



## **Duckworth 33-16**

Cement Remediation/Annular Fill  
January 7, 2016

# **DRAFT**

Engineer:	Jason Schmidt
Workover Coordinator:	Mark Balderston
Production Group Lead:	Andrew Berhost
DJ Team Lead:	Jessica Cavens

Attachments:

Attachment 1 – Current Wellbore Diagram

Attachment 2 – Proposed Wellbore Diagram

### **Safety**

Safety meetings are to be held with all service company personnel prior to each job. Wellsite supervisor must notify contractors to all known hazards. Well site supervisor must ensure that all workers are aware of their responsibilities and duties under the EH&S guidelines. All safety meetings will be recorded on the Encana daily completion reports in Wellview.

### **Regulations**

All verbal notifications and approval from government regulatory agencies will be recorded on the Encana daily report. The name of the individual contacted and the subject matter of approval or notification will be recorded.

### **Reason for Work**

Cement remediation to mitigate bradenhead issue.

### **Additional COGCC COAs**

### **COGCC Rule 317.j**

Production casing cementing .The operator shall ensure that all cement required under this rule placed behind production casing shall be of adequate quality to achieve a minimum compressive strength of at least three hundred (300) psi after twenty-four (24) hours and of at least eight hundred (800) psi after seventy-two (72) hours both measured at eight hundred (800) psi at either ninety-five degrees Fahrenheit (95 °F) or at the minimum expected downhole temperature. After thorough circulation of a wellbore, cement shall be pumped behind the production casing (200) feet above the top of the shallowest uncovered known producing horizon. **All fresh water aquifers which are exposed below the surface casing shall be cemented behind the production casing. All such cementing around an aquifer shall consist of a continuous cement column extending from at least fifty (50) feet below the bottom of the fresh water aquifer which is being protected to at least fifty (50) feet above the top of said fresh water aquifer.** Cement placed behind the production casing shall be allowed to set seventy-two (72) hours, or until eight hundred (800) psi calculated compressive strength is developed, whichever occurs first, prior to the undertaking of any completion operation.



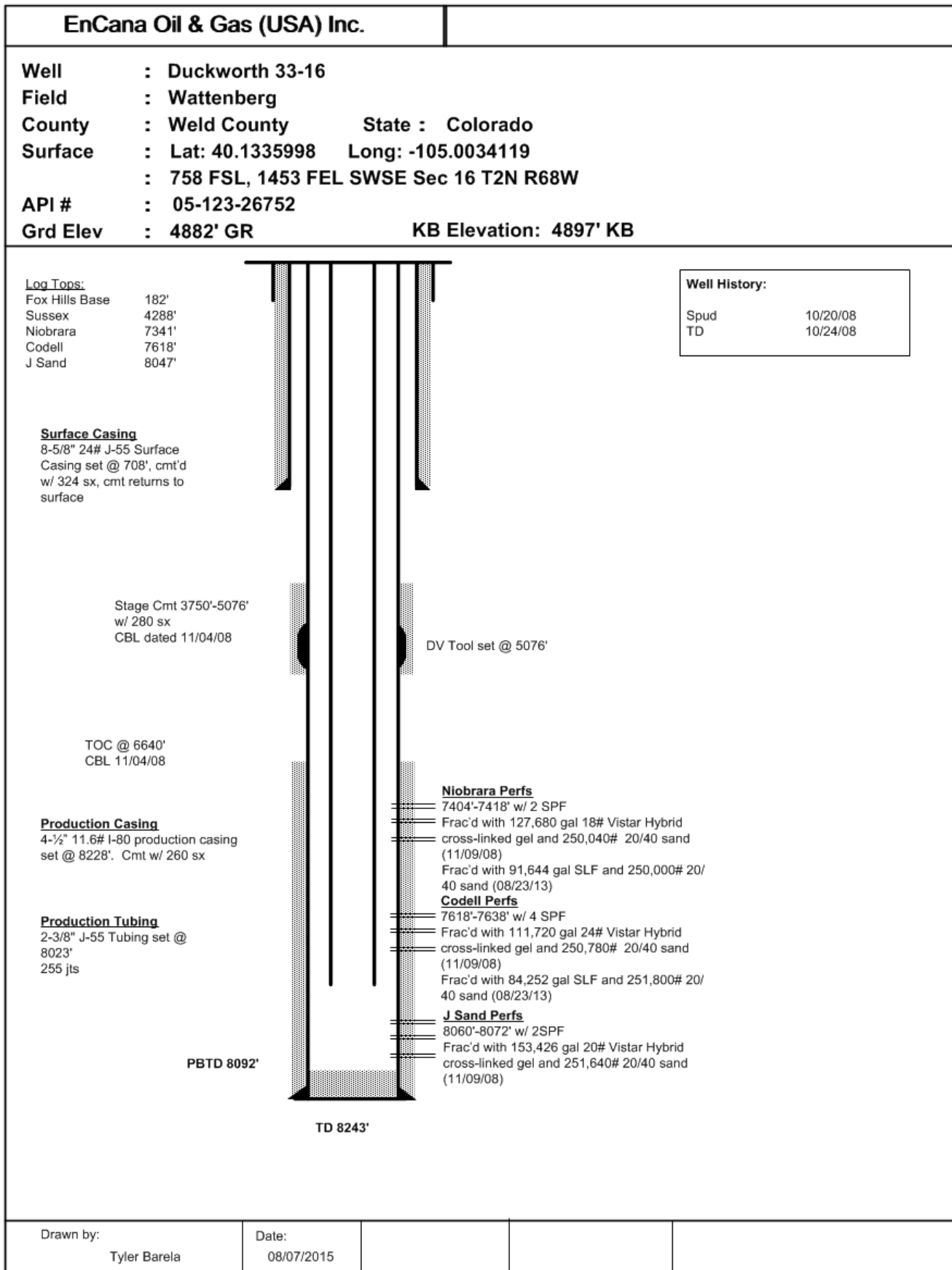
**Objective:**

Pull tubing and lay down. Set RBP, un-land casing and pump annular fill. Run CBL, pull plug and land tubing.

**Procedure:**

1. Hold a pre-job safety meeting. Discuss all aspects of the procedure with involved personnel. Identify and address safety concerns before the job begins.
2. MIRU pulling unit. Kill well with produced water.
3. ND wellhead, NU BOP.
4. Un-land Tubing. POOH with tubing.
5. RU wireline.
6. RIH and set RBP @ 7300' and pressure test plug to 500 psi for 15 min. Dump 1 sx sand on top of plug.
7. Un-land 4-1/2" production casing.
8. NU annular fill wellhead.
9. RIH down 4-1/2" by 8-5/8" annulus with 1-1/4" tubing to 3400'.
- 10. Ensure that all cementing work complies with COGCC rule 317j (listed on previous page).**
11. Establish circulation and pump 50 sx of class G cement from ~3400' to 3200'.
12. PU tubing to 3200'. Establish circulation and pump 50 sx of class G cement from ~3200' to 3000'.
13. Repeat step 12 twelve more times – moving up 200' each time. The last interval will be ~800' to 600'.
14. PU tubing into surface casing ~650' to 600'.
15. Establish circulation and pump 155 sx of class G neat cement, taking returns up annulus to surface.
16. POOH and lay down 1-1/4" tubing.
17. Re-land 4-1/2" casing and load hole with water.
18. RU E-line. Run CBL and log from RBP to surface. RD E-line.
19. RIH with tubing, circulate and pull RBP.
20. Hydro test tubing.
21. RIH and land 2-3/8" @ ~8023'.
22. ND BOP, NU 5K wellhead.
23. Replace tubing master valve.
24. Swab well back in.
25. RDMO Workover rig.
26. Submit Form 5 Drilling Completion Report including CBL data to COGCC.

**Attachment #1 – Current Wellbore Diagram**



**Attachment #2 – Proposed Wellbore Diagram**

