#### UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

OCD - HOBBS 10/07/2020 RECEIVED

FORM APPROVED

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

6. If Indian, Allotee or Tribe Name

5. Lease Serial No. NMLC0068387

## APPLICATION FOR PERMIT TO DRILL OR REENTER

la. Type of work:	EENTER			7. If Unit or CA Agr BELL LAKE / NMN	eement, Name and No.
1b. Type of Well: ✓ Oil Well ☐ Gas Well ☐ Ot	her			8. Lease Name and	
1c. Type of Completion: Hydraulic Fracturing	ngle Zone	Multiple Zone		BELL LAKE UNIT I	
	ر ا			[316	
				423H	7.0.1
2. Name of Operator KAISER FRANCIS OIL COMPANY [12361]				O A DL Wall No	0-025-47851
3a. Address	3b. Phone N	lo. (include area cod	le)	10. Field and Pool, o	or Exploratory [98265
6733 S. Yale Ave., Tulsa, OK 74121	(918) 491-0	0000		OJO CHISO/WOLI	FCAMP, SOUTHWEST
4. Location of Well (Report location clearly and in accordance w	vith any State	requirements.*)		11. Sec., T. R. M. or	Blk. and Survey or Area
At surface NESE / 1992 FSL / 1270 FEL / LAT 32.3318	3744 / LONG	G -103.5216159		SEC 1/T23S/R33E	/NMP
At proposed prod. zone NWNE / 330 FNL / 1410 FEL / LA	AT 32.35451	179 / LONG -103.5	220822		
14. Distance in miles and direction from nearest town or post office 20 miles	ce*			12. County or Parish LEA	13. State NM
15. Distance from proposed* 648 feet	16. No of ac	eres in lease	17. Spaci	ng Unit dedicated to th	nis well
location to nearest property or lease line, ft.	315.57		480.0		
(Also to nearest drig. unit line, if any)	010.07		100.0		
18. Distance from proposed location*	19. Propose	d Depth	20. BLM	/BIA Bond No. in file	
to nearest well, drilling, completed, applied for, on this lease, ft.	11957 feet	/ 19953 feet	FED: W	YB000055	
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approxi	mate date work will	start*	23. Estimated durati	on
3508 feet	03/01/2020			40 days	
	24. Attac	hments			
The following, completed in accordance with the requirements of (as applicable)	Onshore Oil	and Gas Order No. 1	I, and the I	Hydraulic Fracturing ru	ale per 43 CFR 3162.3-3
Well plat certified by a registered surveyor.     A Drilling Plan.		4. Bond to cover the Item 20 above).	ne operation	ns unless covered by an	existing bond on file (see
3. A Surface Use Plan (if the location is on National Forest System		5. Operator certific			
SUPO must be filed with the appropriate Forest Service Office)	<b>&gt;</b>	6. Such other site sp BLM.	pecific info	rmation and/or plans as	may be requested by the
25. Signature	I	(Printed/Typed)			Date
(Electronic Submission)	STOR	RMI DAVIS / Ph: (9	918) 491-0	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		oad Field Office			
Application approval does not warrant or certify that the applicant	t holds legal	or equitable title to the	nose rights	in the subject lease wh	nich would entitle the

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 10/07/2020

applicant to conduct operations thereon. Conditions of approval, if any, are attached.

SL





#### 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.

Well Name: BELL LAKE UNIT NORTH Well Number: 423H

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: Number: 5

Well Class: HORIZONTAL NORTH BELL LAKE UNIT
Number of Legs: 1

Well Work Type: Drill
Well Type: OIL WELL
Describe Well Type:

Well sub-Type: EXPLORATORY (WILDCAT)

Describe sub-type:

Distance to town: 20 Miles Distance to nearest well: 30 FT Distance to lease line: 648 FT

Reservoir well spacing assigned acres Measurement: 480 Acres

Well plat: BLUN 423H C102 20191015163635.pdf

Pay.gov\_20191018090010.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: 7062 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	199 2	FSL	127 0	FEL	23S	33E	1	Aliquot NESE	32.33187 44	- 103.5216 159	LEA	NEW MEXI CO				350 8	0	0	N
KOP Leg #1	199 2	FSL	127 0	FEL	23S	33E	1	Aliquot NESE	32.33187 44	- 103.5216 159	LEA		NEW MEXI CO		NMLC0 066438	- 787 2	113 80	113 80	N

Well Name: BELL LAKE UNIT NORTH Well Number: 423H

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	264 0	FNL	137 0	FEL	23S	33E	1	Aliquot SWNE	32.33364 7	- 103.5219 376	LEA	NEW MEXI CO	—	F		- 844 9	123 62	119 57	Y
PPP Leg #1-2	260 0	FNL	137 0	FEL	23S	33E	1	Aliquot SWNE	32.33376 49	- 103.5219 391	LEA	NEW MEXI CO	—	F	NMLC0 068387	- 844 9	124 02	119 57	Y
PPP Leg #1-3	0	FSL	137 0	FEL	228	33E	36	Aliquot SWSE	32.34090 37	- 103.5219 881	LEA	NEW MEXI CO		S	STATE	- 844 9	150 02	119 57	Y
EXIT Leg #1	330	FNL	141 0	FEL	22S	33E	36	Aliquot NWNE	32.35451 79	- 103.5220 822	LEA	NEW MEXI CO		S	STATE	- 844 9	199 53	119 57	Y
BHL Leg #1	330	FNL	141 0	FEL	22S	33E	36	Aliquot NWNE	32.35451 79	- 103.5220 822	LEA	NEW MEXI CO		S	STATE	- 844 9	199 53	119 57	Y

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 IIV
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

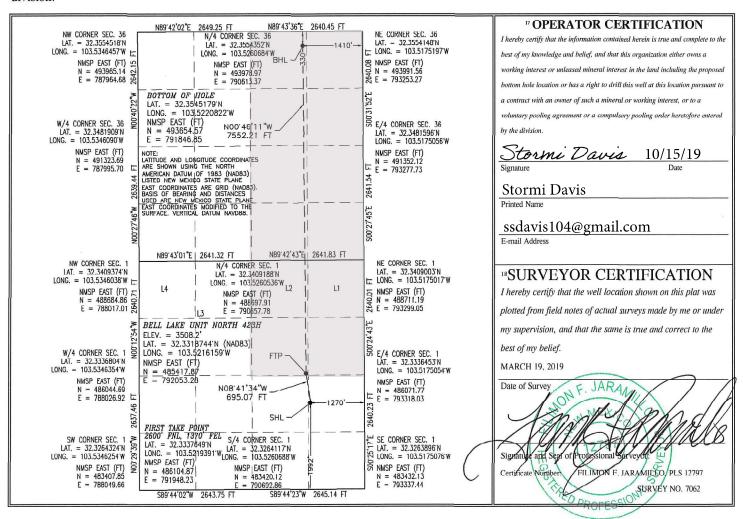
#### WELL LOCATION AND ACREAGE DEDICATION PLAT

<sup>1</sup> API Number	<sup>2</sup> Pool Code	<sup>3</sup> Pool Name	
30-025-	98265	Ojo Chiso; Wolfcamp, Sou	ıthwest
<sup>4</sup> Property Code	5 Pr.	operty Name	<sup>6</sup> Well Number
	BELL LAK	E UNIT NORTH	423H
7 OGRID No.	8 Op	erator Name	9 Elevation
12361	KAISER-FI	RANCIS OIL CO.	3508.2
	10 C11	rface Location	

#### ■ 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		1992	SOUTH	1270	EAST	LEA
			п <b>В</b>	ottom Ho	ole Location	If Different Fr	om Surface		
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	East/West line	County	
В	36	22 S	33 E		330	NORTH	1410	EAST	LEA
12 Dedicated Acre	s <sup>13</sup> Joint	or Infill 14	Consolidation	ation Code 15 Order No.					
480							R-14602		

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.





## Pay.gov Payment Confirmation: BLM Oil and Gas Online Payment

1 message

**notification@pay.gov** <notification@pay.gov> To: nmogrservices@gmail.com

Fri, Oct 18, 2019 at 8:58 AM



An official email of the United States government



Your payment has been submitted to Pay.gov and the details are below. If you have any questions regarding this payment, please contact BLM OC CBS Customer Service at (303) 236-6795 or BLM OC CBS Customer Service@blm.gov.

Application Name: BLM Oil and Gas Online Payment

Pay.gov Tracking ID: 26KUHTVR Agency Tracking ID: 75865087340

Transaction Type: Sale

Transaction Date: 10/18/2019 10:58:17 AM EDT

Account Holder Name: George B Kaiser

Transaction Amount: \$10,230.00

Card Type: Visa

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

Company: Kaiser-Francis Oil Company

APD IDs: 10400049466

Lease Numbers: NMLC0068387

Well Numbers: 423H

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

you write this number down upon completion of payment.

THIS IS AN AUTOMATED MESSAGE. PLEASE DO NOT REPLY.



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



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

# **Drilling Plan Data Report**

09/30/2020

**APD ID**: 10400049466

**Submission Date:** 10/18/2019

Highlighted data reflects the most

recent changes

Operator Name: KAISER FRANCIS OIL COMPANY
Well Name: BELL LAKE UNIT NORTH

Well Number: 423H

**Show Final Text** 

Well Type: OIL WELL

Well Work Type: Drill

# **Section 1 - Geologic Formations**

ormation			True Vertical	Measured			Producing
ID	Formation Name	Elevation	Depth	Depth	Lithologies	Mineral Resources	Formation
562972		3508	0	0	OTHER : Surface	NONE	N
562973	RUSTLER	2086	1422	1422	SANDSTONE	NONE	N
562974	SALADO	1686	1822	1822	SALT	NONE	N
562975	TOP SALT	1361	2147	2147	SALT	NONE	N
562976	BASE OF SALT	-1614	5122	5122	SALT	NONE	N
562977	LAMAR	-1789	5297	5297	SANDSTONE	NATURAL GAS, OIL	N
562978	BELL CANYON	-1864	5372	5372	SANDSTONE	NATURAL GAS, OIL	N
562979	CHERRY CANYON	-2739	6247	6247	SANDSTONE	NATURAL GAS, OIL	N
562980	BRUSHY CANYON	-4214	7722	7722	SANDSTONE	NATURAL GAS, OIL	N
562981	BONE SPRING	-5314	8822	8822	LIMESTONE	NATURAL GAS, OIL	N
562982	AVALON SAND	-5587	9095	9095	SANDSTONE	NATURAL GAS, OIL	N
562983	BONE SPRING 1ST	-6414	9922	9922	SANDSTONE	NATURAL GAS, OIL	N
562990	BONE SPRING 2ND	-6999	10507	10507	SANDSTONE	NATURAL GAS, OIL	N
563293	BONE SPRING LIME	-7474	10982	10982	LIMESTONE	NATURAL GAS, OIL	N
563294	BONE SPRING 3RD	-7784	11292	11292	SANDSTONE	NATURAL GAS, OIL	N
563295	WOLFCAMP	-8249	11757	11757	SHALE	NATURAL GAS, OIL	Y

## **Section 2 - Blowout Prevention**

Well Name: BELL LAKE UNIT NORTH Well Number: 423H

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 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 423H Choke Manifold 20191015195040.pdf

#### **BOP Diagram Attachment:**

BLUN\_423H\_Flex\_Hose\_20191017162754.pdf BLUN\_424H\_Wellhead\_20200826133456.pdf BLUN\_424H\_BOP2\_20200826133456.pdf

#### **Section 3 - Casing**

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	14.7 5	10.75	NEW	API	N	0	1447	0	1447	3508	2061	1447	J-55	40.5	ST&C	2.3	4.6	DRY	7.2	DRY	10.7
	INTERMED IATE	9.87 5	7.625	NEW	API	N	0	11207	0	11207		-7699	11207	HCP -110	29.7	LT&C	1.3	1.8	DRY	2.3	DRY	2.8
3	PRODUCTI ON	6.75	5.5	NEW	API	N	0	19953	0	11957		-8449	19953	P- 110		OTHER - USS Eagle SFH	1.8	1.9	DRY	2.6	DRY	3

#### **Casing Attachments**

Well Name: BELL LAKE UNIT NORTH Well Number: 423H

Casing	Attachments	
Cas	sing ID: 1	String Type: SURFACE
Ins	pection Document:	
Spe	ec Document:	
Тар	pered String Spec:	
Cas	sing Design Assump	tions and Worksheet(s):
	BLUN_423H_Casin	g_Assumptions_20191015195722.pdf
Cas	sing ID: 2	String Type: INTERMEDIATE
Ins	pection Document:	
Spe	ec Document:	
Тар	pered String Spec:	
Cas	sing Design Assump	tions and Worksheet(s):
	BLUN_423H_Casin	g_Assumptions_20191015195319.pdf
Cas	sing ID: 3	String Type:PRODUCTION
Ins	pection Document:	
Sne	ec Document:	
Ope	55 500dinonti	
Тар	pered String Spec:	
Cas	sing Design Assump	tions and Worksheet(s):

**Section 4 - Cement** 

BLUN\_423H\_Casing\_Assumptions\_20191015195530.pdf

 $5.5\_x\_20\_P110\_HP\_USS\_EAGLE\_SFH\_Performance\_Sheet\_20191015195536.pdf$ 

Well Name: BELL LAKE UNIT NORTH Well Number: 423H

	String Type	Lead/Tail	Stage Tool Depth	Тор МБ	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SUF	RFACE	Lead		0	1447	697	1.72	13.5	1206	50	ExtendaCem	Poly E Flake

INTERMEDIATE	Lead	0	1120 7	848	2.73	11	2316	25	NeoCem	Extender
INTERMEDIATE	Tail	0	1120 7	579	1.2	15.6	692	25	Halcem	none
PRODUCTION	Lead	9000	1995 3	860	1.22	14.5	1052	15	VersaCem	Halad

## **Section 5 - Circulating Medium**

Mud System Type: Closed

Will an air or gas system be Used? NO

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

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

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

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

# **Circulating Medium Table**

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	НА	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
1120 7	1195 7	OIL-BASED MUD	10	12							
1447	1120 7	OTHER : Brine	8.7	8.9							
0	1447	OTHER : Fresh Water	8.4	9							

Well Name: BELL LAKE UNIT NORTH Well Number: 423H

#### **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: 7461 Anticipated Surface Pressure: 4830

Anticipated Bottom Hole Temperature(F): 199

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\_423H\_\_\_Directional\_Plan\_20191015200429.pdf

Other proposed operations facets description:

Gas Capture Plan attached

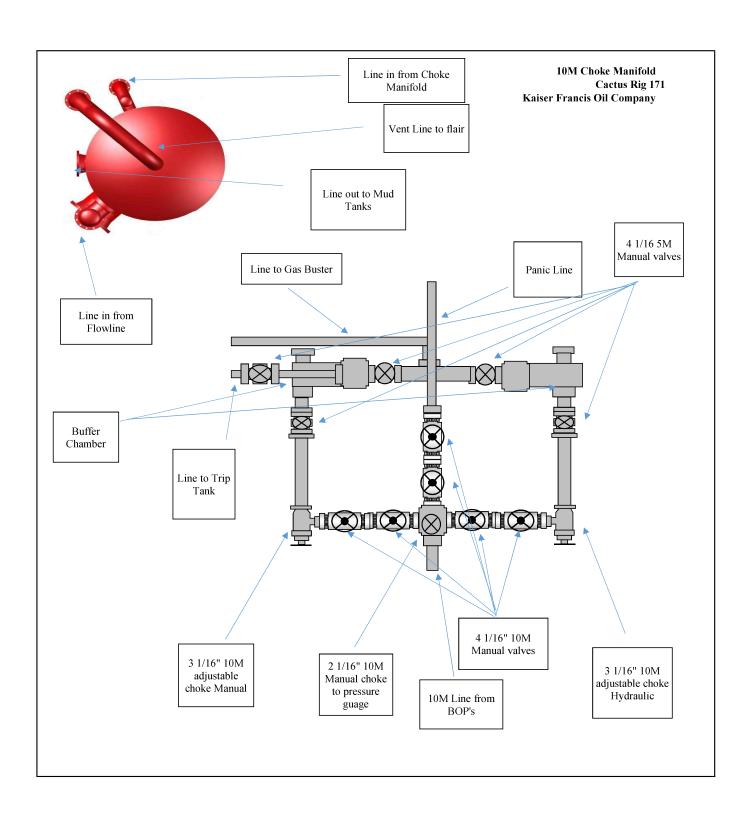
Other proposed operations facets attachment:

BLUN Pad 5 GCP 20191015200514.pdf

Other Variance attachment:

BLUN\_423H\_Flex\_Hose\_20191017162853.pdf





#### BLUN 423H

#### **Casing Assumptions**

Interval Conductor	Length	Casing Size 20"	Weight (#/ft)	Grade	Thread	<b>Condition</b> New	Hole Size	TVD (ft)	Mud Type	Mud Weight Hole Control	Viscosity		Anticipated Mud Weight (ppg)	Max Pore Pressure (psi)	Collapse (psi)	Burst (psi)	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)
Surface	1447	10-3/4"	40.5	J-55	STC	New	14-3/4"	1447	FW	8.4 - 9.0	32 - 34	NC	9	677	1580	3130	629000	420000	2.3	4.6	10.7	7.2
Intermediate	11207	7-5/8"	29.7	HCP110	LTC	New	9-7/8"	11207	Brine	8.7 - 9.0	28-29	NC	9	5245	6700	9460	940000	769000	1.3	1.8	2.8	2.3
Production	19953	5-1/2"	20	P110 HP	USS Eagle SFH	New	6-3/4"	11957	OBM	10.0-12.0	55-70		12	7461	13150	14360	729000	629000	1.8	1.9	3.0	2.6

#### BLUN 423H

#### **Casing Assumptions**

Interval Conductor	Length	Casing Size 20"	Weight (#/ft)	Grade	Thread	<b>Condition</b> New	Hole Size	TVD (ft)	Mud Type	Mud Weight Hole Control	Viscosity		Anticipated Mud Weight (ppg)	Max Pore Pressure (psi)	Collapse (psi)	Burst (psi)	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)
Surface	1447	10-3/4"	40.5	J-55	STC	New	14-3/4"	1447	FW	8.4 - 9.0	32 - 34	NC	9	677	1580	3130	629000	420000	2.3	4.6	10.7	7.2
Intermediate	11207	7-5/8"	29.7	HCP110	LTC	New	9-7/8"	11207	Brine	8.7 - 9.0	28-29	NC	9	5245	6700	9460	940000	769000	1.3	1.8	2.8	2.3
Production	19953	5-1/2"	20	P110 HP	USS Eagle SFH	New	6-3/4"	11957	OBM	10.0-12.0	55-70		12	7461	13150	14360	729000	629000	1.8	1.9	3.0	2.6



# **U. S. Steel Tubular Products**

## 5 1/2 20.00 lb (0.361) P110 HP

## **USS-EAGLE SFH™**

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

#### Notes:

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

Legal Notice: All material contained in this publication is for general information only. This material should not therefore be used or relied upon for any specific application without independent competent professional examination and verification of accuracy, suitability, and applicability. Anyone making use of this material does so at their own risk and assumes any and all liability resulting from such use. U. S. Steel disclaims any and all expressed or implied warranties of fitness for any general or particular application.

Manuel USS Product Data Sheet 2017 rev26 (Sept)

#### BLUN 423H

#### **Casing Assumptions**

Interval Conductor	Length	Casing Size 20"	Weight (#/ft)	Grade	Thread	<b>Condition</b> New	Hole Size	TVD (ft)	Mud Type	Mud Weight Hole Control	Viscosity		Anticipated Mud Weight (ppg)	Max Pore Pressure (psi)	Collapse (psi)	Burst (psi)	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)
Surface	1447	10-3/4"	40.5	J-55	STC	New	14-3/4"	1447	FW	8.4 - 9.0	32 - 34	NC	9	677	1580	3130	629000	420000	2.3	4.6	10.7	7.2
Intermediate	11207	7-5/8"	29.7	HCP110	LTC	New	9-7/8"	11207	Brine	8.7 - 9.0	28-29	NC	9	5245	6700	9460	940000	769000	1.3	1.8	2.8	2.3
Production	19953	5-1/2"	20	P110 HP	USS Eagle SFH	New	6-3/4"	11957	OBM	10.0-12.0	55-70		12	7461	13150	14360	729000	629000	1.8	1.9	3.0	2.6

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

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

LEA COUNTY, NM

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

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Emergency Response Activation and General Responsibilities	3
Individual Responsibilities During An H₂S Release	4
Procedure For Igniting An Uncontrollable Condition	5
Emergency Phone Numbers	6
Protection Of The General Public/Roe	7
Characteristics Of H <sub>2</sub> S And SO <sub>2</sub>	8
Training	8
Public Relations	8
Maps	

#### **EMERGENCY RESPONSE ACTIVATION AND GENERAL RESPONSIBILITIES**

#### Activation of the Emergency Action Plan

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

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

#### General Responsibilities

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

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

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

## INDIVIDUAL RESPONSIBILITIES DURING AN H2S RELEASE

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

## All Personnel:

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.
- Notify Contract management and Kaiser-Francis Representative.
- 5. Remain at the briefing area, assess and monitor personnel and overall situation for hazards or conditions that might warrant a change in the action plan.

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

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

#### All Other Personnel:

1. Isolate the area and prevent entry by other persons into the 100 ppm ROE.

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

## Kaiser-Francis Oil Company Representative:

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

#### PROCEDURE FOR IGNITING AN UNCONTROLLABLE CONDITION:

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

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

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

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

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

#### **CONTACTING AUTHORITIES**

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

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

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

# EMERGENCY RESPONSE NUMBERS: Lea County, New Mexico

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

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

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

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

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

#### Calculation for the 100 ppm ROE:

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

(H2S concentrations in decimal form)

10,000 ppm +=1.+ 1,000 ppm +=.1+

100 ppm += 01+

10 ppm += .001+

# Calculation for the 500 ppm ROE:

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

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

ROE for 100 PPM X=[(1.589)(.0150)(200)] (0.6258)

X=2.65'

ROE for 500 PPM X=[(.4546)(.0150)(200)] (0.6258)

X=1.2'

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

#### PUBLIC EVACUATION PLAN:

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

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

#### CHARACTERISTICS OF H2S AND SO2

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

Bell Lake Unit North 423H Bell Lake Unit North 423H Bell Lake Unit North 423H

Plan: 190915 Bell Lake Unit North 423H

# **Morcor Standard Plan**

15 September, 2019



Project

#### **Morcor Engineering**

Morcor Standard Plan

Company: Kaiser Francis

Bell Lake Unit North 407H Project: Site: Bell Lake Unit North 423H Well: Bell Lake Unit North 423H

Wellbore: Bell Lake Unit North 423H 190915 Bell Lake Unit North 423H Design:

Bell Lake Unit North 407H

US State Plane 1983 Map System: Geo Datum: Map Zone: North American Datum 1983 New Mexico Eastern Zone

Bell Lake Unit North 423H

Site Site Position:

Position Uncertainty:

0.0

1.0 usft

Northing: Easting: Slot Radius:

0.0

485,417.87 usft 792,053.28 usft 17-1/2 "

358.56

Local Co-ordinate Reference:

Survey Calculation Method:

TVD Reference:

MD Reference:

Database:

North Reference:

System Datum:

Latitude: Longitude:

32° 19' 54.748 N 103° 31' 17.817 W Grid Convergence:

Well Bell Lake Unit North 423H

EDM 5000.1 Single User Db

Minimum Curvature

Mean Sea Level

WELL @ 3530.2usft (Original Well Elev)

WELL @ 3530.2usft (Original Well Elev)

Bell Lake Unit North 423H Well

0.0 usft **Well Position** +N/-S Northing: 485,417.87 usft 0.0 usft 792.053.28 usft +E/-W Easting: Position Uncertainty 1.0 usft

Wellhead Elevation:

Latitude: Longitude: Ground Level:

32° 19' 54.748 N 103° 31' 17.817 W 3,508.2 usft

0.43 °

Wellbore Bell Lake Unit North 423H Declination Field Strength Magnetics Model Name Sample Date Dip Angle (nT) (°) IGRF2010 9/15/2019 6.54 60.08 47,860

Design	190915 Bell Lake Unit North 423H			
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

Survey Tool Program	Date	9/15/2019		
From	То			
(usft)	(usft)	Survey (Wellbore)	Tool Name	Description
0.0	19,953.	1 190915 Bell Lake Unit North 423H (Bell La	MWD	MWD - Standard

Morcor Standard Plan

Company: Project: Site: Kaiser Francis Bell Lake Unit North 407H Bell Lake Unit North 423H Bell Lake Unit North 423H Well: Wellbore: Bell Lake Unit North 423H Design: 190915 Bell Lake Unit North 423H Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference: Survey Calculation Method:

Database:

WELL @ 3530.2usft (Original Well Elev)
WELL @ 3530.2usft (Original Well Elev)

Minimum Curvature EDM 5000.1 Single User Db

Well Bell Lake Unit North 423H

ned 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	-3,530.2	0.0	0.0	792,053.28	485,417.87	0.00	0.0
100.0	0.00	0.00	100.0	-3,430.2	0.0	0.0	792,053.28	485,417.87	0.00	0.0
120.0	0.00	0.00	120.0	-3,410.2	0.0	0.0	792,053.28	485,417.87	0.00	0.0
20" Conductor										
200.0	0.00	0.00	200.0	-3,330.2	0.0	0.0	792,053.28	485,417.87	0.00	0.0
300.0	0.00	0.00	300.0	-3,230.2	0.0	0.0	792,053.28	485,417.87	0.00	0.0
400.0	0.00	0.00	400.0	-3,130.2	0.0	0.0	792,053.28	485,417.87	0.00	0.0
500.0	0.00	0.00	500.0	-3,030.2	0.0	0.0	792,053.28	485,417.87	0.00	0.0
600.0	0.00	0.00	600.0	-2,930.2	0.0	0.0	792,053.28	485,417.87	0.00	0.0
700.0	0.00	0.00	700.0	-2,830.2	0.0	0.0	792,053.28	485,417.87	0.00	0.0
800.0	0.00	0.00	800.0	-2,730.2	0.0	0.0	792,053.28	485,417.87	0.00	0.0
900.0	0.00	0.00	900.0	-2,630.2	0.0	0.0	792,053.28	485,417.87	0.00	0.0
1,000.0	0.00	0.00	1,000.0	-2,530.2	0.0	0.0	792,053.28	485,417.87	0.00	0.0
1,100.0	0.00	0.00	1,100.0	-2,430.2	0.0	0.0	792,053.28	485,417.87	0.00	0.0
1,200.0	0.00	0.00	1,200.0	-2,330.2	0.0	0.0	792,053.28	485,417.87	0.00	0.0
1,300.0	0.00	0.00	1,300.0	-2,230.2	0.0	0.0	792,053.28	485,417.87	0.00	0.0
1,400.0	0.00	0.00	1,400.0	-2,130.2	0.0	0.0	792,053.28	485,417.87	0.00	0.0
1,422.0	0.00	0.00	1,422.0	-2,108.2	0.0	0.0	792,053.28	485,417.87	0.00	0.00
Ruslter										
1,447.0	0.00	0.00	1,447.0	-2,083.2	0.0	0.0	792,053.28	485,417.87	0.00	0.00
13 3/8" Surface		0.00	4.500.0	0.000.0	2.2		700 050 00	105 117 07	0.00	2.0
1,500.0	0.00	0.00	1,500.0	-2,030.2	0.0	0.0	792,053.28	485,417.87	0.00	0.0
1,600.0	0.00	0.00	1,600.0	-1,930.2	0.0	0.0	792,053.28	485,417.87	0.00	0.0
1,700.0	0.00	0.00	1,700.0	-1,830.2	0.0	0.0	792,053.28	485,417.87	0.00	0.0
1,800.0	0.00	0.00	1,800.0	-1,730.2	0.0	0.0	792,053.28	485,417.87	0.00	0.0
1,822.0	0.00	0.00	1,822.0	-1,708.2	0.0	0.0	792,053.28	485,417.87	0.00	0.0
Salado										
1,900.0	0.00	0.00	1,900.0	-1,630.2	0.0	0.0	792,053.28	485,417.87	0.00	0.00

Morcor Standard Plan

Company: Project: Site: Kaiser Francis Bell Lake Unit North 407H Bell Lake Unit North 423H Bell Lake Unit North 423H Well: Wellbore: Bell Lake Unit North 423H 190915 Bell Lake Unit North 423H Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference: Survey Calculation Method: Well Bell Lake Unit North 423H

WELL @ 3530.2usft (Original Well Elev)
WELL @ 3530.2usft (Original Well Elev)

n: 1908	1909 IS Bell Lake Unit North 423H					Database:		EDM 5000.1 Single User Db			
ed 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)	
2,000.0	0.00	0.00	2,000.0	-1,530.2	0.0	0.0	792,053.28	485,417.87	0.00	0.0	
2,100.0	0.00	0.00	2,100.0	-1,430.2	0.0	0.0	792,053.28	485,417.87	0.00	0.0	
2,147.0	0.00	0.00	2,147.0	-1,383.2	0.0	0.0	792,053.28	485,417.87	0.00	0.0	
Top of Salt											
2,200.0	0.00	0.00	2,200.0	-1,330.2	0.0	0.0	792,053.28	485,417.87	0.00	0.0	
2,300.0	0.00	0.00	2,300.0	-1,230.2	0.0	0.0	792,053.28	485,417.87	0.00	0.0	
2,400.0	0.00	0.00	2,400.0	-1,130.2	0.0	0.0	792,053.28	485,417.87	0.00	0.0	
2,500.0	0.00	0.00	2,500.0	-1,030.2	0.0	0.0	792,053.28	485,417.87	0.00	0.0	
2,600.0	0.00	0.00	2,600.0	-930.2	0.0	0.0	792,053.28	485,417.87	0.00	0.0	
2,700.0	0.00	0.00	2,700.0	-830.2	0.0	0.0	792,053.28	485,417.87	0.00	0.0	
2,800.0	0.00	0.00	2,800.0	-730.2	0.0	0.0	792,053.28	485,417.87	0.00	0.0	
2,900.0	0.00	0.00	2,900.0	-630.2	0.0	0.0	792,053.28	485,417.87	0.00	0.0	
3,000.0	0.00	0.00	3,000.0	-530.2	0.0	0.0	792,053.28	485,417.87	0.00	0.0	
3,100.0	0.00	0.00	3,100.0	-430.2	0.0	0.0	792,053.28	485,417.87	0.00	0.0	
3,200.0	0.00	0.00	3,200.0	-330.2	0.0	0.0	792,053.28	485,417.87	0.00	0.0	
3,300.0	0.00	0.00	3,300.0	-230.2	0.0	0.0	792,053.28	485,417.87	0.00	0.0	
3,400.0	0.00	0.00	3,400.0	-130.2	0.0	0.0	792,053.28	485,417.87	0.00	0.0	
3,500.0	0.00	0.00	3,500.0	-30.2	0.0	0.0	792,053.28	485,417.87	0.00	0.0	
3,600.0	0.00	0.00	3,600.0	69.8	0.0	0.0	792,053.28	485,417.87	0.00	0.0	
3,700.0	0.00	0.00	3,700.0	169.8	0.0	0.0	792,053.28	485,417.87	0.00	0.0	
3,800.0	0.00	0.00	3,800.0	269.8	0.0	0.0	792,053.28	485,417.87	0.00	0.0	
3,900.0	0.00	0.00	3,900.0	369.8	0.0	0.0	792,053.28	485,417.87	0.00	0.0	
4,000.0	0.00	0.00	4,000.0	469.8	0.0	0.0	792,053.28	485,417.87	0.00	0.0	
4,100.0	0.00	0.00	4,100.0	569.8	0.0	0.0	792,053.28	485,417.87	0.00	0.0	
4,200.0	0.00	0.00	4,200.0	669.8	0.0	0.0	792,053.28	485,417.87	0.00	0.0	
4,300.0	0.00	0.00	4,300.0	769.8	0.0	0.0	792,053.28	485,417.87	0.00	0.0	
4,400.0	0.00	0.00	4,400.0	869.8	0.0	0.0	792,053.28	485,417.87	0.00	0.0	

Morcor Standard Plan

Company: Project: Site: Kaiser Francis Bell Lake Unit North 407H Bell Lake Unit North 423H Bell Lake Unit North 423H Well: Wellbore: Bell Lake Unit North 423H Design: 190915 Bell Lake Unit North 423H Local Co-ordinate Reference:

TVD Reference: MD Reference:

WELL @ 3530.2usft (Original Well Elev)
WELL @ 3530.2usft (Original Well Elev) North Reference: Survey Calculation Method:

Minimum Curvature EDM 5000.1 Single User Db Database:

Well Bell Lake Unit North 423H

ed Survey										
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	Easting (usft)	Northing (usft)	V. Sec (usft)	DLeg (°/100usft)
4,500.0	0.00	0.00	4,500.0	969.8	0.0	0.0	792,053.28	485,417.87	0.00	(
4,600.0	0.00	0.00	4,600.0	1,069.8	0.0	0.0	792,053.28	485,417.87	0.00	
4,700.0	0.00	0.00	4,700.0	1,169.8	0.0	0.0	792,053.28	485,417.87	0.00	
4,800.0	0.00	0.00	4,800.0	1,269.8	0.0	0.0	792,053.28	485,417.87	0.00	
4,900.0	0.00	0.00	4,900.0	1,369.8	0.0	0.0	792,053.28	485,417.87	0.00	
5,000.0	0.00	0.00	5,000.0	1,469.8	0.0	0.0	792,053.28	485,417.87	0.00	
5,100.0	0.00	0.00	5,100.0	1,569.8	0.0	0.0	792,053.28	485,417.87	0.00	
5,122.0	0.00	0.00	5,122.0	1,591.8	0.0	0.0	792,053.28	485,417.87	0.00	
Base of Salt										
5,200.0	0.00	0.00	5,200.0	1,669.8	0.0	0.0	792,053.28	485,417.87	0.00	
5,297.0	0.00	0.00	5,297.0	1,766.8	0.0	0.0	792,053.28	485,417.87	0.00	
Lamar										
5,300.0	0.00	0.00	5,300.0	1,769.8	0.0	0.0	792,053.28	485,417.87	0.00	
5,347.0	0.00	0.00	5,347.0	1,816.8	0.0	0.0	792,053.28	485,417.87	0.00	
10 3/4" Intermed 5,372.0	iate Casing 0.00	0.00	5,372.0	1,841.8	0.0	0.0	792,053.28	485,417.87	0.00	
Bell Canyon										
5,400.0	0.00	0.00	5,400.0	1,869.8	0.0	0.0	792,053.28	485,417.87	0.00	
5,500.0	0.00	0.00	5,500.0	1,969.8	0.0	0.0	792,053.28	485,417.87	0.00	
5,600.0	0.00	0.00	5,600.0	2,069.8	0.0	0.0	792,053.28	485,417.87	0.00	
5,700.0	0.00	0.00	5,700.0	2,169.8	0.0	0.0	792,053.28	485,417.87	0.00	
5,800.0	0.00	0.00	5,800.0	2,269.8	0.0	0.0	792,053.28	485,417.87	0.00	
5,900.0	0.00	0.00	5,900.0	2,369.8	0.0	0.0	792,053.28	485,417.87	0.00	
6,000.0	0.00	0.00	6,000.0	2,469.8	0.0	0.0	792,053.28	485,417.87	0.00	
6,100.0	0.00	0.00	6,100.0	2,569.8	0.0	0.0	792,053.28	485,417.87	0.00	
6,200.0	0.00	0.00	6,200.0	2,669.8	0.0	0.0	792,053.28	485,417.87	0.00	
6,247.0	0.00	0.00	6,247.0	2,716.8	0.0	0.0	792,053.28	485,417.87	0.00	
Cherry Canyon										

Morcor Standard Plan

Company: Project: Site: Kaiser Francis Bell Lake Unit North 407H Bell Lake Unit North 423H Bell Lake Unit North 423H Well: Bell Lake Unit North 423H 190915 Bell Lake Unit North 423H Wellbore:

Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference: Survey Calculation Method: Well Bell Lake Unit North 423H

WELL @ 3530.2usft (Original Well Elev)
WELL @ 3530.2usft (Original Well Elev)

gn: 19091	5 Bell Lake Unit	NOI(II 423FI					EDM 5000.1 Single User Db			
ned 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	2,769.8	0.0	0.0	792,053.28	485,417.87	0.00	0.0
6,400.0	0.00	0.00	6,400.0	2,869.8	0.0	0.0	792,053.28	485,417.87	0.00	0.0
6,500.0	0.00	0.00	6,500.0	2,969.8	0.0	0.0	792,053.28	485,417.87	0.00	0.0
6,600.0	0.00	0.00	6,600.0	3,069.8	0.0	0.0	792,053.28	485,417.87	0.00	0.0
6,700.0	0.00	0.00	6,700.0	3,169.8	0.0	0.0	792,053.28	485,417.87	0.00	0.
6,800.0	0.00	0.00	6,800.0	3,269.8	0.0	0.0	792,053.28	485,417.87	0.00	0.0
6,900.0	0.00	0.00	6,900.0	3,369.8	0.0	0.0	792,053.28	485,417.87	0.00	0.0
7,000.0	0.00	0.00	7,000.0	3,469.8	0.0	0.0	792,053.28	485,417.87	0.00	0.0
7,100.0	0.00	0.00	7,100.0	3,569.8	0.0	0.0	792,053.28	485,417.87	0.00	0.
7,200.0	0.00	0.00	7,200.0	3,669.8	0.0	0.0	792,053.28	485,417.87	0.00	0.
7,300.0	0.00	0.00	7,300.0	3,769.8	0.0	0.0	792,053.28	485,417.87	0.00	0.
7,400.0	0.00	0.00	7,400.0	3,869.8	0.0	0.0	792,053.28	485,417.87	0.00	0.
7,500.0	0.00	0.00	7,500.0	3,969.8	0.0	0.0	792,053.28	485,417.87	0.00	0.
7,600.0	0.00	0.00	7,600.0	4,069.8	0.0	0.0	792,053.28	485,417.87	0.00	0.
7,700.0	0.00	0.00	7,700.0	4,169.8	0.0	0.0	792,053.28	485,417.87	0.00	0.
7,722.0	0.00	0.00	7,722.0	4,191.8	0.0	0.0	792,053.28	485,417.87	0.00	0.
Brushy Canyon										
7,800.0	0.00	0.00	7,800.0	4,269.8	0.0	0.0	792,053.28	485,417.87	0.00	0.
7,900.0	0.00	0.00	7,900.0	4,369.8	0.0	0.0	792,053.28	485,417.87	0.00	0.
8,000.0	0.00	0.00	8,000.0	4,469.8	0.0	0.0	792,053.28	485,417.87	0.00	0.
8,100.0	0.00	0.00	8,100.0	4,569.8	0.0	0.0	792,053.28	485,417.87	0.00	0.
8,200.0	0.00	0.00	8,200.0	4,669.8	0.0	0.0	792,053.28	485,417.87	0.00	0.
8,300.0	0.00	0.00	8,300.0	4,769.8	0.0	0.0	792,053.28	485,417.87	0.00	0.
8,400.0	0.00	0.00	8,400.0	4,869.8	0.0	0.0	792,053.28	485,417.87	0.00	0
8,500.0	0.00	0.00	8,500.0	4,969.8	0.0	0.0	792,053.28	485,417.87	0.00	0
8,600.0	0.00	0.00	8,600.0	5,069.8	0.0	0.0	792,053.28	485,417.87	0.00	0.
8,700.0	0.00	0.00	8,700.0	5,169.8	0.0	0.0	792,053.28	485,417.87	0.00	0.

Morcor Standard Plan

Company: Project: Site: Kaiser Francis Bell Lake Unit North 407H Bell Lake Unit North 423H Bell Lake Unit North 423H Well: Bell Lake Unit North 423H 190915 Bell Lake Unit North 423H Wellbore:

Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference: Survey Calculation Method:

Well Bell Lake Unit North 423H WELL @ 3530.2usft (Original Well Elev)
WELL @ 3530.2usft (Original Well Elev)

gn:	190915 Bell Lake Unit	North 423H					EDM 5000.1 Single User Db			
ned 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)
8,800.0	0.00	0.00	8,800.0	5,269.8	0.0	0.0	792,053.28	485,417.87	0.00	0.0
8,822.0	0.00	0.00	8,822.0	5,291.8	0.0	0.0	792,053.28	485,417.87	0.00	0.0
Bone Sprin										
8,900.0	0.00	0.00	8,900.0	5,369.8	0.0	0.0	792,053.28	485,417.87	0.00	0.0
9,000.0	0.00	0.00	9,000.0	5,469.8	0.0	0.0	792,053.28	485,417.87	0.00	0.0
9,095.0	0.00	0.00	9,095.0	5,564.8	0.0	0.0	792,053.28	485,417.87	0.00	0.0
Avalon										
9,100.0	0.00	0.00	9,100.0	5,569.8	0.0	0.0	792,053.28	485,417.87	0.00	0.0
9,200.0	0.00	0.00	9,200.0	5,669.8	0.0	0.0	792,053.28	485,417.87	0.00	0.0
9,300.0	0.00	0.00	9,300.0	5,769.8	0.0	0.0	792,053.28	485,417.87	0.00	0.0
9,400.0	0.00	0.00	9,400.0	5,869.8	0.0	0.0	792,053.28	485,417.87	0.00	0.
9,500.0	0.00	0.00	9,500.0	5,969.8	0.0	0.0	792,053.28	485,417.87	0.00	0.
9,600.0	0.00	0.00	9,600.0	6,069.8	0.0	0.0	792,053.28	485,417.87	0.00	0.0
9,700.0	0.00	0.00	9,700.0	6,169.8	0.0	0.0	792,053.28	485,417.87	0.00	0.0
9,800.0	0.00	0.00	9,800.0	6,269.8	0.0	0.0	792,053.28	485,417.87	0.00	0.
9,900.0	0.00	0.00	9,900.0	6,369.8	0.0	0.0	792,053.28	485,417.87	0.00	0.
9,922.0	0.00	0.00	9,922.0	6,391.8	0.0	0.0	792,053.28	485,417.87	0.00	0.0
1st BS San										
10,000.0	0.00	0.00	10,000.0	6,469.8	0.0	0.0	792,053.28	485,417.87	0.00	0.
10,100.0	0.00	0.00	10,100.0	6,569.8	0.0	0.0	792,053.28	485,417.87	0.00	0.
10,200.0	0.00	0.00	10,200.0	6,669.8	0.0	0.0	792,053.28	485,417.87	0.00	0.
10,300.0	0.00	0.00	10,300.0	6,769.8	0.0	0.0	792,053.28	485,417.87	0.00	0.
10,400.0	0.00	0.00	10,400.0	6,869.8	0.0	0.0	792,053.28	485,417.87	0.00	0.
10,500.0	0.00	0.00	10,500.0	6,969.8	0.0	0.0	792,053.28	485,417.87	0.00	0.
10,507.0	0.00	0.00	10,507.0	6,976.8	0.0	0.0	792,053.28	485,417.87	0.00	0
2nd BS Sar										
10,600.0	0.00	0.00	10,600.0	7,069.8	0.0	0.0	792,053.28	485,417.87	0.00	0.

Morcor Standard Plan

Company: Project: Site: Kaiser Francis Bell Lake Unit North 407H Bell Lake Unit North 423H Bell Lake Unit North 423H Well: Wellbore: Bell Lake Unit North 423H Design: 190915 Bell Lake Unit North 423H Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference: Survey Calculation Method: WELL @ 3530.2usft (Original Well Elev)
WELL @ 3530.2usft (Original Well Elev)

Well Bell Lake Unit North 423H

							Database:		EDM 5000.1 Single User Db		
ned Survey											
MD (usft)	Inc (°)	Azi (azimuth)	TVD (usft)		VDSS usft)	N/S (usft)	E/W (usft)	Easting (usft)	Northing (usft)	V. Sec (usft)	DLeg (°/100usft)
10,700.0	(	0.00	0.00 1	0,700.0	7,169.8	0.0	0.	0 792,053.28	485,417.87	0.00	C
10,800.0		0.00	0.00 1	0,800.0	7,269.8	0.0	0.	0 792,053.28	485,417.87	0.00	(
10,900.0	(	0.00	0.00 1	0,900.0	7,369.8	0.0	0.	0 792,053.28	485,417.87	0.00	(
10,982.0	(	0.00	0.00 1	0,982.0	7,451.8	0.0	0.	0 792,053.28	485,417.87	0.00	(
3rd BS Lim	e										
11,000.0	(	0.00	0.00 1	1,000.0	7,469.8	0.0	0.	0 792,053.28	485,417.87	0.00	
11,100.0	(	0.00	0.00 1	1,100.0	7,569.8	0.0	0.	0 792,053.28	485,417.87	0.00	
11,200.0		0.00	0.00 1	1,200.0	7,669.8	0.0	0.	0 792,053.28	485,417.87	0.00	
11,207.0	(	0.00	0.00 1	1,207.0	7,676.8	0.0	0.	0 792,053.28	485,417.87	0.00	
7 5/8" 2nd I	ntermediate Cas	ing									
11,292.0	(	0.00	0.00 1	1,292.0	7,761.8	0.0	0.	0 792,053.28	485,417.87	0.00	
3rd BS San			200		7 700 0		•	700.050.00	105 117 07	0.00	
11,300.0				1,300.0	7,769.8	0.0	0.		485,417.87	0.00	
11,380.0		0.00	0.00 1	1,380.0	7,849.8	0.0	0.	0 792,053.28	485,417.87	0.00	
Start Build					7 000 0	0.0		700.050.00	105 110 01	2.25	
11,400.0				1,400.0	7,869.8	0.3	-0.		485,418.21	0.35	1
11,500.0	12	2.00 350	0.28 1	1,499.1	7,968.9	12.3	-2.	1 792,051.17	485,430.21	12.39	1
11,600.0	22	2.00 350	0.28 1	1,594.6	8,064.4	41.1	-7.	0 792,046.24	485,458.98	41.28	1
11,700.0	3.	.99 350	0.28 1	1,683.6	8,153.4	85.8	-14.	7 792,038.59	485,503.67	86.14	1
11,791.5	4	.14 350	0.28 1	1,757.0	8,226.8	139.4	-23	9 792,029.40	485,557.31	140.00	1
Wolfcamp											
11,800.0				1,763.4	8,233.2	145.0	-24		485,562.90	145.61	1
11,900.0	5	.99 350	0.28 1	1,831.5	8,301.3	217.0	-37	2 792,016.11	485,634.89	217.88	1
12,000.0	6	.99 350	0.28 1	1,885.9	8,355.7	299.6	-51	3 792,001.98	485,717.44	300.76	1
12,100.0	7	.99 350	0.28 1	1,925.0	8,394.8	390.2	-66	8 791,986.46	485,808.04	391.73	1
12,200.0	8	.99 350	0.28 1	1,947.5	8,417.3	486.1	-83	2 791,970.04	485,903.96	488.02	•
12,243.4	. 86	3.32 350	0.28 1	1,951.9	8,421.7	528.6	-90	5 791,962.75	485,946.48	530.71	•
Start DLS 6	.07 TFO 67.84										

Morcor Standard Plan

Company: Project: Site: Kaiser Francis Bell Lake Unit North 407H Bell Lake Unit North 423H Bell Lake Unit North 423H Well: Wellbore: Bell Lake Unit North 423H Design: 190915 Bell Lake Unit North 423H Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference: Survey Calculation Method:

Well Bell Lake Unit North 423H WELL @ 3530.2usft (Original Well Elev)
WELL @ 3530.2usft (Original Well Elev)

n: 190915 Bell Lake Unit North 423H				EDM 5000.1 Single	EDM 5000.1 Single User Db					
ed Survey										
MD (usft)	Inc (°)	Azi (azimuth) TV		TVDSS (usft)	N/S (usft)	E/W (usft)	Easting (usft)	Northing (usft)	V. Sec (usft)	DLeg (°/100usft)
12,300.0	87.62	353.47	11,954.9	8,424.7	584.6	-98.5	791,954.76	486,002.45	586.86	6
12,400.0	89.94	359.08	11,957.0	8,426.8	684.3	-105.0	791,948.27	486,102.16	686.71	6
12,402.	7 90.00	359.23	11,957.0	8,426.8	687.0	-105.1	791,948.23	486,104.87	689.42	6
Start 7550.	4 hold at 12402.7 MD									
12,500.0	90.00	359.23	11,957.0	8,426.8	784.3	-106.4	791,946.92	486,202.16	786.70	0
12,600.0	90.00	359.23	11,957.0	8,426.8	884.3	-107.7	791,945.58	486,302.15	886.70	C
12,700.0	90.00	359.23	11,957.0	8,426.8	984.3	-109.0	791,944.24	486,402.14	986.69	(
12,800.0	90.00	359.23	11,957.0	8,426.8	1,084.3	-110.4	791,942.90	486,502.13	1,086.68	(
12,900.0	90.00	359.23	11,957.0	8,426.8	1,184.2	-111.7	791,941.55	486,602.12	1,186.68	(
13,000.0	90.00	359.23	11,957.0	8,426.8	1,284.2	-113.1	791,940.21	486,702.11	1,286.67	(
13,100.0	90.00	359.23	11,957.0	8,426.8	1,384.2	-114.4	791,938.87	486,802.10	1,386.66	(
13,200.0	90.00	359.23	11,957.0	8,426.8	1,484.2	-115.8	791,937.52	486,902.09	1,486.66	(
13,300.0	90.00	359.23	11,957.0	8,426.8	1,584.2	-117.1	791,936.18	487,002.08	1,586.65	(
13,400.0	90.00	359.23	11,957.0	8,426.8	1,684.2	-118.4	791,934.84	487,102.07	1,686.64	(
13,500.0	90.00	359.23	11,957.0	8,426.8	1,784.2	-119.8	791,933.50	487,202.07	1,786.64	(
13,600.0	90.00	359.23	11,957.0	8,426.8	1,884.2	-121.1	791,932.15	487,302.06	1,886.63	(
13,700.0	90.00	359.23	11,957.0	8,426.8	1,984.2	-122.5	791,930.81	487,402.05	1,986.62	
13,800.0	90.00	359.23	11,957.0	8,426.8	2,084.2	-123.8	791,929.47	487,502.04	2,086.62	
13,900.0	90.00	359.23	11,957.0	8,426.8	2,184.2	-125.2	791,928.13	487,602.03	2,186.61	
14,000.0	90.00	359.23	11,957.0	8,426.8	2,284.2	-126.5	791,926.78	487,702.02	2,286.60	
14,100.0	90.00	359.23	11,957.0	8,426.8	2,384.1	-127.8	791,925.44	487,802.01	2,386.60	
14,200.0	90.00	359.23	11,957.0	8,426.8	2,484.1	-129.2	791,924.10	487,902.00	2,486.59	
14,300.0	90.00	359.23	11,957.0	8,426.8	2,584.1	-130.5	791,922.75	488,001.99	2,586.58	
14,400.0	90.00	359.23	11,957.0	8,426.8	2,684.1	-131.9	791,921.41	488,101.98	2,686.58	
14,500.0	90.00	359.23	11,957.0	8,426.8	2,784.1	-133.2	791,920.07	488,201.98	2,786.57	
14,600.0	90.00	359.23	11,957.0	8,426.8	2,884.1	-134.6	791,918.73	488,301.97	2,886.56	
14,700.0	90.00	359.23	11,957.0	8,426.8	2,984.1	-135.9	791,917.38	488,401.96	2,986.56	

Morcor Standard Plan

Company: Project: Site: Kaiser Francis Bell Lake Unit North 407H Bell Lake Unit North 423H Bell Lake Unit North 423H Well: Wellbore: Bell Lake Unit North 423H Design: 190915 Bell Lake Unit North 423H Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference: Survey Calculation Method:

Database:

Well Bell Lake Unit North 423H WELL @ 3530.2usft (Original Well Elev)
WELL @ 3530.2usft (Original Well Elev)

nned 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)
14,800.0	90.00	359.23	11,957.0	8,426.8	3,084.1	-137.2	791,916.04	488,501.95	3,086.55	0.00
14,900.0	90.00	359.23	11,957.0	8,426.8	3,184.1	-138.6	791,914.70	488,601.94	3,186.54	0.00
15,000.0	90.00	359.23	11,957.0	8,426.8	3,284.1	-139.9	791,913.36	488,701.93	3,286.54	0.00
15,100.0	90.00	359.23	11,957.0	8,426.8	3,384.1	-141.3	791,912.01	488,801.92	3,386.53	0.00
15,200.0	90.00	359.23	11,957.0	8,426.8	3,484.0	-142.6	791,910.67	488,901.91	3,486.52	0.00
15,300.0	90.00	359.23	11,957.0	8,426.8	3,584.0	-144.0	791,909.33	489,001.90	3,586.51	0.00
15,400.0	90.00	359.23	11,957.0	8,426.8	3,684.0	-145.3	791,907.98	489,101.89	3,686.51	0.00
15,500.0	90.00	359.23	11,957.0	8,426.8	3,784.0	-146.6	791,906.64	489,201.89	3,786.50	0.00
15,600.0	90.00	359.23	11,957.0	8,426.8	3,884.0	-148.0	791,905.30	489,301.88	3,886.49	0.00
15,700.0	90.00	359.23	11,957.0	8,426.8	3,984.0	-149.3	791,903.96	489,401.87	3,986.49	0.00
15,800.0	90.00	359.23	11,957.0	8,426.8	4,084.0	-150.7	791,902.61	489,501.86	4,086.48	0.00
15,900.0	90.00	359.23	11,957.0	8,426.8	4,184.0	-152.0	791,901.27	489,601.85	4,186.47	0.00
16,000.0	90.00	359.23	11,957.0	8,426.8	4,284.0	-153.4	791,899.93	489,701.84	4,286.47	0.00
16,100.0	90.00	359.23	11,957.0	8,426.8	4,384.0	-154.7	791,898.59	489,801.83	4,386.46	0.00
16,200.0	90.00	359.23	11,957.0	8,426.8	4,484.0	-156.0	791,897.24	489,901.82	4,486.45	0.00
16,300.0	90.00	359.23	11,957.0	8,426.8	4,583.9	-157.4	791,895.90	490,001.81	4,586.45	0.00
16,400.0	90.00	359.23	11,957.0	8,426.8	4,683.9	-158.7	791,894.56	490,101.80	4,686.44	0.00
16,500.0	90.00	359.23	11,957.0	8,426.8	4,783.9	-160.1	791,893.22	490,201.80	4,786.43	0.00
16,600.0	90.00	359.23	11,957.0	8,426.8	4,883.9	-161.4	791,891.87	490,301.79	4,886.43	0.00
16,700.0	90.00	359.23	11,957.0	8,426.8	4,983.9	-162.8	791,890.53	490,401.78	4,986.42	0.00
16,800.0	90.00	359.23	11,957.0	8,426.8	5,083.9	-164.1	791,889.19	490,501.77	5,086.41	0.00
16,900.0	90.00	359.23	11,957.0	8,426.8	5,183.9	-165.4	791,887.84	490,601.76	5,186.41	0.00
17,000.0	90.00	359.23	11,957.0	8,426.8	5,283.9	-166.8	791,886.50	490,701.75	5,286.40	0.00
17,100.0	90.00	359.23	11,957.0	8,426.8	5,383.9	-168.1	791,885.16	490,801.74	5,386.39	0.00
17,200.0	90.00	359.23	11,957.0	8,426.8	5,483.9	-169.5	791,883.82	490,901.73	5,486.39	0.00
17,300.0	90.00	359.23	11,957.0	8,426.8	5,583.9	-170.8	791,882.47	491,001.72	5,586.38	0.00
17,400.0	90.00	359.23	11,957.0	8,426.8	5,683.8	-172.1	791,881.13	491,101.71	5,686.37	0.00

Morcor Standard Plan

Company: Project: Site: Kaiser Francis Bell Lake Unit North 407H Bell Lake Unit North 423H Bell Lake Unit North 423H Well: Wellbore: Bell Lake Unit North 423H Design: 190915 Bell Lake Unit North 423H Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference: Survey Calculation Method:

Database:

Well Bell Lake Unit North 423H WELL @ 3530.2usft (Original Well Elev)
WELL @ 3530.2usft (Original Well Elev)

ned Survey										
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	Easting (usft)	Northing (usft)	V. Sec (usft)	DLeg (°/100usft)
17,500.0	90.00	359.23	11,957.0	8,426.8	5,783.8	-173.5	791,879.79	491,201.70	5,786.37	0.
17,600.0	90.00	359.23	11,957.0	8,426.8	5,883.8	-174.8	791,878.45	491,301.70	5,886.36	0.
17,700.0	90.00	359.23	11,957.0	8,426.8	5,983.8	-176.2	791,877.10	491,401.69	5,986.35	0.
17,800.0	90.00	359.23	11,957.0	8,426.8	6,083.8	-177.5	791,875.76	491,501.68	6,086.35	0
17,900.0	90.00	359.23	11,957.0	8,426.8	6,183.8	-178.9	791,874.42	491,601.67	6,186.34	0
18,000.0	90.00	359.23	11,957.0	8,426.8	6,283.8	-180.2	791,873.07	491,701.66	6,286.33	0
18,100.0	90.00	359.23	11,957.0	8,426.8	6,383.8	-181.5	791,871.73	491,801.65	6,386.33	0
18,200.0	90.00	359.23	11,957.0	8,426.8	6,483.8	-182.9	791,870.39	491,901.64	6,486.32	0
18,300.0	90.00	359.23	11,957.0	8,426.8	6,583.8	-184.2	791,869.05	492,001.63	6,586.31	0
18,400.0	90.00	359.23	11,957.0	8,426.8	6,683.8	-185.6	791,867.70	492,101.62	6,686.31	0
18,500.0	90.00	359.23	11,957.0	8,426.8	6,783.7	-186.9	791,866.36	492,201.61	6,786.30	C
18,600.0	90.00	359.23	11,957.0	8,426.8	6,883.7	-188.3	791,865.02	492,301.61	6,886.29	0
18,700.0	90.00	359.23	11,957.0	8,426.8	6,983.7	-189.6	791,863.68	492,401.60	6,986.28	0
18,800.0	90.00	359.23	11,957.0	8,426.8	7,083.7	-190.9	791,862.33	492,501.59	7,086.28	(
18,900.0	90.00	359.23	11,957.0	8,426.8	7,183.7	-192.3	791,860.99	492,601.58	7,186.27	(
19,000.0	90.00	359.23	11,957.0	8,426.8	7,283.7	-193.6	791,859.65	492,701.57	7,286.26	(
19,100.0	90.00	359.23	11,957.0	8,426.8	7,383.7	-195.0	791,858.30	492,801.56	7,386.26	0
19,200.0	90.00	359.23	11,957.0	8,426.8	7,483.7	-196.3	791,856.96	492,901.55	7,486.25	0
19,300.0	90.00	359.23	11,957.0	8,426.8	7,583.7	-197.7	791,855.62	493,001.54	7,586.24	0
19,400.0	90.00	359.23	11,957.0	8,426.8	7,683.7	-199.0	791,854.28	493,101.53	7,686.24	C
19,500.0	90.00	359.23	11,957.0	8,426.8	7,783.7	-200.3	791,852.93	493,201.52	7,786.23	0
19,600.0	90.00	359.23	11,957.0	8,426.8	7,883.6	-201.7	791,851.59	493,301.52	7,886.22	0
19,700.0	90.00	359.23	11,957.0	8,426.8	7,983.6	-203.0	791,850.25	493,401.51	7,986.22	C
19,800.0	90.00	359.23	11,957.0	8,426.8	8,083.6	-204.4	791,848.91	493,501.50	8,086.21	(
19,900.0	90.00	359.23	11,957.0	8,426.8	8,183.6	-205.7	791,847.56	493,601.49	8,186.20	(
19,953.1	90.00	359.23	11,957.0	8,426.8	8,236.7	-206.4	791,846.85	493,654.57	8,239.29	
TD at 19953.1										



# **Morcor Engineering**

Morcor Standard Plan

Company: Project: Site: Kaiser Francis Bell Lake Unit North 407H Bell Lake Unit North 423H Bell Lake Unit North 423H Well: Wellbore: Bell Lake Unit North 423H 190915 Bell Lake Unit North 423H Design:

Local Co-ordinate Reference: TVD Reference: MD Reference:

North Reference: Survey Calculation Method: Database:

Well Bell Lake Unit North 423H

WELL @ 3530.2usft (Original Well Elev)
WELL @ 3530.2usft (Original Well Elev)

Minimum Curvature EDM 5000.1 Single User Db

Casing Points					
	Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
	120.0		20" Conductor	20	26
	1,447.0		13 3/8" Surface Casing	13-3/8	17-1/2
	5,347.0		10 3/4" Intermediate Casing	10-3/4	12-1/4
	11,207.0	11,207.0	7 5/8" 2nd Intermediate Casing	7-5/8	9-7/8
	19,953.1	11,957.0	5 1/2" Production Casing	5-1/2	6-3/4

ormations									
	Measured Depth (usft)	Vertical Depth (usft)		Name	Lithology	Dip (°)	Dip Direction (°)		
	1,422.0	1,422.0	Ruslter		-	0.00			
	9,922.0	9,922.0	1st BS Sand			0.00			
	5,372.0	5,372.0	Bell Canyon			0.00			
	5,122.0	5,122.0	Base of Salt			0.00			
	11,292.0	11,292.0	3rd BS Sand			0.00			
	5,297.0	5,297.0	Lamar			0.00			
	9,095.0	9,095.0	Avalon			0.00			
	10,982.0	10,982.0	3rd BS Lime			0.00			
	2,147.0	2,147.0	Top of Salt			0.00			
	8,822.0	8,822.0	Bone Spring			0.00			
	10,507.0	10,507.0	2nd BS Sand			0.00			
	7,722.0	7,722.0	Brushy Canyon			0.00			
	1,822.0	1,822.0	Salado			0.00			
	6,247.0	6,247.0	Cherry Canyon			0.00			
	11,791.5	11,757.0	Wolfcamp			0.00			



# **Morcor Engineering**

Morcor Standard Plan

Company: Project: Site: Kaiser Francis Bell Lake Unit North 407H Bell Lake Unit North 423H Well: Bell Lake Unit North 423H Wellbore: Bell Lake Unit North 423H 190915 Bell Lake Unit North 423H Design:

Local Co-ordinate Reference: TVD Reference: MD Reference: North Reference: Survey Calculation Method: Database:

Well Bell Lake Unit North 423H

WELL @ 3530.2usft (Original Well Elev)
WELL @ 3530.2usft (Original Well Elev)

Minimum Curvature EDM 5000.1 Single User Db

Plan Annotations					
Measu	ured	Vertical	Local Coor	dinates	
Dept	th	Depth	+N/-S	+E/-W	
(usf	ft)	(usft)	(usft)	(usft)	Comment
11,3	380.0	11,380.0	0.0	0.0	Start Build 10.00
12,2	243.4	11,951.9	528.6	-90.5	Start DLS 6.07 TFO 67.84
12,4	402.7	11,957.0	687.0	-105.1	Start 7550.4 hold at 12402.7 MD
19.0	953 1	11 957 N	8 236 7	-206.4	TD at 19953 1

Checked By:	Approved By:	Date:	
Oncomed by:			

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

ata. 10/00/2010

# State of New Mexico Energy, Minerals and Natural Resources Department

Submit Original to Appropriate District Office

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505

### GAS CAPTURE PLAN

Date: 10/09/2019	
□ 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 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 <u>Targa</u> and will be connected to <u>Targa</u> low/high pressure gathering system located in <u>Lea</u> County, New Mexico. It will require <u>11,000</u>' of pipeline to connect the facility to low/high pressure gathering system. <u>Kaiser-Francis Oil Company</u> provides (periodically) to <u>Targa</u> a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, <u>Kaiser-Francis Oil Company</u> and <u>Targa</u> have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at <u>Targa</u> Processing Plant located in Sec. <u>36</u>, Twn. <u>198</u>, Rng. <u>36E</u>, <u>Lea</u> 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 <u>Targa</u> system at that time. Based on current information, it is <u>Kaiser-Francis Oil Company's</u> 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
  - o Gas flared would be minimal, but might be uneconomical to operate when gas volume declines
- NGL Removal On lease
  - o Plants are expensive, residue gas is still flared, and uneconomical to operate when gas volume declines



# **Certificate of Registration**

# 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 (APIOR®) 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

Dema Opflueign

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.



# **Certificate of Registration**

The American Petroleum Institute 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 and found to be in conformance with the following:

# **API Specification Q1**

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

Design and Manufacture of Oilfield, Marine and Other Industrial Hoses

API approves the organization's justification for excluding:

No Exclusions Identified as Applicable

API Spec Q1 Registered

Effective Date: Expiration Date: Registered Since:

APRIL 21, 2019 APRIL 21, 2022 MAY 4, 2016

Vice President of Global Industry Services

Dema Opfluer

This certificate is valid for the period specified herein. The registered organization must continually meet all requirements of API Spec Q1, Specification for Quality Programs for the Petroleum, Petrochemical and Natural Gas Industry, and the requirements of the Registration Agreement. Registration is maintained and regularly monitored through annual full system audits. This certificate has been issued from API offices located at 200 Massachusetts Avenue, NW Suite 1100, Washington, DC 20001-5571, U.S.A. It is the property of API, and must be returned upon request. To verify the authenticity of this certificate, go to www.api.org/compositelist.

2018-154 | 02.19 | Digital



# Petroleum Institute



2018-151 | Digtal

# Certificate of Authority to use the Official API Monogram

License Number: 16C-0383

ORIGINAL

The American Petroleum Institute hereby grants to

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

the right to use the Official API Monogram® on manufactured products under the conditions in the official publications of the American Petroleum Institute entitled API Spec Q1® and API-16C and in accordance with the provisions of the License Agreement. In all cases where the Official API Monogram is applied, the API Monogram shall be used in conjunction with this certificate number: 16C-0383 The American Petroleum Institute reserves the right to revoke this authorization to use the Official API Monogram for any reason satisfactory to the Board of Directors of the American Petroleum Institute.

The scope of this license includes the following: Flexible Choke and Kill Lines atFSL 0, FSL 1, FSL 2, FSL

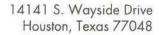
QMS Exclusions: No Exclusions Identified as Applicable

Effective Date: APRIL 21, 2019 Expiration Date: APRIL 21, 2022

Hern Chilmen

To verify the authenticity of this license, go to www.api.org/compositelist.

Vice President of Global Industry Services





Phone 713-644-1491 Fax 713-644-9830 www.copperstaterubber.com sales@copperstaterubber.com

October 7, 2019

Cactus Drilling LTR Fastener 11722 W. Hwy 80 E. Odessa, TX 79765

Subject:

Date: October 7, 2019

Specialties Company File No.: CSR-32367 / SPECO-83336

**Equipment:** 

Inspect, Borescope, and Recertify Customer's Choke & Kill Hose, API 16C Monogrammed, Fire Resistant, 10,000 PSI MAWP x 15,000 PSI Test, Complete With 4-1/16" 10,000 PSI API Flanged Ends (Swivel x Fixed).

1EA: 3" ID X 35 Ft.

(S/N-33974A)

# CERTIFICATE OF COMPLIANCE

This is to certify the above referenced equipment meets or exceeds the following requirements and were manufactured from same material specification and manufacturing methods as prototype assemblies for referenced specifications.

- I. COMPLETE HOSE ASSEMBLY
  - A. API Certificate of Accreditation for Spec: Q1 (Quality Programs) and Spec.: 16C
    - 1. Copper State Rubber, Inc. Certificate No.: 16C-0383
  - B. CSR Specification No.: 090-1915C-48
- II. PHYSICAL/CHEMICAL PROPERTIES OF METAL COMPONENTS
  - A. API Spec. 6A, latest edition
  - B. API Spec. 16A, latest edition
  - C. NACE Standard MR0175, latest edition

Wyatt D. Love

Sincerel

Technical Department



		visual II	uspection	/ Hydrostat	ic lest Rep	ort	
Manufacturer	٢				tate Rubber Inc		
Hose Type					Hose Re-Test		
Pressure Rat					WP X 15,000 PS	SI T/P	
Spec Number	r			090-	1915C - 48		
Serial Numbe	er			33974A			
Size ID				3"			
ength				35'			
Date			Oct	ober 3, 2019			
Shop Order N	lumber			32367			
Connections	Description	the state of the s		WIVEL FLANGE			
		4 1/16" 10	,000 PSI API F	IXED FLANGE			
Traceability of	of Terminatir	ng Connecto	ors				
	Insert	Male	Nut	Female	Flanges	Hubs	Other
Connector 1	14B2				V4760		81401-1
Connector 2	14C1				V5468		H1264
Calibrated De		1					
Pressure Rec	order		CAL	.242	Calibration	Date	8/8/201
	r and brandi			ually inspected d to be conform		ne interior tu	be, recess,
Comments	nose recess	s was repaire	ed and then te	sted to factory t	est pressure as	new.	
			ed and then te	sted to factory t		s new.	
Comments Hydrostatic T	Festing Requ					onew.	

QA-79 REV-6 02/18

Final OK:

Robert Snider, Quality Manager



Borescope / Visual Inspection

Copper State Rubber Inc.	
Vibrator / Rotary Hose	
10,000 PSI MAWP X 15,000 PSI T/P	
090-1915C - 48	
	Copper State Rubber Inc. Vibrator / Rotary Hose 10,000 PSI MAWP X 15,000 PSI T/P

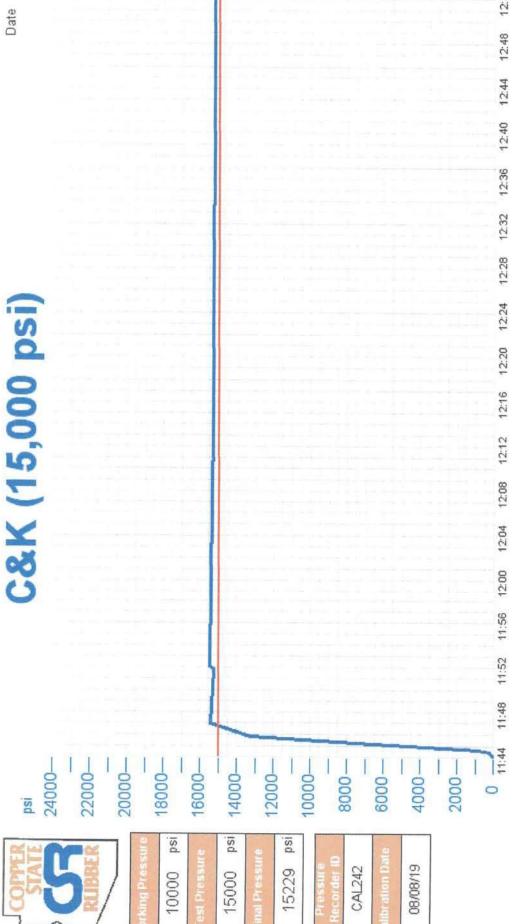
Serial Number	33974A	
Size ID	3"	
Length	35'	
Date	October 3, 2019	

B	Remarks
Gasket Faces	Pass
Recesses	Pass
Hose Bore	Pass
<b>Bubbles or Bulges</b>	None Noted
Visual Inspection	Pass

Comments: Hose is confirmed to be in factory new condition.

Witness By:

Robert Snider, Quality Manager



•		4-1/16" 10,000# API FLANGE	4-1/16" 10,000# API SWIVEL FLANG V	35 ft 0.00 in	3"	32367	33974A
	70	End Fitting B	End Fitting A	Length	Hose I.D.	Work Order	Serial

Ruben Martinez

Signature/Date

QA-91 Rev 0 01/18

Kyle Winters

Signature/Date

# Robert Sylde IF

>

Signature/Date





U.S. Department of the Interior BUREAU OF LAND MANAGEMENT SUPO Data Report

APD ID: 10400049466

Well Work Type: Drill

Submission Date: 10/18/2019

Highlighted data reflects the most recent changes

**Show Final Text** 

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH

Well Number: 423H

Well Type: OIL WELL

# **Section 1 - Existing Roads**

Will existing roads be used? YES

**Existing Road Map:** 

BLUN\_423H\_Existing\_Roads\_20191015200548.pdf

Existing Road Purpose: ACCESS, FLUID TRANSPORT

Row(s) Exist? NO

ROW ID(s)

ID:

Do the existing roads need to be improved? NO

**Existing Road Improvement Description:** 

**Existing Road Improvement Attachment:** 

# Section 2 - New or Reconstructed Access Roads

Will new roads be needed? YES

New Road Map:

BLUN 423H Access Road 20191015200611.pdf

New road type: RESOURCE

Length: 38 Feet Width (ft.): 30

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

Army Corp of Engineers (ACOE) permit required? N

ACOE Permit Number(s): New road travel width: 20

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

New road access plan or profile prepared? N

New road access plan attachment:

Access road engineering design? N

Access road engineering design attachment:

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH Well Number: 423H

Turnout? N

Access surfacing type: OTHER

Access topsoil source: BOTH

Access surfacing type description: Native caliche

Access onsite topsoil source depth: 6

Offsite topsoil source description: Material will be obtained from BLM caliche pit in SWSW Section 22-T24S-R34E or

NENE Section 20-T23S-R33E

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

Access other construction information:

Access miscellaneous information:

Number of access turnouts: Access turnout map:

# **Drainage Control**

New road drainage crossing: OTHER

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

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

Road Drainage Control Structures (DCS) attachment:

### **Access Additional Attachments**

# **Section 3 - Location of Existing Wells**

Existing Wells Map? YES

Attach Well map:

BLUN\_423H\_1MILE\_WELLS\_20191015200635.pdf BLUN\_423H\_1\_Mile\_Wells\_Map\_20191015200717.pdf

# Section 4 - Location of Existing and/or Proposed Production Facilities

# Submit or defer a Proposed Production Facilities plan? DEFER

**Estimated Production Facilities description:** Production facilities are planned for the north side of pad. Plan for initial wells: 2-1000 bbl water tanks and 5 -1000 bbl oil tanks, a temporary 6X20 horizontal 3-phase sep, a 48 X 10 3-phase sep, a 8 X 20 heater treater and a 48X 10 2-phase sep

**Operator Name: KAISER FRANCIS OIL COMPANY** 

Well Name: BELL LAKE UNIT NORTH Well Number: 423H

# Section 5 - Location and Types of Water Supply

**Water Source Table** 

Water source type: OTHER

Describe type: Brine Water

Water source use type: INTERMEDIATE/PRODUCTION

CASING

Source latitude: Source longitude:

Source datum:

Water source permit type: PRIVATE CONTRACT

Water source transport method: TRUCKING

Source land ownership: PRIVATE

Source transportation land ownership: OTHER

Water source volume (barrels): 20000

Source volume (gal): 840000

Describe transportation land ownership: Source tran

is a mixture of Federal, State and County. **Source volume (acre-feet):** 2.57786193

Water source type: OTHER

Describe type: FRESH WATER

Water source use type: STIMULATION

OTHER Describe use type: ROAD/PAD CONSTRUCTION ANI

SURFACE CASING

Source latitude: Source longitude:

Source datum:

Water source permit type: PRIVATE CONTRACT

Water source transport method: TRUCKING

Source land ownership: PRIVATE

Source transportation land ownership: OTHER Describe transp

Water source volume (barrels): 250000

Source volume (gal): 10500000

Describe transportation land ownership: Source tran

is a mixture of Federal, State and County. **Source volume (acre-feet):** 32.223274