State of New Mexico
Energy, Minerals and Natural Resources Department



New Mexico Oil Conservation Division approval and conditions listed below are made in accordance with OCD Rule 19.15.7.11 and are in addition to the actions approved by BLM on the following 3160-4 or 3160-5 form.

Operator Signature Date: 4/20/2020
Well information:

## 30-045-25630 LOCKE SWD #001

DUGAN PRODUCTION CORP

Application Type:

☒ P&A ☐ Drilling/Casing Change ☐ Location Change

☐ Recomplete/DHC (For hydraulic fracturing operations review EPA Underground injection control Guidance #84; Submit Gas Capture Plan form prior to spudding or initiating recompletion operations)

☐ Other:

Conditions of Approval:

- Notify NMOCD 24 Hours prior to commencing activities
- In addition to BLM approved plugs:

- OCD agrees with and approves the plugs originally proposed by the operator.

NMOCD Approved by Signature

7/24/2020
Date

Form 3160-5
(June 2015)

OCD Received
7/17/2020

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB NO. 1004-0137
Expires: January 31, 2018

## 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 page 2***

5. Lease Serial No.
NMSF078110

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: INJECTION

8. Well Name and No.
LOCKE SWD 1

2. Name of Operator
DUGAN PRODUCTION CORPORATION
Contact: ALIPH REENA
EMail: aliph.reena@duganproduction.com

9. API Well No.
30-045-25630-00-S1

3a. Address
PO BOX 420
FARMINGTON, NM 87499-0420

3b. Phone No. (include area code)
Ph: 505.325.1821

10. Field and Pool or Exploratory Area
BLANCO MESAVERDE

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
Sec 3 T29N R14W SESE 1120FSL 1120FEL
36.751420 N Lat, 108.290890 W Lon

11. County or Parish, State
SAN JUAN COUNTY, NM

12. CHECK THE 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 | ☐ Hydraulic Fracturing | ☐ Reclamation | ☐ Well Integrity |
| ☐ Final Abandonment Notice | ☐ Casing Repair | ☐ New Construction | ☐ Recomplete | ☐ Other |
| | ☐ 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 must 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 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.

Dugan Production Corp. intends to P&A well per the following procedure:

The well was originally a Dakota well which was P&A'd on 2/7/1996. The well was recompleted by Dugan Production as a Mesaverde injection well in the Menefee/Point Lookout zones per completion report filed 10/2/2002. Based on the two CBL's that were run and submitted to OCD dated 6/23/83 and 5/7/2002, the TOC behind 4-1/2" production casing is at approximately 2220'. All plugs are designed with the cement tops from those two CBL's.

1) Set CIBP @ 3140'. Circulate and load casing. Test casing to 600 psi for 30 mins.
2) Spot inside Plug I from 3140' to 2510' w/53 sks Class G cement (61 cu ft). Plug I, Mesaverde, 2510'-3140', 61' cu ft.
3) Squeeze and spot inside/outside Plug II from 1718' to 1618' w/52 sks Class G cement (60 cu ft).

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

**Electronic Submission #511511 verified by the BLM Well Information System**
**For DUGAN PRODUCTION CORPORATION, sent to the Farmington**
**Committed to AFMSS for processing by JOE KILLINS on 04/20/2020 (20JK0291SE)**

Name *(Printed/Typed)* ALIPH REENA — Title AGENT, ENGINEERING SUPERVISOR

Signature (Electronic Submission) — Date 04/20/2020

## THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By JOE KILLINS — Title ENGINEER — Date 07/17/2020

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 Farmington

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.

(Instructions on page 2)

**** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ****

AV

## Additional data for EC transaction #511511 that would not fit on the form

**32. Additional remarks, continued**

Plug II, Chacra, 1618'-1718', 60 cu ft.
4) Squeeze and spot inside/outside Plug III from 1070' to 650' w/200 sks Class G cement (230 cu ft). Plug III, Pictured Cliffs-Fruitland, 650'-1070', 230 cu ft.
5) Perforate @ 286'. Break circulation to surface. Circulate cement to surface from 286' w/89 sks Class G cement and fill 4-1/2" casing (102 cu ft). Plug IV, Surface-286', 102 cu ft.
6) Cut wellhead. Tag top of cement at surface. Fill w/cement if needed. Install dryhole marker.

**UNITED STATES DEPARTMENT OF THE INTERIOR**
**BUREAU OF LAND MANAGEMENT**
**FARMINGTON DISTRICT OFFICE**
6251 COLLEGE BLVD.
FARMINGTON, NEW MEXICO 87402

Attachment to notice of
Intention to Abandon:

Re: Permanent Abandonment
Well: Locke SWD

**CONDITIONS OF APPROVAL**

1. Plugging operations authorized are subject to the attached "General Requirements for Permanent Abandonment of Wells on Federal and Indian Lease."

2. Farmington Office is to be notified at least 24 hours before the plugging operations commence (505) 564-7750.

3. BLM picks top of Cliffhouse at 2540. See attached geologic report. Ensure coverage of Fruitland top 2490-2490.

# GENERAL REQUIREMENTS FOR
# PERMANENT ABANDONMENT OF WELLS ON FEDERAL AND INDIAN LEASES
# FARMINGTON FIELD OFFICE

1.0 The approved plugging plans may contain variances from the following minimum general requirements.

1.1 Modification of the approved plugging procedure is allowed only with the prior approval of the Authorized Officer, Farmington Field Office.

1.2 Requirements may be added to address specific well conditions.

2.0 Materials used must be accurately measured. (densometer/scales)

3.0 A tank or lined pit must be used for containment of any fluids from the wellbore during plugging operations and all pits are to be fenced with woven wire. These pits will be fenced on three sides and once the rig leaves location, the fourth side will be fenced.

3.1 Pits are not to be used for disposal of any hydrocarbons. If hydrocarbons are present in the pit, the fluids must be removed prior to filling in.

4.0 All cement plugs are to be placed through a work string. Cement may be bull-headed down the casing with prior approval. Cement caps on top of bridge plugs or cement retainers may be placed by dump bailer.

4.1 The cement shall be as specified in the approved plugging plan.

4.2 All cement plugs placed inside casing shall have sufficient volume to fill a minimum of 100' of the casing, or annular void(s) between casings, plus an excess volume sufficient to provide for 50 linear feet of fill above the plug.

4.3 Surface plugs may be no less than 50' in length.

4.4 All cement plugs placed to fill annular void(s) between casing and the formation shall be of sufficient volume to fill a minimum of 100' of the annular space plus 100% excess, calculated using the bit size, or 100' of annular capacity, determined from a caliper log, plus an excess volume sufficient to provide for 50 linear feet of fill above the plug.

4.5 All cement plugs placed to fill an open hole shall be of sufficient volume to fill a minimum of 100' of hole, as calculated from a caliper log, plus an excess volume sufficient to provide for 50 linear feet of fill above the plug. In the absence of a caliper log, an excess of 100% shall be required.

4.6 **A cement bond log or other accepted cement evaluation tool is required to be run if one had not been previously ran or cement did not circulate to surface during the original casing cementing job or subsequent cementing jobs.**

5.0 All cement plugs spotted across, or above, any exposed zone(s), when; the wellbore is not full of fluid or the fluid level will not remain static, and in the case of lost circulation or partial returns during cement placement, shall be tested by tagging with the work string.

5.1 The top of any cement plug verified by tagging must be at or above the depth specified in the approved plan, without regard to any excess.

5.2 Testing will not be required for any cement plug that is mechanically contained by use of a bridge plug and/or cement retainer, if casing integrity has been established.

5.3 Any cement plug which is the only isolating medium, for a fresh water interval or a zone containing a prospectively valuable deposit of minerals, shall be tested by tagging.

5.4 If perforations are required below the surface casing shoe, a 30 minute minimum wait time will be required to determine if gas and/or water flows are present. If flow is present, the well will be shut-in for a minimum of one hour and the pressure recorded. Short or long term venting may be necessary to evacuate trapped gas. If only a water flow occurs with no associated gas, shut well in and record the pressures. Contact the Engineer as it may be necessary to change the cement weight and additives.

6.0 Before setting any cement plugs the hole needs to be rolled. All wells are to be controlled by means of a fluid that is to be of a weight and consistency necessary to stabilize the wellbore. This fluid shall be left in place as filler between all plugs.

6.1 Drilling mud may be used as the wellbore fluid in open hole plugging operations.

6.2 The wellbore fluid used in cased holes shall be of sufficient weight to balance known pore pressures in all exposed formations.

7.0 A blowout preventer and related equipment (BOPE) shall be installed and tested prior to working in a wellbore with any exposed zone(s); (1) that are over pressured, (2) where the pressures are unknown, or (3) known to contain $H_2S$.

8.0 Within 30 days after plugging work is completed, file a Sundry Notice, Subsequent Report of Abandonment (Form 3160-5), five copies, with the Field Manager, Bureau of Land Management, 6251 College Blvd., Suite A, Farmington, NM 87402. The report should show the manner in which the plugging work was carried out, the extent, by depth(s), of cement plugs placed, and the size and location, by depth(s), of casing left in the well. Show date well was plugged.

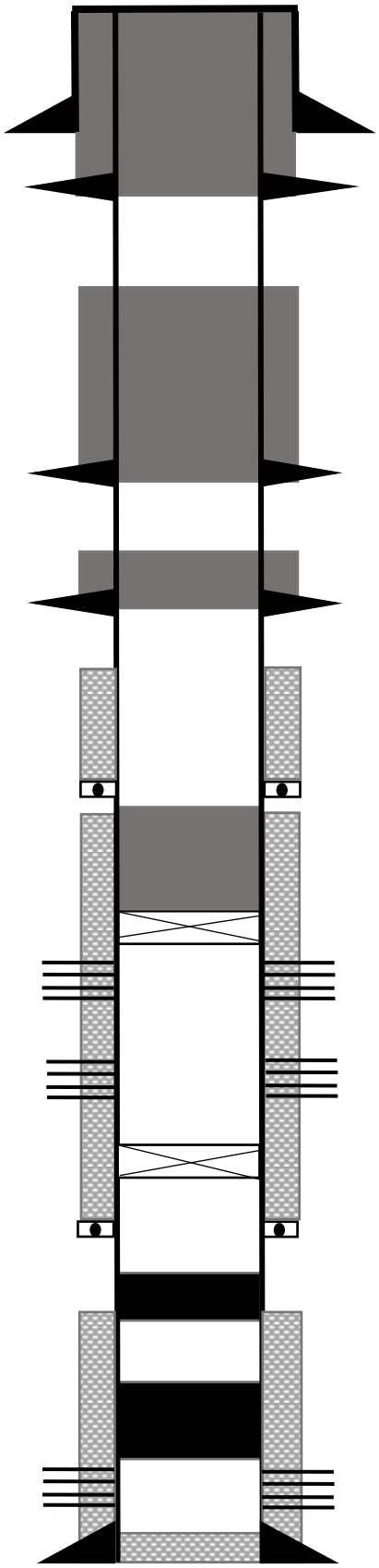
9.0 All permanently abandoned wells are to be marked with a permanent monument as specified in 43 CFR 3162.6(d). Unless otherwise approved.

10.0 If this well is located in a Specially Designated Area (SDA), compliance with the appropriate seasonal closure requirements will be necessary.

All of the above are minimum requirements. Failure to comply with the above conditions of approval may result in an assessment for noncompliance and/or a Shut-in Order being issued pursuant to 43 CFR 3163.1. You are further advised that any instructions, orders or decisions issued by the Bureau of Land Management are subject to administrative review pursuant to 43 CFR 3165.3 and appeal pursuant to 43 CFR 3165.4 and 43 CFR 4.700.

OCD Received
7/23/2020

# Locke # 1 SWD
Proposed P & A Schematic
30-045-25630
P, Sec 3 T29N & R 14W
1120’ FSL & 1120’ FEL



8-5/8”, 24# casing @ 236’. Cemented to surface.

Perforate @ 286’. Plug IV: Circulate cement to surface w/ 89 sks Class G cement (102 cu.ft), 286’-0’ Surface plug.

Perforate @ 1070’. Plug III: Inside/outside plug w/ 200 sks Class G cement (230 cu.ft), Fruitland-Pictured Cliffs, 650’-1070’

Perforate @ 1718’. Plug II: Inside/outside plug w/ 52 sks Class G cement (60 cu.ft), Chacra, 1618’-1718’

Stage 3: Stage tool @ 2453’. Cement with 201 cu.ft 50/50 poz + 6% gel. Tail w/ 59 cu.ft Class B +2% CaCl2. TOC from CBL @ 2220’

Plug I: Set CIBP @ 3140’. Spot inside plug w/ 53 sks Class G cement (61 cu.ft), Mesaverde, 2510’-3140’

Menefee Perforations @ 3188’-3252’, 3481’-3500
Point Lookout Perforations @ 3515’-3547’

***The older plugs before recompletion are not counted in this plugging job. Recompleted PBTD @ 3740’ w/ CIBP @ 3740’ reported in completion report 10/04/2002.***

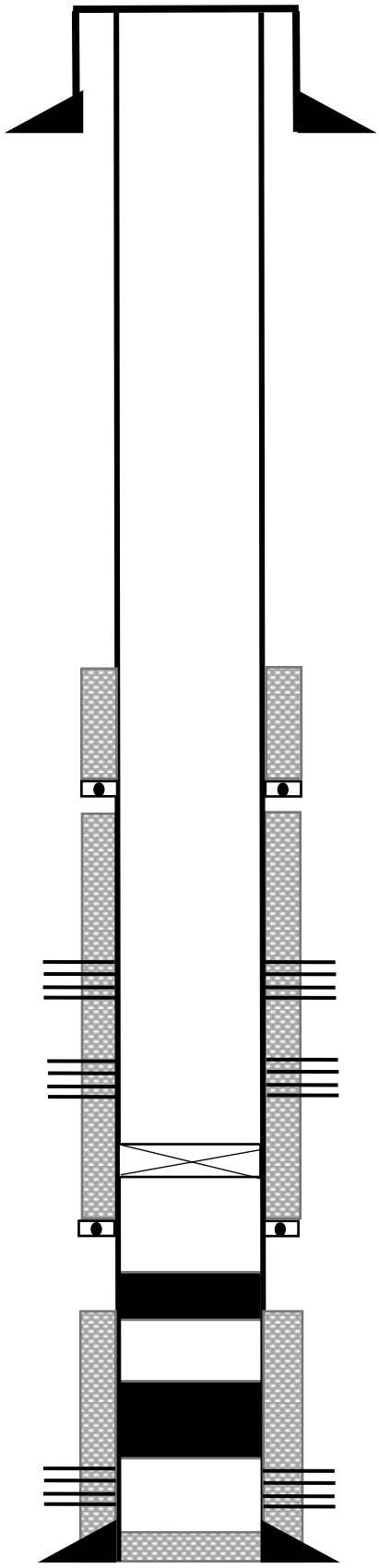
Stage 2: Stage tool @ 3810’. Cement with 730 cu.ft 50/50 poz + 6% gel. Tail w/ 59 cu.ft Class B +2% CaCl2. CBL Stopped @ 3500’ w/ good cement @ 3500’

Gallup plug: 4644’-4868’

Dakota plug: 19 sks below and 12 sks above retainer at 5655’, TOC @ 5497’

4 ½” 10.5# casing @ 5988’. Cement stage I w/ 276 cu.ft 50/50 poz + 6% gel, followed by 13 cu.ft Class B + 2% CaCl2

Locke # 1 SWD
Current Wellbore Schematic
30-045-25630
P, Sec 3 T29N & R 14W
1120' FSL & 1120' FEL



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Menefee Perforations @ 3188'-3252', 3481'-3500
Point Lookout Perforations @ 3515'-3547'

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Dakota plug: 19 sks below and 12 sks above retainer at 5655', TOC @ 5497'

4 ½" 10.5# casing @ 5988'. Cement stage I w/ 276 cu.ft 50/50 poz + 6% gel, followed by 13 cu.ft Class B + 2% CaCl2

# BLM FLUID MINERALS
## Geologic Report

**Date Completed:** 5/28/20

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Well No. | Locke SWD # 1 | | Location | 1120′ FSL | & | 1120′ FEL | |
| Lease No. | NMSF078110 | | Sec. 3 | T29N | | R14W | |
| Operator | Dugan Production Corp | | County | San Juan | State | New Mexico | |
| Total Depth | 6000′ | PBTD 3740′ | Formation | Mesa Verde | | | |
| Elevation (GL) 5476′ | | | Elevation (KB) 5488′ (est.) | | | | |

| Geologic Formations | Est. Top | Est. Bottom | Log Top | Log Bottom | Remarks |
|---|---|---|---|---|---|
| San Jose | | | | | |
| Nacimiento | | | | | Surface |
| Ojo Alamo Ss | | | | | Aquifer (fresh water) |
| Kirtland Shale | Surface | Behind Surface | | | |
| Fruitland | Behind Surface | | | 1030′ | Coal/Gas/Possible water |
| Pictured Cliffs Ss | | | 1030′ | 1360′ | Gas |
| Lewis Shale | | | 1360′ | 2005′ | Possible water or gas |
| Chacra | | | 2005′ | 2540′ | |
| Cliff House Ss | | | 2540′ | 2700′ | Water/Possible gas |
| Menefee | | | 2700′ | 3481′ | Coal/Ss/Water/Possible O&G |
| Point Lookout Ss | | | 3481′ | 3800′ | Probable water/Possible O&G |
| Mancos Shale | | | 3800′ | | |
| Gallup | | | | | O&G/Water |
| Graneros Shale | | | | | |

Remarks:
P & A

Reference Well:
1) Dugan Production Fm. Tops Same

- Please ensure that the top of the Pictured Cliffs is isolated by proper placement of cement plugs. This will protect the freshwater sands in this well bore.

- The contact between the Kirtland and Fruitland formations is estimated to be behind the surface casing.

- All depths include a 12’ KB.

- Please note that the BLM geologist’s picks for the Fruitland and the Chacra vary significantly from the operator’s picks.

**Prepared by:** *Walter Gage*