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**Andrews, David**

**From:** Andrews, David  
**Sent:** Tuesday, May 25, 2010 3:55 PM  
**To:** 'Miley, Craig'; Bob\_Hartman@blm.gov  
**Cc:** Yokley, Bill  
**Subject:** RE: TOC Remediation: Federal 24-16 (OP24), Orchard Field

Craig,

Thanks for the update.

Dave

-----Original Message-----

**From:** Miley, Craig [mailto:Craig.Miley@encana.com]  
**Sent:** Tuesday, May 25, 2010 3:21 PM  
**To:** Miley, Craig; Bob\_Hartman@blm.gov  
**Cc:** Andrews, David  
**Subject:** RE: TOC Remediation: Federal 24-16 (OP24), Orchard Field

Bob,

Just following up with you on the OP24. . . We're currently frac'ing the Mancos (3 stages done out of 6), all's going well, and Bradenhead pressure has remained at zero psi the entire time. Based on discussions within our team, we're not planning on coming up hole to complete the Iles/Williams fork any time in the near future (if at all). If Bradenhead pressure (and nuisance gas) remains at zero, I'd propose postponing a cement remediation at this time. The current TOC is > 200' above the uppermost Mancos perf. If we do see an increase in Bradenhead pressure, we'd definitely proceed to the cement remediation.

Please call at your earliest convenience. I have a couple other concerns regarding this cement remediation I'd like to discuss with you.

Thanks,

Craig.

-----Original Message-----

**From:** Miley, Craig  
**Sent:** Tuesday, May 18, 2010 9:36 AM  
**To:** 'Bob\_Hartman@blm.gov'  
**Cc:** Andrews, David  
**Subject:** RE: TOC Remediation: Federal 24-16 (OP24), Orchard Field

No problem Bob--I'll be in a couple of meetings this afternoon, but I should be free after 3:30 or 4:00.

Thanks,

Craig.

-----Original Message-----

**From:** Bob\_Hartman@blm.gov [mailto:Bob\_Hartman@blm.gov]  
**Sent:** Tuesday, May 18, 2010 6:58 AM  
**To:** Andrews, David; Miley, Craig  
**Subject:** RE: TOC Remediation: Federal 24-16 (OP24), Orchard Field

Craig, Please excuse my delay in getting back to you.

I will be in the office this afternoon late and give you a call

thanks

Bob Hartman  
Petroleum Engineer

work 970 244 3041  
Cell 250 7002

	"Andrews, David"	
	<David.Andrews@state.co.us>	
To		"Miley, Craig"
	05/15/2010 10:59 AM	<Craig.Miley@encana.com>, <Bob_Hartman@blm.gov>
cc		"King, Kevin"
		<Kevin.King@state.co.us>, "Krabacher, Jay"
		<Jay.Krabacher@state.co.us>, "Ellsworth, Stuart"
		<Stuart.Ellsworth@state.co.us>, "Yokley, Bill"
		<Bill.Yokley@state.co.us>
Subject		
24-16		RE: TOC Remediation: Federal (OP24), Orchard Field

Craig,

Considering that this is a federal well, BLM has jurisdiction for the wellbore. Discuss approval with BLM before proceeding with any of my suggestions below. I can offer the following comments from COGCC's perspective:

- \* Your TOC remediation procedure shows an existing TOC of 4604'.
- \* This well appears to be on the western fringe of nearby production until additional fields are encountered west and south of DeBeque.
- \* A recently-approved APD lists Williams Fork and Iles as objective formations in addition to the primary target of a Mancos recompletion. The Sundry Notice submitted with the APD discusses recompletion of the Mancos Formation, but it does not provide details on potential perforations or stimulations in the Williams Fork and Iles formations.
- \* If EnCana (or BLM) determines that the Williams Fork and Iles formations are productive, then the TOC must extent to the surface casing, as shown on the APD. COGCC would also advise cement coverage of these formations if they generate nuisance gas that is not economic. Is there any pressure on the bradenhead? COGCC will not dictate how EnCana provides cement coverage, but the coverage must be provided for zonal isolation.
- \* If EnCana (or BLM) determines that the Williams Fork and Iles formations are not productive and nuisance gas is not present, then the current TOC of 4604' complies with Rule 317.i. (200' above the shallowest known producing formation). If this is the case, then submit a Form 4 (Sundry Notice) to Bill Yokley (COGCC permitting), which eliminates the William Fork and Iles formations from your list of objective formations.

If you need to discuss this with COGCC staff on Monday, then please call Kevin King at (970) 625-2497 Ext. 2 (I will be out until Tuesday).

Thanks,

David D. Andrews, P.E., P.G.  
Engineering Supervisor - Western Colorado

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Oil and Gas Conservation Commission  
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Website: <http://www.colorado.gov/cogcc>

-----Original Message-----

From: Miley, Craig [mailto:Craig.Miley@encana.com]  
Sent: Friday, May 14, 2010 1:55 PM  
To: Bob\_Hartman@blm.gov; Andrews, David  
Subject: TOC Remediation: Federal 24-16 (OP24), Orchard Field

Bob and David,

I'm currently working on a top of cement remediation procedure for one of our upcoming Mancos recompletes wells, the Federal 24-16(OP24), and I have a few concerns and questions. Following our Mancos recompletion, we're preparing to pump a remedial cement job to bring TOC up to the original BLM APD required top of ~1800' (just inside surface CSG). Our current top is 4604'. Bradenhead pressure has remained at zero psi since the well was drilled and completed in 2006.

I have a few concerns and questions. If we cannot circulate thru our initial set of squeeze holes, where should we move up hole for a second attempt? Also, at 3650' there appears to be a cement/mud stringer--will this prevent any attempts to circulate from below? I definitely don't want to compromise the casing integrity any more than necessary, and I'm hoping we can accomplish this remediation with the fewest holes possible.

I'd definitely like to discuss this with you as soon as possible.  
Please call me at your earliest convenience.

Thanks,

Craig Miley  
Production Engineer, South Piceance  
EnCana Oil & Gas (USA), Inc.  
370 17th St. Suite 1700  
Denver, CO 80202

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<http://www.encana.com>

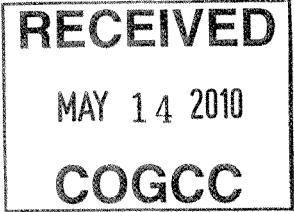
Federal 24-16 (OP24) - Mancos "A & B" Recompletion Procedure



Well Information:

Location: SESE Sec 24-T8S-R97W 6th PM  
County: Mesa, Colorado  
API#: 05077089630000  
Field: Orchard

Surf CSG: 9.625" 36# J55 set at 1854' MD  
PBTD: 9302'  
TD: 9376'  
Perf Interval: 5288' - 7244' MD (6 Mancos Stages)  
EOT: N/A  
Prod CSG: 5.5" 17# I-80 (PBTD = 9302') in 7.875" Hole  
Tubing: N/A  
CSG Burst Pressure: 7740 psi (80% = 6192 psi)  
F-Nipple: N/A  
TOC: 4604' (from 11/03/06 CBL)  
(Note: Original Federal APD required TOC to be just inside Surface CSG @ 1850' MD  
Remedial cement job will be needed after Mancos Recompletion)



Formation Tops:

Corcoran:	4562' MD
Cozzette	4338' MD
Rollins:	4088' MD
Top of Gas:	3052' MD
Williams Fork:	1722' MD
Mesa Verde:	1190' MD

Objective: Bring top of cement to ~1800' (inside surface CSG) to meet the original APD TOC requirement.

On the primary cement job on the 5.5" production casing, the proper TOC was not achieved. This procedure includes all steps and costs to bring TOC up to the BLM-required depth of 1800' MD (just into the surface CSG).

Procedure:

- 1 MIRU Pulling Unit, ND wellhead, NU BOP's.
- 2 MIRU Wireline Unit, install 5K psi lubricator.
- 3 Make JB/GR run to +/- 5250'. RIH w/ SOLID Weatherford 10K psi composite bridge plug and set @ +/- 5180' MD. POOH w/ wireline.
- 4 Bleed down CSG to confirm CBP is set. Load CSG with water and pressure test CSG to 1000 psi to confirm CBP is set and sealing.
- 5 RIH w/ perf gun on wireline and shoot 4 squeeze holes @ +/- 4400' MD. POOH w/ wireline.
- 6 Rig up pump, attempt to inject into perfs, and confirm circulation to surface. (Note: Mud Weight from original cement job was 10.0 ppg).  
*Contact Denver if perfs cannot be broken down or if circulation to surface does not occur. Perfs will need to be squeezed, and new perfs will be shot up hole*
- 7 Once circulation is confirmed to surface, RIH w/ retainer and set ~100' above squeeze holes.
- 8 RIH w/ workstring, sting into retainer, and re-establish circulation. Once confirmed, MIRU cement company and cement from 4400' to 1800' as follows:

Pre-flush: 20 bbls Weighted Mud Push II @ 10.0 ppg
Lead (12.0 ppg TXI + Add's): $(4000' - 1800') * (7.875^2 - 5.5^2) * 0.005454 / 1.79 \text{ cuft/sk} = 213 \text{ sx} * 30\% \text{ ---> } 280 \text{ sx } 12\# \text{ TXI} + \text{Add's}$
Tail (15.8 ppg Class G): $(4400' - 4000') * (7.875^2 - 5.5^2) * 0.005454 / 1.16 \text{ cuft/sk} = 60 \text{ sx} * 30\% \text{ ---> } 80 \text{ sx Class G} + \text{Add's}$

- 9 After displacing cement, sting out of retainer and reverse-circulate tubing until clean. TOO H w/ Tubing and WOC for 24 hours.
- 10 MIRU wireline truck. RIH w/ CBL and log from retainer depth to surface to confirm design TOC is obtained. RDMO wireline truck
- 11 Once proper TOC is obtained, RIH w/ bit and TBG to drill out retainer and cement. Once cement is drilled out, pressure test squeeze holes to 2000 psi. Record pressure test for 15 minutes, and report info to Denver.
- 12 Upon confirmation of good pressure test, proceed with drilling out isolation plug and frac plugs. Clean out to CIBP @ +/- 7270' MD.
- 13 Set 2-3/8" 4.7# L-80 production tubing at 5190' (~100' above Mancos perfs).
- 14 RU flowback iron, flow back well, and turn on to production. The Mancos A & B will be flow-tested alone for a period of time to determine production and reserve potential. Once adequate Mancos A & B production has been obtained, the isolation plug will be drilled out and the well will be returned to commingled production (Cedar Mt, Dakota, Frontier, Niobrara, and Mancos B) upon BLM approval.