

OCD - HOBBS  
10/06/2020  
RECEIVED

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

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NMLC0066438
1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other		6. If Indian, Allottee or Tribe Name
1c. Type of Completion: <input type="checkbox"/> Hydraulic Fracturing <input type="checkbox"/> Single Zone <input checked="" type="checkbox"/> Multiple Zone		7. If Unit or CA Agreement, Name and No. BELL LAKE / NMNM 068292X
2. Name of Operator KAISER FRANCIS OIL COMPANY [12361]		8. Lease Name and Well No. BELL LAKE UNIT NORTH [316707] 419H
3a. Address 6733 S. Yale Ave., Tulsa, OK 74121	3b. Phone No. (include area code) (918) 491-0000	9. API Well No. 30-025-47817
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface NWSW / 2418 FSL / 380 FWL / LAT 32.3330746 / LONG -103.5334045 At proposed prod. zone NWNW / 330 FNL / 350 FWL / LAT 32.354543 / LONG -103.633507		10. Field and Pool, or Exploratory [98265] OJO CHISO/WOLFCAMP, SOUTHWEST
14. Distance in miles and direction from nearest town or post office* 20 miles		11. Sec., T, R, M, or Blk. and Survey or Area SEC 1/T23S/R33E/NMP
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 380 feet	16. No of acres in lease 479.85	17. Spacing Unit dedicated to this well 480.0
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 28 feet	19. Proposed Depth 12073 feet / 20068 feet	20. BLM/BIA Bond No. in file FED: WYB000055
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3528 feet	22. Approximate date work will start* 06/01/2020	23. Estimated duration 40 days
24. Attachments		

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, and the Hydraulic Fracturing rule per 43 CFR 3162.3-3 (as applicable)

- |  |   |
|--|---|
| 1. Well plat certified by a registered surveyor.   | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2. A Drilling Plan.  | 5. Operator certification.  |
| 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). | 6. Such other site specific information and/or plans as may be requested by the BLM.            |

25. Signature (Electronic Submission)	Name (Printed/Typed) MELANIE WILSON / Ph: (918) 491-0000	Date 01/14/2020
Title Regulatory Analyst		
Approved by (Signature) (Electronic Submission)	Name (Printed/Typed) Cody Layton / Ph: (575) 234-5959	Date 09/15/2020
Title Assistant Field Manager Lands & Minerals Carlsbad Field Office		

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

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

GCP Rec 10/06/2020

SL

(Continued on page 2)

APPROVED WITH CONDITIONS  
Approval Date: 09/15/2020

Kz  
10/15/2020

\*(Instructions on page 2)

## 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 well, and any other required information, should be furnished when required by Federal agency offices.

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

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

**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 well or to reenter a plugged and abandoned well; and (2) document, for administrative use, information for the management, disposal and use of National Resource Lands and resources including (a) analyzing your proposal to discover and extract the Federal or Indian resources encountered; (b) reviewing procedures and equipment and the projected impact on the land involved; and (c) evaluating the effects of the proposed operation on the surface and subsurface water and other environmental impacts.

**ROUTINE USE:** Information from the record and/or the record will be transferred to appropriate Federal, State, and local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecution, in connection with congressional inquiries and for regulatory responsibilities.

**EFFECT OF NOT PROVIDING INFORMATION:** Filing of this application and disclosure of the information is mandatory only if you elect to initiate a drilling or reentry operation on an oil and gas lease.

The Paperwork Reduction Act of 1995 requires us to inform you that:

The BLM connects this information to a new 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 Connection Clearance Officer (WO-630), 1849 C Street, N.W., Mail Stop 401 LS, Washington, D.C. 20240.

## Additional Operator Remarks

### Location of Well

0. SHL: NWSW / 2418 FSL / 380 FWL / TWSP: 23S / RANGE: 33E / SECTION: 1 / LAT: 32.3330746 / LONG: -103.5334045 ( TVD: 0 feet, MD: 0 feet )  
PPP: SWSW / 0 FSL / 350 FWL / TWSP: 22S / RANGE: 33E / SECTION: 36 / LAT: 32.340934 / LONG: -103.533503 ( TVD: 12073 feet, MD: 15118 feet )  
PPP: SWNW / 2600 FNL / 350 FWL / TWSP: 23S / RANGE: 33E / SECTION: 1 / LAT: 32.333789 / LONG: -103.533502 ( TVD: 12073 feet, MD: 12518 feet )  
BHL: NWNW / 330 FNL / 350 FWL / TWSP: 22S / RANGE: 33E / SECTION: 36 / LAT: 32.354543 / LONG: -103.633507 ( TVD: 12073 feet, MD: 20068 feet )

### BLM Point of Contact

Name: Gavin Mickwee  
Title: Land Law Examiner  
Phone: (575) 234-5972  
Email: gmickwee@blm.gov

CONFIDENTIAL



APD ID: 10400053193

Submission Date: 01/14/2020

Highlighted data  
reflects the most  
recent changes

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH

Well Number: 419H

[Show Final Text](#)

Well Type: OIL WELL

Well Work Type: Drill

## Section 1 - General

APD ID: 10400053193

Tie to previous NOS? N

Submission Date: 01/14/2020

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: NMLC0066438

Lease Acres: 479.85

Surface access agreement in place?

Allotted?

Reservation:

Agreement in place? YES

Federal or Indian agreement: FEDERAL

Agreement number: NMNM068292X

Agreement name: BELL LAKE

Keep application confidential? Y

Permitting Agent? YES

APD Operator: KAISER FRANCIS OIL COMPANY

**Operator letter of designation:**

## Operator Info

Operator Organization Name: KAISER FRANCIS OIL COMPANY

Operator Address: 6733 S. Yale Ave.

Zip: 74121

Operator PO Box: PO Box 21468

Operator City: Tulsa

State: OK

Operator Phone: (918)491-0000

Operator Internet Address:

## Section 2 - Well Information

Well in Master Development Plan? NO

Master Development Plan name:

Well in Master SUPO? NO

Master SUPO name:

Well in Master Drilling Plan? NO

Master Drilling Plan name:

Well Name: BELL LAKE UNIT NORTH

Well Number: 419H

Well API Number:

Field/Pool or Exploratory? Field and Pool

Field Name: OJO CHISO

Pool Name: WOLFCAMP,  
SOUTHWEST

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

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH

Well Number: 419H

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

Is the proposed well in a Helium production area? N

Use Existing Well Pad? N

New surface disturbance?

Type of Well Pad: MULTIPLE WELL

Multiple Well Pad Name: NORTH Number: 1

Well Class: HORIZONTAL

BELL LAKE UNIT

Number of Legs: 1

Well Work Type: Drill

Well Type: OIL WELL

Describe Well Type:

Well sub-Type: EXPLORATORY (WILDCAT)

Describe sub-type:

Distance to town: 20 Miles

Distance to nearest well: 28 FT

Distance to lease line: 380 FT

Reservoir well spacing assigned acres Measurement: 480 Acres

**Well plat:** BLUN\_419H\_C102\_20200113154009.pdf

BLUN\_419H\_Pymt\_20200113154612.pdf

Well work start Date: 06/01/2020

Duration: 40 DAYS

### Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83

Vertical Datum: NAVD88

Survey number: 7072

Reference Datum: GROUND LEVEL

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce from this lease?
SHL Leg #1	2418	FSL	380	FWL	23S	33E	1	Aliquot NWS W	32.3330746	-103.5334045	LEA	NEW MEXICO	NEW MEXICO	F	NMLC0066438	3528	0	0	N
KOP Leg #1	2418	FSL	380	FWL	23S	33E	1	Aliquot NWS W	32.3330746	-103.5334045	LEA	NEW MEXICO	NEW MEXICO	F	NMLC0066438	-7272	10800	10800	N

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH

Well Number: 419H

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce from this lease?
PPP Leg #1-1	260 0	FNL	350	FW L	23S	33E	1	Aliquot SWN W	32.33378 9	- 103.5335 02	LEA	NEW MEXI CO	NEW MEXI CO	F	NMLC0 066438	- 854 5	125 18	120 73	Y
PPP Leg #1-2	0	FSL	350	FW L	22S	33E	36	Aliquot SWS W	32.34093 4	- 103.5335 03	LEA	NEW MEXI CO	NEW MEXI CO	S	STATE	- 854 5	151 18	120 73	Y
EXIT Leg #1	330	FNL	350	FW L	22S	33E	36	Aliquot NWN W	32.35454 3	- 103.6335 07	LEA	NEW MEXI CO	NEW MEXI CO	S	STATE	- 854 5	200 68	120 73	Y
BHL Leg #1	330	FNL	350	FW L	22S	33E	36	Aliquot NWN W	32.35454 3	- 103.6335 07	LEA	NEW MEXI CO	NEW MEXI CO	S	STATE	- 854 5	200 68	120 73	Y

**mjp1692@gmail.com**

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**From:** notification@pay.gov  
**Sent:** Monday, January 13, 2020 3:44 PM  
**To:** mjp1692@gmail.com  
**Subject:** Pay.gov Payment Confirmation: BLM Oil and Gas Online Payment



An official email of the United States government



Your payment has been submitted to Pay.gov and the details are below. If you have any questions regarding this payment, please contact BLM OC CBS Customer Service at (303) 236-6795 or [BLM\\_OC\\_CBS\\_Customer\\_Service@blm.gov](mailto:BLM_OC_CBS_Customer_Service@blm.gov).

Application Name: BLM Oil and Gas Online Payment

Pay.gov Tracking ID: 26MQ5H4B

Agency Tracking ID: 75927637022

Transaction Type: Sale

Transaction Date: 01/13/2020 05:43:37 PM EST

Account Holder Name: GEORGE B KAISER

Transaction Amount: \$10,230.00

Card Type: Visa

Card Number: \*\*\*\*\*0061

Company: Kaiser-Francis Oil Company

APD IDs: 10400053193

Lease Numbers: NMLC0066438

Well Numbers: 419H

Note: You will need your Pay.gov Tracking ID to complete your APD transaction in AFMSS II.

Please ensure you write this number down upon completion of payment.

THIS IS AN AUTOMATED MESSAGE. PLEASE DO NOT REPLY.



Pay.gov is a program of the U.S. Department of the Treasury, Bureau of the Fiscal Service





APD ID: 10400053193

Submission Date: 01/14/2020

Highlighted data  
reflects the most  
recent changes

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH

Well Number: 419H

[Show Final Text](#)

Well Type: OIL WELL

Well Work Type: Drill

## Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
634474	---	3528	0	0	OTHER : Surface	NONE	N
634475	RUSTLER	2280	1248	1248	SANDSTONE	NONE	N
634476	SALADO	1883	1645	1645	SALT	NONE	N
634477	TOP SALT	1556	1972	1972	SALT	NONE	N
634478	BASE OF SALT	-1444	4972	4972	SALT	NONE	N
634479	LAMAR	-1694	5222	5222	SANDSTONE	NATURAL GAS, OIL	N
634480	BELL CANYON	-1994	5522	5522	SANDSTONE	NATURAL GAS, OIL	N
634481	CHERRY CANYON	-3194	6722	6722	SANDSTONE	NATURAL GAS, OIL	N
634482	BRUSHY CANYON	-4895	8423	8423	SANDSTONE	NATURAL GAS, OIL	N
634483	BONE SPRING	-5119	8647	8647	LIMESTONE	NATURAL GAS, OIL	N
634484	AVALON SAND	-5482	9010	9010	SANDSTONE	NATURAL GAS, OIL	N
634485	BONE SPRING 1ST	-6470	9998	9998	SANDSTONE	NATURAL GAS, OIL	N
634492	BONE SPRING 2ND	-6995	10523	10523	SANDSTONE	NATURAL GAS, OIL	Y
634496	BONE SPRING LIME	-7520	11048	11048	LIMESTONE	NATURAL GAS, OIL	N
634497	BONE SPRING 3RD	-8045	11573	11573	SANDSTONE	NATURAL GAS, OIL	N
634498	WOLFCAMP	-8345	11873	11873	SANDSTONE	NATURAL GAS, OIL	Y

## Section 2 - Blowout Prevention



Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH

Well Number: 419H

Pressure Rating (PSI): 5M

Rating Depth: 13000

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

Requesting Variance? YES

Variance request: Flex Hose Variance MultiBowl Wellhead

Testing Procedure: BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all of the components installed will be functional and tested.

**Choke Diagram Attachment:**

BLUN\_419H\_Choke\_Manifold\_20200114112404.pdf

**BOP Diagram Attachment:**

BLUN\_419H\_5M\_Variance\_Request\_20200114112443.pdf

BLUN\_419H\_BOP\_20200114112444.pdf

BLUN\_419H\_Flex\_Hose\_20200114112501.pdf

BLUN\_419H\_Wellhead\_20200114112544.pdf

BLUN\_Well\_Control\_Plan\_20200114112741.pdf

### Section 3 - Casing

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	14.75	10.75	NEW	API	N	0	1600	0	1600	3528	1928	1600	J-55	40.5	ST&C	2.1	4.2	DRY	6.5	DRY	9.7
2	INTERMEDIATE	9.875	7.625	NEW	API	N	0	11379	0	11378		-7850	11379	HCP-110	29.7	LT&C	1.3	1.8	DRY	2.3	DRY	2.8
3	PRODUCTION	6.75	5.5	NEW	API	N	0	20068	0	12073		-8545	20068	HCP-110	20	OTHER - USS Eagle SFH	1.8	2	DRY	2.7	DRY	3.2

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH

Well Number: 419H

#### Casing Attachments

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

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

**Casing Design Assumptions and Worksheet(s):**

BLUN\_419H\_Csg\_Assumptions\_20200114113619.pdf

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

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

**Casing Design Assumptions and Worksheet(s):**

BLUN\_419H\_Csg\_Assumptions\_20200114113356.pdf

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

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

**Casing Design Assumptions and Worksheet(s):**

BLUN\_419H\_Prod\_Csg\_Specs\_20200114113507.pdf

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#### Section 4 - Cement

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH

Well Number: 419H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	1600	771	1.7	13.5	1333	50	ExtendaCem	Poly E Flake

INTERMEDIATE	Lead		0	1137 9	861	2.7	11	2351	25	NeoCem	Extender
INTERMEDIATE	Tail		0	1137 9	588	1.2	15.6	703	25	Halcem	none
PRODUCTION	Lead		9000	2006 8	831	1.2	14.5	1016	15	Versacem	Halad

### Section 5 - Circulating Medium

Mud System Type: Closed

Will an air or gas system be Used? NO

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

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

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

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

### Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
1137 8	1207 3	OIL-BASED MUD	10	12							
1600	1137 8	OTHER : Diesel- Brine Emulsion	8.8	9.2							
0	1600	OTHER : Fresh Water	8.4	9							

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH

Well Number: 419H

## Section 6 - Test, Logging, Coring

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

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

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

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

### Coring operation description for the well:

None planned

## Section 7 - Pressure

Anticipated Bottom Hole Pressure: 7533

Anticipated Surface Pressure: 4876

Anticipated Bottom Hole Temperature(F): 199

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

### Describe:

### Contingency Plans geohazards description:

### Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? YES

### Hydrogen sulfide drilling operations plan:

BLUN\_H2S\_Plan\_20200114113955.pdf

## Section 8 - Other Information

### Proposed horizontal/directional/multi-lateral plan submission:

BLUN\_419H\_Directional\_Plan\_20200114114010.pdf

### Other proposed operations facets description:

Gas Capture Plan attached

### Other proposed operations facets attachment:

BLUN\_419H\_GCP\_20200114114023.pdf

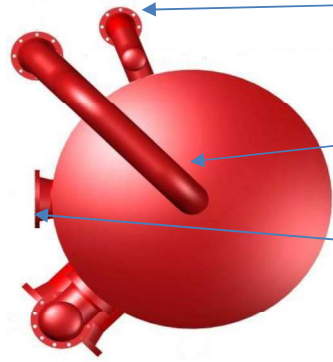
### Other Variance attachment:

BLUN\_419H\_Wellhead\_20200114114042.pdf

BLUN\_419H\_5M\_Variance\_Request\_20200114114042.pdf

BLUN\_419H\_Flex\_Hose\_20200114114056.pdf

**10M Choke Manifold  
Cactus Rig 171  
Kaiser Francis Oil Company**



Line in from Choke  
Manifold

Vent Line to  
flair

Line out to Mud  
Tanks

Line to Gas Buster

Panic Line

4 1/16 5M  
Manual  
valves

Line in from  
Flowline

Buffer  
Chamber

Line to  
Trip Tank

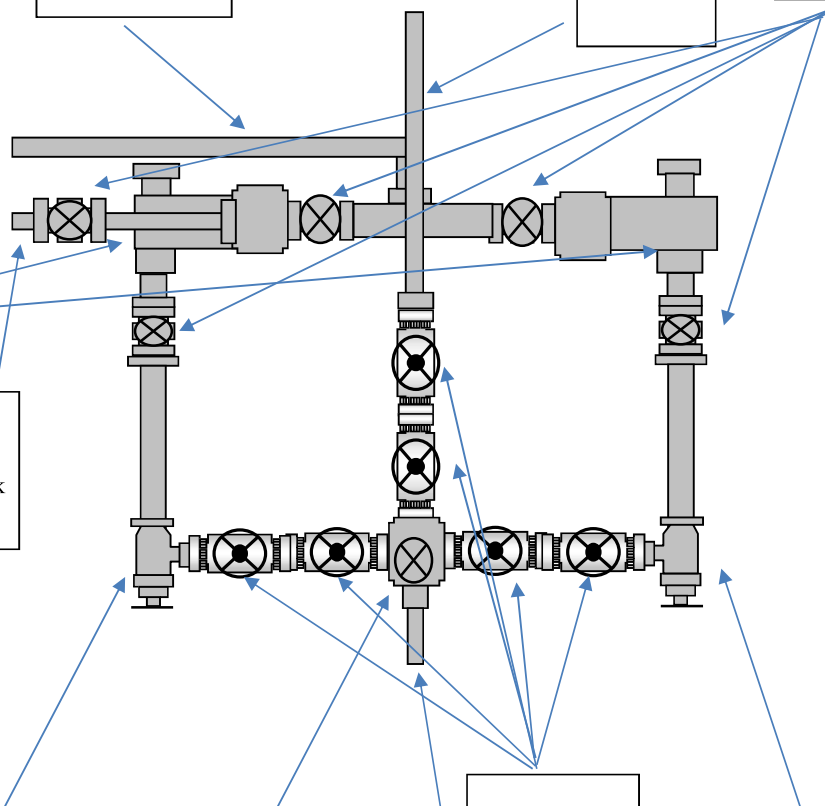
3 1/16" 10M  
adjustable  
choke Manual

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

10M Line from  
BOP's

4 1/16" 10M  
Manual valves

3 1/16" 10M  
adjustable  
choke  
Hydraulic  
Remote



Kaiser-Francis Oil Company  
Bell Lake Unit North 419H  
Casing Assumptions

Interval	Length	Casing Size	Weight (#/ft)	Grade	Thread	Condition	Hole Size	TVD (ft)	Mud Type	Mud Weight Hole Control	Depth	Viscosity	Fluid Loss	Anticipated Mud Weight (ppg)	Max Pore Pressure (psi)	Collapse (psi)	Burst (psi)	Body Tensile Strength	Joint Tensile Strength	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)
Conductor	120	20"				New		120															
Surface	1600	10-3/4"	40.5	J-55	STC	New	14-3/4"	1600	FW	8.4 - 9.0	1350'	32 - 34	NC	9	749	1580	3130	629000	420000	2.1	4.2	9.7	6.5
Intermediate	11379	7-5/8"	29.7	HCP110	LTC	New	9-7/8"	11378	Brine	8.7 - 9.0	11426'	28-29	NC	9	5325	6700	9460	940000	769000	1.3	1.8	2.8	2.3
Production	20068	5-1/2"	20	P110 HP	USS Eagle SFH	New	6-3/4"	12073	OBM	10.0-12.0	19882'	55-70		12	7534	13150	14360	729000	629000	1.7	1.9	3.0	2.6

**KAISER-FRANCIS OIL COMPANY  
HYDROGEN SULFIDE (H<sub>2</sub>S) CONTINGENCY PLAN  
FOR DRILLING/COMPLETION WORKOVER/FACILITY**

**Bell Lake Unit North  
SECTION 1 -T23S-R33E  
SECTION 6 -T23S-R34E  
SECTION 5 -T23S-R34E**

**LEA COUNTY, NM**

This well/facility is not expected to have H<sub>2</sub>S, but due to the sensitive location, the following is submitted as requested.



## TABLE OF CONTENTS

Emergency Response Activation and General Responsibilities	3
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## **EMERGENCY RESPONSE ACTIVATION AND GENERAL RESPONSIBILITIES**

### **Activation of the Emergency Action Plan**

In the event of any emergency situation, all personnel on location should first ensure that the following items are initiated. After that, they should refer to the appropriate Specific Emergency Guidance sections below for further responsibilities:

1. Notify the senior ranking contract representative on site.
2. Notify Kaiser-Francis representative in charge.
3. Notify civil authorities if the Kaiser-Francis Representative cannot be contacted and the situation dictates.
4. Perform rescue and first aid as required (without jeopardizing additional personnel).

### **General Responsibilities**

In the event of an H<sub>2</sub>S emergency, the following plan will be initiated.

- 1) All personnel will immediately evacuate to an up-wind and if possible up-hill "safe area".
- 2) If for any reason a person must enter the hazardous area, they must wear a SCBA (Self contained breathing apparatus).
- 3) Always use the "buddy system".
- 4) Isolate the well/problem if possible.
- 5) Account for all personnel
- 6) Display the proper colors, warning all unsuspecting personnel of the danger at hand
- 7) Contact the Company personnel as soon as possible if not at the location. (use the enclosed call list as instructed)

At this point the company representative will evaluate the situation and coordinate the necessary duties to bring the situation under control, and if necessary, the notification of emergency response agencies and residents.

## **INDIVIDUAL RESPONSIBILITIES DURING AN H<sub>2</sub>S RELEASE**

The following procedures and responsibilities will be implemented on activation of the H<sub>2</sub>S siren and lights.

### **All Personnel:**

1. On alarm, don escape unit (if available) and report to upwind briefing area.

### **Rig Manager/Tool Pusher:**

1. Check that all personnel are accounted for and their condition.
2. Administer or arrange for first aid treatment, and/or call EMTs as needed.
3. Identify two people best suited to secure well and perform rescue, and instruct them to don SCBA.
4. Notify Contract management and Kaiser-Francis Representative.
5. Remain at the briefing area, assess and monitor personnel and overall situation for hazards or conditions that might warrant a change in the action plan.

### **Two People Responsible for Shut-in and Rescue:**

1. Don SCBA and acquire tools to secure well and perform rescue, i.e., wrenches, retrieval ropes, etc.
2. Utilize the buddy system to secure well and perform rescue(s).
3. Return to the briefing area and stand by for further instructions.

### **All Other Personnel:**

1. Isolate the area and prevent entry by other persons into the 100 ppm ROE. Additionally the first responder(s) must evacuate any public places encompassed by the 100 ppm ROE. First responder(s) must take care not to injure themselves during this operation. Company and/or local officials must be contacted to aid in this operation. Evacuation of the public should be beyond the 100 ppm ROE.

### **Kaiser-Francis Oil Company Representative:**

1. Remain at the briefing area, assess and monitor personnel and overall situation for hazards or conditions that might warrant a change in the action plan.
2. Notify company management or Local Incident Commander, and Police, Fire Department, or other local emergency services as required.

#### **PROCEDURE FOR IGNITING AN UNCONTROLLABLE CONDITION:**

Should control of the well be considered lost and ignition considered, take care to protect against exposure to Sulfur Dioxide (SO<sub>2</sub>). Intentional ignition must be coordinated with the NMOCD and local officials. Additionally the NM State Police shall be the Incident Command of any major release.

The decision to ignite a well should be a last resort and one if not both of the following pertain.

- 1) Human life and/or property are in danger.
- 2) There is no hope of bringing the situation under control with the prevailing conditions at the site.

#### **INSTRUCTIONS FOR IGNITION:**

- 1) Two people are required. They must be equipped with positive pressure; self contained breathing apparatus and a "D"-ring style, full body, OSHA approved safety harness. Non-flammable rope will be attached.
- 2) One of the people will be a qualified safety person who will test the atmosphere for H<sub>2</sub>S, Oxygen, & LFL. The other person will be the company supervisor; he is responsible for igniting the well.
- 3) Ignite up-wind from a distance no closer than necessary. Make sure that where you ignite from has the maximum escape avenue available. A 25mm flare gun shall be used, with a +/-500' range to ignite the gas.
- 4) Prior to ignition, make a final check for combustible gases.
- 5) Following ignition, continue with the emergency actions & procedures as before.

#### **CONTACTING AUTHORITIES**

Kaiser-Francis personnel must liaison with local and state agencies to ensure a proper response to a major release. Additionally, the OCD must be notified of the release as soon as possible but no later than 4 hours. Agencies will ask for information such as type and volume of release, wind direction, location of release, etc. Be prepared with all information available. The following call list of essential and potential responders has been prepared for use during a release. This response plan must be in coordination with the State of New Mexico's 'Hazardous Materials Emergency Response Plan' (HMER).

EMERGENCY CALL LIST: (Start and continue until ONE of these people have been reached)

	<u>OFFICE</u>	<u>MOBILE</u>
Kaiser-Francis Oil Co.	918/494-0000	
Bill Wilkinson	580/668-2335	580/221-4637
David Zerger	918/491-4350	918/557-6708
Charles Lock	918/491-4337	918/671-6510
Stuart Blake	918/491-4347	918/510-4126
Robert Sanford	918/491-4201	918/770-2682
Eric Hansen	918/491-4339	918/527-5260

EMERGENCY RESPONSE NUMBERS: Lea County, New Mexico

State Police – Artesia	575/748-9718
State Police – Hobbs	575/392-5580
State Police – Carlsbad	575/885-3138
Lea County Sheriff - Lovington	575/396-3611
Local Emergency Planning Center – Lea County	575/396-8607
Local Emergency Planning Center – Eddy County	575/885-3581
Fire Fighting, Rescue & Ambulance – Carlsbad	911 or 575/885-3125
Fire Fighting, Rescue & Ambulance – Hobbs	911 or 575/397-9308
Fire Fighting – Jal Volunteer Fire Department	911 or 505/395-2221
New Mexico Oil & Gas Commission – Artesia	575/748-1283
New Mexico Oil & Gas Commission – Hobbs	575/393-6161
Air Medical Transport Services – Hobbs	800/550-1025
Med Flight Air Ambulance – Albuquerque	505/842-4433
Angel MedFlight	844/553-9033
DXP	432/580-3770
BJ Services	575/392-5556
Halliburton	575/392-6531 800/844-8451

## PROTECTION OF THE GENERAL PUBLIC/ROE:

In the event of a release with a concentration greater than 100 ppm H<sub>2</sub>S, the ROE (Radius of Exposure) calculations will be done to determine if the following conditions have been met:

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

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

### **Calculation for the 100 ppm ROE:**

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

(H<sub>2</sub>S concentrations in decimal form)  
10,000 ppm +=1.+  
1,000 ppm +=.1+  
100 ppm +=.01+  
10 ppm +=.001+

### **Calculation for the 500 ppm ROE:**

$$X+[(0.4546)(\text{concentration})(Q)]^{(0.6258)}$$

EXAMPLE: If a well/facility has been determined to have 150 ppm H<sub>2</sub>S in the gas mixture and the well/facility is producing at a gas rate of 200 MCFPD then:

ROE for 100 PPM  $X=[(1.589)(.0150)(200)]^{(0.6258)}$

$$X=2.65'$$

ROE for 500 PPM  $X=[(.4546)(.0150)(200)]^{(0.6258)}$

$$X=1.2'$$

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

## PUBLIC EVACUATION PLAN:

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

- 1) Notification of the emergency response agencies of the hazardous condition and Implement evacuation procedures.
- 2) A trained person in H<sub>2</sub>S safety, shall monitor with detection equipment the H<sub>2</sub>S Concentration, wind and area of exposure (ROE). This person will determine the outer perimeter of the hazardous area. The extent of the evacuation area will be determined from the data being collected. Monitoring shall continue until the situation has been resolved. **(All monitoring equipment will be UL approved, for use in class I groups A,B,C & D, Division I, hazardous locations. All monitors will have a minimum capability of measuring H<sub>2</sub>S, oxygen, and flammable values.)**
- 3) Law enforcement shall be notified to set up necessary barriers and maintain such for the duration of the situation as well as aid in the evacuation procedure.
- 4) The company supervising personnel shall stay in communication with all agencies through out the duration of the situation and inform such agencies when the situation has been contained and the effected area(s) is safe to enter.

### **CHARACTERISTICS OF H<sub>2</sub>S AND SO<sub>2</sub>**

Common Name	Chemical Formula	Specific Gravity	Threshold Limit	Hazardous Limit	Lethal Concentration
Hydrogen Sulfide	H <sub>2</sub> S	1.189 Air = 1	10 ppm	100 ppm	600 ppm
Sulfur Dioxide	SO <sub>2</sub>	2.21 Air = 1	2 ppm	N/A	1000 ppm

### **TRAINING:**

All responders must have training in the detection of H<sub>2</sub>S measures for protection against the gas, equipment used for protection and emergency response. Weekly drills by all crews will be conducted and recorded in the IADC daily log. Additionally, responders must be equipped with H<sub>2</sub>S monitors at all times.

### **PUBLIC RELATIONS**

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

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

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





## **Kaiser Francis**

**Bell Lake Unit North 419H**  
**Bell Lake Unit North 419H**  
**Bell Lake Unit North 419H**  
**Bell Lake Unit North 419H**

**Plan: 191213 Bell Lake Unit North 419H**

## **Morcor Standard Plan**

**13 December, 2019**

**Morcor Engineering**  
Morcor Standard Plan



<b>Company:</b>	Kaiser Francis	<b>Local Co-ordinate Reference:</b>	Well Bell Lake Unit North 419H
<b>Project:</b>	Bell Lake Unit North 419H	<b>TVD Reference:</b>	WELL @ 3550.5usft (Original Well Elev)
<b>Site:</b>	Bell Lake Unit North 419H	<b>MD Reference:</b>	WELL @ 3550.5usft (Original Well Elev)
<b>Well:</b>	Bell Lake Unit North 419H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Bell Lake Unit North 419H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	191213 Bell Lake Unit North 419H	<b>Database:</b>	EDM 5000.1 Single User Db

<b>Project</b>	Bell Lake Unit North 419H		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	New Mexico Eastern Zone		

<b>Site</b>	Bell Lake Unit North 419H		
<b>Site Position:</b>		<b>Northing:</b>	485,427.10 usft
<b>From:</b>	Map	<b>Easting:</b>	788,408.75 usft
<b>Position Uncertainty:</b>	1.0 usft	<b>Slot Radius:</b>	17-1/2 "
		<b>Latitude:</b>	32° 19' 55.110 N
		<b>Longitude:</b>	103° 32' 0.291 W
		<b>Grid Convergence:</b>	0.43 °

<b>Well</b>	Bell Lake Unit North 419H		
<b>Well Position</b>	<b>+N/-S</b>	0.0 usft	<b>Northing:</b>
	<b>+E/-W</b>	0.0 usft	<b>Easting:</b>
<b>Position Uncertainty</b>	1.0 usft		<b>Wellhead Elevation:</b>
			usft
			<b>Latitude:</b>
			32° 19' 55.110 N
			<b>Longitude:</b>
			103° 32' 0.291 W
			<b>Ground Level:</b>
			3,528.5 usft

<b>Wellbore</b>	Bell Lake Unit North 419H				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	12/13/2019	6.52	60.07	47,834

<b>Design</b>	191213 Bell Lake Unit North 419H			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	359.37

<b>Survey Tool Program</b>	<b>Date</b>	12/13/2019			
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
0.0	20,068.8	191213 Bell Lake Unit North 419H (Bell La	MWD	MWD - Standard	

**Morcor Engineering**  
Morcor Standard Plan



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<b>Well:</b>	Bell Lake Unit North 419H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Bell Lake Unit North 419H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	191213 Bell Lake Unit North 419H	<b>Database:</b>	EDM 5000.1 Single User Db

Planned Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	Easting (usft)	Northing (usft)	V. Sec (usft)	DLeg (°/100usft)	
0.0	0.00	0.00	0.0	-3,550.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
100.0	0.00	0.00	100.0	-3,450.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
120.0	0.00	0.00	120.0	-3,430.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
20" Conductor											
200.0	0.00	0.00	200.0	-3,350.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
300.0	0.00	0.00	300.0	-3,250.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
400.0	0.00	0.00	400.0	-3,150.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
500.0	0.00	0.00	500.0	-3,050.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
600.0	0.00	0.00	600.0	-2,950.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
700.0	0.00	0.00	700.0	-2,850.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
800.0	0.00	0.00	800.0	-2,750.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
900.0	0.00	0.00	900.0	-2,650.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
1,000.0	0.00	0.00	1,000.0	-2,550.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
1,100.0	0.00	0.00	1,100.0	-2,450.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
1,200.0	0.00	0.00	1,200.0	-2,350.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
1,248.0	0.00	0.00	1,248.0	-2,302.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
Rustler											
1,300.0	0.00	0.00	1,300.0	-2,250.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
1,400.0	0.00	0.00	1,400.0	-2,150.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
1,500.0	0.00	0.00	1,500.0	-2,050.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
1,600.0	0.00	0.00	1,600.0	-1,950.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
10 3/4" Surface Casing											
1,645.0	0.00	0.00	1,645.0	-1,905.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
Salado											
1,700.0	0.00	0.00	1,700.0	-1,850.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
1,800.0	0.00	0.00	1,800.0	-1,750.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
1,900.0	0.00	0.00	1,900.0	-1,650.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	

**Morcor Engineering**  
Morcor Standard Plan



<b>Company:</b>	Kaiser Francis	<b>Local Co-ordinate Reference:</b>	Well Bell Lake Unit North 419H
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<b>Well:</b>	Bell Lake Unit North 419H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Bell Lake Unit North 419H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	191213 Bell Lake Unit North 419H	<b>Database:</b>	EDM 5000.1 Single User Db

Planned Survey										
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	Easting (usft)	Northing (usft)	V. Sec (usft)	DLeg (°/100usft)
1,972.0	0.00	0.00	1,972.0	-1,578.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00
Top of Salt										
2,000.0	0.00	0.00	2,000.0	-1,550.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00
2,100.0	0.00	0.00	2,100.0	-1,450.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00
2,200.0	0.00	0.00	2,200.0	-1,350.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00
2,300.0	0.00	0.00	2,300.0	-1,250.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00
2,400.0	0.00	0.00	2,400.0	-1,150.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00
2,500.0	0.00	0.00	2,500.0	-1,050.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00
2,600.0	0.00	0.00	2,600.0	-950.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00
2,700.0	0.00	0.00	2,700.0	-850.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00
2,800.0	0.00	0.00	2,800.0	-750.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00
2,900.0	0.00	0.00	2,900.0	-650.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00
3,000.0	0.00	0.00	3,000.0	-550.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00
3,100.0	0.00	0.00	3,100.0	-450.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00
3,200.0	0.00	0.00	3,200.0	-350.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00
3,300.0	0.00	0.00	3,300.0	-250.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00
3,400.0	0.00	0.00	3,400.0	-150.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00
3,500.0	0.00	0.00	3,500.0	-50.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00
3,600.0	0.00	0.00	3,600.0	49.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00
3,700.0	0.00	0.00	3,700.0	149.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00
3,800.0	0.00	0.00	3,800.0	249.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00
3,900.0	0.00	0.00	3,900.0	349.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00
4,000.0	0.00	0.00	4,000.0	449.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00
4,100.0	0.00	0.00	4,100.0	549.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00
4,200.0	0.00	0.00	4,200.0	649.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00
4,300.0	0.00	0.00	4,300.0	749.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00
4,400.0	0.00	0.00	4,400.0	849.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00

**Morcor Engineering**  
Morcor Standard Plan



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<b>Wellbore:</b>	Bell Lake Unit North 419H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	191213 Bell Lake Unit North 419H	<b>Database:</b>	EDM 5000.1 Single User Db

Planned Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	Easting (usft)	Northing (usft)	V. Sec (usft)	DLeg (°/100usft)	
4,500.0	0.00	0.00	4,500.0	949.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
4,600.0	0.00	0.00	4,600.0	1,049.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
4,700.0	0.00	0.00	4,700.0	1,149.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
4,800.0	0.00	0.00	4,800.0	1,249.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
4,900.0	0.00	0.00	4,900.0	1,349.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
4,972.0	0.00	0.00	4,972.0	1,421.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
Base of Salt											
5,000.0	0.00	0.00	5,000.0	1,449.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
5,100.0	0.00	0.00	5,100.0	1,549.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
5,200.0	0.00	0.00	5,200.0	1,649.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
5,222.0	0.00	0.00	5,222.0	1,671.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
Lamar											
5,300.0	0.00	0.00	5,300.0	1,749.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
5,400.0	0.00	0.00	5,400.0	1,849.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
5,500.0	0.00	0.00	5,500.0	1,949.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
5,522.0	0.00	0.00	5,522.0	1,971.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
Bell Canyon											
5,600.0	0.00	0.00	5,600.0	2,049.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
5,700.0	0.00	0.00	5,700.0	2,149.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
5,800.0	0.00	0.00	5,800.0	2,249.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
5,900.0	0.00	0.00	5,900.0	2,349.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
6,000.0	0.00	0.00	6,000.0	2,449.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
6,100.0	0.00	0.00	6,100.0	2,549.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
6,200.0	0.00	0.00	6,200.0	2,649.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
6,300.0	0.00	0.00	6,300.0	2,749.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
6,400.0	0.00	0.00	6,400.0	2,849.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
6,500.0	0.00	0.00	6,500.0	2,949.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	

**Morcor Engineering**  
Morcor Standard Plan



<b>Company:</b>	Kaiser Francis	<b>Local Co-ordinate Reference:</b>	Well Bell Lake Unit North 419H
<b>Project:</b>	Bell Lake Unit North 419H	<b>TVD Reference:</b>	WELL @ 3550.5usft (Original Well Elev)
<b>Site:</b>	Bell Lake Unit North 419H	<b>MD Reference:</b>	WELL @ 3550.5usft (Original Well Elev)
<b>Well:</b>	Bell Lake Unit North 419H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Bell Lake Unit North 419H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	191213 Bell Lake Unit North 419H	<b>Database:</b>	EDM 5000.1 Single User Db

Planned Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	Easting (usft)	Northing (usft)	V. Sec (usft)	DLeg (°/100usft)	
6,600.0	0.00	0.00	6,600.0	3,049.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
6,700.0	0.00	0.00	6,700.0	3,149.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
6,722.0	0.00	0.00	6,722.0	3,171.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
Cherry Canyon											
6,800.0	0.00	0.00	6,800.0	3,249.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
6,900.0	0.00	0.00	6,900.0	3,349.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
7,000.0	0.00	0.00	7,000.0	3,449.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
7,100.0	0.00	0.00	7,100.0	3,549.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
7,200.0	0.00	0.00	7,200.0	3,649.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
7,300.0	0.00	0.00	7,300.0	3,749.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
7,400.0	0.00	0.00	7,400.0	3,849.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
7,500.0	0.00	0.00	7,500.0	3,949.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
7,600.0	0.00	0.00	7,600.0	4,049.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
7,700.0	0.00	0.00	7,700.0	4,149.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
7,800.0	0.00	0.00	7,800.0	4,249.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
7,900.0	0.00	0.00	7,900.0	4,349.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
8,000.0	0.00	0.00	8,000.0	4,449.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
8,100.0	0.00	0.00	8,100.0	4,549.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
8,200.0	0.00	0.00	8,200.0	4,649.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
8,300.0	0.00	0.00	8,300.0	4,749.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
8,400.0	0.00	0.00	8,400.0	4,849.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
8,423.0	0.00	0.00	8,423.0	4,872.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
Brushy Canyon											
8,500.0	0.00	0.00	8,500.0	4,949.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
8,600.0	0.00	0.00	8,600.0	5,049.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
8,647.0	0.00	0.00	8,647.0	5,096.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
Bone Spring											

**Morcor Engineering**  
Morcor Standard Plan



<b>Company:</b>	Kaiser Francis	<b>Local Co-ordinate Reference:</b>	Well Bell Lake Unit North 419H
<b>Project:</b>	Bell Lake Unit North 419H	<b>TVD Reference:</b>	WELL @ 3550.5usft (Original Well Elev)
<b>Site:</b>	Bell Lake Unit North 419H	<b>MD Reference:</b>	WELL @ 3550.5usft (Original Well Elev)
<b>Well:</b>	Bell Lake Unit North 419H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Bell Lake Unit North 419H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	191213 Bell Lake Unit North 419H	<b>Database:</b>	EDM 5000.1 Single User Db

Planned Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	Easting (usft)	Northing (usft)	V. Sec (usft)	DLeg (°/100usft)	
8,700.0	0.00	0.00	8,700.0	5,149.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
8,800.0	0.00	0.00	8,800.0	5,249.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
8,900.0	0.00	0.00	8,900.0	5,349.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
9,000.0	0.00	0.00	9,000.0	5,449.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
9,010.0	0.00	0.00	9,010.0	5,459.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
Avalon											
9,100.0	0.00	0.00	9,100.0	5,549.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
9,200.0	0.00	0.00	9,200.0	5,649.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
9,300.0	0.00	0.00	9,300.0	5,749.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
9,400.0	0.00	0.00	9,400.0	5,849.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
9,500.0	0.00	0.00	9,500.0	5,949.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
9,600.0	0.00	0.00	9,600.0	6,049.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
9,700.0	0.00	0.00	9,700.0	6,149.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
9,800.0	0.00	0.00	9,800.0	6,249.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
9,900.0	0.00	0.00	9,900.0	6,349.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
9,998.0	0.00	0.00	9,998.0	6,447.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
1st BS Sand											
10,000.0	0.00	0.00	10,000.0	6,449.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
10,100.0	0.00	0.00	10,100.0	6,549.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
10,200.0	0.00	0.00	10,200.0	6,649.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
10,300.0	0.00	0.00	10,300.0	6,749.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
10,400.0	0.00	0.00	10,400.0	6,849.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
10,500.0	0.00	0.00	10,500.0	6,949.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
10,523.0	0.00	0.00	10,523.0	6,972.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
2nd BS Sand											
10,600.0	0.00	0.00	10,600.0	7,049.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	
10,700.0	0.00	0.00	10,700.0	7,149.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00	



**Morcor Engineering**  
Morcor Standard Plan



<b>Company:</b>	Kaiser Francis	<b>Local Co-ordinate Reference:</b>	Well Bell Lake Unit North 419H
<b>Project:</b>	Bell Lake Unit North 419H	<b>TVD Reference:</b>	WELL @ 3550.5usft (Original Well Elev)
<b>Site:</b>	Bell Lake Unit North 419H	<b>MD Reference:</b>	WELL @ 3550.5usft (Original Well Elev)
<b>Well:</b>	Bell Lake Unit North 419H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Bell Lake Unit North 419H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	191213 Bell Lake Unit North 419H	<b>Database:</b>	EDM 5000.1 Single User Db

Planned Survey										
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	Easting (usft)	Northing (usft)	V. Sec (usft)	DLeg (°/100usft)
10,800.0	0.00	0.00	10,800.0	7,249.5	0.0	0.0	788,408.75	485,427.10	0.00	0.00
<b>Start Build 3.00</b>										
10,900.0	3.00	220.00	10,900.0	7,349.5	-2.0	-1.7	788,407.07	485,425.09	-1.99	3.00
11,000.0	6.00	220.00	10,999.6	7,449.1	-8.0	-6.7	788,402.02	485,419.09	-7.94	3.00
<b>Start 200.0 hold at 11000.0 MD</b>										
11,048.6	6.00	220.00	11,048.0	7,497.5	-11.9	-10.0	788,398.76	485,415.19	-11.80	0.00
<b>3rd BS Lime</b>										
11,100.0	6.00	220.00	11,099.1	7,548.6	-16.0	-13.4	788,395.31	485,411.08	-15.87	0.00
11,200.0	6.00	220.00	11,198.5	7,648.0	-24.0	-20.2	788,388.59	485,403.07	-23.81	0.00
<b>Start Drop -3.00</b>										
11,300.0	3.00	220.00	11,298.2	7,747.7	-30.0	-25.2	788,383.54	485,397.06	-29.76	3.00
11,379.8	0.61	220.00	11,378.0	7,827.5	-32.0	-26.8	788,381.93	485,395.14	-31.67	3.00
<b>7 5/8" Intermediate Casing</b>										
11,400.0	0.00	0.00	11,398.2	7,847.7	-32.0	-26.9	788,381.86	485,395.06	-31.75	3.00
<b>Start 100.0 hold at 11400.0 MD</b>										
11,500.0	0.00	0.00	11,498.2	7,947.7	-32.0	-26.9	788,381.86	485,395.06	-31.75	0.00
<b>Start Build 10.02</b>										
11,575.0	7.52	359.57	11,573.0	8,022.5	-27.1	-26.9	788,381.83	485,399.97	-26.83	10.02
<b>3rd BS Sand</b>										
11,600.0	10.02	359.57	11,597.7	8,047.2	-23.3	-27.0	788,381.80	485,403.78	-23.02	10.02
11,700.0	20.04	359.57	11,694.1	8,143.6	2.6	-27.1	788,381.60	485,429.68	2.87	10.02
11,800.0	30.06	359.57	11,784.6	8,234.1	44.9	-27.5	788,381.29	485,471.96	45.16	10.02
11,900.0	40.08	359.57	11,866.3	8,315.8	102.2	-27.9	788,380.86	485,529.35	102.55	10.02
11,908.8	40.96	359.57	11,873.0	8,322.5	107.9	-27.9	788,380.82	485,535.04	108.24	10.02
<b>Wolfcamp</b>										
12,000.0	50.10	359.57	11,936.8	8,386.3	173.0	-28.4	788,380.34	485,600.08	173.28	10.02
12,100.0	60.12	359.57	11,994.0	8,443.5	254.9	-29.0	788,379.73	485,681.99	255.20	10.02
12,200.0	70.14	359.57	12,036.0	8,485.5	345.5	-29.7	788,379.06	485,772.60	345.81	10.02
12,300.0	80.16	359.57	12,061.6	8,511.1	442.0	-30.4	788,378.34	485,869.14	442.35	10.02

**Morcor Engineering**  
Morcor Standard Plan



<b>Company:</b>	Kaiser Francis	<b>Local Co-ordinate Reference:</b>	Well Bell Lake Unit North 419H
<b>Project:</b>	Bell Lake Unit North 419H	<b>TVD Reference:</b>	WELL @ 3550.5usft (Original Well Elev)
<b>Site:</b>	Bell Lake Unit North 419H	<b>MD Reference:</b>	WELL @ 3550.5usft (Original Well Elev)
<b>Well:</b>	Bell Lake Unit North 419H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Bell Lake Unit North 419H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	191213 Bell Lake Unit North 419H	<b>Database:</b>	EDM 5000.1 Single User Db

Planned Survey										
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	Easting (usft)	Northing (usft)	V. Sec (usft)	DLeg (°/100usft)
12,369.5	87.13	359.57	12,069.3	8,518.8	511.1	-30.9	788,377.83	485,938.17	511.38	10.02
Start DLS 1.93 TFO -0.32										
12,400.0	87.71	359.57	12,070.6	8,520.1	541.5	-31.2	788,377.60	485,968.63	541.84	1.93
12,500.0	89.64	359.56	12,072.9	8,522.4	641.5	-31.9	788,376.84	486,068.60	641.81	1.93
12,518.5	90.00	359.56	12,073.0	8,522.5	660.0	-32.1	788,376.70	486,087.06	660.27	1.93
Start 7550.3 hold at 12518.5 MD										
12,600.0	90.00	359.56	12,073.0	8,522.5	741.5	-32.7	788,376.07	486,168.60	741.81	0.00
12,700.0	90.00	359.56	12,073.0	8,522.5	841.5	-33.4	788,375.30	486,268.59	841.81	0.00
12,800.0	90.00	359.56	12,073.0	8,522.5	941.5	-34.2	788,374.53	486,368.59	941.81	0.00
12,900.0	90.00	359.56	12,073.0	8,522.5	1,041.5	-35.0	788,373.76	486,468.59	1,041.81	0.00
13,000.0	90.00	359.56	12,073.0	8,522.5	1,141.5	-35.8	788,372.99	486,568.58	1,141.81	0.00
13,100.0	90.00	359.56	12,073.0	8,522.5	1,241.5	-36.5	788,372.22	486,668.58	1,241.81	0.00
13,200.0	90.00	359.56	12,073.0	8,522.5	1,341.5	-37.3	788,371.45	486,768.58	1,341.81	0.00
13,300.0	90.00	359.56	12,073.0	8,522.5	1,441.5	-38.1	788,370.68	486,868.58	1,441.81	0.00
13,400.0	90.00	359.56	12,073.0	8,522.5	1,541.5	-38.8	788,369.90	486,968.57	1,541.81	0.00
13,500.0	90.00	359.56	12,073.0	8,522.5	1,641.5	-39.6	788,369.13	487,068.57	1,641.81	0.00
13,600.0	90.00	359.56	12,073.0	8,522.5	1,741.5	-40.4	788,368.36	487,168.57	1,741.81	0.00
13,700.0	90.00	359.56	12,073.0	8,522.5	1,841.5	-41.2	788,367.59	487,268.56	1,841.81	0.00
13,800.0	90.00	359.56	12,073.0	8,522.5	1,941.5	-41.9	788,366.82	487,368.56	1,941.80	0.00
13,900.0	90.00	359.56	12,073.0	8,522.5	2,041.5	-42.7	788,366.05	487,468.56	2,041.80	0.00
14,000.0	90.00	359.56	12,073.0	8,522.5	2,141.5	-43.5	788,365.28	487,568.56	2,141.80	0.00
14,100.0	90.00	359.56	12,073.0	8,522.5	2,241.5	-44.2	788,364.51	487,668.55	2,241.80	0.00
14,200.0	90.00	359.56	12,073.0	8,522.5	2,341.4	-45.0	788,363.74	487,768.55	2,341.80	0.00
14,300.0	90.00	359.56	12,073.0	8,522.5	2,441.4	-45.8	788,362.97	487,868.55	2,441.80	0.00
14,400.0	90.00	359.56	12,073.0	8,522.5	2,541.4	-46.6	788,362.20	487,968.54	2,541.80	0.00
14,500.0	90.00	359.56	12,073.0	8,522.5	2,641.4	-47.3	788,361.43	488,068.54	2,641.80	0.00
14,600.0	90.00	359.56	12,073.0	8,522.5	2,741.4	-48.1	788,360.65	488,168.54	2,741.80	0.00

**Morcor Engineering**  
Morcor Standard Plan



<b>Company:</b>	Kaiser Francis	<b>Local Co-ordinate Reference:</b>	Well Bell Lake Unit North 419H
<b>Project:</b>	Bell Lake Unit North 419H	<b>TVD Reference:</b>	WELL @ 3550.5usft (Original Well Elev)
<b>Site:</b>	Bell Lake Unit North 419H	<b>MD Reference:</b>	WELL @ 3550.5usft (Original Well Elev)
<b>Well:</b>	Bell Lake Unit North 419H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Bell Lake Unit North 419H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	191213 Bell Lake Unit North 419H	<b>Database:</b>	EDM 5000.1 Single User Db

Planned Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	Easting (usft)	Northing (usft)	V. Sec (usft)	DLeg (°/100usft)	
14,700.0	90.00	359.56	12,073.0	8,522.5	2,841.4	-48.9	788,359.88	488,268.53	2,841.80	0.00	
14,800.0	90.00	359.56	12,073.0	8,522.5	2,941.4	-49.6	788,359.11	488,368.53	2,941.80	0.00	
14,900.0	90.00	359.56	12,073.0	8,522.5	3,041.4	-50.4	788,358.34	488,468.53	3,041.80	0.00	
15,000.0	90.00	359.56	12,073.0	8,522.5	3,141.4	-51.2	788,357.57	488,568.53	3,141.80	0.00	
15,100.0	90.00	359.56	12,073.0	8,522.5	3,241.4	-51.9	788,356.80	488,668.52	3,241.80	0.00	
15,200.0	90.00	359.56	12,073.0	8,522.5	3,341.4	-52.7	788,356.03	488,768.52	3,341.80	0.00	
15,300.0	90.00	359.56	12,073.0	8,522.5	3,441.4	-53.5	788,355.26	488,868.52	3,441.80	0.00	
15,400.0	90.00	359.56	12,073.0	8,522.5	3,541.4	-54.3	788,354.49	488,968.51	3,541.80	0.00	
15,500.0	90.00	359.56	12,073.0	8,522.5	3,641.4	-55.0	788,353.72	489,068.51	3,641.80	0.00	
15,600.0	90.00	359.56	12,073.0	8,522.5	3,741.4	-55.8	788,352.95	489,168.51	3,741.80	0.00	
15,700.0	90.00	359.56	12,073.0	8,522.5	3,841.4	-56.6	788,352.18	489,268.50	3,841.79	0.00	
15,800.0	90.00	359.56	12,073.0	8,522.5	3,941.4	-57.3	788,351.40	489,368.50	3,941.79	0.00	
15,900.0	90.00	359.56	12,073.0	8,522.5	4,041.4	-58.1	788,350.63	489,468.50	4,041.79	0.00	
16,000.0	90.00	359.56	12,073.0	8,522.5	4,141.4	-58.9	788,349.86	489,568.50	4,141.79	0.00	
16,100.0	90.00	359.56	12,073.0	8,522.5	4,241.4	-59.7	788,349.09	489,668.49	4,241.79	0.00	
16,200.0	90.00	359.56	12,073.0	8,522.5	4,341.4	-60.4	788,348.32	489,768.49	4,341.79	0.00	
16,300.0	90.00	359.56	12,073.0	8,522.5	4,441.4	-61.2	788,347.55	489,868.49	4,441.79	0.00	
16,400.0	90.00	359.56	12,073.0	8,522.5	4,541.4	-62.0	788,346.78	489,968.48	4,541.79	0.00	
16,500.0	90.00	359.56	12,073.0	8,522.5	4,641.4	-62.7	788,346.01	490,068.48	4,641.79	0.00	
16,600.0	90.00	359.56	12,073.0	8,522.5	4,741.4	-63.5	788,345.24	490,168.48	4,741.79	0.00	
16,700.0	90.00	359.56	12,073.0	8,522.5	4,841.4	-64.3	788,344.47	490,268.47	4,841.79	0.00	
16,800.0	90.00	359.56	12,073.0	8,522.5	4,941.4	-65.1	788,343.70	490,368.47	4,941.79	0.00	
16,900.0	90.00	359.56	12,073.0	8,522.5	5,041.4	-65.8	788,342.93	490,468.47	5,041.79	0.00	
17,000.0	90.00	359.56	12,073.0	8,522.5	5,141.4	-66.6	788,342.16	490,568.47	5,141.79	0.00	
17,100.0	90.00	359.56	12,073.0	8,522.5	5,241.4	-67.4	788,341.38	490,668.46	5,241.79	0.00	
17,200.0	90.00	359.56	12,073.0	8,522.5	5,341.4	-68.1	788,340.61	490,768.46	5,341.79	0.00	
17,300.0	90.00	359.56	12,073.0	8,522.5	5,441.4	-68.9	788,339.84	490,868.46	5,441.79	0.00	

**Morcor Engineering**  
Morcor Standard Plan



<b>Company:</b>	Kaiser Francis	<b>Local Co-ordinate Reference:</b>	Well Bell Lake Unit North 419H
<b>Project:</b>	Bell Lake Unit North 419H	<b>TVD Reference:</b>	WELL @ 3550.5usft (Original Well Elev)
<b>Site:</b>	Bell Lake Unit North 419H	<b>MD Reference:</b>	WELL @ 3550.5usft (Original Well Elev)
<b>Well:</b>	Bell Lake Unit North 419H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Bell Lake Unit North 419H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	191213 Bell Lake Unit North 419H	<b>Database:</b>	EDM 5000.1 Single User Db

Planned Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	Easting (usft)	Northing (usft)	V. Sec (usft)	DLeg (°/100usft)	
17,400.0	90.00	359.56	12,073.0	8,522.5	5,541.4	-69.7	788,339.07	490,968.45	5,541.79	0.00	
17,500.0	90.00	359.56	12,073.0	8,522.5	5,641.4	-70.4	788,338.30	491,068.45	5,641.78	0.00	
17,600.0	90.00	359.56	12,073.0	8,522.5	5,741.3	-71.2	788,337.53	491,168.45	5,741.78	0.00	
17,700.0	90.00	359.56	12,073.0	8,522.5	5,841.3	-72.0	788,336.76	491,268.45	5,841.78	0.00	
17,800.0	90.00	359.56	12,073.0	8,522.5	5,941.3	-72.8	788,335.99	491,368.44	5,941.78	0.00	
17,900.0	90.00	359.56	12,073.0	8,522.5	6,041.3	-73.5	788,335.22	491,468.44	6,041.78	0.00	
18,000.0	90.00	359.56	12,073.0	8,522.5	6,141.3	-74.3	788,334.45	491,568.44	6,141.78	0.00	
18,100.0	90.00	359.56	12,073.0	8,522.5	6,241.3	-75.1	788,333.68	491,668.43	6,241.78	0.00	
18,200.0	90.00	359.56	12,073.0	8,522.5	6,341.3	-75.8	788,332.91	491,768.43	6,341.78	0.00	
18,300.0	90.00	359.56	12,073.0	8,522.5	6,441.3	-76.6	788,332.13	491,868.43	6,441.78	0.00	
18,400.0	90.00	359.56	12,073.0	8,522.5	6,541.3	-77.4	788,331.36	491,968.42	6,541.78	0.00	
18,500.0	90.00	359.56	12,073.0	8,522.5	6,641.3	-78.2	788,330.59	492,068.42	6,641.78	0.00	
18,600.0	90.00	359.56	12,073.0	8,522.5	6,741.3	-78.9	788,329.82	492,168.42	6,741.78	0.00	
18,700.0	90.00	359.56	12,073.0	8,522.5	6,841.3	-79.7	788,329.05	492,268.42	6,841.78	0.00	
18,800.0	90.00	359.56	12,073.0	8,522.5	6,941.3	-80.5	788,328.28	492,368.41	6,941.78	0.00	
18,900.0	90.00	359.56	12,073.0	8,522.5	7,041.3	-81.2	788,327.51	492,468.41	7,041.78	0.00	
19,000.0	90.00	359.56	12,073.0	8,522.5	7,141.3	-82.0	788,326.74	492,568.41	7,141.78	0.00	
19,100.0	90.00	359.56	12,073.0	8,522.5	7,241.3	-82.8	788,325.97	492,668.40	7,241.78	0.00	
19,200.0	90.00	359.56	12,073.0	8,522.5	7,341.3	-83.6	788,325.20	492,768.40	7,341.78	0.00	
19,300.0	90.00	359.56	12,073.0	8,522.5	7,441.3	-84.3	788,324.43	492,868.40	7,441.78	0.00	
19,400.0	90.00	359.56	12,073.0	8,522.5	7,541.3	-85.1	788,323.66	492,968.39	7,541.77	0.00	
19,500.0	90.00	359.56	12,073.0	8,522.5	7,641.3	-85.9	788,322.88	493,068.39	7,641.77	0.00	
19,600.0	90.00	359.56	12,073.0	8,522.5	7,741.3	-86.6	788,322.11	493,168.39	7,741.77	0.00	
19,700.0	90.00	359.56	12,073.0	8,522.5	7,841.3	-87.4	788,321.34	493,268.39	7,841.77	0.00	
19,800.0	90.00	359.56	12,073.0	8,522.5	7,941.3	-88.2	788,320.57	493,368.38	7,941.77	0.00	
19,900.0	90.00	359.56	12,073.0	8,522.5	8,041.3	-88.9	788,319.80	493,468.38	8,041.77	0.00	
20,000.0	90.00	359.56	12,073.0	8,522.5	8,141.3	-89.7	788,319.03	493,568.38	8,141.77	0.00	

**Morcor Engineering**  
Morcor Standard Plan



<b>Company:</b>	Kaiser Francis	<b>Local Co-ordinate Reference:</b>	Well Bell Lake Unit North 419H
<b>Project:</b>	Bell Lake Unit North 419H	<b>TVD Reference:</b>	WELL @ 3550.5usft (Original Well Elev)
<b>Site:</b>	Bell Lake Unit North 419H	<b>MD Reference:</b>	WELL @ 3550.5usft (Original Well Elev)
<b>Well:</b>	Bell Lake Unit North 419H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Bell Lake Unit North 419H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	191213 Bell Lake Unit North 419H	<b>Database:</b>	EDM 5000.1 Single User Db

Planned Survey										
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	Easting (usft)	Northing (usft)	V. Sec (usft)	DLeg (°/100usft)
20,068.8	90.00	359.56	12,073.0	8,522.5	8,210.1	-90.2	788,318.50	493,637.15	8,210.55	0.00
TD at 20068.8										

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
120.0	120.0	20" Conductor	20	26	
1,600.0	1,600.0	10 3/4" Surface Casing	10-3/4	12-1/4	
11,379.8	11,378.0	7 5/8" Intermediate Casing	7-5/8	9-7/8	
20,068.8	12,073.0	5 1/2" Production Casing	5-1/2	6-3/4	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
11,048.6	11,048.0	3rd BS Lime		0.00		
1,645.0	1,645.0	Salado		0.00		
1,248.0	1,248.0	Rustler		0.00		
9,010.0	9,010.0	Avalon		0.00		
9,998.0	9,998.0	1st BS Sand		0.00		
5,522.0	5,522.0	Bell Canyon		0.00		
5,222.0	5,222.0	Lamar		0.00		
8,423.0	8,423.0	Brushy Canyon		0.00		
10,523.0	10,523.0	2nd BS Sand		0.00		
11,575.0	11,573.0	3rd BS Sand		0.00		
6,722.0	6,722.0	Cherry Canyon		0.00		
8,647.0	8,647.0	Bone Spring		0.00		
1,972.0	1,972.0	Top of Salt		0.00		
11,908.8	11,873.0	Wolfcamp		0.00		
4,972.0	4,972.0	Base of Salt		0.00		

**Morcor Engineering**  
Morcor Standard Plan



<b>Company:</b>	Kaiser Francis	<b>Local Co-ordinate Reference:</b>	Well Bell Lake Unit North 419H
<b>Project:</b>	Bell Lake Unit North 419H	<b>TVD Reference:</b>	WELL @ 3550.5usft (Original Well Elev)
<b>Site:</b>	Bell Lake Unit North 419H	<b>MD Reference:</b>	WELL @ 3550.5usft (Original Well Elev)
<b>Well:</b>	Bell Lake Unit North 419H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Bell Lake Unit North 419H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	191213 Bell Lake Unit North 419H	<b>Database:</b>	EDM 5000.1 Single User Db

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
10,800.0	10,800.0	0.0	0.0	Start Build 3.00
11,000.0	10,999.6	-8.0	-6.7	Start 200.0 hold at 11000.0 MD
11,200.0	11,198.5	-24.0	-20.2	Start Drop -3.00
11,400.0	11,398.2	-32.0	-26.9	Start 100.0 hold at 11400.0 MD
11,500.0	11,498.2	-32.0	-26.9	Start Build 10.02
12,369.5	12,069.3	511.1	-30.9	Start DLS 1.93 TFO -0.32
12,518.5	12,073.0	660.0	-32.1	Start 7550.3 hold at 12518.5 MD
20,068.8	12,073.0	8,210.1	-90.2	TD at 20068.8

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

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

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

**OCD - HOBBS**  
**10/06/2020**  
**RECEIVED**

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

<sup>1</sup> API Number <b>30-025-47817</b>	<sup>2</sup> Pool Code <b>98265</b>	<sup>3</sup> Pool Name <b>Ojo Chiso; Wolfcamp, Southwest</b>
<sup>4</sup> Property Code <b>316707</b>	<sup>5</sup> Property Name <b>BELL LAKE UNIT NORTH</b>	<sup>6</sup> Well Number <b>419H</b>
<sup>7</sup> OGRID No. <b>12361</b>	<sup>8</sup> Operator Name <b>KAISER-FRANCIS OIL CO.</b>	<sup>9</sup> Elevation <b>3528.5</b>

<sup>10</sup> Surface Location

UL or lot no. <b>L</b>	Section <b>1</b>	Township <b>23 S</b>	Range <b>33 E</b>	Lot Idn	Feet from the <b>2418</b>	North/South line <b>SOUTH</b>	Feet from the <b>380</b>	East/West line <b>WEST</b>	County <b>LEA</b>
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<sup>11</sup> Bottom Hole Location If Different From Surface

UL or lot no. <b>D</b>	Section <b>36</b>	Township <b>22 S</b>	Range <b>33 E</b>	Lot Idn	Feet from the <b>330</b>	North/South line <b>NORTH</b>	Feet from the <b>350</b>	East/West line <b>WEST</b>	County <b>LEA</b>
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<sup>12</sup> Dedicated Acres <b>480</b>	<sup>13</sup> Joint or Infill	<sup>14</sup> Consolidation Code	<sup>15</sup> Order No. <b>R-14602A</b>
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No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

<p>NW CORNER SEC. 36 LAT. = 32.3554518N LONG. = 103.5346457W</p> <p>NMSP EAST (FT) N = 493965.14 E = 787964.68</p> <p>W/4 CORNER SEC. 36 LAT. = 32.3481909N LONG. = 103.5346090W</p> <p>NMSP EAST (FT) N = 491323.69 E = 787995.70</p> <p>NW CORNER SEC. 1 LAT. = 32.3409374N LONG. = 103.5346038W</p> <p>NMSP EAST (FT) N = 488684.86 E = 788017.01</p> <p>W/4 CORNER SEC. 1 LAT. = 32.3336804N LONG. = 103.5346354W</p> <p>NMSP EAST (FT) N = 486044.69 E = 788026.92</p> <p>SW CORNER SEC. 1 LAT. = 32.3264324N LONG. = 103.5346254W</p> <p>NMSP EAST (FT) N = 483407.85 E = 788049.66</p>	<p>N89°42'02"E 2649.25 FT N89°43'36"E 2640.45 FT</p> <p>N/4 CORNER SEC. 36 LAT. = 32.3554352N LONG. = 103.5260684W</p> <p>NMSP EAST (FT) N = 493637.15 E = 790613.37</p> <p><b>BOTTOM OF HOLE</b> LAT. = 32.3545430N LONG. = 103.5335079W</p> <p>NMSP EAST (FT) N = 493637.15 E = 788318.50</p> <p>NOTE: LATITUDE AND LONGITUDE COORDINATES ARE SHOWN USING THE NORTH AMERICAN DATUM OF 1983 (NAD83). LISTED NEW MEXICO STATE PLANE EAST COORDINATES ARE GRID (NAD83). BASIS OF BEARING AND DISTANCES USED ARE NEW MEXICO STATE PLANE EAST COORDINATES MODIFIED TO THE SURFACE. VERTICAL DATUM NAVD88.</p> <p>N00°26'30"W 7551.64 FT</p> <p>N89°43'01"E 2641.32 FT N89°42'43"E 2641.83 FT</p> <p>N/4 CORNER SEC. 1 LAT. = 32.3409188N LONG. = 103.5260536W</p> <p>NMSP EAST (FT) N = 488697.91 E = 790657.78</p> <p><b>FIRST TAP POINT</b> 2600' FNL, 350' FNL LAT. = 32.3337897N LONG. = 103.5335020W</p> <p>NMSP EAST (FT) N = 486087.06 E = 788376.70</p> <p>N07°01'27"W 262.08 FT</p> <p>N00°12'54"W 2637.46 FT</p> <p>N00°29'38"W 2640.71 FT</p> <p>S89°44'02"W 2643.75 FT S89°44'23"W 2645.14 FT</p>	<p>NE CORNER SEC. 36 LAT. = 32.3554148N LONG. = 103.5175197W</p> <p>NMSP EAST (FT) N = 493991.56 E = 793253.27</p> <p>E/4 CORNER SEC. 36 LAT. = 32.3481596N LONG. = 103.5175056W</p> <p>NMSP EAST (FT) N = 491352.12 E = 793277.73</p> <p>NE CORNER SEC. 1 LAT. = 32.3409003N LONG. = 103.5175017W</p> <p>NMSP EAST (FT) N = 488711.19 E = 793299.05</p> <p>E/4 CORNER SEC. 1 LAT. = 32.3336453N LONG. = 103.5175054W</p> <p>NMSP EAST (FT) N = 486071.77 E = 793318.03</p> <p>SE CORNER SEC. 1 LAT. = 32.3263896N LONG. = 103.5175076W</p> <p>NMSP EAST (FT) N = 483432.13 E = 793337.44</p>	<p><b><sup>17</sup> OPERATOR CERTIFICATION</b></p> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</p> <p><i>Melanie Wilson</i> 01/13/2020 Signature Date</p> <p>Melanie Wilson Printed Name</p> <p>mjp1692@gmail.com E-mail Address</p> <p><b><sup>18</sup> SURVEYOR CERTIFICATION</b></p> <p>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.</p> <p>MARCH 26, 2019 Date of Survey</p> <p><i>[Signature]</i> Signature and Seal of Professional Surveyor</p> <p>Certificate Number FILIMON E. JARAMILLO, PLS 12797 SURVEY NO. 7072</p>
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District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
811 S. First St., Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

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

Submit Original  
to Appropriate  
District Office

**OCD - HOBBS**  
**10/06/2020**  
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## **GAS CAPTURE PLAN**

Date: **01/26/2018**

☒ Original

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

☐ Amended - Reason for Amendment: \_\_\_\_\_

This Gas Capture Plan outlines actions to be taken by the Operator to reduce well/production facility flaring/venting for new completion (new drill, recomple to new zone, re-frac) activity.

*Note: Form C-129 must be submitted and approved prior to exceeding 60 days allowed by Rule (Subsection A of 19.15.18.12 NMAC).*

### **Well(s)/Production Facility – Name of facility**

The well(s) that will be located at the production facility are shown in the table below.

Well Name	API	Well Location (ULSTR)	Footages	Expected MCF/D	Flared or Vented	Comments
Bell Lake Unit North 219H		1-23S-33E		2000	0	
Bell Lake Unit North 220H		1-23S-33E	2508' FSL/380' FWL	2000	0	
Bell Lake Unit North 319H		1-23S-33E		2000	0	
Bell Lake Unit North 320H		1-23S-33E		2000	0	
Bell Lake Unit North 419H	30-025-47817	1-23S-33E	2418' FSL/380' FWL	2000	0	
Bell Lake Unit North 420H		1-23S-33E	2388' FSL/380' FWL	2000	0	

### **Gathering System and Pipeline Notification**

Well(s) will be connected to a production facility after flowback operations are complete, if gas transporter system is in place. The gas produced from production facility is dedicated to Targa and will be connected to Targa low/high pressure gathering system located in Lea County, New Mexico. It will require 11,000' of pipeline to connect the facility to low/high pressure gathering system. Kaiser-Francis Oil Company provides (periodically) to Targa a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, Kaiser-Francis Oil Company and Targa have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at Targa Processing Plant located in Sec. 36, Twn. 19S, Rng. 36E, Lea County, New Mexico. The actual flow of the gas will be based on compression operating parameters and gathering system pressures.

### **Flowback Strategy**

After the fracture treatment/completion operations, well(s) will be produced to temporary production tanks and gas will be flared or vented. During flowback, the fluids and sand content will be monitored. When the produced fluids contain minimal sand, the wells will be turned to production facilities. Gas sales should start as soon as the wells start flowing through the production facilities, unless there are operational issues on Targa system at that time. Based on current information, it is Kaiser-Francis Oil Company's belief the system can take this gas upon completion of the well(s).

Safety requirements during cleanout operations from the use of underbalanced air cleanout systems may necessitate that sand and non-pipeline quality gas be vented and/or flared rather than sold on a temporary basis.

### **Alternatives to Reduce Flaring**

Below are alternatives considered from a conceptual standpoint to reduce the amount of gas flared.

- Power Generation – On lease
  - Only a portion of gas is consumed operating the generator, remainder of gas will be flared
- Compressed Natural Gas – On lease
  - Gas flared would be minimal, but might be uneconomical to operate when gas volume declines
- NGL Removal – On lease
  - Plants are expensive, residue gas is still flared, and uneconomical to operate when gas volume declines