OCD Artesia

Form 3160-5
(August 2007)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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.
NMLC050797

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.
GOVERNMENT AC 13 FEDERAL 5H

2. Name of Operator
OXY USA WTP LP
Contact: JENNIFER A DUARTE
E-Mail: JENNIFER_DUARTE@YAHOO.COM

9. API Well No.
30-015-40880

3a. Address
PO BOX 4294
HOUSTON, TX 77210

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

10. Field and Pool, or Exploratory
RUSSELL; 2ND BONESPRING

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
Sec 13 T20S R28E SWNW 1980FNL 350FWL

11. County or Parish, and State
EDDY 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 USA respectfully requests approval for the following changes and additions to the drilling plan:
1. Casing design modification, to drill the well with smaller bit sizes: 18 1/2? surface hole, 14 3/4? 1st intermediate hole, 10 5/8? 2nd intermediate hole, and 7 7/8? production hole. Details are below.
2. Cement program adjustment to the new bit/casing sizes. Cement recipe modifications detailed below.
3. The Surface and Intermediate casings strings will be tested to 70% of their burst rating for 30 minutes. This will also test the seals of the lock down pins that hold the pack-off in place in the Multibowl wellhead system.

RECEIVED
FEB 20 2014
NMOCD ARTESIA

Accepted for record
NMOCD 10/24-2014

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

14. I hereby certify that the foregoing is true and correct.
Electronic Submission #235468 verified by the BLM Well Information System
For OXY USA WTP LP, sent to the Carlsbad

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

Signature (Electronic Submission) — Date 02/12/2014

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

APPROVED
FEB 14 2014
/s/ Chris Walls
BUREAU OF LAND MANAGEMENT
CARLSBAD FIELD 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 ****

OXY USA WTP LP

Government AC 13 Federal 5H
APD SUNDRY Data

OPERATOR NAME / NUMBER: OXY USA WTP LP

LEASE NAME / NUMBER: GOVERNMENT AC 13 FEDERAL 5H

STATE: NM **COUNTY:** Eddy

SURFACE LOCATION: 1980' FNL & 350' FWL, Sec13, T20S, R28E

BOTTOM HOLE LOCATION: 1980' FNL & 330' FEL, Sec13, T20S, R28E

SL Y: 573111.3 X: 560218.5 NAD: 1927
BH Y: 573123.0 X: 564880.1 NAD: 1927

C-102 PLAT APPROX GR ELEV: 3267.5'

EST KB ELEV: 3291.5' (24' KB)

1. SUMMARY OF CHANGES:

Oxy USA respectfully requests approval for the following changes and additions to the drilling plan:

1. Casing design modification, to drill the well with smaller bit sizes: 18 1/2" surface hole, 14 3/4" 1st intermediate hole, 10 5/8" 2nd intermediate hole, and 7 7/8" production hole. Details are below.
2. Cement program adjustment to the new bit/casing sizes. Cement recipe modifications detailed below.
3. The Surface and Intermediate casings strings will be tested to 70% of their burst rating for 30 minutes. This will also test the seals of the lock down pins that hold the pack-off in place in the Multibowl wellhead system.

2. CASING PROGRAM

Surface Casing ran in a 18.5" hole filled with 8.50 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**
18.5	300	16	75	J55	STC	15.124	New	2630	1020	1.43	10.43	6.01

1st Intermediate Casing ran in a 14.75" 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**
14.75	1300	11.75	47	J55	STC	11.000	New	3070	1510	1.37	5.14	3.15

2nd Intermediate Casing ran in a 10.625" hole filled with 8.5 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	3100	8.625	32	J55	LTC	7.921*	New	3930	2530	1.39	3.16	2.25

Production Casing ran in a 7.875" hole filled with 9.0 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	11978	5.500	17	P110	BTC	4.892	New	10640	7460	2.06	2.57	1.98

*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 (Intermediate)

- Internal: Displacement fluid + 70% CSG Burst rating
- External: Pore Pressure from the Intermediate hole TD to Surface CSG shoe and MW of the drilling mud 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 mud that was in the hole when the CSG was run to surface

Gas Kick (Surface/Intermediate)

- 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 mud 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 Intermediate CSG shoe and 8.5 ppg MWE to surface

Collapse Loads

Lost Circulation (Surface/Intermediate)

- 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 mud that was in the hole when the CSG was run

Cementing (Surface/Intermediate/Production)

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

Full Evacuation (Production)

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

Tension Loads

Running CSG (Surface/Intermediate/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/Intermediate/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.

3. CEMENT PROGRAM:

Surface Interval

Interval	Amount sx	Ft of Fill	Type	Gal/Sk	PPG	Ft³/sk	24 Hr Comp
Lead: 0' – 300' (150% Excess)	310	300	Premium Plus Cement with 2% Calcium Chloride (Accelerator)	6.39	14.8	1.35	1326

See COA

1st Intermediate Interval

Interval	Amount sx	Ft of Fill	Type	Gal/Sk	PPG	Ft³/sk	24 Hr Comp
Lead: 0' – 700' (180% Excess)	350	700	Halliburton Light Premium Plus Cement with 5% Salt (Salt), 5 lbm/sk Kol-Seal (Lost Circulation Additive), 0.125 lbm/sk Poly-E-Flake (Lost Circulation Additive)	9.59	12.9	1.88	760
Tail: 700' – 1300' (105% Excess)	420	600	Premium Plus Cement with 1 % Calcium Cloride (Accelerator)	6.36	14.8	1.34	1650

2nd Intermediate Interval

Interval	Amount sx	Ft of Fill	Type	Gal/Sk	PPG	Ft³/sk	24 Hr Comp
Lead: 0' – 2513' (180% Excess)	450	2513	Halliburton Light Premium Plus Cement with 5% Salt (Salt), 5 lbm/sk Kol-Seal (Lost Circulation Additive), 0.125 lbm/sk Poly-E-Flake (Lost Circulation Additive)	9.59	12.9	1.88	760
Tail: 2513' – 3100' (105% Excess)	200	587	Premium Plus Cement with 1 % Calcium Cloride (Accelerator)	6.36	14.8	1.34	1650

See COA

Post Tool will be placed at 1350' for contingency. If returns are not lost during first stage, DV cancellation plug will be run and 2nd stage cancelled. If returns are lost during first stage, the post tool will be opened and contingency recipe for 2nd stage will be pumped as follows:

Interval	Amount sx	Ft of Fill	Type	Gal/Sk	PPG	Ft³/sk	24 Hr Comp
Lead: 0' – 1350' (30% Excess)	320	2150	Halliburton Light Premium Plus Cement with 5% Salt (Salt), 5 lbm/sk Kol-Seal (Lost Circulation Additive), 0.125 lbm/sk Poly-E-Flake (Lost Circulation Additive)	9.59	12.9	1.88	760

Production Casing

Interval	Amount sx	Ft of Fill	Type	Gal/Sk	PPG	Ft³/sk	24 Hr Comp
Lead: 2600' – 6986' (100% Excess)	490	4386	Tuned Light (TM) System Class H cement with 3 lbm/sk Kol-Seal (Lost Circulation Additive), 0.125 lbm/sk Poly-E-Flake (Lost Circulation Additive), 0.25 lbm/sk HR-800 (Retarder)	14.05	10.2	2.95	947
Tail: 6986' – 11978' (30% Excess)	700	4992	Super H Cement with 0.5 % Halad(R)-344 (Low Fluid Loss Control), 0.4 % CFR-3 (Dispersant), 3 lbm/sk Salt (Salt), 0.2 % HR-800 (Retarder), 0.125 lbm/sk Poly-E-Flake (Lost Circulation Additive)	8.55	13.2	1.64	1673

See COA 1570

CONDITIONS OF APPROVAL

OPERATOR'S NAME:	OXY USA WTP LP
LEASE NO.:	LC-050797
WELL NAME & NO.:	Government AC 13 Federal #5H
SURFACE HOLE FOOTAGE:	1980' FNL & 0350' FWL
BOTTOM HOLE FOOTAGE	1980' FNL & 0330' FEL
LOCATION:	Section 13, T. 20 S., R 28 E., NMPM
COUNTY:	Eddy County, New Mexico

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
b. Setting and/or Cementing of all casing strings
c. BOPE tests

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

1. **Hydrogen Sulfide has been reported as a hazard in formations deeper than the proposed depth. It is recommended that monitoring equipment be onsite for potential Hydrogen Sulfide. If Hydrogen Sulfide is encountered, please report measurements 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 are 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. Also if present 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. 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.

High cave/karst.
Possible lost circulation in the Grayburg, San Andres, Delaware, Bone Springs and Capitan Reef formations.
Possible brine and water flows in the Salado Group, Artesia Group and the Capitan Reef if present.

1. The 16 inch surface casing shall be set at approximately **300** feet (in a competent bed and if salt is encountered, set casing at least 25 feet above the salt) and cemented to the surface. **Additional cement may be required – excess calculates to 20%.**

    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 intermediate casing is:

☒ 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 high cave/karst.**

3. The minimum required fill of cement behind the **8-5/8** inch 2nd intermediate casing is:

a. First stage to DV tool:

☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with second stage cement job. Operator should have plans as to how they will achieve circulation on the next stage. **Additional cement will be required – excess calculates to -19%.**

Operator has proposed a contingency DV tool at 1350'. 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.

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 high cave/karst and Capitan Reef.**

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

☒ Cement should tie-back at least **50 feet above the Capitan Reef** (Top of Capitan Reef estimated at 1570'). Operator shall provide method of verification.

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. **A variance is granted for the use of a diverter on the 20" surface casing.**

3. 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**. 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).

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.

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 or where the float does not hold, the minimum wait time before cut-off is eight hours after bumping the plug or when the cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. BOP/BOPE testing can begin after the above conditions are satisfied.

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

d. 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.**

e. 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.

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.

CRW 120412