

Well Name: BELL LAKE UNIT NORTH	Well Location: T23S / R34E / SEC 6 / SENE / 32.3360395 / -103.5012807	County or Parish/State: LEA / NM
Well Number: 412H	Type of Well: OIL WELL	Allottee or Tribe Name:
Lease Number: NMNM0001244A	Unit or CA Name: BELL LAKE	Unit or CA Number: NMNM068292X, NMNM68292X
US Well Number: 3002548479	Well Status: Approved Application for Permit to Drill	Operator: KAISER FRANCIS OIL COMPANY

Notice of Intent

Type of Submission: Notice of Intent	Type of Action Other
Date Sundry Submitted: 03/25/2021	Time Sundry Submitted: 02:08
Date proposed operation will begin: 03/31/2021	

Procedure Description: Kaiser Francis Oil Co. request to change the approved wellbore three casing string design to a four casing string design. Due to drilling concerns Kaiser Francis Oil Co. believes adding an additional string of pipe will help mitigate hole problems, help increase the safety of all personnel on location, and increase the ability handle well control concerns. Please see the attached procedure. Multiple wells in the North Bell Lake Unit have been drilled successfully with the four string casing design.

Surface Disturbance

Is any additional surface disturbance proposed?: No

NOI Attachments

Procedure Description

- 412_Drilling_Plan_20210817093531.pdf
- 4_String_Casing_Sundry_With_Cont_Cement_20210325140851.pdf

Received by OCD: 9/2/2021 11:35:38 AM

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Conditions of Approval

Additional Reviews

Bell_Lake_Unit_North_412H_COA_20210825103336.pdf

Operator Certification

I certify that the foregoing is true and correct. 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. Electronic submission of Sundry Notices through this system satisfies regulations requiring a submission of Form 3160-5 or a Sundry Notice.

Operator Electronic Signature: ERIC HANSEN

Signed on: AUG 17, 2021 09:35 AM

Name: KAISER FRANCIS OIL COMPANY

Title: Drilling Engineer

Street Address: 6733 S. Yale Ave.

City: TulsaState: OK

Phone: (918) 491-4339

Email address: EricH@kfoc.net

Field Representative

Representative Name: Jeremy Parent

Street Address: 88 Shell Road

City: JalState: NMZip: 88252

Phone: (580)504-2593

Email address: JeremyP@kfoc.net

BLM Point of Contact

BLM POC Name: CHRISTOPHER WALLS

BLM POC Title: Petroleum Engineer

BLM POC Phone: 5752342234

BLM POC Email Address: cwalls@blm.gov

Disposition: Approved

Disposition Date: 08/25/2021

Signature: Chris Walls

Kaiser Francis Oil Co. 4 String Design Sundry

Kaiser Francis Oil Co. request to change the purposed wellbore three casing string design to a four casing string design. Due to drilling concerns Kaiser Francis Oil Co. believes adding an additional string of pipe will help mitigate hole problems, help increase the safety of all personnel on location, and increase the ability handle well control trepidations. The casing program will be the following.

Surface casing:

Surface will be drilled with 17-1/2" bit to the same depths as the Approved APD. Casing will be 13-3/8" J-55 54.5# with standard BTC connections. This will be set a minimum of 25' into the Rustler Anhydrite and set above the salt section. ~1500' TVD. Cement will be lifted to surface. In the event cement does not circulate to surface the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of 6 hours after pumping cement, ideally between 8-10 hours after. WOC time for the primary cement job will be 8 hours or 500 psi compressive strength, whichever is greater. This will include the lead cement. In the event cement falls back, a remedial cementing job will be conducted prior to drilling out the surface string. WOC time for the remedial job will be a minimum of 4 hours subsequently bringing cement to surface or 500 psi compressive strength, whichever is greater.

Intermediate casing I:

The first intermediate casing will be drilled with 12-1/4" bit to the top of the Delaware sequence. This is at approximately 5,000' TVD. Casing will be 10-3/4" 45.50# L-80 with BTC connections. A special clearance variance is requested for the minimum space between the 10-3/4" casing coupling and the 12-1/4" hole size. Because Kaiser Francis Oil Co. is adding an additional intermediate string of casing to the planned well. The second intermediate string will isolate this zone and will meet or exceed all BLM minimum requirements. Cement for the Intermediate I casing is planned to be brought up to surface. **Currently a DV tool is not planned.** If a DV tool is later planned the appropriate BLM office will be notified before proceeding. The depth of the DV tool may be adjusted as long as the cement is changed proportionally. The DV tool will be cancelled if cement circulates to surface on the first stage.

- First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool. The appropriate BLM office will be contacted before proceeding with the secondary job.
- Second stage via DV tool: Cement to surface. If cement does not circulate the appropriate BLM office will be contacted.

Contingency Cement Plan Intermediate Casing I:

If cement is not brought to surface on the primary job Kaiser Francis Oil Co. plans a contingency bradenhead cement job down the annulus of the 10-3/4" casing. If cement does not reach surface, Kaiser Francis Oil Co. will immediately notify the appropriate BLM office, and start pumping the bradenhead cement job down the 10-3/4" annulus in order to prevent cement from setting in the annulus. Cement will consist of a Haliburton Class C equivalent blend at 14.8lbm/gal. Cement volume will be calculated using the annular volume of the 10-3/4" casing from surface to 1,000' below the previous casing shoe. A 50% excess will be calculated in for the open hole portion to the

Kaiser Francis Oil Co. 4 String Design Sundry

10-3/4" casing. The contingency cement will be on location prior to pumping the primary cement job, to avoid any downtime and reduce the risk of the primary cement setting up.

- Kaiser Francis Oil Co. will verify top of cement using an Echo-meter, and will submit the final fluid top to the BLM. Kaiser Francis Oil Co. will also report to the BLM the volume of fluids used to flush the intermediate casing valves taking place after the bradenhead cement job.
- If cement does not pump down the annulus, the appropriate BLM office will be notified and further remediation will be discussed.

Intermediate casing II:

The Second intermediate casing will be drilled with a 9-7/8" bit into the 3rd Bone Lime ~10600'. The casing will consist of 7-5/8" 29.7# HCP-110 casing with BTC connections. This second intermediate casing string will be attempted to be cemented to surface. Cement will be brought a minimum of 200' into the previous casing string. Cement volumes pumped will be ample enough for cement to be brought to surface in an ideal wellbore situation. **Currently a DV tool is not planned.** If a DV tool is later planned the appropriate BLM office will be notified before proceeding. The depth of the DV tool may be adjusted as long as the cement is changed proportionally. The DV tool will be cancelled if cement circulates to surface on the first stage.

- First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool. The appropriate BLM office will be contacted before proceeding with the secondary job.
- Second stage via DV tool: Cement to surface. If cement does not circulate the appropriate BLM office will be contacted.

Contingency Cement Plan:

If cement is not brought to surface on the primary job Kaiser Francis Oil Co. plans a contingency bradenhead cement job down the annulus of the 7-5/8" casing. If cement does not reach surface, Kaiser Francis Oil Co. will immediately notify the appropriate BLM office, and start pumping the bradenhead cement job down the 7-5/8" annulus in order to prevent cement from setting in the annulus. Cement will consist of a Haliburton Class C equivalent blend at 14.8lbm/gal. Cement volume will be calculated using the annular volume of the 7-5/8" casing from surface to the top of the Delaware sequence. A 50% excess will be calculated in for the open hole portion to the 7-5/8" casing. The contingency cement will be on location prior to pumping the primary cement job, to avoid any downtime and reduce the risk of the primary cement setting up.

Kaiser Francis Oil Co. will verify top of cement using an Echo-meter, and will submit the final fluid top to the BLM. Kaiser Francis Oil Co. will also report to the BLM the volume of fluids used to flush the intermediate casing valves taking place after the bradenhead cement job.

If cement does not pump down the annulus, the appropriate BLM office will be notified and further remediation will be discussed.

Kaiser Francis Oil Co. 4 String Design Sundry

Production casing:

The production casing will be drilled with a 6-3/4" bit. 5-1/2" 20# HP-110 with Eagle SF connections will be used for production casing. Production casing shall be cemented with at least 200' tie-back into the previous casing. In medium cave/karst areas, if cement does not circulate to surface on two of the first three casing strings, the cement on the 4th casing string will be brought to surface.

Below is a table of the maximum TVD depths the four casing strings are capable of going while still meeting minimum BLM requirements. Actual setting depths will be shallower. Surface casing will be set a minimum of 25' into the Rustler formation and before the salt section. The first Intermediate string will be set into the top of Delaware. The second Intermediate string will be set into the 3rd Bone Lime. The Production string will be set into the targeted interval in the original approved APD.

*Maximum TVD allowed using expected mud program. Actual TVD will be shallower.

Interval	Maximum TVD:	Casing Size	Weight (#/ft)	Grade	Thread	Condition	Hole Size	TVD (ft)
Surface	3,000	13-3/8"	54.5	J-55	BTC	New	17.5	3,000
Intermediate	5,140	10-3/4"	45.5	L-80 HC	BTC	New	12.25	5,140
Intermediate	12,732	7-5/8"	29.7	HCP-110	BTC	New	9.875	12,732
Production	17,684	5-1/2"	20	P110 HP	Eagle SF	New	6.75	17,684

Interval	Mud Type	Mud Weight Hole Control	Depth TVD	Viscosity	Fluid Loss
Surface	FW	8.4 - 9.0	1272	32 - 34	NC
Intermediate	Cut Brine	8.8-10	5170	34	NC
Intermediate	Cut Brine	8.8-9.2	10,600	34	NC
Production	OBM	10-13.0	11,487	48-52	<10

Interval	Anticipated Mud Weight (ppg)	Max Pore Pressure (psi)	Collapse (psi)	Burst (psi)	Body Tensile Strength	Joint Tensile Strength
Surface	9	1404	1580	3130	629000	420000
Intermediate	10	2673	2940	5210	1040000	1063000
Intermediate	9.2	6091	6700	9460	940000	769000
Production	13	11955	13150	14360	729000	629000

**Kaiser Francis Oil Co.
4 String Design Sundry**

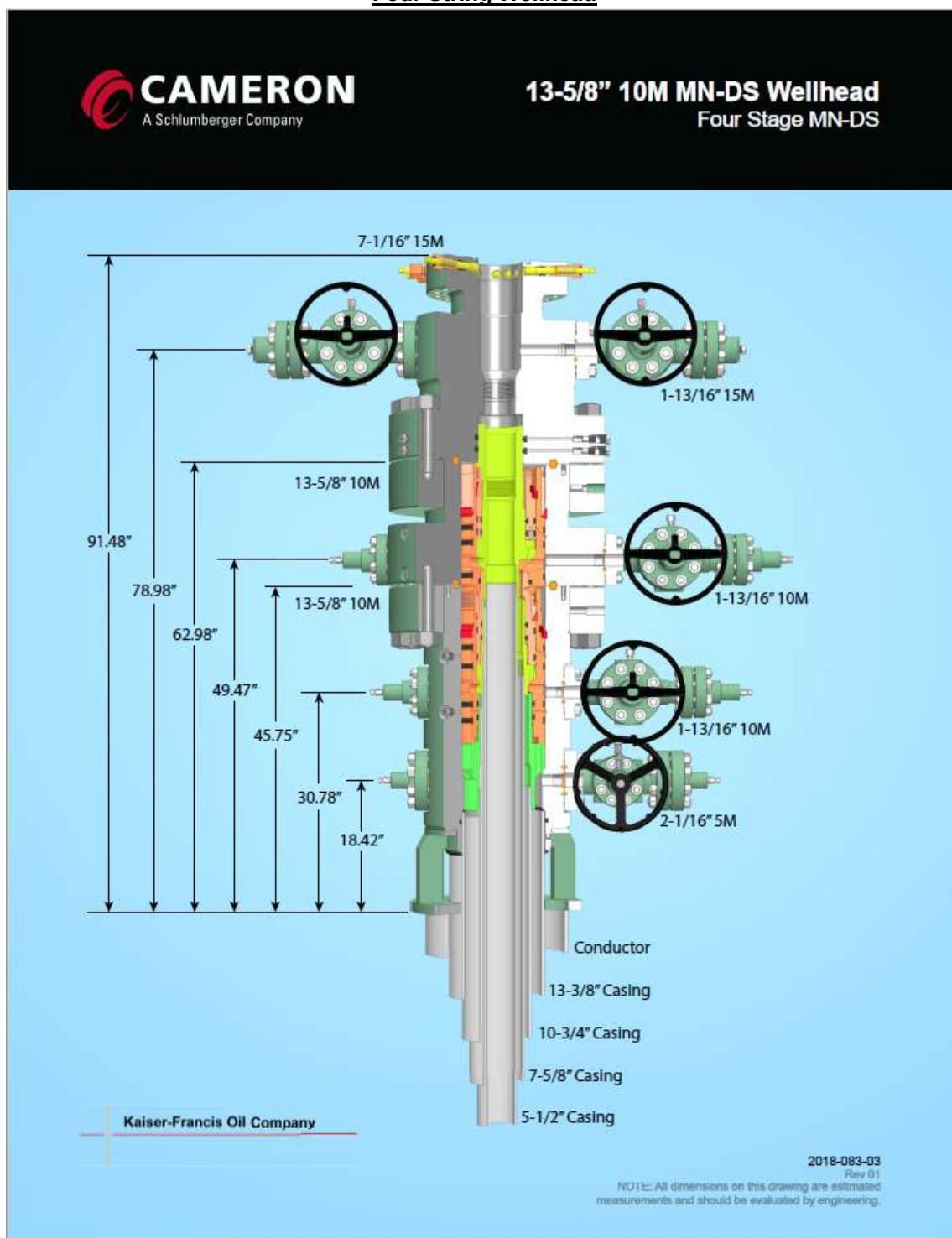
Interval	Collapse Safety Factor (Min 1.1)	Burst Safety Factor (Min 1.0)	Body Tensile Safety Factor (Min 1.8)	Joint Tensile Safety Factor (Min 1.8)
Surface	1.1	2.2	3.8	2.6
Intermediate	1.1	1.9	4.4	4.5
Intermediate	1.1	1.6	2.5	2.0
Production	1.1	1.2	2.1	1.8

Mud Program:

Interval	Mud Type	MW
Surface	FW	8.4 - 9
Intermediate 1	Brine	8.7-10
Intermediate 2	FW	8.7-9.2
Lateral	OBM	10-13

Kaiser Francis Oil Co. 4 String Design Sundry

Four String Wellhead



Wellhead shall be installed by Cameron representative. Cameron rep shall install the test plug for the initial BOP test.

**Kaiser Francis Oil Co.
4 String Design Sundry**

Cement Program:

- **Surface**
 - Cement will be ExtendaCem with KOL-Seal as an additive. Yield will be 1.75 FT³/Sack. Density 13.5 and calculated using 100% excess
- **Intermediate I**
 - Cement will be EconoCem, Yield for lead will be 2.46 FT³/Sack with a density of 11.9. Yield for tail will be 1.33 FT³/Sack with a density of 14.8. Percent excess will be 50% in the calculation for cement volume.
- **Intermediate II**
 - Cement will be Neocem with LCM as an additive. Yield for lead will be 2.77 FT³/Sack with a density of 11. Yield for tail will be 1.197 FT³/Sack and a density of 15.6. Percent excess will be 50% in the calculation for cement volume.
- **Production**
 - Production string will be pumped same as the submitted APD.

Drilling Program**Geologic Formation Tops**

Rustler	1130
Salado	1500
Top of Salt	1700
Base of Salt	4600
Lamar	4850
Bell Canyon	5050
Cherry Canyon	5890
Brushy Canyon	7250
Bone Spring	8490
Avalon	8553
1 BSS	9493
2 BSS	10026
3 BSL	10460
3 BSS	10920
Wolfcamp	11212

BOP

Hole
Size 11"
Pressure Rating 10000 psi
Rating Depth
Diagrams for BOP & Choke Manifold

Hole
Size
Pressure Rating
Rating Depth
Diagrams for BOP & Choke Manifold

Hole
Size
Pressure Rating
Rating Depth
Diagrams for BOP & Choke Manifold

Flex Hose? Yes
Specs and Chart attached

Casing			
Surface		Cement	
Hole Size	17-1/2"	Top of cement	0
Casing Size	13-3/8"	Bottom of cement	1190
Top Casing	0	Lead	
Bottom Casing	1190	Cement type	Halcem
Grade	J55	Additives	Poly Flake
Weight	54.5	Sacks	1065
Joint	BTC	Yield (cu ft/sk)	1.747
Standard API?	Yes	Density	13.5
Collapse Design Safety Factor	2.4	Volume (cu ft)	1859.97
Burst Design Safety Factor	4.8	Percent excess	50
Body Tensile Design Safety Factor	type - Dry or Buoyant? Dry		
Body Tensile Design Safety Factor	8.2		
Joint Tensile Design Safety Factor	type - Dry or Buoyant? Dry		
Joint Tensile Design Safety Factor	5.4		
Intermediate		Cement	
Hole Size	12.25	Stage tool depth if any	
Casing Size	10-3/4	Top of cement	0
Top Casing	0	Bottom of cement	5140
Bottom Casing	5140	Lead	
Grade	HCP-110	Cement type	EconoCem
Weight	29.7	Additives	NA
Joint	BTC	Sacks	377
Standard API?	Yes	Yield (cu ft/sk)	2.495
Collapse Design Safety Factor	1.2	Density	11.9
Burst Design Safety Factor	2.1	Volume (cu ft)	940.815
Body Tensile Design Safety Factor	type - Dry or Buoyant? Dry	Percent excess	25
Body Tensile Design Safety Factor	4.4	Tail	
Joint Tensile Design Safety Factor	type - Dry or Buoyant? Dry	Cement type	Halcem
Joint Tensile Design Safety Factor	4.5	Additives	
		Sacks	201
		Yield (cu ft/sk)	1.334
		Density	14.8
		Volume (cu ft)	268
		Percent excess	25
Intermediate II		Cement	
Hole Size	9-7/8	Stage tool depth if any	
Casing Size	7-5/8	Top of cement	0
Top Casing	0	Bottom of cement	10850
Bottom Casing	10850	Lead	
Grade	HCP-110	Cement type	NeoCem
Weight	29.7	Additives	
Joint	BTC	Sacks	457
Standard API?	Yes	Yield (cu ft/sk)	3.521
Collapse Design Safety Factor	1.1	Density	10.5
Burst Design Safety Factor	1.6	Volume (cu ft)	1610.6325
Body Tensile Design Safety Factor	type - Dry or Buoyant? Dry	Percent excess	25
Body Tensile Design Safety Factor	2.9	Tail	
Joint Tensile Design Safety Factor	type - Dry or Buoyant? Dry	Cement type	Halcem
Joint Tensile Design Safety Factor	2.3	Additives	
		Sacks	1089
		Yield (cu ft/sk)	1.196
		Density	15.6
		Volume (cu ft)	1302
		Percent excess	25



est, Logging, Coring

iscellaneous

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Kaiser Francis
LEASE NO.:	NMNM0001244A
LOCATION:	Section 6, T.23 S., R.34 E., NMPM
COUNTY:	Lea County, New Mexico

WELL NAME & NO.:	Bell Lake Unit North 412H
SURFACE HOLE FOOTAGE:	1770'/N & 175'/E
BOTTOM HOLE FOOTAGE:	330'/S & 530'/E

COA

H2S	<input type="radio"/> Yes	<input checked="" type="radio"/> No	
Potash	<input checked="" type="radio"/> None	<input type="radio"/> Secretary	<input type="radio"/> R-111-P
Cave/Karst Potential	<input type="radio"/> Low	<input checked="" type="radio"/> Medium	<input type="radio"/> High
Cave/Karst Potential	<input type="radio"/> Critical		
Variance	<input type="radio"/> None	<input checked="" type="radio"/> Flex Hose	<input type="radio"/> Other
Wellhead	<input type="radio"/> Conventional	<input checked="" type="radio"/> Multibowl	<input type="radio"/> Both
Other	<input type="checkbox"/> 4 String Area	<input type="checkbox"/> Capitan Reef	<input type="checkbox"/> WIPP
Other	<input type="checkbox"/> Fluid Filled	<input type="checkbox"/> Cement Squeeze	<input type="checkbox"/> Pilot Hole
Special Requirements	<input type="checkbox"/> Water Disposal	<input type="checkbox"/> COM	<input checked="" type="checkbox"/> Unit

A. HYDROGEN SULFIDE

Hydrogen Sulfide (H2S) monitors shall be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, provide measured values and formations to the BLM.

B. CASING

1. The **13-3/8** inch surface casing shall be set at approximately **1250** feet (a minimum of **25 feet (Lea County)** into the Rustler Anhydrite and above the salt) and cemented to the surface.
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
 - b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8**

hours or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)

- c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
 - d. If cement falls back, remedial cementing will be done prior to drilling out that string.
2. The minimum required fill of cement behind the **10-3/4** inch intermediate casing is:

Option 1 (Single Stage):

- Cement to surface. If cement does not circulate see B.1.a, c-d above.
Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.

Option 2:

Operator has proposed a DV tool, the depth may be adjusted as long as the cement is changed proportionally. The DV tool may be cancelled if cement circulates to surface on the first stage.

- a. First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.
 - b. Second stage above DV tool:
 - Cement to surface. If cement does not circulate, contact the appropriate BLM office.
Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.
- ❖ In Medium Cave/Karst Areas if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.
3. The minimum required fill of cement behind the **7-5/8** inch 2nd intermediate casing is:

Option 1 (Single Stage):

- Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.

Option 2:

Operator has proposed a DV tool, the depth may be adjusted as long as the cement is changed proportionally. The DV tool may be cancelled if cement circulates to surface on the first stage.

- a. First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.
 - b. Second stage above DV tool:
 - Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.
4. The minimum required fill of cement behind the **5-1/2** inch production casing is:
- Cement should tie-back **100 feet** into the previous casing. Operator shall provide method of verification.

C. PRESSURE CONTROL

1. **Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).**
2. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **10,000 (10M) psi. Variance is approved to use a 5000 (5M) Annular which shall be tested to 5000 (5M) psi.**
 - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
 - c. Manufacturer representative shall install the test plug for the initial BOP test.
 - d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
 - e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

D. SPECIAL REQUIREMENT (S)**Unit Wells**

The well sign for a unit well shall include the unit number in addition to the surface and bottom hole lease numbers. This also applies to participating area numbers. If a participating area has not been established, the operator can use the general unit designation, but will replace the unit number with the participating area number when the sign is replaced.

Commercial Well Determination

A commercial well determination shall be submitted after production has been established for at least six months. (This is not necessary for secondary recovery unit wells)

GENERAL REQUIREMENTS

The BLM is to be notified in advance for a representative to witness:

- a. Spudding well (minimum of 24 hours)
- b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
- c. BOPE tests (minimum of 4 hours)

☒ Eddy County

Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220,
(575) 361-2822

☒ Lea County

Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575)
393-3612

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
 - a. Operator is approve to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
 - b. Operator is approve to set surface casing with Spudder Rig
 - Notify the BLM when moving in and removing the Spudder Rig.

- Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
 - BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.
2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.
 3. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.
2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.

5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.
3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
 - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.

- c. Manufacturer representative shall install the test plug for the initial BOP test.
 - d. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.
 - e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
- a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).
 - b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time, except the casing pressure test can be initiated immediately after bumping the plug (only applies to single stage cement jobs).
 - c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).
 - d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
 - e. The results of the test shall be reported to the appropriate BLM office.

- f. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
- g. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.
- h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

C. DRILLING MUD

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the Wolfcamp formation, and shall be used until production casing is run and cemented.

D. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

ZS 082521

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

CONDITIONS

Action 46101

CONDITIONS

Operator: KAISER-FRANCIS OIL CO P.O. Box 21468 Tulsa, OK 74121	OGRID: 12361
	Action Number: 46101
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
pkautz	None	9/2/2021