

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED

FORM APPROVED
OMB NO. 1004-0137
Expires July 31, 2010

SUNDRY NOTICES AND REPORTS ON WELLS

AUG 13 2010

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

Farmington Field Office
Bureau of Land Management

5. Lease Serial No.

I-149 IND-8473

6. If Indian, Allottee or Tribe Name

Navajo Nation

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

8. Well Name and No.

Navajo 1 #1

9. API Well No.

30-045-06247

10. Field and Pool, or Exploratory Area

Basin Dakota
Blanco Mesaverde

11. County or Parish, State

San Juan NM

SUBMIT IN TRIPLICATE - Other instructions on page 2

1. Type of Well

☐ Oil Well ☒ Gas Well ☐ Other

2. Name of Operator

ENERGEN RESOURCES CORPORATION

3a. Address

2010 Afton Place, Farmington, NM 87401

3b. Phone No. (include area code)

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

2,310' FNL, 1,650' FEL, T27N R09W Sec. 25

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

TYPE OF SUBMISSION

- ☒ Notice of Intent
☐ Subsequent Report
☐ Final Abandonment Notice

TYPE OF ACTION

- ☐ Acidize ☐ Deepen ☐ Production (Start/Resume) ☐ Water Shut-Off
☐ Alter Casing ☐ Fracture Treat ☐ Reclamation ☐ Well Integrity
☒ 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 recompleat 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 recompleat 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 final site is ready for final inspection.)

Energen Resources intends to locate & repair the Navajo 1 #1 casing leak as follows on the attached procedure:

Notify NMOCD 24 hrs
prior to beginning
operations

RCVD AUG 24 '10
OIL CONS. DIV.
DIST. 3

14. I hereby certify that the foregoing is true and correct
Name (Printed/Typed)

Andrew Soto

Title District Engineer

Signature

Date 8/10/10

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

Original Signed: Stephen Mason

Title

Date

AUG 16 2010

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, makes it unlawful 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.



**NAVAJO "1" LEASE
WELL #1**

**API #: 30-045-06247 / AFE #: SJ10-277 / DP: 11421A/B
Blanco Mesaverde & Basin Dakota Fields
San Juan County, New Mexico**

**CASING SQUEEZE PROCEDURE
August 5th, 2010**

A. OBJECTIVE:

1. Locate, isolate & squeeze casing leak.
2. Return well to production.

B. WELL DATA:

DATES: Spud: 10/29/1964 Completed: 11/26/1964

DEPTHS: TD: 6,763' PBTD: 6,731'

ELEVATIONS: GL: 6,146' KB: 6,158' (12' KBM)

PERFORATIONS: MV: 4,390' - 4,410', 4,428' - 36' & 39' - 41'
DK: 6,464' - 69', 6,525' - 36', 6,604' - 10', 16' - 20', 35' - 42' & 44' - 55'
Shot a total of 82 holes in the 41 intervals over the 2,266' of gross interval.

STIMULATION: MV: Sand frac w/ 66,100 gallons of CO2 slickwater carrying 75,000# of 20/40 sand.
DK: Sand frac w/ 50,000 gallons of CO2 slickwater carrying 37,500# of 40/60 sand & 34,000# of 20/40 sand.

SURFACE CASING: 8 5/8" J-55 24.00# ST&C casing set @ 323'.
Cemented in a single stage w/ 275 sacks, the cement was circulated.

PRODUCTION CASING: 5 1/2" J-55 15.50# LT&C casing set @ 6,763'.
Cemented in a three stages w/ 450 sacks, the TOC is 5,450' 3,415' & 1,760' per CBL. **THE CASING WAS SQUEEZED FROM 3,260' - 3,750' IN JUNE 2005.**

PRODUCTION TUBING: 214-2 3/8" J-55 4.70# tubing, a 2 3/8" SN & a 2 3/8" tail joint w/ a 0.9' expendable check. The EOT is landed @ 6,602' w/ the SN @ 6,568'.

C. PROCEDURE:

WATCH FOR EXCESSIVE USE OF THE THREAD COMPOUND.
USE THREAD COMPOUND ONLY ON PIN ENDS. NEVER BOX ENDS.
KEEP A TIW VALVE OPEN & ON THE RIG FLOOR @ ALL TIMES.

1. Test location rig anchors. MI & set 1-400 barrel frac tank filled w/ enough 2% KCLW to satisfy all of the anticipated fluid requirements for this **casing squeeze** & 1-400 barrel flow back tank for any flow back fluids & circulated cement during this **CLOSED LOOP OPERATION**.
2. Record casing, tubing and bradenhead pressures. NU relief line and blow down well.
3. MIRU a slickline truck & ND the plunger equipment. RIH to retrieve the plunger & bumper spring. RD slickline.
4. MIRUPU. ND the wellhead & NU a 3M# manual BOP w/ 2 3/8" & CSO rams. Function test BOP.
5. PU & TIH w/ 2 3/8" 4.7# J-55 EUE tubing to tag & record fill. POOH, inspect & tally w/ the joints picked up as well as 214 joints of 2 3/8" 4.7# J-55 EUE 8rd, a 2 3/8" SN, a 2 3/8" J-55 tail joint w/ an expendable check.
6. TIH w/ a 5 1/2" x 2 3/8" RBP w/ an on/off tool & a 5 1/2" x 2 3/8" packer in tandem, a 2 3/8" API SN & the 2 3/8" tubing. Set RBP +/-100' above top perf. Pull up 4 joints, set the packer & pressure test casing to 500# for 5 minutes. Continue to POOH w/ 4 joints, set packer & pressure test casing until the casing leak is located.
Note: Be sure to swab fluid before releasing the RBP.
7. Once leak is located & isolated, perform an injection rate test w/ max rate @ 4 BPM & max pressure @ 1,000#. After achieving a steady rate & pressure, SD & record ISIP & 5-minute SI pressure. Contact the office so a cement squeeze design can be created.
8. Unset the 5 1/2" x 2 3/8" packer & TIH to retrieve the 5 1/2" x 2 3/8" RBP. POOH w/ the 2 3/8" tubing, SN, packer & RBP.
9. PU & TIH w/ a joint of 2 3/8" J-55 tubing w/ a pinned collar, a 2 3/8" API SN & the 2 3/8" tubing w/ a 5 1/2" x 2 3/8" production packer set approximately +/- 100' below the casing leak.
Note: Be sure to land SN in the bottom 1/3rd of the perms.
10. ND the BOP & NU the WH. Clean the location, RDMO the pulling unit & turn well over to the Production Group to place well on production.
11. Wait on AFE approval process.

C. PROCEDURE CONTINUED:

12. MIRUPU. Record casing, tubing and bradenhead pressures. ND the wellhead & NU a 3M# manual BOP w/ 2 3/8" & CSO rams. Function test BOP.
13. Unset the 5 1/2" x 2 3/8" packer. POOH, inspect & tally the 2 3/8" 4.7# J-55 EUE 8rd production tubing, the 5 1/2" x 2 3/8" production packer, the 2 3/8" J-55 production tubing, a 2 3/8" SN & a 2 3/8" J-55 tail joint w/ a pinned collar.
14. PU & TIH w/ a 5 1/2" Drillable BP w/ a shear tool & a 5 1/2" x 2 3/8" production packer in tandem, a 2 3/8" SN & the 2 3/8" tubing workstring. Set BP 2 joints below the bottom of the casing leak.
15. POOH w/ 1 joint of 2 3/8" J-55 tubing & set the packer. Set the production packer & pressure test the BP to 1,000# for 5 minutes. Release the pressure, unset the packer & PUH to +/- 100' above the casing leak. Pressure test the casing to 500# for 5 minutes.
16. Release the pressure, unset the packer & POOH w/ the 2 3/8" tubing, SN & packer.
17. PU & TIH w/ a 5 1/2" x 2 3/8" cement retainer, an on/off tool, a 2 3/8" SN & the 2 3/8" tubing. Set the cement retainer @ +/- 100' above the casing leak. Load & pressure annulus to 500#.
18. Pressure test all lines to 1,500#. Mix & pump cement & squeeze according to the service company's proposal. Max pressure **1,000#**.
19. Sting out of cement retainer leaving 1 BBL of cement on top of the retainer & reverse circulate any excess cement to surface. POOH w/ the 2 3/8" tubing, SN & stinger. SION & WOC.
20. MIRU an air package.
21. PU & TIH w/ 4 3/4" blade bit, bit sub, 6-3 1/8" drill collars, XO, a 2 3/8 API SN & the 2 3/8" J-55 tubing down to the TOC. Drill out the cement & the cement retainer down to the BP. Circulate one full hole volume. Load & pressure test casing to 500#. Re-squeeze as necessary.
22. Drill out the BP & CO down to PBTD @ 6,731'.
23. POOH w/ the tubing, SN, DCs & bit.
24. PU & TIH w/ a pinched 2 3/8" mule shoe, the 2 3/8" API SN w/ bumper spring & the 2 3/8" J-55 tubing. ND the BOP & NU the WH & plunger equipment.
Note: Be sure to land SN in the bottom 1/3rd of the perms.
25. Clean the location, RDMO the pulling unit & turn well over to the Production Group to place well on production.

D. ATTACHMENTS:

1. Navajo "1" #1 Pertinent Well Data Sheet
2. Navajo "1" #1 Wellbore Diagrams
3. Navajo "1" #1 Production Graphs
4. Navajo "1" #1 AFE