



<b>Operator:</b>	Encana Oil & Gas (USA) Inc.
<b>Well Name:</b>	W DRAGON TRAIL 30 4001
<b>Lease Number:</b>	COC02966A
<b>Unit Number:</b>	COC0128355
<b>Location:</b>	NENE Sec.30 -T2S - R102W
<b>Field:</b>	Dragon Trail
<b>County, State:</b>	Rio Blanco, CO
<b>API Number:</b>	05-103-05132-0000
<b>Diagram Date:</b>	As of April 14, 2011

## Plug and Abandonment Procedure

April 14, 2011

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### Attachments:

Attachment 1 – Proposed Wellbore Diagram  
Attachment 2 – Current Wellbore Diagram

API Number: 05-103-05132-0000

KB Elevation: 6,569 ft  
GL Elevation: 6,558 ft

PBTD: 2,491 ft MD (Tagged fill with Tbg @ 2491' (209'), 8-12-97 )  
TD: 2,700 ft MD

Surface Casing: 7" OD, 20 lb/ft, set at 1,378 ft, J-55

Surface Casing OD	7	in.
Surface Casing ID	6.456	in.
<b>Surface Casing Drift</b>	<b>6.331</b>	<b>in.</b>
Surface Hole size	9 7/8	in.
<b>Surface Casing COLLAPSE (100%)</b>	<b>2,270</b>	<b>psi</b>
<b>Surface Casing BURST (100%)</b>	<b>3,740</b>	<b>psi</b>
<b>Surface Casing JOINT YEILD</b>	<b>234,000</b>	<b>lbs</b>

Production Casing: 4 – 1/2" OD, 11.6 lb/ft, set at 2,299 ft, J-55

Production Casing OD	4 1/2	in.
Production Casing ID	4.000	in.
<b>Production Casing Drift</b>	<b>3.875</b>	<b>in.</b>
Production Hole size	6 1/4	in.
<b>Production Casing COLLAPSE (100%)</b>	<b>4,960</b>	<b>psi</b>
<b>Production Casing BURST (100%)</b>	<b>5,350</b>	<b>psi</b>
<b>Production Casing JOINT YEILD</b>	<b>162,000</b>	<b>lbs</b>

Tubing: 2-3/8" OD, 4.7 lb/ft, set 2,478 ft., J-55

Tubing Casing OD	2 3/8	in.
Tubing Casing ID	1.995	in.
<b>Tubing Casing Drift</b>	<b>1.901</b>	<b>in.</b>
<b>Tubing COLLAPSE (100%)</b>	<b>8,100</b>	<b>psi</b>
<b>Tubing BURST (100%)</b>	<b>7,700</b>	<b>psi</b>
<b>Tubing JOINT YEILD</b>	<b>71,730</b>	<b>lbs</b>

### Safety

Safety meetings are to be held with all service company personnel prior to each job. Wellsite supervisor must notify contractors as to known hazards of which the contractors may be unaware. 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 Wellcore.

### 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.

*\*\*Please note Chemical Inventory on Wellcore Report. Note amount of chemicals pumped downhole and amount stored on location each evening.*

## JOB OBJECTIVE

The W DRAGON TRAIL 30 4001 is a vertical well that was OPEN HOLE completed in July, 18, 1959 in the Mancos B formation. The BLM has sent a demand letter requiring that this well either be returned to production or plugged. The well has very low production potential; therefore **the W DRAGON TRAIL 30 4001 will be plugged and abandoned.**

## PROCEDURE

### Rig Up and Pull Tubing

1. Notify State of Colorado and BLM (White River Field Office) at least 48 hours prior to start of operations.
2. MIRU pulling unit. Hold rig inspections and pre-job safety meeting.
3. Blow well down.
4. Kill well.
5. ND WH and NU BOP.
6. POOH with 2-3/8" tubing.

### Isolate Open Hole

7. RIH and set CIBP (or CICR) in 4-1/2" casing at 2239' (Must be placed >50 ft and <100 ft above top of open hole at 2299'). Verify that CIBP (or CICR) will not be placed within 5' of a collar.
8. Dump bail 5 sks Class G cement on top of CIBP with wireline.

$$\text{Cement Volume} = [4 \text{ sk} \times 1.15 \text{ ft}^3/\text{sk} / 0.08727 \text{ ft}^3/\text{ft}] = 52.7 \text{ ft}$$

$$\text{With 22.39\% Excess} = 4 \text{ sks} \times 1.2239 = 4.8 \text{ sks} = \mathbf{5 \text{ sks}}$$

### Cement Annulus Across Surface Casing Shoe

9. RIH and set CIBP (or CICR) in 4-1/2" casing at 1438'. Verify that CIBP (or CICR) will not be placed within 5' of a collar.
10. RIH with wireline and perforate four squeeze holes at 1428'. POOH with perforating gun. Verify all shots fired. RDMO wireline unit.
11. RIH with OE tubing. Ensure tbg/csg annulus is shut-in. Establish injection into sqz holes.
12. Squeeze 150 ft (18 sks) of cement into annular space through perforations at 1428'. Leave 150 ft of cement (13 sks) in casing. Annular plug must extend minimum of 50 ft above and below the casing shoe at 1378' in

the annulus; casing plug must extend a minimum of 50 ft above and below casing shoe at 1378' in 4-1/2" casing.

$$\text{Annular Cement Vol} = [0.1169 \text{ ft}^3/\text{ft} * 150 \text{ ft} / 1.15 \text{ ft}^3/\text{sk}] = 15.2 \text{ sks}$$

$$\text{With 14.38\% Excess} = 15.2 \text{ sks} * 1.1438 = 17.4 \text{ sks} = \mathbf{18 \text{ sks}}$$

$$\text{Casing Cement Vol} = [0.08727 \text{ ft}^3/\text{ft} * 150 \text{ ft} / 1.15 \text{ ft}^3/\text{sk}] = 11.4 \text{ sks}$$

$$\text{With 14.38\% Excess} = 11.4 \text{ sks} * 1.1438 = 13.0 \text{ sks} = \mathbf{13 \text{ sks}}$$

13. POOH with tubing to 50'.

#### **Cement Plug in Casing From Surface**

14. With OE tubing at 50', RU and spot 4 sx Class G balanced cement plug in 4-1/2" casing from surface to 50'. WOC and top off as necessary.

$$\text{Casing Cement Vol} = [0.08727 \text{ ft}^3/\text{ft} * 50 \text{ ft} / 1.15 \text{ ft}^3/\text{sk}] = 3.8 \text{ sks} = \mathbf{4 \text{ sks}}$$

#### **Cement Plug in Annulus From Surface**

15. Top off plug with 1" string, if necessary. Use 1" string to set 6.456" x 4.5" annular surface plug from surface to 50' with 6 sks or required volume of Class G cement. WOC and top off as necessary.

$$\text{Annular Cement Vol} = [0.1169 \text{ ft}^3/\text{ft} * 50 \text{ ft} / 1.15 \text{ ft}^3/\text{sk}] = 5.1 \text{ sks} = \mathbf{6 \text{ sks}}$$

16. ND BOP. RDMO pulling unit.

17. Cut off anchors.

18. Cut off all casing at the base of the cellar or 4 ft below final restored ground level, whichever is deeper.

19. Weld on metal plate at least 1/4" thick and dry hole marker.

20. Restore surface location.

21. Ensure that cmt tickets are mailed to the Denver office for subsequent reporting.