AAPD

Form 3160-5
(August 2007)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD Hobbs HOBBS OCD

NOV 12 2013

RECEIVED

FORM APPROVED
OMB NO. 1004-0135
Expires: July 31, 2010

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE - Other instructions on reverse side.

5. Lease Serial No.
NMLC065710

6. If Indian, Allottee or Tribe Name

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

1. Type of Well
☒ Oil Well ☐ Gas Well ☐ Other

8. Well Name and No.
SOUTH LUSK 28 FEDERAL 1H

2. Name of Operator
OCCIDENTAL PERMIAN LTD
Contact: JENNIFER A DUARTE
E-Mail: JENNIFER_DUARTE@OXY.COM

9. API Well No.
30-025-41089

3a. Address
PO BOX 4294
HOUSTON, TX 77210

3b. Phone No. (include area code)
Ph: 713-513-6640

10. Field and Pool, or Exploratory
LUSK BONESPRING SOUTH

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
Sec 28 T19S R32E NENE 330FNL 585FEL

11. County or Parish, and State
LEA COUNTY, NM

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other Change to Original A PD
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

Oxy, respectfully requests an approval for the Hole Size/Casing/Cementing design change in the approved drilling plan, as follows:

1. REVISED CASING PROGRAM

Surface Casing ran in 18-1/2? hole filled with 8.6 ppg mud
Hole Size
(in) Interval
(ft) OD
(in) Wt
(ppf) Grade Conn ID

SEE ATTACHED FOR CONDITIONS OF APPROVAL

14. I hereby certify that the foregoing is true and correct.

Electronic Submission #215815 verified by the BLM Well Information System
For OCCIDENTAL PERMIAN LTD, sent to the Hobbs
Committed to AFMSS for processing by JOHNNY DICKERSON on 08/06/2013 ()

Name *(Printed/Typed)* JENNIFER A DUARTE — Title REGULATORY SPECIALIST

Signature (Electronic Submission) — Date 08/05/2013

APPROVED
NOV 11 2013
BUREAU OF LAND MANAGEMENT
CARLSBAD FIELD OFFICE

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By _____ Title _____ Date _____

Conditions of approval, if any, are attached. Approval of this notice 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.

Office

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.

**** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ****

OK 8/14/13

NOV 14 2013

Additional data for EC transaction #215815 that would not fit on the form

32. Additional remarks, continued

(in) Condition Burst
(psi) Collapse
(psi) Burst
SF Coll
SF Ten
SF
18.500 955 16 75 J55 BTC 15.124 New 2635 1017 1.42 2.74 7.32

Intermediate1 Casing ran in 14-3/4? hole filled with 10.2 ppg mud
Hole Size
(in) Interval
(ft) OD
(in) Wt
(ppf) Grade Conn ID
(in) Condition Burst
(psi) Collapse
(psi) Burst
SF Coll
SF Ten
SF
14.750 2750 11.75 47 J55 BTC 11.000 New 3072 1514 1.28 1.71 3.53

Intermediate2 Casing ran in 10-5/8? hole filled with 8.6 ppg mud
Hole Size
(in) Interval
(ft) OD
(in) Wt
(ppf) Grade Conn ID
(in) Condition Burst
(psi) Collapse
(psi) Burst
SF Coll
SF Ten
SF
10.625 4650 8.625 32 J55 LTC 7.921* New 3928 2533 1.20 1.17 1.82

Production Casing ran in 7-7/8? hole filled with 9.2 ppg mud
Hole Size
(in) Interval
(ft) OD
(in) Wt
(ppf) Grade Conn ID
(in) Condition Burst
(psi) Collapse
(psi) Burst
SF Coll
SF Ten
SF
7.875 13734 5.5 17 L80 BTC 4.892 New 7738 6285 1.21 1.41 1.67

*SPECIAL DRIFT TO 7.875?

2. REVISED CEMENT PROGRAM

Surface Interval
Interval Amount sx Ft of Fill Type Gal/Sk PPG Ft3/sk 24 Hr Comp
Lead:
0? ? 650?
(165% Excess) 440 650 Premium Plus Cement, with 4% Bentonite, 2% Calcium Chloride, & 0.125 lb/sk
Poly-E-Flake 9.18 13.5
1.75
1069 psi
Tail:
650? ? 955?
(165% Excess) 300 305 Premium Plus cement with 2% Calcium Chloride 6.39 14.8
1.35
1827 psi

32. Additional remarks, continued

Intermediate1 Interval
Interval Amount sx Ft of Fill Type Gal/Sk PPG Ft3/sk 24 Hr Comp
Lead:
0? - 2250?
(105 % Excess) 880 2250 Light Premium Plus Cement, with 5% Salt, 5 lb/sk Kol-Seal, & 0.125 lb/sk Poly-E-Flake 9.87 12.9 1.90 760 psi
Tail:
2250? ? 2750?
(105% Excess) 340 500 Premium Plus cement with 1% Calcium Chloride 6.36 14.8 1.34
2032 psi

Intermediate2 Interval
Interval Amount sx Ft of Fill Type Gal/Sk PPG Ft3/sk 24 Hr Comp
Lead:
0? ? 4150?
(150% Excess) 790 4150 Light Premium Plus Cement, with 5% Salt, 5 lb/sk Kol-Seal, & 0.125 lb/sk Poly-E-Flake 9.99 12.9 1.91 625 psi
Tail:
4150? ? 4650?
(150% Excess) 200 500 Premium Plus cement with 2% Calcium Chloride 6.39 14.8 1.35 1746 psi
CONTINGENCY DV TOOL WITH EXTERNAL CASING PACKER SET AT 2800?. If no cement to surface during primary cementing operation, DV cancellation cone will be run and 2nd stage cancelled. Contingency recipe for 2nd stage as follows:
Lead:
0? ? 2300?
(10% Excess) 315 2300 Light Premium Plus Cement with 3lbs/sk Salt 11.39 12.4 2.05 450 psi

(500psi in 26 hrs)
Tail:
2300? ? 2800?
(200% Excess) 120 500 Premium Plus cement with 2% Calcium Chloride 6.39 14.8 1.35 1746 psi

Production Interval
Interval Amount sx Ft of Fill Type Gal/Sk PPG Ft3/sk 24 Hr Comp
Lead:
0? ? 8700?
(100% Excess) 790 8700 TUNED LIGHT (TM) SYSTEM
3 lbm/sk Kol-Seal, 0.125 lbm/sk Poly-E-Flake, 0.25 lbm/sk HR-800 14.05 10.2 2.95 900
Tail:
8700? ? 13734?
(30% Excess) 680 5034 Super H Cement, 0.5 % Halad(R)-344, 0.4 % CFR-3, 3 lbm/sk Salt, 0.3 % HR-601, 0.125 lbm/sk Poly-E-Flake, 5 lbm/sk Kol-Seal 8.33 13.2 1.68 1527
CONTINGENCY DV TOOL SET AT 4700?. If no cement to surface during primary cementing operation, DV cancellation cone will be run and 2nd stage cancelled. Contingency recipe for 2nd stage as follows:
Stage 2 Lead:
0? ? 4200?
(10% Excess) 400 4200 Halliburton Light Premium Plus cement with 3 lbm/sk Salt 11.39 12.4 2.05 450

(500 psi in 26 hrs)
Stage 2 Tail:
4200? ? 4700?
(50% Excess) 100 500 94 lbm/sk Premium Plus Cement 6.34 14.8 1.33 1849

OCCIDENTAL PERMIAN LIMITED
SOUTH LUSK 28 FED #1H SUNDRY NOTICE

Oxy, respectfully requests an approval for the Hole Size/Casing/Cementing design change in the approved drilling plan, as follows:

1. REVISED CASING PROGRAM

Surface Casing ran in 18-1/2" hole filled with 8.6 ppg mud

Hole Size (in)	Interval (ft)	OD (in)	Wt (ppf)	Grade	Conn	ID (in)	Condition	Burst (psi)	Collapse (psi)	**Burst SF**	**Coll SF**	**Ten SF**
18.500	955	16	75	J55	BTC	15.124	New	2635	1017	1.42	2.74	7.32

Intermediate1 Casing ran in 14-3/4" hole filled with 10.2 ppg mud

Hole Size (in)	Interval (ft)	OD (in)	Wt (ppf)	Grade	Conn	ID (in)	Condition	Burst (psi)	Collapse (psi)	**Burst SF**	**Coll SF**	**Ten SF**
14.750	2750	11.75	47	J55	BTC	11.000	New	3072	1514	1.28	1.71	3.53

Intermediate2 Casing ran in 10-5/8" hole filled with 8.6 ppg mud

Hole Size (in)	Interval (ft)	OD (in)	Wt (ppf)	Grade	Conn	ID (in)	Condition	Burst (psi)	Collapse (psi)	**Burst SF**	**Coll SF**	**Ten SF**
10.625	4650	8.625	32	J55	LTC	7.921*	New	3928	2533	1.20	1.17	1.82

Production Casing ran in 7-7/8" hole filled with 9.2 ppg mud

Hole Size (in)	Interval (ft)	OD (in)	Wt (ppf)	Grade	Conn	ID (in)	Condition	Burst (psi)	Collapse (psi)	**Burst SF**	**Coll SF**	**Ten SF**
7.875	13734	5.5	17	L80	BTC	4.892	New	7738	6285	1.21	1.41	1.67

*SPECIAL DRIFT TO 7.875"

Casing Design Assumptions:

Burst Loads

CSG Test (Surface)
- Internal: Displacement fluid + 70% CSG Burst rating
- External: Pore Pressure from section TD to surface

CSG Test (Intermediate1/ Intermediate2)
- Internal: Displacement fluid + 70% CSG Burst rating
- External: Pore Pressure from the section TD to previous CSG shoe and MW of the drilling fluid that was in the hole when the CSG was run to surface

CSG Test (Production)
- Internal: Displacement fluid + 80% CSG Burst rating
- External: Pore Pressure from the well TD the Intermediate CSG shoe and MW of the drilling fluid that was in the hole when the CSG was run to surface

Gas Kick (Surface/ Intermediate1/ Intermediate2)
- Internal: Gas Kick based on Pore Pressure or Fracture Gradient @ CSG shoe with a gas 0.115psi/ft Gas gradient to surface while drilling the next hole section (e.g. Gas Kick while drilling the production hole section is a burst load used to design the intermediate CSG)
- External: Pore Pressure from section TD to previous CSG shoe and MW of the drilling fluid that was in the hole when the CSG was run to surface

Stimulation (Production)
- Internal: Displacement fluid + Max Frac treating pressure (not to exceed 80% CSG Burst rating)
- External: Pore Pressure from the well TD to the Intermediate2 CSG shoe and 8.5 ppg MWE to surface

Collapse Loads

Lost Circulation (Surface/Intermediate1)

- Internal: Losses experienced while drilling the next hole section (e.g. losses while drilling the production hole section are used as a collapse load to design the intermediate CSG). After losses there will be a column of mud inside the CSG with an equivalent weight to the Pore Pressure of the lost circulation zone.
- External: MW of the drilling fluid that was in the hole when the CSG was run

Cementing (Surface/Intermediate1/ Intermediate2/Production)

- Internal: Displacement Fluid
- External: Cement Slurries to TOC, MW to surface

Full Evacuation (Production/Intermediate2)

- Internal: Atmospheric Pressure
- External: MW of the drilling mud that was in the hole when the CSG was run

Tension Loads

Running CSG (Surface/ Intermediate1/ Intermediate2/Production)

- Axial load of the buoyant weight of the string plus either 100 klb over-pull or string weight in air, whichever is less

Green Cement (Surface/ Intermediate1/ Intermediate2/Production)

- Axial load of the buoyant weight of the string plus the cement plug bump pressure (Final displacement pressure + 500 psi)

Burst, Collapse and Tensile SF are calculated using Landmark's Stress Check (Casing Design) software.

2. REVISED CEMENT PROGRAM

Surface Interval

Interval	Amount sx	Ft of Fill	Type	Gal/Sk	PPG	Ft^3/sk	24 Hr Comp
Lead: 0' – 650' (165% Excess)	440	650	Premium Plus Cement, with 4% Bentonite, 2% Calcium Chloride, & 0.125 lb/sk Poly-E-Flake	9.18	13.5	1.75	1069 psi
Tail: 650' – 955' (165% Excess)	300	305	Premium Plus cement with 2% Calcium Chloride	6.39	14.8	1.35	1827 psi

Intermediate1 Interval

Interval	Amount sx	Ft of Fill	Type	Gal/Sk	PPG	Ft^3/sk	24 Hr Comp
Lead: 0' - 2250' (105 % Excess)	880	2250	Light Premium Plus Cement, with 5% Salt, 5 lb/sk Kol-Seal, & 0.125 lb/sk Poly-E-Flake	9.87	12.9	1.90	760 psi
Tail: 2250' – 2750' (105% Excess)	340	500	Premium Plus cement with 1% Calcium Chloride	6.36	14.8	1.34	2032 psi

Intermediate2 Interval

Interval	Amount sx	Ft of Fill	Type	Gal/Sk	PPG	Ft^3/sk	24 Hr Comp
Lead: 0' – 4150' (150% Excess)	790	4150	Light Premium Plus Cement, with 5% Salt, 5 lb/sk Kol-Seal, & 0.125 lb/sk Poly-E-Flake	9.99	12.9	1.91	625 psi
Tail: 4150' – 4650' (150% Excess)	200	500	Premium Plus cement with 2% Calcium Chloride	6.39	14.8	1.35	1746 psi
CONTINGENCY DV TOOL WITH EXTERNAL CASING PACKER SET AT 2800'. If no cement to surface during primary cementing operation, DV cancellation cone will be run and 2nd stage cancelled. Contingency recipe for 2nd stage as follows:							
Lead: 0' – 2300' (10% Excess)	315	2300	Light Premium Plus Cement with 3lbs/sk Salt	11.39	12.4	2.05	450 psi (500psi in 26 hrs)
Tail: 2300' – 2800' (200% Excess)	120	500	Premium Plus cement with 2% Calcium Chloride	6.39	14.8	1.35	1746 psi

See COA*

Production Interval

Interval	Amount sx	Ft of Fill	Type	Gal/Sk	PPG	Ft^3/sk	24 Hr Comp
Lead: 0' – 8700' (100% Excess)	790	8700	TUNED LIGHT (TM) SYSTEM 3 lbm/sk Kol-Seal, 0.125 lbm/sk Poly-E-Flake, 0.25 lbm/sk HR-800	14.05	10.2	2.95	900
Tail: 8700' – 13734' (30% Excess)	680	5034	Super H Cement, 0.5 % Halad(R)-344, 0.4 % CFR-3, 3 lbm/sk Salt, 0.3 % HR-601, 0.125 lbm/sk Poly-E-Flake, 5 lbm/sk Kol-Seal	8.33	13.2	1.68	1527
CONTINGENCY DV TOOL SET AT 4700'. If no cement to surface during primary cementing operation, DV cancellation cone will be run and 2nd stage cancelled. Contingency recipe for 2nd stage as follows:							
Stage 2 Lead: 0' – 4200' (10% Excess)	400	4200	Halliburton Light Premium Plus cement with 3 lbm/sk Salt	11.39	12.4	2.05	450 (500 psi in 26 hrs)
Stage 2 Tail: 4200' – 4700' (50% Excess)	100	500	94 lbm/sk Premium Plus Cement	6.34	14.8	1.33	1849

See COA*

*Description of Cement Additives:
Bentonite: Light Weight Additive
Calcium Chloride: Accelerator
CFR-3: Dispersant
Halad-344: Low Fluid Loss Control
HR-601: Retarder
HR-800: Retarder
Kol-Seal: Lost Circulation Additive
Poly-E-Flake: Lost Circulation Additive

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Occidental Permian LP
LEASE NO.:	LC065710
WELL NAME & NO.:	1H South Lusk 28 Federal
SURFACE HOLE FOOTAGE:	330' FNL & 585' FEL
BOTTOM HOLE FOOTAGE	330' FSL & 660' FEL
LOCATION:	Section 28, T.19 S., R.32 E., NMPM
COUNTY:	Lea County, New Mexico
API:	30-025-41089

The original COAs still stand with the following drilling modifications:

I. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified a minimum of 4 hours 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)

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

1. A Hydrogen Sulfide (H2S) Drilling Plan shall be activated 500 feet prior to drilling into the **Delaware** formation. **As a result, the Hydrogen Sulfide area must meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.**

2. 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. **If the drilling rig is removed without approval – an Incident of Non-Compliance will be written and will be a "Major" violation.**

3. 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 is located, this does not include the dog house or stairway area.

4. **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.**

B. CASING

Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size. 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.).

Centralizers required on surface casing per Onshore Order 2.III.B.1.f.

Wait on cement (WOC) time prior to drilling out for a primary cement job will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compressive strength, whichever is greater for all casing strings. DURING THIS WOC TIME, NO DRILL PIPE, ETC. SHALL BE RUN IN THE HOLE. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. IF OPERATOR DOES NOT HAVE THE WELL SPECIFIC CEMENT DETAILS ONSITE PRIOR TO PUMPING THE CEMENT FOR EACH CASING STRING, THE WOC WILL BE 30 HOURS. See individual casing strings for details regarding lead cement slurry requirements.

No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

Secretary's Potash
Possible lost circulation in the Capitan Reef and Artesia group.
Possible water and brine flows in the Artesia and Salado groups.

1. The **16** inch surface casing shall be set at **approximately 955 feet (a minimum of 25 feet 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 is to include the lead cement slurry.

    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 **11-3/4** inch 1st intermediate casing is: (**Set casing below the Yates sand at approximately 2750'**)

    ☒ 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 Capitan Reef and potash.**

Formation below the 11-3/4" shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe (not the mud weight required to prevent dissolving the salt formation) and the mud weight for the bottom of the hole. Report results to BLM office.

3. The minimum required fill of cement behind the **8-5/8** inch 2nd intermediate casing is: (**Set casing in the base of the Capitan Reef or top of Delaware at approximately 4650'**)

    a. First stage:

    ☒ 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 Capitan Reef.**

Operator has proposed a contingency DV tool at 2800'. If operator does not lose circulation while pumping the first stage, operator is approved to run the DV tool cancellation plug and cancel the second stage of the proposed cement plan. If cement does not circulate, operator will proceed with the second stage.

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 Capitan Reef.**

Formation below the 8-5/8" shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe (not the mud weight required to prevent dissolving the salt formation) and the mud weight for the bottom of the hole. Report results to BLM office.

4. The minimum required fill of cement behind the **5-1/2** inch production casing is:

a. First stage:

☒ Cement to surface. If cement does not circulate, contact the appropriate BLM office.

Operator has proposed a contingency DV tool at 2800'. If operator does not lose circulation while pumping the first stage, operator is approved to run the DV tool cancellation plug and cancel the second stage of the proposed cement plan. If cement does not circulate, operator will proceed with the second stage.

b. Second stage above DV tool:

☒ Cement to surface. If cement does not circulate, contact the appropriate BLM office.

5. 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.

C. 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. Variance approved to use flex line from BOP to choke manifold. 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.** If the BLM inspector questions the straightness of the hose, a BLM engineer will be contacted and will review in the field or via picture supplied by inspector to determine if changes are required (operator shall expect delays if this occurs).

3. **A variance is granted for the use of a diverter on the 16" surface casing.**

4. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the 13-3/8 inch intermediate casing shoe shall be **5000 (5M)** psi. **5M 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.**

5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.

    a. 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.

    b. 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 (18 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).

    c. 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.

    d. The results of the test shall be reported to the appropriate BLM office.

e. 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.**

f. 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.

D. DRILL STEM TEST

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

E. 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.

JAM 081513