

REMEDIAL CEMENT PROCEDURE

Andrews, David

From: Andrews, David
Sent: Tuesday, April 06, 2010 11:21 AM
To: 'Tannehill, Julie'
Cc: Foreman, Jay ; Harris, Steven ; Brady, Scott (Lowell); Davis, Gregory ; Harris, Howard ; Yokley, Joe
Subject: RE: Low TOC : RWF 313-18 (05-045-17624-0000)

Julie,

These procedures are acceptable. Please proceed.

Thanks,

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

State of Colorado
Oil and Gas Conservation Commission
707 Wapiti Court, Suite 204
Rifle, Colorado 81650
Office Phone: (970) 625-2497 Ext. 1
Cell Phone: (970) 456-5262
Fax: (970) 625-5682
E-mail: David.Andrews@state.co.us
Website: <http://www.colorado.gov/cogcc>

From: Tannehill, Julie [mailto:Julie.Tannehill@Williams.com]
Sent: Tuesday, April 06, 2010 11:14 AM
To: Andrews, David
Subject: RE: Low TOC : RWF 313-18 (05-045-17624-0000)

Top perf for the MV2 stage is 7534'.

From: Andrews, David [mailto:David.Andrews@state.co.us]
Sent: Tuesday, April 06, 2010 10:26 AM
To: Tannehill, Julie
Subject: RE: Low TOC : RWF 313-18 (05-045-17624-0000)



Julie,

What is the planned depth of the top perforation for the MV2 stage?

Dave

From: Tannehill, Julie [mailto:Julie.Tannehill@Williams.com]
Sent: Monday, April 05, 2010 7:51 AM
To: Andrews, David
Cc: Foreman, Jay ; Harris, Steven ; Brady, Scott (Lowell); Davis, Gregory ; Harris, Howard ; Yokley, Joe
Subject: Low TOC : RWF 313-18 (05-045-17624-0000)

Mr. Andrews,

We have a low cement top on a well in the Rulison field. Details are listed below. This email is to inform you that:

- This is a new drill and initial completion operations will begin the week of April 12th.
- Cement top on the production casing **did not** cover the geologist's pick for Mesa Verde top.
- Cement top **did not** cover the geologist's pick for top of gas (KMVGAS).
- Cement top **did not** cover all zones that we have an interest in completing.

Our completion plan with regard to low TOC is to:

- Bleed down **low** Bradenhead pressure until non-existent
- Begin Completion Operations and frac to the MV2 stage.
- Perform Cement Squeeze Operation and attempt to get a new TOC to MVRD
- Monitor surface casing pressure during entire process.

SEC	TWN	RNG	WELL	API	CBL TOC	TOP OF MVRD	SHORT	TOP PERF	CMT OVER TOP PERF	BRADENHEAD PRESS. BEFORE COMPLETION
18	6S	94W	RWF 313- 18	05-045-17624-0000	6850	5154	-1896	6400	-450	26# (3/31/2010)

**Note: Assuming 200' above MVRD for cement coverage.

I have attached a copy of the CBL and the cement squeeze procedure. Please advise if this plan is acceptable.

Regards,

Julie Tannehill
Completions Engineer
Williams RMT
Piceance Valley Team
1515 Arapahoe, Tower 3, Suite 1000
Denver, CO 80202
Office: 303.606.4295
Cell: 720.375.2192



Exploration and Production
Cement Squeeze Procedure

Wellname: RWF 313-18 Prepared By: Julie Tannehill Date: 4/2/2010
Location: S18 T6S R94W office phone: (303) 606-4295
Field: Rulison cell phone: (720) 375-2192
API: 05-045-17806 17624 D.A.

Surface Casing - 9-5/8", 32.5 lb/ft, H-40
Surface Casing Depth - 1138-ft
Production Casing - 4-1/2", 11.6 lb/ft, I-80
Production Casing Depth - 8,744-ft
Maximum Recorded Temp - 232 F
Total Depth - 8809-ft (Driller's depth)

Correlate Log - Baker Radial Cement Bond Log 03/23/10
TOC- 6900-ft (SPOTTY COVERAGE WITH "GOOD" TOC @ 7200' D.A.)
MV Completions- Lower Cameo through MV7 (6560-8555')
Formation Tops:

Top of Mesaverde: 5,154
Top of Rollins: 8,694
TD: 8,795

Purpose: Cement Squeeze for Isolation

Proposed Procedure:

1. Frac and Flowback the following Stages: LCAM, CAM, MV1, and MV2
2. Set flow through plug at 7480'. Drop frac ball. Dump bail 2 sxs of sand above plug.
3. MIRU Wireline. RIH with solid composite plug set at 6830'.
4. Pressure test casing to 7000 psi.
5. Shoot 3-0.35" squeeze holes at 6730'. Perform Injection Test. Discuss results with Denver.
6. RIH with composite cement retainer and 2-3/8" tubing. Set retainer at 6630'.
7. Establish injection with freshwater leaving bradenhead valve open.
8. Pump 20 bbls of freshwater, pump 180 sxs of 15.8 ppg cement.
9. Pump 100 sxs of 17-17.5 ppg cement and stage last 5 bbls with bradenhead valve closed.
10. Sting out of retainer, reverse circulate out remaining cement in tubing.
11. POOH with tubing, shut in well and WOC (24 hours).
12. Drill out cement and retainer, cleanout to 6820'.
13. Run CBL from 6820 to surface.
14. Pressure Test squeeze holes to 1000 psi.
15. Discuss CBL results with Denver before proceeding.