

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

FORM APPROVED
OMB No. 1004-0137
Expires October 31, 2014

MIX 5
SURF P

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NMLC0066438
1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name
2. Name of Operator KAISER FRANCIS OIL COMPANY (12361)		7. If Unit or CA Agreement, Name and No. BELL LAKE / NMNM068292X
3a. Address 6733 S. Yale Ave. Tulsa OK 74121		8. Lease Name and Well No. (316701) BELL LAKE UNIT NORTH 401H
3b. Phone No. (include area code) (918)491-0000		9. API Well No. 30-025-44693
4. Location of Well (Report location clearly and in accordance with any State requirements.) At surface SWNW / 2100 FNL / 325 FWL / LAT 32.335164 / LONG -103.53356 At proposed prod. zone SWSW / 330 FSL / 350 FWL / LAT 32.312822 / LONG -103.533487		10. Field and Prod. or Exploration BELL LAKE, BS, NORTH (5150) ANTELOPE RIDGE WEST / SECOND B
11. Sec., T. R. M. or Blk. and Survey or Area SEC 1 / T2S / R33E / NMP		12. County or Parish LEA
13. State NM		14. Distance in miles and direction from nearest town or post office* 27 miles
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 325 feet	16. No. of acres in lease 479.85	17. Spacing Unit dedicated to this well 40
18. Distance from proposed location* to nearest well, drilling, completed, 2803 feet applied for, on this lease, ft.	19. Proposed Depth 12000 feet / 19882 feet	20. BLM/BIA Bond No. on file FED: WYB000055
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3518 feet	22. Approximate date work will start* 03/01/2018	23. Estimated duration 40 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, must be attached to this form:

- Well plat certified by a registered surveyor.
- A Drilling Plan.
- A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office).
- Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
- Operator certification
- Such other site specific information and/or plans as may be required by the BLM.

25. Signature (Electronic Submission)	Name (Printed/Typed) Melanie Wilson / Ph: (575)914-1461	Date 12/29/2017
Title Regulatory Analyst		
Approved by (Signature) (Electronic Submission)	Name (Printed/Typed) Cody Layton / Ph: (575)234-5959	Date 04/16/2018
Title Supervisor Multiple Resources		

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.

(Continued on page 2)

GCP Rec 4/18/18

*(Instructions on page 2)

APPROVED WITH CONDITIONS
Approval Date: 04/16/2018

Ka
04/18/18

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

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

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

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

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

NOTICES

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

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

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

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

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

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

The BLM collects this information to allow 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 Collection Clearance Officer (WO-630), 1849 C Street, N.W., Mail Stop 401 LS, Washington, D.C. 20240.

Additional Operator Remarks

Location of Well

1. SHL: SWNW / 2100 FNL / 325 FWL / TWSP: 23S / RANGE: 33E / SECTION: 1 / LAT: 32.335164 / LONG: -103.53356 (TVD: 0 feet, MD: 0 feet)
PPP: NWNW / 0 FNL / 350 FWL / TWSP: 23S / RANGE: 33E / SECTION: 12 / LAT: 32.326429 / LONG: -103.533492 (TVD: 12000 feet, MD: 14930 feet)
PPP: NWSW / 2600 FSL / 350 FWL / TWSP: 23S / RANGE: 33E / SECTION: 1 / LAT: 32.333575 / LONG: -103.533482 (TVD: 12000 feet, MD: 12350 feet)
BHL: SWSW / 330 FSL / 350 FWL / TWSP: 23S / RANGE: 33E / SECTION: 12 / LAT: 32.312822 / LONG: -103.533487 (TVD: 12000 feet, MD: 19882 feet)

BLM Point of Contact

Name: Judith Yeager

Title: Legal Instruments Examiner

Phone: 5752345936

Email: jyeager@blm.gov

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Review and Appeal Rights

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

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Operator Certification

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

NAME: Melanie Wilson

Signed on: 12/29/2017

Title: Regulatory Analyst

Street Address: 106 W. Riverside Drive

City: Calsbad

State: NM

Zip: 88220

Phone: (575)914-1461

Email address: mjp1692@gmail.com

Field Representative

Representative Name: Robert Sanford

Street Address: 6733 S. Yale Ave.

City: Tulsa

State: OK

Zip: 74136

Phone: (918)770-2682

Email address: roberts@kfoc.net

APD ID: 10400025907

Submission Date: 12/29/2017

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH

Well Number: 401H

Well Type: OIL WELL

Well Work Type: Drill

Highlighted data
reflects the most
recent changes

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Section 1 - General

APD ID: 10400025907

Tie to previous NOS?

Submission Date: 12/29/2017

BLM Office: CARLSBAD

User: Melanie Wilson

Title: Regulatory Analyst

Federal/Indian APD: FED

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

Lease number: NMLC0066438

Lease Acres: 479.85

Surface access agreement in place?

Allotted?

Reservation:

Agreement in place? YES

Federal or Indian agreement: FEDERAL

Agreement number: NMNM068292X

Agreement name:

Keep application confidential? YES

Permitting Agent? NO

APD Operator: KAISER FRANCIS OIL COMPANY

Operator letter of designation:

Operator Info

Operator Organization Name: KAISER FRANCIS OIL COMPANY

Operator Address: 6733 S. Yale Ave.

Zip: 74121

Operator PO Box: PO Box 21468

Operator City: Tulsa

State: OK

Operator Phone: (918)491-0000

Operator Internet Address:

Section 2 - Well Information

Well in Master Development Plan? NO

Master Development Plan name:

Well in Master SUPO? NO

Master SUPO name:

Well in Master Drilling Plan? NO

Master Drilling Plan name:

Well Name: BELL LAKE UNIT NORTH

Well Number: 401H

Well API Number:

Field/Pool or Exploratory? Field and Pool

Field Name: ANTELOPE RIDGE WEST

Pool Name: SECOND BONE SPRING

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

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH

Well Number: 401H

Describe other minerals:

Is the proposed well in a Helium production area? N Use Existing Well Pad? NO New surface disturbance?

Type of Well Pad: MULTIPLE WELL

Multiple Well Pad Name: BELL Number: 0

Well Class: HORIZONTAL

LAKE NORTH

Number of Legs: 1

Well Work Type: Drill

Well Type: OIL WELL

Describe Well Type:

Well sub-Type: EXPLORATORY (WILDCAT)

Describe sub-type:

Distance to town: 27 Miles

Distance to nearest well: 2803 FT

Distance to lease line: 325 FT

Reservoir well spacing assigned acres Measurement: 40 Acres

Well plat: Bell_Lake_Unit_North_401H_C102_20171229063809.pdf

Bell_Lake_Unit_North_401H_Pymt_Receipt_20171229123216.pdf

Well work start Date: 03/01/2018

Duration: 40 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83

Vertical Datum: NAVD88

Survey number:

	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
SHL Leg #1	210 0	FNL	325	FWL	23S	33E	1	Aliquot SWN W	32.33516 4	- 103.5335 6	LEA	NEW MEXI CO	NEW MEXI CO	F	NMLC0 066438	351 8	0	0
KOP Leg #1	210 0	FNL	325	FWL	23S	33E	1	Aliquot SWN W	32.33516 4	- 103.5335 6	LEA	NEW MEXI CO	NEW MEXI CO	F	NMLC0 066438	- 790 9	114 27	114 27
PPP Leg #1	260 0	FSL	350	FWL	23S	33E	1	Aliquot NWS W	32.33357 5	- 103.5334 82	LEA	NEW MEXI CO	NEW MEXI CO	F	NMLC0 066438	- 848 2	123 50	120 00

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH

Well Number: 401H

	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
PPP Leg #1	0	FNL	350	FWL	23S	33E	12	Aliquot NWN W	32.32642 9	- 103.5334 92	LEA	NEW MEXI CO	NEW MEXI CO	S	STATE	- 848 2	149 30	120 00
EXIT Leg #1	330	FSL	350	FWL	23S	33E	12	Aliquot SWS W	32.31282 2	- 103.5334 87	LEA	NEW MEXI CO	NEW MEXI CO	S	STATE	- 848 2	198 82	120 00
BHL Leg #1	330	FSL	350	FWL	23S	33E	12	Aliquot SWS W	32.31282 2	- 103.5334 87	LEA	NEW MEXI CO	NEW MEXI CO	S	STATE	- 848 2	198 82	120 00

APD ID: 10400025907

Submission Date: 12/29/2017

Highlighted data
reflects the most
recent changes

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH

Well Number: 401H

[Show Final Text](#)

Well Type: OIL WELL

Well Work Type: Drill

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
1	---	3518	0	0		NONE	No
2	RUSTLER	2292	1226	1226		NONE	No
3	SALADO	1895	1623	1623		NONE	No
4	TOP SALT	1568	1950	1950		NONE	No
5	BASE OF SALT	-1432	4950	4950		NONE	No
6	LAMAR	-1682	5200	5200		NONE	No
7	BELL CANYON	-1983	5500	5500		NATURAL GAS,OIL	No
8	CHERRY CANYON	-3182	6700	6700		NATURAL GAS,OIL	No
9	BRUSHY CANYON	-4883	8401	8401		NATURAL GAS,OIL	No
10	BONE SPRING	-5407	8925	8925		NATURAL GAS,OIL	No
11	AVALON SAND	-5470	8988	8988		NATURAL GAS,OIL	No
12	BONE SPRING 1ST	-6458	9976	9976		NATURAL GAS,OIL	No
13	BONE SPRING 2ND	-6632	10150	10150		NATURAL GAS,OIL	No
14	BONE SPRING LIME	-7508	11026	11026		NATURAL GAS,OIL	No
15	BONE SPRING 3RD	-8033	11551	11551		NATURAL GAS,OIL	Yes
16	WOLFCAMP	-8333	11851	11851		NATURAL GAS,OIL	No

Section 2 - Blowout Prevention

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH

Well Number: 401H

Pressure Rating (PSI): 10M

Rating Depth: 13000

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

Requesting Variance? YES

Variance request: Flex Hose Variance

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

Choke Diagram Attachment:

Bell_Lake_Unit_North_401H_Chk_Diagram_Rev1_20180329053505.pdf

BOP Diagram Attachment:

Bell_Lake_Unit_North_401H_BOP_Rev1_20180329053521.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	14.375	10.75	NEW	API	N	0	1350	0	1350			1350	J-55	40.5	STC	2.5	5	DRY	7.7	DRY	11.5
2	INTERMEDIATE	9.875	7.875	NEW	API	N	0	11376	0	11376			11376	HCP-110	29.7	LTC	1.3	1.8	DRY	2.3	DRY	2.8
3	PRODUCTION	6.75	5.5	NEW	API	N	0	19882	0	12000			19882	P-110	20	BUTT	1.5	1.7	DRY	2	DRY	2.7

Casing Attachments

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH

Well Number: 401H

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Bell_Lake_Unit_North_401H_Csg_Assump_Rev1_20180329053647.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Bell_Lake_Unit_North_401H_Csg_Assump_Rev1_20180329053701.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Bell_Lake_Unit_North_401H_Csg_Assump_Rev1_20180329053718.pdf

Bell_Lake_Unit_North_401H_5.5_Csg_Specs_20180329054016.pdf

Section 4 - Cement

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH

Well Number: 401H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	1350	715	1.73	13.5	1230	100	BJ Lead	IntegraSeal
SURFACE	Tail		0	1350	225	1.34	14.8	296	100	BJ Tail	IntegraSeal
INTERMEDIATE	Lead		0	1137 6	1291	2.55	11.3	3295	100	BJ Premium	Extender
INTERMEDIATE	Tail		0	1137 6	568	1.76	13.2	1000	50	BJ Premium	Extender
PRODUCTION	Lead		1107 6	1988 2	665	1.28	14.2	850	15	BJ Tail	Extender

Section 5 - Circulating Medium

Mud System Type: Closed

Will an air or gas system be Used? NO

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

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

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

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

Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
1350	1137 6	OTHER : BRINE	8.7	9							
1137 6	1988 2	OTHER : CUT BRINE	11.5	12.5							
0	1350	SPUD MUD	8.4	9							

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH

Well Number: 401H

Section 6 - Test, Logging, Coring

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

None planned

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

DS,GR,MUDLOG

Coring operation description for the well:

None planned

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 7488

Anticipated Surface Pressure: 4848

Anticipated Bottom Hole Temperature(F): 175

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

Describe:

Contingency Plans geohazards description:

Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

Bell_Lake_Unit_North_401H_H2S_Plan_20171229104046.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

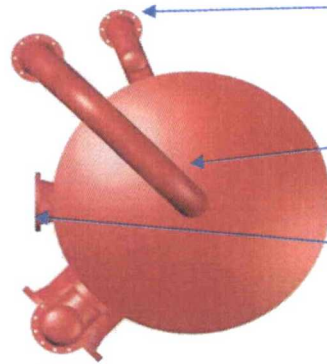
Bell_Lake_Unit_North_401H_Directional_Plan_20171229104110.pdf

Other proposed operations facets description:

Other proposed operations facets attachment:

Other Variance attachment:

Bell_Lake_Unit_North_401H_Flex_Hose_Data_20171229104231.pdf



Line in from Choke Manifold

Vent Line to flair

Line out to Mud Tanks

10M Choke Manifold
Cactus Rig 171
Kaiser Francis Oil Company
Bell Lake Unit North 401H

Line to Gas Buster

Panic Line

4 1/16 5M Manual valves

Line in from Flowline

Buffer Chamber

Line to Trip Tank

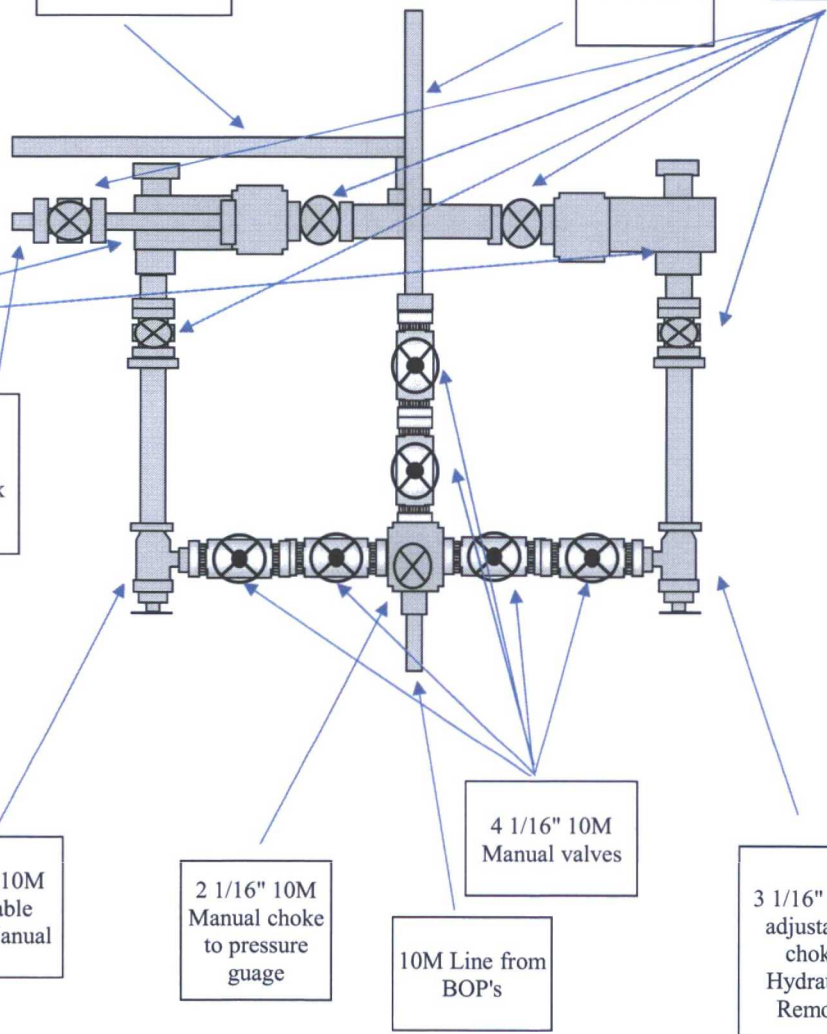
3 1/16" 10M adjustable choke Manual

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

4 1/16" 10M Manual valves

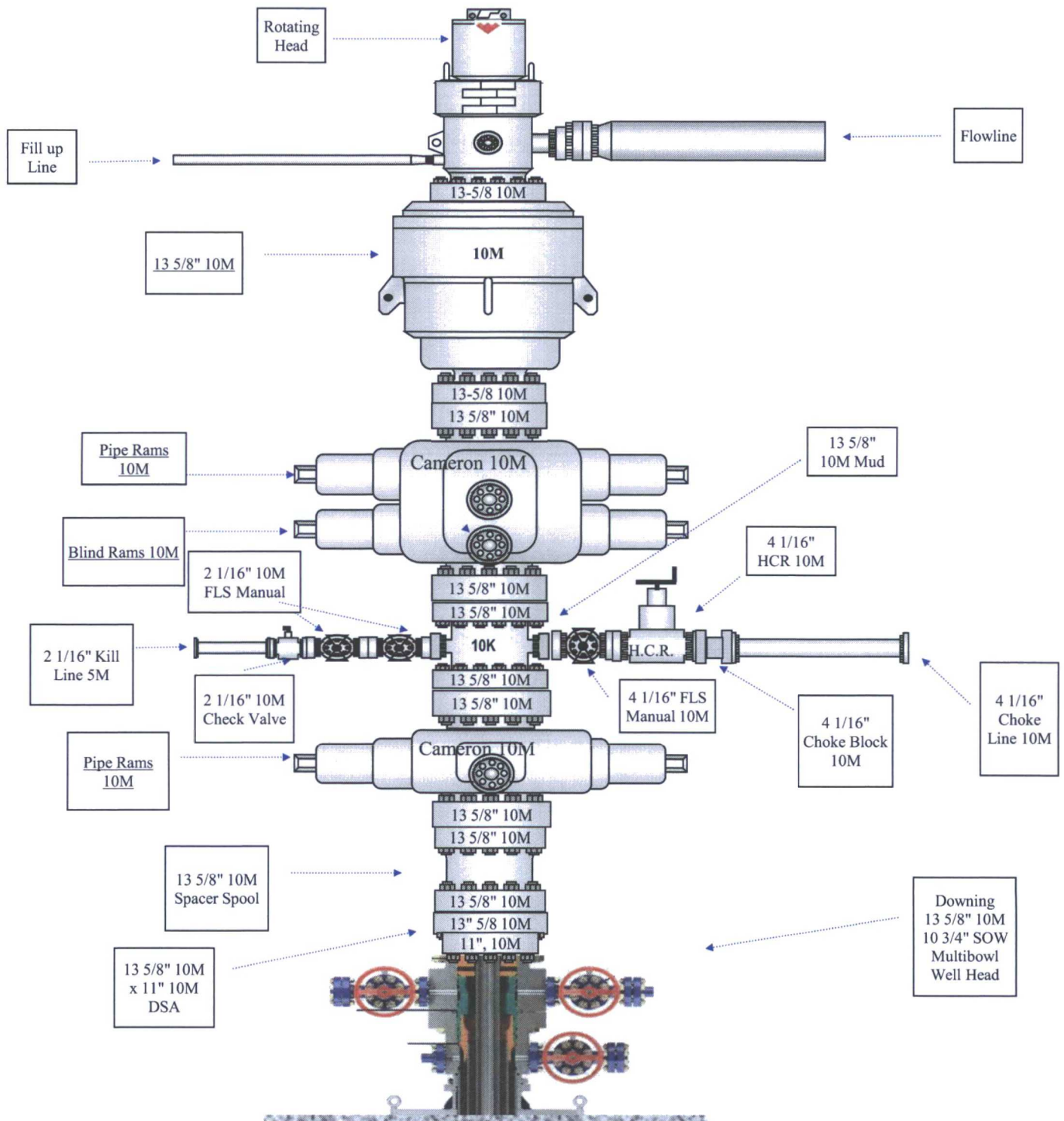
10M Line from BOP's

3 1/16" 10M adjustable choke Hydraulic Remote



Cactus Rig 171
10M BOP with 10M Annular
Kaiser Francis Oil Company

Hole Sections Utilized
*9 7/8" Hole below Surface Casing
*6 3/4" Hole below Intermediate casing



Kaiser-Francis Oil Company
Bell Lake Unit North #401H
Casing Assumptions

Formation Name	Formation Top TVD
Rustler	1226
Salado	1623
Top of Salt	1950
Base of Salt	4950
Lamar	5200
Bell Canyon	5500
Cherry Canyon	6700
Brushy Canyon	8401
Bone Spring	8925
Avalon	8988
1 BSS	9976
2 BSS	10501
3 BSL	11026
3 BSS	11551
Wolfcamp	11851

Interval	Length	Casing Size	Weight (#/ft)	Grade	Thread	Condition	Hole Size	TVD (ft)
Conductor	120	20"				New		120
Surface	1350	10-3/4"	40.5	J-55	STC	New	14-3/4"	1350
Intermediate	11376	7-5/8"	29.7	HCP110	LTC	New	9-7/8"	11376
Production	19882	5-1/2"	20	P110 HP	USS Eagle SFH	New	6-3/4"	12000

Mud Type	Mud Weight Control	Depth	Viscosity	Fluid Loss
FW	8.4 - 9.0	1350'	32 - 34	NC
Brine	8.7 - 9.0	11426'	28-29	NC
OBM	11.5 - 12.5	19882'	55-70	

Anticipated Mud Weight (ppg)	Max Pore Pressure (psi)	Collapse (psi)	Burst (psi)	Body Tensile Strength	Joint Tensile Strength
9	632	1580	3130	629000	420000
8.9	5265	6700	9460	940000	769000
12	7488	13150	14360	729000	629000

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)
2.5	5.0	11.5	7.7
1.3	1.8	2.8	2.3
1.8	1.9	3.0	2.6



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:

- 1) 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).

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 Manual USS Product Data Sheet 2017 rev26 (Sept)

APD ID: 10400025907

Submission Date: 12/29/2017

Highlighted data
reflects the most
recent changes

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH

Well Number: 401H

[Show Final Text](#)

Well Type: OIL WELL

Well Work Type: Drill

Section 1 - Existing Roads

Will existing roads be used? YES

Existing Road Map:

Bell_Lake_Unit_North_401H_Roads_20171229104504.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:

Bell_Lake_Unit_North_401H_ACCESS_ROAD_20171229104611.pdf

New road type: RESOURCE

Length: 15808

Feet

Width (ft.): 25

Max slope (%): 2

Max grade (%): 2

Army Corp of Engineers (ACOE) permit required? NO

ACOE Permit Number(s):

New road travel width: 15

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? NO

New road access plan attachment:

Access road engineering design? NO

Access road engineering design attachment:

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH

Well Number: 401H

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

Additional Attachment(s):

Section 3 - Location of Existing Wells

Existing Wells Map? YES

Attach Well map:

Bell_Lake_Unit_North__301H_1_Mile__20171101161258.pdf

Existing Wells description:

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 south 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 48"X 10' 2-phase sep

Operator name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH

Well Number: 401H

Section 5 - Location and Types of Water Supply

Water Source Table

Water source use type: INTERMEDIATE/PRODUCTION CASING

Water source type: OTHER

Describe type: BRINE WATER

Source latitude:

Source longitude:

Source datum:

Water source permit type: PRIVATE CONTRACT

Source land ownership: PRIVATE

Water source transport method: TRUCKING

Source transportation land ownership: OTHER

Describe transportation land ownership:

Water source volume (barrels): 20000

Source volume (acre-feet): 2.577862

Source volume (gal): 840000

Water source use type: OTHER, STIMULATION, SURFACE CASING

Water source type: OTHER

Describe type: FRESH WATER

Source latitude:

Source longitude:

Source datum:

Water source permit type: PRIVATE CONTRACT

Source land ownership: PRIVATE

Water source transport method: TRUCKING

Source transportation land ownership: OTHER

Describe transportation land ownership:

Water source volume (barrels): 250000

Source volume (acre-feet): 32.223274

Source volume (gal): 10500000

Water source and transportation map:

Bell_Lake_Unit_North_401H_Wtr_Source_Map_20171229105937.pdf

Water source comments: Water source transportation land ownership is a mixture of Federal, State and County.

New water well? NO

New Water Well Info

Well latitude:

Well Longitude:

Well datum:

Well target aquifer:

Est. depth to top of aquifer(ft):

Est thickness of aquifer:

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH

Well Number: 401H

Aquifer comments:

Aquifer documentation:

Well depth (ft):

Well casing type:

Well casing outside diameter (in.):

Well casing inside diameter (in.):

New water well casing?

Used casing source:

Drilling method:

Drill material:

Grout material:

Grout depth:

Casing length (ft.):

Casing top depth (ft.):

Well Production type:

Completion Method:

Water well additional information:

State appropriation permit:

Additional information attachment:

Section 6 - Construction Materials

Construction Materials description: On site caliche will be used for construction if sufficient. In the event insufficient quantities of caliche are available onsite, caliche will be trucked in from BLM's caliche pit in SWSW Section 22-T24-R34E or NENE Section 20- T23S-R33E.

Construction Materials source location attachment:

Section 7 - Methods for Handling Waste

Waste type: DRILLING

Waste content description: Drilling fluids and cuttings

Amount of waste: 3900 barrels

Waste disposal frequency : One Time Only

Safe containment description: All drilling fluids will be stored safely and disposed of properly

Safe containmant attachment:

Waste disposal type: HAUL TO COMMERCIAL FACILITY **Disposal location ownership:** COMMERCIAL

Disposal type description:

Disposal location description: Cuttings will be hauled to R360's facility on US 62/180 at Halfway, NM

Waste type: SEWAGE

Waste content description: Human waste and grey water

Amount of waste: 1000 gallons

Waste disposal frequency : One Time Only

Safe containment description: Waste material will be stored safely and disposed of properly

Safe containmant attachment:

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH

Well Number: 401H

Waste disposal type: HAUL TO COMMERCIAL FACILITY **Disposal location ownership:** COMMERCIAL

Disposal type description:

Disposal location description: Trucked to an approved disposal facility.

Waste type: GARBAGE

Waste content description: Miscellaneous trash

Amount of waste: 500 pounds

Waste disposal frequency : One Time Only

Safe containment description: Trash produced during drilling and completion operations will be collected in a trash container and disposed of properly

Safe containmant attachment:

Waste disposal type: HAUL TO COMMERCIAL FACILITY **Disposal location ownership:** COMMERCIAL

Disposal type description:

Disposal location description: Trucked to an approved disposal facility

Reserve Pit

Reserve Pit being used? NO

Temporary disposal of produced water into reserve pit?

Reserve pit length (ft.) **Reserve pit width (ft.)**

Reserve pit depth (ft.) **Reserve pit volume (cu. yd.)**

Is at least 50% of the reserve pit in cut?

Reserve pit liner

Reserve pit liner specifications and installation description

Cuttings Area

Cuttings Area being used? NO

Are you storing cuttings on location? YES

Description of cuttings location Cuttings will be stored in roll off bins and hauled to R360 on US 62/180 near Halfway.

Cuttings area length (ft.) **Cuttings area width (ft.)**

Cuttings area depth (ft.) **Cuttings area volume (cu. yd.)**

Is at least 50% of the cuttings area in cut?

WCuttings area liner

Cuttings area liner specifications and installation description

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH

Well Number: 401H

Section 8 - Ancillary Facilities

Are you requesting any Ancillary Facilities?: NO

Ancillary Facilities attachment:

Comments:

Section 9 - Well Site Layout

Well Site Layout Diagram:

Bell_Lake_Unit_North_401H_Rig_Layout_20171229110210.pdf

Bell_Lake_Unit_North_401H_Well_Site_Layout_20171229110223.pdf

Comments:

Section 10 - Plans for Surface Reclamation

Type of disturbance: New Surface Disturbance

Multiple Well Pad Name: BELL LAKE NORTH

Multiple Well Pad Number: 0

Recontouring attachment:

Bell_Lake_Unit_North_401H_IR_20180329054212.pdf

Drainage/Erosion control construction: During construction proper erosion control methods will be used to control erosion, runoff and siltation of the surrounding area.

Drainage/Erosion control reclamation: Proper erosion control methods will be used on the area to control erosion, runoff and siltation of the surrounding area

Well pad proposed disturbance (acres): 5.97	Well pad interim reclamation (acres): 2.53	Well pad long term disturbance (acres): 3.44
Road proposed disturbance (acres): 9.07	Road interim reclamation (acres): 3.63	Road long term disturbance (acres): 5.44
Powerline proposed disturbance (acres): 0	Powerline interim reclamation (acres): 0	Powerline long term disturbance (acres): 0
Pipeline proposed disturbance (acres): 0	Pipeline interim reclamation (acres): 0	Pipeline long term disturbance (acres): 0
Other proposed disturbance (acres): 0	Other interim reclamation (acres): 0	Other long term disturbance (acres): 0
Total proposed disturbance: 15.04	Total interim reclamation: 6.16	Total long term disturbance: 8.88

Reconstruction method: The areas planned for interim reclamation will then be recontoured to the original contour if feasible, or if not feasible, to an interim contour that blends with the surrounding topography as much as possible. Where applicable, the fill material of the well pad will be backfilled into the cut to bring the area back to the original contour. The interim cut and fill slopes prior to re-seeding will not be steeper than a 3:1 ratio, unless the adjacent native topography is steeper. Note: Constructed slopes may be much steeper during drilling, but will be recontoured to the above ratios during interim reclamation.

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH

Well Number: 401H

Topsoil redistribution: Topsoil will be evenly respread and aggressively revegetated over the entire disturbed area not needed for all-weather operations

Soil treatment: To seed the area, the proper BLM seed mixture, free of noxious weeds, will be used. Final seedbed preparation will consist of contour cultivating to a depth of 4 to 6 inches within 24 hours prior to seeding, dozer tracking, or other imprinting in order to break the soil crust and create seed germination micro-sites.

Existing Vegetation at the well pad: The historic climax plant community is a grassland dominated by black grama, dropseeds, and blue stems with sand sage and shinnery oak distributed evenly throughout. Current landscape displays mesquite, shinnery oak, yucca, desert sage, fourwing saltbush, snakeweed, and bunch grasses

Existing Vegetation at the well pad attachment:

Existing Vegetation Community at the road: Refer to "Existing Vegetation at the well pad"

Existing Vegetation Community at the road attachment:

Existing Vegetation Community at the pipeline: N/A

Existing Vegetation Community at the pipeline attachment:

Existing Vegetation Community at other disturbances: N/A

Existing Vegetation Community at other disturbances attachment:

Non native seed used? NO

Non native seed description:

Seedling transplant description:

Will seedlings be transplanted for this project? NO

Seedling transplant description attachment:

Will seed be harvested for use in site reclamation? NO

Seed harvest description:

Seed harvest description attachment:

Seed Management

Seed Table

Seed type:

Seed source:

Seed name:

Source name:

Source address:

Source phone:

Seed cultivar:

Seed use location:

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH

Well Number: 401H

PLS pounds per acre:

Proposed seeding season:

Seed Summary	
Seed Type	Pounds/Acre

Total pounds/Acre:

Seed reclamation attachment:

Operator Contact/Responsible Official Contact Info

First Name:

Last Name:

Phone:

Email:

Seedbed prep:

Seed BMP:

Seed method:

Existing invasive species? NO

Existing invasive species treatment description:

Existing invasive species treatment attachment:

Weed treatment plan description: No invasive species present. Standard regular maintenance to maintain a clear location and road.

Weed treatment plan attachment:

Monitoring plan description: Identify areas supporting weeds prior to construction; prevent the introduction and spread of weeds from construction equipment during construction; and contain weed seeds and propagules by preventing segregated topsoil from being spread to adjacent areas. No invasive species present. Standard regular maintenance to maintain a clear location and road.

Monitoring plan attachment:

Success standards: To maintain all disturbed areas as per Gold Book standards

Pit closure description: N/A

Pit closure attachment:

Section 11 - Surface Ownership

Disturbance type: WELL PAD

Describe:

Surface Owner: STATE GOVERNMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

Operator name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH

Well Number: 401H

DOD Local Office:

NPS Local Office:

State Local Office: STATE OF NM, COMMISSIONER OF PUBLIC LANDS

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland:

USFS Ranger District:

Disturbance type: NEW ACCESS ROAD

Describe:

Surface Owner: PRIVATE OWNERSHIP

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland:

USFS Ranger District:

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH

Well Number: 401H

Fee Owner: LIMESTONE LIVESTOCK, LLC

Fee Owner Address: PO BOX 189 LOVINGTON NM 88260

Phone: (575)369-6303

Email:

Surface use plan certification: NO

Surface use plan certification document:

Surface access agreement or bond: Agreement

Surface Access Agreement Need description: SUA in place.

Surface Access Bond BLM or Forest Service:

BLM Surface Access Bond number:

USFS Surface access bond number:

Disturbance type: NEW ACCESS ROAD

Describe:

Surface Owner: STATE GOVERNMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office: STATE OF NM, COMMISSIONER OF PUBLIC LANDS

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland:

USFS Ranger District:

Operator Name: KAISER FRANCIS OIL COMPANY

Well Name: BELL LAKE UNIT NORTH

Well Number: 401H

Section 12 - Other Information

Right of Way needed? YES

Use APD as ROW? YES

ROW Type(s): 281001 ROW - ROADS

ROW Applications

SUPO Additional Information: SUPO will be attached with APD.

Use a previously conducted onsite? YES

Previous Onsite information: Onsite conducted 07/20/2017 by Fernando Banos (BLM), Matt Warner & Melanie Wilson (Kaiser-Francis), Jimmy Harrison (John West Surveying) and Jeff (APAC archaeologist)

Other SUPO Attachment

Bell_Lake_Unit_North_401H_SPCC_Plan_20171229110549.pdf

Bell_Lake_Unit_North_401H_SUP_20171229110608.pdf

20'

Top Soil Storage

Secondary Briefing Area

North



Trailer 12 x 72

Trailer 12 x 72

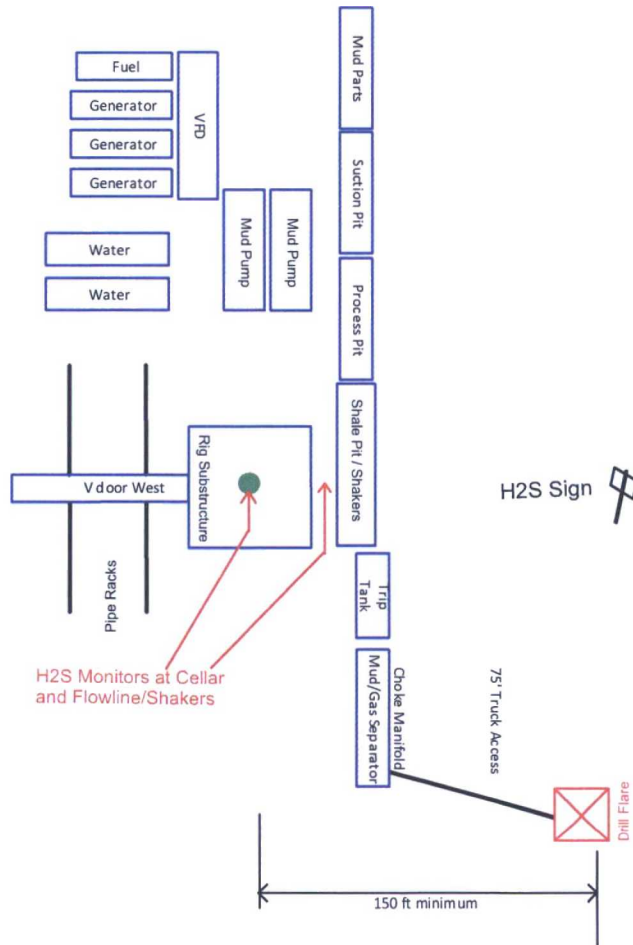
Trailer 12 x 72

Trailer 12 x 72

Tool Pusher House

Company Main House

Primary Briefing Area

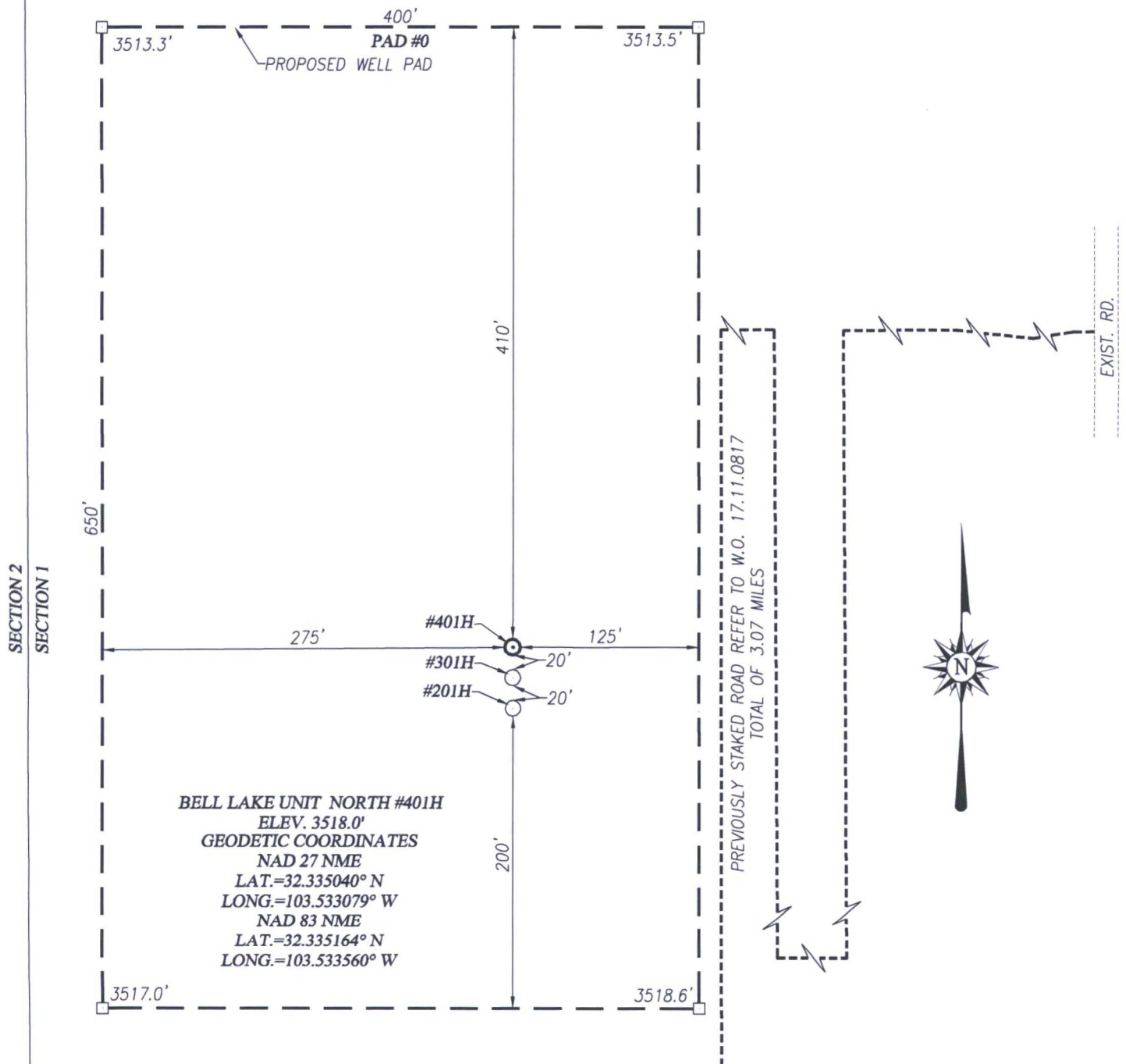


400' x 650'

General Drill Site Layout

Well: Bell Lake Unit North #401H

WELL SITE PLAN



DIRECTIONS TO LOCATION:

FROM THE INTERSECTION OF DELAWARE BASIN RD. AND ST. HWY. 128, GO NORTH ON DELAWARE BASIN RD. FOR APPROX. 8.4 MILES TO DIRT ROAD. TURN LEFT AND GO NORTH APPROX. 0.46 MILES TO SURVEYED ROAD. FOLLOW STAKED ROAD WEST APPROX. 3.07 MILES TO THE EAST SIDE OF PROPOSED WELL PAD.

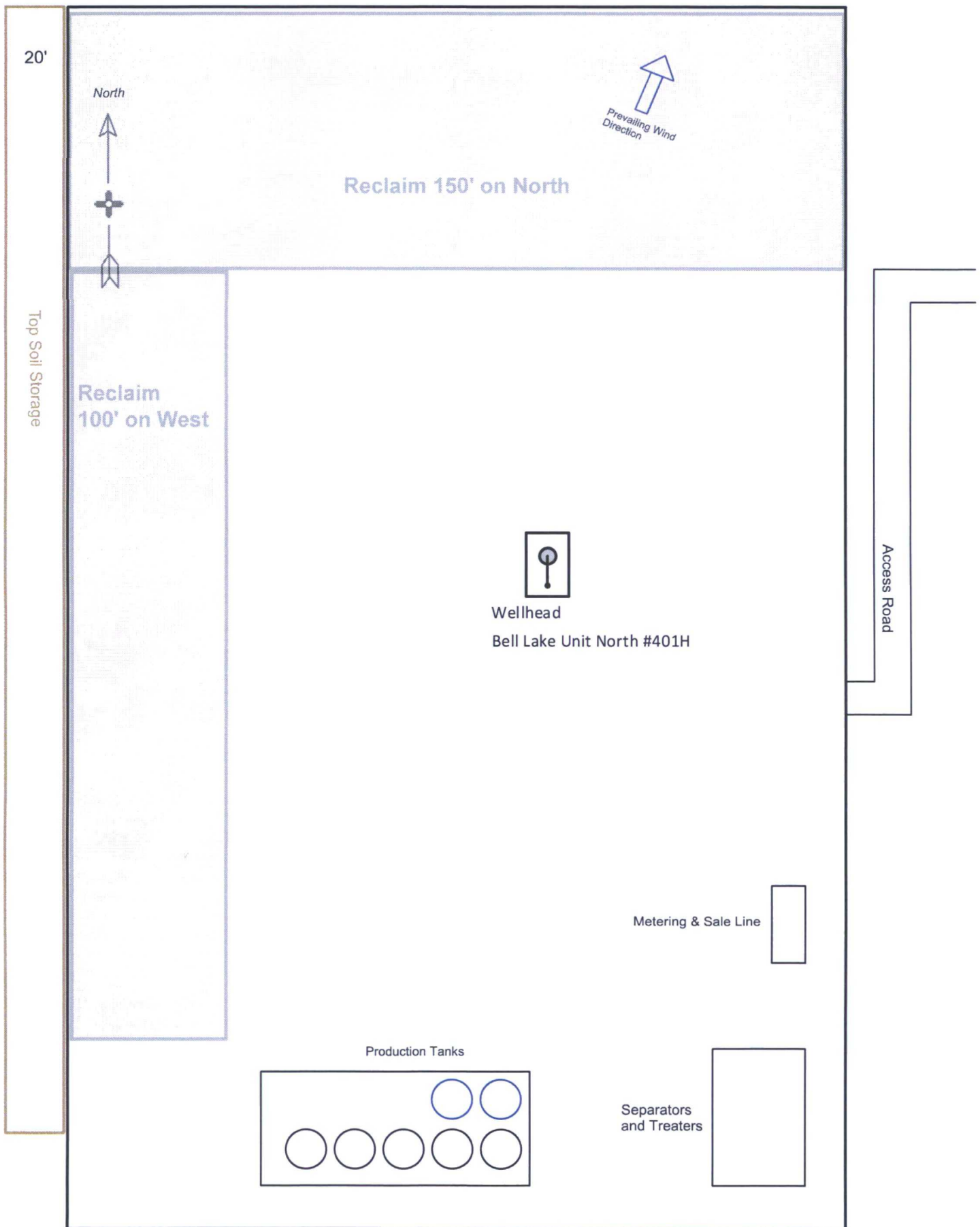


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KAISER-FRANCIS OIL COMPANY

BELL LAKE UNIT NORTH #401H WELL LOCATED
2100 FEET FROM THE NORTH LINE AND 325 FEET FROM THE
WEST LINE OF SECTION 1, TOWNSHIP 23 SOUTH,
RANGE 33 EAST, N.M.P.M.,
LEA COUNTY, NEW MEXICO

Survey Date: 10/03/17	CAD Date: 10/17/17	Drawn By: ACK
W.O. No.: 17110953	Rev: .	Rel. W.O.:
		Sheet 1 of 1



General Production Site Layout

400' x 650'

Well: Bell Lake Unit North #401H

Section 1 - General

Would you like to address long-term produced water disposal? NO

Section 2 - Lined Pits

Would you like to utilize Lined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Lined pit PWD on or off channel:

Lined pit PWD discharge volume (bbl/day):

Lined pit specifications:

Pit liner description:

Pit liner manufacturers information:

Precipitated solids disposal:

Describe precipitated solids disposal:

Precipitated solids disposal permit:

Lined pit precipitated solids disposal schedule:

Lined pit precipitated solids disposal schedule attachment:

Lined pit reclamation description:

Lined pit reclamation attachment:

Leak detection system description:

Leak detection system attachment:

Lined pit Monitor description:

Lined pit Monitor attachment:

Lined pit: do you have a reclamation bond for the pit?

Is the reclamation bond a rider under the BLM bond?

Lined pit bond number:

Lined pit bond amount:

Section 3 - Unlined Pits

Would you like to utilize Unlined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Unlined pit PWD on or off channel:

Unlined pit PWD discharge volume (bbl/day):

Unlined pit specifications:

Precipitated solids disposal:

Describe precipitated solids disposal:

Precipitated solids disposal permit:

Unlined pit precipitated solids disposal schedule:

Unlined pit precipitated solids disposal schedule attachment:

Unlined pit reclamation description:

Unlined pit reclamation attachment:

Unlined pit Monitor description:

Unlined pit Monitor attachment:

Do you propose to put the produced water to beneficial use?

Beneficial use user confirmation:

Estimated depth of the shallowest aquifer (feet):

Does the produced water have an annual average Total Dissolved Solids (TDS) concentration equal to or less than that of the existing water to be protected?

TDS lab results:

Geologic and hydrologic evidence:

State authorization:

Unlined Produced Water Pit Estimated percolation:

Unlined pit: do you have a reclamation bond for the pit?

Is the reclamation bond a rider under the BLM bond?

Unlined pit bond number:

Unlined pit bond amount:

Additional bond information attachment:

Section 4 - Injection

Would you like to utilize Injection PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Injection PWD discharge volume (bbl/day):

Injection well mineral owner:

Injection well number:

Injection well name:

Assigned injection well API number?

Injection well API number:

Injection well new surface disturbance (acres):

Minerals protection information:

Mineral protection attachment:

Underground Injection Control (UIC) Permit?

UIC Permit attachment:

Section 5 - Surface Discharge

Would you like to utilize Surface Discharge PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Surface discharge PWD discharge volume (bbl/day):

Surface Discharge NPDES Permit?

Surface Discharge NPDES Permit attachment:

Surface Discharge site facilities information:

Surface discharge site facilities map:

Section 6 - Other

Would you like to utilize Other PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Other PWD discharge volume (bbl/day):

Other PWD type description:

Other PWD type attachment:

Have other regulatory requirements been met?

Other regulatory requirements attachment:

Bond Information

Federal/Indian APD: FED

BLM Bond number: WYB000055

BIA Bond number:

Do you have a reclamation bond? NO

Is the reclamation bond a rider under the BLM bond?

Is the reclamation bond BLM or Forest Service?

BLM reclamation bond number:

Forest Service reclamation bond number:

Forest Service reclamation bond attachment:

Reclamation bond number:

Reclamation bond amount:

Reclamation bond rider amount:

Additional reclamation bond information attachment: