OCD Hobbs

F/F

Form 3160-3
(June 2015)

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

HOBBS OCD
MAR 08 2019
RECEIVED

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
NMNM015321

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☑ DRILL ☐ REENTER

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

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

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

8. Lease Name and Well No.
RED HILLS FED
403H (54677)

2. Name of Operator
KAISER FRANCIS OIL COMPANY (12361)

9. API Well No.
30-025-45766

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

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

10. Field and Pool, or Exploratory
RED HILLS / WOLFCAMP 98158

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface NESW / 2400 FSL / 1815 FWL / LAT 32.0863916 / LONG -103.6140599
At proposed prod. zone SESW / 330 FSL / 2182 FWL / LAT 32.0662022 / LONG -103.6128008

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

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

12. County or Parish
LEA

13. State
NM

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

16. No of acres in lease
838.8

17. Spacing Unit dedicated to this well
240

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

19. Proposed Depth
12350 feet / 19669 feet

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

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3418 feet

22. Approximate date work will start*
11/01/2018

23. Estimated duration
30 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)	Melanie Wilson / Ph: (575)914-1461	08/21/2018
Title: Regulatory Analyst		
Approved by *(Signature)* (Electronic Submission)	Name *(Printed/Typed)* Cody Layton / Ph: (575)234-5959	Date 02/20/2019
Title: Assistant Field Manager Lands & Minerals	Office: CARLSBAD	

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

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

GCP Rec 03/08/19

KZ 03/18/19

APPROVED WITH CONDITIONS

P.M.

(Continued on page 2)

*(Instructions on page 2)

Approval Date: 02/20/2019

Double Sided

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 OE 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

1. SHL: NESW / 2400 FSL / 1815 FWL / TWSP: 25S / RANGE: 33E / SECTION: 31 / LAT: 32.0863916 / LONG: -103.6140599 (TVD: 0 feet, MD: 0 feet)
   PPP: NESW / 2520 FSL / 2181 FWL / TWSP: 25S / RANGE: 33E / SECTION: 31 / LAT: 32.0867175 / LONG: -103.6128754 (TVD: 12070 feet, MD: 12107 feet)
   BHL: SESW / 330 FSL / 2182 FWL / TWSP: 26S / RANGE: 33E / SECTION: 6 / LAT: 32.0662022 / LONG: -103.6128008 (TVD: 12350 feet, MD: 19669 feet)

BLM Point of Contact

Name: Priscilla Perez
Title: Legal Instruments Examiner
Phone: 5752345934
Email: pperez@blm.gov

Approval Date: 02/20/2019

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.

KFOC
Well Control Plan

A. Component and Preventer Compatibility Table

Component	OD	Preventer	RWP
Drill Pipe	4 1/2"	Upper VBR: 3.5 – 5.5 Lower VBR: 3.5 – 5.5	10M
Heavyweight Drill Pipe	4 1/2"	Upper VBR: 3.5 – 5.5 Lower VBR: 3.5 – 5.5	10M
Drill Collars & MWD Tools	6 1/4"-4 ¾"	Annular Upper VBR: 3.5 – 5.5 Lower VBR: 3.5 – 5.5	5M 10M 10M
Mud Motor	8"-4 3/4"	Annular Upper VBR: 3.5 – 5.5 Lower VBR: 3.5 – 5.5	5M 10M 10M
Production Casing	5 1/2"	Upper VBR: 3.5 – 5.5 Lower VBR: 3.5 – 5.5	10M
All	0 – 13 5/8"	Annular	5M
Open Hole		Blind Rams	10M

B. Well Control Procedures

I. <u>General Procedures While Drilling</u>:

a. Sound alarm – alert crew
b. Space out drill string
c. Shut down pumps and stop rotary
d. Open HCR
e. Shut well in, utilizing upper VBRs
f. Close choke
g. Confirm shut in
h. Notify rig manager and KFOC, Inc. company representative
i. Call KFOC, Inc. engineer
j. Read and record:
    i. Shut in drill pressure and shut in casing pressure
    ii. Pit gain
    iii. Time
k. Regroup, identify forward plan

II. <u>General Procedures While Tripping</u>:

a. Sound alarm – alert crew
b. Stab full opening safety valve and close
c. Space out drill string
d. Open HCR
e. Shut well in, utilizing upper VBRs
f. Close choke
g. Confirm shut in
h. Notify rig manager and KFOC. company representative
i. Call KFOC. engineer

j. Read and record:
   i. Shut in drill pressure and shut in casing pressure
   ii. Pit gain
   iii. Time
k. Regroup, identify forward plan

III. General Procedures While Running Casing:
a. Sound alarm – alert crew
b. Stab full opening safety valve and close
c. Space out drill string
d. Open HCR
e. Shut well in, utilizing upper VBRs
f. Close choke
g. Confirm shut in
h. Notify rig manager and KFOC company representative
i. Call KFOC engineer
j. Read and record:
   i. Shut in drill pressure and shut in casing pressure
   ii. Pit gain
   iii. Time
k. Regroup, identify forward plan

IV. General Procedures With No Pipe in Hole (Open Hole):
a. Sound alarm – alert crew
b. Open HCR
c. Shut well in with blind rams
d. Close choke
e. Confirm shut in
f. Notify rig manager and KFOC company representative
g. Call KFOC engineer
h. Read and record:
i. Shut in drill pressure and shut in casing pressure
   ii. Pit gain
   iii. Time
j. Regroup, identify forward plan

V. General Procedures While Pulling BHL Through BOP Stack:

1. Prior to pulling last joint of drill pipe through stack A.
   Perform flow check and if flowing:
   a. Sound alarm – alert crew
   b. Stab full opening safety valve and close
   c. Space out drill string with tool joint just beneath upper pipe ram
   d. Open HCR
   e. Shut well in utilizing upper VBRs
   f. Close choke
   g. Confirm shut in
   h. Notify rig manager and KFOC company representative
   i. Call KFOC engineer

j. Read and record:
   i. Shut in drill pressure and shut in casing pressure
   ii. Pit gain
   iii. Time
k. Regroup, identify forward plan

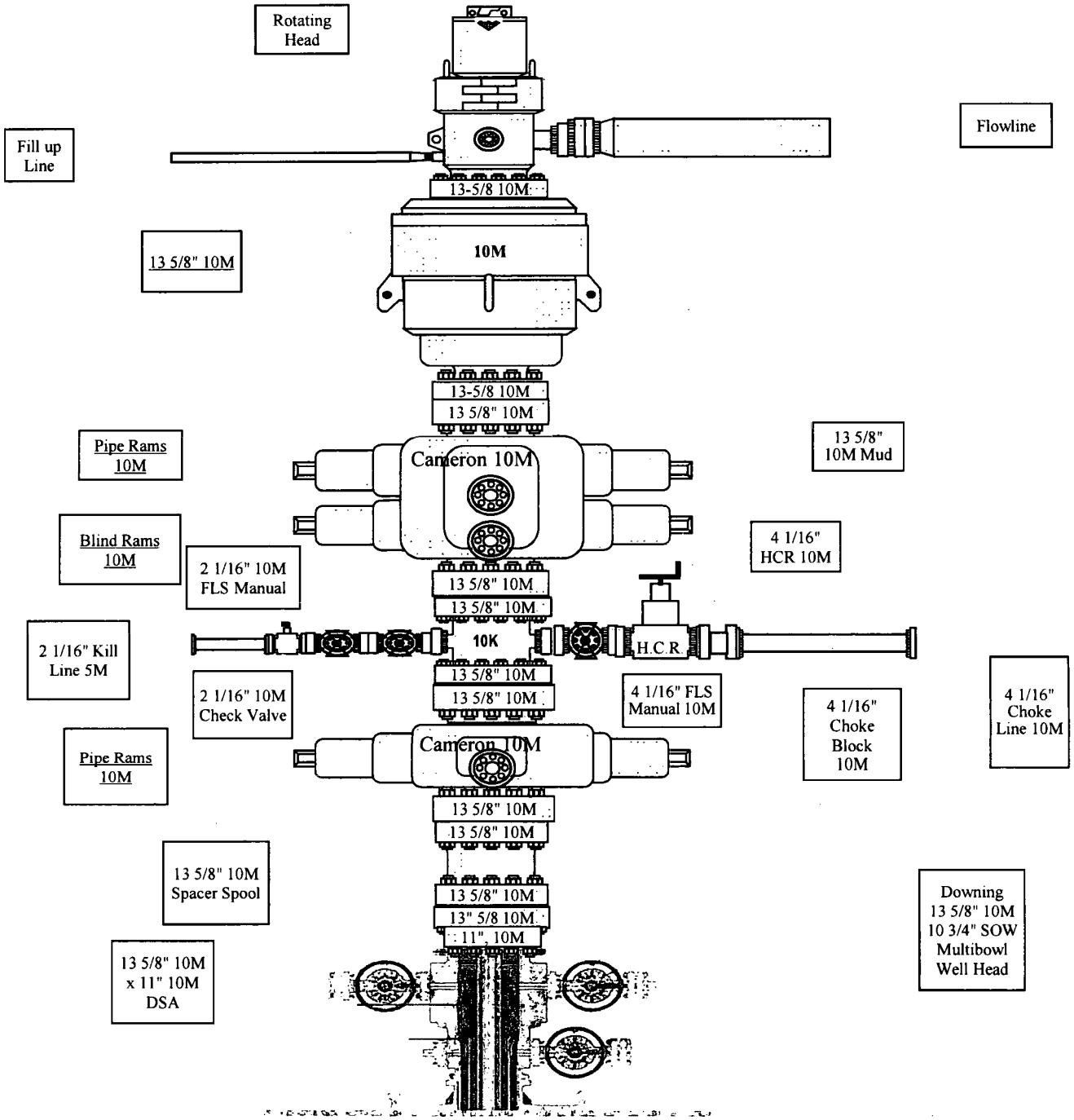
2. With BHL in the BOP stack and compatible ram preventer and pipe combo immediately available.
   a. Sound alarm – alert crew
   b. Stab full opening safety valve and close
   c. Space out drill string with tool joint just beneath upper pipe ram
   d. Open HCR
   e. Shut well in utilizing upper VBRs
   f. Close choke
   g. Confirm shut in
   h. Notify rig manager and KFOC. company representative
   i. Call KFOC engineer
   j. Read and record:
      i. Shut in drill pressure and shut in casing pressure
      ii. Pit gain
      iii. Time
   k. Regroup, identify forward plan

3. With BHA in the BOP stack and no compatible ram preventer and pipe combo immediately available
   a. Sound alarm – alert crew
   b. If possible to pick up high enough, pull string clear of the stack and follow Open Hole scenario (III)
   c. If impossible to pick up high enough to pull the string clear of the stack:
      i. Stab crossover, make up one joint/stand of drill pipe and full opening safety valve and close
      ii. Space out drill string with tool joint just beneath the upper pipe ram
      iii. Open HCR
      iv. Shut in utilizing upper VBRs
      v. Close choke
      vi. Confirm shut in
      vii. Notify rig manager and Mesquite SWD, Inc. company representative
      viii. Read and record:
         1. Shut in drill pipe pressure and shut in casing pressure
         2. Pit gain
         3. Time
   d. Regroup and identify forward plan

** If annular is used to shut in well and pressure build to or is expected to get to 50% of RWP, confirm space-out and swap to upper VBRs for shut in.

Cactus Rig 171
10M BOP with 10M Annular
Kaiser Francis Oil Company
Red Hills 401H

Hole Sections Utilized
***9 7/8" Hole below Surface Casing**
***6 3/4"Hole below Intermediate casing**



Formation Name	Formation Top TVD
Rustler	860
Salado	1200
Top of Salt	2000
Base of Salt	4450
Lamar	4750
Bell Canyon	4870
Cherry Canyon	5860
Brushy Canyon	8600
Lower Brushy Canyon	8800
Avalon	9010
1 BSS	9950
2 BSS	10510
3 BSL	10950
3 BSS	11685
Wolfcamp	12070

Interval	Length	Casing Size	Weight (#/ft)	Grade	Thread	Condition	Hole Size	TVD (ft)
Conductor	120	20"				New		120
Surface	910	10-3/4"	40.5	J-55	STC	New	14.75	910
Intermediate	11700	7-5/8"	29.7	HCP-110	LTC	New	9.875	11700
Production	[illegible]	5-1/2"	20	P110 HP	Eagle SF	New	6.75	12350

Mud Type	Mud Weight Hole Control	Depth	Viscosity	Fluid Loss
FW	8.4 - 9.0	910	32 - 34	NC
Cut Brine	8.8-9.2	11700	34	NC
OBM	12.5-13.0	19669	48-52	<10

Anticipated Mud Weight (ppg)	Max Pore Pressure (psi)	Collapse (psi)	Burst (psi)	Body Tensile Strength	Joint Tensile Strength
9	426	1580	3130	629000	420000
9.2	5597	6700	9460	940000	769000
13	8349	13150	14360	729000	629000

Collapse Safety Factor (Min 1.1)	Burst Safety Factor (Min 1.0)	Body Tensile Safety Factor (Min 1.8)	Joint Tensile Safety Factor (Min 1.8)
3.7	7.3	17.1	11.4
1.2	1.7	2.7	2.2
1.6	1.7	3.0	2.5

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Interval	Length	Casing Size	Weight (lb/ft)	Grade	Thread	Condition	Hole Size	TVD (ft)
Conductor	120	20"				New		120
Surface	910	10-3/4"	40.5	J-55	STC	New	14.75	910
Intermediate	11700	7-5/8"	29.7	HCP-110	LTC	New	9.875	11700
Production	23350	5-1/2"	20	P110 HP	Eagle SF	New	6.75	12350

Mud Type	Mud Weight Hole Control	Depth	Viscosity	Fluid Loss
FW	8.4 - 9.0	910	32 - 34	NC
Cut Brine	8.8-9.2	11700	34	NC
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Avalon	9010
1 BSS	9950
2 BSS	10510
3 BSL	10950
3 BSS	11685
Wolfcamp	12070

Interval	Length	Casing Size	Weight (#/ft)	Grade	Thread	Condition	Hole Size	TVD (ft)
Conductor	120	20"				New		120
Surface	910	10-3/4"	40.5	J-55	STC	New	14.75	910
Intermediate	11700	7-5/8"	29.7	HCP-110	LTC	New	9.875	11700
Production	[redacted]	5-1/2"	20	P110 HP	Eagle SF	New	6.75	12350

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Anticipated Mud Weight (ppg)	Max Pore Pressure (psi)	Collapse (psi)	Burst (psi)	Body Tensile Strength	Joint Tensile Strength
9	426	1580	3130	629000	420000
9.2	5597	6700	9460	940000	769000
13	8349	13150	14360	729000	629000

Collapse Safety Factor (Min 1.1)	Burst Safety Factor (Min 1.0)	Body Tensile Safety Factor (Min 1.8)	Joint Tensile Safety Factor (Min 1.8)
3.7	7.3	17.1	11.4
1.2	1.7	2.7	2.2
1.6	1.7	3.0	2.5

U. S. Steel Tubular Products

5 1/2 20.00 lb (0.361) P110 HP — USS-EAGLE SFH™

	PIPE	CONNECTION	
MECHANICAL PROPERTIES			
Minimum Yield Strength	**125,000**		*psi*
Maximum Yield Strength	**140,000**		*psi*
Minimum Tensile Strength	**130,000**		*psi*
DIMENSIONS			
Outside Diameter	**5.500**	**5.830**	*in.*
Wall Thickness	0.361		*in.*
Inside Diameter	4.778	4.693	*in.*
Drift - API	4.653	4.653	*in.*
Nominal Linear Weight, T&C	**20.00**		*lbs/ft*
Plain End Weight	19.83		*lbs/ft*
SECTION AREA			
Cross Sectional Area | Critical Area	5.828	5.027	*sq. in.*
Joint Efficiency		86.25	%
PERFORMANCE			
Minimum Collapse Pressure	13,150	13,150	*psi*
External Pressure Leak Resistance		10,000	*psi*
Minimum Internal Yield Pressure	14,360	14,360	*psi*
Minimum Pipe Body Yield Strength	729,000		*lbs*
Joint Strength		629,000	*lbs*
Compression Rating		629,000	*lbs*
Reference Length		21,146	*ft*
Maximum Uniaxial Bend Rating		89.9	*deg/100 ft*
MAKE-UP DATA			
Minimum Make-Up Torque		14,200	*ft-lbs*
Maximum Make-Up Torque		16,800	*ft-lbs*
Maximum Operating Torque		25,700	*ft-lbs*
Make-Up Loss		5.92	*in.*

Notes:

1) Other than proprietary collapse and connection values, performance properties have been calculated using standard equations defined by API 5C3 and do not incorporate any additional design or safety factors. Calculations assume nominal pipe OD, nominal wall thickness, and Specified Minimum Yield Strength (SMYS).
2) Compressive & Tensile Connection Efficiencies are calculated by dividing the connection critical area by the pipe body area.
3) Uniaxial bending rating shown is structural only, and equal to compression efficiency.
4) Torques have been calculated assuming a thread compound friction factor of 1.0 and are recommended only. Field make-up torques may require adjustment based on actual field conditions (e.g. make-up speed, temperature, thread compound, etc.).
5) Reference length is calculated by joint strength divided by plain end weight with 1.5 safety factor.
6) Connection external pressure resistance has been verified to 10,000 psi (Fit-For-Service testing protocol).

Manuel USS Product Data Sheet 2017 rev26 (Sept)

U. S. Steel Tubular Products
10343 Sam Houston Park Dr., #120
Houston, TX 77064
1-877-893-9461
connections@uss.com
www.usstubular.com

AFMSS

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

Application Data Report

02/21/2019

APD ID: 10400033135 **Submission Date:** 08/21/2018

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: RED HILLS **Well Number:** 403H

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

Show Final Text

APD ID: 10400033135 **Tie to previous NOS?** **Submission Date:** 08/21/2018

BLM Office: CARLSBAD **User:** Melanie Wilson **Title:** Regulatory Analyst

Federal/Indian APD: FED **Is the first lease penetrated for production Federal or Indian?** FED

Lease number: NMNM015321 **Lease Acres:** 838.8

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

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

Agreement number:

Agreement name:

Keep application confidential? YES

Permitting Agent? NO **APD Operator:** KAISER FRANCIS OIL COMPANY

Operator letter of designation:

Operator Organization Name: KAISER FRANCIS OIL COMPANY

Operator Address: 6733 S. Yale Ave.

Zip: 74121

Operator PO Box: PO Box 21468

Operator City: Tulsa **State:** OK

Operator Phone: (918)491-0000

Operator Internet Address:

Well in Master Development Plan? NO **Mater Development Plan name:**

Well in Master SUPO? NO **Master SUPO name:**

Well in Master Drilling Plan? NO **Master Drilling Plan name:**

Well Name: RED HILLS **Well Number:** 403H **Well API Number:**

Field/Pool or Exploratory? Field and Pool **Field Name:** RED HILLS **Pool Name:** WOLFCAMP

Is the proposed well in an area containing other mineral resources? USEABLE WATER

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: RED HILLS **Well Number:** 403H

Describe other minerals:

Is the proposed well in a Helium production area? N **Use Existing Well Pad?** NO **New surface disturbance?**

Type of Well Pad: MULTIPLE WELL **Multiple Well Pad Name:** RED HILLS **Number:** 2

Well Class: HORIZONTAL **Number of Legs:** 1

Well Work Type: Drill

Well Type: OIL WELL

Describe Well Type:

Well sub-Type: EXPLORATORY (WILDCAT)

Describe sub-type:

Distance to town: 14 Miles **Distance to nearest well:** 20 FT **Distance to lease line:** 240 FT

Reservoir well spacing assigned acres Measurement: 240 Acres

Well plat: RED_HILLS_403H_C102_20180821124658.pdf

Red_Hills_403H___Pymt_20180821130618.pdf

Well work start Date: 11/01/2018 **Duration:** 30 DAYS

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83 **Vertical Datum:** NAVD88

Survey number:

	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
SHL Leg #1	2400	FSL	1815	FWL	25S	33E	31	Aliquot NESW	32.0863916	-103.6140599	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 015321	3418	0	0
KOP Leg #1	2600	FSL	2182	FWL	25S	33E	31	Aliquot NESW	32.0869406	-103.6128772	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 015321	-8359	11798	11777
PPP Leg #1	2520	FSL	2181	FWL	25S	33E	31	Aliquot NESW	32.0867175	-103.6128754	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 015321	-8652	12107	12070

Pay.gov

Receipt

Your payment is complete

Pay.gov Tracking ID: 26BOJBA2
Agency Tracking ID: 75556834243
Form Name: Bureau of Land Management (BLM) Application for Permit to Drill (APD) Fee
Application Name: BLM Oil and Gas Online Payment

Payment Information

Payment Type: Debit or credit card
Payment Amount: $9,790.00
Transaction Date: 08/21/2018 03:05:09 PM EDT
Payment Date: 08/21/2018
Company: Kaiser-Francis Oil Company
APD IDs: 10400033135
Lease Numbers: NMNM15321
Well Numbers: 403H
Note: You will need your Pay.gov Tracking ID to complete your APD transaction in AFMSS II. Please ensure you write this number down upon completion of payment.

Account Information

Cardholder Name: George B Kaiser
Card Type: Visa
Card Number: **********0061

Email Confirmation Receipt

Confirmation Receipts have been emailed to:
mjp1692@gmail.com

APD ID: 10400033135 **Submission Date:** 08/21/2018

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: RED HILLS **Well Number:** 403H

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

Highlighted data reflects the most recent changes

Show Final Text

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
1	---	3418	0	0		NONE	No
2	RUSTLER	2558	860	860		NONE	No
3	SALADO	2218	1200	1200		NONE	No
4	TOP SALT	1418	2000	2000		NONE	No
5	BASE OF SALT	-1032	4450	4450		NONE	No
6	LAMAR	-1332	4750	4750		NATURAL GAS,OIL	No
7	BELL CANYON	-1452	4870	4870		NATURAL GAS,OIL	No
8	CHERRY CANYON	-2442	5860	5860		NATURAL GAS,OIL	No
9	BRUSHY CANYON	-5182	8600	8600		NATURAL GAS,OIL	No
10	BONE SPRING	-5382	8800	8800		NATURAL GAS,OIL	No
11	AVALON SAND	-5592	9010	9010		NATURAL GAS,OIL	No
12	BONE SPRING 1ST	-6532	9950	9950		NATURAL GAS,OIL	No
13	BONE SPRING 2ND	-7092	10510	10510		NATURAL GAS,OIL	No
14	BONE SPRING LIME	-7532	10950	10950		NATURAL GAS,OIL	No
15	BONE SPRING 3RD	-8267	11685	11685		NATURAL GAS,OIL	No
16	WOLFCAMP	-8652	12070	12070		NATURAL GAS,OIL	Yes

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: RED HILLS **Well Number:** 403H

Pressure Rating (PSI): 5M **Rating Depth:** 11000

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

Requesting Variance? YES

Variance request: Flex Hose Variance Variance for 5M Annular Preventer

Choke Diagram Attachment:

Red_Hills_403H_Choke_Manifold_10k_20180816084548.pdf

BOP Diagram Attachment:

Red_Hills_403H_FlexHose_Specs_Cactus_171_20180816085312.pdf

Red_Hills_403H_Well_Control_Plan_20180816085410.pdf

Red_Hills_403H_10M_BOP_20181115071924.pdf

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	14.75	10.75	NEW	API	N	0	910	0	910			910	J-55	40.5	STC	3.7	7.3	DRY	11.4	DRY	17.1
2	INTERMEDIATE	9.875	7.625	NEW	API	N	0	11700	0	11700			11700	HCP-110	29.7	LTC	1.2	1.7	DRY	2.2	DRY	2.7
3	PRODUCTION	6.75	5.5	NEW	API	N	0	19669	0	19669			19669	P-110	20	OTHER - EAGLE SF	1.6	1.7	DRY	2.5	DRY	3

Casing Attachments

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: RED HILLS **Well Number:** 403H

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Red_Hills_403H_Casing_Specs_20180816090417.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Red_Hills_403H_Casing_Specs_20180816090431.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Red_Hills_403H_Casing_Specs_20180816090443.pdf

Red_Hills_403H_5.5_x_20_P110_HP_USS_EAGLE_SFH_Performance_Sheet_20180816090457.pdf

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: RED HILLS **Well Number:** 403H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	910	339	1.75	13.5	592	50	Halcem	Kol-Seal
SURFACE	Tail		0	910	125	1.33	14.8	167	50	Halcem	Poly E Flake
INTERMEDIATE	Lead	4800	0	4800	462	2.81	11	1296	50	NeoCem	none
INTERMEDIATE	Tail		0	4800	155	1.33	14.8	207	25	Halcem	none
INTERMEDIATE	Lead	4800	4800	10700	667	2.85	11	1898	50	NeoCem	Ko-Seal
INTERMEDIATE	Tail		4800	11700	197	1.2	15.6	236	25	Halcem	Halad R-9
PRODUCTION	Lead		8000	19669	194.5	1.8	12.9	350	10	Econocem	Halad R-322
PRODUCTION	Tail		8000	19669	888	1.22	14.5	1086	10	Versacem	Halad R-344

Mud System Type: Closed

Will an air or gas system be Used? NO

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

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

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

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

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
910	11700	OTHER : CUT BRINE	8.8	9.2							

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: RED HILLS **Well Number:** 403H

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
11700	19669	OIL-BASED MUD	12.5	13							
0	910	OTHER : FRESH WATER	8.4	9							

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

None planned

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

DS,GR,MUDLOG

Coring operation description for the well:

None planned

Anticipated Bottom Hole Pressure: 8349 **Anticipated Surface Pressure:** 5632

Anticipated Bottom Hole Temperature(F): 210

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

Describe:

Contingency Plans geoharzards description:

Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

Red_Hills_403H_H2S_Contingency_Plan_NM_20180818082243.pdf

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: RED HILLS **Well Number:** 403H

Proposed horizontal/directional/multi-lateral plan submission:

Red_Hills_403H___Directional_Plan_20180818082415.pdf

Other proposed operations facets description:

Gas Capture Plan attached

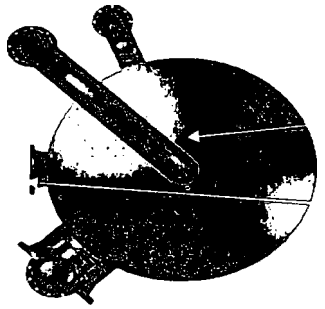
Other proposed operations facets attachment:

Red_Hills__403H_Gas_Capture_Plan_20180818082525.pdf

Other Variance attachment:

Red_Hills_403H_FlexHose_Specs_Cactus_171_20180818082608.pdf

10M Choke Manifold
Cactus Rig 171
Kaiser Francis Oil Company
Red Hills 403H



Line in from Choke Manifold

Vent Line to flair

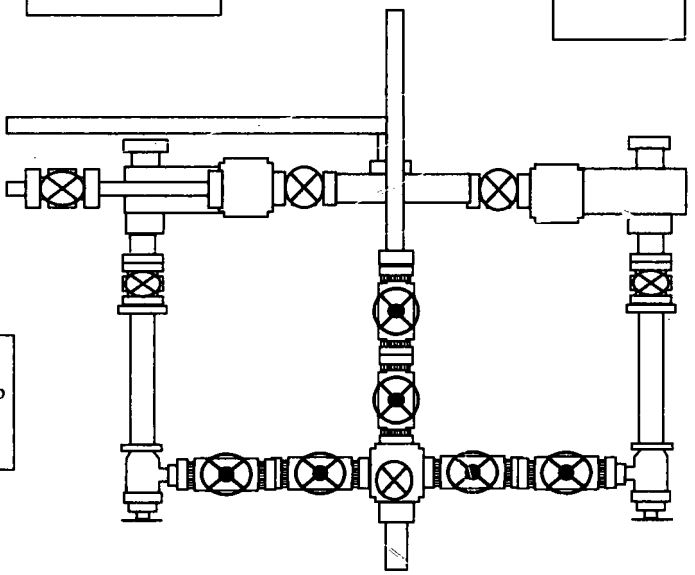
Line out to Mud Tanks

4 1/16 5M Manual valves

Panic Line

Line to Gas Buster

Line in from Flowline



Buffer Chamber

Line to Trip Tank

4 1/16" 10M Manual valves

3 1/16" 10M adjustable choke Manual

2 1/16" 10M Manual choke to pressure guage

10M Line from BOP's

3 1/16" 10M adjustable choke Hydraulic

GATES E & S NORTH AMERICA, INC.
1450 Montana Rd
Iola, KS 66749

PHONE: 620-365-4147
FAX: 620-365-4119
EMAIL: *Eileen.Johns@yates.com*
WEB: www.gates.com

ASSet # M14311

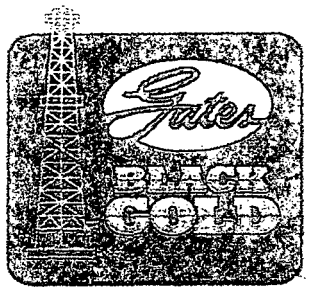
10K CEMENTING ASSEMBLY PRESSURE TEST CERTIFICATE

Customer :	A-7 AUSTIN INC DBA AUSTIN HOSE	Test Date:	9/1/2017
Customer Ref. :	4085873	Hose Serial No.:	IO-090117-2
Invoice No. :	508456	Created By:	BENJAMIN ALLEN
Comments:	N/A		
Hose Temperature:	-4°F to +180°F (-20°C to +82°C)		
Product Description:	10K3.035.0CM4116FIXXFLTFLG SS\LE		
End Fitting 1 :	4 1/16 10K FIXED FLANGE	End Fitting 2 :	4 1/16 10K FLOATING FLANGE
Gates Part No. :	4773-4290	Assembly Code :	L39629081817IO-090117-2
Working Pressure :	10,000 PSI	Test Pressure :	15,000 PSI

Gates E & S North America, Inc. certifies that the following hose assembly has been tested to the Gates Oilfield Roughneck Agreement/Specification requirements and passed the 15 minute hydrostatic test per API Spec 7K/Q1, Sixth Edition, June 2015, Test pressure 9.6.7 and per Table 9 to 15,000 psi in accordance with this product number. Hose burst pressure 9.6.7.2 exceeds the minimum of 2.5 times the working pressure per Table 9.

Quality:	QUALITY	Produciton:	PRODUCTION
Date :	9/1/2017	Date :	9/1/2017
Signature :	Benjamin Allen	Signature :	

Form PTC - 01 Rev.0 2

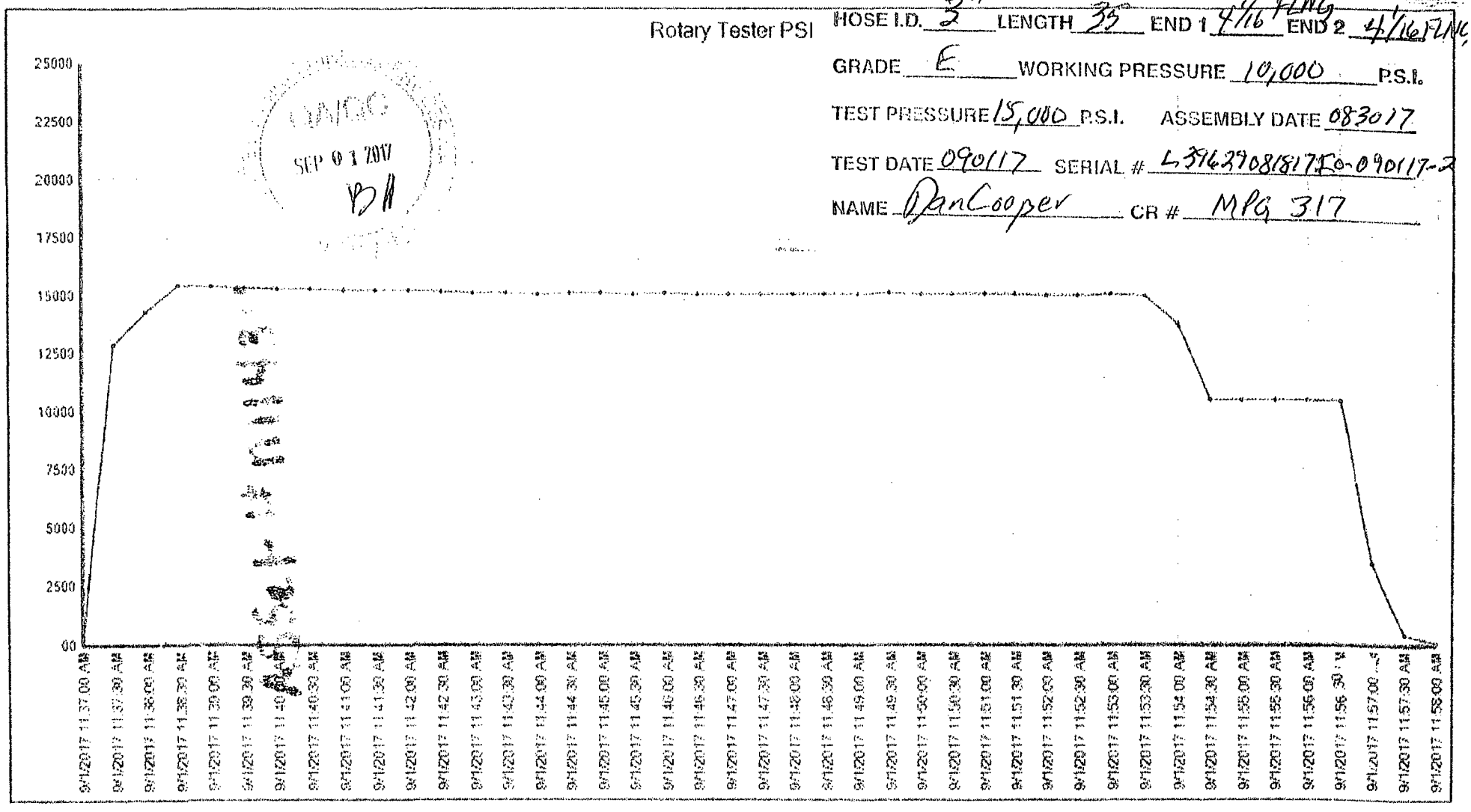


Rotary Tester

StartDate: 9/1/2017 EndDate: 9/1/2017 ☑ Do Not Average Values

StartTime: 11:37 AM EndTime: 11:58 AM Lookup...

Date Range: 9/1/2017 11:37:00 AM ------- 9/1/2017 11:58:00 AM



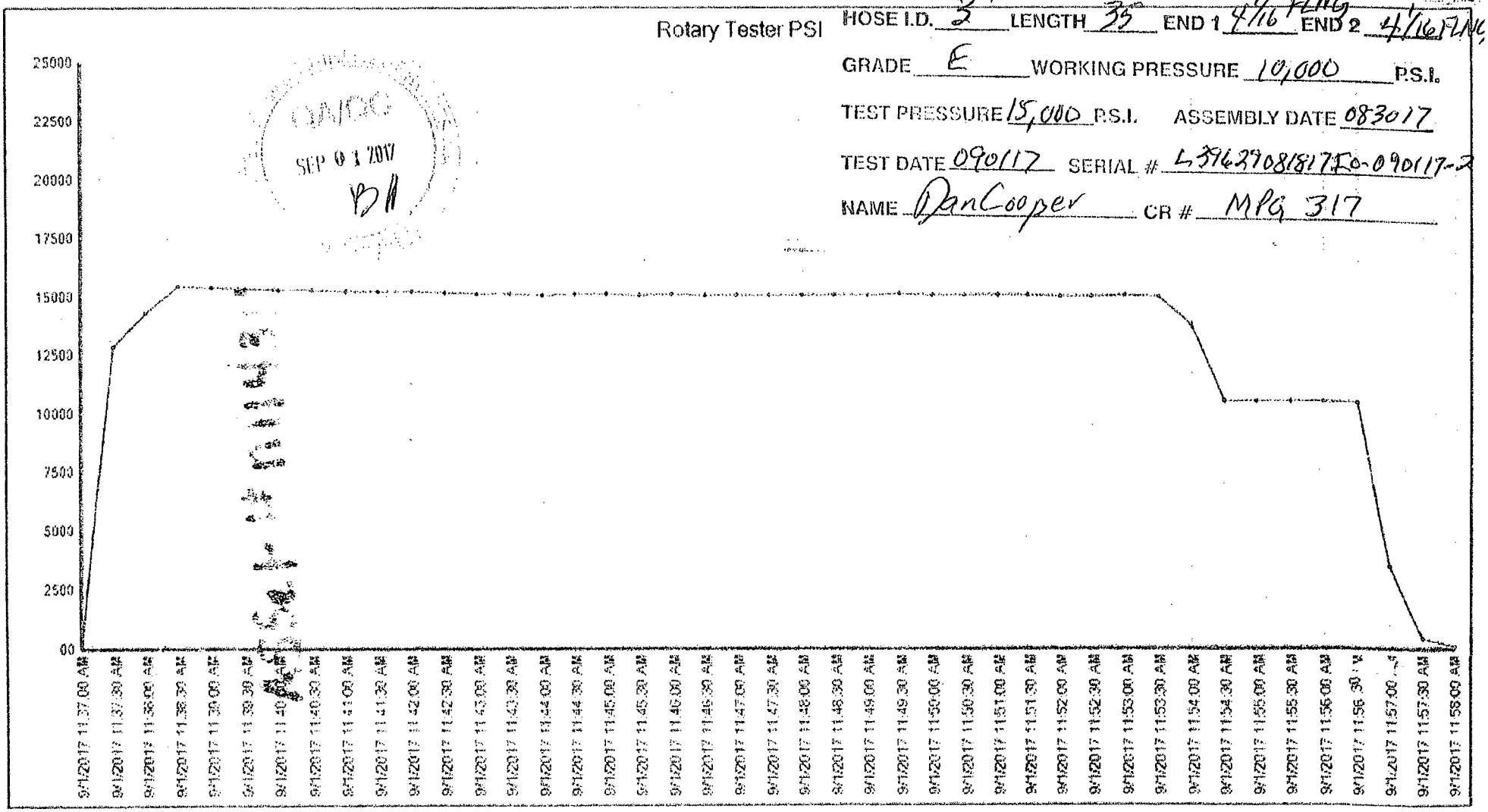
Friday, Sep 01, 2017 01:24 PM

Rotary Tester

StartDate: 9/1/2017 EndDate: 9/1/2017 ☑ Do Not Average Values

StartTime: 11:37 AM EndTime: 11:58 AM Lookup...

Date Range: 9/1/2017 11:37:00 AM ------- 9/1/2017 11:58:00 AM



Friday, Sep 01, 2017 01:24 PM

APD ID: 10400033135 **Submission Date:** 08/21/2018

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: RED HILLS **Well Number:** 403H

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

Highlighted data reflects the most recent changes

Show Final Text

Will existing roads be used? YES

Existing Road Map:

RED_HILLS_403H_Existing_Roads_20180818083103.pdf

Existing Road Purpose: ACCESS,FLUID TRANSPORT **Row(s) Exist?** NO

ID:

Do the existing roads need to be improved? NO

Existing Road Improvement Description:

Existing Road Improvement Attachment:

Will new roads be needed? YES

New Road Map:

RED_HILLS_403H_Access_Roads_20180818083222.pdf

New road type: RESOURCE

Length: 1833 Feet **Width (ft.):** 25

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

Army Corp of Engineers (ACOE) permit required? NO

ACOE Permit Number(s):

New road travel width: 15

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

New road access plan or profile prepared? NO

New road access plan attachment:

Access road engineering design? NO

Access road engineering design attachment:

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: RED HILLS **Well Number:** 403H

Access surfacing type: OTHER

Access topsoil source: BOTH

Access surfacing type description: Native caliche

Access onsite topsoil source depth: 6

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

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

Access other construction information:

Access miscellaneous information:

Number of access turnouts: **Access turnout map:**

New road drainage crossing: OTHER

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

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

Road Drainage Control Structures (DCS) attachment:

Additional Attachment(s):

Existing Wells Map? YES

Attach Well map:

RED_HILLS_403H_1_Mile_Wells_20180818083729.pdf

RED_HILLS_403H_1_MILE_WELL_DATA_20180818084340.pdf

Existing Wells description:

Submit or defer a Proposed Production Facilities plan? DEFER

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

Water source use type: INTERMEDIATE/PRODUCTION CASING **Water source type:** OTHER
Describe type: BRINE WATER
Source latitude: **Source longitude:**
Source datum:
Water source permit type: PRIVATE CONTRACT
Source land ownership: PRIVATE
Water source transport method: TRUCKING
Source transportation land ownership: OTHER **Describe transportation land ownership:**
Water source volume (barrels): 20000 **Source volume (acre-feet):** 2.577862
Source volume (gal): 840000

Water source use type: OTHER, STIMULATION, SURFACE CASING **Water source type:** OTHER
Describe type: FRESH WATER
Source latitude: **Source longitude:**
Source datum:
Water source permit type: PRIVATE CONTRACT
Source land ownership: PRIVATE
Water source transport method: TRUCKING
Source transportation land ownership: OTHER **Describe transportation land ownership:**
Water source volume (barrels): 250000 **Source volume (acre-feet):** 32.223274
Source volume (gal): 10500000

Water source and transportation map:
Red_Hills_403H_Water_Source_Map_20180818090040.jpg
Water source comments: Water source transportation land ownership is a mixture of Federal, State and County.
New water well? NO

Well latitude: **Well Longitude:** **Well datum:**
Well target aquifer:
Est. depth to top of aquifer(ft): **Est thickness of aquifer:**

Aquifer comments:

Aquifer documentation:

Well depth (ft): **Well casing type:**

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

New water well casing? **Used casing source:**

Drilling method: **Drill material:**

Grout material: **Grout depth:**

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

Well Production type: **Completion Method:**

Water well additional information:

State appropriation permit:

Additional information attachment:

Construction Materials description: On site caliche will be used for construction if sufficient. In the event insufficient quantities of caliche are available onsite, caliche will be trucked in from BLM's caliche pit in NWNW Section 23-T25S-R33E or NWNW Section 1-T25S-R33E
Construction Materials source location attachment:

Waste type: SEWAGE

Waste content description: Human waste and grey water

Amount of waste: 1000 gallons

Waste disposal frequency : One Time Only

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

Safe containmant attachment:

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

Disposal location description: Trucked to an approved disposal facility.

Waste type: GARBAGE

Waste content description: Miscellaneous trash

Amount of waste: 500 pounds

Waste disposal frequency : One Time Only

Safe containment description: Trash produced during drilling and completion operations will be collected in a trash container and disposed of properly
Safe containmant attachment:

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

Disposal location description: Trucked to an approved disposal facility

Waste type: DRILLING

Waste content description: Drilling fluids and cuttings

Amount of waste: 3900 barrels

Waste disposal frequency : One Time Only

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

Safe containmant attachment:

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

Disposal location description: Cuttings will be hauled to R360's facility on US 62/180 at Halfway, NM

Reserve Pit being used? NO

Temporary disposal of produced water into reserve pit?

Reserve pit length (ft.) **Reserve pit width (ft.)**

Reserve pit depth (ft.) **Reserve pit volume (cu. yd.)**

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

Reserve pit liner

Reserve pit liner specifications and installation description

Cuttings Area being used? NO

Are you storing cuttings on location? YES

Description of cuttings location Cuttings will be stored in roll off bins and hauled to R360 on US 62/180 near Halfway.

Cuttings area length (ft.) **Cuttings area width (ft.)**

Cuttings area depth (ft.) **Cuttings area volume (cu. yd.)**

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

WCuttings area liner

Cuttings area liner specifications and installation description

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: RED HILLS **Well Number:** 403H

Are you requesting any Ancillary Facilities?: NO

Ancillary Facilities attachment:

Comments:

Well Site Layout Diagram:

Red_Hills_403H_Drilling_Layout_20180818090206.pdf

RED_HILLS_403H_Well_Pad_Layout_20180818090454.pdf

Comments:

Type of disturbance: New Surface Disturbance **Multiple Well Pad Name:** RED HILLS

Multiple Well Pad Number: 2

Recontouring attachment:

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

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

Well pad proposed disturbance (acres): 4.72

Road proposed disturbance (acres): 1.05

Powerline proposed disturbance (acres): 0

Pipeline proposed disturbance (acres): 0

Other proposed disturbance (acres): 0

Total proposed disturbance: 5.77

Well pad interim reclamation (acres): 0

Road interim reclamation (acres): 0

Powerline interim reclamation (acres): 0

Pipeline interim reclamation (acres): 0

Other interim reclamation (acres): 0

Total interim reclamation: 0

Well pad long term disturbance (acres): 4.72

Road long term disturbance (acres): 1.05

Powerline long term disturbance (acres): 0

Pipeline long term disturbance (acres): 0

Other long term disturbance (acres): 0

Total long term disturbance: 5.77

Disturbance Comments:

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

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

Soil treatment: To seed the area, the proper BLM seed mixture, free of noxious weeds, will be used. Final seedbed preparation will consist of contour cultivating to a depth of 4 to 6 inches within 24 hours prior to seeding, dozer tracking, or other imprinting in order to break the soil crust and create seed germination micro-sites.
Existing Vegetation at the well pad: The historic climax plant community is a grassland dominated by black grama, dropseeds, and blue stems with sand sage and shinnery oak distributed evenly throughout. Current landscape displays mesquite, shinnery oak, yucca, desert sage, fourwing saltbush, snakeweed, and bunch grasses
Existing Vegetation at the well pad attachment:

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

Existing Vegetation Community at the road attachment:

Existing Vegetation Community at the pipeline: N/A

Existing Vegetation Community at the pipeline attachment:

Existing Vegetation Community at other disturbances: N/A

Existing Vegetation Community at other disturbances attachment:

Non native seed used? NO

Non native seed description:

Seedling transplant description:

Will seedlings be transplanted for this project? NO

Seedling transplant description attachment:

Will seed be harvested for use in site reclamation? NO

Seed harvest description:

Seed harvest description attachment:

Seed type: **Seed source:**

Seed name:

Source name: **Source address:**

Source phone:

Seed cultivar:

Seed use location:

PLS pounds per acre: **Proposed seeding season:**

Total pounds/Acre:

Seed Type	Pounds/Acre

Seed reclamation attachment:

First Name: **Last Name:**

Phone: **Email:**

Seedbed prep:

Seed BMP:

Seed method:

Existing invasive species? NO

Existing invasive species treatment description:

Existing invasive species treatment attachment:

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

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

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

Pit closure description: N/A

Pit closure attachment:

Disturbance type: NEW ACCESS ROAD

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: RED HILLS **Well Number:** 403H

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

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

Disturbance type: WELL PAD

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

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

Right of Way needed? YES **Use APD as ROW?** YES

ROW Type(s): 281001 ROW - ROADS

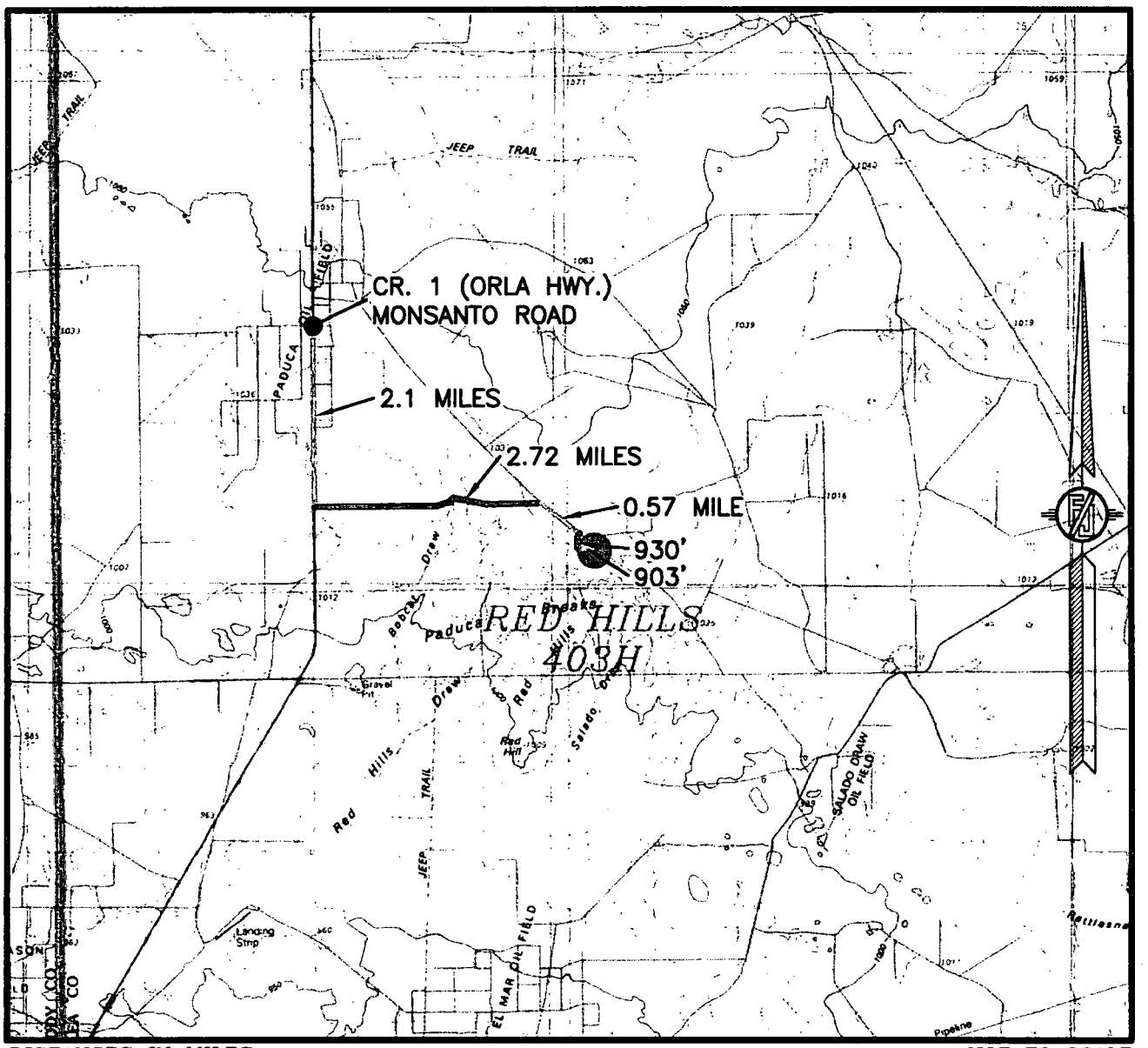
SUPO Additional Information: SUPO will be attached with APD.

Use a previously conducted onsite? YES

Previous Onsite information: Onsite conducted 04/19/18 by William DeGrush (BLM), Matt Warner (Kaiser-Francis), Frank Jaramillo (Madron Surveying) and Jeff (APAC archaeologist)

Red_Hills_403H_SUP_20180821125830.pdf

SECTION 31, TOWNSHIP 25 SOUTH, RANGE 33 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO
VICINITY MAP



DISTANCES IN MILES *NOT TO SCALE*

DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF CR. 1 (ORLA HWY.) AND MONSANTO ROAD, GO SOUTH ON CR. 1 2.1 MILES TO A CALICHE ROAD ON LEFT (EAST), TURN LEFT AND GO EAST ON CALICHE ROAD 2.72 MILES TO A "Y" INTERSECTION, BEAR RIGHT (SOUTHEAST) AND GO SOUTHEAST 0.57 MILE TO A ROAD SURVEY ON RIGHT (SOUTH), FOLLOW ROAD SURVEY SOUTH 930' THEN EAST 903' TO THE NORTHWEST PAD CORNER FOR THIS LOCATION.

KAISER-FRANCIS OIL COMPANY

RED HILLS 403H

LOCATED 2400 FT. FROM THE SOUTH LINE AND 1815 FT. FROM THE WEST LINE OF SECTION 31, TOWNSHIP 25 SOUTH, RANGE 33 EAST, N.M.P.M. LEA COUNTY, STATE OF NEW MEXICO

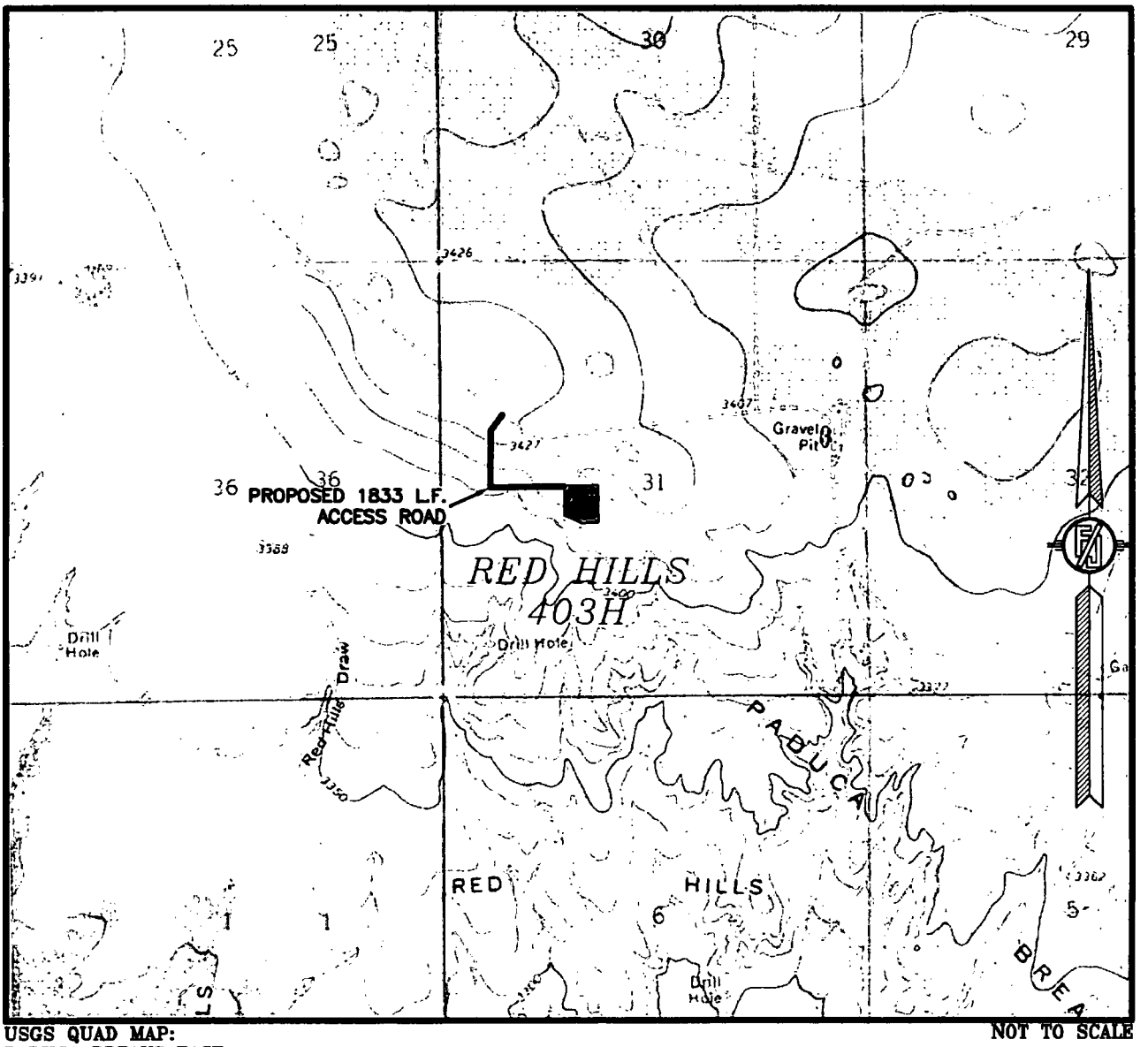
MAY 3, 2018

SURVEY NO. 6209

MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 *CARLSBAD, NEW MEXICO*

SECTION 31, TOWNSHIP 25 SOUTH, RANGE 33 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO

LOCATION VERIFICATION MAP



USGS QUAD MAP:
PADUCA BREAKS EAST

NOT TO SCALE

KAISER-FRANCIS OIL COMPANY

RED HILLS 403H

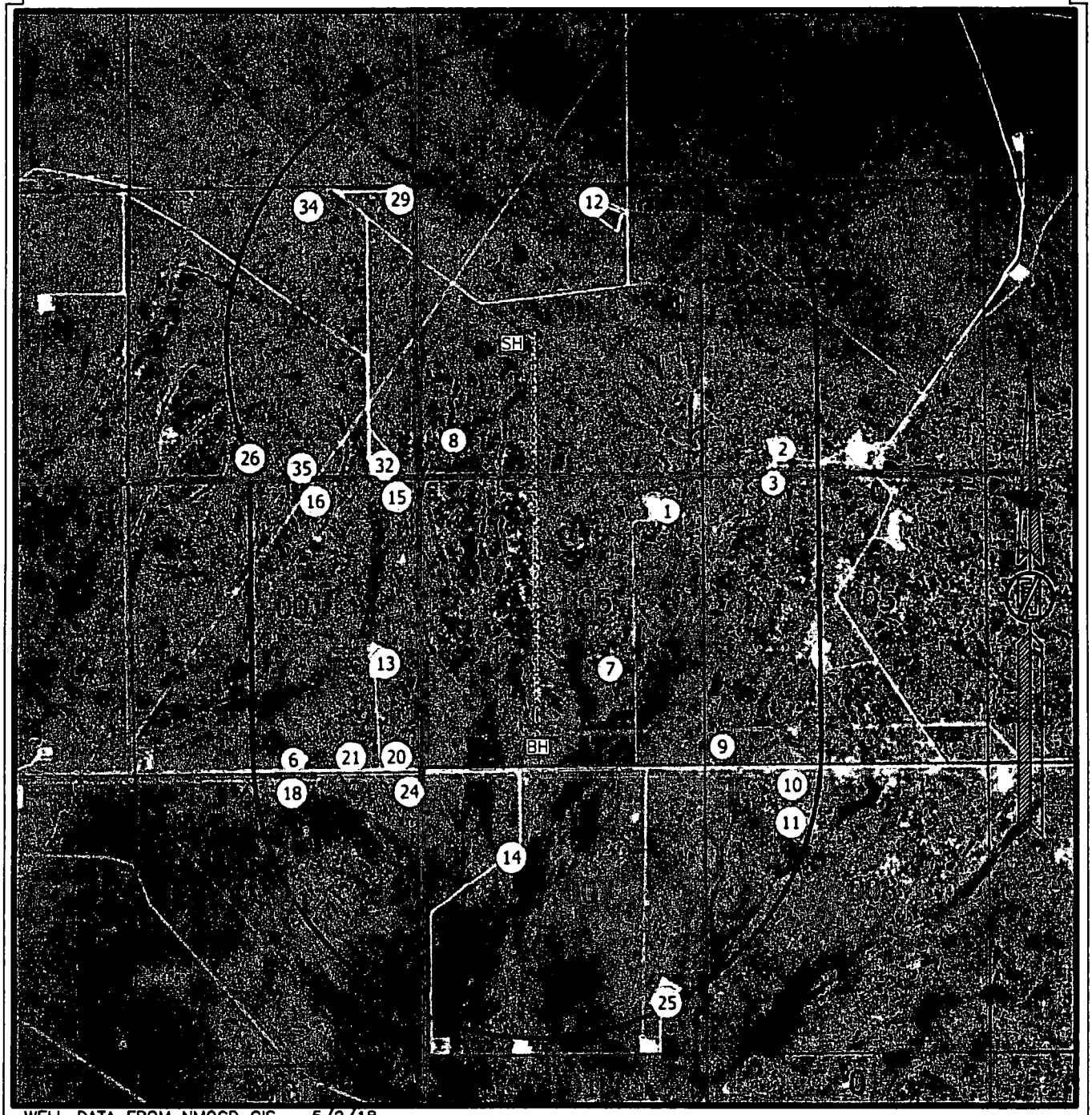
LOCATED 2400 FT. FROM THE SOUTH LINE
AND 1815 FT. FROM THE WEST LINE OF
SECTION 31, TOWNSHIP 25 SOUTH,
RANGE 33 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO

MAY 3, 2018

SURVEY NO. 6209

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

1-MILE WELLS



WELL DATA FROM NMOCD GIS – 5/2/18

SH SURFACE LOCATION

BH BOTTOM OF HOLE

(XX) WELLS WITHIN 1 MILE

WELL PATH

1-MILE BOUNDARY

KAISER-FRANCIS OIL COMPANY

RED HILLS 403H

LOCATED 2400 FT. FROM THE SOUTH LINE AND 1815 FT. FROM THE WEST LINE OF SECTION 31, TOWNSHIP 25 SOUTH, RANGE 33 EAST, N.M.P.M. LEA COUNTY, STATE OF NEW MEXICO

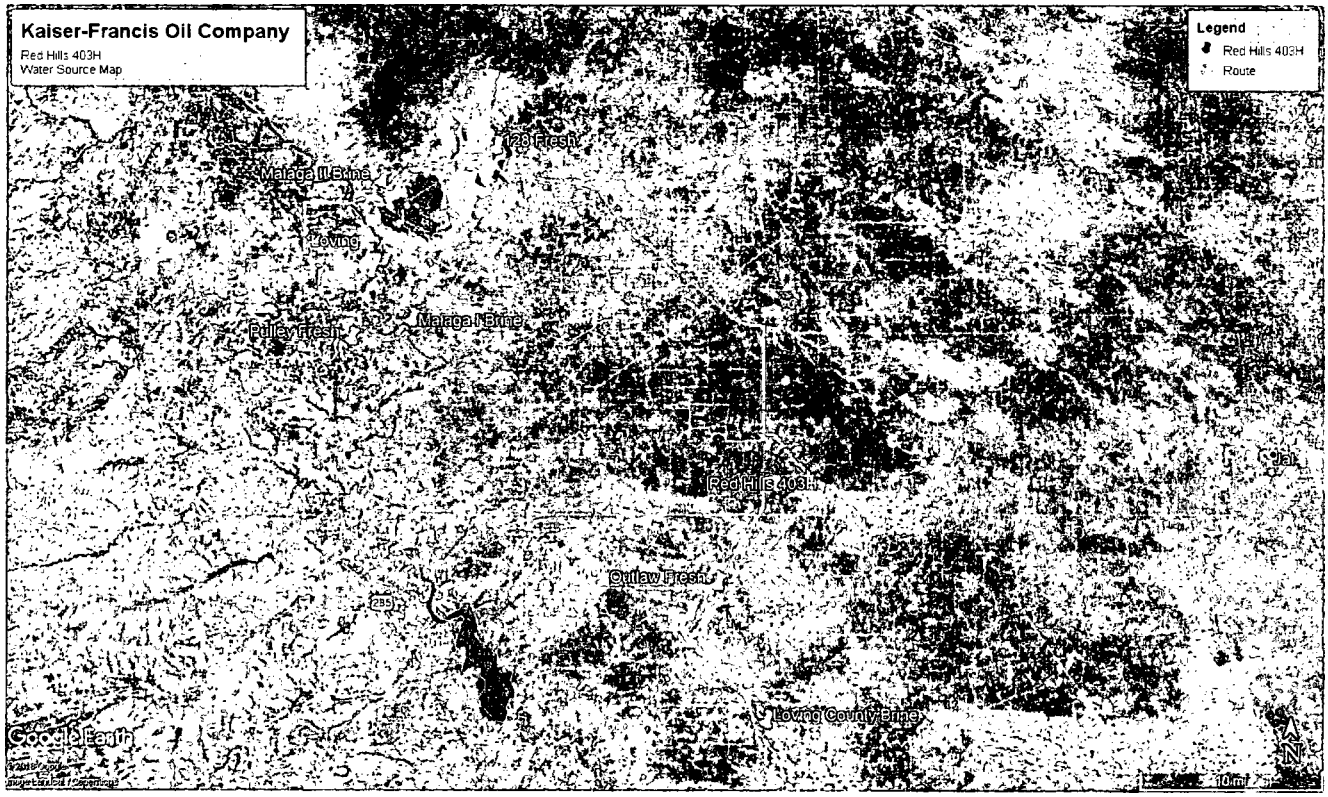
MAY 3, 2018

SURVEY NO. 6209

MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 *CARLSBAD, NEW MEXICO*

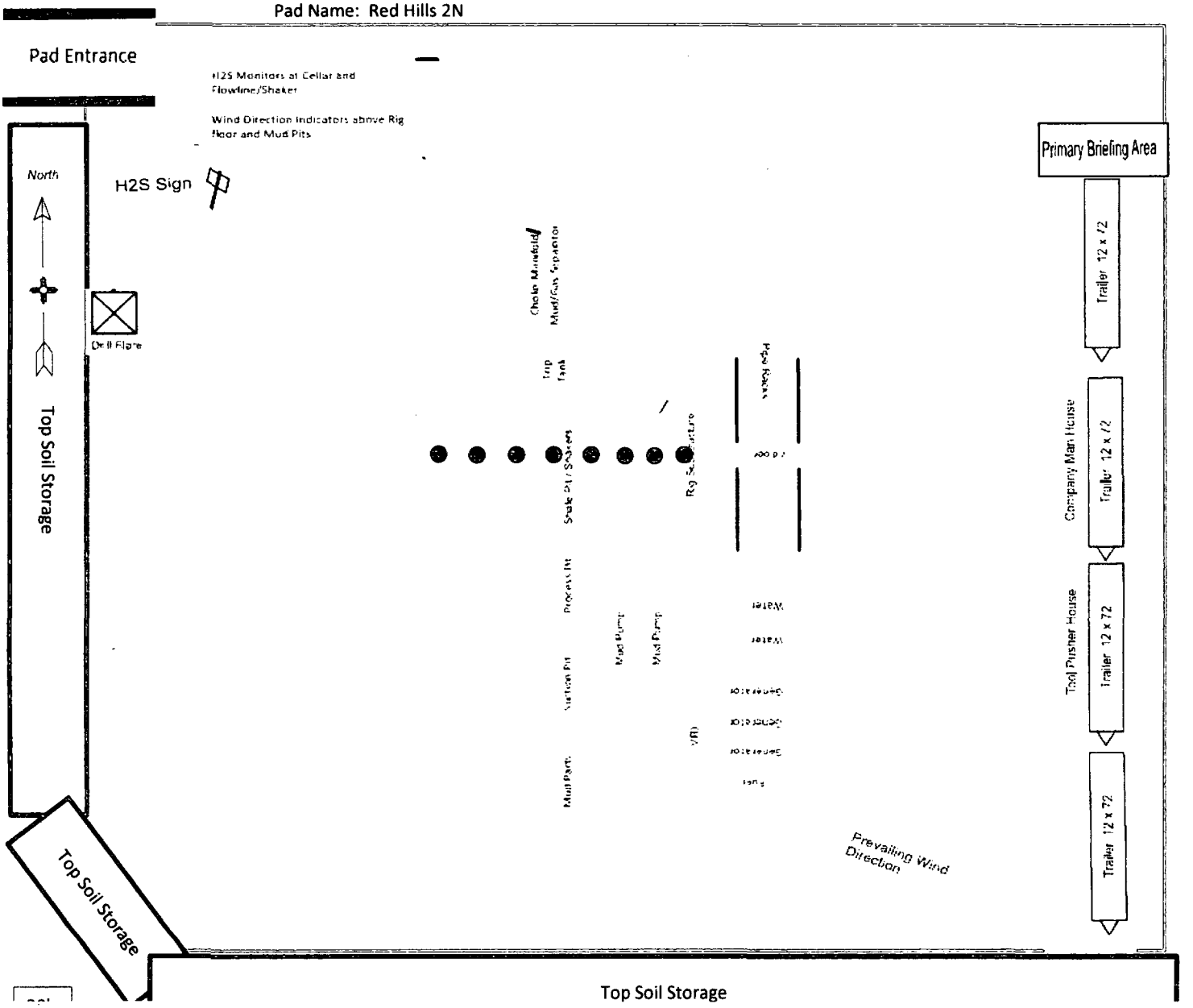
Kaiser-Francis Oil Company
Red Hills 403H

ID	API	wellname	well type	ulstr	ogrid	ogrid_name	status	dir_status	elevation	meas_depth	tot_depth	spud_date	plug_date	eff_date	apr_date	latitude	longitude	pool_id_li
1	30-025-25049	RED HILLS FEDERAL #001	G	A-06-26S-33E	12361	KAISER-FRANCIS OIL CO	A	V	99999	15249	15249	12/31/9999	12/31/9999	4/1/1976	4/1/1976	32.0780449	-103.6048813	[83560] RED HILLS, PENN (GAS); [83600] RED HILLS, WOLFCAMP (GAS)
2	30-025-34626	RED HILLS UNIT #004	G	N-32-25S-33E	162683	CIMAREX ENERGY CO. OF COLORADO	A	V	3387	17675	17675	10/30/1999	12/31/9999	10/29/2010	5/24/1999	32.0810928	-103.597908	[83580] RED HILLS, DEVONIAN (GAS); [83600] RED HILLS, WOLFCAMP (GAS)
3	30-025-42328	RED HILLS UNIT #022H	O	O-05-26S-33E	162683	CIMAREX ENERGY CO. OF COLORADO	N	H	3379	0	0	12/31/9999	12/31/9999	12/9/2014	12/1/2014	32.07940786	-103.5985005	[97994] WC-025 G-06 S253329D, UPPER BONE SPR
4	30-025-42329	RED HILLS UNIT #024H	O	C-05-26S-33E	162683	CIMAREX ENERGY CO. OF COLORADO	N	H	3379	0	0	12/31/9999	12/31/9999	12/9/2014	12/2/2014	32.07935833	-103.5985	[97994] WC-025 G-06 S253329D, UPPER BONE SPR
5	30-025-42333	RED HILLS UNIT #023H	O	C-05-26S-33E	162683	CIMAREX ENERGY CO. OF COLORADO	N	H	3379	0	0	12/31/9999	12/31/9999	12/9/2014	11/21/2014	32.07940773	-103.5984357	[97994] WC-025 G-06 S253329D, UPPER BONE SPR
6	30-025-12766	PRE-ONGARD WELL #001	O	O-01-26S-32E	214263	PRE-ONGARD WELL OPERATOR	P	O	0	0	2027	1/1/1900	1/1/1900	1/1/1900	1/1/1900	32.0657997	-103.6274261	
7	30-025-42852	MESA 8105 JV-P #017H	O	O-01-26S-32E	260297	BTA OIL PRODUCERS, LLC	N	H	3324	0	0	12/31/9999	12/31/9999	10/8/2015	10/6/2015	32.06589094	-103.6267164	[97838] JENNINGS, UPPER BONE SPRING SHALE
8	30-025-08401	PRE-ONGARD WELL #001	O	J-06-26S-33E	214263	PRE-ONGARD WELL OPERATOR	P	O	0	0	5010	1/1/1900	1/1/1900	1/1/1900	1/1/1900	32.0701637	-103.6084061	
9	30-025-08393	PRE-ONGARD WELL #001	O	A-31-25S-33E	214263	PRE-ONGARD WELL OPERATOR	P	O	0	0	5036	1/1/1900	1/1/1900	1/1/1900	1/1/1900	32.0816994	-103.6176758	
10	30-025-08400	PRE-ONGARD WELL #001	O	M-05-26S-33E	214263	PRE-ONGARD WELL OPERATOR	P	O	0	0	5006	1/1/1900	1/1/1900	1/1/1900	1/1/1900	32.0662498	-103.6016922	
10	30-025-44534	TIGERCAT FEDERAL COM #003H	O	C-08-26S-33E	229137	COG OPERATING LLC	N	H	3325	0	0	12/31/9999	12/31/9999	3/1/2018	2/26/2018	32.064305	-103.597523	[98097] SANDERS TANK, UPPER WOLFCAMP
11	30-025-44535	TIGERCAT FEDERAL COM #004H	O	C-08-26S-33E	229137	COG OPERATING LLC	N	H	3324	0	0	12/31/9999	12/31/9999	3/1/2018	2/26/2018	32.062431	-103.597621	[72810] BRADLEY, BONE SPRING
12	30-025-40407	AIRACUDA FEDERAL #002H	O	B-31-25S-33E	229137	COG OPERATING LLC	A	H	3402	14130	9842	12/13/2012	12/31/9999	10/5/2011	10/5/2011	32.0934601	-103.609169	[83600] RED HILLS, WOLF(GAS); [97905] WC G-07 S223021G, BS; [97994] WC-025 G-06 S253329D, UP BS
13	30-025-27600	MESA 8105 JV-P #001	G	I-01-26S-32E	260297	BTA OIL PRODUCERS, LLC	A	V	99999	15916	16100	7/6/1982	12/31/9999	5/1/2008	5/1/1982	32.0705719	-103.6218719	[83610] RED HILLS, WOLFCAMP, WEST (GAS)
14	30-025-30662	MESA B 8115 JV-P #001	G	F-07-26S-33E	260297	BTA OIL PRODUCERS, LLC	A	V	99999	13900	13900	12/31/9999	12/31/9999	5/1/2008	5/1/1990	32.0608253	-103.6149951	[83600] RED HILLS, WOLFCAMP (GAS)
15	30-025-43724	MESA 8105 JV-P #030H	O	A-01-26S-32E	260297	BTA OIL PRODUCERS, LLC	N	H	3367	0	0	10/25/2017	12/31/9999	3/28/2017	3/20/2017	32.078902	-103.621118	[97838] JENNINGS, UPPER BONE SPRING SHALE
16	30-025-43725	MESA 8105 JV-P #031H	O	B-01-26S-32E	260297	BTA OIL PRODUCERS, LLC	N	H	3354	0	0	8/20/2017	12/31/9999	3/28/2017	3/20/2017	32.078735	-103.626013	[97838] JENNINGS, UPPER BONE SPRING SHALE
18	30-025-42951	MESA 8105 JV-P #024H	O	B-12-26S-32E	260297	BTA OIL PRODUCERS, LLC	N	H	3335	0	0	12/31/9999	12/31/9999	11/24/2015	11/18/2015	32.06413	-103.627523	[97903] WC-025 G-08 S253235G, LWR BONE SPRIN
20	30-025-42854	MESA 8105 JV-P #019H	O	P-01-26S-32E	260297	BTA OIL PRODUCERS, LLC	N	H	3311	0	0	12/31/9999	12/31/9999	10/8/2015	10/6/2015	32.06590595	-103.6211392	[97838] JENNINGS, UPPER BONE SPRING SHALE
20	30-025-42850	MESA 8105 JV-P #014H	O	P-01-26S-32E	260297	BTA OIL PRODUCERS, LLC	N	H	3311	0	0	12/31/9999	12/31/9999	10/8/2015	10/6/2015	32.06590595	-103.6212682	[97838] JENNINGS, UPPER BONE SPRING SHALE
21	30-025-42853	MESA 8105 JV-P #018H	O	P-01-26S-32E	260297	BTA OIL PRODUCERS, LLC	A	H	3315	14645	9788	10/5/2017	12/31/9999	10/8/2015	10/6/2015	32.06589795	-103.6239923	[97838] JENNINGS, UPPER BONE SPRING SHALE
21	30-025-42849	MESA 8105 JV-P #013H	O	O-01-26S-32E	260297	BTA OIL PRODUCERS, LLC	N	H	3315	0	0	12/31/9999	12/31/9999	10/8/2015	10/6/2015	32.06589794	-103.6241213	[97838] JENNINGS, UPPER BONE SPRING SHALE
24	30-025-42952	MESA 8105 JV-P #025H	O	A-12-26S-32E	260297	BTA OIL PRODUCERS, LLC	N	H	3290	0	0	12/31/9999	12/31/9999	11/24/2015	11/18/2015	32.064148	-103.620616	[97903] WC-025 G-08 S253235G, LWR BONE SPRIN
24	30-025-42965	MESA 8105 JV-P #028H	O	A-12-26S-32E	260297	BTA OIL PRODUCERS, LLC	N	H	3289	0	0	12/31/9999	12/31/9999	11/30/2015	11/18/2015	32.064149	-103.620487	[97903] WC-025 G-08 S253235G, LWR BONE SPRIN
25	30-025-42462	MESA B SWD 8115 JV-P #002	S	P-07-26S-33E	260297	BTA OIL PRODUCERS, LLC	A	V	3252	7019	7019	6/8/2015	12/31/9999	3/4/2015	3/3/2015	32.053412	-103.605145	[96100] SWD, DELAWARE
26	30-025-44440	GEM 36 STATE COM #705H	O	N-36-25S-32E	7377	EOG RESOURCES INC	N	H	3369	0	0	3/21/2018	12/31/9999	2/7/2018	2/6/2018	32.0809202	-103.6298819	[98092] WC-025 G-09 S243336I, UPPER WOLFCAMP
26	30-025-44263	GEM 36 STATE COM #005H	O	N-36-25S-32E	7377	EOG RESOURCES INC	N	H	3369	14026	9226	1/20/2018	12/31/9999	12/8/2017	12/7/2017	32.0803705	-103.6298766	[97838] JENNINGS, UPPER BONE SPRING SHALE; [98158] WC-025 G-09 S253236A, UPR WOLFCAMP
29	30-025-42780	GEM 36 STATE COM #701H	O	A-36-25S-32E	7377	EOG RESOURCES INC	A	H	3432	16813	12366	10/7/2015	12/31/9999	9/11/2015	9/11/2015	32.09370445	-103.6206609	[98158] WC-025 G-09 S253236A, UPR WOLFCAMP
29	30-025-42781	GEM 36 STATE COM #702	O	A-36-25S-32E	7377	EOG RESOURCES INC	P	V	3432	0	0	11/2/2015	11/16/2015	9/11/2015	9/11/2015	32.09370405	-103.6207578	[96838] DRY AND ABANDONED; [98158] WC-025 G-09 S253236A, UPR WOLFCAMP
29	30-025-42948	GEM 36 STATE COM #702Y	O	A-36-25S-32E	7377	EOG RESOURCES INC	A	H	3432	17095	12391	11/18/2015	12/31/9999	11/18/2015	11/16/2015	32.09370355	-103.6209194	[98158] WC-025 G-09 S253236A, UPR WOLFCAMP
32	30-025-41825	GEM 36 STATE COM #001H	O	P-36-25S-32E	7377	EOG RESOURCES INC	A	H	3376	14006	9176	10/29/2014	12/31/9999	5/6/2014	5/6/2014	32.0804901	-103.6218414	[97838] JENNINGS, UPPER BONE SPRING SHALE
34	30-025-43783	GEM 36 STATE COM #704H	O	B-36-25S-32E	7377	EOG RESOURCES INC	A	H	3422	17043	12356	8/17/2017	12/31/9999	5/3/2017	5/3/2017	32.0933765	-103.6263976	[98158] WC-025 G-09 S253236A, UPR WOLFCAMP
36	30-025-43782	GEM 36 STATE COM #703H	O	B-36-25S-32E	7377	EOG RESOURCES INC	A	H	3423	17017	12341	4/3/2017	12/31/9999	5/3/2017	5/3/2017	32.0933778	-103.6262846	[98158] WC-025 G-09 S253236A, UPR WOLFCAMP
36	30-025-43787	GEM 36 STATE COM #003H	O	O-36-25S-32E	7377	EOG RESOURCES INC	N	H	3369	0	0	12/31/9999	12/31/9999	5/4/2017	5/4/2017	32.0803844	-103.6269174	[97838] JENNINGS, UPPER BONE SPRING SHALE
35	30-025-43786	GEM 36 STATE COM #002H	O	O-36-25S-32E	7377	EOG RESOURCES INC	N	H	3369	0	0	12/31/9999	12/31/9999	5/4/2017	5/4/2017	32.0803844	-103.626804	[97838] JENNINGS, UPPER BONE SPRING SHALE

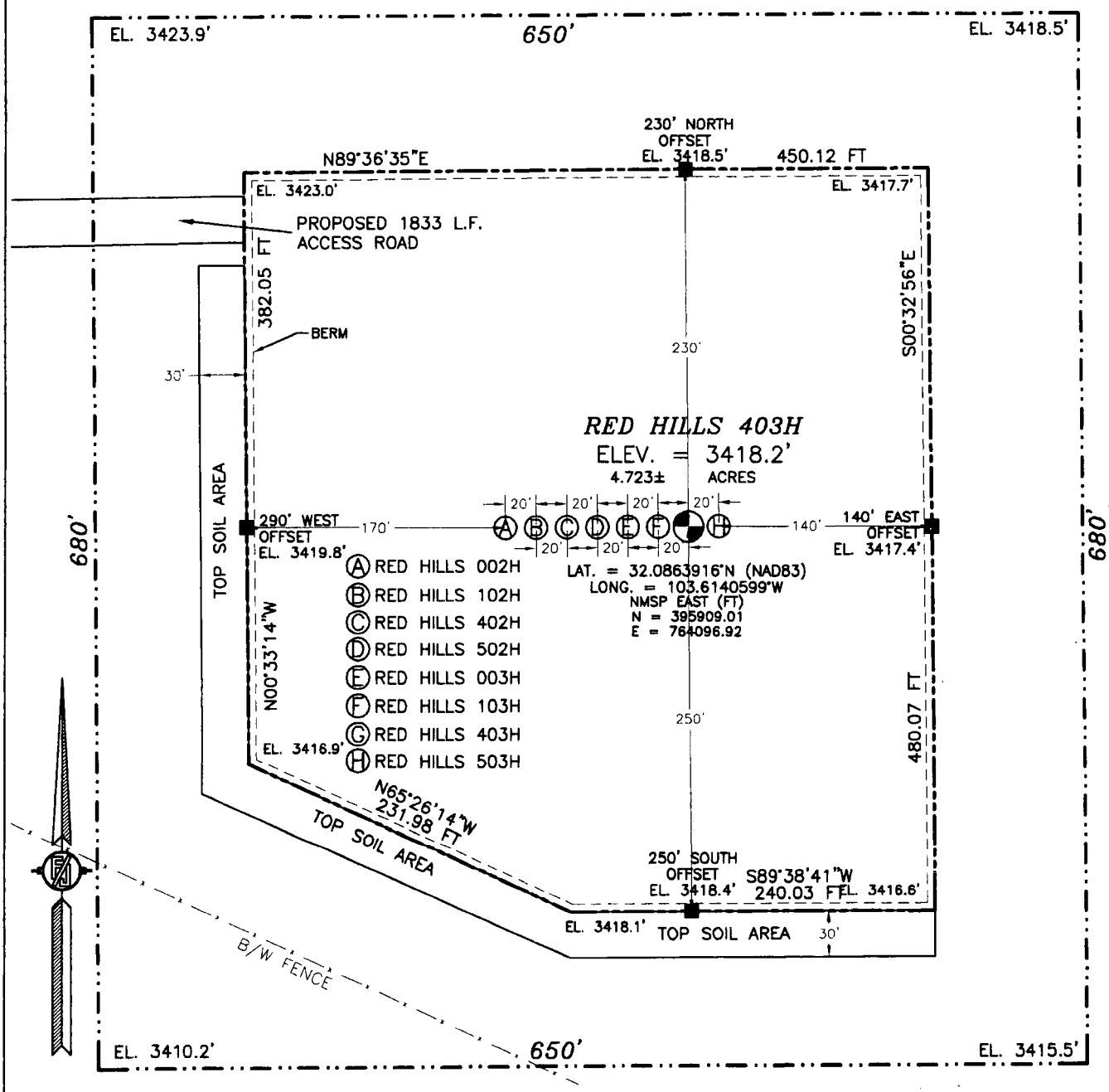

Kaiser-Francis Oil Company
Red Hills 403H
Water Source Map
Legend
Red Hills 403H
Route
28 Fresh
Malaga II Brine
Loving
Pulley Fresh
Malaga I Brine
Red Hills 403H
Outlaw Fresh
285
Loving County Brine
Google Earth
10mi
N

General Drill Site Layout
Well Name: Red Hills 403H
Pad Name: Red Hills 2N

Pad Dimensions: 450' X 480' X 382'
● Well head



SECTION 31, TOWNSHIP 25 SOUTH, RANGE 33 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO
SITE MAP



010 50 100 200

SCALE 1" = 100'

DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF CR. 1 (ORLA HWY.) AND MONSANTO ROAD, GO SOUTH ON CR. 1 2.1 MILES TO A CALICHE ROAD ON LEFT (EAST), TURN LEFT AND GO EAST ON CALICHE ROAD 2.72 MILES TO A "Y" INTERSECTION, BEAR RIGHT (SOUTHEAST) AND GO SOUTHEAST 0.57 MILE TO A ROAD SURVEY ON RIGHT (SOUTH), FOLLOW ROAD SURVEY SOUTH 930' THEN EAST 903' TO THE NORTHWEST PAD CORNER FOR THIS LOCATION.

KAISER-FRANCIS OIL COMPANY

RED HILLS 403H

LOCATED 2400 FT. FROM THE SOUTH LINE AND 1815 FT. FROM THE WEST LINE OF SECTION 31, TOWNSHIP 25 SOUTH, RANGE 33 EAST, N.M.P.M. LEA COUNTY, STATE OF NEW MEXICO

MAY 3, 2018

SURVEY NO. 6209

MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 *CARLSBAD, NEW MEXICO*

PECOS DISTRICT
DRILLING OPERATIONS
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	KAISER FRANCIS OIL COMPANY
LEASE NO.:	NMNM015321
WELL NAME & NO.:	RED HILLS UNIT 403H
SURFACE HOLE FOOTAGE:	2400'/S & 1815'/W
BOTTOM HOLE FOOTAGE	330'/S & 2182'/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 **10-3/4"** surface casing shall be set at approximately **910'** (a minimum of 25' into the Rustler Anhydrite and above the salt) and cemented to surface.
   a. **If cement does not circulate to 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 **6 hours** after pumping cement, ideally between 8-10 hours after completing the cement job.
   b. WOC time for a primary cement job will be a minimum of **8 hours** or **500 psi** compressive strength, whichever is greater. This is to include the lead cement.
   c. If cement falls back, remedial cementing will be done prior to drilling out that string.
   d. WOC time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 psi compressive strength, whichever is greater.

2. The **7-5/8"** intermediate casing shall be set at approximately **11700'** and cemented to surface.

   a. **If cement does not circulate to surface,** see B.1.a, b, c & d.

   b. Operator has proposed a DV tool, the depth may be adjusted as long as the cement is changed proportionally. The DV tool may be cancelled if cement circulates to surface on the first stage.

      i. First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with the second stage.

      ii. Second stage via DV tool: Cement to surface. If cement does not circulate, contact the appropriate BLM office.

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

   a. Cement shall tie-back at least 200 feet into previous casing string. Operator shall provide method of verification.

C. PRESSURE CONTROL

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).
2. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the 10-3/4 inch surface casing shoe shall be **5000 (5M)** psi.
3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the 7-5/8 inch intermediate casing shoe shall be **10,000 (10M)** psi.
4. 10M choke manifold shall meet the minimum requirements of O.O.2.III.A.2.a.v. including 3 chokes, 1 being remotely controlled (see attached diagram).

DR 1/17/2019

GENERAL REQUIREMENTS

1. 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 (one log per well pad is acceptable) run from TD to surface (horizontal well – vertical portion of hole) shall

be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.

2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.

3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.

4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.

5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.

7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a

larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.

2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.

3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.

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

5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.

   a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done.

The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time, except the casing pressure test can be initiated immediately after bumping the plug (only applies to single stage cement jobs).

c. The tests shall be done by an independent service company utilizing a test plug. The results of the test shall be reported to the appropriate BLM office.

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. 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.

f. 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. This test shall be performed prior to the test at full stack pressure.

g. 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.

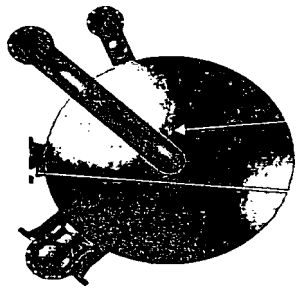
C. DRILLING MUD

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

1. 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.

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



Line in from Choke Manifold

Vent Line to flair

10M Choke Manifold
Cactus Rig 171
Kaiser Francis Oil Company

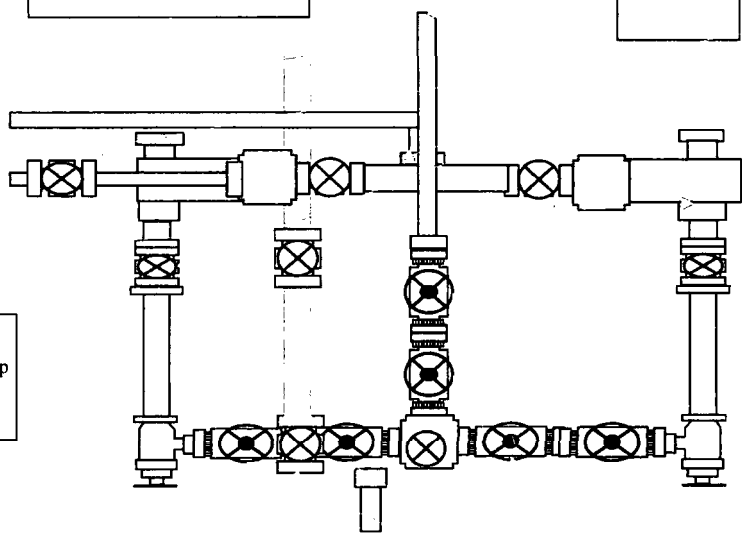
Line out to Mud Tanks

4 1/16 5M Manual valves

Line to Gas Buster

Panic Line

Line in from Flowline



Buffer Chamber

Line to Trip Tank

3 1/16" 10M adjustable choke Manual

3 1/16" 10M adjustable choke Manual

2 1/16" 10M Manual choke to pressure guage

4 1/16" 10M Manual valves

10M Line from BOP's

3 1/16" 10M adjustable choke Hydraulic

Kaiser-Francis Oil Company

Project: Lea County, NM (NAD 83)
Site: Red Hills
Well: 403H
Wellbore: OH
Design: Plan 1 07-03-18
Rig: Cactus 171

PHOENIX TECHNOLOGY SERVICES

Azimuths to Grid North
True North: -0.38°
Magnetic North: 6.34°

Magnetic Field
Strength: 47833.1snT
Dip Angle: 59.76°
Date: 9/3/2018
Model: MVHD

RKB @ 3441.20usft (Cactus 171)

3418.20

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
BHL - Red Hills 403H	12350.00	-7342.00	439.01	388567.01	764535.93	32° 3' 58.32793 N	103° 36' 46.08298 W

WELL DETAILS

3418.20

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	395909.01	764096.92	32° 5' 11.00977 N	103° 36' 50.61579 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	1500.00	0.00	0.00	1500.00	0.00	0.00	0.00	0.00	0.00		KOP, Begin 2.00°/100' Build
3	1800.00	6.00	61.02	1799.45	7.60	13.73	2.00	61.02	-7.47		Hold 6.00° Inc at 61.02° Azm
4	5491.32	6.00	61.02	5470.55	194.58	351.25	0.00	0.00	-191.13		Begin 2.00°/100' Drop
5	5791.32	0.00	0.00	5770.00	202.18	364.98	2.00	180.00	-198.60		Begin Vertical Hold
6	11798.36	0.00	0.00	11777.04	202.18	364.98	0.00	0.00	-198.60		KOP2, Begin 10.00°/100' Build
7	12698.36	90.00	179.44	12350.00	-370.75	370.60	10.00	179.44	374.35		LP, Hold 90.00° Inc at 179.44° Azm
8	19669.94	90.00	179.44	12350.00	-7342.00	439.01	0.00	0.00	7345.94	BHL - Red Hills 403H	TD at 19669.94

CASING DETAILS

No casing data is available

LEGEND

- 102H, OH, Plan 1 06-28-18 V0
- #001, OH, Surveys V0
- 002H, OH, Plan 2 06-28-18 V0
- 402H, OH, Plan 1 06-28-18 V0
- 003H, OH, Plan 1 07-03-18 V0
- 501H, OH, Plan 1 05-16-18 V0
- 401H, OH, Plan 1 05-11-18 V0
- 103H, OH, Plan 1 07-03-18 V0

Plan 1 07-03-18

Map System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone Name: New Mexico Eastern Zone

Local Origin: Well 403H, Grid North

Latitude: 32° 5' 11.00977 N
Longitude: 103° 36' 50.61579 W

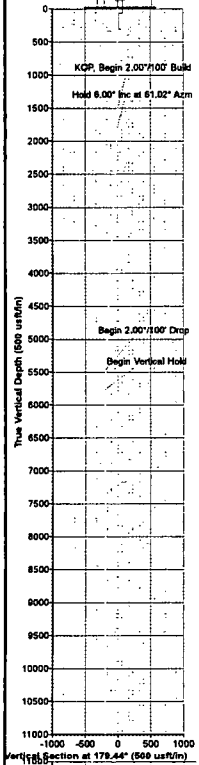
Grid East: 764096.92
Grid North: 395909.01
Scale Factor: 1.000

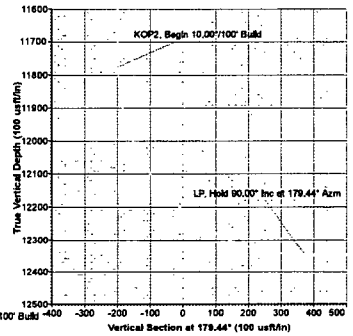
Geomagnetic Model: MVHD
Sample Date: 03-Sep-18
Magnetic Declination: 6.72°
Dip Angle from Horizontal: 59.76°
Magnetic Field Strength: 47833.05470824nT

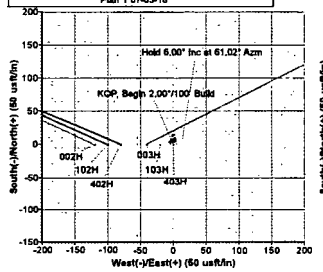
To convert a Magnetic Direction to a Grid Direction, Add 6.34°
To convert a True Direction to a Grid Direction, Subtract 0.38°

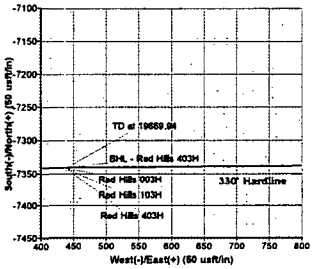
FORMATION TOP DETAILS

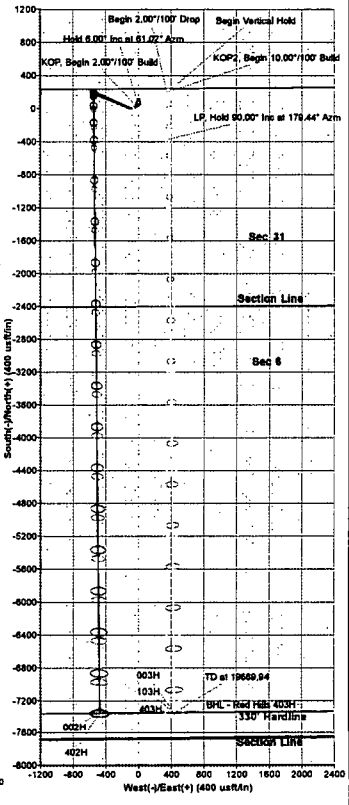
No formation data is available

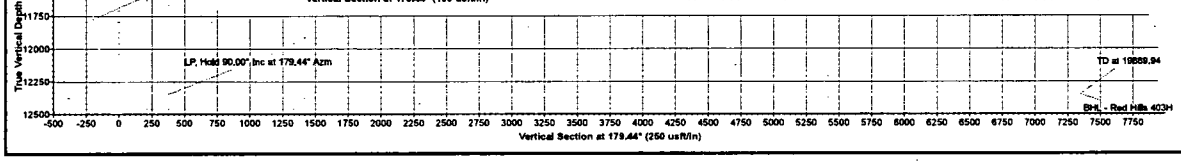












Created By Tim Tate Date 10:37, July 03 2018

Kaiser-Francis Oil Company

Lea County, NM (NAD 83)
Red Hills
403H

OH

Plan: Plan 1 07-03-18

Standard Planning Report

03 July, 2018

PHOENIX
TECHNOLOGY SERVICES

Database:	USA Compass	**Local Co-ordinate Reference:**	Well 403H
Company:	Kaiser-Francis Oil Company	**TVD Reference:**	RKB @ 3441.20usft (Cactus 171)
Project:	Lea County, NM (NAD 83)	**MD Reference:**	RKB @ 3441.20usft (Cactus 171)
Site:	Red Hills	**North Reference:**	Grid
Well:	403H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1 07-03-18		

Project	Lea County, NM (NAD 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	Red Hills				
Site Position:		**Northing:**	395,908.27 usft	**Latitude:**	32° 5' 11.01036 N
From:	Map	**Easting:**	763,976.93 usft	**Longitude:**	103° 36' 52.01054 W
Position Uncertainty:	0.00 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.38 °

Well	403H					
Well Position	**+N/-S**	0.74 usft	**Northing:**	395,909.01 usft	**Latitude:**	32° 5' 11.00977 N
	+E/-W	119.99 usft	**Easting:**	764,096.92 usft	**Longitude:**	103° 36' 50.61580 W
Position Uncertainty		0.00 usft	**Wellhead Elevation:**		**Ground Level:**	3,418.20 usft

Wellbore	OH				
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	MVHD	9/3/2018	6.72	59.76	47,833.05470824

Design	Plan 1 07-03-18				
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	
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,800.00	6.00	61.02	1,799.45	7.60	13.73	2.00	2.00	0.00	61.02	
5,491.32	6.00	61.02	5,470.55	194.58	351.25	0.00	0.00	0.00	0.00	
5,791.32	0.00	0.00	5,770.00	202.18	364.98	2.00	-2.00	0.00	180.00	
11,798.36	0.00	0.00	11,777.04	202.18	364.98	0.00	0.00	0.00	0.00	
12,698.36	90.00	179.44	12,350.00	-370.75	370.60	10.00	10.00	19.94	179.44	
19,669.94	90.00	179.44	12,350.00	-7,342.00	439.01	0.00	0.00	0.00	0.00	BHL - Red Hills 403

Database:	USA Compass	**Local Co-ordinate Reference:**	Well 403H
Company:	Kaiser-Francis Oil Company	**TVD Reference:**	RKB @ 3441.20usft (Cactus 171)
Project:	Lea County, NM (NAD 83)	**MD Reference:**	RKB @ 3441.20usft (Cactus 171)
Site:	Red Hills	**North Reference:**	Grid
Well:	403H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1 07-03-18		

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
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
KOP, Begin 2.00°/100' Build									
1,600.00	2.00	61.02	1,599.98	0.85	1.53	-0.83	2.00	2.00	0.00
1,700.00	4.00	61.02	1,699.84	3.38	6.10	-3.32	2.00	2.00	0.00
1,800.00	6.00	61.02	1,799.45	7.60	13.73	-7.47	2.00	2.00	0.00
Hold 6.00° Inc at 61.02° Azm									
1,900.00	6.00	61.02	1,898.90	12.67	22.87	-12.45	0.00	0.00	0.00
2,000.00	6.00	61.02	1,998.36	17.73	32.02	-17.42	0.00	0.00	0.00
2,100.00	6.00	61.02	2,097.81	22.80	41.16	-22.40	0.00	0.00	0.00
2,200.00	6.00	61.02	2,197.26	27.87	50.30	-27.37	0.00	0.00	0.00
2,300.00	6.00	61.02	2,296.71	32.93	59.45	-32.35	0.00	0.00	0.00
2,400.00	6.00	61.02	2,396.17	38.00	68.59	-37.32	0.00	0.00	0.00
2,500.00	6.00	61.02	2,495.62	43.06	77.73	-42.30	0.00	0.00	0.00
2,600.00	6.00	61.02	2,595.07	48.13	86.88	-47.27	0.00	0.00	0.00
2,700.00	6.00	61.02	2,694.52	53.19	96.02	-52.25	0.00	0.00	0.00
2,800.00	6.00	61.02	2,793.97	58.26	105.17	-57.23	0.00	0.00	0.00
2,900.00	6.00	61.02	2,893.43	63.32	114.31	-62.20	0.00	0.00	0.00
3,000.00	6.00	61.02	2,992.88	68.39	123.45	-67.18	0.00	0.00	0.00
3,100.00	6.00	61.02	3,092.33	73.45	132.60	-72.15	0.00	0.00	0.00
3,200.00	6.00	61.02	3,191.78	78.52	141.74	-77.13	0.00	0.00	0.00
3,300.00	6.00	61.02	3,291.23	83.58	150.88	-82.10	0.00	0.00	0.00
3,400.00	6.00	61.02	3,390.69	88.65	160.03	-87.08	0.00	0.00	0.00
3,500.00	6.00	61.02	3,490.14	93.71	169.17	-92.05	0.00	0.00	0.00
3,600.00	6.00	61.02	3,589.59	98.78	178.32	-97.03	0.00	0.00	0.00
3,700.00	6.00	61.02	3,689.04	103.84	187.46	-102.01	0.00	0.00	0.00
3,800.00	6.00	61.02	3,788.50	108.91	196.60	-106.98	0.00	0.00	0.00
3,900.00	6.00	61.02	3,887.95	113.97	205.75	-111.96	0.00	0.00	0.00
4,000.00	6.00	61.02	3,987.40	119.04	214.89	-116.93	0.00	0.00	0.00
4,100.00	6.00	61.02	4,086.85	124.10	224.03	-121.91	0.00	0.00	0.00
4,200.00	6.00	61.02	4,186.30	129.17	233.18	-126.88	0.00	0.00	0.00
4,300.00	6.00	61.02	4,285.76	134.23	242.32	-131.86	0.00	0.00	0.00
4,400.00	6.00	61.02	4,385.21	139.30	251.46	-136.83	0.00	0.00	0.00
4,500.00	6.00	61.02	4,484.66	144.36	260.61	-141.81	0.00	0.00	0.00
4,600.00	6.00	61.02	4,584.11	149.43	269.75	-146.79	0.00	0.00	0.00
4,700.00	6.00	61.02	4,683.57	154.49	278.90	-151.76	0.00	0.00	0.00
4,800.00	6.00	61.02	4,783.02	159.56	288.04	-156.74	0.00	0.00	0.00
4,900.00	6.00	61.02	4,882.47	164.62	297.18	-161.71	0.00	0.00	0.00
5,000.00	6.00	61.02	4,981.92	169.69	306.33	-166.69	0.00	0.00	0.00
5,100.00	6.00	61.02	5,081.37	174.75	315.47	-171.66	0.00	0.00	0.00
5,200.00	6.00	61.02	5,180.83	179.82	324.61	-176.64	0.00	0.00	0.00
5,300.00	6.00	61.02	5,280.28	184.88	333.76	-181.61	0.00	0.00	0.00
5,400.00	6.00	61.02	5,379.73	189.95	342.90	-186.59	0.00	0.00	0.00
5,491.32	6.00	61.02	5,470.55	194.58	351.25	-191.13	0.00	0.00	0.00
Begin 2.00°/100' Drop									
5,500.00	5.83	61.02	5,479.18	195.01	352.03	-191.56	2.00	-2.00	0.00
5,600.00	3.83	61.02	5,578.82	199.09	359.39	-195.56	2.00	-2.00	0.00
5,700.00	1.83	61.02	5,678.70	201.47	363.71	-197.91	2.00	-2.00	0.00
5,791.32	0.00	0.00	5,770.00	202.18	364.98	-198.60	2.00	-2.00	0.00
Begin Vertical Hold									
5,800.00	0.00	0.00	5,778.68	202.18	364.98	-198.60	0.00	0.00	0.00
5,900.00	0.00	0.00	5,878.68	202.18	364.98	-198.60	0.00	0.00	0.00
6,000.00	0.00	0.00	5,978.68	202.18	364.98	-198.60	0.00	0.00	0.00
6,100.00	0.00	0.00	6,078.68	202.18	364.98	-198.60	0.00	0.00	0.00

Database:	USA Compass	**Local Co-ordinate Reference:**	Well 403H
Company:	Kaiser-Francis Oil Company	**TVD Reference:**	RKB @ 3441.20usft (Cactus 171)
Project:	Lea County, NM (NAD 83)	**MD Reference:**	RKB @ 3441.20usft (Cactus 171)
Site:	Red Hills	**North Reference:**	Grid
Well:	403H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1 07-03-18		

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)
6,200.00	0.00	0.00	6,178.68	202.18	364.98	-198.60	0.00	0.00	0.00
6,300.00	0.00	0.00	6,278.68	202.18	364.98	-198.60	0.00	0.00	0.00
6,400.00	0.00	0.00	6,378.68	202.18	364.98	-198.60	0.00	0.00	0.00
6,500.00	0.00	0.00	6,478.68	202.18	364.98	-198.60	0.00	0.00	0.00
6,600.00	0.00	0.00	6,578.68	202.18	364.98	-198.60	0.00	0.00	0.00
6,700.00	0.00	0.00	6,678.68	202.18	364.98	-198.60	0.00	0.00	0.00
6,800.00	0.00	0.00	6,778.68	202.18	364.98	-198.60	0.00	0.00	0.00
6,900.00	0.00	0.00	6,878.68	202.18	364.98	-198.60	0.00	0.00	0.00
7,000.00	0.00	0.00	6,978.68	202.18	364.98	-198.60	0.00	0.00	0.00
7,100.00	0.00	0.00	7,078.68	202.18	364.98	-198.60	0.00	0.00	0.00
7,200.00	0.00	0.00	7,178.68	202.18	364.98	-198.60	0.00	0.00	0.00
7,300.00	0.00	0.00	7,278.68	202.18	364.98	-198.60	0.00	0.00	0.00
7,400.00	0.00	0.00	7,378.68	202.18	364.98	-198.60	0.00	0.00	0.00
7,500.00	0.00	0.00	7,478.68	202.18	364.98	-198.60	0.00	0.00	0.00
7,600.00	0.00	0.00	7,578.68	202.18	364.98	-198.60	0.00	0.00	0.00
7,700.00	0.00	0.00	7,678.68	202.18	364.98	-198.60	0.00	0.00	0.00
7,800.00	0.00	0.00	7,778.68	202.18	364.98	-198.60	0.00	0.00	0.00
7,900.00	0.00	0.00	7,878.68	202.18	364.98	-198.60	0.00	0.00	0.00
8,000.00	0.00	0.00	7,978.68	202.18	364.98	-198.60	0.00	0.00	0.00
8,100.00	0.00	0.00	8,078.68	202.18	364.98	-198.60	0.00	0.00	0.00
8,200.00	0.00	0.00	8,178.68	202.18	364.98	-198.60	0.00	0.00	0.00
8,300.00	0.00	0.00	8,278.68	202.18	364.98	-198.60	0.00	0.00	0.00
8,400.00	0.00	0.00	8,378.68	202.18	364.98	-198.60	0.00	0.00	0.00
8,500.00	0.00	0.00	8,478.68	202.18	364.98	-198.60	0.00	0.00	0.00
8,600.00	0.00	0.00	8,578.68	202.18	364.98	-198.60	0.00	0.00	0.00
8,700.00	0.00	0.00	8,678.68	202.18	364.98	-198.60	0.00	0.00	0.00
8,800.00	0.00	0.00	8,778.68	202.18	364.98	-198.60	0.00	0.00	0.00
8,900.00	0.00	0.00	8,878.68	202.18	364.98	-198.60	0.00	0.00	0.00
9,000.00	0.00	0.00	8,978.68	202.18	364.98	-198.60	0.00	0.00	0.00
9,100.00	0.00	0.00	9,078.68	202.18	364.98	-198.60	0.00	0.00	0.00
9,200.00	0.00	0.00	9,178.68	202.18	364.98	-198.60	0.00	0.00	0.00
9,300.00	0.00	0.00	9,278.68	202.18	364.98	-198.60	0.00	0.00	0.00
9,400.00	0.00	0.00	9,378.68	202.18	364.98	-198.60	0.00	0.00	0.00
9,500.00	0.00	0.00	9,478.68	202.18	364.98	-198.60	0.00	0.00	0.00
9,600.00	0.00	0.00	9,578.68	202.18	364.98	-198.60	0.00	0.00	0.00
9,700.00	0.00	0.00	9,678.68	202.18	364.98	-198.60	0.00	0.00	0.00
9,800.00	0.00	0.00	9,778.68	202.18	364.98	-198.60	0.00	0.00	0.00
9,900.00	0.00	0.00	9,878.68	202.18	364.98	-198.60	0.00	0.00	0.00
10,000.00	0.00	0.00	9,978.68	202.18	364.98	-198.60	0.00	0.00	0.00
10,100.00	0.00	0.00	10,078.68	202.18	364.98	-198.60	0.00	0.00	0.00
10,200.00	0.00	0.00	10,178.68	202.18	364.98	-198.60	0.00	0.00	0.00
10,300.00	0.00	0.00	10,278.68	202.18	364.98	-198.60	0.00	0.00	0.00
10,400.00	0.00	0.00	10,378.68	202.18	364.98	-198.60	0.00	0.00	0.00
10,500.00	0.00	0.00	10,478.68	202.18	364.98	-198.60	0.00	0.00	0.00
10,600.00	0.00	0.00	10,578.68	202.18	364.98	-198.60	0.00	0.00	0.00
10,700.00	0.00	0.00	10,678.68	202.18	364.98	-198.60	0.00	0.00	0.00
10,800.00	0.00	0.00	10,778.68	202.18	364.98	-198.60	0.00	0.00	0.00
10,900.00	0.00	0.00	10,878.68	202.18	364.98	-198.60	0.00	0.00	0.00
11,000.00	0.00	0.00	10,978.68	202.18	364.98	-198.60	0.00	0.00	0.00
11,100.00	0.00	0.00	11,078.68	202.18	364.98	-198.60	0.00	0.00	0.00
11,200.00	0.00	0.00	11,178.68	202.18	364.98	-198.60	0.00	0.00	0.00
11,300.00	0.00	0.00	11,278.68	202.18	364.98	-198.60	0.00	0.00	0.00
11,400.00	0.00	0.00	11,378.68	202.18	364.98	-198.60	0.00	0.00	0.00
11,500.00	0.00	0.00	11,478.68	202.18	364.98	-198.60	0.00	0.00	0.00

Database:	USA Compass	**Local Co-ordinate Reference:**	Well 403H
Company:	Kaiser-Francis Oil Company	**TVD Reference:**	RKB @ 3441.20usft (Cactus 171)
Project:	Lea County, NM (NAD 83)	**MD Reference:**	RKB @ 3441.20usft (Cactus 171)
Site:	Red Hills	**North Reference:**	Grid
Well:	403H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1 07-03-18		

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)
11,600.00	0.00	0.00	11,578.68	202.18	364.98	-198.60	0.00	0.00	0.00
11,700.00	0.00	0.00	11,678.68	202.18	364.98	-198.60	0.00	0.00	0.00
11,798.36	0.00	0.00	11,777.04	202.18	364.98	-198.60	0.00	0.00	0.00
KOP2, Begin 10.00°/100' Build									
11,800.00	0.16	179.44	11,778.68	202.18	364.98	-198.60	10.00	10.00	0.00
11,900.00	10.16	179.44	11,878.15	193.19	365.07	-189.61	10.00	10.00	0.00
12,000.00	20.16	179.44	11,974.55	167.06	365.32	-163.49	10.00	10.00	0.00
12,100.00	30.16	179.44	12,064.94	124.60	365.74	-121.02	10.00	10.00	0.00
12,200.00	40.16	179.44	12,146.59	67.08	366.31	-63.50	10.00	10.00	0.00
12,300.00	50.16	179.44	12,217.01	-3.74	367.00	7.32	10.00	10.00	0.00
12,400.00	60.16	179.44	12,274.06	-85.71	367.81	89.30	10.00	10.00	0.00
12,500.00	70.16	179.44	12,316.00	-176.34	368.69	179.94	10.00	10.00	0.00
12,600.00	80.16	179.44	12,341.58	-272.88	369.64	276.48	10.00	10.00	0.00
12,698.36	90.00	179.44	12,350.00	-370.75	370.60	374.35	10.00	10.00	0.00
LP, Hold 90.00° Inc at 179.44° Azm									
12,700.00	90.00	179.44	12,350.00	-372.39	370.62	376.00	0.00	0.00	0.00
12,800.00	90.00	179.44	12,350.00	-472.39	371.60	476.00	0.00	0.00	0.00
12,900.00	90.00	179.44	12,350.00	-572.38	372.58	576.00	0.00	0.00	0.00
13,000.00	90.00	179.44	12,350.00	-672.38	373.56	676.00	0.00	0.00	0.00
13,100.00	90.00	179.44	12,350.00	-772.37	374.54	776.00	0.00	0.00	0.00
13,200.00	90.00	179.44	12,350.00	-872.37	375.52	876.00	0.00	0.00	0.00
13,300.00	90.00	179.44	12,350.00	-972.36	376.51	976.00	0.00	0.00	0.00
13,400.00	90.00	179.44	12,350.00	-1,072.36	377.49	1,076.00	0.00	0.00	0.00
13,500.00	90.00	179.44	12,350.00	-1,172.35	378.47	1,176.00	0.00	0.00	0.00
13,600.00	90.00	179.44	12,350.00	-1,272.35	379.45	1,276.00	0.00	0.00	0.00
13,700.00	90.00	179.44	12,350.00	-1,372.34	380.43	1,376.00	0.00	0.00	0.00
13,800.00	90.00	179.44	12,350.00	-1,472.34	381.41	1,476.00	0.00	0.00	0.00
13,900.00	90.00	179.44	12,350.00	-1,572.33	382.39	1,576.00	0.00	0.00	0.00
14,000.00	90.00	179.44	12,350.00	-1,672.33	383.37	1,676.00	0.00	0.00	0.00
14,100.00	90.00	179.44	12,350.00	-1,772.33	384.36	1,776.00	0.00	0.00	0.00
14,200.00	90.00	179.44	12,350.00	-1,872.32	385.34	1,876.00	0.00	0.00	0.00
14,300.00	90.00	179.44	12,350.00	-1,972.32	386.32	1,976.00	0.00	0.00	0.00
14,400.00	90.00	179.44	12,350.00	-2,072.31	387.30	2,076.00	0.00	0.00	0.00
14,500.00	90.00	179.44	12,350.00	-2,172.31	388.28	2,176.00	0.00	0.00	0.00
14,600.00	90.00	179.44	12,350.00	-2,272.30	389.26	2,276.00	0.00	0.00	0.00
14,700.00	90.00	179.44	12,350.00	-2,372.30	390.24	2,376.00	0.00	0.00	0.00
14,800.00	90.00	179.44	12,350.00	-2,472.29	391.22	2,476.00	0.00	0.00	0.00
14,900.00	90.00	179.44	12,350.00	-2,572.29	392.21	2,576.00	0.00	0.00	0.00
15,000.00	90.00	179.44	12,350.00	-2,672.28	393.19	2,676.00	0.00	0.00	0.00
15,100.00	90.00	179.44	12,350.00	-2,772.28	394.17	2,776.00	0.00	0.00	0.00
15,200.00	90.00	179.44	12,350.00	-2,872.27	395.15	2,876.00	0.00	0.00	0.00
15,300.00	90.00	179.44	12,350.00	-2,972.27	396.13	2,976.00	0.00	0.00	0.00
15,400.00	90.00	179.44	12,350.00	-3,072.26	397.11	3,076.00	0.00	0.00	0.00
15,500.00	90.00	179.44	12,350.00	-3,172.26	398.09	3,176.00	0.00	0.00	0.00
15,600.00	90.00	179.44	12,350.00	-3,272.25	399.07	3,276.00	0.00	0.00	0.00
15,700.00	90.00	179.44	12,350.00	-3,372.25	400.06	3,376.00	0.00	0.00	0.00
15,800.00	90.00	179.44	12,350.00	-3,472.24	401.04	3,476.00	0.00	0.00	0.00
15,900.00	90.00	179.44	12,350.00	-3,572.24	402.02	3,576.00	0.00	0.00	0.00
16,000.00	90.00	179.44	12,350.00	-3,672.23	403.00	3,676.00	0.00	0.00	0.00
16,100.00	90.00	179.44	12,350.00	-3,772.23	403.98	3,776.00	0.00	0.00	0.00
16,200.00	90.00	179.44	12,350.00	-3,872.22	404.96	3,876.00	0.00	0.00	0.00
16,300.00	90.00	179.44	12,350.00	-3,972.22	405.94	3,976.00	0.00	0.00	0.00
16,400.00	90.00	179.44	12,350.00	-4,072.21	406.92	4,076.00	0.00	0.00	0.00

Database:	USA Compass	**Local Co-ordinate Reference:**	Well 403H
Company:	Kaiser-Francis Oil Company	**TVD Reference:**	RKB @ 3441.20usft (Cactus 171)
Project:	Lea County, NM (NAD 83)	**MD Reference:**	RKB @ 3441.20usft (Cactus 171)
Site:	Red Hills	**North Reference:**	Grid
Well:	403H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1 07-03-18		

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)
16,500.00	90.00	179.44	12,350.00	-4,172.21	407.91	4,176.00	0.00	0.00	0.00
16,600.00	90.00	179.44	12,350.00	-4,272.20	408.89	4,276.00	0.00	0.00	0.00
16,700.00	90.00	179.44	12,350.00	-4,372.20	409.87	4,376.00	0.00	0.00	0.00
16,800.00	90.00	179.44	12,350.00	-4,472.20	410.85	4,476.00	0.00	0.00	0.00
16,900.00	90.00	179.44	12,350.00	-4,572.19	411.83	4,576.00	0.00	0.00	0.00
17,000.00	90.00	179.44	12,350.00	-4,672.19	412.81	4,676.00	0.00	0.00	0.00
17,100.00	90.00	179.44	12,350.00	-4,772.18	413.79	4,776.00	0.00	0.00	0.00
17,200.00	90.00	179.44	12,350.00	-4,872.18	414.77	4,876.00	0.00	0.00	0.00
17,300.00	90.00	179.44	12,350.00	-4,972.17	415.76	4,976.00	0.00	0.00	0.00
17,400.00	90.00	179.44	12,350.00	-5,072.17	416.74	5,076.00	0.00	0.00	0.00
17,500.00	90.00	179.44	12,350.00	-5,172.16	417.72	5,176.00	0.00	0.00	0.00
17,600.00	90.00	179.44	12,350.00	-5,272.16	418.70	5,276.00	0.00	0.00	0.00
17,700.00	90.00	179.44	12,350.00	-5,372.15	419.68	5,376.00	0.00	0.00	0.00
17,800.00	90.00	179.44	12,350.00	-5,472.15	420.66	5,476.00	0.00	0.00	0.00
17,900.00	90.00	179.44	12,350.00	-5,572.14	421.64	5,576.00	0.00	0.00	0.00
18,000.00	90.00	179.44	12,350.00	-5,672.14	422.62	5,676.00	0.00	0.00	0.00
18,100.00	90.00	179.44	12,350.00	-5,772.13	423.61	5,776.00	0.00	0.00	0.00
18,200.00	90.00	179.44	12,350.00	-5,872.13	424.59	5,876.00	0.00	0.00	0.00
18,300.00	90.00	179.44	12,350.00	-5,972.12	425.57	5,976.00	0.00	0.00	0.00
18,400.00	90.00	179.44	12,350.00	-6,072.12	426.55	6,076.00	0.00	0.00	0.00
18,500.00	90.00	179.44	12,350.00	-6,172.11	427.53	6,176.00	0.00	0.00	0.00
18,600.00	90.00	179.44	12,350.00	-6,272.11	428.51	6,276.00	0.00	0.00	0.00
18,700.00	90.00	179.44	12,350.00	-6,372.10	429.49	6,376.00	0.00	0.00	0.00
18,800.00	90.00	179.44	12,350.00	-6,472.10	430.47	6,476.00	0.00	0.00	0.00
18,900.00	90.00	179.44	12,350.00	-6,572.09	431.46	6,576.00	0.00	0.00	0.00
19,000.00	90.00	179.44	12,350.00	-6,672.09	432.44	6,676.00	0.00	0.00	0.00
19,100.00	90.00	179.44	12,350.00	-6,772.08	433.42	6,776.00	0.00	0.00	0.00
19,200.00	90.00	179.44	12,350.00	-6,872.08	434.40	6,876.00	0.00	0.00	0.00
19,300.00	90.00	179.44	12,350.00	-6,972.07	435.38	6,976.00	0.00	0.00	0.00
19,400.00	90.00	179.44	12,350.00	-7,072.07	436.36	7,076.00	0.00	0.00	0.00
19,500.00	90.00	179.44	12,350.00	-7,172.07	437.34	7,176.00	0.00	0.00	0.00
19,600.00	90.00	179.44	12,350.00	-7,272.06	438.32	7,276.00	0.00	0.00	0.00
19,669.94	90.00	179.44	12,350.00	-7,342.00	439.01	7,345.94	0.00	0.00	0.00
TD at 19669.94									

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 Hills 403H - plan hits target center - Point	0.00	0.00	12,350.00	-7,342.00	439.01	388,567.01	764,535.93	32° 3' 58.32793 N	103° 36' 46.08298 W

Database:	USA Compass	**Local Co-ordinate Reference:**	Well 403H
Company:	Kaiser-Francis Oil Company	**TVD Reference:**	RKB @ 3441.20usft (Cactus 171)
Project:	Lea County, NM (NAD 83)	**MD Reference:**	RKB @ 3441.20usft (Cactus 171)
Site:	Red Hills	**North Reference:**	Grid
Well:	403H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1 07-03-18		

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
1,500.00	1,500.00	0.00	0.00	KOP, Begin 2.00°/100' Build
1,800.00	1,799.45	7.60	13.73	Hold 6.00° Inc at 61.02° Azm
5,491.32	5,470.55	194.58	351.25	Begin 2.00°/100' Drop
5,791.32	5,770.00	202.18	364.98	Begin Vertical Hold
11,798.36	11,777.04	202.18	364.98	KOP2, Begin 10.00°/100' Build
12,698.36	12,350.00	-370.75	370.60	LP, Hold 90.00° Inc at 179.44° Azm
19,669.94	12,350.00	-7,342.00	439.01	TD at 19669.94

PECOS DISTRICT
SURFACE USE
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	KAISER FRANCIS OIL COMPANY
LEASE NO.:	NMNM015321
WELL NAME & NO.:	403H-RED HILLS
SURFACE HOLE FOOTAGE:	2400'/S & 1815'/W
BOTTOM HOLE FOOTAGE	330'/S & 2182'/W
LOCATION:	SECTION 31, T25S, R33E, NMPM
COUNTY:	LEA, COUNTY NEW MEXICO

TABLE OF CONTENTS

Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

I. GENERAL PROVISIONS

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

II. PERMIT EXPIRATION

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

Any cultural and/or paleontological resource discovered by the operator or by any person working on the operator's behalf shall immediately report such findings to the Authorized Officer. The operator is fully accountable for the actions of their contractors and subcontractors. The operator shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery shall be made by the Authorized Officer to determine the appropriate actions that shall be required to prevent the loss of significant cultural or scientific values of the discovery. The operator shall be held responsible for the cost of the proper mitigation measures that the Authorized Officer assesses after consultation with the operator on the evaluation and decisions of the discovery. Any unauthorized collection or disturbance of cultural or paleontological resources may result in a shutdown order by the Authorized Officer.

IV. NOXIOUS WEEDS

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

V. SPECIAL REQUIREMENT(S)

Cave/Karst Surface Mitigation
The following stipulations will be applied to minimize impacts during construction, drilling and production:
Construction:
In the advent that any underground voids are opened up during construction activities, construction activities will be halted and the BLM will be notified immediately.

No Blasting:
No blasting will be utilized for pad construction. The pad will be constructed and leveled by adding the necessary fill and caliche.

Pad Berming:
- The entire perimeter of the well pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad.
- The compacted berm shall be constructed at a minimum of 12 inches high with impermeable mineral material (e.g., caliche).
- No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad.
- The topsoil stockpile shall be located outside the bermed well pad.
- Topsoil, either from the well pad or surrounding area, shall not be used to construct the berm.
- No storm drains, tubing or openings shall be placed in the berm.
- If fluid collects within the bermed area, the fluid must be vacuumed into a safe container and disposed of properly at a state approved facility.
- The integrity of the berm shall be maintained around the surfaced pad throughout the life of the well and around the downsized pad after interim reclamation has been completed.
- Any access road entering the well pad shall be constructed so that the integrity of the berm height surrounding the well pad is not compromised. (Any access road crossing the berm cannot be lower than the berm height.)
- Following a rain event, all fluids will vacuumed off of the pad and hauled off-site and disposed at a proper disposal facility.

Tank Battery Liners and Berms:
Tank battery locations and all facilities will be lined and bermed. A 20 mil permanent liner will be installed with a 4 oz. felt backing, or equivalent, to prevent tears or punctures. Tank battery berms must be large enough to contain 1 ½ times the content of the largest tank.

Leak Detection System:
A method of detecting leaks is required. The method could incorporate gauges to measure loss, situating values and lines so they can be visually inspected, or installing electronic sensors to alarm when a leak is present. Leak detection plan will be submitted to BLM for approval.

Automatic Shut-off Systems:
Automatic shut off, check values, or similar systems will be installed for pipelines and tanks to minimize the effects of catastrophic line failures used in production or drilling.

Cave/Karst Subsurface Mitigation
The following stipulations will be applied to protect cave/karst and ground water concerns:
Rotary Drilling with Fresh Water:

Fresh water will be used as a circulating medium in zones where caves or karst features are expected. SEE ALSO: Drilling COAs for this well.

Directional Drilling:
Kick off for directional drilling will occur at least 100 feet below the bottom of the cave occurrence zone. SEE ALSO: Drilling COAs for this well.

Lost Circulation:
ALL lost circulation zones from the surface to the base of the cave occurrence zone will be logged and reported in the drilling report.
Regardless of the type of drilling machinery used, if a void of four feet or more and circulation losses greater than 70 percent occur simultaneously while drilling in any cave-bearing zone, the BLM will be notified immediately by the operator. The BLM will assess the situation and work with the operator on corrective actions to resolve the problem.

Abandonment Cementing:
Upon well abandonment in cave karst areas additional plugging conditions of approval may be required. The BLM will assess the situation and work with the operator to ensure proper plugging of the wellbore.

Pressure Testing:
The operator will perform annual pressure monitoring on all casing annuli and reported in a sundry notice. If the test results indicated a casing failure has occurred, remedial action will be undertaken to correct the problem to the BLM's approval.

Hydrology

The entire well pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad. The compacted berm shall be constructed at a minimum of 12 inches with impermeable mineral material (e.g. caliche). Topsoil shall not be used to construct the berm. No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad. The integrity of the berm shall be maintained around the surfaced pad throughout the life of the well and around the downsized pad after interim reclamation has been completed. Any water erosion that may occur due to the construction of the well pad during the life of the well will be quickly corrected and proper measures will be taken to prevent future erosion. Stockpiling of topsoil is required. The top soil shall be stockpiled in an appropriate location to prevent loss of soil due to water or wind erosion and not used for berming or erosion control. If fluid collects within the bermed area, the fluid must be vacuumed into a safe container and disposed of properly at a state approved facility.

Tank battery locations will be lined and bermed. A 20 mil permanent liner will be installed with a 4 oz. felt backing to prevent tears or punctures. Tank battery berms must be large enough to contain 1 ½ times the content of the largest tank or 24 hour production, whichever is greater. Automatic shut off, check valves, or similar systems will be installed for tanks to minimize the effects of catastrophic line failures used in production or drilling.

A leak detection plan will be submitted to the BLM Carlsbad Field Office for approval prior to pipeline installation. The method could incorporate gauges to detect pressure drops, situating valves and lines so they can be visually inspected periodically or installing electronic sensors to alarm when a leak is present. The leak detection plan will incorporate an automatic shut off system that will be installed for proposed pipelines to minimize the effects of an undesirable event.

VI. CONSTRUCTION

A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (575) 234-5909 at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved APD and Conditions of Approval (COA) on the well site and they shall be made available upon request by the Authorized Officer.

B. TOPSOIL

The operator shall strip the top portion of the soil (root zone) from the entire well pad area and stockpile the topsoil along the edge of the well pad as depicted in the APD. The root zone is typically six (6) inches in depth. All the stockpiled topsoil will be redistributed over the interim reclamation areas. Topsoil shall not be used for berming the pad or facilities. For final reclamation, the topsoil shall be spread over the entire pad area for seeding preparation.

Other subsoil (below six inches) stockpiles must be completely segregated from the topsoil stockpile. Large rocks or subsoil clods (not evident in the surrounding terrain) must be buried within the approved area for interim and final reclamation.

C. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

The operator shall properly dispose of drilling contents at an authorized disposal site.

D. FEDERAL MINERAL MATERIALS PIT

Payment shall be made to the BLM prior to removal of any federal mineral materials. Call the Carlsbad Field Office at (575) 234-5972.

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation. The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

F. EXCLOSURE FENCING (CELLARS & PITS)

Exclosure Fencing
The operator will install and maintain exclosure fencing for all open well cellars to prevent access to public, livestock, and large forms of wildlife before and after drilling operations until the pit is free of fluids and the operator initiates backfilling. (For examples of exclosure fencing design, refer to BLM's Oil and Gas Gold Book, Exclosure Fence Illustrations, Figure 1, Page 18.)

G. ON LEASE ACCESS ROADS

Road Width
The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed twenty-five (25) feet.

Surfacing
Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

Crowning
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

Ditching
Ditching shall be required on both sides of the road.

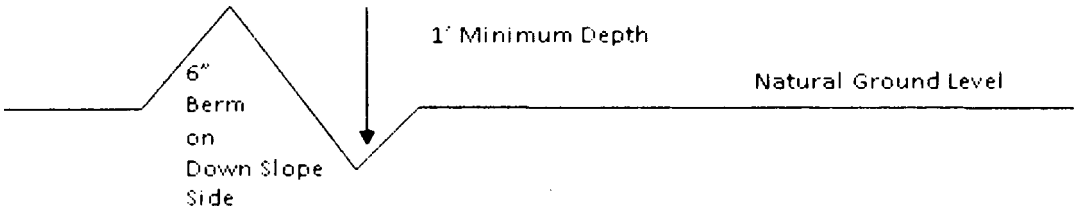
Turnouts
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

Drainage

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsloping and insloping, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

Cross Section of a Typical Lead-off Ditch



All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

Formula for Spacing Interval of Lead-off Ditches

Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

$$\text{400 foot road with 4\% road slope: } \frac{400'}{4\%} + 100' = 200' \text{ lead-off ditch interval}$$

Cattle guards

An appropriately sized cattle guard sufficient to carry out the project shall be installed and maintained at fence/road crossings. Any existing cattle guards on the access road route shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattle guards that are in place and are utilized during lease operations.

Fence Requirement

Where entry is granted across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting. The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fences.

Public Access

Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

Construction Steps

1. Salvage topsoil
2. Construct road
3. Redistribute topsoil
4. Revegetate slopes

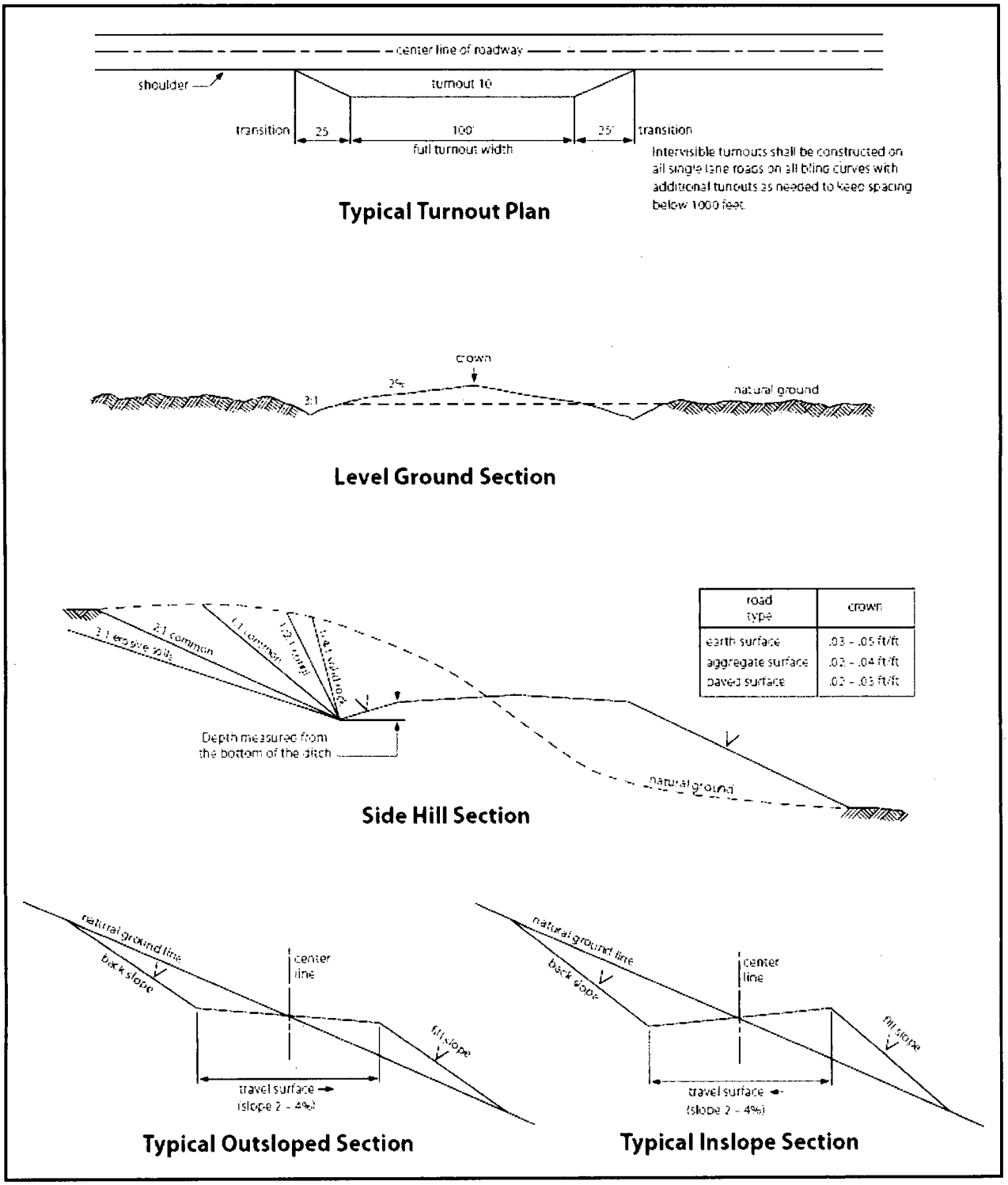


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

Approval Date: 02/20/2019

VII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

Placement of Production Facilities
Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

Exclosure Netting (Open-top Tanks)
Immediately following active drilling or completion operations, the operator will take actions necessary to prevent wildlife and livestock access, including avian wildlife, to all open-topped tanks that contain or have the potential to contain salinity sufficient to cause harm to wildlife or livestock, hydrocarbons, or Resource Conservation and Recovery Act of 1976-exempt hazardous substances. At a minimum, the operator will net, screen, or cover open-topped tanks to exclude wildlife and livestock and prevent mortality. If the operator uses netting, the operator will cover and secure the open portion of the tank to prevent wildlife entry. The operator will net, screen, or cover the tanks until the operator removes the tanks from the location or the tanks no longer contain substances that could be harmful to wildlife or livestock. Use a maximum netting mesh size of 1 ½ inches. The netting must not be in contact with fluids and must not have holes or gaps.

Chemical and Fuel Secondary Containment and Exclosure Screening
The operator will prevent all hazardous, poisonous, flammable, and toxic substances from coming into contact with soil and water. At a minimum, the operator will install and maintain an impervious secondary containment system for any tank or barrel containing hazardous, poisonous, flammable, or toxic substances sufficient to contain the contents of the tank or barrel and any drips, leaks, and anticipated precipitation. The operator will dispose of fluids within the containment system that do not meet applicable state or U. S. Environmental Protection Agency livestock water standards in accordance with state law; the operator must not drain the fluids to the soil or ground. The operator will design, construct, and maintain all secondary containment systems to prevent wildlife and livestock exposure to harmful substances. At a minimum, the operator will install effective wildlife and livestock exclosure systems such as fencing, netting, expanded metal mesh, lids, and grate covers. Use a maximum netting mesh size of 1 ½ inches.

Open-Vent Exhaust Stack Exclosures
The operator will construct, modify, equip, and maintain all open-vent exhaust stacks on production equipment to prevent birds and bats from entering, and to discourage perching, roosting, and nesting. (*Recommended exclosure structures on open-vent exhaust stacks are in the shape of a cone.*) Production equipment includes, but may not be limited to, tanks, heater-treaters, separators, dehydrators, flare stacks, in-line units, and compressor mufflers.

Containment Structures

Proposed production facilities such as storage tanks and other vessels will have a secondary containment structure that is constructed to hold the capacity of 1.5 times the largest tank, plus freeboard to account for precipitation, unless more stringent protective requirements are deemed necessary.

Painting Requirement
All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color, **Shale Green** from the BLM Standard Environmental Color Chart (CC-001: June 2008).

VIII. INTERIM RECLAMATION

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

Within six (6) months of well completion, operators should work with BLM surface management specialists (Jim Amos: 575-234-5909) to devise the best strategies to reduce the size of the location. Interim reclamation should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche that is free of contaminants may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

All disturbed areas after they have been satisfactorily prepared need to be reseeded with the seed mixture provided below.

Upon completion of interim reclamation, the operator shall submit a Sundry Notices and Reports on Wells, Subsequent Report of Reclamation (Form 3160-5).

IX. FINAL ABANDONMENT & RECLAMATION

At final abandonment, well locations, production facilities, and access roads must undergo "final" reclamation so that the character and productivity of the land are restored.

Earthwork for final reclamation must be completed within six (6) months of well plugging. All pads, pits, facility locations and roads must be reclaimed to a satisfactory

revegetated, safe, and stable condition, unless an agreement is made with the landowner or BLM to keep the road and/or pad intact.

After all disturbed areas have been satisfactorily prepared, these areas need to be revegetated with the seed mixture provided below. Seeding should be accomplished by drilling on the contour whenever practical or by other approved methods. Seeding may need to be repeated until revegetation is successful, as determined by the BLM.

Operators shall contact a BLM surface protection specialist prior to surface abandonment operations for site specific objectives (Jim Amos: 575-234-5909).

Seed Mixture 2, for Sandy Sites

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law (s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorized officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed* per acre:

Species	lb/acre
Sand dropseed (Sporobolus cryptandrus)	1.0
Sand love grass (Eragrostis trichodes)	1.0
Plains bristlegrass (Setaria macrostachya)	2.0

*Pounds of pure live seed:

Pounds of seed **x** percent purity **x** percent germination = pounds pure live seed

Approval Date: 02/20/2019

AFMSS

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

Operator Certification Data Report

02/21/2019

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

NAME: Melanie Wilson **Signed on:** 05/09/2018

Title: Regulatory Analyst

Street Address: 106 W. Riverside Drive

City: Calsbad **State:** NM **Zip:** 88220

Phone: (575)914-1461

Email address: mjp1692@gmail.com

Representative Name: Eric Hanson

Street Address: PO Box 21468

City: Tulsa **State:** OK **Zip:** 74121-1468

Phone: (918)527-5260

Email address: erich@kfoc.net

Surface Use & Operating Plan

Red Hills Pad 002

Wells: Red Hills 002H, Red Hills 102H, Red Hills 402H, and Red Hills 502H

Wells: Red Hills 003H, Red Hills 103H, Red Hills 403H, and Red Hills 503H

- Surface Owner: BLM
- New Road: 1833' of new road
- Facilities: Production facilities will be installed on well pad

- **Well Site Information**
  V Door: North
  Topsoil: West
  Interim Reclamation: No reclamation planned

Notes

Drilling pad located on Federal Land. Jeff Robbins is the surface tenant and has been contacted by Kaiser-Francis Oil Company.

Onsite: On-site was done by William Degrush (BLM); Matt Warner (Kaiser-Francis), and Frank Jaramillo (Madron Surveying) on Apr 19, 2018.

- NOS #: ***10400029451***

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, NM.

B. All roads to the location are shown on the Road Map attachment. The existing lease roads are illustrated in red 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 dashes on the Road Map attachment and is shown in detail on the Access Road Map attachment.

C. Directions to location: See Madron Surveying Wellsite Layout 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 1833' 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 nearby caliche pit on landowner's farm.

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, a 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.

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 landowner's water source used to fill KFOC utilized frac pit also located on land owner's surface. Brine water will come from Mesquite SWD, Inc.'s Malaga I Brine Station in Section 12-T23S-R28E and the alternate source is Mesquite SWD, Inc.'s Malaga II Brine Station in Section 20-T24S-R29E.

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 Road Roller 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 nearest BLM caliche pit

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 an approved commercial disposal facility.

B. Drilling fluids will be contained in steel mud pits and taken to an approved commercial disposal facility.

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.

D. Garbage and trash produced during drilling or completion operations will be collected in a trash bin and hauled to an approved landfill.

E. 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).

F. 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.

7. Ancillary Facilities:

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

8. Well Site Layout:

A. The drill pad layout, with elevations staked by Madron Surveying, is shown in the Wellsite Layout attachment. Dimensions of the pad and pits are shown on the Drilling Site Layout. V door direction is north. Topsoil, if available, will be stockpiled on the west 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 Site 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.

9. Plans for Restoration of the Surface:

A. Interim Reclamation will take place within six months after the well has been completed. The pad will be downsized by reclaiming the areas not needed for disposal operations. The portions of the pad that are not needed for disposal 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.

10. Surface Ownership:

A. The surface is owned by the BLM. The surface tenant is Jeff Robbins 575-390-0660

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

11. Other Information:

A. Around the wellsite, 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.

12. Bond Coverage:

Bond Coverage is Statewide Bond # 106397421

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 Manager
Kaiser-Francis Oil Company
PO Box 21468
Tulsa, OK 74121
Office: 918-770-2682

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

Would you like to utilize Lined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Lined pit PWD on or off channel:

Lined pit PWD discharge volume (bbl/day):

Lined pit specifications:

Pit liner description:

Pit liner manufacturers information:

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Lined pit precipitated solids disposal schedule:

Lined pit precipitated solids disposal schedule attachment:

Lined pit reclamation description:

Lined pit reclamation attachment:

Leak detection system description:

Leak detection system attachment:

Lined pit Monitor description:

Lined pit Monitor attachment:

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

Is the reclamation bond a rider under the BLM bond?

Lined pit bond number:

Lined pit bond amount:

Additional bond information attachment:

Would you like to utilize Unlined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Unlined pit PWD on or off channel:

Unlined pit PWD discharge volume (bbl/day):

Unlined pit specifications:

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Unlined pit precipitated solids disposal schedule:

Unlined pit precipitated solids disposal schedule attachment:

Unlined pit reclamation description:

Unlined pit reclamation attachment:

Unlined pit Monitor description:

Unlined pit Monitor attachment:

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

Beneficial use user confirmation:

Estimated depth of the shallowest aquifer (feet):

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

TDS lab results:

Geologic and hydrologic evidence:

State authorization:

Unlined Produced Water Pit Estimated percolation:

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

Is the reclamation bond a rider under the BLM bond?

Unlined pit bond number:

Unlined pit bond amount:

Additional bond information attachment:

Would you like to utilize Injection PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Injection PWD discharge volume (bbl/day):

Injection well mineral owner:

Injection well type:

Injection well number: **Injection well name:**

Assigned injection well API number? **Injection well API number:**

Injection well new surface disturbance (acres):

Minerals protection information:

Mineral protection attachment:

Underground Injection Control (UIC) Permit?

UIC Permit attachment:

Would you like to utilize Surface Discharge PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Surface discharge PWD discharge volume (bbl/day):

Surface Discharge NPDES Permit?

Surface Discharge NPDES Permit attachment:

Surface Discharge site facilities information:

Surface discharge site facilities map:

Would you like to utilize Other PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Other PWD discharge volume (bbl/day):

Other PWD type description:

Other PWD type attachment:

Have other regulatory requirements been met?

Other regulatory requirements attachment:

AFMSS

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

Bond Info Data Report

02/21/2019

Federal/Indian APD: FED

BLM Bond number: WYB000055

BIA Bond number:

Do you have a reclamation bond? NO

Is the reclamation bond a rider under the BLM bond?

Is the reclamation bond BLM or Forest Service?

BLM reclamation bond number:

Forest Service reclamation bond number:

Forest Service reclamation bond attachment:

Reclamation bond number:

Reclamation bond amount:

Reclamation bond rider amount:

Additional reclamation bond information attachment: