

HALLIBURTON

iCem[®] Service

EXTRACTION OIL & GAS

United States of America

TC Aims C5-9-11

Surface

Job Date: Sunday, December 04, 2016

Sincerely,

Derek Trier

Legal Notice

Disclaimer:

All information in this report is provided subject to the terms and conditions which govern the services provided by Halliburton. Halliburton personnel use their best efforts in gathering information and their best judgment in interpreting it, but any interpretation, research, analysis or recommendation furnished by Halliburton are opinions based upon inferences from measurements and empirical relationships and assumptions, which inferences and empirical relationships and assumptions are not infallible, and with respect to which professionals in the industry may differ. Accordingly, HALLIBURTON IS UNABLE TO GUARANTEE THE ACCURACY OF ANY CHART INTERPRETATION, RESEARCH ANALYSIS, OR JOB RECOMMENDATION and any interpretation or recommendation is not for use of or reliance upon by any third party. The customer has full responsibility for any of its decisions which are based on the information provided in this report.

Table of Contents

1.0	Cementing Job Summary	4
1.1	Executive Summary	4
2.0	Real-Time Job Summary	6
2.1	Job Event Log	6
3.0	Attachments.....	7
3.1	Case 1-Custom Results (1).png	7

1.0 Cementing Job Summary

1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **TC Aims C5-9-11** cement **Surface** casing job. A pre-job safety meeting was held before the job where details of the job were discussed, potential safety hazards were reviewed, and environmental compliance procedures were outlined.

Approximately, 25bbl of cement returned to surface.

Halliburton maintains a continuous quality improvement process and appreciates any comments or suggestions that you may have. Halliburton again thanks you for the opportunity to perform service work on this well. We hope to be your solutions provider for future projects.

Respectfully,

Halliburton [Ft. Lupton]

HALLIBURTON

Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 369404		Ship To #: 3762942		Quote #:		Sales Order #: 0903697534					
Customer: EXTRACTION OIL & GAS				Customer Rep: Hans Cary							
Well Name: TC AIMS			Well #: C5-9-11			API/UWI #: 05-123-43744-00					
Field: WATTENBERG		City (SAP): GREELEY		County/Parish: WELD			State: COLORADO				
Legal Description: SE NE-8-5N-66W-2606FNL-1192FEL											
Contractor: PATTERSON-UTI ENERGY					Rig/Platform Name/Num: PATTERSON 341						
Job BOM: 7521											
Sales Person: HALAMERICA\HX38199					Srcv Supervisor: Nathaniel Moore						
Job											
Job depth MD		1580ft			Job Depth TVD						
Well Data											
Description	New / Used	Size in	ID in	Weight lbm/ft	Thread	Grade	Top MD ft	Bottom MD ft	Top TVD ft	Bottom TVD ft	
Open Hole Section			13.5				0	1580			
Casing		9.625	8.921	36			0	1565			
Tools and Accessories											
Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make			
Guide Shoe	9.625				Top Plug	9.625	1	HES			
Float Shoe	9.625			1565	Bottom Plug	9.625		HES			
Fluid Data											
Stage/Plug #: 1											
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal		
1	Water with dye	Water with dye	10	bbl	8.34						
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal		
2	SwiftCem	SWIFTCEM (TM) SYSTEM	525	sack	13.5	1.74		5	9.2		
9.18 Gal		FRESH WATER									
94 lbm		TYPE I / II CEMENT, BULK (101439798)									
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal		
3	Displacement	Displacement	117	bbl	8.34						
Cement Left In Pipe		Amount		43 ft		Reason			Shoe Joint		
25 bbl cement to surface											

2.0 Real-Time Job Summary

2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	PS Pump Press <i>(psi)</i>	DH Density <i>(ppg)</i>	Comb Pump Rate <i>(bbl/min)</i>	Pump Stg Tot <i>(bbl)</i>	Comments
Event	1	Call Out	Call Out	12/5/2016	18:00:00	USER					OL time 2200. Verify equipment and materilas
Event	2	Assessment Of Location Safety Meeting	Assessment Of Location Safety Meeting	12/5/2016	21:00:00	USER					Spot in and rig up equipment. Rig running casing
Event	3	Pre-Job Safety Meeting	Pre-Job Safety Meeting	12/5/2016	00:15:00	USER	36.00	0.07	0.00	0.00	
Event	4	Start Job	Start Job	12/5/2016	00:33:05	COM1	69.00	8.83	0.00	4.10	Fill lines 3 bbl water
Event	5	Test Lines	Test Lines	12/5/2016	00:36:42	COM1	2673.00	8.72	0.00	6.60	2500 psi pressure test with 500 psi kickout test
Event	6	Pump Spacer 1	Pump Spacer 1	12/5/2016	00:39:15	COM1	-78.00	8.60	0.00	0.00	10 bbl dye
Event	7	Pump Cement	Pump Cement	12/5/2016	00:51:30	COM1	51.00	9.60	2.90	0.00	525 sks/162 bbl 13.5 ppg 1.74 ft3/sk 9.2 gal/sk
Event	8	Drop Top Plug	Drop Top Plug	12/5/2016	01:27:03	COM1	-9.00	14.00	0.00	165.20	Witnssed by company rep. Washup on top of plug
Event	9	Pump Displacement	Pump Displacement	12/5/2016	01:27:09	COM1	-9.00	14.00	0.00	0.00	117 bbl water displacement
Event	10	Other	Spacer to surface	12/5/2016	01:38:39	COM1	691.00	8.07	8.00	76.50	80 bbl into displacement
Event	11	Other	Cement to surface	12/5/2016	01:42:33	COM1	526.00	8.08	5.00	104.70	90 bbl into displacement. 25 bbl back
Event	12	Bump Plug	Bump Plug	12/5/2016	01:46:55	COM1	915.00	8.08	0.00	117.60	500 psi final circulating pressure. Pressured up to 1500 psi for 5 minute casing test
Event	13	Other	Check floats	12/5/2016	01:51:00	USER	1569.00	8.06	0.00	117.80	1 bbl back. Floats held
Event	14	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	12/5/2016	01:52:00	USER	-2.00	8.04	0.00	117.80	
Event	15	End Job	End Job	12/5/2016	01:58:20	COM1	-19.00	7.99	0.70	118.00	

3.0 Attachments

3.1 Case 1-Custom Results (1).png

