Form 3160-3
(June 2015)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

**APPLICATION FOR PERMIT TO DRILL OR REENTER**

5. Lease Serial No.
NMLC0061374A

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☑ DRILL ☐ REENTER

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

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

7. If Unit or CA Agreement, Name and No.
BELL LAKE / NMNM068292X

8. Lease Name and Well No.
BELL LAKE UNIT SOUTH
216H [316706]

2. Name of Operator
KAISER FRANCIS OIL COMPANY [12361]

9. API Well No.
30-025-48257

3a. Address
PO BOX 21468 TULSA OK 74121-1468

3b. Phone No. *(include area code)*

10. Field and Pool, or Exploratory [98264]
BELL LAKE / WOLFCAMP, SOUTH

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface SENE / 2162 FNL / 1237 FEL / LAT 32.2479388 / LONG -103.4874966
At proposed prod. zone SWSE / 330 FSL / 2290 FEL / LAT 32.2257281 / LONG -103.490852

11. Sec., T. R. M. or Blk. and Survey or Area
SEC 5 / T24S / R34E / NMP

14. Distance in miles and direction from nearest town or post office*
20 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)
1237 feet

16. No of acres in lease
440

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
10800 feet / 18689 feet

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

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3582 feet

22. Approximate date work will start*
08/01/2019

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.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification.
6. Such other site specific information and/or plans as may be requested by the BLM.

| 25. Signature | Name *(Printed/Typed)* | Date |
|---|---|---|
| (Electronic Submission) | | 05/09/2019 |

Title

| Approved by *(Signature)* | Name *(Printed/Typed)* | Date |
|---|---|---|
| (Electronic Submission) | Cody Layton / Ph: (575)234-5959 | 12/04/2020 |
| Title: Assistant Field Manager Lands & Minerals | Office: CARLSBAD | |

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

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

**GCP Rec 12/17/2020**

APPROVED WITH CONDITIONS

KZ
12/29/2020

**SL**

(Continued on page 2)

*(Instructions on page 2)

**Approval Date: 12/04/2020**

## INSTRUCTIONS

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

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

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

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

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

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

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

## NOTICES

The Privacy Act of 1974 and regulation in 43 CFR 2.48( d) provide that you be furnished the following information in connection with information required by this application.

AUTHORITY: 30 U.S.C. 181 et seq., 25 U.S.C. 396; 43 CFR 3160

PRINCIPAL PURPOSES: The information will be used to: (1) process and evaluate your application for a permit to drill a new oil, gas, or service wen or to reenter a plugged and abandoned well; and (2) document, for administrative use, information for the management, disposal and use of National Resource Lands and resources including (a) analyzing your proposal to discover and extract the Federal or Indian resources encountered; (b) reviewing procedures and equipment and the projected impact on the land involved; and (c) evaluating the effects of the proposed operation on the surface and subsurface water and other environmental impacts.

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

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

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

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



(Continued on page 3)

## Additional Operator Remarks

### Location of Well

1. SHL: SENE / 2162 FNL / 1237 FEL / TWSP: 24S / RANGE: 34E / SECTION: 5 / LAT: 32.2479388 / LONG: -103.4874966 ( TVD: 0 feet, MD: 0 feet )
   PPP: NWSE / 2600 FSL / 2140 FEL / TWSP: 24S / RANGE: 34E / SECTION: 5 / LAT: 32.2466014 / LONG: -103.490401 ( TVD: 10795 feet, MD: 11100 feet )
   PPP: SWNE / 1320 FNL / 2172 FEL / TWSP: 24S / RANGE: 34E / SECTION: 8 / LAT: 32.2358666 / LONG: -103.4906329 ( TVD: 10800 feet, MD: 15020 feet )
   PPP: NWNE / 0 FNL / 2158 FEL / TWSP: 24S / RANGE: 34E / SECTION: 8 / LAT: 32.2394392 / LONG: -103.4905547 ( TVD: 10800 feet, MD: 13700 feet )
   PPP: NWSE / 2640 FNL / 2187 FEL / TWSP: 24S / RANGE: 34E / SECTION: 8 / LAT: 32.2321563 / LONG: -103.4907141 ( TVD: 10800 feet, MD: 16340 feet )
   BHL: SWSE / 330 FSL / 2290 FEL / TWSP: 24S / RANGE: 34E / SECTION: 8 / LAT: 32.2257281 / LONG: -103.490852 ( TVD: 10800 feet, MD: 18689 feet )

## BLM Point of Contact

Name: Deborah Ham
Title: Legal Landlaw Examiner
Phone: 5752345965
Email: dham@blm.gov

## Review and Appeal Rights

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

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

# Application Data Report
12/07/2020

**APD ID:** 10400041615
**Submission Date:** 05/09/2019
**Operator Name:** KAISER FRANCIS OIL COMPANY
**Well Name:** BELL LAKE UNIT SOUTH
**Well Number:** 216H
**Well Type:** OIL WELL
**Well Work Type:** Drill

Highlighted data reflects the most recent changes

Show Final Text

## Section 1 - General

**APD ID:** 10400041615
**Tie to previous NOS?**
**Submission Date:** 05/09/2019
**BLM Office:** CARLSBAD
**User:** Stormi Davis
**Title:** Regulatory Analyst
**Federal/Indian APD:** FED
**Is the first lease penetrated for production Federal or Indian?** FED
**Lease number:** NMLC0061374A
**Lease Acres:** 440
**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?** 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 SOUTH
**Well Number:** 216H
**Well API Number:**
**Field/Pool or Exploratory?** Field and Pool
**Field Name:** BELL LAKE
**Pool Name:** WOLFCAMP, SOUTH
**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 SOUTH **Well Number:** 216H

**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?** NO **New surface disturbance?**

**Type of Well Pad:** MULTIPLE WELL **Multiple Well Pad Name:** SOUTH BELL LAKE UNIT **Number:** 14

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

**Well Work Type:** Drill

**Well Type:** OIL WELL

**Describe Well Type:**

**Well sub-Type:** EXPLORATORY (WILDCAT)

**Describe sub-type:**

**Distance to town:** 20 Miles **Distance to nearest well:** 30 FT **Distance to lease line:** 1237 FT

**Reservoir well spacing assigned acres Measurement:** 480 Acres

**Well plat:** BLUS_216H_C102_20190508091201.pdf

BLUS_216H_Pymt_Rec_20190509093228.pdf

**Well work start Date:** 08/01/2019 **Duration:** 40 DAYS

## Section 3 - Well Location Table

**Survey Type:** RECTANGULAR

**Describe Survey Type:**

**Datum:** NAD83 **Vertical Datum:** NAVD88

**Survey number:** 6771 **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 | 2162 | FNL | 1237 | FEL | 24S | 34E | 5 | Aliquot SENE | 32.2479388 | -103.4874966 | LEA | NEW MEXICO | NEW MEXICO | F | FEE | 3582 | 0 | 0 | |
| KOP Leg #1 | 2162 | FNL | 2125 | FEL | 24S | 34E | 5 | Aliquot SWNE | 32.2477784 | -103.4961248 | LEA | NEW MEXICO | NEW MEXICO | F | FEE | -6622 | 10250 | 10204 | |

**Operator Name:** KAISER FRANCIS OIL COMPANY

**Well Name:** BELL LAKE UNIT SOUTH **Well Number:** 216H

| 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 | 2640 | FNL | 2187 | FEL | 24S | 34E | 8 | Aliquot NWSE | 32.2321563 | -103.4907141 | LEA | NEW MEXICO | NEW MEXICO | F | FEE | -7218 | 16340 | 10800 | |
| PPP Leg #1-2 | 0 | FNL | 2158 | FEL | 24S | 34E | 8 | Aliquot NWNE | 32.2394392 | -103.4905547 | LEA | NEW MEXICO | NEW MEXICO | F | NMLC0061374A | -7218 | 13700 | 10800 | |
| PPP Leg #1-3 | 1320 | FNL | 2172 | FEL | 24S | 34E | 8 | Aliquot SWNE | 32.2358666 | -103.4906329 | LEA | NEW MEXICO | NEW MEXICO | F | NMNM100594 | -7218 | 15020 | 10800 | |
| PPP Leg #1-4 | 2600 | FSL | 2140 | FEL | 24S | 34E | 5 | Aliquot NWSE | 32.2466014 | -103.490401 | LEA | NEW MEXICO | NEW MEXICO | F | FEE | -7213 | 11100 | 10795 | |
| EXIT Leg #1 | 330 | FSL | 2290 | FEL | 24S | 34E | 8 | Aliquot SWSE | 32.2257281 | -103.490852 | LEA | NEW MEXICO | NEW MEXICO | F | FEE | -7218 | 18689 | 10800 | |
| BHL Leg #1 | 330 | FSL | 2290 | FEL | 24S | 34E | 8 | Aliquot SWSE | 32.2257281 | -103.490852 | LEA | NEW MEXICO | NEW MEXICO | F | FEE | -7218 | 18689 | 10800 | |

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

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

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

☐ AMENDED REPORT

# WELL LOCATION AND ACREAGE DEDICATION PLAT

| [1] API Number | [2] Pool Code | [3] Pool Name |
|---|---|---|
| 30-025- | 98264 | Bell Lake; Bone Spring, South |

| [4] Property Code | [5] Property Name | [6] Well Number |
|---|---|---|
| | BELL LAKE UNIT SOUTH | 216H |

| [7] OGRID No. | [8] Operator Name | [9] Elevation |
|---|---|---|
| 12361 | KAISER-FRANCIS OIL CO. | 3581.5 |

## [10] Surface Location

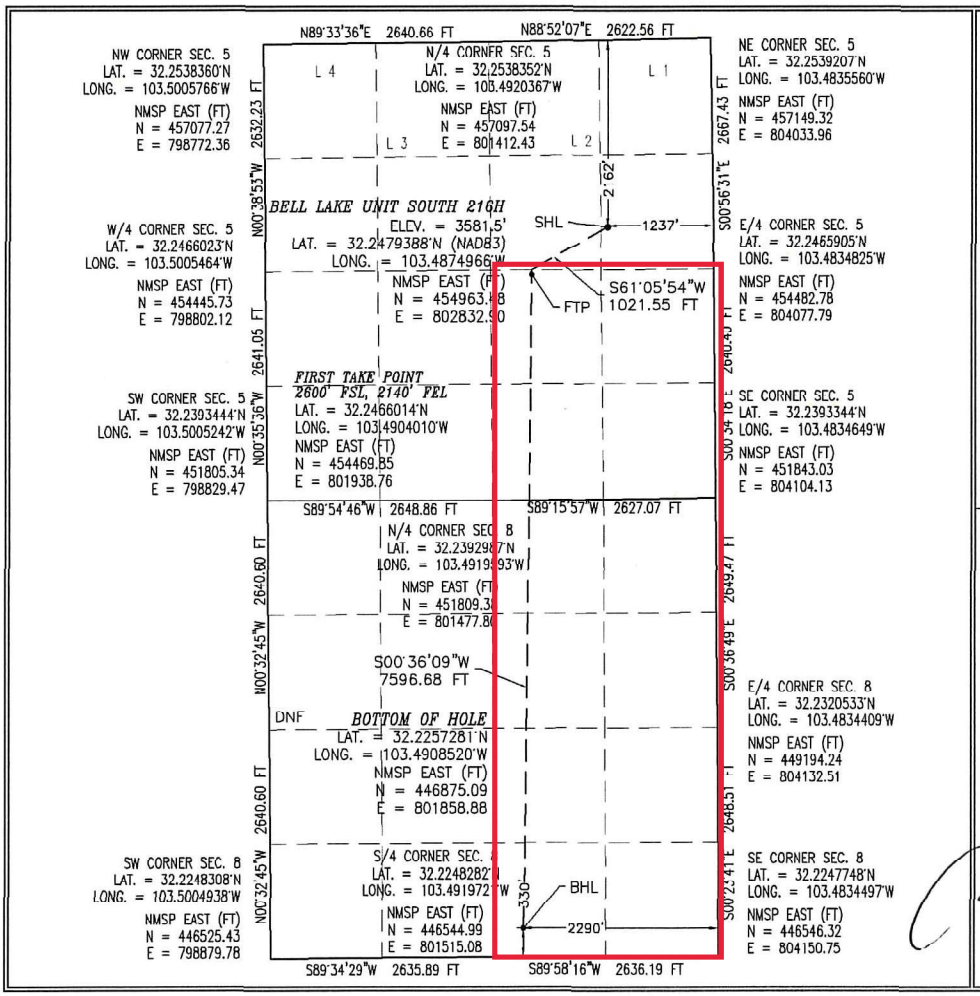
| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---|---|---|---|---|---|---|---|---|---|
| H | 5 | 24 S | 34 E | | 2162 | NORTH | 1237 | EAST | LEA |

## [11] Bottom Hole Location If Different From Surface

| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---|---|---|---|---|---|---|---|---|---|
| O | 8 | 24 S | 34 E | | 330 | SOUTH | 2290 | EAST | LEA |

| [12] Dedicated Acres | [13] Joint or Infill | [14] Consolidation Code | [15] Order No. |
|---|---|---|---|
| 480 | | | R-14600 |

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




## [17] OPERATOR CERTIFICATION

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

Stormi Davis 5/8/19
Signature Date

Stormi Davis
Printed Name

ssdavis104@gmail.com
E-mail Address

## [18] SURVEYOR CERTIFICATION

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

DECEMBER 19, 2018
Date of Survey

FILIMON F. JARAMILLO NEW MEXICO 12797 REGISTERED PROFESSIONAL SURVEYOR

Signature and Seal of Professional Surveyor:

Certificate Number: FILIMON F. JARAMILLO, PLS 12797

SURVEY NO. 6771

# Receipt

## Tracking Information

Pay.gov Tracking ID: 26HBMNHO

Agency Tracking ID: 75744658722

Form Name: Bureau of Land Management (BLM) Application for Permit to Drill (APD) Fee

Application Name: BLM Oil and Gas Online Payment

## Payment Information

Payment Type: Debit or credit card

Payment Amount: $10,050.00

Transaction Date: 05/09/2019 11:31:21 AM EDT

Payment Date: 05/09/2019

Company: Kaiser-Francis Oil Company

APD IDs: 10400041615

Lease Numbers: NMLC0061374A

Well Numbers: 216H

Note: You will need your Pay.gov Tracking ID to complete your APD transaction in AFMSS II. Please ensure you write this number down upon completion of payment.

## Account Information

Cardholder Name: GEORGE B KAISER

Card Type: Visa

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

AFMSS

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

# Drilling Plan Data Report
12/07/2020

**APD ID:** 10400041615
**Submission Date:** 05/09/2019

**Operator Name:** KAISER FRANCIS OIL COMPANY

**Well Name:** BELL LAKE UNIT SOUTH
**Well Number:** 216H

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

Highlighted data reflects the most recent changes

Show Final Text

## Section 1 - Geologic Formations

| Formation ID | Formation Name | Elevation | True Vertical Depth | Measured Depth | Lithologies | Mineral Resources | Producing Formation |
|---|---|---|---|---|---|---|---|
| 451126 | --- | 3582 | 0 | 0 | | NONE | N |
| 451127 | RUSTLER | 2152 | 1430 | 1430 | | NONE | N |
| 451128 | SALADO | 1774 | 1808 | 1808 | | NONE | N |
| 451129 | TOP SALT | 1424 | 2158 | 2158 | | NONE | N |
| 451130 | BASE OF SALT | -1476 | 5058 | 5058 | | NONE | N |
| 451131 | LAMAR | -1726 | 5308 | 5308 | | NATURAL GAS, OIL | N |
| 451132 | BELL CANYON | -1876 | 5458 | 5458 | | NATURAL GAS, OIL | N |
| 451133 | CHERRY CANYON | -2726 | 6308 | 6308 | | NATURAL GAS, OIL | N |
| 451134 | BRUSHY CANYON | -4156 | 7738 | 7738 | | NATURAL GAS, OIL | N |
| 451135 | BONE SPRING | -5296 | 8878 | 8878 | | NATURAL GAS, OIL | N |
| 451136 | AVALON SAND | -5456 | 9038 | 9038 | | NATURAL GAS, OIL | N |
| 451137 | BONE SPRING 1ST | -6426 | 10008 | 10008 | | NATURAL GAS, OIL | N |
| 451138 | BONE SPRING 2ND | -7016 | 10598 | 10598 | | NATURAL GAS, OIL | Y |

## Section 2 - Blowout Prevention

**Operator Name:** KAISER FRANCIS OIL COMPANY

**Well Name:** BELL LAKE UNIT SOUTH **Well Number:** 216H

**Pressure Rating (PSI):** 5M **Rating Depth:** 18000

**Equipment:** A 10M system will be installed according to Onshore Order #2 consisting of an Annular Preventer, BOP with two rams and a blind ram. BOP will be equipped with 2 side outlets (choke side shall be a minimum 3" line, and kill side will be a minimum 2" line). Kill line will be installed with (2) valves and a check valve (2" min) of proper pressure rating for the system. Remote kill line (2' min) will be installed and ran to the outer edge of the substructure and be unobstructed. A manual and hydraulic valve (3'' min) will be installed on the choke line, 3 chokes will be used with one being remotely controlled. Fill up line will be installed above the uppermost preventer. Pressure gauge of proper pressure rating will be installed on choke manifold. Upper and lower kelly cocks will be utilized with handles readily available in plain sight. A float sub will be available at all times. All connections subject to well pressure will be flanged, welded, or clamped.

**Requesting Variance?** YES

**Variance request:** Flex Hose Variance

**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:**

BLUS_216H_Choke_Manifold_20190508100733.pdf

**BOP Diagram Attachment:**

BLUS_216H_Cactus_10K_BOP_5K_20190508100834.pdf

Cactus_Flex_Hose_16C_Certification_20200102122522.pdf

BLUS_216H__Wellhead_Diagram_20200102122828.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 | 17.5 | 13.375 | NEW | API | N | 0 | 1350 | 0 | 1350 | | | 1350 | J-55 | 54.5 | BUTT | 1.8 | 4.3 | DRY | 7 | DRY | 11.6 |
| 2 | INTERMEDIATE | 12.25 | 9.625 | NEW | API | N | 0 | 5200 | 0 | 5200 | | | 5200 | HCP-110 | 43.5 | LT&C | 1.8 | 3.6 | DRY | 5.7 | DRY | 6.1 |
| 3 | PRODUCTION | 8.75 | 5.5 | NEW | API | N | 0 | 18689 | 0 | 10800 | | | 18689 | P-110 | 20 | OTHER - GBCD | 2.2 | 2.5 | DRY | 2.5 | DRY | 3 |

**Casing Attachments**

**Operator Name:** KAISER FRANCIS OIL COMPANY

**Well Name:** BELL LAKE UNIT SOUTH **Well Number:** 216H

**Casing Attachments**

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

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

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

BLUS_216H_Casing_Assumptions_20190508101946.pdf

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

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

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

BLUS_216H_Casing_Assumptions_20190508102005.pdf

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

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

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

5_1_2_P110_GBCD_20190501101524.PDF

BLUS_216H_Casing_Assumptions_20190508102023.pdf

## Section 4 - Cement

**Operator Name:** KAISER FRANCIS OIL COMPANY

**Well Name:** BELL LAKE UNIT SOUTH **Well Number:** 216H

| String Type | Lead/Tail | Stage Tool Depth | Top MD | Bottom MD | Quantity(sx) | Yield | Density | Cu Ft | Excess% | Cement type | Additives |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SURFACE | Lead | | 0 | 1350 | 730 | 1.75 | 13.5 | 1275 | 75 | Halcem | 4% Bentonite |
| INTERMEDIATE | Lead | | 0 | 5200 | 1000 | 2.09 | 12.5 | 2089 | 75 | Econocem | KolSeal |
| INTERMEDIATE | Tail | | 0 | 5200 | 380 | 1.33 | 14.8 | 506 | 75 | Halcem | none |
| PRODUCTION | Lead | | 4000 | 18689 | 387 | 3.37 | 10.5 | 1303 | 10 | Class H | KolSeal |
| PRODUCTION | Tail | | 4000 | 18689 | 2272 | 1.22 | 14.5 | 2779 | 10 | Class H | none |

## 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 5200 | 10800 | OTHER : Cut Brine | 8.7 | 8.9 | | | | | | | |
| 1350 | 5200 | OIL-BASED MUD | 8.7 | 8.9 | | | | | | | |
| 0 | 1350 | OTHER : Fresh Water | 8.4 | 9 | | | | | | | |

**Operator Name:** KAISER FRANCIS OIL COMPANY

**Well Name:** BELL LAKE UNIT SOUTH **Well Number:** 216H

## Section 6 - Test, Logging, Coring

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

TOC on production casing will be determined by calculation.

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

GR,MUDLOG

**Coring operation description for the well:**

None planned

## Section 7 - Pressure

**Anticipated Bottom Hole Pressure:** 4998 **Anticipated Surface Pressure:** 2622

**Anticipated Bottom Hole Temperature(F):** 165

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

**Describe:**

**Contingency Plans geoharzards description:**

**Contingency Plans geohazards attachment:**

**Hydrogen Sulfide drilling operations plan required?** YES

**Hydrogen sulfide drilling operations plan:**

BLUS_216H_H2S_Contingency_Plan_20190508102519.pdf

## Section 8 - Other Information

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

BLUS_216H___Directional_Plan_20190508102623.pdf

**Other proposed operations facets description:**

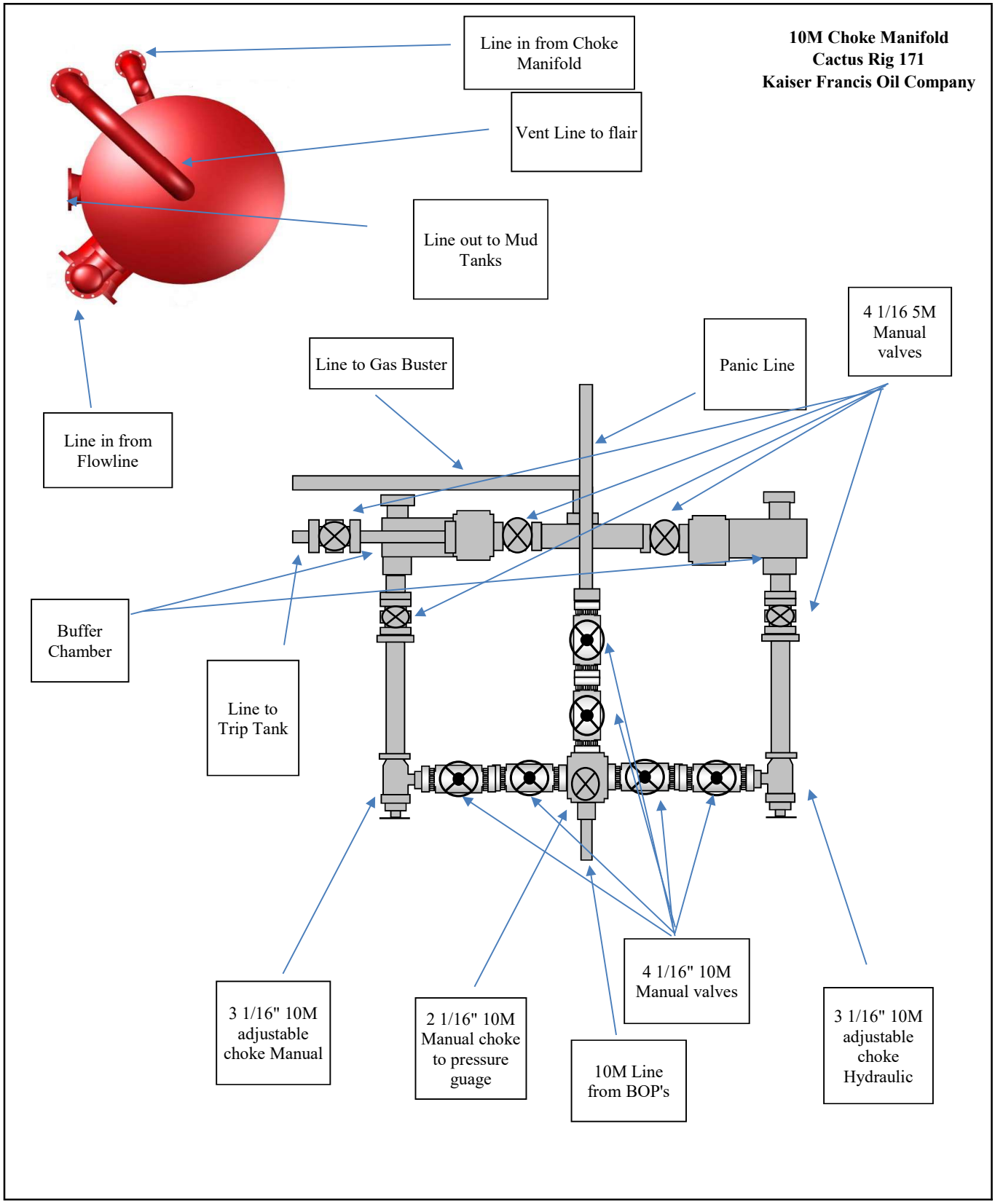
Gas Capture Plan attached

**Other proposed operations facets attachment:**

BLUS_216H_Gas_Capture_Plan_PAD_14_20190508102742.pdf

**Other Variance attachment:**

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



**BLUS 216H**

## Casing Assumptions

| Interval | Length | Casing Size | Weight (#/ft) | Grade | Thread | Condition | Hole Size | TVD (ft) | Mud Type | Mud Weight Hole Control | 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 | 1350' | 13-3/8" | 54.5 | J-55 | BTC | New | 17-1/2" | 1350 | FW | 8.4 - 9.0 | 32 - 34 | NC | 9 | 632 | 1130 | 2730 | 853000 | 514000 | 1.8 | 4.3 | 11.6 | 7.0 |
| Intermediate | 5200' | 9-5/8" | 43.5 | P-110 | LTC | New | 12-1/4" | 5200 | Brine | 8.7 - 8.9 | 28 | NC | 8.9 | 2407 | 4430 | 8700 | 1381000 | 1283000 | 1.8 | 3.6 | 6.1 | 5.7 |
| Production | 18689 | 5-1/2" | 20 | P110 | GBCD | New | 8-3/4" | 10800 | Cut Brine | 8.7 - 8.9 | 28 - 29 | NC | 8.9 | 4998 | 11100 | 12640 | 641000 | 548000 | 2.2 | 2.5 | 3.0 | 2.5 |

**BLUS 216H**

## Casing Assumptions

| Interval | Length | Casing Size | Weight (#/ft) | Grade | Thread | Condition | Hole Size | TVD (ft) |
|---|---|---|---|---|---|---|---|---|
| Conductor | 120' | 20" | | | | New | | 120 |
| Surface | 1350' | 13-3/8" | 54.5 | J-55 | BTC | New | 17-1/2" | 1350 |
| Intermediate | 5200' | 9-5/8" | 43.5 | P-110 | LTC | New | 12-1/4" | 5200 |
| Production | 18689 | 5-1/2" | 20 | P110 | GBCD | New | 8-3/4" | 10800 |

| Mud Type | Mud Weight Hole Control | Viscosity | Fluid Loss |
|---|---|---|---|
| FW | 8.4 - 9.0 | 32 - 34 | NC |
| Brine | 8.7 - 8.9 | 28 | NC |
| Cut Brine | 8.7 - 8.9 | 28 - 29 | NC |

| Anticipated Mud Weight (ppg) | Max Pore Pressure (psi) | Collapse (psi) | Burst (psi) | Body Tensile Strength | Joint Tensile Strength |
|---|---|---|---|---|---|
| 9 | 632 | 1130 | 2730 | 853000 | 514000 |
| 8.9 | 2407 | 4430 | 8700 | 1381000 | 1283000 |
| 8.9 | 4998 | 11100 | 12640 | 641000 | 548000 |

| 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) |
|---|---|---|---|
| 1.8 | 4.3 | 11.6 | 7.0 |
| 1.8 | 3.6 | 6.1 | 5.7 |
| 2.2 | 2.5 | 3.0 | 2.5 |

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

**BELL LAKE UNIT SOUTH Pad 14**
**SECTION 5 -T24S-R34E**
**LEA COUNTY, NM**

This well/facility is not expected to have $H_2S$, but due to the sensitive location, the following is submitted as requested.

TABLE OF CONTENTS

## EMERGENCY RESPONSE ACTIVATION AND GENERAL RESPONSIBILITIES

Activation of the Emergency Action Plan

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

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

General Responsibilities

In the event of an $H_2S$ emergency, the following plan will be initiated.

1) All personnel will immediately evacuate to an up-wind and if possible up-hill “safe area”.

2) If for any reason a person must enter the hazardous area, they must wear a SCBA (Self contained breathing apparatus).

3) Always use the “buddy system”.

4) Isolate the well/problem if possible.

5) Account for all personnel

6) Display the proper colors, warning all unsuspecting personnel of the danger at hand

7) Contact the Company personnel as soon as possible if not at the location. (use the enclosed call list as instructed)

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

**INDIVIDUAL RESPONSIBILITIES DURING AN $H_2S$ RELEASE**

The following procedures and responsibilities will be implemented on activation of the $H_2S$ siren and lights.

All Personnel:

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

Rig Manager/Tool Pusher:

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

Two People Responsible for Shut-in and Rescue:

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

All Other Personnel:

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

Kaiser-Francis Oil Company Representative:

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

**PROCEDURE FOR IGNITING AN UNCONTROLLABLE CONDITION**:
Should control of the well be considered lost and ignition considered, take care to protect against exposure to Sulfur Dioxide ($SO_2$). Intentional ignition must be coordinated with the NMOCD and local officials. Additionally the NM State Police shall be the Incident Command of any major release.

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

1) Human life and/or property are in danger.

2) There is no hope of bringing the situation under control with the prevailing conditions at the site.

INSTRUCTIONS FOR IGNITION:

1) Two people are required. They must be equipped with positive pressure; self contained breathing apparatus and a "D"-ring style, full body, OSHA approved safety harness. Non-flammable rope will be attached.

2) One of the people will be a qualified safety person who will test the atmosphere for $H_2S$, Oxygen, & LFL. The other person will be the company supervisor; he is responsible for igniting the well.

3) Ignite up-wind from a distance no closer than necessary. Make sure that where you ignite from has the maximum escape avenue available. A 25mm flare gun shall be used, with a +/-500' range to ignite the gas.

4) Prior to ignition, make a final check for combustible gases.

5) Following ignition, continue with the emergency actions & procedures as before.

CONTACTING AUTHORITIES

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

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

| | OFFCE | MOBILE |
|---|---|---|
| Kaiser-Francis Oil Co. | 918/494-0000 | |
| Bill Wilkinson | 580/668-2335 | 580/221-4637 |
| David Zerger | 918/491-4350 | 918/557-6708 |
| Charles Lock | 918/491-4337 | 918/671-6510 |
| Stuart Blake | 918/491-4347 | 918/510-4126 |
| Robert Sanford | 918/491-4201 | 918/770-2682 |
| 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<br>800/844-8451 |

**PROTECTION OF THE GENERAL PUBLIC/ROE**:

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

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

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

**Calculation for the 100 ppm ROE:**

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

**Calculation for the 500 ppm ROE:**

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

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

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

ROE for 100 PPM X=[(1.589)(.0150)(200)] (0.6258)
X=2.65'
ROE for 500 PPM X=[(.4546)(.0150)(200)] (0.6258)
X=1.2'

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

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

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

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

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

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

**CHARACTERISTICS OF $H_2S$ AND $SO_2$**

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

**TRAINING**:

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

**PUBLIC RELATIONS**

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

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

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

KAISER-FRANCIS OIL COMPANY

# Kaiser Francis

**Bell Lake South Unit 216H**
**Bell Lake South Unit 216H**
**Bell Lake South Unit 216H**
**Bell Lake South Unit 216H**

**Plan: 190319 Bell Lake South Unit 216H**

# Morcor Standard Plan

**20 March, 2019**

## Morcor Engineering

Morcor Standard Plan

| | | | |
|---|---|---|---|
| **Company:** | Kaiser Francis | **Local Co-ordinate Reference:** | Well Bell Lake South Unit 216H |
| **Project:** | Bell Lake South Unit 216H | **TVD Reference:** | WELL @ 3603.5usft (Original Well Elev) |
| **Site:** | Bell Lake South Unit 216H | **MD Reference:** | WELL @ 3603.5usft (Original Well Elev) |
| **Well:** | Bell Lake South Unit 216H | **North Reference:** | Grid |
| **Wellbore:** | Bell Lake South Unit 216H | **Survey Calculation Method:** | Minimum Curvature |
| **Design:** | 190319 Bell Lake South Unit 216H | **Database:** | EDM 5000.1 Single User Db |

**Project** Bell Lake South Unit 216H

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

**Site** Bell Lake South Unit 216H

| | | | | | |
|---|---|---|---|---|---|
| **Site Position:** | | **Northing:** | 454,963.48 usft | **Latitude:** | 32° 14' 52.580 N |
| **From:** | Lat/Long | **Easting:** | 802,832.89 usft | **Longitude:** | 103° 29' 14.988 W |
| **Position Uncertainty:** | 1.0 usft | **Slot Radius:** | 17-1/2 " | **Grid Convergence:** | 0.45 ° |

**Well** Bell Lake South Unit 216H

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Well Position** | **+N/-S** | 0.0 usft | **Northing:** | 454,963.48 usft | **Latitude:** | 32° 14' 52.580 N |
| | **+E/-W** | 0.0 usft | **Easting:** | 802,832.89 usft | **Longitude:** | 103° 29' 14.988 W |
| **Position Uncertainty** | | 1.0 usft | **Wellhead Elevation:** | usft | **Ground Level:** | 3,581.5 usft |

**Wellbore** Bell Lake South Unit 216H

| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
|---|---|---|---|---|---|
| | IGRF200510 | 12/31/2009 | 7.71 | 60.28 | 48,816 |

**Design** 190319 Bell Lake South Unit 216H

**Audit Notes:**

| | | | | | |
|---|---|---|---|---|---|
| **Version:** | | **Phase:** | PLAN | **Tie On Depth:** | 0.0 |

| Vertical Section: | Depth From (TVD) (usft) | +N/-S (usft) | +E/-W (usft) | Direction (°) |
|---|---|---|---|---|
| | 0.0 | 0.0 | 0.0 | 186.87 |

**Survey Tool Program** **Date** 3/20/2019

| From (usft) | To (usft) | Survey (Wellbore) | Tool Name | Description |
|---|---|---|---|---|
| 0.0 | 18,689.0 | 190319 Bell Lake South Unit 216H (Bell La | MWD | MWD - Standard |

## Morcor Engineering

Morcor Standard Plan

| | | | |
|---|---|---|---|
| **Company:** | Kaiser Francis | **Local Co-ordinate Reference:** | Well Bell Lake South Unit 216H |
| **Project:** | Bell Lake South Unit 216H | **TVD Reference:** | WELL @ 3603.5usft (Original Well Elev) |
| **Site:** | Bell Lake South Unit 216H | **MD Reference:** | WELL @ 3603.5usft (Original Well Elev) |
| **Well:** | Bell Lake South Unit 216H | **North Reference:** | Grid |
| **Wellbore:** | Bell Lake South Unit 216H | **Survey Calculation Method:** | Minimum Curvature |
| **Design:** | 190319 Bell Lake South Unit 216H | **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 | -3,603.5 | 0.0 | 0.0 | 802,832.89 | 454,963.48 | 0.00 | 0.00 |
| 50.0 | 0.00 | 0.00 | 50.0 | -3,553.5 | 0.0 | 0.0 | 802,832.89 | 454,963.48 | 0.00 | 0.00 |
| 100.0 | 0.00 | 270.00 | 100.0 | -3,503.5 | 0.0 | 0.0 | 802,832.89 | 454,963.48 | 0.00 | 0.00 |
| 120.0 | 0.00 | 270.00 | 120.0 | -3,483.5 | 0.0 | 0.0 | 802,832.89 | 454,963.48 | 0.00 | 0.00 |
| **20" Conductor** | | | | | | | | | | |
| 150.0 | 0.00 | 270.00 | 150.0 | -3,453.5 | 0.0 | 0.0 | 802,832.89 | 454,963.48 | 0.00 | 0.00 |
| 200.0 | 0.00 | 270.00 | 200.0 | -3,403.5 | 0.0 | 0.0 | 802,832.89 | 454,963.48 | 0.00 | 0.00 |
| 250.0 | 0.00 | 270.00 | 250.0 | -3,353.5 | 0.0 | 0.0 | 802,832.89 | 454,963.48 | 0.00 | 0.00 |
| 300.0 | 0.00 | 270.00 | 300.0 | -3,303.5 | 0.0 | 0.0 | 802,832.89 | 454,963.48 | 0.00 | 0.00 |
| 350.0 | 0.00 | 270.00 | 350.0 | -3,253.5 | 0.0 | 0.0 | 802,832.89 | 454,963.48 | 0.00 | 0.00 |
| 400.0 | 0.00 | 270.00 | 400.0 | -3,203.5 | 0.0 | 0.0 | 802,832.89 | 454,963.48 | 0.00 | 0.00 |
| 450.0 | 0.00 | 270.00 | 450.0 | -3,153.5 | 0.0 | 0.0 | 802,832.89 | 454,963.48 | 0.00 | 0.00 |
| 500.0 | 0.00 | 270.00 | 500.0 | -3,103.5 | 0.0 | 0.0 | 802,832.89 | 454,963.48 | 0.00 | 0.00 |
| 550.0 | 0.00 | 270.00 | 550.0 | -3,053.5 | 0.0 | 0.0 | 802,832.89 | 454,963.48 | 0.00 | 0.00 |
| 600.0 | 0.00 | 270.00 | 600.0 | -3,003.5 | 0.0 | 0.0 | 802,832.89 | 454,963.48 | 0.00 | 0.00 |
| 650.0 | 0.00 | 270.00 | 650.0 | -2,953.5 | 0.0 | 0.0 | 802,832.89 | 454,963.48 | 0.00 | 0.00 |
| 700.0 | 0.00 | 270.00 | 700.0 | -2,903.5 | 0.0 | 0.0 | 802,832.89 | 454,963.48 | 0.00 | 0.00 |
| 750.0 | 0.00 | 270.00 | 750.0 | -2,853.5 | 0.0 | 0.0 | 802,832.89 | 454,963.48 | 0.00 | 0.00 |
| 800.0 | 0.00 | 270.00 | 800.0 | -2,803.5 | 0.0 | 0.0 | 802,832.89 | 454,963.48 | 0.00 | 0.00 |
| 850.0 | 0.00 | 270.00 | 850.0 | -2,753.5 | 0.0 | 0.0 | 802,832.89 | 454,963.48 | 0.00 | 0.00 |
| 900.0 | 0.00 | 270.00 | 900.0 | -2,703.5 | 0.0 | 0.0 | 802,832.89 | 454,963.48 | 0.00 | 0.00 |
| 950.0 | 0.00 | 270.00 | 950.0 | -2,653.5 | 0.0 | 0.0 | 802,832.89 | 454,963.48 | 0.00 | 0.00 |
| 1,000.0 | 0.00 | 270.00 | 1,000.0 | -2,603.5 | 0.0 | 0.0 | 802,832.89 | 454,963.48 | 0.00 | 0.00 |
| 1,050.0 | 0.00 | 270.00 | 1,050.0 | -2,553.5 | 0.0 | 0.0 | 802,832.89 | 454,963.48 | 0.00 | 0.00 |
| 1,100.0 | 0.00 | 270.00 | 1,100.0 | -2,503.5 | 0.0 | 0.0 | 802,832.89 | 454,963.48 | 0.00 | 0.00 |
| 1,150.0 | 0.00 | 270.00 | 1,150.0 | -2,453.5 | 0.0 | 0.0 | 802,832.89 | 454,963.48 | 0.00 | 0.00 |
| 1,200.0 | 0.00 | 270.00 | 1,200.0 | -2,403.5 | 0.0 | 0.0 | 802,832.89 | 454,963.48 | 0.00 | 0.00 |

## Morcor Engineering

Morcor Standard Plan

| | | | |
|---|---|---|---|
| **Company:** | Kaiser Francis | **Local Co-ordinate Reference:** | Well Bell Lake South Unit 216H |
| **Project:** | Bell Lake South Unit 216H | **TVD Reference:** | WELL @ 3603.5usft (Original Well Elev) |
| **Site:** | Bell Lake South Unit 216H | **MD Reference:** | WELL @ 3603.5usft (Original Well Elev) |
| **Well:** | Bell Lake South Unit 216H | **North Reference:** | Grid |
| **Wellbore:** | Bell Lake South Unit 216H | **Survey Calculation Method:** | Minimum Curvature |
| **Design:** | 190319 Bell Lake South Unit 216H | **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) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,250.0 | 0.00 | 270.00 | 1,250.0 | -2,353.5 | 0.0 | 0.0 | 802,832.89 | 454,963.48 | 0.00 | 0.00 |
| 1,300.0 | 0.00 | 270.00 | 1,300.0 | -2,303.5 | 0.0 | 0.0 | 802,832.89 | 454,963.48 | 0.00 | 0.00 |
| 1,350.0 | 0.00 | 270.00 | 1,350.0 | -2,253.5 | 0.0 | 0.0 | 802,832.89 | 454,963.48 | 0.00 | 0.00 |
| 1,400.0 | 0.00 | 270.00 | 1,400.0 | -2,203.5 | 0.0 | 0.0 | 802,832.89 | 454,963.48 | 0.00 | 0.00 |
| 1,430.0 | 0.00 | 270.00 | 1,430.0 | -2,173.5 | 0.0 | 0.0 | 802,832.89 | 454,963.48 | 0.00 | 0.00 |
| **Rustler** | | | | | | | | | | |
| 1,450.0 | 0.00 | 270.00 | 1,450.0 | -2,153.5 | 0.0 | 0.0 | 802,832.89 | 454,963.48 | 0.00 | 0.00 |
| 1,455.0 | 0.00 | 270.00 | 1,455.0 | -2,148.5 | 0.0 | 0.0 | 802,832.89 | 454,963.48 | 0.00 | 0.00 |
| **13 3/8" Surface Casing** | | | | | | | | | | |
| 1,500.0 | 0.00 | 270.00 | 1,500.0 | -2,103.5 | 0.0 | 0.0 | 802,832.89 | 454,963.48 | 0.00 | 0.00 |
| **Start Build 3.00** | | | | | | | | | | |
| 1,550.0 | 1.50 | 270.00 | 1,550.0 | -2,053.5 | 0.0 | -0.7 | 802,832.23 | 454,963.48 | 0.08 | 3.00 |
| 1,600.0 | 3.00 | 270.00 | 1,600.0 | -2,003.5 | 0.0 | -2.6 | 802,830.27 | 454,963.48 | 0.31 | 3.00 |
| 1,650.0 | 4.50 | 270.00 | 1,649.8 | -1,953.7 | 0.0 | -5.9 | 802,827.00 | 454,963.48 | 0.70 | 3.00 |
| 1,700.0 | 6.00 | 270.00 | 1,699.6 | -1,903.9 | 0.0 | -10.5 | 802,822.42 | 454,963.48 | 1.25 | 3.00 |
| **Start 8300.0 hold at 1700.0 MD** | | | | | | | | | | |
| 1,750.0 | 6.00 | 270.00 | 1,749.4 | -1,854.1 | 0.0 | -15.7 | 802,817.20 | 454,963.48 | 1.88 | 0.00 |
| 1,800.0 | 6.00 | 270.00 | 1,799.1 | -1,804.4 | 0.0 | -20.9 | 802,811.97 | 454,963.48 | 2.50 | 0.00 |
| 1,809.0 | 6.00 | 270.00 | 1,808.0 | -1,795.5 | 0.0 | -21.9 | 802,811.03 | 454,963.48 | 2.61 | 0.00 |
| **Salado** | | | | | | | | | | |
| 1,850.0 | 6.00 | 270.00 | 1,848.8 | -1,754.7 | 0.0 | -26.1 | 802,806.74 | 454,963.48 | 3.13 | 0.00 |
| 1,900.0 | 6.00 | 270.00 | 1,898.5 | -1,705.0 | 0.0 | -31.4 | 802,801.52 | 454,963.48 | 3.75 | 0.00 |
| 1,950.0 | 6.00 | 270.00 | 1,948.3 | -1,655.2 | 0.0 | -36.6 | 802,796.29 | 454,963.48 | 4.38 | 0.00 |
| 2,000.0 | 6.00 | 270.00 | 1,998.0 | -1,605.5 | 0.0 | -41.8 | 802,791.07 | 454,963.48 | 5.00 | 0.00 |
| 2,050.0 | 6.00 | 270.00 | 2,047.7 | -1,555.8 | 0.0 | -47.0 | 802,785.84 | 454,963.48 | 5.63 | 0.00 |
| 2,100.0 | 6.00 | 270.00 | 2,097.4 | -1,506.1 | 0.0 | -52.3 | 802,780.61 | 454,963.48 | 6.25 | 0.00 |
| 2,150.0 | 6.00 | 270.00 | 2,147.2 | -1,456.3 | 0.0 | -57.5 | 802,775.39 | 454,963.48 | 6.88 | 0.00 |

## Morcor Engineering

Morcor Standard Plan

| | | | |
|---|---|---|---|
| **Company:** | Kaiser Francis | **Local Co-ordinate Reference:** | Well Bell Lake South Unit 216H |
| **Project:** | Bell Lake South Unit 216H | **TVD Reference:** | WELL @ 3603.5usft (Original Well Elev) |
| **Site:** | Bell Lake South Unit 216H | **MD Reference:** | WELL @ 3603.5usft (Original Well Elev) |
| **Well:** | Bell Lake South Unit 216H | **North Reference:** | Grid |
| **Wellbore:** | Bell Lake South Unit 216H | **Survey Calculation Method:** | Minimum Curvature |
| **Design:** | 190319 Bell Lake South Unit 216H | **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) |
|---|---|---|---|---|---|---|---|---|---|---|
| 2,160.9 | 6.00 | 270.00 | 2,158.0 | -1,445.5 | 0.0 | -58.6 | 802,774.25 | 454,963.48 | 7.02 | 0.00 |
| **Top of Salt** | | | | | | | | | | |
| 2,200.0 | 6.00 | 270.00 | 2,196.9 | -1,406.6 | 0.0 | -62.7 | 802,770.16 | 454,963.48 | 7.50 | 0.00 |
| 2,250.0 | 6.00 | 270.00 | 2,246.6 | -1,356.9 | 0.0 | -68.0 | 802,764.93 | 454,963.48 | 8.13 | 0.00 |
| 2,300.0 | 6.00 | 270.00 | 2,296.3 | -1,307.2 | 0.0 | -73.2 | 802,759.71 | 454,963.48 | 8.75 | 0.00 |
| 2,350.0 | 6.00 | 270.00 | 2,346.1 | -1,257.4 | 0.0 | -78.4 | 802,754.48 | 454,963.48 | 9.38 | 0.00 |
| 2,400.0 | 6.00 | 270.00 | 2,395.8 | -1,207.7 | 0.0 | -83.6 | 802,749.25 | 454,963.48 | 10.01 | 0.00 |
| 2,450.0 | 6.00 | 270.00 | 2,445.5 | -1,158.0 | 0.0 | -88.9 | 802,744.03 | 454,963.48 | 10.63 | 0.00 |
| 2,500.0 | 6.00 | 270.00 | 2,495.3 | -1,108.2 | 0.0 | -94.1 | 802,738.80 | 454,963.48 | 11.26 | 0.00 |
| 2,550.0 | 6.00 | 270.00 | 2,545.0 | -1,058.5 | 0.0 | -99.3 | 802,733.57 | 454,963.48 | 11.88 | 0.00 |
| 2,600.0 | 6.00 | 270.00 | 2,594.7 | -1,008.8 | 0.0 | -104.5 | 802,728.35 | 454,963.48 | 12.51 | 0.00 |
| 2,650.0 | 6.00 | 270.00 | 2,644.4 | -959.1 | 0.0 | -109.8 | 802,723.12 | 454,963.48 | 13.13 | 0.00 |
| 2,700.0 | 6.00 | 270.00 | 2,694.2 | -909.3 | 0.0 | -115.0 | 802,717.90 | 454,963.48 | 13.76 | 0.00 |
| 2,750.0 | 6.00 | 270.00 | 2,743.9 | -859.6 | 0.0 | -120.2 | 802,712.67 | 454,963.48 | 14.38 | 0.00 |
| 2,800.0 | 6.00 | 270.00 | 2,793.6 | -809.9 | 0.0 | -125.4 | 802,707.44 | 454,963.48 | 15.01 | 0.00 |
| 2,850.0 | 6.00 | 270.00 | 2,843.3 | -760.2 | 0.0 | -130.7 | 802,702.22 | 454,963.48 | 15.63 | 0.00 |
| 2,900.0 | 6.00 | 270.00 | 2,893.1 | -710.4 | 0.0 | -135.9 | 802,696.99 | 454,963.48 | 16.26 | 0.00 |
| 2,950.0 | 6.00 | 270.00 | 2,942.8 | -660.7 | 0.0 | -141.1 | 802,691.76 | 454,963.48 | 16.88 | 0.00 |
| 3,000.0 | 6.00 | 270.00 | 2,992.5 | -611.0 | 0.0 | -146.3 | 802,686.54 | 454,963.48 | 17.51 | 0.00 |
| 3,050.0 | 6.00 | 270.00 | 3,042.2 | -561.3 | 0.0 | -151.6 | 802,681.31 | 454,963.48 | 18.13 | 0.00 |
| 3,100.0 | 6.00 | 270.00 | 3,092.0 | -511.5 | 0.0 | -156.8 | 802,676.08 | 454,963.48 | 18.76 | 0.00 |
| 3,150.0 | 6.00 | 270.00 | 3,141.7 | -461.8 | 0.0 | -162.0 | 802,670.86 | 454,963.48 | 19.38 | 0.00 |
| 3,200.0 | 6.00 | 270.00 | 3,191.4 | -412.1 | 0.0 | -167.3 | 802,665.63 | 454,963.48 | 20.01 | 0.00 |
| 3,250.0 | 6.00 | 270.00 | 3,241.1 | -362.4 | 0.0 | -172.5 | 802,660.41 | 454,963.48 | 20.63 | 0.00 |
| 3,300.0 | 6.00 | 270.00 | 3,290.9 | -312.6 | 0.0 | -177.7 | 802,655.18 | 454,963.48 | 21.26 | 0.00 |
| 3,350.0 | 6.00 | 270.00 | 3,340.6 | -262.9 | 0.0 | -182.9 | 802,649.95 | 454,963.48 | 21.89 | 0.00 |
| 3,400.0 | 6.00 | 270.00 | 3,390.3 | -213.2 | 0.0 | -188.2 | 802,644.73 | 454,963.48 | 22.51 | 0.00 |

## Morcor Engineering

Morcor Standard Plan

| | | | |
|---|---|---|---|
| **Company:** | Kaiser Francis | **Local Co-ordinate Reference:** | Well Bell Lake South Unit 216H |
| **Project:** | Bell Lake South Unit 216H | **TVD Reference:** | WELL @ 3603.5usft (Original Well Elev) |
| **Site:** | Bell Lake South Unit 216H | **MD Reference:** | WELL @ 3603.5usft (Original Well Elev) |
| **Well:** | Bell Lake South Unit 216H | **North Reference:** | Grid |
| **Wellbore:** | Bell Lake South Unit 216H | **Survey Calculation Method:** | Minimum Curvature |
| **Design:** | 190319 Bell Lake South Unit 216H | **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) |
|---|---|---|---|---|---|---|---|---|---|---|
| 3,450.0 | 6.00 | 270.00 | 3,440.0 | -163.5 | 0.0 | -193.4 | 802,639.50 | 454,963.48 | 23.14 | 0.00 |
| 3,500.0 | 6.00 | 270.00 | 3,489.8 | -113.7 | 0.0 | -198.6 | 802,634.27 | 454,963.48 | 23.76 | 0.00 |
| 3,550.0 | 6.00 | 270.00 | 3,539.5 | -64.0 | 0.0 | -203.8 | 802,629.05 | 454,963.48 | 24.39 | 0.00 |
| 3,600.0 | 6.00 | 270.00 | 3,589.2 | -14.3 | 0.0 | -209.1 | 802,623.82 | 454,963.48 | 25.01 | 0.00 |
| 3,650.0 | 6.00 | 270.00 | 3,639.0 | 35.5 | 0.0 | -214.3 | 802,618.59 | 454,963.48 | 25.64 | 0.00 |
| 3,700.0 | 6.00 | 270.00 | 3,688.7 | 85.2 | 0.0 | -219.5 | 802,613.37 | 454,963.48 | 26.26 | 0.00 |
| 3,750.0 | 6.00 | 270.00 | 3,738.4 | 134.9 | 0.0 | -224.7 | 802,608.14 | 454,963.48 | 26.89 | 0.00 |
| 3,800.0 | 6.00 | 270.00 | 3,788.1 | 184.6 | 0.0 | -230.0 | 802,602.91 | 454,963.48 | 27.51 | 0.00 |
| 3,850.0 | 6.00 | 270.00 | 3,837.9 | 234.4 | 0.0 | -235.2 | 802,597.69 | 454,963.48 | 28.14 | 0.00 |
| 3,900.0 | 6.00 | 270.00 | 3,887.6 | 284.1 | 0.0 | -240.4 | 802,592.46 | 454,963.48 | 28.76 | 0.00 |
| 3,950.0 | 6.00 | 270.00 | 3,937.3 | 333.8 | 0.0 | -245.7 | 802,587.24 | 454,963.48 | 29.39 | 0.00 |
| 4,000.0 | 6.00 | 270.00 | 3,987.0 | 383.5 | 0.0 | -250.9 | 802,582.01 | 454,963.48 | 30.01 | 0.00 |
| 4,050.0 | 6.00 | 270.00 | 4,036.8 | 433.3 | 0.0 | -256.1 | 802,576.78 | 454,963.48 | 30.64 | 0.00 |
| 4,100.0 | 6.00 | 270.00 | 4,086.5 | 483.0 | 0.0 | -261.3 | 802,571.56 | 454,963.48 | 31.26 | 0.00 |
| 4,150.0 | 6.00 | 270.00 | 4,136.2 | 532.7 | 0.0 | -266.6 | 802,566.33 | 454,963.48 | 31.89 | 0.00 |
| 4,200.0 | 6.00 | 270.00 | 4,185.9 | 582.4 | 0.0 | -271.8 | 802,561.10 | 454,963.48 | 32.51 | 0.00 |
| 4,250.0 | 6.00 | 270.00 | 4,235.7 | 632.2 | 0.0 | -277.0 | 802,555.88 | 454,963.48 | 33.14 | 0.00 |
| 4,300.0 | 6.00 | 270.00 | 4,285.4 | 681.9 | 0.0 | -282.2 | 802,550.65 | 454,963.48 | 33.77 | 0.00 |
| 4,350.0 | 6.00 | 270.00 | 4,335.1 | 731.6 | 0.0 | -287.5 | 802,545.42 | 454,963.48 | 34.39 | 0.00 |
| 4,400.0 | 6.00 | 270.00 | 4,384.8 | 781.3 | 0.0 | -292.7 | 802,540.20 | 454,963.48 | 35.02 | 0.00 |
| 4,450.0 | 6.00 | 270.00 | 4,434.6 | 831.1 | 0.0 | -297.9 | 802,534.97 | 454,963.48 | 35.64 | 0.00 |
| 4,500.0 | 6.00 | 270.00 | 4,484.3 | 880.8 | 0.0 | -303.1 | 802,529.74 | 454,963.48 | 36.27 | 0.00 |
| 4,550.0 | 6.00 | 270.00 | 4,534.0 | 930.5 | 0.0 | -308.4 | 802,524.52 | 454,963.48 | 36.89 | 0.00 |
| 4,600.0 | 6.00 | 270.00 | 4,583.7 | 980.2 | 0.0 | -313.6 | 802,519.29 | 454,963.48 | 37.52 | 0.00 |
| 4,650.0 | 6.00 | 270.00 | 4,633.5 | 1,030.0 | 0.0 | -318.8 | 802,514.07 | 454,963.48 | 38.14 | 0.00 |
| 4,700.0 | 6.00 | 270.00 | 4,683.2 | 1,079.7 | 0.0 | -324.0 | 802,508.84 | 454,963.48 | 38.77 | 0.00 |
| 4,750.0 | 6.00 | 270.00 | 4,732.9 | 1,129.4 | 0.0 | -329.3 | 802,503.61 | 454,963.48 | 39.39 | 0.00 |

**Morcor Engineering**
Morcor Standard Plan

| | | | |
|---|---|---|---|
| **Company:** | Kaiser Francis | **Local Co-ordinate Reference:** | Well Bell Lake South Unit 216H |
| **Project:** | Bell Lake South Unit 216H | **TVD Reference:** | WELL @ 3603.5usft (Original Well Elev) |
| **Site:** | Bell Lake South Unit 216H | **MD Reference:** | WELL @ 3603.5usft (Original Well Elev) |
| **Well:** | Bell Lake South Unit 216H | **North Reference:** | Grid |
| **Wellbore:** | Bell Lake South Unit 216H | **Survey Calculation Method:** | Minimum Curvature |
| **Design:** | 190319 Bell Lake South Unit 216H | **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 | 6.00 | 270.00 | 4,782.7 | 1,179.2 | 0.0 | -334.5 | 802,498.39 | 454,963.48 | 40.02 | 0.00 |
| 4,850.0 | 6.00 | 270.00 | 4,832.4 | 1,228.9 | 0.0 | -339.7 | 802,493.16 | 454,963.48 | 40.64 | 0.00 |
| 4,900.0 | 6.00 | 270.00 | 4,882.1 | 1,278.6 | 0.0 | -345.0 | 802,487.93 | 454,963.48 | 41.27 | 0.00 |
| 4,950.0 | 6.00 | 270.00 | 4,931.8 | 1,328.3 | 0.0 | -350.2 | 802,482.71 | 454,963.48 | 41.89 | 0.00 |
| 5,000.0 | 6.00 | 270.00 | 4,981.6 | 1,378.1 | 0.0 | -355.4 | 802,477.48 | 454,963.48 | 42.52 | 0.00 |
| 5,050.0 | 6.00 | 270.00 | 5,031.3 | 1,427.8 | 0.0 | -360.6 | 802,472.25 | 454,963.48 | 43.14 | 0.00 |
| 5,076.9 | 6.00 | 270.00 | 5,058.0 | 1,454.5 | 0.0 | -363.4 | 802,469.45 | 454,963.48 | 43.48 | 0.00 |
| **Base of Salt** | | | | | | | | | | |
| 5,100.0 | 6.00 | 270.00 | 5,081.0 | 1,477.5 | 0.0 | -365.9 | 802,467.03 | 454,963.48 | 43.77 | 0.00 |
| 5,150.0 | 6.00 | 270.00 | 5,130.7 | 1,527.2 | 0.0 | -371.1 | 802,461.80 | 454,963.48 | 44.39 | 0.00 |
| 5,200.0 | 6.00 | 270.00 | 5,180.5 | 1,577.0 | 0.0 | -376.3 | 802,456.57 | 454,963.48 | 45.02 | 0.00 |
| 5,250.0 | 6.00 | 270.00 | 5,230.2 | 1,626.7 | 0.0 | -381.5 | 802,451.35 | 454,963.48 | 45.65 | 0.00 |
| 5,300.0 | 6.00 | 270.00 | 5,279.9 | 1,676.4 | 0.0 | -386.8 | 802,446.12 | 454,963.48 | 46.27 | 0.00 |
| 5,328.2 | 6.00 | 270.00 | 5,308.0 | 1,704.5 | 0.0 | -389.7 | 802,443.17 | 454,963.48 | 46.62 | 0.00 |
| **Lamar** | | | | | | | | | | |
| 5,350.0 | 6.00 | 270.00 | 5,329.6 | 1,726.1 | 0.0 | -392.0 | 802,440.90 | 454,963.48 | 46.90 | 0.00 |
| 5,373.5 | 6.00 | 270.00 | 5,353.0 | 1,749.5 | 0.0 | -394.4 | 802,438.44 | 454,963.48 | 47.19 | 0.00 |
| **9 5/8" Intermediate Casing** | | | | | | | | | | |
| 5,400.0 | 6.00 | 270.00 | 5,379.4 | 1,775.9 | 0.0 | -397.2 | 802,435.67 | 454,963.48 | 47.52 | 0.00 |
| 5,450.0 | 6.00 | 270.00 | 5,429.1 | 1,825.6 | 0.0 | -402.4 | 802,430.44 | 454,963.48 | 48.15 | 0.00 |
| 5,479.1 | 6.00 | 270.00 | 5,458.0 | 1,854.5 | 0.0 | -405.5 | 802,427.40 | 454,963.48 | 48.51 | 0.00 |
| **Bell Canyon** | | | | | | | | | | |
| 5,500.0 | 6.00 | 270.00 | 5,478.8 | 1,875.3 | 0.0 | -407.7 | 802,425.22 | 454,963.48 | 48.77 | 0.00 |
| 5,550.0 | 6.00 | 270.00 | 5,528.5 | 1,925.0 | 0.0 | -412.9 | 802,419.99 | 454,963.48 | 49.40 | 0.00 |
| 5,600.0 | 6.00 | 270.00 | 5,578.3 | 1,974.8 | 0.0 | -418.1 | 802,414.76 | 454,963.48 | 50.02 | 0.00 |
| 5,650.0 | 6.00 | 270.00 | 5,628.0 | 2,024.5 | 0.0 | -423.3 | 802,409.54 | 454,963.48 | 50.65 | 0.00 |
| 5,700.0 | 6.00 | 270.00 | 5,677.7 | 2,074.2 | 0.0 | -428.6 | 802,404.31 | 454,963.48 | 51.27 | 0.00 |
| 5,750.0 | 6.00 | 270.00 | 5,727.4 | 2,123.9 | 0.0 | -433.8 | 802,399.08 | 454,963.48 | 51.90 | 0.00 |

## Morcor Engineering

Morcor Standard Plan

| | | | |
|---|---|---|---|
| **Company:** | Kaiser Francis | **Local Co-ordinate Reference:** | Well Bell Lake South Unit 216H |
| **Project:** | Bell Lake South Unit 216H | **TVD Reference:** | WELL @ 3603.5usft (Original Well Elev) |
| **Site:** | Bell Lake South Unit 216H | **MD Reference:** | WELL @ 3603.5usft (Original Well Elev) |
| **Well:** | Bell Lake South Unit 216H | **North Reference:** | Grid |
| **Wellbore:** | Bell Lake South Unit 216H | **Survey Calculation Method:** | Minimum Curvature |
| **Design:** | 190319 Bell Lake South Unit 216H | **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) |
|---|---|---|---|---|---|---|---|---|---|---|
| 5,800.0 | 6.00 | 270.00 | 5,777.2 | 2,173.7 | 0.0 | -439.0 | 802,393.86 | 454,963.48 | 52.52 | 0.00 |
| 5,850.0 | 6.00 | 270.00 | 5,826.9 | 2,223.4 | 0.0 | -444.3 | 802,388.63 | 454,963.48 | 53.15 | 0.00 |
| 5,900.0 | 6.00 | 270.00 | 5,876.6 | 2,273.1 | 0.0 | -449.5 | 802,383.40 | 454,963.48 | 53.77 | 0.00 |
| 5,950.0 | 6.00 | 270.00 | 5,926.4 | 2,322.9 | 0.0 | -454.7 | 802,378.18 | 454,963.48 | 54.40 | 0.00 |
| 6,000.0 | 6.00 | 270.00 | 5,976.1 | 2,372.6 | 0.0 | -459.9 | 802,372.95 | 454,963.48 | 55.02 | 0.00 |
| 6,050.0 | 6.00 | 270.00 | 6,025.8 | 2,422.3 | 0.0 | -465.2 | 802,367.73 | 454,963.48 | 55.65 | 0.00 |
| 6,100.0 | 6.00 | 270.00 | 6,075.5 | 2,472.0 | 0.0 | -470.4 | 802,362.50 | 454,963.48 | 56.27 | 0.00 |
| 6,150.0 | 6.00 | 270.00 | 6,125.3 | 2,521.8 | 0.0 | -475.6 | 802,357.27 | 454,963.48 | 56.90 | 0.00 |
| 6,200.0 | 6.00 | 270.00 | 6,175.0 | 2,571.5 | 0.0 | -480.8 | 802,352.05 | 454,963.48 | 57.53 | 0.00 |
| 6,250.0 | 6.00 | 270.00 | 6,224.7 | 2,621.2 | 0.0 | -486.1 | 802,346.82 | 454,963.48 | 58.15 | 0.00 |
| 6,300.0 | 6.00 | 270.00 | 6,274.4 | 2,670.9 | 0.0 | -491.3 | 802,341.59 | 454,963.48 | 58.78 | 0.00 |
| 6,333.7 | 6.00 | 270.00 | 6,308.0 | 2,704.5 | 0.0 | -494.8 | 802,338.07 | 454,963.48 | 59.20 | 0.00 |
| **Cherry Canyon** | | | | | | | | | | |
| 6,350.0 | 6.00 | 270.00 | 6,324.2 | 2,720.7 | 0.0 | -496.5 | 802,336.37 | 454,963.48 | 59.40 | 0.00 |
| 6,400.0 | 6.00 | 270.00 | 6,373.9 | 2,770.4 | 0.0 | -501.7 | 802,331.14 | 454,963.48 | 60.03 | 0.00 |
| 6,450.0 | 6.00 | 270.00 | 6,423.6 | 2,820.1 | 0.0 | -507.0 | 802,325.91 | 454,963.48 | 60.65 | 0.00 |
| 6,500.0 | 6.00 | 270.00 | 6,473.3 | 2,869.8 | 0.0 | -512.2 | 802,320.69 | 454,963.48 | 61.28 | 0.00 |
| 6,550.0 | 6.00 | 270.00 | 6,523.1 | 2,919.6 | 0.0 | -517.4 | 802,315.46 | 454,963.48 | 61.90 | 0.00 |
| 6,600.0 | 6.00 | 270.00 | 6,572.8 | 2,969.3 | 0.0 | -522.7 | 802,310.23 | 454,963.48 | 62.53 | 0.00 |
| 6,650.0 | 6.00 | 270.00 | 6,622.5 | 3,019.0 | 0.0 | -527.9 | 802,305.01 | 454,963.48 | 63.15 | 0.00 |
| 6,700.0 | 6.00 | 270.00 | 6,672.2 | 3,068.7 | 0.0 | -533.1 | 802,299.78 | 454,963.48 | 63.78 | 0.00 |
| 6,750.0 | 6.00 | 270.00 | 6,722.0 | 3,118.5 | 0.0 | -538.3 | 802,294.56 | 454,963.48 | 64.40 | 0.00 |
| 6,800.0 | 6.00 | 270.00 | 6,771.7 | 3,168.2 | 0.0 | -543.6 | 802,289.33 | 454,963.48 | 65.03 | 0.00 |
| 6,850.0 | 6.00 | 270.00 | 6,821.4 | 3,217.9 | 0.0 | -548.8 | 802,284.10 | 454,963.48 | 65.65 | 0.00 |
| 6,900.0 | 6.00 | 270.00 | 6,871.1 | 3,267.6 | 0.0 | -554.0 | 802,278.88 | 454,963.48 | 66.28 | 0.00 |
| 6,950.0 | 6.00 | 270.00 | 6,920.9 | 3,317.4 | 0.0 | -559.2 | 802,273.65 | 454,963.48 | 66.90 | 0.00 |
| 7,000.0 | 6.00 | 270.00 | 6,970.6 | 3,367.1 | 0.0 | -564.5 | 802,268.42 | 454,963.48 | 67.53 | 0.00 |

**Morcor Engineering**
Morcor Standard Plan

| | | | |
|---|---|---|---|
| **Company:** | Kaiser Francis | **Local Co-ordinate Reference:** | Well Bell Lake South Unit 216H |
| **Project:** | Bell Lake South Unit 216H | **TVD Reference:** | WELL @ 3603.5usft (Original Well Elev) |
| **Site:** | Bell Lake South Unit 216H | **MD Reference:** | WELL @ 3603.5usft (Original Well Elev) |
| **Well:** | Bell Lake South Unit 216H | **North Reference:** | Grid |
| **Wellbore:** | Bell Lake South Unit 216H | **Survey Calculation Method:** | Minimum Curvature |
| **Design:** | 190319 Bell Lake South Unit 216H | **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) |
|---|---|---|---|---|---|---|---|---|---|---|
| 7,050.0 | 6.00 | 270.00 | 7,020.3 | 3,416.8 | 0.0 | -569.7 | 802,263.20 | 454,963.48 | 68.15 | 0.00 |
| 7,100.0 | 6.00 | 270.00 | 7,070.1 | 3,466.6 | 0.0 | -574.9 | 802,257.97 | 454,963.48 | 68.78 | 0.00 |
| 7,150.0 | 6.00 | 270.00 | 7,119.8 | 3,516.3 | 0.0 | -580.1 | 802,252.74 | 454,963.48 | 69.41 | 0.00 |
| 7,200.0 | 6.00 | 270.00 | 7,169.5 | 3,566.0 | 0.0 | -585.4 | 802,247.52 | 454,963.48 | 70.03 | 0.00 |
| 7,250.0 | 6.00 | 270.00 | 7,219.2 | 3,615.7 | 0.0 | -590.6 | 802,242.29 | 454,963.48 | 70.66 | 0.00 |
| 7,300.0 | 6.00 | 270.00 | 7,269.0 | 3,665.5 | 0.0 | -595.8 | 802,237.06 | 454,963.48 | 71.28 | 0.00 |
| 7,350.0 | 6.00 | 270.00 | 7,318.7 | 3,715.2 | 0.0 | -601.0 | 802,231.84 | 454,963.48 | 71.91 | 0.00 |
| 7,400.0 | 6.00 | 270.00 | 7,368.4 | 3,764.9 | 0.0 | -606.3 | 802,226.61 | 454,963.48 | 72.53 | 0.00 |
| 7,450.0 | 6.00 | 270.00 | 7,418.1 | 3,814.6 | 0.0 | -611.5 | 802,221.39 | 454,963.48 | 73.16 | 0.00 |
| 7,500.0 | 6.00 | 270.00 | 7,467.9 | 3,864.4 | 0.0 | -616.7 | 802,216.16 | 454,963.48 | 73.78 | 0.00 |
| 7,550.0 | 6.00 | 270.00 | 7,517.6 | 3,914.1 | 0.0 | -622.0 | 802,210.93 | 454,963.48 | 74.41 | 0.00 |
| 7,600.0 | 6.00 | 270.00 | 7,567.3 | 3,963.8 | 0.0 | -627.2 | 802,205.71 | 454,963.48 | 75.03 | 0.00 |
| 7,650.0 | 6.00 | 270.00 | 7,617.0 | 4,013.5 | 0.0 | -632.4 | 802,200.48 | 454,963.48 | 75.66 | 0.00 |
| 7,700.0 | 6.00 | 270.00 | 7,666.8 | 4,063.3 | 0.0 | -637.6 | 802,195.25 | 454,963.48 | 76.28 | 0.00 |
| 7,750.0 | 6.00 | 270.00 | 7,716.5 | 4,113.0 | 0.0 | -642.9 | 802,190.03 | 454,963.48 | 76.91 | 0.00 |
| 7,771.6 | 6.00 | 270.00 | 7,738.0 | 4,134.5 | 0.0 | -645.1 | 802,187.77 | 454,963.48 | 77.18 | 0.00 |
| **Brushy Canyon** | | | | | | | | | | |
| 7,800.0 | 6.00 | 270.00 | 7,766.2 | 4,162.7 | 0.0 | -648.1 | 802,184.80 | 454,963.48 | 77.53 | 0.00 |
| 7,850.0 | 6.00 | 270.00 | 7,815.9 | 4,212.4 | 0.0 | -653.3 | 802,179.57 | 454,963.48 | 78.16 | 0.00 |
| 7,900.0 | 6.00 | 270.00 | 7,865.7 | 4,262.2 | 0.0 | -658.5 | 802,174.35 | 454,963.48 | 78.78 | 0.00 |
| 7,950.0 | 6.00 | 270.00 | 7,915.4 | 4,311.9 | 0.0 | -663.8 | 802,169.12 | 454,963.48 | 79.41 | 0.00 |
| 8,000.0 | 6.00 | 270.00 | 7,965.1 | 4,361.6 | 0.0 | -669.0 | 802,163.89 | 454,963.48 | 80.03 | 0.00 |
| 8,050.0 | 6.00 | 270.00 | 8,014.8 | 4,411.3 | 0.0 | -674.2 | 802,158.67 | 454,963.48 | 80.66 | 0.00 |
| 8,100.0 | 6.00 | 270.00 | 8,064.6 | 4,461.1 | 0.0 | -679.4 | 802,153.44 | 454,963.48 | 81.29 | 0.00 |
| 8,150.0 | 6.00 | 270.00 | 8,114.3 | 4,510.8 | 0.0 | -684.7 | 802,148.22 | 454,963.48 | 81.91 | 0.00 |
| 8,200.0 | 6.00 | 270.00 | 8,164.0 | 4,560.5 | 0.0 | -689.9 | 802,142.99 | 454,963.48 | 82.54 | 0.00 |
| 8,250.0 | 6.00 | 270.00 | 8,213.8 | 4,610.3 | 0.0 | -695.1 | 802,137.76 | 454,963.48 | 83.16 | 0.00 |

## Morcor Engineering

Morcor Standard Plan

| | | | |
|---|---|---|---|
| **Company:** | Kaiser Francis | **Local Co-ordinate Reference:** | Well Bell Lake South Unit 216H |
| **Project:** | Bell Lake South Unit 216H | **TVD Reference:** | WELL @ 3603.5usft (Original Well Elev) |
| **Site:** | Bell Lake South Unit 216H | **MD Reference:** | WELL @ 3603.5usft (Original Well Elev) |
| **Well:** | Bell Lake South Unit 216H | **North Reference:** | Grid |
| **Wellbore:** | Bell Lake South Unit 216H | **Survey Calculation Method:** | Minimum Curvature |
| **Design:** | 190319 Bell Lake South Unit 216H | **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) |
|---|---|---|---|---|---|---|---|---|---|---|
| 8,300.0 | 6.00 | 270.00 | 8,263.5 | 4,660.0 | 0.0 | -700.4 | 802,132.54 | 454,963.48 | 83.79 | 0.00 |
| 8,350.0 | 6.00 | 270.00 | 8,313.2 | 4,709.7 | 0.0 | -705.6 | 802,127.31 | 454,963.48 | 84.41 | 0.00 |
| 8,400.0 | 6.00 | 270.00 | 8,362.9 | 4,759.4 | 0.0 | -710.8 | 802,122.08 | 454,963.48 | 85.04 | 0.00 |
| 8,450.0 | 6.00 | 270.00 | 8,412.7 | 4,809.2 | 0.0 | -716.0 | 802,116.86 | 454,963.48 | 85.66 | 0.00 |
| 8,500.0 | 6.00 | 270.00 | 8,462.4 | 4,858.9 | 0.0 | -721.3 | 802,111.63 | 454,963.48 | 86.29 | 0.00 |
| 8,550.0 | 6.00 | 270.00 | 8,512.1 | 4,908.6 | 0.0 | -726.5 | 802,106.40 | 454,963.48 | 86.91 | 0.00 |
| 8,600.0 | 6.00 | 270.00 | 8,561.8 | 4,958.3 | 0.0 | -731.7 | 802,101.18 | 454,963.48 | 87.54 | 0.00 |
| 8,650.0 | 6.00 | 270.00 | 8,611.6 | 5,008.1 | 0.0 | -736.9 | 802,095.95 | 454,963.48 | 88.16 | 0.00 |
| 8,700.0 | 6.00 | 270.00 | 8,661.3 | 5,057.8 | 0.0 | -742.2 | 802,090.72 | 454,963.48 | 88.79 | 0.00 |
| 8,750.0 | 6.00 | 270.00 | 8,711.0 | 5,107.5 | 0.0 | -747.4 | 802,085.50 | 454,963.48 | 89.41 | 0.00 |
| 8,800.0 | 6.00 | 270.00 | 8,760.7 | 5,157.2 | 0.0 | -752.6 | 802,080.27 | 454,963.48 | 90.04 | 0.00 |
| 8,850.0 | 6.00 | 270.00 | 8,810.5 | 5,207.0 | 0.0 | -757.8 | 802,075.05 | 454,963.48 | 90.66 | 0.00 |
| 8,900.0 | 6.00 | 270.00 | 8,860.2 | 5,256.7 | 0.0 | -763.1 | 802,069.82 | 454,963.48 | 91.29 | 0.00 |
| 8,917.9 | 6.00 | 270.00 | 8,878.0 | 5,274.5 | 0.0 | -764.9 | 802,067.95 | 454,963.48 | 91.51 | 0.00 |
| **Bone Spring** | | | | | | | | | | |
| 8,950.0 | 6.00 | 270.00 | 8,909.9 | 5,306.4 | 0.0 | -768.3 | 802,064.59 | 454,963.48 | 91.91 | 0.00 |
| 9,000.0 | 6.00 | 270.00 | 8,959.6 | 5,356.1 | 0.0 | -773.5 | 802,059.37 | 454,963.48 | 92.54 | 0.00 |
| 9,050.0 | 6.00 | 270.00 | 9,009.4 | 5,405.9 | 0.0 | -778.7 | 802,054.14 | 454,963.48 | 93.17 | 0.00 |
| 9,078.8 | 6.00 | 270.00 | 9,038.0 | 5,434.5 | 0.0 | -781.8 | 802,051.13 | 454,963.48 | 93.53 | 0.00 |
| **Avalon** | | | | | | | | | | |
| 9,100.0 | 6.00 | 270.00 | 9,059.1 | 5,455.6 | 0.0 | -784.0 | 802,048.91 | 454,963.48 | 93.79 | 0.00 |
| 9,150.0 | 6.00 | 270.00 | 9,108.8 | 5,505.3 | 0.0 | -789.2 | 802,043.69 | 454,963.48 | 94.42 | 0.00 |
| 9,200.0 | 6.00 | 270.00 | 9,158.5 | 5,555.0 | 0.0 | -794.4 | 802,038.46 | 454,963.48 | 95.04 | 0.00 |
| 9,250.0 | 6.00 | 270.00 | 9,208.3 | 5,604.8 | 0.0 | -799.7 | 802,033.23 | 454,963.48 | 95.67 | 0.00 |
| 9,300.0 | 6.00 | 270.00 | 9,258.0 | 5,654.5 | 0.0 | -804.9 | 802,028.01 | 454,963.48 | 96.29 | 0.00 |
| 9,350.0 | 6.00 | 270.00 | 9,307.7 | 5,704.2 | 0.0 | -810.1 | 802,022.78 | 454,963.48 | 96.92 | 0.00 |
| 9,400.0 | 6.00 | 270.00 | 9,357.5 | 5,754.0 | 0.0 | -815.3 | 802,017.55 | 454,963.48 | 97.54 | 0.00 |

## Morcor Engineering

Morcor Standard Plan

| | | | |
|---|---|---|---|
| **Company:** | Kaiser Francis | **Local Co-ordinate Reference:** | Well Bell Lake South Unit 216H |
| **Project:** | Bell Lake South Unit 216H | **TVD Reference:** | WELL @ 3603.5usft (Original Well Elev) |
| **Site:** | Bell Lake South Unit 216H | **MD Reference:** | WELL @ 3603.5usft (Original Well Elev) |
| **Well:** | Bell Lake South Unit 216H | **North Reference:** | Grid |
| **Wellbore:** | Bell Lake South Unit 216H | **Survey Calculation Method:** | Minimum Curvature |
| **Design:** | 190319 Bell Lake South Unit 216H | **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) |
|---|---|---|---|---|---|---|---|---|---|---|
| 9,450.0 | 6.00 | 270.00 | 9,407.2 | 5,803.7 | 0.0 | -820.6 | 802,012.33 | 454,963.48 | 98.17 | 0.00 |
| 9,500.0 | 6.00 | 270.00 | 9,456.9 | 5,853.4 | 0.0 | -825.8 | 802,007.10 | 454,963.48 | 98.79 | 0.00 |
| 9,550.0 | 6.00 | 270.00 | 9,506.6 | 5,903.1 | 0.0 | -831.0 | 802,001.88 | 454,963.48 | 99.42 | 0.00 |
| 9,600.0 | 6.00 | 270.00 | 9,556.4 | 5,952.9 | 0.0 | -836.2 | 801,996.65 | 454,963.48 | 100.04 | 0.00 |
| 9,650.0 | 6.00 | 270.00 | 9,606.1 | 6,002.6 | 0.0 | -841.5 | 801,991.42 | 454,963.48 | 100.67 | 0.00 |
| 9,700.0 | 6.00 | 270.00 | 9,655.8 | 6,052.3 | 0.0 | -846.7 | 801,986.20 | 454,963.48 | 101.29 | 0.00 |
| 9,750.0 | 6.00 | 270.00 | 9,705.5 | 6,102.0 | 0.0 | -851.9 | 801,980.97 | 454,963.48 | 101.92 | 0.00 |
| 9,800.0 | 6.00 | 270.00 | 9,755.3 | 6,151.8 | 0.0 | -857.1 | 801,975.74 | 454,963.48 | 102.54 | 0.00 |
| 9,850.0 | 6.00 | 270.00 | 9,805.0 | 6,201.5 | 0.0 | -862.4 | 801,970.52 | 454,963.48 | 103.17 | 0.00 |
| 9,900.0 | 6.00 | 270.00 | 9,854.7 | 6,251.2 | 0.0 | -867.6 | 801,965.29 | 454,963.48 | 103.79 | 0.00 |
| 9,950.0 | 6.00 | 270.00 | 9,904.4 | 6,300.9 | 0.0 | -872.8 | 801,960.06 | 454,963.48 | 104.42 | 0.00 |
| 10,000.0 | 6.00 | 270.00 | 9,954.2 | 6,350.7 | 0.0 | -878.0 | 801,954.84 | 454,963.48 | 105.05 | 0.00 |
| **Start Drop -3.00** | | | | | | | | | | |
| 10,050.0 | 4.50 | 270.00 | 10,004.0 | 6,400.5 | 0.0 | -882.6 | 801,950.26 | 454,963.48 | 105.59 | 3.00 |
| 10,054.1 | 4.38 | 270.00 | 10,008.0 | 6,404.5 | 0.0 | -882.9 | 801,949.95 | 454,963.48 | 105.63 | 3.00 |
| **1st Bone Spring** | | | | | | | | | | |
| 10,100.0 | 3.00 | 270.00 | 10,053.8 | 6,450.3 | 0.0 | -885.9 | 801,946.99 | 454,963.48 | 105.98 | 3.00 |
| 10,150.0 | 1.50 | 270.00 | 10,103.8 | 6,500.3 | 0.0 | -887.9 | 801,945.03 | 454,963.48 | 106.22 | 3.00 |
| 10,200.0 | 0.00 | 0.00 | 10,153.8 | 6,550.3 | 0.0 | -888.5 | 801,944.38 | 454,963.48 | 106.30 | 3.00 |
| **Start 73.2 hold at 10200.0 MD** | | | | | | | | | | |
| 10,250.0 | 0.00 | 0.00 | 10,203.8 | 6,600.3 | 0.0 | -888.5 | 801,944.38 | 454,963.48 | 106.30 | 0.00 |
| 10,273.2 | 0.00 | 180.55 | 10,227.0 | 6,623.5 | 0.0 | -888.5 | 801,944.38 | 454,963.48 | 106.30 | 0.00 |
| **Start Build 10.00** | | | | | | | | | | |
| 10,300.0 | 2.68 | 180.55 | 10,253.8 | 6,650.3 | -0.6 | -888.5 | 801,944.37 | 454,962.85 | 106.92 | 10.00 |
| 10,350.0 | 7.68 | 180.55 | 10,303.6 | 6,700.1 | -5.1 | -888.6 | 801,944.33 | 454,958.34 | 111.41 | 10.00 |
| 10,400.0 | 12.68 | 180.55 | 10,352.8 | 6,749.3 | -14.0 | -888.6 | 801,944.24 | 454,949.50 | 120.19 | 10.00 |
| 10,450.0 | 17.68 | 180.55 | 10,401.0 | 6,797.5 | -27.1 | -888.8 | 801,944.12 | 454,936.42 | 133.19 | 10.00 |

## Morcor Engineering

Morcor Standard Plan

| | | | |
|---|---|---|---|
| **Company:** | Kaiser Francis | **Local Co-ordinate Reference:** | Well Bell Lake South Unit 216H |
| **Project:** | Bell Lake South Unit 216H | **TVD Reference:** | WELL @ 3603.5usft (Original Well Elev) |
| **Site:** | Bell Lake South Unit 216H | **MD Reference:** | WELL @ 3603.5usft (Original Well Elev) |
| **Well:** | Bell Lake South Unit 216H | **North Reference:** | Grid |
| **Wellbore:** | Bell Lake South Unit 216H | **Survey Calculation Method:** | Minimum Curvature |
| **Design:** | 190319 Bell Lake South Unit 216H | **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) |
|---|---|---|---|---|---|---|---|---|---|---|
| 10,500.0 | 22.68 | 180.55 | 10,447.9 | 6,844.4 | -44.3 | -888.9 | 801,943.95 | 454,919.17 | 150.33 | 10.00 |
| 10,550.0 | 27.68 | 180.55 | 10,493.2 | 6,889.7 | -65.6 | -889.1 | 801,943.75 | 454,897.91 | 171.47 | 10.00 |
| 10,600.0 | 32.68 | 180.55 | 10,536.4 | 6,932.9 | -90.7 | -889.4 | 801,943.50 | 454,872.78 | 196.45 | 10.00 |
| 10,650.0 | 37.68 | 180.55 | 10,577.2 | 6,973.7 | -119.5 | -889.7 | 801,943.23 | 454,843.98 | 225.07 | 10.00 |
| 10,676.7 | 40.35 | 180.55 | 10,598.0 | 6,994.5 | -136.3 | -889.8 | 801,943.07 | 454,827.15 | 241.80 | 10.00 |
| **Point of Penetration - 2nd Bone Spring** | | | | | | | | | | |
| 10,700.0 | 42.68 | 180.55 | 10,615.4 | 7,011.9 | -151.7 | -890.0 | 801,942.92 | 454,811.74 | 257.12 | 10.00 |
| 10,750.0 | 47.68 | 180.55 | 10,650.6 | 7,047.1 | -187.2 | -890.3 | 801,942.58 | 454,776.28 | 292.36 | 10.00 |
| 10,800.0 | 52.68 | 180.55 | 10,682.7 | 7,079.2 | -225.6 | -890.7 | 801,942.21 | 454,737.89 | 330.52 | 10.00 |
| 10,850.0 | 57.68 | 180.55 | 10,711.2 | 7,107.7 | -266.6 | -891.1 | 801,941.82 | 454,696.86 | 371.30 | 10.00 |
| 10,900.0 | 62.68 | 180.55 | 10,736.0 | 7,132.5 | -310.0 | -891.5 | 801,941.40 | 454,653.50 | 414.41 | 10.00 |
| 10,950.0 | 67.68 | 180.55 | 10,757.0 | 7,153.5 | -355.3 | -891.9 | 801,940.96 | 454,608.13 | 459.50 | 10.00 |
| 11,000.0 | 72.68 | 180.55 | 10,774.0 | 7,170.5 | -402.4 | -892.4 | 801,940.51 | 454,561.11 | 506.23 | 10.00 |
| 11,050.0 | 77.68 | 180.55 | 10,786.8 | 7,183.3 | -450.7 | -892.8 | 801,940.05 | 454,512.79 | 554.26 | 10.00 |
| 11,094.0 | 82.08 | 180.55 | 10,794.5 | 7,191.0 | -494.0 | -893.3 | 801,939.63 | 454,469.49 | 597.30 | 10.00 |
| **First Take Point** | | | | | | | | | | |
| 11,100.0 | 82.68 | 180.55 | 10,795.3 | 7,191.8 | -499.9 | -893.3 | 801,939.58 | 454,463.54 | 603.21 | 10.00 |
| 11,150.0 | 87.68 | 180.55 | 10,799.5 | 7,196.0 | -549.7 | -893.8 | 801,939.10 | 454,413.74 | 652.72 | 10.00 |
| 11,173.2 | 90.00 | 180.55 | 10,800.0 | 7,196.5 | -572.9 | -894.0 | 801,938.88 | 454,390.54 | 675.77 | 10.00 |
| **Start Turn 0.09** | | | | | | | | | | |
| 11,200.0 | 90.00 | 180.57 | 10,800.0 | 7,196.5 | -599.7 | -894.3 | 801,938.61 | 454,363.75 | 702.41 | 0.09 |
| 11,250.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -649.7 | -894.8 | 801,938.09 | 454,313.75 | 752.11 | 0.09 |
| **Start Turn 0.00** | | | | | | | | | | |
| 11,300.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -699.7 | -895.3 | 801,937.55 | 454,263.75 | 801.81 | 0.00 |
| 11,350.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -749.7 | -895.9 | 801,937.01 | 454,213.75 | 851.52 | 0.00 |
| 11,400.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -799.7 | -896.4 | 801,936.47 | 454,163.76 | 901.22 | 0.00 |
| 11,450.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -849.7 | -897.0 | 801,935.93 | 454,113.76 | 950.92 | 0.00 |
| 11,500.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -899.7 | -897.5 | 801,935.39 | 454,063.76 | 1,000.62 | 0.00 |

## Morcor Engineering

Morcor Standard Plan

| | | | |
|---|---|---|---|
| **Company:** | Kaiser Francis | **Local Co-ordinate Reference:** | Well Bell Lake South Unit 216H |
| **Project:** | Bell Lake South Unit 216H | **TVD Reference:** | WELL @ 3603.5usft (Original Well Elev) |
| **Site:** | Bell Lake South Unit 216H | **MD Reference:** | WELL @ 3603.5usft (Original Well Elev) |
| **Well:** | Bell Lake South Unit 216H | **North Reference:** | Grid |
| **Wellbore:** | Bell Lake South Unit 216H | **Survey Calculation Method:** | Minimum Curvature |
| **Design:** | 190319 Bell Lake South Unit 216H | **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) |
|---|---|---|---|---|---|---|---|---|---|---|
| 11,550.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -949.7 | -898.0 | 801,934.85 | 454,013.77 | 1,050.33 | 0.00 |
| 11,600.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -999.7 | -898.6 | 801,934.31 | 453,963.77 | 1,100.03 | 0.00 |
| 11,650.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -1,049.7 | -899.1 | 801,933.76 | 453,913.77 | 1,149.73 | 0.00 |
| 11,700.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -1,099.7 | -899.7 | 801,933.22 | 453,863.78 | 1,199.43 | 0.00 |
| 11,750.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -1,149.7 | -900.2 | 801,932.68 | 453,813.78 | 1,249.14 | 0.00 |
| 11,800.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -1,199.7 | -900.7 | 801,932.14 | 453,763.78 | 1,298.84 | 0.00 |
| 11,850.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -1,249.7 | -901.3 | 801,931.60 | 453,713.78 | 1,348.54 | 0.00 |
| 11,900.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -1,299.7 | -901.8 | 801,931.06 | 453,663.79 | 1,398.24 | 0.00 |
| 11,950.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -1,349.7 | -902.4 | 801,930.52 | 453,613.79 | 1,447.95 | 0.00 |
| 12,000.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -1,399.7 | -902.9 | 801,929.98 | 453,563.79 | 1,497.65 | 0.00 |
| 12,050.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -1,449.7 | -903.4 | 801,929.44 | 453,513.80 | 1,547.35 | 0.00 |
| 12,100.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -1,499.7 | -904.0 | 801,928.90 | 453,463.80 | 1,597.05 | 0.00 |
| 12,150.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -1,549.7 | -904.5 | 801,928.36 | 453,413.80 | 1,646.76 | 0.00 |
| 12,200.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -1,599.7 | -905.1 | 801,927.82 | 453,363.80 | 1,696.46 | 0.00 |
| 12,250.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -1,649.7 | -905.6 | 801,927.28 | 453,313.81 | 1,746.16 | 0.00 |
| 12,300.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -1,699.7 | -906.1 | 801,926.74 | 453,263.81 | 1,795.87 | 0.00 |
| 12,350.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -1,749.7 | -906.7 | 801,926.20 | 453,213.81 | 1,845.57 | 0.00 |
| 12,400.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -1,799.7 | -907.2 | 801,925.66 | 453,163.82 | 1,895.27 | 0.00 |
| 12,450.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -1,849.7 | -907.8 | 801,925.12 | 453,113.82 | 1,944.97 | 0.00 |
| 12,500.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -1,899.7 | -908.3 | 801,924.58 | 453,063.82 | 1,994.68 | 0.00 |
| 12,550.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -1,949.7 | -908.8 | 801,924.04 | 453,013.82 | 2,044.38 | 0.00 |
| 12,600.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -1,999.6 | -909.4 | 801,923.50 | 452,963.83 | 2,094.08 | 0.00 |
| 12,650.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -2,049.6 | -909.9 | 801,922.97 | 452,913.83 | 2,143.78 | 0.00 |
| 12,700.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -2,099.6 | -910.5 | 801,922.43 | 452,863.83 | 2,193.49 | 0.00 |
| 12,750.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -2,149.6 | -911.0 | 801,921.89 | 452,813.84 | 2,243.19 | 0.00 |
| 12,800.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -2,199.6 | -911.5 | 801,921.35 | 452,763.84 | 2,292.89 | 0.00 |
| 12,850.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -2,249.6 | -912.1 | 801,920.81 | 452,713.84 | 2,342.59 | 0.00 |

## Morcor Engineering

Morcor Standard Plan

| | | | |
|---|---|---|---|
| **Company:** | Kaiser Francis | **Local Co-ordinate Reference:** | Well Bell Lake South Unit 216H |
| **Project:** | Bell Lake South Unit 216H | **TVD Reference:** | WELL @ 3603.5usft (Original Well Elev) |
| **Site:** | Bell Lake South Unit 216H | **MD Reference:** | WELL @ 3603.5usft (Original Well Elev) |
| **Well:** | Bell Lake South Unit 216H | **North Reference:** | Grid |
| **Wellbore:** | Bell Lake South Unit 216H | **Survey Calculation Method:** | Minimum Curvature |
| **Design:** | 190319 Bell Lake South Unit 216H | **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) |
|---|---|---|---|---|---|---|---|---|---|---|
| 12,900.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -2,299.6 | -912.6 | 801,920.27 | 452,663.85 | 2,392.30 | 0.00 |
| 12,950.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -2,349.6 | -913.2 | 801,919.73 | 452,613.85 | 2,442.00 | 0.00 |
| 13,000.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -2,399.6 | -913.7 | 801,919.19 | 452,563.85 | 2,491.70 | 0.00 |
| 13,050.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -2,449.6 | -914.2 | 801,918.65 | 452,513.85 | 2,541.40 | 0.00 |
| 13,100.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -2,499.6 | -914.8 | 801,918.11 | 452,463.86 | 2,591.11 | 0.00 |
| 13,150.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -2,549.6 | -915.3 | 801,917.57 | 452,413.86 | 2,640.81 | 0.00 |
| 13,200.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -2,599.6 | -915.9 | 801,917.04 | 452,363.86 | 2,690.51 | 0.00 |
| 13,250.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -2,649.6 | -916.4 | 801,916.50 | 452,313.87 | 2,740.21 | 0.00 |
| 13,300.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -2,699.6 | -916.9 | 801,915.96 | 452,263.87 | 2,789.92 | 0.00 |
| 13,350.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -2,749.6 | -917.5 | 801,915.42 | 452,213.87 | 2,839.62 | 0.00 |
| 13,400.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -2,799.6 | -918.0 | 801,914.88 | 452,163.87 | 2,889.32 | 0.00 |
| 13,450.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -2,849.6 | -918.5 | 801,914.34 | 452,113.88 | 2,939.02 | 0.00 |
| 13,500.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -2,899.6 | -919.1 | 801,913.80 | 452,063.88 | 2,988.73 | 0.00 |
| 13,550.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -2,949.6 | -919.6 | 801,913.27 | 452,013.88 | 3,038.43 | 0.00 |
| 13,600.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -2,999.6 | -920.2 | 801,912.73 | 451,963.89 | 3,088.13 | 0.00 |
| 13,650.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -3,049.6 | -920.7 | 801,912.19 | 451,913.89 | 3,137.83 | 0.00 |
| 13,700.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -3,099.6 | -921.2 | 801,911.65 | 451,863.89 | 3,187.54 | 0.00 |
| 13,750.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -3,149.6 | -921.8 | 801,911.11 | 451,813.89 | 3,237.24 | 0.00 |
| 13,800.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -3,199.6 | -922.3 | 801,910.57 | 451,763.90 | 3,286.94 | 0.00 |
| 13,850.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -3,249.6 | -922.8 | 801,910.04 | 451,713.90 | 3,336.64 | 0.00 |
| 13,900.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -3,299.6 | -923.4 | 801,909.50 | 451,663.90 | 3,386.34 | 0.00 |
| 13,950.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -3,349.6 | -923.9 | 801,908.96 | 451,613.91 | 3,436.05 | 0.00 |
| 14,000.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -3,399.6 | -924.5 | 801,908.42 | 451,563.91 | 3,485.75 | 0.00 |
| 14,050.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -3,449.6 | -925.0 | 801,907.89 | 451,513.91 | 3,535.45 | 0.00 |
| 14,100.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -3,499.6 | -925.5 | 801,907.35 | 451,463.91 | 3,585.15 | 0.00 |
| 14,150.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -3,549.6 | -926.1 | 801,906.81 | 451,413.92 | 3,634.86 | 0.00 |
| 14,200.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -3,599.6 | -926.6 | 801,906.27 | 451,363.92 | 3,684.56 | 0.00 |

**Morcor Engineering**
Morcor Standard Plan

| | | | |
|---|---|---|---|
| **Company:** | Kaiser Francis | **Local Co-ordinate Reference:** | Well Bell Lake South Unit 216H |
| **Project:** | Bell Lake South Unit 216H | **TVD Reference:** | WELL @ 3603.5usft (Original Well Elev) |
| **Site:** | Bell Lake South Unit 216H | **MD Reference:** | WELL @ 3603.5usft (Original Well Elev) |
| **Well:** | Bell Lake South Unit 216H | **North Reference:** | Grid |
| **Wellbore:** | Bell Lake South Unit 216H | **Survey Calculation Method:** | Minimum Curvature |
| **Design:** | 190319 Bell Lake South Unit 216H | **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) |
|---|---|---|---|---|---|---|---|---|---|---|
| 14,250.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -3,649.6 | -927.2 | 801,905.73 | 451,313.92 | 3,734.26 | 0.00 |
| 14,300.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -3,699.5 | -927.7 | 801,905.20 | 451,263.93 | 3,783.96 | 0.00 |
| 14,350.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -3,749.5 | -928.2 | 801,904.66 | 451,213.93 | 3,833.67 | 0.00 |
| 14,400.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -3,799.5 | -928.8 | 801,904.12 | 451,163.93 | 3,883.37 | 0.00 |
| 14,450.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -3,849.5 | -929.3 | 801,903.58 | 451,113.93 | 3,933.07 | 0.00 |
| 14,500.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -3,899.5 | -929.8 | 801,903.05 | 451,063.94 | 3,982.77 | 0.00 |
| 14,550.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -3,949.5 | -930.4 | 801,902.51 | 451,013.94 | 4,032.48 | 0.00 |
| 14,600.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -3,999.5 | -930.9 | 801,901.97 | 450,963.94 | 4,082.18 | 0.00 |
| 14,650.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -4,049.5 | -931.5 | 801,901.44 | 450,913.95 | 4,131.88 | 0.00 |
| 14,700.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -4,099.5 | -932.0 | 801,900.90 | 450,863.95 | 4,181.58 | 0.00 |
| 14,750.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -4,149.5 | -932.5 | 801,900.36 | 450,813.95 | 4,231.28 | 0.00 |
| 14,800.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -4,199.5 | -933.1 | 801,899.83 | 450,763.96 | 4,280.99 | 0.00 |
| 14,850.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -4,249.5 | -933.6 | 801,899.29 | 450,713.96 | 4,330.69 | 0.00 |
| 14,900.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -4,299.5 | -934.1 | 801,898.75 | 450,663.96 | 4,380.39 | 0.00 |
| 14,950.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -4,349.5 | -934.7 | 801,898.21 | 450,613.96 | 4,430.09 | 0.00 |
| 15,000.0 | 90.00 | 180.62 | 10,800.0 | 7,196.5 | -4,399.5 | -935.2 | 801,897.68 | 450,563.97 | 4,479.80 | 0.00 |
| 15,050.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -4,449.5 | -935.7 | 801,897.14 | 450,513.97 | 4,529.50 | 0.00 |
| 15,100.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -4,499.5 | -936.3 | 801,896.60 | 450,463.97 | 4,579.20 | 0.00 |
| 15,150.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -4,549.5 | -936.8 | 801,896.07 | 450,413.98 | 4,628.90 | 0.00 |
| 15,200.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -4,599.5 | -937.4 | 801,895.53 | 450,363.98 | 4,678.60 | 0.00 |
| 15,250.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -4,649.5 | -937.9 | 801,895.00 | 450,313.98 | 4,728.31 | 0.00 |
| 15,300.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -4,699.5 | -938.4 | 801,894.46 | 450,263.98 | 4,778.01 | 0.00 |
| 15,350.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -4,749.5 | -939.0 | 801,893.92 | 450,213.99 | 4,827.71 | 0.00 |
| 15,400.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -4,799.5 | -939.5 | 801,893.39 | 450,163.99 | 4,877.41 | 0.00 |
| 15,450.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -4,849.5 | -940.0 | 801,892.85 | 450,113.99 | 4,927.12 | 0.00 |
| 15,500.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -4,899.5 | -940.6 | 801,892.31 | 450,064.00 | 4,976.82 | 0.00 |
| 15,550.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -4,949.5 | -941.1 | 801,891.78 | 450,014.00 | 5,026.52 | 0.00 |

## Morcor Engineering

Morcor Standard Plan

| | | | |
|---|---|---|---|
| **Company:** | Kaiser Francis | **Local Co-ordinate Reference:** | Well Bell Lake South Unit 216H |
| **Project:** | Bell Lake South Unit 216H | **TVD Reference:** | WELL @ 3603.5usft (Original Well Elev) |
| **Site:** | Bell Lake South Unit 216H | **MD Reference:** | WELL @ 3603.5usft (Original Well Elev) |
| **Well:** | Bell Lake South Unit 216H | **North Reference:** | Grid |
| **Wellbore:** | Bell Lake South Unit 216H | **Survey Calculation Method:** | Minimum Curvature |
| **Design:** | 190319 Bell Lake South Unit 216H | **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) |
|---|---|---|---|---|---|---|---|---|---|---|
| 15,600.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -4,999.5 | -941.6 | 801,891.24 | 449,964.00 | 5,076.22 | 0.00 |
| 15,650.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -5,049.5 | -942.2 | 801,890.71 | 449,914.00 | 5,125.92 | 0.00 |
| 15,700.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -5,099.5 | -942.7 | 801,890.17 | 449,864.01 | 5,175.63 | 0.00 |
| 15,750.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -5,149.5 | -943.3 | 801,889.64 | 449,814.01 | 5,225.33 | 0.00 |
| 15,800.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -5,199.5 | -943.8 | 801,889.10 | 449,764.01 | 5,275.03 | 0.00 |
| 15,850.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -5,249.5 | -944.3 | 801,888.56 | 449,714.02 | 5,324.73 | 0.00 |
| 15,900.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -5,299.5 | -944.9 | 801,888.03 | 449,664.02 | 5,374.43 | 0.00 |
| 15,950.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -5,349.5 | -945.4 | 801,887.49 | 449,614.02 | 5,424.14 | 0.00 |
| 16,000.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -5,399.5 | -945.9 | 801,886.96 | 449,564.02 | 5,473.84 | 0.00 |
| 16,050.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -5,449.4 | -946.5 | 801,886.42 | 449,514.03 | 5,523.54 | 0.00 |
| 16,100.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -5,499.4 | -947.0 | 801,885.89 | 449,464.03 | 5,573.24 | 0.00 |
| 16,150.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -5,549.4 | -947.5 | 801,885.35 | 449,414.03 | 5,622.95 | 0.00 |
| 16,200.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -5,599.4 | -948.1 | 801,884.82 | 449,364.04 | 5,672.65 | 0.00 |
| 16,250.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -5,649.4 | -948.6 | 801,884.28 | 449,314.04 | 5,722.35 | 0.00 |
| 16,300.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -5,699.4 | -949.1 | 801,883.75 | 449,264.04 | 5,772.05 | 0.00 |
| 16,350.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -5,749.4 | -949.7 | 801,883.21 | 449,214.04 | 5,821.75 | 0.00 |
| 16,400.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -5,799.4 | -950.2 | 801,882.68 | 449,164.05 | 5,871.46 | 0.00 |
| 16,450.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -5,849.4 | -950.7 | 801,882.14 | 449,114.05 | 5,921.16 | 0.00 |
| 16,500.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -5,899.4 | -951.3 | 801,881.61 | 449,064.05 | 5,970.86 | 0.00 |
| 16,550.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -5,949.4 | -951.8 | 801,881.07 | 449,014.06 | 6,020.56 | 0.00 |
| 16,600.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -5,999.4 | -952.4 | 801,880.54 | 448,964.06 | 6,070.26 | 0.00 |
| 16,650.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -6,049.4 | -952.9 | 801,880.00 | 448,914.06 | 6,119.97 | 0.00 |
| 16,700.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -6,099.4 | -953.4 | 801,879.47 | 448,864.06 | 6,169.67 | 0.00 |
| 16,750.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -6,149.4 | -954.0 | 801,878.93 | 448,814.07 | 6,219.37 | 0.00 |
| 16,800.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -6,199.4 | -954.5 | 801,878.40 | 448,764.07 | 6,269.07 | 0.00 |
| 16,850.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -6,249.4 | -955.0 | 801,877.86 | 448,714.07 | 6,318.77 | 0.00 |
| 16,900.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -6,299.4 | -955.6 | 801,877.33 | 448,664.08 | 6,368.48 | 0.00 |

**Morcor Engineering**
Morcor Standard Plan

| | | | |
|---|---|---|---|
| **Company:** | Kaiser Francis | **Local Co-ordinate Reference:** | Well Bell Lake South Unit 216H |
| **Project:** | Bell Lake South Unit 216H | **TVD Reference:** | WELL @ 3603.5usft (Original Well Elev) |
| **Site:** | Bell Lake South Unit 216H | **MD Reference:** | WELL @ 3603.5usft (Original Well Elev) |
| **Well:** | Bell Lake South Unit 216H | **North Reference:** | Grid |
| **Wellbore:** | Bell Lake South Unit 216H | **Survey Calculation Method:** | Minimum Curvature |
| **Design:** | 190319 Bell Lake South Unit 216H | **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) |
|---|---|---|---|---|---|---|---|---|---|---|
| 16,950.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -6,349.4 | -956.1 | 801,876.79 | 448,614.08 | 6,418.18 | 0.00 |
| 17,000.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -6,399.4 | -956.6 | 801,876.26 | 448,564.08 | 6,467.88 | 0.00 |
| 17,050.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -6,449.4 | -957.2 | 801,875.73 | 448,514.08 | 6,517.58 | 0.00 |
| 17,100.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -6,499.4 | -957.7 | 801,875.19 | 448,464.09 | 6,567.28 | 0.00 |
| 17,150.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -6,549.4 | -958.2 | 801,874.66 | 448,414.09 | 6,616.99 | 0.00 |
| 17,200.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -6,599.4 | -958.8 | 801,874.12 | 448,364.09 | 6,666.69 | 0.00 |
| 17,250.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -6,649.4 | -959.3 | 801,873.59 | 448,314.10 | 6,716.39 | 0.00 |
| 17,300.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -6,699.4 | -959.8 | 801,873.05 | 448,264.10 | 6,766.09 | 0.00 |
| 17,350.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -6,749.4 | -960.4 | 801,872.52 | 448,214.10 | 6,815.79 | 0.00 |
| 17,400.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -6,799.4 | -960.9 | 801,871.99 | 448,164.10 | 6,865.50 | 0.00 |
| 17,450.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -6,849.4 | -961.4 | 801,871.45 | 448,114.11 | 6,915.20 | 0.00 |
| 17,500.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -6,899.4 | -962.0 | 801,870.92 | 448,064.11 | 6,964.90 | 0.00 |
| 17,550.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -6,949.4 | -962.5 | 801,870.39 | 448,014.11 | 7,014.60 | 0.00 |
| 17,600.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -6,999.4 | -963.0 | 801,869.85 | 447,964.12 | 7,064.30 | 0.00 |
| 17,650.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -7,049.4 | -963.6 | 801,869.32 | 447,914.12 | 7,114.01 | 0.00 |
| 17,700.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -7,099.4 | -964.1 | 801,868.78 | 447,864.12 | 7,163.71 | 0.00 |
| 17,750.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -7,149.4 | -964.6 | 801,868.25 | 447,814.12 | 7,213.41 | 0.00 |
| 17,800.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -7,199.3 | -965.2 | 801,867.72 | 447,764.13 | 7,263.11 | 0.00 |
| 17,850.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -7,249.3 | -965.7 | 801,867.18 | 447,714.13 | 7,312.81 | 0.00 |
| 17,900.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -7,299.3 | -966.2 | 801,866.65 | 447,664.13 | 7,362.51 | 0.00 |
| 17,950.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -7,349.3 | -966.8 | 801,866.12 | 447,614.14 | 7,412.22 | 0.00 |
| 18,000.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -7,399.3 | -967.3 | 801,865.59 | 447,564.14 | 7,461.92 | 0.00 |
| 18,050.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -7,449.3 | -967.8 | 801,865.05 | 447,514.14 | 7,511.62 | 0.00 |
| 18,100.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -7,499.3 | -968.4 | 801,864.52 | 447,464.14 | 7,561.32 | 0.00 |
| 18,150.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -7,549.3 | -968.9 | 801,863.99 | 447,414.15 | 7,611.02 | 0.00 |
| 18,200.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -7,599.3 | -969.4 | 801,863.45 | 447,364.15 | 7,660.73 | 0.00 |
| 18,250.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -7,649.3 | -970.0 | 801,862.92 | 447,314.15 | 7,710.43 | 0.00 |

## Morcor Engineering

Morcor Standard Plan

| | | | |
|---|---|---|---|
| **Company:** | Kaiser Francis | **Local Co-ordinate Reference:** | Well Bell Lake South Unit 216H |
| **Project:** | Bell Lake South Unit 216H | **TVD Reference:** | WELL @ 3603.5usft (Original Well Elev) |
| **Site:** | Bell Lake South Unit 216H | **MD Reference:** | WELL @ 3603.5usft (Original Well Elev) |
| **Well:** | Bell Lake South Unit 216H | **North Reference:** | Grid |
| **Wellbore:** | Bell Lake South Unit 216H | **Survey Calculation Method:** | Minimum Curvature |
| **Design:** | 190319 Bell Lake South Unit 216H | **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) |
|---|---|---|---|---|---|---|---|---|---|---|
| 18,300.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -7,699.3 | -970.5 | 801,862.39 | 447,264.16 | 7,760.13 | 0.00 |
| 18,350.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -7,749.3 | -971.0 | 801,861.85 | 447,214.16 | 7,809.83 | 0.00 |
| 18,400.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -7,799.3 | -971.6 | 801,861.32 | 447,164.16 | 7,859.53 | 0.00 |
| 18,450.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -7,849.3 | -972.1 | 801,860.79 | 447,114.16 | 7,909.24 | 0.00 |
| 18,500.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -7,899.3 | -972.6 | 801,860.26 | 447,064.17 | 7,958.94 | 0.00 |
| 18,550.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -7,949.3 | -973.2 | 801,859.72 | 447,014.17 | 8,008.64 | 0.00 |
| 18,600.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -7,999.3 | -973.7 | 801,859.19 | 446,964.17 | 8,058.34 | 0.00 |
| 18,650.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -8,049.3 | -974.2 | 801,858.66 | 446,914.18 | 8,108.04 | 0.00 |
| 18,689.0 | 90.00 | 180.61 | 10,800.0 | 7,196.5 | -8,088.3 | -974.6 | 801,858.24 | 446,875.18 | 8,146.81 | 0.00 |
| **TD at 18689.0 - 5 1/2" Production Casing** | | | | | | | | | | |

**Casing Points**

| Measured Depth (usft) | Vertical Depth (usft) | Name | Casing Diameter (") | Hole Diameter (") |
|---|---|---|---|---|
| 120.0 | 120.0 | 20" Conductor | 20 | 26 |
| 1,455.0 | 1,455.0 | 13 3/8" Surface Casing | 13-3/8 | 17-1/2 |
| 5,373.5 | 5,353.0 | 9 5/8" Intermediate Casing | 9-5/8 | 12-1/4 |
| 18,689.0 | 10,800.0 | 5 1/2" Production Casing | 5-1/2 | 8-3/4 |

**Morcor Engineering**
Morcor Standard Plan

| | | | |
|---|---|---|---|
| **Company:** | Kaiser Francis | **Local Co-ordinate Reference:** | Well Bell Lake South Unit 216H |
| **Project:** | Bell Lake South Unit 216H | **TVD Reference:** | WELL @ 3603.5usft (Original Well Elev) |
| **Site:** | Bell Lake South Unit 216H | **MD Reference:** | WELL @ 3603.5usft (Original Well Elev) |
| **Well:** | Bell Lake South Unit 216H | **North Reference:** | Grid |
| **Wellbore:** | Bell Lake South Unit 216H | **Survey Calculation Method:** | Minimum Curvature |
| **Design:** | 190319 Bell Lake South Unit 216H | **Database:** | EDM 5000.1 Single User Db |

**Formations**

| Measured Depth (usft) | Vertical Depth (usft) | Name | Lithology | Dip (°) | Dip Direction (°) |
|---|---|---|---|---|---|
| 5,328.2 | 5,308.0 | Lamar | | 0.00 | |
| 7,771.6 | 7,738.0 | Brushy Canyon | | 0.00 | |
| 9,078.8 | 9,038.0 | Avalon | | 0.00 | |
| 8,917.9 | 8,878.0 | Bone Spring | | 0.00 | |
| 1,809.0 | 1,808.0 | Salado | | 0.00 | |
| 10,054.1 | 10,008.0 | 1st Bone Spring | | 0.00 | |
| 5,076.9 | 5,058.0 | Base of Salt | | 0.00 | |
| 6,333.7 | 6,308.0 | Cherry Canyon | | 0.00 | |
| 2,160.9 | 2,158.0 | Top of Salt | | 0.00 | |
| 1,430.0 | 1,430.0 | Rustler | | 0.00 | |
| 5,479.1 | 5,458.0 | Bell Canyon | | 0.00 | |
| 10,676.7 | 10,598.0 | 2nd Bone Spring | | 0.00 | |

**Plan Annotations**

| Measured Depth (usft) | Vertical Depth (usft) | Local Coordinates +N/-S (usft) | Local Coordinates +E/-W (usft) | Comment |
|---|---|---|---|---|
| 1,500.0 | 1,500.0 | 0.0 | 0.0 | Start Build 3.00 |
| 1,700.0 | 1,699.6 | 0.0 | -10.5 | Start 8300.0 hold at 1700.0 MD |
| 10,000.0 | 9,954.2 | 0.0 | -878.0 | Start Drop -3.00 |
| 10,200.0 | 10,153.8 | 0.0 | -888.5 | Start 73.2 hold at 10200.0 MD |
| 10,273.2 | 10,227.0 | 0.0 | -888.5 | Start Build 10.00 |
| 10,676.7 | 10,598.0 | -136.3 | -889.8 | Point of Penetration |
| 11,094.0 | 10,794.5 | -494.0 | -893.3 | First Take Point |
| 11,173.2 | 10,800.0 | -572.9 | -894.0 | Start Turn 0.09 |
| 11,250.0 | 10,800.0 | -649.7 | -894.8 | Start Turn 0.00 |
| 18,689.0 | 10,800.0 | -8,088.3 | -974.6 | TD at 18689.0 |

Checked By: _____ Approved By: _____ Date: _____

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
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District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

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

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

☐ AMENDED REPORT

# WELL LOCATION AND ACREAGE DEDICATION PLAT

| [1] API Number | [2] Pool Code | [3] Pool Name |
|---|---|---|
| 30-025-48257 | 98264 | Bell Lake; Bone Spring, South |

| [4] Property Code | [5] Property Name | [6] Well Number |
|---|---|---|
| 316706 | BELL LAKE UNIT SOUTH | 216H |

| [7] OGRID No. | [8] Operator Name | [9] Elevation |
|---|---|---|
| 12361 | KAISER-FRANCIS OIL CO. | 3581.5 |

## [10] Surface Location

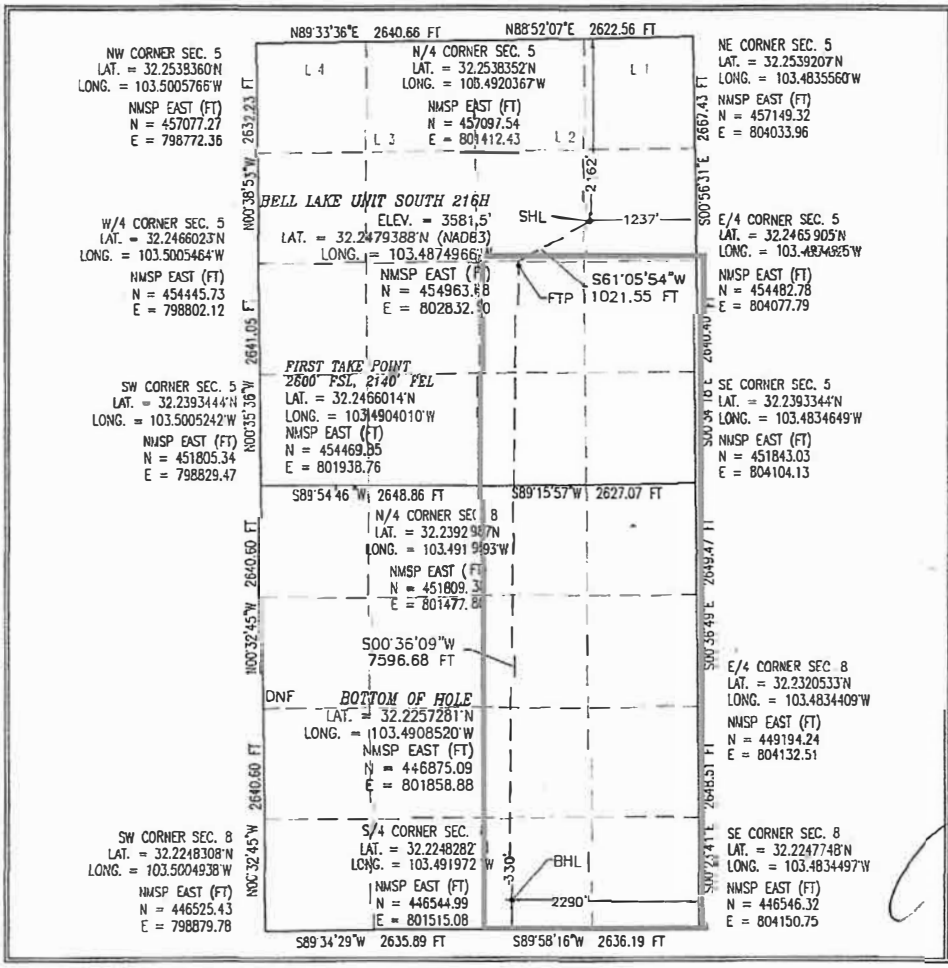
| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---|---|---|---|---|---|---|---|---|---|
| H | 5 | 24 S | 34 E | | 2162 | NORTH | 1237 | EAST | LEA |

## [11] Bottom Hole Location If Different From Surface

| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---|---|---|---|---|---|---|---|---|---|
| O | 8 | 24 S | 34 E | | 330 | SOUTH | 2290 | EAST | LEA |

| [12] Dedicated Acres | [13] Joint or Infill | [14] Consolidation Code | [15] Order No. |
|---|---|---|---|
| 480 | | | R-14600 |

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




## [17] OPERATOR CERTIFICATION

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

Stormi Davis 5/8/19
Signature Date

Stormi Davis
Printed Name

ssdavis104@gmail.com
E-mail Address

## [18] SURVEYOR CERTIFICATION

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

DECEMBER 19, 2018
Date of Survey

Signature and Seal of Professional Surveyor:

FILIMON F. JARAMILLO
NEW MEXICO
PROFESSIONAL SURVEYOR

Certificate Number: FILIMON F. JARAMILLO, PLS 12797
SURVEY NO. 6771

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

## 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, recomplete 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 South 216H | | 5-24S-34E | **30-025-48257** | 2000 | 0 | |
| Bell Lake Unit South 217H | | 5-24S-34E | | 2000 | 0 | |
| Bell Lake Unit South 316H | | 5-24S-34E | | 2000 | 0 | |
| Bell Lake Unit South 317H | | 5-24S-34E | | 2000 | 0 | |
| Bell Lake Unit South 416H | | 5-24S-34E | | 2000 | 0 | |
| Bell Lake Unit South 417H | | 5-24S-34E | | 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

**Operator Name:** KAISER FRANCIS OIL COMPANY

**Well Name:** BELL LAKE UNIT SOUTH **Well Number:** 216H

**Pressure Rating (PSI):** 5M **Rating Depth:** 18000

**Equipment:** A 10M system will be installed according to Onshore Order #2 consisting of an Annular Preventer, BOP with two rams and a blind ram. BOP will be equipped with 2 side outlets (choke side shall be a minimum 3" line, and kill side will be a minimum 2" line). Kill line will be installed with (2) valves and a check valve (2" min) of proper pressure rating for the system. Remote kill line (2' min) will be installed and ran to the outer edge of the substructure and be unobstructed. A manual and hydraulic valve (3" min) will be installed on the choke line, 3 chokes will be used with one being remotely controlled. Fill up line will be installed above the uppermost preventer. Pressure gauge of proper pressure rating will be installed on choke manifold. Upper and lower kelly cocks will be utilized with handles readily available in plain sight. A float sub will be available at all times. All connections subject to well pressure will be flanged, welded, or clamped.
**Requesting Variance?** YES

**Variance request:** Flex Hose Variance

**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:**

BLUS_216H_Choke_Manifold_20190508100733.pdf

**BOP Diagram Attachment:**

BLUS_216H_Cactus_10K_BOP_5K_20190508100834.pdf

Cactus_Flex_Hose_16C_Certification_20200102122522.pdf

BLUS_216H__Wellhead_Diagram_20200102122828.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 | 17.5 | 13.375 | NEW | API | N | 0 | 1350 | 0 | 1350 | | | 1350 | J-55 | 54.5 | BUTT | 1.8 | 4.3 | DRY | 7 | DRY | 11.6 |
| 2 | INTERMEDIATE | 12.25 | 9.625 | NEW | API | N | 0 | 5200 | 0 | 5200 | | | 5200 | HCP-110 | 43.5 | LT&C | 1.8 | 3.6 | DRY | 5.7 | DRY | 6.1 |
| 3 | PRODUCTION | 8.75 | 5.5 | NEW | API | N | 0 | 18689 | 0 | 10800 | | | 18689 | P-110 | 20 | OTHER - GBCD | 2.2 | 2.5 | DRY | 2.5 | DRY | 3 |

**Casing Attachments**

**Operator Name:** KAISER FRANCIS OIL COMPANY

**Well Name:** BELL LAKE UNIT SOUTH **Well Number:** 216H

**Casing Attachments**

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

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

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

BLUS_216H_Casing_Assumptions_20190508101946.pdf

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

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

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

BLUS_216H_Casing_Assumptions_20190508102005.pdf

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

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

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

5_1_2_P110_GBCD_20190501101524.PDF

BLUS_216H_Casing_Assumptions_20190508102023.pdf

## Section 4 - Cement

**Operator Name:** KAISER FRANCIS OIL COMPANY

**Well Name:** BELL LAKE UNIT SOUTH **Well Number:** 216H

| String Type | Lead/Tail | Stage Tool Depth | Top MD | Bottom MD | Quantity(sx) | Yield | Density | Cu Ft | Excess% | Cement type | Additives |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SURFACE | Lead | | 0 | 1350 | 730 | 1.75 | 13.5 | 1275 | 75 | Halcem | 4% Bentonite |
| INTERMEDIATE | Lead | | 0 | 5200 | 1000 | 2.09 | 12.5 | 2089 | 75 | Econocem | KolSeal |
| INTERMEDIATE | Tail | | 0 | 5200 | 380 | 1.33 | 14.8 | 506 | 75 | Halcem | none |
| PRODUCTION | Lead | | 4000 | 18689 | 387 | 3.37 | 10.5 | 1303 | 10 | Class H | KolSeal |
| PRODUCTION | Tail | | 4000 | 18689 | 2272 | 1.22 | 14.5 | 2779 | 10 | Class H | none |

## 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 5200 | 10800 | OTHER : Cut Brine | 8.7 | 8.9 | | | | | | | |
| 1350 | 5200 | OIL-BASED MUD | 8.7 | 8.9 | | | | | | | |
| 0 | 1350 | OTHER : Fresh Water | 8.4 | 9 | | | | | | | |

KAISER-FRANCIS OIL COMPANY P.O. BOX 21468 TULSA, OKLAHOMA 74121-1468
6733 South Yale Avenue, 74136
(918) 494-0000

Date: 12/15/2020

To: NMOCD

From: Charlotte Van Valkenburg

Re: Closed-Loop System

It is the intention of Kaiser-Francis Oil Company to use a closed-loop system during drilling of the following well:

Bell Lake Unit South 216H
SHL Sec. 5-24S-34E
2162' FNL & 1237' FEL
Lea Co., NM

CVV

Charlotte Van Valkenburg
Mgr., Regulatory Compliance
Kaiser-Francis Oil Company

**District I**
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
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Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 12294

## CONDITIONS OF APPROVAL

| Operator: | OGRID: | Action Number: | Action Type: |
|---|---|---|---|
| KAISER-FRANCIS OIL CO P.O. Box 21468 Tulsa, OK74121 | 12361 | 12294 | FORM 3160-3 |

| OCD Reviewer | Condition |
|---|---|
| pkautz | Notify OCD 24 hours prior to casing &cement |
| pkautz | Will require a File As Drilled C-102 and a Directional Survey with the C-104 |
| pkautz | Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string |