

HALLIBURTON

iCem[®] Service

EXTRACTION OIL & GAS

Date: Saturday, March 18, 2017

TC AIMS 3-9-11 SURFACE

Job Date: Tuesday, February 21, 2017

Sincerely,

Julia Nichols

Legal Notice

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1.0 Cementing Job Summary

1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **TC Aims 3-9-11** 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 29 barrels of cement were 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]

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Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 369404	Ship To #: 3762925	Quote #:	Sales Order #: 0903545639							
Customer: EXTRACTION OIL & GAS		Customer Rep: Larry Siegel								
Well Name: TC AIMS	Well #: 3-9-11	API/UWI #: 05-123-43746-00								
Field: WATTENBERG	City (SAP): GREELEY	County/Parish: WELD	State: COLORADO							
Legal Description: SE NE-8-5N-86W-2590FNL-1192FEL										
Contractor: PATTERSON-UTI ENERGY		Rig/Platform Name/Num: PATTERSON 341								
Job BOM: 7521										
Well Type: HORIZONTAL OIL										
Sales Person: HALAMERICA/HX38199		Srvc Supervisor: Bradley Hinkle								
Job										
Formation Name										
Formation Depth (MD)	Top	Bottom								
Form Type	BHST									
Job depth MD	1586ft	Job Depth TVD	1586ft							
Water Depth	Wk Ht Above Floor									
Perforation Depth (MD)	From	To								
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
Casing		9.625	8.921	36			0	1586		1586
Open Hole Section			13.5				0	1626		1626
Tools and Accessories										
Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make		
Guide Shoe	9.625			1586	Top Plug	9.625	1	HES		
Float Shoe	9.625	1			Bottom Plug	9.625		HES		
Float Collar	9.625	1		1544	SSR plug set	9.625		HES		
Insert Float	9.625				Plug Container	9.625	1	HES		
Stage Tool	9.625				Centralizers	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	Spacer	Red Dye Water	10	bbl	8.34			4		
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	Primary Cement	SWIFTCEN (TM) SYSTEM	550	sack	13.5	1.74		7df	9.2	

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Cementing Job Summary

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	Fresh Water	119	bbl	8.34			8	
Cement Left In Pipe		Amount	42 ft		Reason			Shoe Joint	
Mix Water:		pH 6.5	Mix Water		0 ppm	Mix Water Temperature:		59 °F °C	
			Chloride:						
Cement Temperature:		68 °F	Plug Displaced by:## lb/gal kg/m3 XXXX			Disp. Temperature:		## °F °C	
Plug Bumped?		Yes	Bump Pressure:			540 psi		Floats Held?Yes	
Cement Returns:		29 bbl m3	Returns Density:## lb/gal kg/m3			Returns Temperature:		## °F °C	
Comment 29 bbls cement to surface.									

2.0 Real-Time Job Summary

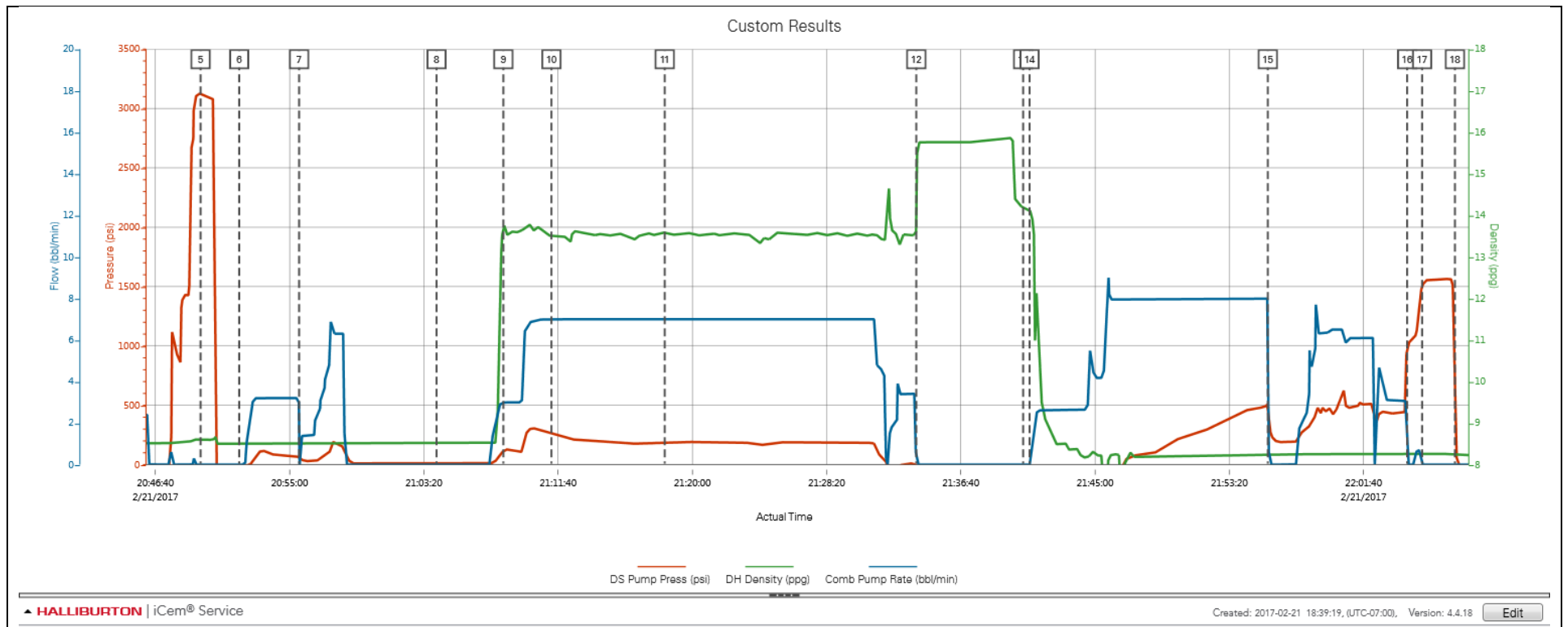
2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DH Density (ppg)	Comb Pump Rate (bbl/min)	DS Pump Press (psi)	Comments
Event	1	Call Out	Call Out	2/21/2017	11:30:00	USER				Called crew for an on location time of 1730. Crew was Luke Kosakewich, Brad Hinkle, Todd Porter, Thomas McDiffit, Anuar Almanzan.
Event	2	Depart Shop for Location	Depart Shop for Location	2/21/2017	16:50:00	USER				Pre-journey safety meeting.
Event	3	Arrive at Location from Service Center	Arrive at Location from Service Center	2/21/2017	17:40:00	USER				Sign in, held site assessment and pre rig-up safety meeting.
Event	4	Start Job	Start Job	2/21/2017	20:43:43	COM5				
Event	5	Test Lines	Test Lines	2/21/2017	20:49:28	COM5	8.60	0.00	3126.00	Pumped 3 bbl. ahead to fill lines. Pressure tested lines to 3000 psi. with a 500 psi electronic kickout test.
Event	6	Pump Spacer 1	Pump Spacer 1	2/21/2017	20:51:52	COM5	8.52	0.00	-10.00	Pumped 10 bbl. fresh water spacer.
Event	7	Pump Spacer 2	Pump Spacer 2	2/21/2017	20:55:35	COM5	8.52	0.70	63.00	Pumped 10bbl. fresh water spacer with red dye.
Event	8	Check Weight	Check weight	2/21/2017	21:04:07	COM5	8.51	0.00	12.00	Cement weighed at 13.53 verified by pressurized scale.
Event	9	Pump Cement	Pump Cement	2/21/2017	21:08:16	COM5	13.71	3.00	122.00	Pumped 170 bbl. (550 sks) of Swiftcem mixed at 13.5 ppg. Density verified by pressurized scales.
Event	10	Check Weight	Check weight	2/21/2017	21:11:15	COM5	13.50	7.00	271.00	Cement weighed at 13.45 verified by pressurized scale.
Event	11	Check Weight	Check weight	2/21/2017	21:18:17	COM5	13.59	7.00	191.00	Cement weighed at 13.5 verified by pressurized scale.
Event	12	Shutdown	Shutdown	2/21/2017	21:33:54	COM5	13.86	0.00	-9.00	
Event	13	Drop Top Plug	Drop Top Plug	2/21/2017	21:40:32	COM5	14.18	0.00	-57.00	Dropped top plug by breaking off the cap on the plug container and shoving the top plug into the casing.
Event	14	Pump Displacement	Pump Displacement	2/21/2017	21:40:56	COM5	14.11	0.00	-57.00	Pumped 119 bbl. of water. Good returns throughout. 29 bbls cement to surface.
Event	15	Shutdown	Shutdown	2/21/2017	21:55:43	USER	8.23	8.00	491.00	Cellar pump lost prime. Shutdown so cellar wouldn't overflow while rig hands re-primed pumps.

Event	16	Bump Plug	Bump Plug	2/21/2017	22:04:22	COM5	8.26	0.00	973.00	Bump plug at 540 PSI and increased to 1100 PSI. Held until it leveled out.
Event	17	Pressure Up Well	Pressure Up Well	2/21/2017	22:05:18	COM5	8.26	0.00	1503.00	Increase pressure to 1500 PSI for a casing test.
Event	18	Check Floats	Check Floats	2/21/2017	22:07:20	USER	8.26	0.00	393.00	Floats held. Half bbl back.
Event	19	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	2/21/2017	22:37:21	USER				Pre rig-down safety meeting.
Event	20	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	2/21/2017	22:37:42	USER				Pre-journey safety meeting.

3.0 Attachments

3.1 Custom Results – Job Chart with Events



3.2 Custom Results – Job Chart without Events

