Form 3160-3
(June 2015)

OCD – HOBBS
10/06/2020
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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.
NMLC0068387

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 / NMNM 068292X

8. Lease Name and Well No.
BELL LAKE UNIT NORTH [316707]
223H

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

9. API Well No.
30-025-47839

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

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

10. Field and Pool, or Exploratory [98259]
OJO CHISO/WOLFCAMP, SOUTHWEST

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface NESE / 2112 FSL / 1270 FEL / LAT 32.3322042 / LONG -103.5216158
At proposed prod. zone NWNE / 330 FNL / 1410 FEL / LAT 32.3545179 / LONG -103.5220822

11. Sec., T. R. M. or Blk. and Survey or Area
SEC 1/T23S/R33E/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)
528 feet

16. No of acres in lease
315.57

17. Spacing Unit dedicated to this well
480.0

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

19. Proposed Depth
10422 feet / 18305 feet

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

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3507 feet

22. Approximate date work will start*
03/01/2020

23. Estimated duration
40 days

24. Attachments

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

1. Well plat certified by a registered surveyor.
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)	STORMI DAVIS / Ph: (918) 491-0000	10/18/2019

Title
Regulatory Analyst

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
(Electronic Submission)	Cody Layton / Ph: (575) 234-5959	09/29/2020

Title	Office
Assistant Field Manager Lands & Minerals	Carlsbad Field Office

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

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

GCP Rec 10/06/2020

SL

APPROVED WITH CONDITIONS

KZ 10/19/2020

(Continued on page 2)

*(Instructions on page 2)

Approval Date: 09/29/2020

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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)

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Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH **Well Number:** 223H

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

Is the proposed well in a Helium production area? N **Use Existing Well Pad?** N **New surface disturbance?**

Type of Well Pad: MULTIPLE WELL **Multiple Well Pad Name:** NORTH BELL LAKE UNIT **Number:** 5

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:** 528 FT

Reservoir well spacing assigned acres Measurement: 480 Acres

Well plat: BLUN_223H_C102_20191011072655.pdf

Well work start Date: 03/01/2020 **Duration:** 40 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83 **Vertical Datum:** NAVD88

Survey number: 7058 **Reference Datum:** GROUND LEVEL

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce from this lease?
SHL Leg #1	2112	FSL	1270	FEL	23S	33E	1	Aliquot NESE	32.3322042	-103.5216158	LEA	NEW MEXICO	NEW MEXICO	F	NMLC0066438	3507	0	0	N
KOP Leg #1	2112	FSL	1270	FEL	23S	33E	1	Aliquot NESE	32.3322042	-103.5216158	LEA	NEW MEXICO	NEW MEXICO	F	NMLC0066438	-6243	9750	9750	N
PPP Leg #1-1	0	FSL	1400	FEL	22S	33E	36	Aliquot SWSE	32.34098	-103.52189	LEA	NEW MEXICO	NEW MEXICO	S	STATE	-6915	13354	10422	Y

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH **Well Number:** 223H

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce from this lease?
PPP Leg #1-2	2600	FNL	1370	FEL	23S	33E	1	Aliquot SWNE	32.3337649	-103.5219391	LEA	NEW MEXICO	NEW MEXICO	F	NMLC0068387	-6915	10754	10422	Y
PPP Leg #1-3	2640	FNL	1370	FEL	23S	33E	1	Aliquot SWNE	32.333614	-103.5219366	LEA	NEW MEXICO	NEW MEXICO	F	NMLC0068387	-6915	10714	10422	Y
EXIT Leg #1	330	FNL	1410	FEL	22S	33E	36	Aliquot NWNE	32.3545179	-103.5220822	LEA	NEW MEXICO	NEW MEXICO	S	STATE	-6915	18305	10422	Y
BHL Leg #1	330	FNL	1410	FEL	22S	33E	36	Aliquot NWNE	32.3545179	-103.5220822	LEA	NEW MEXICO	NEW MEXICO	S	STATE	-6915	18305	10422	Y

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

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

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1] API Number	[2] Pool Code	[3] Pool Name
30-025-	98259	Ojo Chiso; Bone Spring, Southwest

[4] Property Code	[5] Property Name	[6] Well Number
	BELL LAKE UNIT NORTH	223H

[7] OGRID No.	[8] Operator Name	[9] Elevation
12361	KAISER-FRANCIS OIL CO.	3507.4

[10] Surface Location

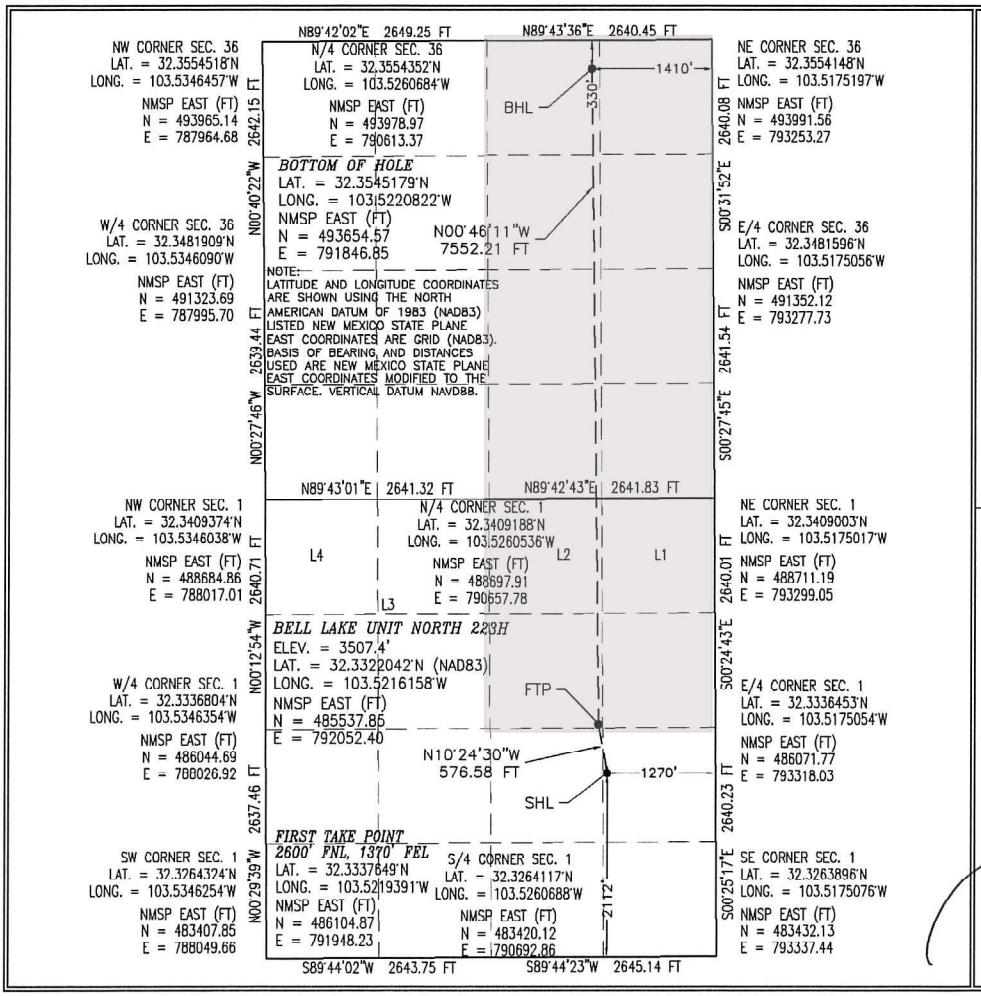
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
I	1	23 S	33 E		2112	SOUTH	1270	EAST	LEA

[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
B	36	22 S	33 E		330	NORTH	1410	EAST	LEA

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
480			R-14527A

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 10/11/19
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.

MARCH 19, 2019
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. 7058

APD ID: 10400049165 **Submission Date:** 10/18/2019

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH **Well Number:** 223H

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
560141	---	3507	0	0	OTHER : Surface	NONE	N
560142	RUSTLER	2285	1222	1222	SANDSTONE	NONE	N
560143	SALADO	2010	1497	1497	SALT	NONE	N
560144	TOP SALT	1685	1822	1822	SALT	NONE	N
560145	BASE OF SALT	-1265	4772	4772	SALT	NONE	N
560146	LAMAR	-1565	5072	5072	SANDSTONE	NATURAL GAS, OIL	N
560147	BELL CANYON	-1865	5372	5372	SANDSTONE	NATURAL GAS, OIL	N
560148	CHERRY CANYON	-3065	6572	6572	SANDSTONE	NATURAL GAS, OIL	N
560149	BRUSHY CANYON	-4715	8222	8222	SANDSTONE	NATURAL GAS, OIL	N
560150	BONE SPRING	-4940	8447	8447	LIMESTONE	NATURAL GAS, OIL	N
560151	AVALON SAND	-5355	8862	8862	SANDSTONE	NATURAL GAS, OIL	N
560152	BONE SPRING 1ST	-6190	9697	9697	SANDSTONE	NATURAL GAS, OIL	N
560159	BONE SPRING 2ND	-6715	10222	10222	SANDSTONE	NATURAL GAS, OIL	Y

Section 2 - Blowout Prevention

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Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH **Well Number:** 223H

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

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

Requesting Variance? YES

Variance request: Flex Hose Variance

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

Choke Diagram Attachment:

BLUN_223H_Choke_Manifold_20191011075750.pdf

BOP Diagram Attachment:

BLUN_223H_Flex_Hose_20191017164225.pdf

BLUN_223H_BOP2_20200826134003.pdf

BLUN_223H_Well_Head_20200826134405.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	1247	0	1247	3507	2260	1247	J-55	54.5	BUTT	1.9	4.7	DRY	13.4	DRY	12.6
2	INTERMEDIATE	12.25	9.625	NEW	API	N	0	5122	0	5122		-1615	5122	HCP-110	40	LT&C	1.8	3.3	DRY	6.2	DRY	6.2
3	PRODUCTION	8.75	5.5	NEW	API	N	0	18305	0	10422		-6915	18305	P-110	20	OTHER - GB CD Butt	2.3	2.6	DRY	3.2	DRY	3.1

Casing Attachments

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH **Well Number:** 223H

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

BLUN_223H_Casing_Assumptions_20191011080151.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

BLUN_223H_Casing_Assumptions_20191011075956.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

GBCD_5.5in_Connection_Spec_Sheet_20190926071942.pdf

BLUN_223H_Casing_Assumptions_20191011080059.pdf

Section 4 - Cement

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Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH **Well Number:** 223H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	1247	730	1.74	13.5	1275	75	HALCEM	4% Bentonite
SURFACE	Tail		0	1247	300	1.3	14.8	400	75	HalCem	0.125 #/sk Poly Flake
INTERMEDIATE	Lead		0	5122	1081	2.08	12.5	2258	75	Econocem	3#/sk KolSeal
INTERMEDIATE	Tail		0	5122	411	1.33	14.8	548	75	Halcem	none
PRODUCTION	Lead		4000	18305	438	3.48	10.5	1527	10	NeoCem	2#/sk Kol Seal
PRODUCTION	Tail		4000	18305	2000	1.22	14.5	2446	10	Versacem	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 time.

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

Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
5122	10422	OIL-BASED MUD	8.7	8.9							
1247	5122	OIL-BASED MUD	8.7	8.9							
0	1247	OTHER : Fresh Water	8.4	9							

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH **Well Number:** 223H

Section 6 - Test, Logging, Coring

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

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

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

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

Coring operation description for the well:

None planned

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 4823 **Anticipated Surface Pressure:** 2530

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:

H2S_Contingency_Plan_NM_BLUN_20190926073105.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

BLUN_223H_Directional_Plan_20191011080624.pdf

Other proposed operations facets description:

Gas Capture Plan attached

Other proposed operations facets attachment:

BLUN_Pad_5_GCP_20191011080642.pdf

Other Variance attachment:

BLUN_223H_Flex_Hose_20191017161400.pdf

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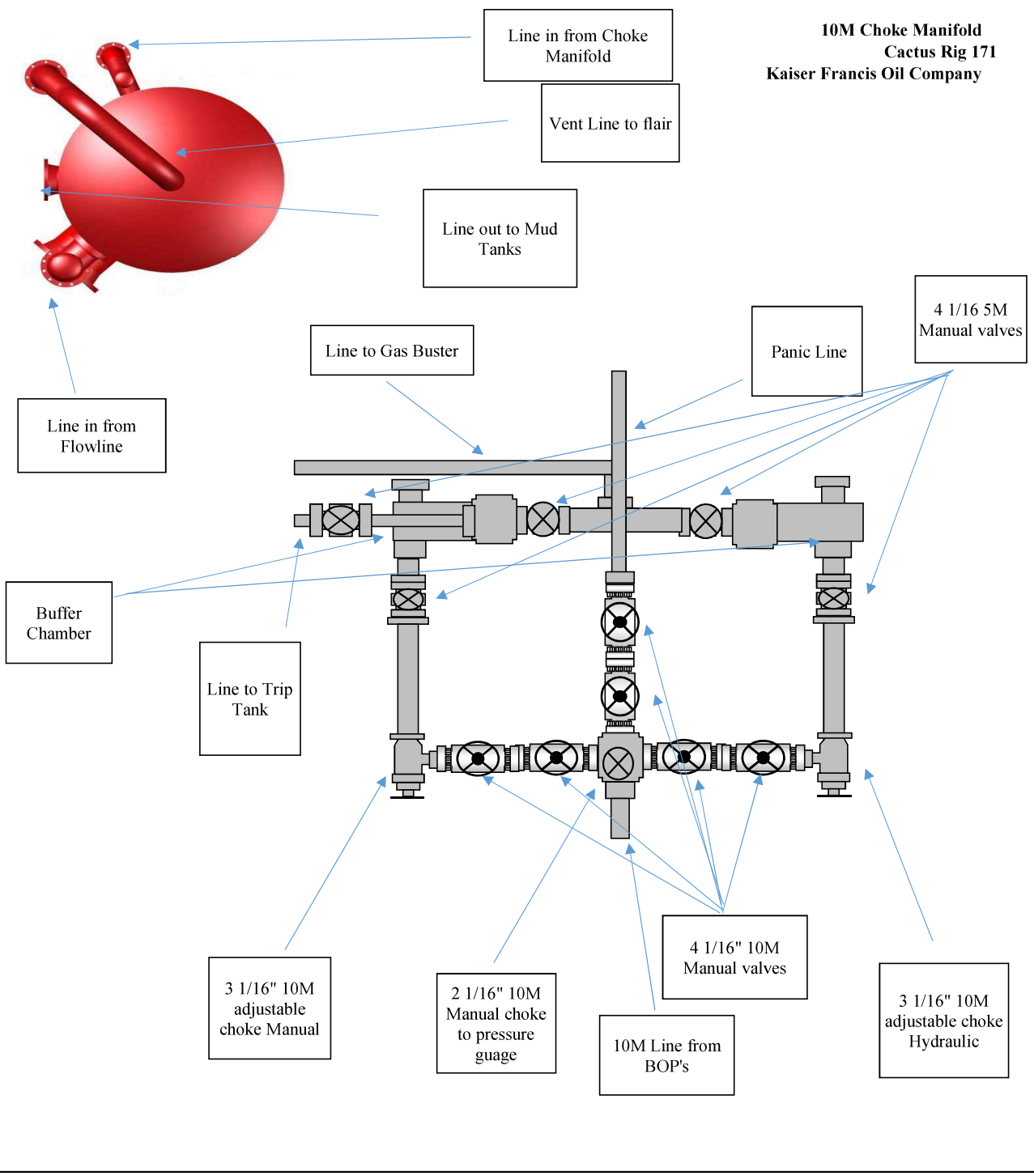
10M Choke Manifold
Cactus Rig 171
Kaiser Francis Oil Company



QMS REGISTERED

Certificate of Registration

APIQR® REGISTRATION NUMBER

3042

This certifies that the quality management system of

COPPER STATE RUBBER, INC.
10485 W. Roosevelt Street
Avondale, AZ

has been assessed by the American Petroleum Institute Quality Registrar (APIQR®) and found it to be in conformance with the following standard:

ISO 9001:2015

The scope of this registration and the approved quality management system applies to the

Design and Manufacture of Oilfield, Marine and Other Industrial Hoses

APIQR® approves the organization's justification for excluding:

No Exclusions Identified as Applicable

Effective Date:	**APRIL 21, 2019**
Expiration Date:	**APRIL 21, 2022**
Registered Since:	**APRIL 21, 2016**

Vice President of Global Industry Services

Accredited by Member of the International Accreditation Forum Multilateral Recognition Arrangement for Quality Management Systems

This certificate is valid for the period specified herein. The registered organization must continually meet all requirements of APIQR's Registration Program and the requirements of the Registration Agreement. Registration is maintained and regularly monitored through annual full system audits. Further clarifications regarding the scope of this certificate and the applicability of ISO 9001 standard requirements may be obtained by consulting the registered organization. This certificate has been issued from APIQR offices located at 200 Massachusetts Avenue, NW Suite 1100, Washington, DC 20001-5571, U.S.A., it is the property of APIQR, and must be returned upon request. **To verify the authenticity of this certificate, go to www.api.org/compositelist.**

QUALITY REGISTRAR

2018-152 | 02.19
Digital

BLUN 223H

Casing Assumptions

Interval	Length	Casing Size	Weight (#/ft)	Grade	Thread	Condition	Hole Size	TVD (ft)
Conductor	120'	20"				New		120
Surface	1247	13-3/8"	54.5	J-55	BTC	New	17-1/2"	1247
Intermediate	5122	9-5/8"	40	HCP-110	LTC	New	12-1/4"	5122
Production	18305	5-1/2"	20	P110	GBCD	New	8-3/4"	10422

Mud Type	Mud Weight Hole Control	Viscosity	Fluid Loss
FW	8.4 - 9.0	32 - 34	NC
OBM	8.7 - 8.9	28	NC
OBM	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	584	1130	2730	853000	909000
8.9	2370	4230	7900	1260000	1266000
8.9	4823	11100	12640	641000	667000

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)
1.9	4.7	12.6	13.4
1.8	3.3	6.1	6.2
2.3	2.6	3.1	3.2

BLUN 223H

Casing Assumptions

Interval	Length	Casing Size	Weight (#/ft)	Grade	Thread	Condition	Hole Size	TVD (ft)
Conductor	120'	20"				New		120
Surface	1247	13-3/8"	54.5	J-55	BTC	New	17-1/2"	1247
Intermediate	5122	9-5/8"	40	HCP-110	LTC	New	12-1/4"	5122
Production	18305	5-1/2"	20	P110	GBCD	New	8-3/4"	10422

Mud Type	Mud Weight Hole Control	Viscosity	Fluid Loss
FW	8.4 - 9.0	32 - 34	NC
OBM	8.7 - 8.9	28	NC
OBM	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	584	1130	2730	853000	909000
8.9	2370	4230	7900	1260000	1266000
8.9	4823	11100	12640	641000	667000

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)
1.9	4.7	12.6	13.4
1.8	3.3	6.1	6.2
2.3	2.6	3.1	3.2

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

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

LEA COUNTY, NM

This well/facility is not expected to have H_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 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 Unit North 223H
Bell Lake Unit North 223H
Bell Lake Unit North 223H
Bell Lake Unit North 223H

Plan: 190913 Bell Lake Unit North 223H

Morcor Standard Plan

13 September, 2019

Morcor Engineering

Morcor Standard Plan

Company:	Kaiser Francis	**Local Co-ordinate Reference:**	Well Bell Lake Unit North 223H
Project:	Bell Lake Unit North 223H	**TVD Reference:**	WELL @ 3529.4usft (Original Well Elev)
Site:	Bell Lake Unit North 223H	**MD Reference:**	WELL @ 3529.4usft (Original Well Elev)
Well:	Bell Lake Unit North 223H	**North Reference:**	Grid
Wellbore:	Bell Lake Unit North 223H	**Survey Calculation Method:**	Minimum Curvature
Design:	190913 Bell Lake Unit North 223H	**Database:**	EDM 5000.1 Single User Db

Project Bell Lake Unit North 223H

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 Unit North 223H

Site Position:		**Northing:**	485,537.86 usft	**Latitude:**	32° 19' 55.935 N
From:	Map	**Easting:**	792,052.40 usft	**Longitude:**	103° 31' 17.817 W
Position Uncertainty:	1.0 usft	**Slot Radius:**	17-1/2 "	**Grid Convergence:**	0.43 °

Well Bell Lake Unit North 223H

Well Position	**+N/-S**	0.0 usft	**Northing:**	485,537.86 usft	**Latitude:**	32° 19' 55.935 N
	+E/-W	0.0 usft	**Easting:**	792,052.40 usft	**Longitude:**	103° 31' 17.817 W
Position Uncertainty		1.0 usft	**Wellhead Elevation:**	usft	**Ground Level:**	3,507.4 usft

Wellbore Bell Lake Unit North 223H

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	9/13/2019	6.55	60.08	47,861

Design 190913 Bell Lake Unit North 223H

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	358.55

Survey Tool Program **Date** 9/13/2019

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	18,305.1	190913 Bell Lake Unit North 223H (Bell La	MWD	MWD - Standard

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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	-3,529.4	0.0	0.0	792,052.40	485,537.86	0.00	0.00
100.0	0.00	0.00	100.0	-3,429.4	0.0	0.0	792,052.40	485,537.86	0.00	0.00
120.0	0.00	0.00	120.0	-3,409.4	0.0	0.0	792,052.40	485,537.86	0.00	0.00
20" Conductor										
200.0	0.00	0.00	200.0	-3,329.4	0.0	0.0	792,052.40	485,537.86	0.00	0.00
300.0	0.00	0.00	300.0	-3,229.4	0.0	0.0	792,052.40	485,537.86	0.00	0.00
400.0	0.00	0.00	400.0	-3,129.4	0.0	0.0	792,052.40	485,537.86	0.00	0.00
500.0	0.00	0.00	500.0	-3,029.4	0.0	0.0	792,052.40	485,537.86	0.00	0.00
600.0	0.00	0.00	600.0	-2,929.4	0.0	0.0	792,052.40	485,537.86	0.00	0.00
700.0	0.00	0.00	700.0	-2,829.4	0.0	0.0	792,052.40	485,537.86	0.00	0.00
800.0	0.00	0.00	800.0	-2,729.4	0.0	0.0	792,052.40	485,537.86	0.00	0.00
900.0	0.00	0.00	900.0	-2,629.4	0.0	0.0	792,052.40	485,537.86	0.00	0.00
1,000.0	0.00	0.00	1,000.0	-2,529.4	0.0	0.0	792,052.40	485,537.86	0.00	0.00
1,100.0	0.00	0.00	1,100.0	-2,429.4	0.0	0.0	792,052.40	485,537.86	0.00	0.00
1,200.0	0.00	0.00	1,200.0	-2,329.4	0.0	0.0	792,052.40	485,537.86	0.00	0.00
1,222.0	0.00	0.00	1,222.0	-2,307.4	0.0	0.0	792,052.40	485,537.86	0.00	0.00
Rustler										
1,247.0	0.00	0.00	1,247.0	-2,282.4	0.0	0.0	792,052.40	485,537.86	0.00	0.00
13 3/8" Surface Casing										
1,300.0	0.00	0.00	1,300.0	-2,229.4	0.0	0.0	792,052.40	485,537.86	0.00	0.00
1,400.0	0.00	0.00	1,400.0	-2,129.4	0.0	0.0	792,052.40	485,537.86	0.00	0.00
1,497.0	0.00	0.00	1,497.0	-2,032.4	0.0	0.0	792,052.40	485,537.86	0.00	0.00
Salado										
1,500.0	0.00	0.00	1,500.0	-2,029.4	0.0	0.0	792,052.40	485,537.86	0.00	0.00
1,600.0	0.00	0.00	1,600.0	-1,929.4	0.0	0.0	792,052.40	485,537.86	0.00	0.00
1,700.0	0.00	0.00	1,700.0	-1,829.4	0.0	0.0	792,052.40	485,537.86	0.00	0.00
1,800.0	0.00	0.00	1,800.0	-1,729.4	0.0	0.0	792,052.40	485,537.86	0.00	0.00

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1,822.0	0.00	0.00	1,822.0	-1,707.4	0.0	0.0	792,052.40	485,537.86	0.00	0.00
Top of Salt										
1,900.0	0.00	0.00	1,900.0	-1,629.4	0.0	0.0	792,052.40	485,537.86	0.00	0.00
2,000.0	0.00	0.00	2,000.0	-1,529.4	0.0	0.0	792,052.40	485,537.86	0.00	0.00
2,100.0	0.00	0.00	2,100.0	-1,429.4	0.0	0.0	792,052.40	485,537.86	0.00	0.00
2,200.0	0.00	0.00	2,200.0	-1,329.4	0.0	0.0	792,052.40	485,537.86	0.00	0.00
2,300.0	0.00	0.00	2,300.0	-1,229.4	0.0	0.0	792,052.40	485,537.86	0.00	0.00
2,400.0	0.00	0.00	2,400.0	-1,129.4	0.0	0.0	792,052.40	485,537.86	0.00	0.00
2,500.0	0.00	0.00	2,500.0	-1,029.4	0.0	0.0	792,052.40	485,537.86	0.00	0.00
2,600.0	0.00	0.00	2,600.0	-929.4	0.0	0.0	792,052.40	485,537.86	0.00	0.00
2,700.0	0.00	0.00	2,700.0	-829.4	0.0	0.0	792,052.40	485,537.86	0.00	0.00
2,800.0	0.00	0.00	2,800.0	-729.4	0.0	0.0	792,052.40	485,537.86	0.00	0.00
2,900.0	0.00	0.00	2,900.0	-629.4	0.0	0.0	792,052.40	485,537.86	0.00	0.00
3,000.0	0.00	0.00	3,000.0	-529.4	0.0	0.0	792,052.40	485,537.86	0.00	0.00
3,100.0	0.00	0.00	3,100.0	-429.4	0.0	0.0	792,052.40	485,537.86	0.00	0.00
3,200.0	0.00	0.00	3,200.0	-329.4	0.0	0.0	792,052.40	485,537.86	0.00	0.00
3,300.0	0.00	0.00	3,300.0	-229.4	0.0	0.0	792,052.40	485,537.86	0.00	0.00
3,400.0	0.00	0.00	3,400.0	-129.4	0.0	0.0	792,052.40	485,537.86	0.00	0.00
3,500.0	0.00	0.00	3,500.0	-29.4	0.0	0.0	792,052.40	485,537.86	0.00	0.00
3,600.0	0.00	0.00	3,600.0	70.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00
3,700.0	0.00	0.00	3,700.0	170.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00
3,800.0	0.00	0.00	3,800.0	270.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00
3,900.0	0.00	0.00	3,900.0	370.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00
4,000.0	0.00	0.00	4,000.0	470.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00
4,100.0	0.00	0.00	4,100.0	570.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00
4,200.0	0.00	0.00	4,200.0	670.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00
4,300.0	0.00	0.00	4,300.0	770.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00

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4,400.0	0.00	0.00	4,400.0	870.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00
4,500.0	0.00	0.00	4,500.0	970.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00
4,600.0	0.00	0.00	4,600.0	1,070.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00
4,700.0	0.00	0.00	4,700.0	1,170.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00
4,772.0	0.00	0.00	4,772.0	1,242.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00
Base of Salt										
4,800.0	0.00	0.00	4,800.0	1,270.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00
4,900.0	0.00	0.00	4,900.0	1,370.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00
5,000.0	0.00	0.00	5,000.0	1,470.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00
5,072.0	0.00	0.00	5,072.0	1,542.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00
Lamar										
5,100.0	0.00	0.00	5,100.0	1,570.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00
5,122.0	0.00	0.00	5,122.0	1,592.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00
9 5/8" Intermediate Casing										
5,200.0	0.00	0.00	5,200.0	1,670.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00
5,300.0	0.00	0.00	5,300.0	1,770.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00
5,372.0	0.00	0.00	5,372.0	1,842.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00
Bell Canyon										
5,400.0	0.00	0.00	5,400.0	1,870.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00
5,500.0	0.00	0.00	5,500.0	1,970.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00
5,600.0	0.00	0.00	5,600.0	2,070.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00
5,700.0	0.00	0.00	5,700.0	2,170.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00
5,800.0	0.00	0.00	5,800.0	2,270.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00
5,900.0	0.00	0.00	5,900.0	2,370.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00
6,000.0	0.00	0.00	6,000.0	2,470.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00
6,100.0	0.00	0.00	6,100.0	2,570.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00
6,200.0	0.00	0.00	6,200.0	2,670.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00

Company:	Kaiser Francis	**Local Co-ordinate Reference:**	Well Bell Lake Unit North 223H
Project:	Bell Lake Unit North 223H	**TVD Reference:**	WELL @ 3529.4usft (Original Well Elev)
Site:	Bell Lake Unit North 223H	**MD Reference:**	WELL @ 3529.4usft (Original Well Elev)
Well:	Bell Lake Unit North 223H	**North Reference:**	Grid
Wellbore:	Bell Lake Unit North 223H	**Survey Calculation Method:**	Minimum Curvature
Design:	190913 Bell Lake Unit North 223H	**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)
6,300.0	0.00	0.00	6,300.0	2,770.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00
6,400.0	0.00	0.00	6,400.0	2,870.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00
6,500.0	0.00	0.00	6,500.0	2,970.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00
6,572.0	0.00	0.00	6,572.0	3,042.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00
Cherry Canyon										
6,600.0	0.00	0.00	6,600.0	3,070.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00
6,700.0	0.00	0.00	6,700.0	3,170.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00
6,800.0	0.00	0.00	6,800.0	3,270.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00
6,900.0	0.00	0.00	6,900.0	3,370.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00
7,000.0	0.00	0.00	7,000.0	3,470.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00
7,100.0	0.00	0.00	7,100.0	3,570.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00
7,200.0	0.00	0.00	7,200.0	3,670.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00
7,300.0	0.00	0.00	7,300.0	3,770.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00
7,400.0	0.00	0.00	7,400.0	3,870.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00
7,500.0	0.00	0.00	7,500.0	3,970.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00
7,600.0	0.00	0.00	7,600.0	4,070.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00
7,700.0	0.00	0.00	7,700.0	4,170.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00
7,800.0	0.00	0.00	7,800.0	4,270.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00
7,900.0	0.00	0.00	7,900.0	4,370.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00
8,000.0	0.00	0.00	8,000.0	4,470.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00
8,100.0	0.00	0.00	8,100.0	4,570.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00
8,200.0	0.00	0.00	8,200.0	4,670.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00
8,222.0	0.00	0.00	8,222.0	4,692.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00
Brushy Canyon										
8,300.0	0.00	0.00	8,300.0	4,770.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00
8,400.0	0.00	0.00	8,400.0	4,870.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00

Company:	Kaiser Francis	**Local Co-ordinate Reference:**	Well Bell Lake Unit North 223H
Project:	Bell Lake Unit North 223H	**TVD Reference:**	WELL @ 3529.4usft (Original Well Elev)
Site:	Bell Lake Unit North 223H	**MD Reference:**	WELL @ 3529.4usft (Original Well Elev)
Well:	Bell Lake Unit North 223H	**North Reference:**	Grid
Wellbore:	Bell Lake Unit North 223H	**Survey Calculation Method:**	Minimum Curvature
Design:	190913 Bell Lake Unit North 223H	**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)
8,447.0	0.00	0.00	8,447.0	4,917.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00
Bone Spring										
8,500.0	0.00	0.00	8,500.0	4,970.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00
8,600.0	0.00	0.00	8,600.0	5,070.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00
8,700.0	0.00	0.00	8,700.0	5,170.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00
8,800.0	0.00	0.00	8,800.0	5,270.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00
8,862.0	0.00	0.00	8,862.0	5,332.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00
Avalon										
8,900.0	0.00	0.00	8,900.0	5,370.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00
9,000.0	0.00	0.00	9,000.0	5,470.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00
9,100.0	0.00	0.00	9,100.0	5,570.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00
9,200.0	0.00	0.00	9,200.0	5,670.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00
9,300.0	0.00	0.00	9,300.0	5,770.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00
9,400.0	0.00	0.00	9,400.0	5,870.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00
9,500.0	0.00	0.00	9,500.0	5,970.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00
9,600.0	0.00	0.00	9,600.0	6,070.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00
9,697.0	0.00	0.00	9,697.0	6,167.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00
1st Bone Spring Sand										
9,700.0	0.00	0.00	9,700.0	6,170.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00
9,750.0	0.00	0.00	9,750.0	6,220.6	0.0	0.0	792,052.40	485,537.86	0.00	0.00
Start Build 10.00										
9,800.0	5.00	256.65	9,799.9	6,270.5	-0.5	-2.1	792,050.28	485,537.36	-0.45	10.00
9,839.7	8.97	256.65	9,839.3	6,309.9	-1.6	-6.8	792,045.59	485,536.24	-1.44	10.00
Start DLS 10.05 TFO 102.43										
9,900.0	9.67	294.55	9,898.9	6,369.5	-0.6	-16.0	792,036.40	485,537.26	-0.19	10.05
10,000.0	16.61	328.14	9,996.3	6,466.9	15.1	-31.2	792,021.18	485,552.93	15.85	10.05
10,100.0	25.66	340.54	10,089.6	6,560.2	47.7	-46.0	792,006.39	485,585.56	48.85	10.05
10,200.0	35.23	346.64	10,175.7	6,646.3	96.3	-59.9	791,992.47	485,634.16	97.79	10.05

Company:	Kaiser Francis	**Local Co-ordinate Reference:**	Well Bell Lake Unit North 223H
Project:	Bell Lake Unit North 223H	**TVD Reference:**	WELL @ 3529.4usft (Original Well Elev)
Site:	Bell Lake Unit North 223H	**MD Reference:**	WELL @ 3529.4usft (Original Well Elev)
Well:	Bell Lake Unit North 223H	**North Reference:**	Grid
Wellbore:	Bell Lake Unit North 223H	**Survey Calculation Method:**	Minimum Curvature
Design:	190913 Bell Lake Unit North 223H	**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)
10,258.8	40.96	349.01	10,222.0	6,692.6	131.8	-67.5	791,984.87	485,669.64	133.45	10.05
2nd Bone Spring Sand										
10,300.0	44.99	350.37	10,252.1	6,722.7	159.4	-72.5	791,979.86	485,697.24	161.16	10.05
10,400.0	54.84	353.00	10,316.4	6,787.0	235.0	-83.5	791,968.94	485,772.85	237.03	10.05
10,500.0	64.73	355.06	10,366.7	6,837.3	320.8	-92.4	791,960.05	485,858.69	323.06	10.05
10,600.0	74.64	356.81	10,401.4	6,872.0	414.3	-98.9	791,953.45	485,952.11	416.62	10.05
10,700.0	84.57	358.39	10,419.4	6,890.0	512.4	-103.0	791,949.36	486,050.26	514.84	10.05
10,754.7	90.00	359.23	10,422.0	6,892.6	567.0	-104.2	791,948.23	486,104.87	569.46	10.05
Start 7550.4 hold at 10754.7 MD										
10,800.0	90.00	359.23	10,422.0	6,892.6	612.3	-104.8	791,947.62	486,150.16	614.75	0.00
10,900.0	90.00	359.23	10,422.0	6,892.6	712.3	-106.1	791,946.28	486,250.15	714.74	0.00
11,000.0	90.00	359.23	10,422.0	6,892.6	812.3	-107.5	791,944.94	486,350.14	814.74	0.00
11,100.0	90.00	359.23	10,422.0	6,892.6	912.3	-108.8	791,943.60	486,450.13	914.73	0.00
11,200.0	90.00	359.23	10,422.0	6,892.6	1,012.3	-110.1	791,942.26	486,550.12	1,014.72	0.00
11,300.0	90.00	359.23	10,422.0	6,892.6	1,112.3	-111.5	791,940.92	486,650.11	1,114.72	0.00
11,400.0	90.00	359.23	10,422.0	6,892.6	1,212.2	-112.8	791,939.58	486,750.10	1,214.71	0.00
11,500.0	90.00	359.23	10,422.0	6,892.6	1,312.2	-114.2	791,938.24	486,850.09	1,314.70	0.00
11,600.0	90.00	359.23	10,422.0	6,892.6	1,412.2	-115.5	791,936.90	486,950.08	1,414.69	0.00
11,700.0	90.00	359.23	10,422.0	6,892.6	1,512.2	-116.8	791,935.55	487,050.07	1,514.69	0.00
11,800.0	90.00	359.23	10,422.0	6,892.6	1,612.2	-118.2	791,934.21	487,150.07	1,614.68	0.00
11,900.0	90.00	359.23	10,422.0	6,892.6	1,712.2	-119.5	791,932.87	487,250.06	1,714.67	0.00
12,000.0	90.00	359.23	10,422.0	6,892.6	1,812.2	-120.9	791,931.53	487,350.05	1,814.67	0.00
12,100.0	90.00	359.23	10,422.0	6,892.6	1,912.2	-122.2	791,930.19	487,450.04	1,914.66	0.00
12,200.0	90.00	359.23	10,422.0	6,892.6	2,012.2	-123.5	791,928.85	487,550.03	2,014.65	0.00
12,300.0	90.00	359.23	10,422.0	6,892.6	2,112.2	-124.9	791,927.51	487,650.02	2,114.64	0.00
12,400.0	90.00	359.23	10,422.0	6,892.6	2,212.2	-126.2	791,926.17	487,750.01	2,214.64	0.00
12,500.0	90.00	359.23	10,422.0	6,892.6	2,312.1	-127.6	791,924.83	487,850.00	2,314.63	0.00

Company:	Kaiser Francis	**Local Co-ordinate Reference:**	Well Bell Lake Unit North 223H
Project:	Bell Lake Unit North 223H	**TVD Reference:**	WELL @ 3529.4usft (Original Well Elev)
Site:	Bell Lake Unit North 223H	**MD Reference:**	WELL @ 3529.4usft (Original Well Elev)
Well:	Bell Lake Unit North 223H	**North Reference:**	Grid
Wellbore:	Bell Lake Unit North 223H	**Survey Calculation Method:**	Minimum Curvature
Design:	190913 Bell Lake Unit North 223H	**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)
12,600.0	90.00	359.23	10,422.0	6,892.6	2,412.1	-128.9	791,923.49	487,949.99	2,414.62	0.00
12,700.0	90.00	359.23	10,422.0	6,892.6	2,512.1	-130.3	791,922.15	488,049.98	2,514.62	0.00
12,800.0	90.00	359.23	10,422.0	6,892.6	2,612.1	-131.6	791,920.80	488,149.98	2,614.61	0.00
12,900.0	90.00	359.23	10,422.0	6,892.6	2,712.1	-132.9	791,919.46	488,249.97	2,714.60	0.00
13,000.0	90.00	359.23	10,422.0	6,892.6	2,812.1	-134.3	791,918.12	488,349.96	2,814.59	0.00
13,100.0	90.00	359.23	10,422.0	6,892.6	2,912.1	-135.6	791,916.78	488,449.95	2,914.59	0.00
13,200.0	90.00	359.23	10,422.0	6,892.6	3,012.1	-137.0	791,915.44	488,549.94	3,014.58	0.00
13,300.0	90.00	359.23	10,422.0	6,892.6	3,112.1	-138.3	791,914.10	488,649.93	3,114.57	0.00
13,400.0	90.00	359.23	10,422.0	6,892.6	3,212.1	-139.6	791,912.76	488,749.92	3,214.57	0.00
13,500.0	90.00	359.23	10,422.0	6,892.6	3,312.1	-141.0	791,911.42	488,849.91	3,314.56	0.00
13,600.0	90.00	359.23	10,422.0	6,892.6	3,412.0	-142.3	791,910.08	488,949.90	3,414.55	0.00
13,700.0	90.00	359.23	10,422.0	6,892.6	3,512.0	-143.7	791,908.74	489,049.89	3,514.55	0.00
13,800.0	90.00	359.23	10,422.0	6,892.6	3,612.0	-145.0	791,907.40	489,149.89	3,614.54	0.00
13,900.0	90.00	359.23	10,422.0	6,892.6	3,712.0	-146.3	791,906.05	489,249.88	3,714.53	0.00
14,000.0	90.00	359.23	10,422.0	6,892.6	3,812.0	-147.7	791,904.71	489,349.87	3,814.52	0.00
14,100.0	90.00	359.23	10,422.0	6,892.6	3,912.0	-149.0	791,903.37	489,449.86	3,914.52	0.00
14,200.0	90.00	359.23	10,422.0	6,892.6	4,012.0	-150.4	791,902.03	489,549.85	4,014.51	0.00
14,300.0	90.00	359.23	10,422.0	6,892.6	4,112.0	-151.7	791,900.69	489,649.84	4,114.50	0.00
14,400.0	90.00	359.23	10,422.0	6,892.6	4,212.0	-153.0	791,899.35	489,749.83	4,214.50	0.00
14,500.0	90.00	359.23	10,422.0	6,892.6	4,312.0	-154.4	791,898.01	489,849.82	4,314.49	0.00
14,600.0	90.00	359.23	10,422.0	6,892.6	4,412.0	-155.7	791,896.67	489,949.81	4,414.48	0.00
14,700.0	90.00	359.23	10,422.0	6,892.6	4,511.9	-157.1	791,895.33	490,049.81	4,514.47	0.00
14,800.0	90.00	359.23	10,422.0	6,892.6	4,611.9	-158.4	791,893.99	490,149.80	4,614.47	0.00
14,900.0	90.00	359.23	10,422.0	6,892.6	4,711.9	-159.8	791,892.65	490,249.79	4,714.46	0.00
15,000.0	90.00	359.23	10,422.0	6,892.6	4,811.9	-161.1	791,891.30	490,349.78	4,814.45	0.00
15,100.0	90.00	359.23	10,422.0	6,892.6	4,911.9	-162.4	791,889.96	490,449.77	4,914.45	0.00
15,200.0	90.00	359.23	10,422.0	6,892.6	5,011.9	-163.8	791,888.62	490,549.76	5,014.44	0.00

Company:	Kaiser Francis	**Local Co-ordinate Reference:**	Well Bell Lake Unit North 223H
Project:	Bell Lake Unit North 223H	**TVD Reference:**	WELL @ 3529.4usft (Original Well Elev)
Site:	Bell Lake Unit North 223H	**MD Reference:**	WELL @ 3529.4usft (Original Well Elev)
Well:	Bell Lake Unit North 223H	**North Reference:**	Grid
Wellbore:	Bell Lake Unit North 223H	**Survey Calculation Method:**	Minimum Curvature
Design:	190913 Bell Lake Unit North 223H	**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)
15,300.0	90.00	359.23	10,422.0	6,892.6	5,111.9	-165.1	791,887.28	490,649.75	5,114.43	0.00
15,400.0	90.00	359.23	10,422.0	6,892.6	5,211.9	-166.5	791,885.94	490,749.74	5,214.43	0.00
15,500.0	90.00	359.23	10,422.0	6,892.6	5,311.9	-167.8	791,884.60	490,849.73	5,314.42	0.00
15,600.0	90.00	359.23	10,422.0	6,892.6	5,411.9	-169.1	791,883.26	490,949.72	5,414.41	0.00
15,700.0	90.00	359.23	10,422.0	6,892.6	5,511.9	-170.5	791,881.92	491,049.72	5,514.40	0.00
15,800.0	90.00	359.23	10,422.0	6,892.6	5,611.8	-171.8	791,880.58	491,149.71	5,614.40	0.00
15,900.0	90.00	359.23	10,422.0	6,892.6	5,711.8	-173.2	791,879.24	491,249.70	5,714.39	0.00
16,000.0	90.00	359.23	10,422.0	6,892.6	5,811.8	-174.5	791,877.90	491,349.69	5,814.38	0.00
16,100.0	90.00	359.23	10,422.0	6,892.6	5,911.8	-175.8	791,876.55	491,449.68	5,914.38	0.00
16,200.0	90.00	359.23	10,422.0	6,892.6	6,011.8	-177.2	791,875.21	491,549.67	6,014.37	0.00
16,300.0	90.00	359.23	10,422.0	6,892.6	6,111.8	-178.5	791,873.87	491,649.66	6,114.36	0.00
16,400.0	90.00	359.23	10,422.0	6,892.6	6,211.8	-179.9	791,872.53	491,749.65	6,214.35	0.00
16,500.0	90.00	359.23	10,422.0	6,892.6	6,311.8	-181.2	791,871.19	491,849.64	6,314.35	0.00
16,600.0	90.00	359.23	10,422.0	6,892.6	6,411.8	-182.5	791,869.85	491,949.63	6,414.34	0.00
16,700.0	90.00	359.23	10,422.0	6,892.6	6,511.8	-183.9	791,868.51	492,049.63	6,514.33	0.00
16,800.0	90.00	359.23	10,422.0	6,892.6	6,611.8	-185.2	791,867.17	492,149.62	6,614.33	0.00
16,900.0	90.00	359.23	10,422.0	6,892.6	6,711.7	-186.6	791,865.83	492,249.61	6,714.32	0.00
17,000.0	90.00	359.23	10,422.0	6,892.6	6,811.7	-187.9	791,864.49	492,349.60	6,814.31	0.00
17,100.0	90.00	359.23	10,422.0	6,892.6	6,911.7	-189.3	791,863.15	492,449.59	6,914.30	0.00
17,200.0	90.00	359.23	10,422.0	6,892.6	7,011.7	-190.6	791,861.80	492,549.58	7,014.30	0.00
17,300.0	90.00	359.23	10,422.0	6,892.6	7,111.7	-191.9	791,860.46	492,649.57	7,114.29	0.00
17,400.0	90.00	359.23	10,422.0	6,892.6	7,211.7	-193.3	791,859.12	492,749.56	7,214.28	0.00
17,500.0	90.00	359.23	10,422.0	6,892.6	7,311.7	-194.6	791,857.78	492,849.55	7,314.28	0.00
17,600.0	90.00	359.23	10,422.0	6,892.6	7,411.7	-196.0	791,856.44	492,949.54	7,414.27	0.00
17,700.0	90.00	359.23	10,422.0	6,892.6	7,511.7	-197.3	791,855.10	493,049.54	7,514.26	0.00
17,800.0	90.00	359.23	10,422.0	6,892.6	7,611.7	-198.6	791,853.76	493,149.53	7,614.26	0.00
17,900.0	90.00	359.23	10,422.0	6,892.6	7,711.7	-200.0	791,852.42	493,249.52	7,714.25	0.00

Company:	Kaiser Francis	**Local Co-ordinate Reference:**	Well Bell Lake Unit North 223H
Project:	Bell Lake Unit North 223H	**TVD Reference:**	WELL @ 3529.4usft (Original Well Elev)
Site:	Bell Lake Unit North 223H	**MD Reference:**	WELL @ 3529.4usft (Original Well Elev)
Well:	Bell Lake Unit North 223H	**North Reference:**	Grid
Wellbore:	Bell Lake Unit North 223H	**Survey Calculation Method:**	Minimum Curvature
Design:	190913 Bell Lake Unit North 223H	**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)
18,000.0	90.00	359.23	10,422.0	6,892.6	7,811.6	-201.3	791,851.08	493,349.51	7,814.24	0.00
18,100.0	90.00	359.23	10,422.0	6,892.6	7,911.6	-202.7	791,849.74	493,449.50	7,914.23	0.00
18,200.0	90.00	359.23	10,422.0	6,892.6	8,011.6	-204.0	791,848.40	493,549.49	8,014.23	0.00
18,300.0	90.00	359.23	10,422.0	6,892.6	8,111.6	-205.3	791,847.05	493,649.48	8,114.22	0.00
18,305.1	90.00	359.23	10,422.0	6,892.6	8,116.7	-205.4	791,846.99	493,654.57	8,119.31	0.00
TD at 18305.1										

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
1,247.0	1,247.0	13 3/8" Surface Casing	13-3/8	17-1/2
5,122.0	5,122.0	9 5/8" Intermediate Casing	9-5/8	12-1/4
18,305.1	10,422.0	5 1/2" Production Casing	5-1/2	8-3/4
120.0	120.0	20" Conductor	20	26

Company:	Kaiser Francis	**Local Co-ordinate Reference:**	Well Bell Lake Unit North 223H
Project:	Bell Lake Unit North 223H	**TVD Reference:**	WELL @ 3529.4usft (Original Well Elev)
Site:	Bell Lake Unit North 223H	**MD Reference:**	WELL @ 3529.4usft (Original Well Elev)
Well:	Bell Lake Unit North 223H	**North Reference:**	Grid
Wellbore:	Bell Lake Unit North 223H	**Survey Calculation Method:**	Minimum Curvature
Design:	190913 Bell Lake Unit North 223H	**Database:**	EDM 5000.1 Single User Db

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
9,697.0	9,697.0	1st Bone Spring Sand		0.00	
8,222.0	8,222.0	Brushy Canyon		0.00	
1,222.0	1,222.0	Rustler		0.00	
1,497.0	1,497.0	Salado		0.00	
1,822.0	1,822.0	Top of Salt		0.00	
4,772.0	4,772.0	Base of Salt		0.00	
5,372.0	5,372.0	Bell Canyon		0.00	
8,862.0	8,862.0	Avalon		0.00	
6,572.0	6,572.0	Cherry Canyon		0.00	
8,447.0	8,447.0	Bone Spring		0.00	
5,072.0	5,072.0	Lamar		0.00	
10,258.8	10,222.0	2nd Bone Spring Sand		0.00	

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
9,750.0	9,750.0	0.0	0.0	Start Build 10.00
9,839.7	9,839.3	-1.6	-6.8	Start DLS 10.05 TFO 102.43
10,754.7	10,422.0	567.0	-104.2	Start 7550.4 hold at 10754.7 MD
18,305.1	10,422.0	8,116.7	-205.4	TD at 18305.1

Checked By: _____ Approved By: _____ Date: _____

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: **10/09/2019**

☒ Original
☐ Amended - Reason for Amendment:_____

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

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 North 223H		1-23S-33E		2000	0	
Bell Lake Unit North 224H		1-23S-33E		2000	0	
Bell Lake Unit North 323H		1-23S-33E		2000	0	
Bell Lake Unit North 324H		1-23S-33E		2000	0	
Bell Lake Unit North 423H		1-23S-33E		2000	0	
Bell Lake Unit North 424H		1-23S-33E		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