNL - SEC. 24 100' FWL - SEC. 24 X=629093 Y=471699 LAT.: N 32.2964557 LONG.: W 104.0493241	686' FNL - SEC. 24 2702' FWL - SEC. 24 X=631695 Y=471668 LAT.: N 32.2963507 LONG.: W 104.0409016	700' FNL - SEC. 24 1352' FEL - SEC. 24 X=633047 Y=471652 LAT.: N 32.2962960 LONG.: W 104.0365258

BLM PERF. POINT (BPP3)	LAST TAKE POINT (LTP)	BOTTOM HOLE LOCATION (BHL)
713' FNL - SEC. 24 ±0' FWL - SEC. 24 X=634399 Y=471636 LAT.: N 32.2962411 LONG.: W 104.0321502	661' FNL - SEC. 19 100' FEL - SEC. 19 X=639434 Y=471575 LAT.: N 32.2960353 LONG.: W 104.0158573	660' FNL - SEC. 19 25' FEL - SEC. 19 X=639509 Y=471575 LAT.: N 32.2960322 LONG.: W 104.0156146

State of New Mexico
Energy, Minerals and Natural Resources Department

Submit Electronically
Via E-permitting

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

NATURAL GAS MANAGEMENT PLAN

This Natural Gas Management Plan must be submitted with each Application for Permit to Drill (APD) for a new or recompleted well.

Section 1 – Plan Description
Effective May 25, 2021

I. Operator: Kaiser-Francis Oil Company **OGRID:** 12361 **Date:** 06 / 14 /2024

II. Type: ☒ Original ☐ Amendment due to ☐ 19.15.27.9.D(6)(a) NMAC ☐ 19.15.27.9.D(6)(b) NMAC ☐ Other.

If Other, please describe: _____

III. Well(s): Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name	API	ULSTR	Footages	Anticipated Oil BBL/D	Anticipated Gas MCF/D	Anticipated Produced Water BBL/D
Mosaic Fed wells listed on next page.						

IV. Central Delivery Point Name: pad site [See 19.15.27.9(D)(1) NMAC]

V. Anticipated Schedule: Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name	API	Spud Date	TD Reached Date	Completion Commencement Date	Initial Flow Back Date	First Production Date
Mosaic Fed anticipated schedule listed on next page.						

VI. Separation Equipment: ☒ Attach a complete description of how Operator will size separation equipment to optimize gas capture.

VII. Operational Practices: ☒ Attach a complete description of the actions Operator will take to comply with the requirements of Subsection A through F of 19.15.27.8 NMAC.

VIII. Best Management Practices: ☒ Attach a complete description of Operator's best management practices to minimize venting during active and planned maintenance.

III. Wells

Well Name	API	Well Location (ULSTR)	Footages	Expected MCF/D	Flared or Vented	Comments
Mosaic Federal 2419 #551H		24-23S-28E	971’ FNL 633’ FWL	1500	0	
Mosaic Federal 2419 #552H		24-23S-28E	991’ FNL 633’ FWL	1500	0	

V. Aniticpated Schedule

Well Name	API	Spud	TD	Completion	Initial Flow Back	First Production
Mosaic Federal 2419 #551H		11/1/2024	11/26/2024	1/10/2025	2/3/2025	2/4/2025
Mosaic Federal 2419 #552H		11/27/2024	12/22/2024	1/15/2025	2/8/2025	2/9/2025

Kaiser-Francis Oil Company
Natural Gas Management Plan

Plan Description

VI. Separation Equipment

Separation equipment will be designed for maximum anticipated throughput and pressure to minimize waste.

VII. Operational Practices

A. VENTING AND FLARING OF NATURAL GAS

Kaiser-Francis Oil Company (KFOC) will maximize the recovery of natural gas by minimizing the waste of natural gas through venting and flaring during drilling, completion, and production operations as outlined in 19.15.27.8 NMAC. KFOC will flare rather than vent natural gas except when flaring is technically infeasible or would pose a safety risk and venting is a safer alternative than flaring. KFOC will ensure well(s) are connected to a natural gas gathering system with sufficient capacity to transport natural gas.

B. Venting and flaring during drilling operations

KFOC will combust natural gas brought to the surface during drilling operations. A properly sized flare stack will be located at a minimum of 100 feet from the nearest surface hole location. In case of emergency or malfunction, KFOC will report natural gas volumes, vented or flared.

C. Venting and flaring during completion or recompletion operations

During completion operations, KFOC will flare natural gas brought to the surface and commence operation of a separator once technically feasible. Produced natural gas from separation equipment will be sold. If natural gas does not meet gathering pipeline quality specifications, KFOC will flare for no more than 60 days or until the natural gas meets the pipeline quality specifications, whichever is sooner.

D. Venting and flaring during production operations

KFOC will not vent or flare natural gas during production, except for provisions defined by 19.15.27.8.D (1) through (4). KFOC will report natural gas volumes, vented or flared, appropriately.

E. Performance Standards

KFOC will comply with performance standards outlined in 19.15.27.8.E to minimize waste. Separation equipment will be designed for maximum anticipated throughput and pressure to minimize waste. Any permanent storage tank associated with production operations that is

routed to a flare or control device will be equipped with an automatic gauging system that reduces the venting of natural gas. KFOC will combust natural gas in a flare stack that is properly sized and designed to ensure proper combustion efficiency. Flare stacks will be equipped with an automatic ignitor or continuous pilot. KFOC will conduct an AVO inspection on the frequency specified in Subsection D of 19.15.27.8 NMAC. All emergencies will be resolved as quickly and safely as feasible.

F. Measurement or estimation of vented or flared natural gas

KFOC will measure or estimate natural gas that is vented, flared, or beneficially used during drilling, completion, and production operations. Equipment will be installed to measure the volume of natural gas flared from existing piping or a flowline piped from equipment such as high-pressure separators, heater treaters, or vapor recovery units associated with a well or facility, authorized by an APD issued after May 25, 2021, that has an average daily production greater than 60,000 cubic feet of natural gas. Measuring equipment will conform to an industry standard. Where measuring is not feasible, volumes will be estimated.

VIII. Best Management Practices

During active and planned maintenance, venting will be limited to the depressurization of the equipment to ensure safe working conditions. For maintenance of production and compression equipment the associated producing wells will be shut-in to eliminate venting. During VRU maintenance, gas normally routed to the VRU will be flared.

Section 2 – Enhanced Plan

EFFECTIVE APRIL 1, 2022

Beginning April 1, 2022, an operator that is not in compliance with its statewide natural gas capture requirement for the applicable reporting area must complete this section.

☒ Operator certifies that it is not required to complete this section because Operator is in compliance with its statewide natural gas capture requirement for the applicable reporting area.

IX. Anticipated Natural Gas Production:

Well	API	Anticipated Average Natural Gas Rate MCF/D	Anticipated Volume of Natural Gas for the First Year MCF

X. Natural Gas Gathering System (NGGS):

Operator	System	ULSTR of Tie-in	Anticipated Gathering Start Date	Available Maximum Daily Capacity of System Segment Tie-in

XI. Map. ☐ Attach an accurate and legible map depicting the location of the well(s), the anticipated pipeline route(s) connecting the production operations to the existing or planned interconnect of the natural gas gathering system(s), and the maximum daily capacity of the segment or portion of the natural gas gathering system(s) to which the well(s) will be connected.

XII. Line Capacity. The natural gas gathering system ☐ will ☐ will not have capacity to gather 100% of the anticipated natural gas production volume from the well prior to the date of first production.

XIII. Line Pressure. Operator ☐ does ☐ does not anticipate that its existing well(s) connected to the same segment, or portion, of the natural gas gathering system(s) described above will continue to meet anticipated increases in line pressure caused by the new well(s).

☐ Attach Operator's plan to manage production in response to the increased line pressure.

XIV. Confidentiality: ☐ Operator asserts confidentiality pursuant to Section 71-2-8 NMSA 1978 for the information provided in Section 2 as provided in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and attaches a full description of the specific information for which confidentiality is asserted and the basis for such assertion.

Section 3 - Certifications

Effective May 25, 2021

Operator certifies that, after reasonable inquiry and based on the available information at the time of submittal:

☒ Operator will be able to connect the well(s) to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system; or

☐ Operator will not be able to connect to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system. ***If Operator checks this box, Operator will select one of the following:***

Well Shut-In. ☐ Operator will shut-in and not produce the well until it submits the certification required by Paragraph (4) of Subsection D of 19.15.27.9 NMAC; or

Venting and Flaring Plan. ☐ Operator has attached a venting and flaring plan that evaluates and selects one or more of the potential alternative beneficial uses for the natural gas until a natural gas gathering system is available, including:

- **(a)** power generation on lease;
- **(b)** power generation for grid;
- **(c)** compression on lease;
- **(d)** liquids removal on lease;
- **(e)** reinjection for underground storage;
- **(f)** reinjection for temporary storage;
- **(g)** reinjection for enhanced oil recovery;
- **(h)** fuel cell production; and
- **(i)** other alternative beneficial uses approved by the division.

Section 4 - Notices

1. If, at any time after Operator submits this Natural Gas Management Plan and before the well is spud:

(a) Operator becomes aware that the natural gas gathering system it planned to connect the well(s) to has become unavailable or will not have capacity to transport one hundred percent of the production from the well(s), no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised venting and flaring plan containing the information specified in Paragraph (5) of Subsection D of 19.15.27.9 NMAC; or

(b) Operator becomes aware that it has, cumulatively for the year, become out of compliance with its baseline natural gas capture rate or natural gas capture requirement, no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised Natural Gas Management Plan for each well it plans to spud during the next 90 days containing the information specified in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and shall file an update for each Natural Gas Management Plan until Operator is back in compliance with its baseline natural gas capture rate or natural gas capture requirement.

2. OCD may deny or conditionally approve an APD if Operator does not make a certification, fails to submit an adequate venting and flaring plan which includes alternative beneficial uses for the anticipated volume of natural gas produced, or if OCD determines that Operator will not have adequate natural gas takeaway capacity at the time a well will be spud.

I certify that, after reasonable inquiry, the statements in and attached to this Natural Gas Management Plan are true and correct to the best of my knowledge and acknowledge that a false statement may be subject to civil and criminal penalties under the Oil and Gas Act.

Signature:	
Printed Name:	Aaron E. Daniels
Title:	EHS Manager
E-mail Address:	aarond@kfoc.net
Date:	6/14/2024
Phone:	918-491-4352

OIL CONSERVATION DIVISION **(Only applicable when submitted as a standalone form)**
Approved By:
Title:
Approval Date:
Conditions of Approval:

Mosaic Fed 2419 551H

Location Table

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
SHL Leg #1	971	FNL	633	FWL	23S	28E	24	Aliquot NWNW	32.2955927	-104.0475913	EDDY	NEW MEXICO	NEW MEXICO	F	FEE	2986	0	0	N
KOP Leg #1	971	FNL	633	FWL	23S	28E	24	Aliquot NWNW	32.2955927	-104.0475913	EDDY	NEW MEXICO	NEW MEXICO	F	FEE	-6614	9600	9600	N
PPP Leg #1-1	660	FNL	100	FWL	23S	28E	24	Aliquot NWNW	32.2964557	-104.0493241	EDDY	NEW MEXICO	NEW MEXICO	F	FEE	-7214	10575	10200	Y

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
PPP Leg #1-2	686	FNL	2702	FWL	23S	28E	24	Aliquot NENW	32.2963507	-104.0409016	EDDY	NEW MEXICO	NEW MEXICO	F	FEE	-7214	12656	10200	Y
PPP Leg #1-3	700	FNL	1352	FEL	23S	28E	24	Aliquot NENE	32.2962944	-104.0363963	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 134866	-7214	14008	10200	Y
PPP Leg #1-4	713	FNL	0	FWL	23S	29E	19	Lot 1	32.2962407	-104.0321178	EDDY	NEW MEXICO	NEW MEXICO	F	FEE	-7214	15290	10200	Y
EXIT Leg #1	661	FNL	100	FEL	23S	29E	19	Aliquot NENE	32.2960353	-104.0158573	EDDY	NEW MEXICO	NEW MEXICO	F	FEE	-7214	20395	10200	Y
BHL Leg #1	660	FNL	25	FEL	23S	29E	19	Aliquot NENE	32.2960322	-104.0156146	EDDY	NEW MEXICO	NEW MEXICO	F	FEE	-7214	20470	10200	N

Section 1- Formation Tops

Formation ID	Formation Name	Elevation	True Vertical	Measured Depth	Lithologies	Mineral Resources	Producing Formatio
14719221	---	2987	0	0	OTHER : Caliche	NONE	N
14719222	RUSTLER	2507	480	480	SANDSTONE	NONE	N
14719223	TOP SALT	2411	576	576	SALT	NONE	N
14719224	BASE OF SALT	350	2637	2637	LIMESTONE, SANDSTONE	NONE	N
14719227	BRUSHY CANYON	-1777	4764	4764	SANDSTONE	NONE	N
14719228	BONE SPRING 1ST	-3273	6260	6260	LIMESTONE, SANDSTONE	NATURAL GAS, OIL	Y

Section 2- BOP

Pressure Rating: 5M

Rating Depth: 10,000

Equipment: A 5M system will be installed according to Onshore Order #2 consisting of an Annular Preventer, BOP with two rams, a blind ram and safety valves and appropriate handles located on the rig floor. BOP will be equipped with 2 side outlets (choke side shall be a minimum 3 line, and kill side will be a minimum 2 line). Kill line will be installed with (2) valves and a check valve (2 min) of proper pressure rating for the system. A manual and hydraulic valve (2 min) will be installed on the choke line, 2 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 high pressure indicated above per Onshore Order #2 requirements. The system may be upgraded to a higher pressure but still tested to the working pressure listed in the table. If the system is upgraded all of the components installed will be functional and tested.

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	450	0	450	2986	2536	450	J-55	54.5	BUTT	5.2	12.7	DRY	37.1	DRY	34.8
2	INTERMEDIATE	12.25	10.75	NEW	API	N	0	2800	0	2800	2987	186	2800	HCN-80	45.5	BUTT	2.1	3.6	DRY	9.2	DRY	8.2
3	INTERMEDIATE	9.875	7.625	NEW	API	N	0	9600	0	9600	2986	-6614	9600	HCP-110	29.7	BUTT	1.6	2.1	DRY	3.4	DRY	3.3
4	PRODUCTION	6.75	5.5	NEW	API	N	0	20470	0	10200	2986	-7214	20470	P-110	23	OTHER - Eagle SFH	3.2	3.2	DRY	2.9	DRY	3.5

Section 4- Cement

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	450	406	1.35	14.8	547	75	Class C (Halcem)	Poly-E-Flake-Calcium Chloride
INTERMEDIATE	Lead		0	1800	237	2.15	12.9	508	50	Class C (Halcem)	Econolite, Microbond, Salt, Halad-9, SA-1015
INTERMEDIATE	Tail		1800	2800	211	1.34	14.8	282	50	Class C (Halcem)	Halad-344
INTERMEDIATE	Lead		2300	8600	480	3.52	10.5	1691	25	Class C (NeoCem)	Bridgemaker II
INTERMEDIATE	Tail		8600	9600	218	1.23	15.6	268	25	Class C (Halcem)	Bridgemaker II
PRODUCTION	Lead		9100	11470	153	1.56	13.5	238	20	Class H (Versacem)	Microbond
PRODUCTION	Tail		11470	20470	738	1.22	14.5	902	20	Class H (Versacem)	none

Section 5- Circulating Medium

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
0	450	OTHER : Fresh Water	8.4	9.2							
450	2800	OTHER : Brine	9.8	10							
2800	9600	WATER-BASED MUD	8.7	9.2							
9600	20470	OTHER : Brine	9.2	9.8							

Mud System Type: Closed

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times.

Mud Monitoring System: PVT/Pason/Vision Monitoring

Section 6- Test, Logging, Coring,

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

List of Logs to be run in the well: Directional Survey, Gamma Ray Log, Mud Log/Geological Lithology, Compensated Neutron Log

No coring is planned.

Section 7- Drilling Conditions

Anticipated Bottom Hole Pressure: 5198 **Anticipated Surface Pressure:** 2953

Anticipated Bottom Hole Temperature(F): 170

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

H2S Contingency plan attached.

KAISER FRANCIS OIL CO.

EDDY COUNTY, N.M. 83
SEC 24-T23S-R28E
MOSAIC FEDERAL 2419 551H

Wellbore #1

Plan: Plan 2

Standard Planning Report

06 November, 2024

Kaiser-Francis Oil Company

SB DIRECTIONAL

Planning Report

Kaiser-Francis Oil Company

Database:	1 - EDM Production	**Local Co-ordinate Reference:**	Well MOSAIC FEDERAL 2419 551H
Company:	KAISER FRANCIS OIL CO.	**TVD Reference:**	RKB 23' + GL 2986 @ 3009.00usft
Project:	EDDY COUNTY, N.M. 83	**MD Reference:**	RKB 23' + GL 2986 @ 3009.00usft
Site:	SEC 24-T23S-R28E	**North Reference:**	Grid
Well:	MOSAIC FEDERAL 2419 551H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan 2		

Project EDDY COUNTY, N.M. 83

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

Site SEC 24-T23S-R28E

Site Position:		**Northing:**	467,096.60 usft	**Latitude:**	32.28380362
From:	Map	**Easting:**	629,056.70 usft	**Longitude:**	-104.04947996
Position Uncertainty:	0.00 usft	**Slot Radius:**	13-3/16 "		

Well MOSAIC FEDERAL 2419 551H

Well Position	**+N/-S**	0.00 usft	**Northing:**	471,387.00 usft	**Latitude:**	32.29559308
	+E/-W	0.00 usft	**Easting:**	629,629.00 usft	**Longitude:**	-104.04759107
Position Uncertainty		0.50 usft	**Wellhead Elevation:**	usft	**Ground Level:**	2,986.00 usft
Grid Convergence:		0.15 °				

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM 2023	6/17/2024	6.67	59.92	47,313.30000000

Design Plan 2

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	90.00

Plan Survey Tool Program **Date** 11/6/2024

	Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	20,505.22	Plan 2 (Wellbore #1)	MWD+HRGM	
				OWSG MWD + HRGM	

Planning Report

Kaiser-Francis Oil Company

Database:	1 - EDM Production	**Local Co-ordinate Reference:**	Well MOSAIC FEDERAL 2419 551H
Company:	KAISER FRANCIS OIL CO.	**TVD Reference:**	RKB 23' + GL 2986 @ 3009.00usft
Project:	EDDY COUNTY, N.M. 83	**MD Reference:**	RKB 23' + GL 2986 @ 3009.00usft
Site:	SEC 24-T23S-R28E	**North Reference:**	Grid
Well:	MOSAIC FEDERAL 2419 551H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan 2		

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	
5,832.89	16.66	294.72	5,821.21	50.28	-109.20	2.00	2.00	0.00	294.72	
7,249.94	16.66	294.72	7,178.79	220.18	-478.18	0.00	0.00	0.00	0.00	
8,082.84	0.00	0.00	8,000.00	270.46	-587.38	2.00	-2.00	0.00	180.00	
9,709.88	0.00	0.00	9,627.04	270.46	-587.38	0.00	0.00	0.00	0.00	
10,609.88	90.00	87.10	10,200.00	299.45	-15.16	10.00	10.00	0.00	87.10	
10,785.81	90.00	90.62	10,200.00	302.95	160.71	2.00	0.00	2.00	90.00	
20,505.66	90.00	90.62	10,200.00	198.00	9,880.00	0.00	0.00	0.00	0.00	

SB DIRECTIONAL

Planning Report

Kaiser-Francis Oil Company

Database:	1 - EDM Production	**Local Co-ordinate Reference:**	Well MOSAIC FEDERAL 2419 551H
Company:	KAISER FRANCIS OIL CO.	**TVD Reference:**	RKB 23' + GL 2986 @ 3009.00usft
Project:	EDDY COUNTY, N.M. 83	**MD Reference:**	RKB 23' + GL 2986 @ 3009.00usft
Site:	SEC 24-T23S-R28E	**North Reference:**	Grid
Well:	MOSAIC FEDERAL 2419 551H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan 2		

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
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00
4,900.00	0.00	0.00	4,900.00	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
Start Build 2.00									
5,100.00	2.00	294.72	5,099.98	0.73	-1.59	-1.59	2.00	2.00	0.00
5,200.00	4.00	294.72	5,199.84	2.92	-6.34	-6.34	2.00	2.00	0.00

Planning Report

Kaiser-Francis Oil Company

Database:	1 - EDM Production	**Local Co-ordinate Reference:**	Well MOSAIC FEDERAL 2419 551H
Company:	KAISER FRANCIS OIL CO.	**TVD Reference:**	RKB 23' + GL 2986 @ 3009.00usft
Project:	EDDY COUNTY, N.M. 83	**MD Reference:**	RKB 23' + GL 2986 @ 3009.00usft
Site:	SEC 24-T23S-R28E	**North Reference:**	Grid
Well:	MOSAIC FEDERAL 2419 551H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan 2		

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)
5,300.00	6.00	294.72	5,299.45	6.56	-14.26	-14.26	2.00	2.00	0.00
5,400.00	8.00	294.72	5,398.70	11.66	-25.32	-25.32	2.00	2.00	0.00
5,500.00	10.00	294.72	5,497.47	18.20	-39.53	-39.53	2.00	2.00	0.00
5,600.00	12.00	294.72	5,595.62	26.18	-56.86	-56.86	2.00	2.00	0.00
5,700.00	14.00	294.72	5,693.06	35.59	-77.30	-77.30	2.00	2.00	0.00
5,800.00	16.00	294.72	5,789.64	46.42	-100.80	-100.80	2.00	2.00	0.00
5,832.89	16.66	294.72	5,821.21	50.28	-109.20	-109.20	2.00	2.00	0.00
Start 1417.05 hold at 5832.89 MD									
5,900.00	16.66	294.72	5,885.50	58.33	-126.68	-126.68	0.00	0.00	0.00
6,000.00	16.66	294.72	5,981.30	70.32	-152.72	-152.72	0.00	0.00	0.00
6,100.00	16.66	294.72	6,077.11	82.31	-178.75	-178.75	0.00	0.00	0.00
6,200.00	16.66	294.72	6,172.91	94.30	-204.79	-204.79	0.00	0.00	0.00
6,300.00	16.66	294.72	6,268.71	106.29	-230.83	-230.83	0.00	0.00	0.00
6,400.00	16.66	294.72	6,364.52	118.28	-256.87	-256.87	0.00	0.00	0.00
6,500.00	16.66	294.72	6,460.32	130.26	-282.91	-282.91	0.00	0.00	0.00
6,600.00	16.66	294.72	6,556.12	142.25	-308.94	-308.94	0.00	0.00	0.00
6,700.00	16.66	294.72	6,651.93	154.24	-334.98	-334.98	0.00	0.00	0.00
6,800.00	16.66	294.72	6,747.73	166.23	-361.02	-361.02	0.00	0.00	0.00
6,900.00	16.66	294.72	6,843.53	178.22	-387.06	-387.06	0.00	0.00	0.00
7,000.00	16.66	294.72	6,939.34	190.21	-413.10	-413.10	0.00	0.00	0.00
7,100.00	16.66	294.72	7,035.14	202.20	-439.13	-439.13	0.00	0.00	0.00
7,200.00	16.66	294.72	7,130.94	214.19	-465.17	-465.17	0.00	0.00	0.00
7,249.94	16.66	294.72	7,178.79	220.18	-478.18	-478.18	0.00	0.00	0.00
Start Drop -2.00									
7,300.00	15.66	294.72	7,226.87	226.00	-490.83	-490.83	2.00	-2.00	0.00
7,400.00	13.66	294.72	7,323.61	236.58	-513.81	-513.81	2.00	-2.00	0.00
7,500.00	11.66	294.72	7,421.18	245.75	-533.71	-533.71	2.00	-2.00	0.00
7,600.00	9.66	294.72	7,519.45	253.48	-550.51	-550.51	2.00	-2.00	0.00
7,700.00	7.66	294.72	7,618.30	259.78	-564.18	-564.18	2.00	-2.00	0.00
7,800.00	5.66	294.72	7,717.62	264.63	-574.71	-574.71	2.00	-2.00	0.00
7,900.00	3.66	294.72	7,817.29	268.02	-582.08	-582.08	2.00	-2.00	0.00
8,000.00	1.66	294.72	7,917.17	269.96	-586.29	-586.29	2.00	-2.00	0.00
8,082.84	0.00	0.00	8,000.00	270.46	-587.38	-587.38	2.00	-2.00	0.00
Start 1627.04 hold at 8082.84 MD									
8,100.00	0.00	0.00	8,017.16	270.46	-587.38	-587.38	0.00	0.00	0.00
8,200.00	0.00	0.00	8,117.16	270.46	-587.38	-587.38	0.00	0.00	0.00
8,300.00	0.00	0.00	8,217.16	270.46	-587.38	-587.38	0.00	0.00	0.00
8,400.00	0.00	0.00	8,317.16	270.46	-587.38	-587.38	0.00	0.00	0.00
8,500.00	0.00	0.00	8,417.16	270.46	-587.38	-587.38	0.00	0.00	0.00
8,600.00	0.00	0.00	8,517.16	270.46	-587.38	-587.38	0.00	0.00	0.00
8,700.00	0.00	0.00	8,617.16	270.46	-587.38	-587.38	0.00	0.00	0.00
8,800.00	0.00	0.00	8,717.16	270.46	-587.38	-587.38	0.00	0.00	0.00
8,900.00	0.00	0.00	8,817.16	270.46	-587.38	-587.38	0.00	0.00	0.00
9,000.00	0.00	0.00	8,917.16	270.46	-587.38	-587.38	0.00	0.00	0.00
9,100.00	0.00	0.00	9,017.16	270.46	-587.38	-587.38	0.00	0.00	0.00
9,200.00	0.00	0.00	9,117.16	270.46	-587.38	-587.38	0.00	0.00	0.00
9,300.00	0.00	0.00	9,217.16	270.46	-587.38	-587.38	0.00	0.00	0.00
9,400.00	0.00	0.00	9,317.16	270.46	-587.38	-587.38	0.00	0.00	0.00
9,500.00	0.00	0.00	9,417.16	270.46	-587.38	-587.38	0.00	0.00	0.00
9,600.00	0.00	0.00	9,517.16	270.46	-587.38	-587.38	0.00	0.00	0.00
9,709.88	0.00	0.00	9,627.04	270.46	-587.38	-587.38	0.00	0.00	0.00
Start Build 10.00									
9,750.00	4.01	87.10	9,667.13	270.53	-585.98	-585.98	10.00	10.00	0.00

Planning Report

Kaiser-Francis Oil Company

Database:	1 - EDM Production	**Local Co-ordinate Reference:**	Well MOSAIC FEDERAL 2419 551H
Company:	KAISER FRANCIS OIL CO.	**TVD Reference:**	RKB 23' + GL 2986 @ 3009.00usft
Project:	EDDY COUNTY, N.M. 83	**MD Reference:**	RKB 23' + GL 2986 @ 3009.00usft
Site:	SEC 24-T23S-R28E	**North Reference:**	Grid
Well:	MOSAIC FEDERAL 2419 551H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan 2		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
9,800.00	9.01	87.10	9,716.79	270.82	-580.32	-580.32	10.00	10.00	0.00
9,850.00	14.01	87.10	9,765.77	271.32	-570.35	-570.35	10.00	10.00	0.00
9,900.00	19.01	87.10	9,813.69	272.04	-556.16	-556.16	10.00	10.00	0.00
9,950.00	24.01	87.10	9,860.20	272.97	-537.86	-537.86	10.00	10.00	0.00
10,000.00	29.01	87.10	9,904.92	274.10	-515.57	-515.57	10.00	10.00	0.00
10,050.00	34.01	87.10	9,947.54	275.42	-489.48	-489.48	10.00	10.00	0.00
10,100.00	39.01	87.10	9,987.71	276.92	-459.78	-459.78	10.00	10.00	0.00
10,150.00	44.01	87.10	10,025.14	278.60	-426.69	-426.69	10.00	10.00	0.00
10,200.00	49.01	87.10	10,059.54	280.43	-390.48	-390.48	10.00	10.00	0.00
10,250.00	54.01	87.10	10,090.65	282.41	-351.40	-351.40	10.00	10.00	0.00
10,300.00	59.01	87.10	10,118.22	284.52	-309.77	-309.77	10.00	10.00	0.00
10,350.00	64.01	87.10	10,142.07	286.75	-265.89	-265.89	10.00	10.00	0.00
10,400.00	69.01	87.10	10,161.99	289.07	-220.11	-220.11	10.00	10.00	0.00
10,450.00	74.01	87.10	10,177.84	291.46	-172.76	-172.76	10.00	10.00	0.00
10,500.00	79.01	87.10	10,189.49	293.92	-124.22	-124.22	10.00	10.00	0.00
10,550.00	84.01	87.10	10,196.87	296.42	-74.85	-74.85	10.00	10.00	0.00
10,600.00	89.01	87.10	10,199.91	298.95	-25.02	-25.02	10.00	10.00	0.00
10,609.88	90.00	87.10	10,200.00	299.45	-15.16	-15.16	10.00	10.00	0.00
Start DLS 2.00 TFO 90.00									
10,700.00	90.00	88.90	10,200.00	302.59	74.91	74.91	2.00	0.00	2.00
10,785.81	90.00	90.62	10,200.00	302.95	160.71	160.71	2.00	0.00	2.00
Start 9719.85 hold at 10785.81 MD									
10,800.00	90.00	90.62	10,200.00	302.80	174.90	174.90	0.00	0.00	0.00
10,900.00	90.00	90.62	10,200.00	301.72	274.90	274.90	0.00	0.00	0.00
11,000.00	90.00	90.62	10,200.00	300.64	374.89	374.89	0.00	0.00	0.00
11,100.00	90.00	90.62	10,200.00	299.56	474.89	474.89	0.00	0.00	0.00
11,200.00	90.00	90.62	10,200.00	298.48	574.88	574.88	0.00	0.00	0.00
11,300.00	90.00	90.62	10,200.00	297.40	674.87	674.87	0.00	0.00	0.00
11,400.00	90.00	90.62	10,200.00	296.32	774.87	774.87	0.00	0.00	0.00
11,500.00	90.00	90.62	10,200.00	295.24	874.86	874.86	0.00	0.00	0.00
11,600.00	90.00	90.62	10,200.00	294.16	974.86	974.86	0.00	0.00	0.00
11,700.00	90.00	90.62	10,200.00	293.08	1,074.85	1,074.85	0.00	0.00	0.00
11,800.00	90.00	90.62	10,200.00	292.00	1,174.85	1,174.85	0.00	0.00	0.00
11,900.00	90.00	90.62	10,200.00	290.92	1,274.84	1,274.84	0.00	0.00	0.00
12,000.00	90.00	90.62	10,200.00	289.84	1,374.83	1,374.83	0.00	0.00	0.00
12,100.00	90.00	90.62	10,200.00	288.76	1,474.83	1,474.83	0.00	0.00	0.00
12,200.00	90.00	90.62	10,200.00	287.68	1,574.82	1,574.82	0.00	0.00	0.00
12,300.00	90.00	90.62	10,200.00	286.60	1,674.82	1,674.82	0.00	0.00	0.00
12,400.00	90.00	90.62	10,200.00	285.52	1,774.81	1,774.81	0.00	0.00	0.00
12,500.00	90.00	90.62	10,200.00	284.44	1,874.80	1,874.80	0.00	0.00	0.00
12,600.00	90.00	90.62	10,200.00	283.36	1,974.80	1,974.80	0.00	0.00	0.00
12,700.00	90.00	90.62	10,200.00	282.28	2,074.79	2,074.79	0.00	0.00	0.00
12,800.00	90.00	90.62	10,200.00	281.20	2,174.79	2,174.79	0.00	0.00	0.00
12,900.00	90.00	90.62	10,200.00	280.12	2,274.78	2,274.78	0.00	0.00	0.00
13,000.00	90.00	90.62	10,200.00	279.04	2,374.78	2,374.78	0.00	0.00	0.00
13,100.00	90.00	90.62	10,200.00	277.96	2,474.77	2,474.77	0.00	0.00	0.00
13,200.00	90.00	90.62	10,200.00	276.88	2,574.76	2,574.76	0.00	0.00	0.00
13,300.00	90.00	90.62	10,200.00	275.80	2,674.76	2,674.76	0.00	0.00	0.00
13,400.00	90.00	90.62	10,200.00	274.72	2,774.75	2,774.75	0.00	0.00	0.00
13,500.00	90.00	90.62	10,200.00	273.64	2,874.75	2,874.75	0.00	0.00	0.00
13,600.00	90.00	90.62	10,200.00	272.56	2,974.74	2,974.74	0.00	0.00	0.00
13,700.00	90.00	90.62	10,200.00	271.48	3,074.73	3,074.73	0.00	0.00	0.00
13,800.00	90.00	90.62	10,200.00	270.40	3,174.73	3,174.73	0.00	0.00	0.00
13,900.00	90.00	90.62	10,200.00	269.32	3,274.72	3,274.72	0.00	0.00	0.00

Planning Report

Kaiser-Francis Oil Company

Database:	1 - EDM Production	**Local Co-ordinate Reference:**	Well MOSAIC FEDERAL 2419 551H
Company:	KAISER FRANCIS OIL CO.	**TVD Reference:**	RKB 23' + GL 2986 @ 3009.00usft
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Site:	SEC 24-T23S-R28E	**North Reference:**	Grid
Well:	MOSAIC FEDERAL 2419 551H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan 2		

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)
14,000.00	90.00	90.62	10,200.00	268.24	3,374.72	3,374.72	0.00	0.00	0.00
14,100.00	90.00	90.62	10,200.00	267.16	3,474.71	3,474.71	0.00	0.00	0.00
14,200.00	90.00	90.62	10,200.00	266.08	3,574.71	3,574.71	0.00	0.00	0.00
14,300.00	90.00	90.62	10,200.00	265.01	3,674.70	3,674.70	0.00	0.00	0.00
14,400.00	90.00	90.62	10,200.00	263.93	3,774.69	3,774.69	0.00	0.00	0.00
14,500.00	90.00	90.62	10,200.00	262.85	3,874.69	3,874.69	0.00	0.00	0.00
14,600.00	90.00	90.62	10,200.00	261.77	3,974.68	3,974.68	0.00	0.00	0.00
14,700.00	90.00	90.62	10,200.00	260.69	4,074.68	4,074.68	0.00	0.00	0.00
14,800.00	90.00	90.62	10,200.00	259.61	4,174.67	4,174.67	0.00	0.00	0.00
14,900.00	90.00	90.62	10,200.00	258.53	4,274.67	4,274.67	0.00	0.00	0.00
15,000.00	90.00	90.62	10,200.00	257.45	4,374.66	4,374.66	0.00	0.00	0.00
15,100.00	90.00	90.62	10,200.00	256.37	4,474.65	4,474.65	0.00	0.00	0.00
15,200.00	90.00	90.62	10,200.00	255.29	4,574.65	4,574.65	0.00	0.00	0.00
15,300.00	90.00	90.62	10,200.00	254.21	4,674.64	4,674.64	0.00	0.00	0.00
15,400.00	90.00	90.62	10,200.00	253.13	4,774.64	4,774.64	0.00	0.00	0.00
15,500.00	90.00	90.62	10,200.00	252.05	4,874.63	4,874.63	0.00	0.00	0.00
15,600.00	90.00	90.62	10,200.00	250.97	4,974.62	4,974.62	0.00	0.00	0.00
15,700.00	90.00	90.62	10,200.00	249.89	5,074.62	5,074.62	0.00	0.00	0.00
15,800.00	90.00	90.62	10,200.00	248.81	5,174.61	5,174.61	0.00	0.00	0.00
15,900.00	90.00	90.62	10,200.00	247.73	5,274.61	5,274.61	0.00	0.00	0.00
16,000.00	90.00	90.62	10,200.00	246.65	5,374.60	5,374.60	0.00	0.00	0.00
16,100.00	90.00	90.62	10,200.00	245.57	5,474.60	5,474.60	0.00	0.00	0.00
16,200.00	90.00	90.62	10,200.00	244.49	5,574.59	5,574.59	0.00	0.00	0.00
16,300.00	90.00	90.62	10,200.00	243.41	5,674.58	5,674.58	0.00	0.00	0.00
16,400.00	90.00	90.62	10,200.00	242.33	5,774.58	5,774.58	0.00	0.00	0.00
16,500.00	90.00	90.62	10,200.00	241.25	5,874.57	5,874.57	0.00	0.00	0.00
16,600.00	90.00	90.62	10,200.00	240.17	5,974.57	5,974.57	0.00	0.00	0.00
16,700.00	90.00	90.62	10,200.00	239.09	6,074.56	6,074.56	0.00	0.00	0.00
16,800.00	90.00	90.62	10,200.00	238.01	6,174.55	6,174.55	0.00	0.00	0.00
16,900.00	90.00	90.62	10,200.00	236.93	6,274.55	6,274.55	0.00	0.00	0.00
17,000.00	90.00	90.62	10,200.00	235.85	6,374.54	6,374.54	0.00	0.00	0.00
17,100.00	90.00	90.62	10,200.00	234.77	6,474.54	6,474.54	0.00	0.00	0.00
17,200.00	90.00	90.62	10,200.00	233.69	6,574.53	6,574.53	0.00	0.00	0.00
17,300.00	90.00	90.62	10,200.00	232.61	6,674.53	6,674.53	0.00	0.00	0.00
17,400.00	90.00	90.62	10,200.00	231.53	6,774.52	6,774.52	0.00	0.00	0.00
17,500.00	90.00	90.62	10,200.00	230.45	6,874.51	6,874.51	0.00	0.00	0.00
17,600.00	90.00	90.62	10,200.00	229.37	6,974.51	6,974.51	0.00	0.00	0.00
17,700.00	90.00	90.62	10,200.00	228.29	7,074.50	7,074.50	0.00	0.00	0.00
17,800.00	90.00	90.62	10,200.00	227.21	7,174.50	7,174.50	0.00	0.00	0.00
17,900.00	90.00	90.62	10,200.00	226.13	7,274.49	7,274.49	0.00	0.00	0.00
18,000.00	90.00	90.62	10,200.00	225.05	7,374.48	7,374.48	0.00	0.00	0.00
18,100.00	90.00	90.62	10,200.00	223.97	7,474.48	7,474.48	0.00	0.00	0.00
18,200.00	90.00	90.62	10,200.00	222.90	7,574.47	7,574.47	0.00	0.00	0.00
18,300.00	90.00	90.62	10,200.00	221.82	7,674.47	7,674.47	0.00	0.00	0.00
18,400.00	90.00	90.62	10,200.00	220.74	7,774.46	7,774.46	0.00	0.00	0.00
18,500.00	90.00	90.62	10,200.00	219.66	7,874.46	7,874.46	0.00	0.00	0.00
18,600.00	90.00	90.62	10,200.00	218.58	7,974.45	7,974.45	0.00	0.00	0.00
18,700.00	90.00	90.62	10,200.00	217.50	8,074.44	8,074.44	0.00	0.00	0.00
18,800.00	90.00	90.62	10,200.00	216.42	8,174.44	8,174.44	0.00	0.00	0.00
18,900.00	90.00	90.62	10,200.00	215.34	8,274.43	8,274.43	0.00	0.00	0.00
19,000.00	90.00	90.62	10,200.00	214.26	8,374.43	8,374.43	0.00	0.00	0.00
19,100.00	90.00	90.62	10,200.00	213.18	8,474.42	8,474.42	0.00	0.00	0.00
19,200.00	90.00	90.62	10,200.00	212.10	8,574.41	8,574.41	0.00	0.00	0.00
19,300.00	90.00	90.62	10,200.00	211.02	8,674.41	8,674.41	0.00	0.00	0.00

SB DIRECTIONAL

Planning Report

Kaiser-Francis Oil Company

Database:	1 - EDM Production	**Local Co-ordinate Reference:**	Well MOSAIC FEDERAL 2419 551H
Company:	KAISER FRANCIS OIL CO.	**TVD Reference:**	RKB 23' + GL 2986 @ 3009.00usft
Project:	EDDY COUNTY, N.M. 83	**MD Reference:**	RKB 23' + GL 2986 @ 3009.00usft
Site:	SEC 24-T23S-R28E	**North Reference:**	Grid
Well:	MOSAIC FEDERAL 2419 551H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan 2		

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)
19,400.00	90.00	90.62	10,200.00	209.94	8,774.40	8,774.40	0.00	0.00	0.00
19,500.00	90.00	90.62	10,200.00	208.86	8,874.40	8,874.40	0.00	0.00	0.00
19,600.00	90.00	90.62	10,200.00	207.78	8,974.39	8,974.39	0.00	0.00	0.00
19,700.00	90.00	90.62	10,200.00	206.70	9,074.39	9,074.39	0.00	0.00	0.00
19,800.00	90.00	90.62	10,200.00	205.62	9,174.38	9,174.38	0.00	0.00	0.00
19,900.00	90.00	90.62	10,200.00	204.54	9,274.37	9,274.37	0.00	0.00	0.00
20,000.00	90.00	90.62	10,200.00	203.46	9,374.37	9,374.37	0.00	0.00	0.00
20,100.00	90.00	90.62	10,200.00	202.38	9,474.36	9,474.36	0.00	0.00	0.00
20,200.00	90.00	90.62	10,200.00	201.30	9,574.36	9,574.36	0.00	0.00	0.00
20,300.00	90.00	90.62	10,200.00	200.22	9,674.35	9,674.35	0.00	0.00	0.00
20,400.00	90.00	90.62	10,200.00	199.14	9,774.34	9,774.34	0.00	0.00	0.00
20,505.66	90.00	90.62	10,200.00	198.00	9,880.00	9,880.00	0.00	0.00	0.00
TD at 20505.66									

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
Mosaic 551H BPP2	0.00	0.00	0.00	265.00	3,418.00	471,652.00	633,047.00	32.29629601	-104.03652698
- plan misses target center by 3428.26usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Point									
Mosaic 551H PBHL(660	0.00	0.00	0.00	188.00	9,880.00	471,575.00	639,509.00	32.29603345	-104.01561453
- plan misses target center by 9881.79usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Point									
Mosaic 551H FTP (660'	0.00	0.00	0.00	312.00	-536.00	471,699.00	629,093.00	32.29645464	-104.04932306
- plan misses target center by 620.19usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Point									
Mosaic 551H BPP1	0.00	0.00	0.00	281.00	2,066.00	471,668.00	631,695.00	32.29635020	-104.04090237
- plan misses target center by 2085.02usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Point									
Mosaic 551H BPP3	0.00	0.00	0.00	249.00	4,770.00	471,636.00	634,399.00	32.29624166	-104.03215159
- plan misses target center by 4776.49usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Point									
Mosaic 551H LTP (661' I	0.00	0.00	0.00	188.00	9,805.00	471,575.00	639,434.00	32.29603406	-104.01585725
- plan misses target center by 9806.80usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Point									

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
20,493.30	10,200.00	20" Casing	20	24

Planning Report

Kaiser-Francis Oil Company

Database:	1 - EDM Production	**Local Co-ordinate Reference:**	Well MOSAIC FEDERAL 2419 551H
Company:	KAISER FRANCIS OIL CO.	**TVD Reference:**	RKB 23' + GL 2986 @ 3009.00usft
Project:	EDDY COUNTY, N.M. 83	**MD Reference:**	RKB 23' + GL 2986 @ 3009.00usft
Site:	SEC 24-T23S-R28E	**North Reference:**	Grid
Well:	MOSAIC FEDERAL 2419 551H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan 2		

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	Start Build 2.00
5,832.89	5,821.21	50.28	-109.20	Start 1417.05 hold at 5832.89 MD
7,249.94	7,178.79	220.18	-478.18	Start Drop -2.00
8,082.84	8,000.00	270.46	-587.38	Start 1627.04 hold at 8082.84 MD
9,709.88	9,627.04	270.46	-587.38	Start Build 10.00
10,609.88	10,200.00	299.45	-15.16	Start DLS 2.00 TFO 90.00
10,785.81	10,200.00	302.95	160.71	Start 9719.85 hold at 10785.81 MD
20,505.66	10,200.00	198.00	9,880.00	TD at 20505.66

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

Mosaic Federal 2419 #551H
SECTION 24 -T23S-R28E
EDDY 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	
Jeremy Parent	575-964-6256	580-504-2593
David Zerger	918/491-4350	918/557-6708
Aaron Daniels	918-491-4352	918-891-5199
Robert Sanford	918/491-4201	918/770-2682

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
Cudd	800-990-2833
Wild Well Control	281-784-4700

PROTECTION OF THE GENERAL PUBLIC/ROE:

In the event of a release with a concentration greater than 100 ppm H_2S, the ROE (Radius of Exposure) calculations will be done to determine if the following conditions have been met:

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

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

Calculation for the 100 ppm ROE:

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

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

Calculation for the 500 ppm ROE:

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

EXAMPLE: If a well/facility has been determined to have 150 ppm H_2S in the gas mixture and the well/facility is producing at a gas rate of 200 MCFPD then:

ROE for 100 PPM X=[(1.589)(.0150)(200)] (0.6258)
X=2.65'

ROE for 500 PPM X=[(.4546)(.0150)(200)] (0.6258)
X=1.2'

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

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

1) Notification of the emergency response agencies of the hazardous condition and Implement evacuation procedures.

2) A trained person in H_2S safety, shall monitor with detection equipment the H_2S Concentration, wind and area of exposure (ROE). This person will determine the outer perimeter of the hazardous area. The extent of the evacuation area will be determined from the data being collected. Monitoring shall continue until the situation has been resolved. **(All monitoring equipment will be UL approved, for use in class I groups A,B,C & D, Division I, hazardous locations. All monitors will have a minimum capability of measuring H_2S, oxygen, and flammable values.)**

3) Law enforcement shall be notified to set up necessary barriers and maintain such for the duration of the situation as well as aid in the evacuation procedure.

4) The company supervising personnel shall stay in communication with all agencies through out the duration of the situation and inform such agencies when the situation has been contained and the effected area(s) is safe to enter.

CHARACTERISTICS OF H_2S AND SO_2

Common Name	Chemical Formula	Specific Gravity	Threshold Limit	Hazardous Limit	Lethal Concentration
Hydrogen Sulfide	H_2S	1.189 Air = 1	10 ppm	100 ppm	600 ppm
Sulfur Dioxide	SO_2	2.21 Air = 1	2 ppm	N/A	1000 ppm

TRAINING:

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

PUBLIC RELATIONS

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

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

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

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
https://www.emnrd.nm.gov/ocd/contact-us

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Operator: KAISER-FRANCIS OIL CO PO Box 21468 Tulsa, OK 741211468	OGRID: 12361
	Action Number: 414312
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

CONDITIONS

Created By	Condition	Condition Date
christinaopf	Cement is required to circulate on both surface and intermediate1 strings of casing.	12/20/2024
christinaopf	If cement does not circulate on any string, a Cement Bond Log (CBL) is required for that string of casing.	12/20/2024
ward.rikala	Notify the OCD 24 hours prior to casing & cement.	12/22/2024
ward.rikala	File As Drilled C-102 and a directional Survey with C-104 completion packet.	12/22/2024
ward.rikala	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string.	12/22/2024
ward.rikala	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system.	12/22/2024