

UNITED STATES **HOBBS OCD**
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT **MAR 02 2020**
APPLICATION FOR PERMIT TO DRILL OR REENTER

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

1a. Type of work: ☒ DRILL ☐ REENTER		5. Lease Serial No. NMNM0001244A
1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other		6. If Indian, Allottee or Tribe Name
1c. Type of Completion: ☐ Hydraulic Fracturing ☒ Single Zone ☐ Multiple Zone		7. If Unit or CA Agreement, Name and No. BELL LAKE / NMNM068292X
2. Name of Operator KAISER FRANCIS OIL COMPANY (12361)		8. Lease Name and Well No. BELL LAKE UNIT NORTH 432H (316107)
3a. Address 6733 S. Yale Ave. Tulsa OK 74121	3b. Phone No. (include area code) (918)491-0000	9. API Well No. 30-025-46746 (98265)
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface NWSW / 1901 FSL / 404 FWL / LAT 32.3316068 / LONG -103.4994039 At proposed prod. zone NWNW / 330 FNL / 1230 FWL / LAT 32.3545135 / LONG -103.4967025		10. Field and Pool, or Exploratory OJO CHISO / WOLFCAMP, SOUTHWES
11. Sec., T. R. M. or Blk. and Survey or Area SEC 5 / T23S / R34E / NMP		
14. Distance in miles and direction from nearest town or post office* 33 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) 404 feet	16. No of acres in lease 634.35	17. Spacing Unit dedicated to this well 480
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 30 feet	19. Proposed Depth 11492 feet / 19806 feet	20. BLM/BIA Bond No. in file FED: WYB000055
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3443 feet	22. Approximate date work will start* 09/01/2019	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) Danielle Parker / Ph: (575)318-9704	Date 06/29/2019
Title Regulatory Analyst		
Approved by (Signature) (Electronic Submission)	Name (Printed/Typed) Christopher Walls / Ph: (575)234-2234	Date 01/06/2020
Title Petroleum Engineer		

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 03/02/2020

APPROVED WITH CONDITIONS
Approval Date: 01/06/2020

KZ
03/09/2020

**PECOS DISTRICT
DRILLING OPERATIONS
CONDITIONS OF APPROVAL**

OPERATOR'S NAME:	Kaiser Francis Oil Company
LEASE NO.:	NMNM0001244A
WELL NAME & NO.:	Bell Lake Unit North 432H
SURFACE HOLE FOOTAGE:	1901' FSL & 404' FWL
BOTTOM HOLE FOOTAGE:	330' FNL & 1230' FWL
LOCATION:	Section 5, T 23S, R 34E, NMPM
COUNTY:	Lea County, New Mexico

H2S	☒ Yes	☐ No	
Potash	☒ None	☐ Secretary	☐ R-111-P
Cave/Karst Potential	☒ Low	☐ Medium	☐ High
Variance	☐ None	☒ Flex Hose	☐ Other
Wellhead	☐ Conventional	☒ Multibowl	☐ Both
Other	☐ 4 String Area	☐ Capitan Reef	☐ WIPP
Other	☐ Fluid Filled	☐ Cement Squeeze	☐ Pilot Hole
Special Requirements	☐ Water Disposal	☐ COM	☒ Unit

A. HYDROGEN SULFIDE

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 **1207'** (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.
 - 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 the shoe.
 - 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 cemented to surface.
 - a. **If cement does not circulate to surface**, see B.1.a, c & d.
3. The 5-1/2" production casing shall be cemented with at least **200' tie-back** into the previous casing. Operator shall provide method of verification.

C. PRESSURE CONTROL

1. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M)** psi.
2. Required safety valves, with appropriate wrenches and subs for the drill string being utilized, will be in the open position and accessible on the rig floor.

D. SPECIAL REQUIREMENTS

2. The well sign for a unit well shall include the unit number in addition to the surface and bottom hole lease numbers. This also applies to participating area numbers. If a participating area has not been established, the operator can use the general unit designation, but will replace the unit number with the participating area number once it has been established.
 - a. A commercial well determination shall be submit after production has been established for at least six months. Secondary recovery unit wells are exempt from this requirement.

DR 1/2/2020

GENERAL REQUIREMENTS

1. The BLM is to be notified in advance for a representative to witness:
 - a. Spudding the well (minimum of 24 hours)
 - b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
 - c. BOP/BOPE tests (minimum of 4 hours)
 - ☒ Eddy County: Call the Carlsbad Field Office, (575) 361-2822
 - ☒ Lea County: Call the Hobbs Field Station, (575) 393-3612
2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
 - a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
 - b. When the operator proposes to set surface casing with Spudder Rig:
 - i. Notify the BLM when moving in and removing the Spudder Rig.
 - ii. Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
 - iii. BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.
3. 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.
4. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be available upon request. 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 integrity test can be done (prior to the cement setting up) immediately after bumping the plug.

3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well-specific cement details onsite prior to pumping the cement for each casing string.
5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
6. On the portion of 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. 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 Onshore Order 2 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 BOP/BOPE 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 which 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 made available upon request.
 - d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
 - e. The 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.
 - f. BOP/BOPE must be tested 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

1. 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.



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

Operator Certification Data Report

02/26/2020

Operator Certification

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

NAME: Danielle Parker

Signed on: 06/29/2019

Title: Regulatory Analyst

Street Address: 106 W Riverside Drive

City: Carlsbad

State: NM

Zip: 88220

Phone: (575)318-9704

Email address: Danisab06@gmail.com

Field Representative

Representative Name:

Street Address: P.O. Box 21468

City: Oklahoma City

State: OK

Zip: 74121-1468

Phone: (918)527-5260

Email address: erich@kfoc.net



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

Application Data Report

02/26/2020

APD ID: 10400041981

Submission Date: 06/29/2019

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH

Well Number: 432H

Well Type: OIL WELL

Well Work Type: Drill

[Show Final Text](#)

Section 1 - General

APD ID: 10400041981

Tie to previous NOS?

Submission Date: 06/29/2019

BLM Office: CARLSBAD

User: Danielle Parker

Title: Regulatory Analyst

Federal/Indian APD: FED

Is the first lease penetrated for production Federal or Indian? FED

Surface access agreement in place?

Allotted?

Reservation:

Agreement in place? YES

Federal or Indian agreement: FEDERAL

Agreement number: NMNM068292X

Agreement name:

Keep application confidential? YES

Permitting Agent? NO

APD Operator: KAISER FRANCIS OIL COMPANY

Operator letter of designation:

Operator Info

Operator Organization Name: KAISER FRANCIS OIL COMPANY

Operator Address: 6733 S. Yale Ave.

Zip: 74121

Operator PO Box: PO Box 21468

Operator City: Tulsa

State: OK

Operator Phone: (918)491-0000

Operator Internet Address:

Section 2 - Well Information

Well in Master Development Plan? NO

Master Development Plan name:

Well in Master SUPO? NO

Master SUPO name:

Well in Master Drilling Plan? NO

Master Drilling Plan name:

Well Name: BELL LAKE UNIT NORTH

Well Number: 432H

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? POTASH

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH

Well Number: 432H

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

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: BELL **Number:** 13

Well Class: HORIZONTAL

LAKE UNIT NORTH

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: 33 Miles

Distance to nearest well: 30 FT

Distance to lease line: 404 FT

Reservoir well spacing assigned acres Measurement: 480 Acres

Well plat: Bell_Lake_Unit_North_432H__C102_20190629105958.pdf

Well work start Date: 09/01/2019

Duration: 40 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83

Vertical Datum: NAVD88

Survey number:

Reference Datum:

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	190	FSL	404	FW L	23S	34E	5	Aliquot NWS W	32.3316068	-103.4994039	LEA	NEW MEXI CO	NEW MEXI CO	F	NMNM 0000587	3443	0	0	
KOP Leg #1	190	FSL	784	FW L	23S	34E	5	Aliquot NWS W	32.331598	-103.498171	LEA	NEW MEXI CO	NEW MEXI CO	F	NMNM 0000587	-7437	10900	10880	
PPP Leg #1-1	0	FSL	1230	FW L	22S	34E	32	Aliquot SWS W	32.3408746	-103.4963047	LEA	NEW MEXI CO	NEW MEXI CO	S	STATE	-8049	13574	11492	

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH

Well Number: 432H

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 #1-2	260 0	FNL	123 0	FW L	22S	34E	5	Aliquot SWN W	32.33375 7	- 103.4963 15	LEA	NEW MEXI CO	NEW MEXI CO	F	NMNM 000124 4A	- 804 9	122 54	114 92	
EXIT Leg #1	330	FNL	123 0	FW L	22S	34E	32	Aliquot NWN W	32.35451 35	- 103.4967 025	LEA	NEW MEXI CO	NEW MEXI CO	S	STATE	- 804 9	198 06	114 92	
BHL Leg #1	330	FNL	123 0	FW L	22S	34E	32	Aliquot NWN W	32.35451 35	- 103.4967 025	LEA	NEW MEXI CO	NEW MEXI CO	S	STATE	- 804 9	198 06	114 92	



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

Drilling Plan Data Report

02/26/2020

APD ID: 10400041981

Submission Date: 06/29/2019

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH

Well Number: 432H

Well Type: OIL WELL

Well Work Type: Drill

[Show Final Text](#)

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
459764	---	3443	0	0		NONE	N
459765	RUSTLER	2261	1182	1182		NONE	N
459766	SALADO	1871	1572	1572		NONE	N
459767	TOP SALT	1671	1772	1772		NONE	N
459768	BASE OF SALT	-1279	4722	4722		NONE	N
459769	LAMAR	-1479	4922	4922		NATURAL GAS, OIL	N
459770	BELL CANYON	-1729	5172	5172		NATURAL GAS, OIL	N
459771	CHERRY CANYON	-2629	6072	6072		NATURAL GAS, OIL	N
459772	BRUSHY CANYON	-4029	7472	7472		NATURAL GAS, OIL	N
459773	BONE SPRING	-5129	8572	8572		NATURAL GAS, OIL	N
459774	AVALON SAND	-5174	8617	8617		NATURAL GAS, OIL	N
459775	BONE SPRING 1ST	-6079	9522	9522		NATURAL GAS, OIL	N
459776	BONE SPRING 2ND	-6589	10032	10032		NATURAL GAS, OIL	N
459777	BONE SPRING LIME	-7079	10522	10522		NATURAL GAS, OIL	N
459778	BONE SPRING 3RD	-7549	10992	10992		NATURAL GAS, OIL	N
459779	WOLFCAMP	-7849	11292	11292		NATURAL GAS, OIL	Y

Section 2 - Blowout Prevention

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH

Well Number: 432H

Rating Depth: 18000

Requesting Variance? YES

Variance request: Flex Hose Variance

Testing Procedure: BOP/BOPE will be tested by an independent service company to 250 psi low and 5000 psi high. The System may be upgraded to a higher pressure but still tested to the working pressure stated. If the system is upgraded all the components installed will be functional and tested. Pipe rams will be operationally checked each 24 hour period. The Annular shall be functionally operated at least weekly. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets.

Choke Diagram Attachment:

Bell_Lake_Unit_North_432H__Choke_Manifold_20190520141019.pdf

BOP Diagram Attachment:

Bell_Lake_Unit_North_432H__BOP_20190520141039.pdf

Bell_Lake_Unit_North_432H__Flex_Hose_Data_20191112112943.pdf

Bell_Lake_Unit_North_432H_Multi_Bowl_Wellhead_20191112113423.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	1207	0	1207			1207	J-55	40.5	ST&C	2.8	5.5	DRY	8.6	DRY	12.9
2	INTERMEDIATE	9.875	7.625	NEW	API	N	0	10492	0	10492			10492	HCP-110	29.7	LT&C	1.4	1.9	DRY	2.5	DRY	3
3	PRODUCTION	6.75	5.5	NEW	API	N	0	19806	0	11492			19806	P-110	20	OTHER - EAGLE SF	1.4	1.6	DRY	2.5	DRY	2.6

Casing Attachments

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH

Well Number: 432H

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Bell_Lake_Unit_North_432H__Casing_Assumptions_20190520141404.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Bell_Lake_Unit_North_432H__Casing_Assumptions_20190520141421.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Bell_Lake_Unit_North_432H__Casing_Assumptions_20190520141758.pdf

Bell_Lake_Unit_North_432H__Production_Casing_Specs_20190520141802.pdf

Section 4 - Cement

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH

Well Number: 432H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead					1.75					

INTERMEDIATE	Lead					2.77					
INTERMEDIATE	Tail										
PRODUCTION	Lead					1.3					

Section 5 - Circulating Medium

Mud System Type: Closed

Will an air or gas system be Used? NO

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

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

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

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

Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
1207	1049 2	OTHER : DIESEL-BRINE EMULSION	8.8	9.2							
1049 2	1149 2	OTHER : OIL BASED MUD	10	12							

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH

Well Number: 432H

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
0	1207	OTHER : FRESH WATER	8.4	9							

Section 6 - Test, Logging, Coring

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

Section 7 - Pressure

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:

Bell_Lake_Unit_North_432H__H2S_Plan_20190528112249.pdf

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH

Well Number: 432H

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Bell_Lake_Unit_North_432H__Directional_Plan_Diagram_20190523121213.pdf

Bell_Lake_Unit_North_432H__Directional_Plan_20190523121214.pdf

Other proposed operations facets description:

Gas Capture Plan Attached

Other proposed operations facets attachment:

Bell_Lake_Unit_North_432H__Gas_Capture_Plan_20190523121417.pdf

Other Variance attachment:

Bell_Lake_Unit_North_432H__Flex_Hose_Data_20191216100156.pdf

Bell_Lake_Unit_North_432H_Multi_Bowl_Wellhead_20191216100158.pdf

Formation Name	Formation Top TWD
Rutler	1182
Sabaco	1572
Upper Salt	1772
Lower Salt	4072
Lima	4872
Beil Canyon	5172
Cherry Canyon	6072
Brushy Canyon	7472
Boone Spring	8572
Avalon	8617
1 BSS	9522
2 BSS	10032
3 BSS	10932
Wolfcamp	10992
	11792

Interval	Length	Casing Size	Weight (lb/ft)	Grade	Thread	Condition	Hole Size	TVD (ft)
Conductor	120	20"				New		120
Surface	1207	10-3/8"	40.5	1-55	STC	New	14 3/4"	1207
Intermediate	10032	7-5/8"	29.7	HCP110	UTC	New	9-7/8"	10492
Production	10886	5-1/2"	20	P110HP	US 1 Aggr SFH	New	6-3/4"	11492

Mud Type	Mud Weight (lb/gal)	Depth	Viscosity	Fluid Loss
FW	8.4-9.0	1350'	37-34	NC
Brine	8.7-9.0	11426'	28-29	NC
OBM	10.5-12.0	10882'	55-70	

Anticipated Mud Weight (ppg)	Max Pore Pressure (psf)	Collapse (psf)	Burst (psf)	Body Tensile Strength	Joint Tensile Strength
9	565	1580	3130	629000	420000
9	4910	6700	9460	940000	760000
12	7171	13150	14360	779000	629000

Collapse Safety Factor (Min 1.1)	Burst Safety Factor (Min 1.0)	Body Tensile Safety Factor (Min 1.0)	Joint Tensile Safety Factor (Min 1.0)
2.8	5.5	12.9	8.6
1.4	1.9	3.0	2.5
1.8	2.0	3.2	2.7

Kaiser Francis Inc. Company

Kaiser Francis

190328 190328 Bell Lake Unit North 432H

190328 190328 Bell Lake Unit North 432H

190328 190328 Bell Lake Unit North 432H

190328 190328 Bell Lake Unit North 432H

Plan: 190328 190328 190328 Bell Lake Unit North 432H

Morcor Standard Plan

29 March, 2019

Morcor Engineering

Morcor Standard Plan

Company: Kaiser Francis
Project: 190328 190328 Bell Lake Unit North 432H
Site: 190328 190328 Bell Lake Unit North 432H
Well: 190328 190328 Bell Lake Unit North 432H
Wellbore: 190328 190328 Bell Lake Unit North 432H
Design: 190328 190328 190328 Bell Lake Unit North 432H

Local Co-ordinate Reference: Well 190328 190328 Bell Lake Unit North 432H
TVD Reference: WELL @ 3465.3usft (Original Well Elev)
MD Reference: WELL @ 3465.3usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Project	190328 190328 Bell Lake Unit North 432H		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	190328 190328 Bell Lake Unit North 432H		
Site Position:		Northing:	485,373.22 usft
From:	Lat/Long	Easting:	798,914.88 usft
Position Uncertainty:	1.0 usft	Slot Radius:	17-1/2 "
		Latitude:	32° 19' 53.784 N
		Longitude:	103° 29' 57.854 W
		Grid Convergence:	0.45 °

Well	190328 190328 Bell Lake Unit North 432H		
Well Position	+N/-S	0.0 usft	Northing: 485,373.22 usft
	+E/-W	0.0 usft	Easting: 798,914.88 usft
Position Uncertainty		1.0 usft	Wellhead Elevation: usft
			Latitude: 32° 19' 53.784 N
			Longitude: 103° 29' 57.854 W
			Ground Level: 3,443.3 usft

Wellbore	190328 190328 Bell Lake Unit North 432H		
Magnetics	Model Name	Sample Date	Declination
			(°)
	IGRF2010	3/29/2019	6.59
			Dip Angle
			(°)
			60.10
			Field Strength
			(nT)
			47,909

Design	190328 190328 190328 Bell Lake Unit North 432H		
Audit Notes:			
Version:	Phase:	PLAN	Tie On Depth: 0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.0	0.0	0.0
			Direction
			(°)
			5.27

Survey Tool Program	Date	3/29/2019		
From	To	Survey (Wellbore)	Tool Name	Description
(usft)	(usft)			
0.0	19,806.0	190328 190328 190328 Bell Lake Unit No	MWD	MWD - Standard

Morcor Engineering

Morcor Standard Plan

Company: Kaiser Francis
Project: 190328 190328 Bell Lake Unit North 432H
Site: 190328 190328 Bell Lake Unit North 432H
Well: 190328 190328 Bell Lake Unit North 432H
Wellbore: 190328 190328 Bell Lake Unit North 432H
Design: 190328 190328 190328 Bell Lake Unit North 432H

Local Co-ordinate Reference: Well 190328 190328 Bell Lake Unit North 432H
TVD Reference: WELL @ 3465.3usft (Original Well Elev)
MD Reference: WELL @ 3465.3usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: 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	-3,465.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
50.0	0.00	0.00	50.0	-3,415.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
100.0	0.00	90.00	100.0	-3,365.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
120.0	0.00	90.00	120.0	-3,345.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
20" Conductor										
150.0	0.00	90.00	150.0	-3,315.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
200.0	0.00	90.00	200.0	-3,265.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
250.0	0.00	90.00	250.0	-3,215.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
300.0	0.00	90.00	300.0	-3,165.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
350.0	0.00	90.00	350.0	-3,115.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
400.0	0.00	90.00	400.0	-3,065.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
450.0	0.00	90.00	450.0	-3,015.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
500.0	0.00	90.00	500.0	-2,965.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
550.0	0.00	90.00	550.0	-2,915.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
600.0	0.00	90.00	600.0	-2,865.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
650.0	0.00	90.00	650.0	-2,815.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
700.0	0.00	90.00	700.0	-2,765.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
750.0	0.00	90.00	750.0	-2,715.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
800.0	0.00	90.00	800.0	-2,665.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
850.0	0.00	90.00	850.0	-2,615.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
900.0	0.00	90.00	900.0	-2,565.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
950.0	0.00	90.00	950.0	-2,515.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
1,000.0	0.00	90.00	1,000.0	-2,465.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
1,050.0	0.00	90.00	1,050.0	-2,415.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
1,100.0	0.00	90.00	1,100.0	-2,365.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
1,150.0	0.00	90.00	1,150.0	-2,315.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00

Morcor Engineering

Morcor Standard Plan

Company: Kaiser Francis
Project: 190328 190328 Bell Lake Unit North 432H
Site: 190328 190328 Bell Lake Unit North 432H
Well: 190328 190328 Bell Lake Unit North 432H
Wellbore: 190328 190328 Bell Lake Unit North 432H
Design: 190328 190328 190328 Bell Lake Unit North 432H

Local Co-ordinate Reference: Well 190328 190328 Bell Lake Unit North 432H
TVD Reference: WELL @ 3465.3usft (Original Well Elev)
MD Reference: WELL @ 3465.3usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: 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)
1,182.0	0.00	90.00	1,182.0	-2,283.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
Rustler										
1,200.0	0.00	90.00	1,200.0	-2,265.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
1,207.0	0.00	90.00	1,207.0	-2,258.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
13 3/8" Surface Casing										
1,250.0	0.00	90.00	1,250.0	-2,215.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
1,300.0	0.00	90.00	1,300.0	-2,165.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
1,350.0	0.00	90.00	1,350.0	-2,115.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
1,400.0	0.00	90.00	1,400.0	-2,065.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
1,450.0	0.00	90.00	1,450.0	-2,015.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
1,500.0	0.00	90.00	1,500.0	-1,965.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
1,550.0	0.00	90.00	1,550.0	-1,915.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
1,572.0	0.00	90.00	1,572.0	-1,893.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
Salado										
1,600.0	0.00	90.00	1,600.0	-1,865.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
1,650.0	0.00	90.00	1,650.0	-1,815.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
1,700.0	0.00	90.00	1,700.0	-1,765.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
1,750.0	0.00	90.00	1,750.0	-1,715.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
1,772.0	0.00	90.00	1,772.0	-1,693.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
Top of Salt										
1,800.0	0.00	90.00	1,800.0	-1,665.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
1,850.0	0.00	90.00	1,850.0	-1,615.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
1,900.0	0.00	90.00	1,900.0	-1,565.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
1,950.0	0.00	90.00	1,950.0	-1,515.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
2,000.0	0.00	90.00	2,000.0	-1,465.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
2,050.0	0.00	90.00	2,050.0	-1,415.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
2,100.0	0.00	90.00	2,100.0	-1,365.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
2,150.0	0.00	90.00	2,150.0	-1,315.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00

Morcor Engineering

Morcor Standard Plan

Company: Kaiser Francis
Project: 190328 190328 Bell Lake Unit North 432H
Site: 190328 190328 Bell Lake Unit North 432H
Well: 190328 190328 Bell Lake Unit North 432H
Wellbore: 190328 190328 Bell Lake Unit North 432H
Design: 190328 190328 190328 Bell Lake Unit North 432H

Local Co-ordinate Reference: Well 190328 190328 Bell Lake Unit North 432H
TVD Reference: WELL @ 3465.3usft (Original Well Elev)
MD Reference: WELL @ 3465.3usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: 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)
2,200.0	0.00	90.00	2,200.0	-1,265.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
2,250.0	0.00	90.00	2,250.0	-1,215.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
2,300.0	0.00	90.00	2,300.0	-1,165.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
2,350.0	0.00	90.00	2,350.0	-1,115.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
2,400.0	0.00	90.00	2,400.0	-1,065.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
2,450.0	0.00	90.00	2,450.0	-1,015.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
2,500.0	0.00	90.00	2,500.0	-965.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
2,550.0	0.00	90.00	2,550.0	-915.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
2,600.0	0.00	90.00	2,600.0	-865.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
2,650.0	0.00	90.00	2,650.0	-815.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
2,700.0	0.00	90.00	2,700.0	-765.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
2,750.0	0.00	90.00	2,750.0	-715.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
2,800.0	0.00	90.00	2,800.0	-665.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
2,850.0	0.00	90.00	2,850.0	-615.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
2,900.0	0.00	90.00	2,900.0	-565.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
2,950.0	0.00	90.00	2,950.0	-515.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
3,000.0	0.00	90.00	3,000.0	-465.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
3,050.0	0.00	90.00	3,050.0	-415.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
3,100.0	0.00	90.00	3,100.0	-365.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
3,150.0	0.00	90.00	3,150.0	-315.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
3,200.0	0.00	90.00	3,200.0	-265.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
3,250.0	0.00	90.00	3,250.0	-215.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
3,300.0	0.00	90.00	3,300.0	-165.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
3,350.0	0.00	90.00	3,350.0	-115.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
3,400.0	0.00	90.00	3,400.0	-65.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
3,450.0	0.00	90.00	3,450.0	-15.3	0.0	0.0	798,914.88	485,373.22	0.00	0.00
3,500.0	0.00	90.00	3,500.0	34.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00

Morcor Engineering

Morcor Standard Plan

Company: Kaiser Francis
Project: 190328 190328 Bell Lake Unit North 432H
Site: 190328 190328 Bell Lake Unit North 432H
Well: 190328 190328 Bell Lake Unit North 432H
Wellbore: 190328 190328 Bell Lake Unit North 432H
Design: 190328 190328 190328 Bell Lake Unit North 432H

Local Co-ordinate Reference: Well 190328 190328 Bell Lake Unit North 432H
TVD Reference: WELL @ 3465.3usft (Original Well Elev)
MD Reference: WELL @ 3465.3usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: 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)
3,550.0	0.00	90.00	3,550.0	84.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
3,600.0	0.00	90.00	3,600.0	134.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
3,650.0	0.00	90.00	3,650.0	184.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
3,700.0	0.00	90.00	3,700.0	234.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
3,750.0	0.00	90.00	3,750.0	284.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
3,800.0	0.00	90.00	3,800.0	334.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
3,850.0	0.00	90.00	3,850.0	384.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
3,900.0	0.00	90.00	3,900.0	434.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
3,950.0	0.00	90.00	3,950.0	484.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
4,000.0	0.00	90.00	4,000.0	534.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
4,050.0	0.00	90.00	4,050.0	584.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
4,100.0	0.00	90.00	4,100.0	634.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
4,150.0	0.00	90.00	4,150.0	684.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
4,200.0	0.00	90.00	4,200.0	734.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
4,250.0	0.00	90.00	4,250.0	784.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
4,300.0	0.00	90.00	4,300.0	834.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
4,350.0	0.00	90.00	4,350.0	884.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
4,400.0	0.00	90.00	4,400.0	934.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
4,450.0	0.00	90.00	4,450.0	984.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
4,500.0	0.00	90.00	4,500.0	1,034.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
4,550.0	0.00	90.00	4,550.0	1,084.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
4,600.0	0.00	90.00	4,600.0	1,134.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
4,650.0	0.00	90.00	4,650.0	1,184.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
4,700.0	0.00	90.00	4,700.0	1,234.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
4,722.0	0.00	90.00	4,722.0	1,256.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
Base of Salt										
4,750.0	0.00	90.00	4,750.0	1,284.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00

Morcor Engineering

Morcor Standard Plan

Company: Kaiser Francis
Project: 190328 190328 Bell Lake Unit North 432H
Site: 190328 190328 Bell Lake Unit North 432H
Well: 190328 190328 Bell Lake Unit North 432H
Wellbore: 190328 190328 Bell Lake Unit North 432H
Design: 190328 190328 190328 Bell Lake Unit North 432H

Local Co-ordinate Reference: Well 190328 190328 Bell Lake Unit North 432H
TVD Reference: WELL @ 3465.3usft (Original Well Elev)
MD Reference: WELL @ 3465.3usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: 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)
4,800.0	0.00	90.00	4,800.0	1,334.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
4,850.0	0.00	90.00	4,850.0	1,384.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
4,900.0	0.00	90.00	4,900.0	1,434.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
4,922.0	0.00	90.00	4,922.0	1,456.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
Lamar										
4,950.0	0.00	90.00	4,950.0	1,484.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
5,000.0	0.00	90.00	5,000.0	1,534.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
5,050.0	0.00	90.00	5,050.0	1,584.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
5,100.0	0.00	90.00	5,100.0	1,634.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
5,147.0	0.00	90.00	5,147.0	1,681.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
9 5/8" Intermediate Casing										
5,150.0	0.00	90.00	5,150.0	1,684.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
5,172.0	0.00	90.00	5,172.0	1,706.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
Bell Canyon										
5,200.0	0.00	90.00	5,200.0	1,734.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
5,250.0	0.00	90.00	5,250.0	1,784.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
5,300.0	0.00	90.00	5,300.0	1,834.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
5,350.0	0.00	90.00	5,350.0	1,884.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
5,400.0	0.00	90.00	5,400.0	1,934.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
5,450.0	0.00	90.00	5,450.0	1,984.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
5,500.0	0.00	90.00	5,500.0	2,034.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
5,550.0	0.00	90.00	5,550.0	2,084.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
5,600.0	0.00	90.00	5,600.0	2,134.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
5,650.0	0.00	90.00	5,650.0	2,184.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
5,700.0	0.00	90.00	5,700.0	2,234.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
5,750.0	0.00	90.00	5,750.0	2,284.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
5,800.0	0.00	90.00	5,800.0	2,334.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00

Morcor Engineering

Morcor Standard Plan

Company: Kaiser Francis
Project: 190328 190328 Bell Lake Unit North 432H
Site: 190328 190328 Bell Lake Unit North 432H
Well: 190328 190328 Bell Lake Unit North 432H
Wellbore: 190328 190328 Bell Lake Unit North 432H
Design: 190328 190328 190328 Bell Lake Unit North 432H

Local Co-ordinate Reference: Well 190328 190328 Bell Lake Unit North 432H
TVD Reference: WELL @ 3465.3usft (Original Well Elev)
MD Reference: WELL @ 3465.3usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: 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)
5,850.0	0.00	90.00	5,850.0	2,384.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
5,900.0	0.00	90.00	5,900.0	2,434.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
5,950.0	0.00	90.00	5,950.0	2,484.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
6,000.0	0.00	90.00	6,000.0	2,534.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
6,050.0	0.00	90.00	6,050.0	2,584.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
6,072.0	0.00	90.00	6,072.0	2,606.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
Cherry Canyon										
6,100.0	0.00	90.00	6,100.0	2,634.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
6,150.0	0.00	90.00	6,150.0	2,684.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
6,200.0	0.00	90.00	6,200.0	2,734.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
6,250.0	0.00	90.00	6,250.0	2,784.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
6,300.0	0.00	90.00	6,300.0	2,834.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
6,350.0	0.00	90.00	6,350.0	2,884.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
6,400.0	0.00	90.00	6,400.0	2,934.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
6,450.0	0.00	90.00	6,450.0	2,984.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
6,500.0	0.00	90.00	6,500.0	3,034.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
6,550.0	0.00	90.00	6,550.0	3,084.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
6,600.0	0.00	90.00	6,600.0	3,134.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
6,650.0	0.00	90.00	6,650.0	3,184.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
6,700.0	0.00	90.00	6,700.0	3,234.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
6,750.0	0.00	90.00	6,750.0	3,284.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
6,800.0	0.00	90.00	6,800.0	3,334.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
6,850.0	0.00	90.00	6,850.0	3,384.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
6,900.0	0.00	90.00	6,900.0	3,434.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
6,950.0	0.00	90.00	6,950.0	3,484.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
7,000.0	0.00	90.00	7,000.0	3,534.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
7,050.0	0.00	90.00	7,050.0	3,584.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00

Morcor Engineering

Morcor Standard Plan

Company: Kaiser Francis
Project: 190328 190328 Bell Lake Unit North 432H
Site: 190328 190328 Bell Lake Unit North 432H
Well: 190328 190328 Bell Lake Unit North 432H
Wellbore: 190328 190328 Bell Lake Unit North 432H
Design: 190328 190328 190328 Bell Lake Unit North 432H

Local Co-ordinate Reference: Well 190328 190328 Bell Lake Unit North 432H
TVD Reference: WELL @ 3465.3usft (Original Well Elev)
MD Reference: WELL @ 3465.3usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: 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)
7,100.0	0.00	90.00	7,100.0	3,634.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
7,150.0	0.00	90.00	7,150.0	3,684.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
7,160.0	0.00	90.00	7,160.0	3,694.7	0.0	0.0	798,914.88	485,373.22	0.00	0.00
Start Build 3.00										
7,200.0	1.20	90.00	7,200.0	3,734.7	0.0	0.4	798,915.30	485,373.22	0.04	3.00
7,250.0	2.70	90.00	7,250.0	3,784.7	0.0	2.1	798,917.00	485,373.22	0.19	3.00
7,300.0	4.20	90.00	7,299.9	3,834.6	0.0	5.1	798,920.01	485,373.22	0.47	3.00
7,350.0	5.70	90.00	7,349.7	3,884.4	0.0	9.4	798,924.32	485,373.22	0.87	3.00
7,360.0	6.00	90.00	7,359.6	3,894.3	0.0	10.5	798,925.34	485,373.22	0.96	3.00
Start 3530.0 hold at 7360.0 MD										
7,400.0	6.00	90.00	7,399.4	3,934.1	0.0	14.6	798,929.52	485,373.22	1.35	0.00
7,450.0	6.00	90.00	7,449.1	3,983.8	0.0	19.9	798,934.75	485,373.22	1.83	0.00
7,473.0	6.00	90.00	7,472.0	4,006.7	0.0	22.3	798,937.15	485,373.22	2.05	0.00
Brushy Canyon										
7,500.0	6.00	90.00	7,498.9	4,033.6	0.0	25.1	798,939.98	485,373.22	2.31	0.00
7,550.0	6.00	90.00	7,548.6	4,083.3	0.0	30.3	798,945.20	485,373.22	2.79	0.00
7,600.0	6.00	90.00	7,598.3	4,133.0	0.0	35.5	798,950.43	485,373.22	3.27	0.00
7,650.0	6.00	90.00	7,648.0	4,182.7	0.0	40.8	798,955.65	485,373.22	3.75	0.00
7,700.0	6.00	90.00	7,697.8	4,232.5	0.0	46.0	798,960.88	485,373.22	4.23	0.00
7,750.0	6.00	90.00	7,747.5	4,282.2	0.0	51.2	798,966.11	485,373.22	4.71	0.00
7,800.0	6.00	90.00	7,797.2	4,331.9	0.0	56.5	798,971.33	485,373.22	5.19	0.00
7,850.0	6.00	90.00	7,847.0	4,381.7	0.0	61.7	798,976.56	485,373.22	5.67	0.00
7,900.0	6.00	90.00	7,896.7	4,431.4	0.0	66.9	798,981.79	485,373.22	6.15	0.00
7,950.0	6.00	90.00	7,946.4	4,481.1	0.0	72.1	798,987.01	485,373.22	6.63	0.00
8,000.0	6.00	90.00	7,996.1	4,530.8	0.0	77.4	798,992.24	485,373.22	7.11	0.00
8,050.0	6.00	90.00	8,045.9	4,580.6	0.0	82.6	798,997.47	485,373.22	7.59	0.00
8,100.0	6.00	90.00	8,095.6	4,630.3	0.0	87.8	799,002.69	485,373.22	8.07	0.00

Morcor Engineering

Morcor Standard Plan

Company: Kaiser Francis
Project: 190328 190328 Bell Lake Unit North 432H
Site: 190328 190328 Bell Lake Unit North 432H
Well: 190328 190328 Bell Lake Unit North 432H
Wellbore: 190328 190328 Bell Lake Unit North 432H
Design: 190328 190328 190328 Bell Lake Unit North 432H

Local Co-ordinate Reference: Well 190328 190328 Bell Lake Unit North 432H
TVD Reference: WELL @ 3465.3usft (Original Well Elev)
MD Reference: WELL @ 3465.3usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: 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)
8,150.0	6.00	90.00	8,145.3	4,680.0	0.0	93.0	799,007.92	485,373.22	8.55	0.00
8,200.0	6.00	90.00	8,195.0	4,729.7	0.0	98.3	799,013.14	485,373.22	9.03	0.00
8,250.0	6.00	90.00	8,244.8	4,779.5	0.0	103.5	799,018.37	485,373.22	9.51	0.00
8,300.0	6.00	90.00	8,294.5	4,829.2	0.0	108.7	799,023.60	485,373.22	9.99	0.00
8,350.0	6.00	90.00	8,344.2	4,878.9	0.0	113.9	799,028.82	485,373.22	10.48	0.00
8,400.0	6.00	90.00	8,393.9	4,928.6	0.0	119.2	799,034.05	485,373.22	10.96	0.00
8,450.0	6.00	90.00	8,443.7	4,978.4	0.0	124.4	799,039.28	485,373.22	11.44	0.00
8,500.0	6.00	90.00	8,493.4	5,028.1	0.0	129.6	799,044.50	485,373.22	11.92	0.00
8,550.0	6.00	90.00	8,543.1	5,077.8	0.0	134.9	799,049.73	485,373.22	12.40	0.00
8,579.0	6.00	90.00	8,572.0	5,106.7	0.0	137.9	799,052.77	485,373.22	12.68	0.00
Bone Spring										
8,600.0	6.00	90.00	8,592.8	5,127.5	0.0	140.1	799,054.96	485,373.22	12.88	0.00
8,624.3	6.00	90.00	8,617.0	5,151.7	0.0	142.6	799,057.50	485,373.22	13.11	0.00
Avalon										
8,650.0	6.00	90.00	8,642.6	5,177.3	0.0	145.3	799,060.18	485,373.22	13.36	0.00
8,700.0	6.00	90.00	8,692.3	5,227.0	0.0	150.5	799,065.41	485,373.22	13.84	0.00
8,750.0	6.00	90.00	8,742.0	5,276.7	0.0	155.8	799,070.64	485,373.22	14.32	0.00
8,800.0	6.00	90.00	8,791.7	5,326.4	0.0	161.0	799,075.86	485,373.22	14.80	0.00
8,850.0	6.00	90.00	8,841.5	5,376.2	0.0	166.2	799,081.09	485,373.22	15.28	0.00
8,900.0	6.00	90.00	8,891.2	5,425.9	0.0	171.4	799,086.31	485,373.22	15.76	0.00
8,950.0	6.00	90.00	8,940.9	5,475.6	0.0	176.7	799,091.54	485,373.22	16.24	0.00
9,000.0	6.00	90.00	8,990.7	5,525.4	0.0	181.9	799,096.77	485,373.22	16.72	0.00
9,050.0	6.00	90.00	9,040.4	5,575.1	0.0	187.1	799,101.99	485,373.22	17.20	0.00
9,100.0	6.00	90.00	9,090.1	5,624.8	0.0	192.3	799,107.22	485,373.22	17.68	0.00
9,150.0	6.00	90.00	9,139.8	5,674.5	0.0	197.6	799,112.45	485,373.22	18.16	0.00
9,200.0	6.00	90.00	9,189.6	5,724.3	0.0	202.8	799,117.67	485,373.22	18.64	0.00
9,250.0	6.00	90.00	9,239.3	5,774.0	0.0	208.0	799,122.90	485,373.22	19.12	0.00

Morcor Engineering
Morcor Standard Plan

Company: Kaiser Francis
Project: 190328 190328 Bell Lake Unit North 432H
Site: 190328 190328 Bell Lake Unit North 432H
Well: 190328 190328 Bell Lake Unit North 432H
Wellbore: 190328 190328 Bell Lake Unit North 432H
Design: 190328 190328 190328 Bell Lake Unit North 432H

Local Co-ordinate Reference: Well 190328 190328 Bell Lake Unit North 432H
TVD Reference: WELL @ 3465.3usft (Original Well Elev)
MD Reference: WELL @ 3465.3usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: 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)	DLog (°/100usft)
9,300.0	6.00	90.00	9,289.0	5,823.7	0.0	213.2	799,128.13	485,373.22	19.60	0.00
9,350.0	6.00	90.00	9,338.7	5,873.4	0.0	218.5	799,133.35	485,373.22	20.08	0.00
9,400.0	6.00	90.00	9,388.5	5,923.2	0.0	223.7	799,138.58	485,373.22	20.56	0.00
9,450.0	6.00	90.00	9,438.2	5,972.9	0.0	228.9	799,143.81	485,373.22	21.05	0.00
9,500.0	6.00	90.00	9,487.9	6,022.6	0.0	234.2	799,149.03	485,373.22	21.53	0.00
9,534.3	6.00	90.00	9,522.0	6,056.7	0.0	237.7	799,152.61	485,373.22	21.86	0.00
1st Bone Spring										
9,550.0	6.00	90.00	9,537.6	6,072.3	0.0	239.4	799,154.26	485,373.22	22.01	0.00
9,600.0	6.00	90.00	9,587.4	6,122.1	0.0	244.6	799,159.48	485,373.22	22.49	0.00
9,650.0	6.00	90.00	9,637.1	6,171.8	0.0	249.8	799,164.71	485,373.22	22.97	0.00
9,700.0	6.00	90.00	9,686.8	6,221.5	0.0	255.1	799,169.94	485,373.22	23.45	0.00
9,750.0	6.00	90.00	9,736.5	6,271.2	0.0	260.3	799,175.16	485,373.22	23.93	0.00
9,800.0	6.00	90.00	9,786.3	6,321.0	0.0	265.5	799,180.39	485,373.22	24.41	0.00
9,850.0	6.00	90.00	9,836.0	6,370.7	0.0	270.7	799,185.62	485,373.22	24.89	0.00
9,900.0	6.00	90.00	9,885.7	6,420.4	0.0	276.0	799,190.84	485,373.22	25.37	0.00
9,950.0	6.00	90.00	9,935.4	6,470.1	0.0	281.2	799,196.07	485,373.22	25.85	0.00
10,000.0	6.00	90.00	9,985.2	6,519.9	0.0	286.4	799,201.30	485,373.22	26.33	0.00
10,047.1	6.00	90.00	10,032.0	6,566.7	0.0	291.3	799,206.22	485,373.22	26.78	0.00
2nd Bone Spring										
10,050.0	6.00	90.00	10,034.9	6,569.6	0.0	291.6	799,206.52	485,373.22	26.81	0.00
10,100.0	6.00	90.00	10,084.6	6,619.3	0.0	296.9	799,211.75	485,373.22	27.29	0.00
10,150.0	6.00	90.00	10,134.4	6,669.1	0.0	302.1	799,216.98	485,373.22	27.77	0.00
10,200.0	6.00	90.00	10,184.1	6,718.8	0.0	307.3	799,222.20	485,373.22	28.25	0.00
10,250.0	6.00	90.00	10,233.8	6,768.5	0.0	312.5	799,227.43	485,373.22	28.73	0.00
10,300.0	6.00	90.00	10,283.5	6,818.2	0.0	317.8	799,232.65	485,373.22	29.21	0.00
10,350.0	6.00	90.00	10,333.3	6,868.0	0.0	323.0	799,237.88	485,373.22	29.69	0.00
10,400.0	6.00	90.00	10,383.0	6,917.7	0.0	328.2	799,243.11	485,373.22	30.17	0.00

Morcor Engineering

Morcor Standard Plan

Company: Kaiser Francis
Project: 190328 190328 Bell Lake Unit North 432H
Site: 190328 190328 Bell Lake Unit North 432H
Well: 190328 190328 Bell Lake Unit North 432H
Wellbore: 190328 190328 Bell Lake Unit North 432H
Design: 190328 190328 190328 Bell Lake Unit North 432H

Local Co-ordinate Reference: Well 190328 190328 Bell Lake Unit North 432H
TVD Reference: WELL @ 3465.3usft (Original Well Elev)
MD Reference: WELL @ 3465.3usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: 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)
10,450.0	6.00	90.00	10,432.7	6,967.4	0.0	333.5	799,248.33	485,373.22	30.65	0.00
10,500.0	6.00	90.00	10,482.4	7,017.1	0.0	338.7	799,253.56	485,373.22	31.13	0.00
10,539.8	6.00	90.00	10,522.0	7,056.7	0.0	342.8	799,257.72	485,373.22	31.52	0.00
2nd Bone Spring Lime										
10,550.0	6.00	90.00	10,532.2	7,066.9	0.0	343.9	799,258.79	485,373.22	31.62	0.00
10,600.0	6.00	90.00	10,581.9	7,116.6	0.0	349.1	799,264.01	485,373.22	32.10	0.00
10,650.0	6.00	90.00	10,631.6	7,166.3	0.0	354.4	799,269.24	485,373.22	32.58	0.00
10,700.0	6.00	90.00	10,681.3	7,216.0	0.0	359.6	799,274.47	485,373.22	33.06	0.00
10,750.0	6.00	90.00	10,731.1	7,265.8	0.0	364.8	799,279.69	485,373.22	33.54	0.00
10,800.0	6.00	90.00	10,780.8	7,315.5	0.0	370.0	799,284.92	485,373.22	34.02	0.00
10,850.0	6.00	90.00	10,830.5	7,365.2	0.0	375.3	799,290.15	485,373.22	34.50	0.00
10,890.0	6.00	90.00	10,870.3	7,405.0	0.0	379.4	799,294.33	485,373.22	34.88	0.00
Start DLS 10.00 TFO -30.88										
10,900.0	6.88	85.71	10,880.2	7,414.9	0.0	380.6	799,295.45	485,373.26	35.03	10.00
10,950.0	11.56	74.48	10,929.6	7,464.3	1.6	388.4	799,303.27	485,374.83	37.31	10.00
10,960.0	12.53	73.25	10,939.4	7,474.1	2.2	390.4	799,305.27	485,375.41	38.07	10.00
Start DLS 10.01 TFO -14.31										
11,000.0	16.44	69.76	10,978.1	7,512.8	5.4	399.9	799,314.74	485,378.62	42.14	10.01
11,014.6	17.87	68.86	10,992.0	7,526.7	6.9	403.9	799,318.76	485,380.14	44.02	10.01
3rd Bone Spring										
11,050.0	21.37	67.16	11,025.4	7,560.1	11.4	414.9	799,329.78	485,384.61	49.48	10.01
11,060.0	22.36	66.77	11,034.6	7,569.3	12.8	418.3	799,333.21	485,386.06	51.25	10.01
Start DLS 9.99 TFO -8.09										
11,100.0	26.32	65.50	11,071.1	7,605.8	19.5	433.4	799,348.27	485,392.74	59.29	9.99
11,150.0	31.29	64.34	11,114.9	7,649.6	29.8	455.2	799,370.08	485,402.97	71.47	9.99
11,160.0	32.28	64.15	11,123.4	7,658.1	32.0	459.9	799,374.82	485,405.26	74.19	9.99
Start DLS 10.00 TFO -5.78										
11,200.0	36.26	63.47	11,156.4	7,691.1	42.0	480.1	799,395.03	485,415.20	85.95	10.00

Morcor Engineering

Morcor Standard Plan

Company: Kaiser Francis
Project: 190328 190328 Bell Lake Unit North 432H
Site: 190328 190328 Bell Lake Unit North 432H
Well: 190328 190328 Bell Lake Unit North 432H
Wellbore: 190328 190328 Bell Lake Unit North 432H
Design: 190328 190328 190328 Bell Lake Unit North 432H

Local Co-ordinate Reference: Well 190328 190328 Bell Lake Unit North 432H
TVD Reference: WELL @ 3465.3usft (Original Well Elev)
MD Reference: WELL @ 3465.3usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: 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)
11,250.0	41.24	62.78	11,195.4	7,730.1	56.1	508.1	799,422.93	485,429.36	102.61	10.00
11,260.0	42.24	62.66	11,202.9	7,737.6	59.2	514.0	799,428.85	485,432.41	106.19	10.00
Start DLS 10.00 TFO -4.56										
11,300.0	46.23	62.22	11,231.5	7,766.2	72.1	538.7	799,453.58	485,445.32	121.32	10.00
11,350.0	51.21	61.75	11,264.5	7,799.2	89.7	571.9	799,486.74	485,462.97	141.94	10.00
11,360.0	52.21	61.66	11,270.7	7,805.4	93.5	578.8	799,493.65	485,466.69	146.28	10.00
Start DLS 10.00 TFO -3.92										
11,396.2	55.83	61.36	11,292.0	7,826.7	107.5	604.5	799,519.42	485,480.68	162.58	10.00
First PP - Wolfcamp										
11,400.0	56.20	61.33	11,294.1	7,828.8	109.0	607.3	799,522.15	485,482.17	164.32	10.00
11,450.0	61.19	60.96	11,320.1	7,854.8	129.6	644.7	799,559.56	485,502.78	188.28	10.00
11,460.0	62.19	60.89	11,324.8	7,859.5	133.8	652.4	799,567.25	485,507.06	193.25	10.00
Start DLS 10.02 TFO -3.34										
11,484.8	64.67	60.73	11,335.9	7,870.6	144.7	671.7	799,586.61	485,517.88	205.80	10.02
Start DLS 10.01 TFO -77.29										
11,500.0	65.01	59.09	11,342.4	7,877.1	151.6	683.6	799,598.52	485,524.78	213.76	10.01
11,510.0	65.25	58.02	11,346.6	7,881.3	156.3	691.4	799,606.26	485,529.51	219.19	10.01
Start DLS 10.00 TFO -76.02										
11,550.0	66.28	53.78	11,363.0	7,897.7	176.7	721.6	799,636.45	485,549.96	242.32	10.00
11,560.0	66.55	52.73	11,367.0	7,901.7	182.2	728.9	799,643.79	485,555.44	248.46	10.00
Start DLS 10.00 TFO -73.96										
11,600.0	67.71	48.58	11,382.5	7,917.2	205.6	757.4	799,672.28	485,578.80	274.34	10.00
11,650.0	69.30	43.48	11,400.9	7,935.6	237.9	790.9	799,705.74	485,611.10	309.58	10.00
11,660.0	69.64	42.48	11,404.4	7,939.1	244.7	797.2	799,712.12	485,617.95	316.98	10.00
Start DLS 10.00 TFO -70.08										
11,700.0	71.05	38.51	11,417.8	7,952.5	273.4	821.7	799,736.57	485,646.59	347.75	10.00
11,750.0	72.92	33.63	11,433.3	7,968.0	311.8	849.7	799,764.55	485,685.02	388.59	10.00
11,760.0	73.31	32.67	11,436.2	7,970.9	319.8	854.9	799,769.78	485,693.03	397.05	10.00
Start DLS 10.00 TFO -67.00										

Morcor Engineering

Morcor Standard Plan

Company: Kaiser Francis
Project: 190328 190328 Bell Lake Unit North 432H
Site: 190328 190328 Bell Lake Unit North 432H
Well: 190328 190328 Bell Lake Unit North 432H
Wellbore: 190328 190328 Bell Lake Unit North 432H
Design: 190328 190328 190328 Bell Lake Unit North 432H

Local Co-ordinate Reference: Well 190328 190328 Bell Lake Unit North 432H
TVD Reference: WELL @ 3465.3usft (Original Well Elev)
MD Reference: WELL @ 3465.3usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: 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)
11,800.0	74.91	28.86	11,447.2	7,981.9	352.9	874.6	799,789.45	485,726.08	431.77	10.00
11,850.0	76.99	24.17	11,459.3	7,994.0	396.3	896.2	799,811.08	485,769.47	476.96	10.00
11,860.0	77.42	23.24	11,461.5	7,996.2	405.2	900.1	799,815.00	485,778.40	486.22	10.00
Start DLS 10.00 TFO -64.62										
11,900.0	79.16	19.56	11,469.7	8,004.4	441.6	914.4	799,829.29	485,814.86	523.83	10.00
11,950.0	81.41	15.03	11,478.1	8,012.8	488.7	929.1	799,843.93	485,861.90	572.02	10.00
11,960.0	81.86	14.13	11,479.6	8,014.3	498.3	931.5	799,846.42	485,871.48	581.78	10.00
Start DLS 9.99 TFO -62.98										
12,000.0	83.69	10.55	11,484.6	8,019.3	537.0	940.0	799,854.90	485,910.23	621.16	9.99
12,050.0	86.01	6.11	11,489.1	8,023.8	586.3	947.2	799,862.10	485,959.49	670.87	9.99
12,060.0	86.48	5.22	11,489.7	8,024.4	596.2	948.2	799,863.09	485,969.42	680.85	9.99
Start DLS 10.01 TFO -62.01										
12,100.0	88.36	1.68	11,491.5	8,026.2	636.1	950.6	799,865.49	486,009.30	720.78	10.01
12,134.6	90.00	358.63	11,492.0	8,026.7	670.7	950.7	799,865.59	486,043.89	755.23	10.01
Start Turn 0.02										
12,150.0	90.00	358.63	11,492.0	8,026.7	686.1	950.3	799,865.22	486,059.29	770.53	0.02
12,200.0	90.00	358.64	11,492.0	8,026.7	736.1	949.2	799,864.03	486,109.27	820.19	0.02
12,250.0	90.00	358.65	11,492.0	8,026.7	786.0	948.0	799,862.85	486,159.26	869.86	0.02
12,254.0	90.00	358.65	11,492.0	8,026.7	790.0	947.9	799,862.75	486,163.26	873.83	0.02
First Take Point										
12,300.0	90.00	358.65	11,492.0	8,026.7	836.0	946.8	799,861.67	486,209.24	919.53	0.00
12,350.0	90.00	358.65	11,492.0	8,026.7	886.0	945.6	799,860.49	486,259.23	969.19	0.00
12,400.0	90.00	358.65	11,492.0	8,026.7	936.0	944.4	799,859.31	486,309.22	1,018.86	0.00
12,450.0	90.00	358.65	11,492.0	8,026.7	986.0	943.3	799,858.14	486,359.20	1,068.52	0.00
12,500.0	90.00	358.65	11,492.0	8,026.7	1,036.0	942.1	799,856.96	486,409.19	1,118.19	0.00
12,550.0	90.00	358.65	11,492.0	8,026.7	1,086.0	940.9	799,855.78	486,459.18	1,167.86	0.00
12,600.0	90.00	358.65	11,492.0	8,026.7	1,135.9	939.7	799,854.60	486,509.16	1,217.52	0.00
12,650.0	90.00	358.65	11,492.0	8,026.7	1,185.9	938.5	799,853.42	486,559.15	1,267.19	0.00

Morcor Engineering

Morcor Standard Plan

Company: Kaiser Francis
Project: 190328 190328 Bell Lake Unit North 432H
Site: 190328 190328 Bell Lake Unit North 432H
Well: 190328 190328 Bell Lake Unit North 432H
Wellbore: 190328 190328 Bell Lake Unit North 432H
Design: 190328 190328 190328 Bell Lake Unit North 432H

Local Co-ordinate Reference: Well 190328 190328 Bell Lake Unit North 432H
TVD Reference: WELL @ 3465.3usft (Original Well Elev)
MD Reference: WELL @ 3465.3usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: 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)
12,700.0	90.00	358.65	11,492.0	8,026.7	1,235.9	937.4	799,852.25	486,609.13	1,316.86	0.00
12,750.0	90.00	358.65	11,492.0	8,026.7	1,285.9	936.2	799,851.07	486,659.12	1,366.52	0.00
12,800.0	90.00	358.65	11,492.0	8,026.7	1,335.9	935.0	799,849.89	486,709.11	1,416.19	0.00
12,850.0	90.00	358.65	11,492.0	8,026.7	1,385.9	933.8	799,848.71	486,759.09	1,465.85	0.00
12,900.0	90.00	358.65	11,492.0	8,026.7	1,435.9	932.7	799,847.53	486,809.08	1,515.52	0.00
12,950.0	90.00	358.65	11,492.0	8,026.7	1,485.8	931.5	799,846.36	486,859.06	1,565.19	0.00
13,000.0	90.00	358.65	11,492.0	8,026.7	1,535.8	930.3	799,845.18	486,909.05	1,614.85	0.00
13,050.0	90.00	358.65	11,492.0	8,026.7	1,585.8	929.1	799,844.00	486,959.04	1,664.52	0.00
13,100.0	90.00	358.65	11,492.0	8,026.7	1,635.8	927.9	799,842.82	487,009.02	1,714.18	0.00
13,150.0	90.00	358.65	11,492.0	8,026.7	1,685.8	926.8	799,841.64	487,059.01	1,763.85	0.00
13,200.0	90.00	358.65	11,492.0	8,026.7	1,735.8	925.6	799,840.47	487,108.99	1,813.52	0.00
13,250.0	90.00	358.65	11,492.0	8,026.7	1,785.8	924.4	799,839.29	487,158.98	1,863.18	0.00
13,300.0	90.00	358.65	11,492.0	8,026.7	1,835.7	923.2	799,838.11	487,208.97	1,912.85	0.00
13,350.0	90.00	358.65	11,492.0	8,026.7	1,885.7	922.1	799,836.93	487,258.95	1,962.52	0.00
13,400.0	90.00	358.65	11,492.0	8,026.7	1,935.7	920.9	799,835.75	487,308.94	2,012.18	0.00
13,450.0	90.00	358.65	11,492.0	8,026.7	1,985.7	919.7	799,834.58	487,358.93	2,061.85	0.00
13,500.0	90.00	358.65	11,492.0	8,026.7	2,035.7	918.5	799,833.40	487,408.91	2,111.51	0.00
13,550.0	90.00	358.65	11,492.0	8,026.7	2,085.7	917.3	799,832.22	487,458.90	2,161.18	0.00
13,600.0	90.00	358.65	11,492.0	8,026.7	2,135.7	916.2	799,831.04	487,508.88	2,210.85	0.00
13,650.0	90.00	358.65	11,492.0	8,026.7	2,185.7	915.0	799,829.86	487,558.87	2,260.51	0.00
13,700.0	90.00	358.65	11,492.0	8,026.7	2,235.6	913.8	799,828.69	487,608.86	2,310.18	0.00
13,750.0	90.00	358.65	11,492.0	8,026.7	2,285.6	912.6	799,827.51	487,658.84	2,359.84	0.00
13,800.0	90.00	358.65	11,492.0	8,026.7	2,335.6	911.5	799,826.33	487,708.83	2,409.51	0.00
13,850.0	90.00	358.65	11,492.0	8,026.7	2,385.6	910.3	799,825.15	487,758.81	2,459.18	0.00
13,900.0	90.00	358.65	11,492.0	8,026.7	2,435.6	909.1	799,823.97	487,808.80	2,508.84	0.00
13,950.0	90.00	358.65	11,492.0	8,026.7	2,485.6	907.9	799,822.80	487,858.79	2,558.51	0.00
14,000.0	90.00	358.65	11,492.0	8,026.7	2,535.6	906.7	799,821.62	487,908.77	2,608.18	0.00

Morcor Engineering

Morcor Standard Plan

Company: Kaiser Francis
Project: 190328 190328 Bell Lake Unit North 432H
Site: 190328 190328 Bell Lake Unit North 432H
Well: 190328 190328 Bell Lake Unit North 432H
Wellbore: 190328 190328 Bell Lake Unit North 432H
Design: 190328 190328 190328 Bell Lake Unit North 432H

Local Co-ordinate Reference: Well 190328 190328 Bell Lake Unit North 432H
TVD Reference: WELL @ 3465.3usft (Original Well Elev)
MD Reference: WELL @ 3465.3usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: 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)
14,050.0	90.00	358.65	11,492.0	8,026.7	2,585.5	905.6	799,820.44	487,958.76	2,657.84	0.00
14,100.0	90.00	358.65	11,492.0	8,026.7	2,635.5	904.4	799,819.26	488,008.74	2,707.51	0.00
14,150.0	90.00	358.65	11,492.0	8,026.7	2,685.5	903.2	799,818.08	488,058.73	2,757.17	0.00
14,200.0	90.00	358.65	11,492.0	8,026.7	2,735.5	902.0	799,816.91	488,108.72	2,806.84	0.00
14,250.0	90.00	358.65	11,492.0	8,026.7	2,785.5	900.8	799,815.73	488,158.70	2,856.51	0.00
14,300.0	90.00	358.65	11,492.0	8,026.7	2,835.5	899.7	799,814.55	488,208.69	2,906.17	0.00
14,350.0	90.00	358.65	11,492.0	8,026.7	2,885.5	898.5	799,813.37	488,258.68	2,955.84	0.00
14,400.0	90.00	358.65	11,492.0	8,026.7	2,935.4	897.3	799,812.19	488,308.66	3,005.50	0.00
14,450.0	90.00	358.65	11,492.0	8,026.7	2,985.4	896.1	799,811.02	488,358.65	3,055.17	0.00
14,500.0	90.00	358.65	11,492.0	8,026.7	3,035.4	895.0	799,809.84	488,408.63	3,104.84	0.00
14,550.0	90.00	358.65	11,492.0	8,026.7	3,085.4	893.8	799,808.66	488,458.62	3,154.50	0.00
14,600.0	90.00	358.65	11,492.0	8,026.7	3,135.4	892.6	799,807.48	488,508.61	3,204.17	0.00
14,650.0	90.00	358.65	11,492.0	8,026.7	3,185.4	891.4	799,806.30	488,558.59	3,253.84	0.00
14,700.0	90.00	358.65	11,492.0	8,026.7	3,235.4	890.2	799,805.13	488,608.58	3,303.50	0.00
14,750.0	90.00	358.65	11,492.0	8,026.7	3,285.3	889.1	799,803.95	488,658.56	3,353.17	0.00
14,800.0	90.00	358.65	11,492.0	8,026.7	3,335.3	887.9	799,802.77	488,708.55	3,402.83	0.00
14,850.0	90.00	358.65	11,492.0	8,026.7	3,385.3	886.7	799,801.59	488,758.54	3,452.50	0.00
14,900.0	90.00	358.65	11,492.0	8,026.7	3,435.3	885.5	799,800.41	488,808.52	3,502.17	0.00
14,950.0	90.00	358.65	11,492.0	8,026.7	3,485.3	884.4	799,799.24	488,858.51	3,551.83	0.00
15,000.0	90.00	358.65	11,492.0	8,026.7	3,535.3	883.2	799,798.06	488,908.50	3,601.50	0.00
15,050.0	90.00	358.65	11,492.0	8,026.7	3,585.3	882.0	799,796.88	488,958.48	3,651.16	0.00
15,100.0	90.00	358.65	11,492.0	8,026.7	3,635.3	880.8	799,795.70	489,008.47	3,700.83	0.00
15,150.0	90.00	358.65	11,492.0	8,026.7	3,685.2	879.6	799,794.52	489,058.45	3,750.50	0.00
15,200.0	90.00	358.65	11,492.0	8,026.7	3,735.2	878.5	799,793.35	489,108.44	3,800.16	0.00
15,250.0	90.00	358.65	11,492.0	8,026.7	3,785.2	877.3	799,792.17	489,158.43	3,849.83	0.00
15,300.0	90.00	358.65	11,492.0	8,026.7	3,835.2	876.1	799,790.99	489,208.41	3,899.50	0.00
15,350.0	90.00	358.65	11,492.0	8,026.7	3,885.2	874.9	799,789.81	489,258.40	3,949.16	0.00

Morcor Engineering

Morcor Standard Plan

Company: Kaiser Francis
Project: 190328 190328 Bell Lake Unit North 432H
Site: 190328 190328 Bell Lake Unit North 432H
Well: 190328 190328 Bell Lake Unit North 432H
Wellbore: 190328 190328 Bell Lake Unit North 432H
Design: 190328 190328 190328 Bell Lake Unit North 432H

Local Co-ordinate Reference: Well 190328 190328 Bell Lake Unit North 432H
TVD Reference: WELL @ 3465.3usft (Original Well Elev)
MD Reference: WELL @ 3465.3usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: 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)
15,400.0	90.00	358.65	11,492.0	8,026.7	3,935.2	873.8	799,788.63	489,308.38	3,998.83	0.00
15,450.0	90.00	358.65	11,492.0	8,026.7	3,985.2	872.6	799,787.46	489,358.37	4,048.49	0.00
15,500.0	90.00	358.65	11,492.0	8,026.7	4,035.1	871.4	799,786.28	489,408.36	4,098.16	0.00
15,550.0	90.00	358.65	11,492.0	8,026.7	4,085.1	870.2	799,785.10	489,458.34	4,147.83	0.00
15,600.0	90.00	358.65	11,492.0	8,026.7	4,135.1	869.0	799,783.92	489,508.33	4,197.49	0.00
15,650.0	90.00	358.65	11,492.0	8,026.7	4,185.1	867.9	799,782.74	489,558.31	4,247.16	0.00
15,700.0	90.00	358.65	11,492.0	8,026.7	4,235.1	866.7	799,781.57	489,608.30	4,296.82	0.00
15,750.0	90.00	358.65	11,492.0	8,026.7	4,285.1	865.5	799,780.39	489,658.29	4,346.49	0.00
15,800.0	90.00	358.65	11,492.0	8,026.7	4,335.1	864.3	799,779.21	489,708.27	4,396.16	0.00
15,850.0	90.00	358.65	11,492.0	8,026.7	4,385.0	863.2	799,778.03	489,758.26	4,445.82	0.00
15,900.0	90.00	358.65	11,492.0	8,026.7	4,435.0	862.0	799,776.85	489,808.25	4,495.49	0.00
15,950.0	90.00	358.65	11,492.0	8,026.7	4,485.0	860.8	799,775.68	489,858.23	4,545.16	0.00
16,000.0	90.00	358.65	11,492.0	8,026.7	4,535.0	859.6	799,774.50	489,908.22	4,594.82	0.00
16,050.0	90.00	358.65	11,492.0	8,026.7	4,585.0	858.4	799,773.32	489,958.20	4,644.49	0.00
16,100.0	90.00	358.65	11,492.0	8,026.7	4,635.0	857.3	799,772.14	490,008.19	4,694.15	0.00
16,150.0	90.00	358.65	11,492.0	8,026.7	4,685.0	856.1	799,770.96	490,058.18	4,743.82	0.00
16,200.0	90.00	358.65	11,492.0	8,026.7	4,734.9	854.9	799,769.79	490,108.16	4,793.49	0.00
16,250.0	90.00	358.65	11,492.0	8,026.7	4,784.9	853.7	799,768.61	490,158.15	4,843.15	0.00
16,300.0	90.00	358.65	11,492.0	8,026.7	4,834.9	852.6	799,767.43	490,208.13	4,892.82	0.00
16,350.0	90.00	358.65	11,492.0	8,026.7	4,884.9	851.4	799,766.25	490,258.12	4,942.48	0.00
16,400.0	90.00	358.65	11,492.0	8,026.7	4,934.9	850.2	799,765.07	490,308.11	4,992.15	0.00
16,450.0	90.00	358.65	11,492.0	8,026.7	4,984.9	849.0	799,763.90	490,358.09	5,041.82	0.00
16,500.0	90.00	358.65	11,492.0	8,026.7	5,034.9	847.8	799,762.72	490,408.08	5,091.48	0.00
16,550.0	90.00	358.65	11,492.0	8,026.7	5,084.8	846.7	799,761.54	490,458.06	5,141.15	0.00
16,600.0	90.00	358.65	11,492.0	8,026.7	5,134.8	845.5	799,760.36	490,508.05	5,190.82	0.00
16,650.0	90.00	358.65	11,492.0	8,026.7	5,184.8	844.3	799,759.18	490,558.04	5,240.48	0.00
16,700.0	90.00	358.65	11,492.0	8,026.7	5,234.8	843.1	799,758.01	490,608.02	5,290.15	0.00

Morcor Engineering

Morcor Standard Plan

Company: Kaiser Francis
Project: 190328 190328 Bell Lake Unit North 432H
Site: 190328 190328 Bell Lake Unit North 432H
Well: 190328 190328 Bell Lake Unit North 432H
Wellbore: 190328 190328 Bell Lake Unit North 432H
Design: 190328 190328 190328 Bell Lake Unit North 432H

Local Co-ordinate Reference: Well 190328 190328 Bell Lake Unit North 432H
TVD Reference: WELL @ 3465.3usft (Original Well Elev)
MD Reference: WELL @ 3465.3usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: 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)	DLog (°/100usft)
16,750.0	90.00	358.65	11,492.0	8,026.7	5,284.8	841.9	799,756.83	490,658.01	5,339.81	0.00
16,800.0	90.00	358.65	11,492.0	8,026.7	5,334.8	840.8	799,755.65	490,708.00	5,389.48	0.00
16,850.0	90.00	358.65	11,492.0	8,026.7	5,384.8	839.6	799,754.47	490,757.98	5,439.15	0.00
16,900.0	90.00	358.65	11,492.0	8,026.7	5,434.8	838.4	799,753.29	490,807.97	5,488.81	0.00
16,950.0	90.00	358.65	11,492.0	8,026.7	5,484.7	837.2	799,752.12	490,857.95	5,538.48	0.00
17,000.0	90.00	358.65	11,492.0	8,026.7	5,534.7	836.1	799,750.94	490,907.94	5,588.14	0.00
17,050.0	90.00	358.65	11,492.0	8,026.7	5,584.7	834.9	799,749.76	490,957.93	5,637.81	0.00
17,100.0	90.00	358.65	11,492.0	8,026.7	5,634.7	833.7	799,748.58	491,007.91	5,687.48	0.00
17,150.0	90.00	358.65	11,492.0	8,026.7	5,684.7	832.5	799,747.40	491,057.90	5,737.14	0.00
17,200.0	90.00	358.65	11,492.0	8,026.7	5,734.7	831.3	799,746.23	491,107.88	5,786.81	0.00
17,250.0	90.00	358.65	11,492.0	8,026.7	5,784.7	830.2	799,745.05	491,157.87	5,836.48	0.00
17,300.0	90.00	358.65	11,492.0	8,026.7	5,834.6	829.0	799,743.87	491,207.86	5,886.14	0.00
17,350.0	90.00	358.65	11,492.0	8,026.7	5,884.6	827.8	799,742.69	491,257.84	5,935.81	0.00
17,400.0	90.00	358.65	11,492.0	8,026.7	5,934.6	826.6	799,741.51	491,307.83	5,985.47	0.00
17,450.0	90.00	358.65	11,492.0	8,026.7	5,984.6	825.5	799,740.34	491,357.82	6,035.14	0.00
17,500.0	90.00	358.65	11,492.0	8,026.7	6,034.6	824.3	799,739.16	491,407.80	6,084.81	0.00
17,550.0	90.00	358.65	11,492.0	8,026.7	6,084.6	823.1	799,737.98	491,457.79	6,134.47	0.00
17,600.0	90.00	358.65	11,492.0	8,026.7	6,134.6	821.9	799,736.80	491,507.77	6,184.14	0.00
17,650.0	90.00	358.65	11,492.0	8,026.7	6,184.5	820.7	799,735.62	491,557.76	6,233.81	0.00
17,700.0	90.00	358.65	11,492.0	8,026.7	6,234.5	819.6	799,734.45	491,607.75	6,283.47	0.00
17,750.0	90.00	358.65	11,492.0	8,026.7	6,284.5	818.4	799,733.27	491,657.73	6,333.14	0.00
17,800.0	90.00	358.65	11,492.0	8,026.7	6,334.5	817.2	799,732.09	491,707.72	6,382.80	0.00
17,850.0	90.00	358.65	11,492.0	8,026.7	6,384.5	816.0	799,730.91	491,757.70	6,432.47	0.00
17,900.0	90.00	358.65	11,492.0	8,026.7	6,434.5	814.9	799,729.73	491,807.69	6,482.14	0.00
17,950.0	90.00	358.65	11,492.0	8,026.7	6,484.5	813.7	799,728.56	491,857.68	6,531.80	0.00
18,000.0	90.00	358.65	11,492.0	8,026.7	6,534.4	812.5	799,727.38	491,907.66	6,581.47	0.00
18,050.0	90.00	358.65	11,492.0	8,026.7	6,584.4	811.3	799,726.20	491,957.65	6,631.13	0.00

Morcor Engineering

Morcor Standard Plan

Company: Kaiser Francis
Project: 190328 190328 Bell Lake Unit North 432H
Site: 190328 190328 Bell Lake Unit North 432H
Well: 190328 190328 Bell Lake Unit North 432H
Wellbore: 190328 190328 Bell Lake Unit North 432H
Design: 190328 190328 190328 Bell Lake Unit North 432H

Local Co-ordinate Reference: Well 190328 190328 Bell Lake Unit North 432H
TVD Reference: WELL @ 3465.3usft (Original Well Elev)
MD Reference: WELL @ 3465.3usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: 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)
18,100.0	90.00	358.65	11,492.0	8,026.7	6,634.4	810.1	799,725.02	492,007.63	6,680.80	0.00
18,150.0	90.00	358.65	11,492.0	8,026.7	6,684.4	809.0	799,723.84	492,057.62	6,730.47	0.00
18,200.0	90.00	358.65	11,492.0	8,026.7	6,734.4	807.8	799,722.67	492,107.61	6,780.13	0.00
18,250.0	90.00	358.65	11,492.0	8,026.7	6,784.4	806.6	799,721.49	492,157.59	6,829.80	0.00
18,300.0	90.00	358.65	11,492.0	8,026.7	6,834.4	805.4	799,720.31	492,207.58	6,879.47	0.00
18,350.0	90.00	358.65	11,492.0	8,026.7	6,884.3	804.3	799,719.13	492,257.57	6,929.13	0.00
18,400.0	90.00	358.65	11,492.0	8,026.7	6,934.3	803.1	799,717.95	492,307.55	6,978.80	0.00
18,450.0	90.00	358.65	11,492.0	8,026.7	6,984.3	801.9	799,716.78	492,357.54	7,028.46	0.00
18,500.0	90.00	358.65	11,492.0	8,026.7	7,034.3	800.7	799,715.60	492,407.52	7,078.13	0.00
18,550.0	90.00	358.65	11,492.0	8,026.7	7,084.3	799.5	799,714.42	492,457.51	7,127.80	0.00
18,600.0	90.00	358.65	11,492.0	8,026.7	7,134.3	798.4	799,713.24	492,507.50	7,177.46	0.00
18,650.0	90.00	358.65	11,492.0	8,026.7	7,184.3	797.2	799,712.06	492,557.48	7,227.13	0.00
18,700.0	90.00	358.65	11,492.0	8,026.7	7,234.3	796.0	799,710.89	492,607.47	7,276.79	0.00
18,750.0	90.00	358.65	11,492.0	8,026.7	7,284.2	794.8	799,709.71	492,657.45	7,326.46	0.00
18,800.0	90.00	358.65	11,492.0	8,026.7	7,334.2	793.7	799,708.53	492,707.44	7,376.13	0.00
18,850.0	90.00	358.65	11,492.0	8,026.7	7,384.2	792.5	799,707.35	492,757.43	7,425.79	0.00
18,900.0	90.00	358.65	11,492.0	8,026.7	7,434.2	791.3	799,706.17	492,807.41	7,475.46	0.00
18,950.0	90.00	358.65	11,492.0	8,026.7	7,484.2	790.1	799,705.00	492,857.40	7,525.13	0.00
19,000.0	90.00	358.65	11,492.0	8,026.7	7,534.2	788.9	799,703.82	492,907.38	7,574.79	0.00
19,050.0	90.00	358.65	11,492.0	8,026.7	7,584.2	787.8	799,702.64	492,957.37	7,624.46	0.00
19,100.0	90.00	358.65	11,492.0	8,026.7	7,634.1	786.6	799,701.46	493,007.36	7,674.12	0.00
19,150.0	90.00	358.65	11,492.0	8,026.7	7,684.1	785.4	799,700.28	493,057.34	7,723.79	0.00
19,200.0	90.00	358.65	11,492.0	8,026.7	7,734.1	784.2	799,699.11	493,107.33	7,773.46	0.00
19,250.0	90.00	358.65	11,492.0	8,026.7	7,784.1	783.1	799,697.93	493,157.32	7,823.12	0.00
19,300.0	90.00	358.65	11,492.0	8,026.7	7,834.1	781.9	799,696.75	493,207.30	7,872.79	0.00
19,350.0	90.00	358.65	11,492.0	8,026.7	7,884.1	780.7	799,695.57	493,257.29	7,922.45	0.00
19,400.0	90.00	358.65	11,492.0	8,026.7	7,934.1	779.5	799,694.39	493,307.27	7,972.12	0.00

Morcor Engineering

Morcor Standard Plan

Company: Kaiser Francis
Project: 190328 190328 Bell Lake Unit North 432H
Site: 190328 190328 Bell Lake Unit North 432H
Well: 190328 190328 Bell Lake Unit North 432H
Wellbore: 190328 190328 Bell Lake Unit North 432H
Design: 190328 190328 190328 Bell Lake Unit North 432H

Local Co-ordinate Reference: Well 190328 190328 Bell Lake Unit North 432H
TVD Reference: WELL @ 3465.3usft (Original Well Elev)
MD Reference: WELL @ 3465.3usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: 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)
19,450.0	90.00	358.65	11,492.0	8,026.7	7,984.0	778.3	799,693.22	493,357.26	8,021.79	0.00
19,500.0	90.00	358.65	11,492.0	8,026.7	8,034.0	777.2	799,692.04	493,407.25	8,071.45	0.00
19,550.0	90.00	358.65	11,492.0	8,026.7	8,084.0	776.0	799,690.86	493,457.23	8,121.12	0.00
19,600.0	90.00	358.65	11,492.0	8,026.7	8,134.0	774.8	799,689.68	493,507.22	8,170.79	0.00
19,650.0	90.00	358.65	11,492.0	8,026.7	8,184.0	773.6	799,688.50	493,557.20	8,220.45	0.00
19,700.0	90.00	358.65	11,492.0	8,026.7	8,234.0	772.4	799,687.33	493,607.19	8,270.12	0.00
19,750.0	90.00	358.65	11,492.0	8,026.7	8,284.0	771.3	799,686.15	493,657.18	8,319.78	0.00
19,800.0	90.00	358.65	11,492.0	8,026.7	8,333.9	770.1	799,684.97	493,707.16	8,369.45	0.00
19,806.0	90.00	358.65	11,492.0	8,026.7	8,339.9	770.0	799,684.83	493,713.16	8,375.41	0.00

TD at 19806.0 - Last Take Point - 5 1/2" Production Casing

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
19,806.0	11,492.0	5 1/2" Production Casing	5-1/2	8-3/4
5,147.0	5,147.0	9 5/8" Intermediate Casing	9-5/8	12-1/4
1,207.0	1,207.0	13 3/8" Surface Casing	13-3/8	17-1/2
120.0	120.0	20" Conductor	20	26

Morcor Engineering

Morcor Standard Plan

Company: Kaiser Francis
Project: 190328 190328 Bell Lake Unit North 432H
Site: 190328 190328 Bell Lake Unit North 432H
Well: 190328 190328 Bell Lake Unit North 432H
Wellbore: 190328 190328 Bell Lake Unit North 432H
Design: 190328 190328 190328 Bell Lake Unit North 432H

Local Co-ordinate Reference: Well 190328 190328 Bell Lake Unit North 432H
TVD Reference: WELL @ 3465.3usft (Original Well Elev)
MD Reference: WELL @ 3465.3usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
10,539.8	10,522.0	2nd Bone Spring Lime		0.00	
4,922.0	4,922.0	Lamar		0.00	
5,172.0	5,172.0	Bell Canyon		0.00	
11,014.6	10,992.0	3rd Bone Spring		0.00	
10,047.1	10,032.0	2nd Bone Spring		0.00	
1,572.0	1,572.0	Salado		0.00	
1,182.0	1,182.0	Rustler		0.00	
9,534.3	9,522.0	1st Bone Spring		0.00	
8,579.0	8,572.0	Bone Spring		0.00	
4,722.0	4,722.0	Base of Salt		0.00	
6,072.0	6,072.0	Cherry Canyon		0.00	
7,473.0	7,472.0	Brushy Canyon		0.00	
1,772.0	1,772.0	Top of Salt		0.00	
11,396.2	11,292.0	Wolfcamp		0.00	
8,624.3	8,617.0	Avalon		0.00	

Morcor Engineering

Morcor Standard Plan

Company: Kaiser Francis
Project: 190328 190328 Bell Lake Unit North 432H
Site: 190328 190328 Bell Lake Unit North 432H
Well: 190328 190328 Bell Lake Unit North 432H
Wellbore: 190328 190328 Bell Lake Unit North 432H
Design: 190328 190328 190328 Bell Lake Unit North 432H

Local Co-ordinate Reference: Well 190328 190328 Bell Lake Unit North 432H
TVD Reference: WELL @ 3465.3usft (Original Well Elev)
MD Reference: WELL @ 3465.3usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
7,160.0	7,160.0	0.0	0.0	Start Build 3.00
7,360.0	7,359.6	0.0	10.5	Start 3530.0 hold at 7360.0 MD
10,890.0	10,870.3	0.0	379.4	Start DLS 10.00 TFO -30.88
10,960.0	10,939.4	2.2	390.4	Start DLS 10.01 TFO -14.31
11,060.0	11,034.6	12.8	418.3	Start DLS 9.99 TFO -8.09
11,160.0	11,123.4	32.0	459.9	Start DLS 10.00 TFO -5.78
11,260.0	11,202.9	59.2	514.0	Start DLS 10.00 TFO -4.56
11,360.0	11,270.7	93.5	578.8	Start DLS 10.00 TFO -3.92
11,396.2	11,292.0	107.5	604.5	First PP
11,460.0	11,324.8	133.8	652.4	Start DLS 10.02 TFO -3.34
11,484.8	11,335.9	144.7	671.7	Start DLS 10.01 TFO -77.29
11,510.0	11,346.6	156.3	691.4	Start DLS 10.00 TFO -76.02
11,560.0	11,367.0	182.2	728.9	Start DLS 10.00 TFO -73.96
11,660.0	11,404.4	244.7	797.2	Start DLS 10.00 TFO -70.08
11,760.0	11,436.2	319.8	854.9	Start DLS 10.00 TFO -67.00
11,860.0	11,461.5	405.2	900.1	Start DLS 10.00 TFO -64.52
11,960.0	11,479.6	498.3	931.5	Start DLS 9.99 TFO -62.98
12,060.0	11,489.7	596.2	948.2	Start DLS 10.01 TFO -62.01
12,134.6	11,492.0	670.7	950.7	Start Turn 0.02
12,254.0	11,492.0	790.0	947.9	First Take Point
19,806.0	11,492.0	8,339.9	770.0	TD at 19806.0 - Last Take Point

Checked By: _____ Approved By: _____ Date: _____