HALLIBURTON

iCem® Service

EXTRACTION OIL & GAS-EBUS

Date: Wednesday, June 13, 2018

VT LDS C2-16-18 SURFACE

Job Date: Thursday, May 24, 2018

Sincerely,

Julia Nichols

Legal Notice

Disclaimer:

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Table of Contents

1.0 Cementing Job Summary

1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **VT LDS C2-16-18** 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 38 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 [Fort Lupton]

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Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 369404	Ship To #: 3786958	Quote #:	Sales Order #: 0904874725
Customer: EXTRACTION OIL & GAS -		Customer Rep: Shawn McIntyre	
Well Name: VT-LDS	Well #: C2-16-18		API/UWI #: 05-123-44422-00
Field: WATTENBERG	City (SAP): GREELEY	County/Parish: WELD	State: COLORADO
Legal Description: SW NW-15-5N-65W-1886FNL-626FWL			
Contractor: Shawn McIntyre		Rig/Platform Name/Num: Cartel 11	
Job BOM: 7521 7521			
Well Type: HORIZONTAL OIL			
Sales Person: HALAMERICA\HX38199		Srvc Supervisor: Adam Covington	

Job

Formation Name				
Formation Depth (MD)	Top		Bottom	
Form Type			BHST	
Job depth MD	1552ft		Job Depth TVD	
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	0	9.625	8.921	36	8 RD	J-55	0	1552	0	0
Open Hole Section			13.5				0	1553	0	0

Tools and Accessories

Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make
Guide Shoe	9.625			1552		Top Plug	9.625	1	HES
Float Shoe	9.625					Bottom Plug	9.625		HES
Float Collar	9.625					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 ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
1	Red Dye Spacer	Red Dye Spacer	50	bbl	8.33			4	

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
2	SwiftCem	SWIFTCEM (TM) SYSTEM	675	sack	13.5	1.74		5	9.2
	9.20 Gal	FRESH WATER							

last updated on 6/13/2018 11:32:39 AM — Page 1 of 3

iCem® Service
(v. 4.5.139)

Created: Wednesday, June 13, 2018

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Cementing Job Summary

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
3	Fresh Water	Fresh Water	120.4	bbl	8.33			5	

Cement Left In Pipe	**Amount**	43 ft		**Reason**	Shoe Joint
Mix Water:	pH 7	**Mix Water Chloride:**	0 ppm	**Mix Water Temperature:**	65 °F
Cement Temperature:	65 °F	**Plug Displaced by:**	8.33 lb/gal	**Disp. Temperature:**	65 °F
Plug Bumped?	Yes	**Bump Pressure:**	580 psi	**Floats Held?**	Yes
Cement Returns:	38 bbl	**Returns Density:**	9.2 lb/gal	**Returns Temperature:**	65 °F

Comment OH- 1553', 13.5" TP-1552, 9 5/8" SHOE 43' WATER 65 DEGREES, CHLORIDES 0, PH 7, SULFATES 0. 38 BBLS OF CEMENT BACK TO SURFACE. 1 BBL BACK TO THE TRUCK.

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(v. 4.5.139)

Created: Wednesday, June 13, 2018
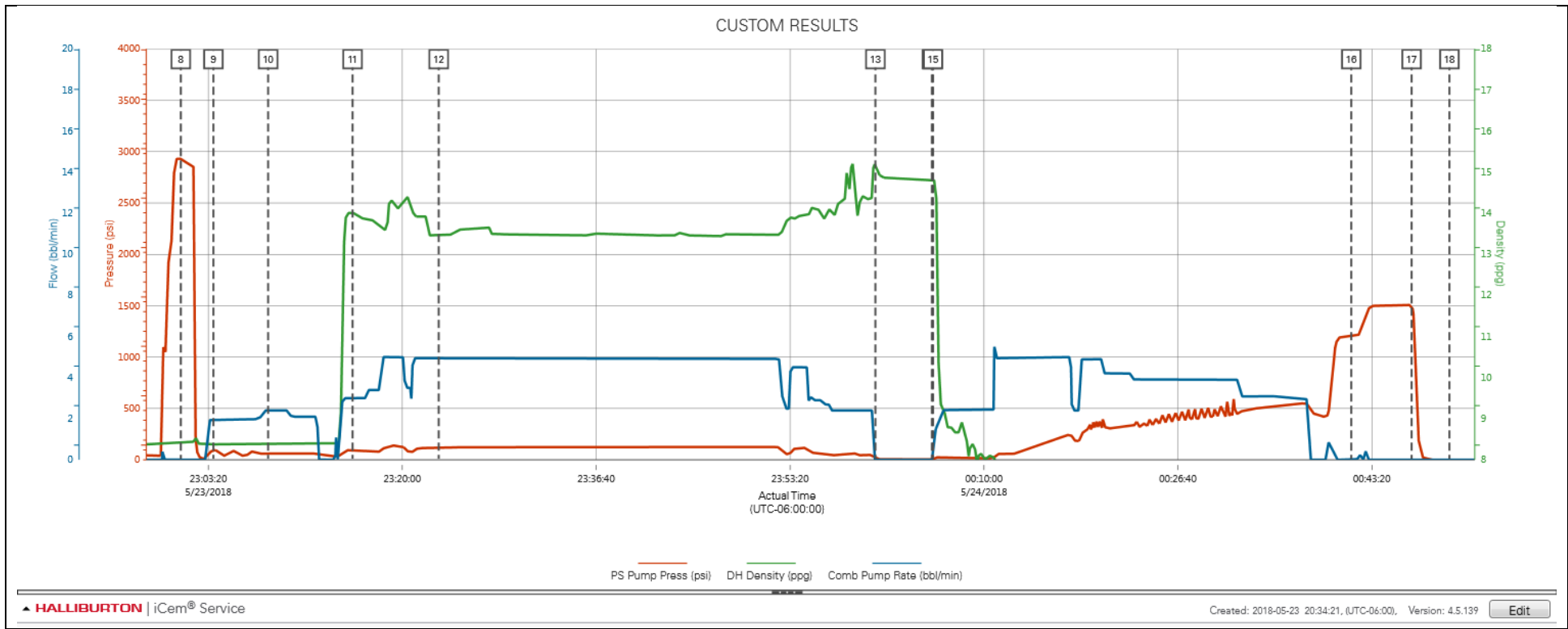
2.0 Real-Time Job Summary

2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	PS Pump Press (psi)	DH Density (ppg)	Comb Pump Rate (bbl/min)	Comments
Event	1	Call Out	Call Out	5/23/2018	13:00:00	USER				CALLED OUT BY SERVICE COORDINATOR FOR O/L AT 0500
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	5/23/2018	13:50:00	USER				
Event	3	Depart Shop for Location	Depart Shop for Location	5/23/2018	14:00:00	USER				HELD MEETING WITH ALL PERSONNEL IN CONVOY TO DISCUSS DIRECTIONS AND HAZARDS ASSOCIATED WITH DRIVING, ALL FIT TO DRIVE.
Event	4	Arrive At Loc	Arrive At Loc	5/23/2018	15:30:00	USER				UPON ARRIVAL MET WITH COMPANY MAN TO DISCUSS JOB DETAILS AND CALCULATIONS, PERFORMED HAZARD HUNT AND SITE ASSESSMENT.
Event	5	Safety Meeting - Pre Rig-Up	Safety Meeting - Pre Rig-Up	5/23/2018	17:00:00	USER				DISCUSSED RIGGING UP HAZARDS AND PROCEDURE ACCORDING TO HMS.
Event	6	Safety Meeting - Pre Job	Safety Meeting - Pre Job	5/23/2018	22:40:00	USER	2.00	8.41	0.00	HELD SAFETY MEETING WITH ALL JOB ASSOCIATED PERSONNEL TO DISCUSS JOB PROCEDURE, HAZARDS AND STOP WORK AUTHORITY. Water test- PH-6, Chlor-0, Temp-65. Cement temp-70.
Event	7	Start Job	Start Job	5/23/2018	22:55:55	COM4	-3.00	8.40	0.00	FILL LINES WITH 3 BBLS OF FRESH WATER. 2.5 BPM, 16 PSI.
Event	8	Test Lines	Test Lines	5/23/2018	23:00:58	COM4	2928.00	8.44	0.00	PERFORMED A 3000 PSI PRESSURE TEST AFTER PERFORMING A 500 KICKOUT TEST AND A 5TH GEAR STALL. HELD FOR 2 MINUTES. OPERATOR SAID IT WAS DROPPING 1 PSI PER 3 SECONDS.
Event	9	Pump Spacer 1	Pump Spacer 1	5/23/2018	23:03:46	COM4	100.00	8.38	2.00	PUMPED 10 BBLS OF FRESH WATER SPACER AT 2.5 BPM 50 PSI.
Event	10	Pump Spacer 2	Pump Spacer 2	5/23/2018	23:08:28	USER	66.00	8.39	2.40	PUMPED 10 BBLS OF DYE WATER SPACER. 2.5 BPM, 60 PSI.
Event	11	Pump Lead Cement	Pump Lead Cement	5/23/2018	23:15:44	COM4	92.00	14.01	3.00	PUMPED 209 BBLS (675 SKS) OF 13.5#, 1.74y, 9.2wr CEMENT AT 5 BPM 100 PSI TO START. FULL RETURNS.

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Event	12	Check Weight	Check Weight	5/23/2018	23:23:08	COM4	116.00	13.46	5.00	CHECKED WEIGHT OF CEMENT WITH PRESSURIZED MUD SCALES. WEIGHED UP AT 13.5#
Event	13	Shutdown	Shutdown	5/24/2018	00:00:40	COM4	12.00	15.14	0.00	SHUTDOWN. SUPERVISOR WAS TRYING TO HELP OPERATOR WASH UP ON THE PLUG. TOOK A LITTLE BIT LONGER. WASHED UP ON THE PLUG.
Event	14	Drop Top Plug	Drop Top Plug	5/24/2018	00:05:31	COM4	3.00	14.82	0.00	ADAM COVINGTON DROPPED HALLIBURTON 9 5/8" TOP PLUG. DRILLER AND BULK HAND WITNESSED.
Event	15	Pump Displacement	Pump Displacement	5/24/2018	00:05:37	COM4	3.00	14.82	0.00	PUMPED 117 BBLS OF FRESH WATER DISPLACEMENT. AT 5 BPM, 150 PSI. SLOWED RATE AT 80 AWAY TO 4 BPM. SLOWED TO 3 BPM TO BUMP.
Event	16	Bump Plug	Bump Plug	5/24/2018	00:41:34	COM4	1204.00	7.79	0.00	BUMPED PLUG. FCP 480 PSI. TOOK TO 1200 PSI. GOT 38 BBLS OF CEMENT BACK TO SURFACE.
Event	17	Check Floats	Check Floats	5/24/2018	00:46:45	USER	1504.00	7.80	0.00	CHECKED FLOATS. GOT 1 BBL BACK TO THE TRUCK. FLOATS HELD.
Event	18	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	5/24/2018	00:50:00	USER	-1.00	7.77	0.00	DISCUSSED RIGGING DOWN HAZARDS AND PROCEDURE ACCORDING TO HMS.
Event	19	End Job	End Job	5/24/2018	01:23:55	COM4	-3.00	8.38	0.00	OH- 1553', 13.5" TP-1552, 9 5/8" SHOE 43' WATER 65 DEGREES, CHLORIDES 0, PH 7, SULFATES 0. 38 BBLS OF CEMENT BACK TO SURFACE.
Event	20	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	5/24/2018	02:10:00	USER				HELD MEETING WITH ALL HES EMPLOYESS IN CONVOY TO DISCUSS DIRECTIONS AND HAZARDS ASSOCIATED WITH DRIVING, ALL FIT TO DRIVE.
Event	21	Depart Location	Depart Location	5/24/2018	02:20:00	USER				PRE JOURNEY MANAGEMENT PRIOR TO DEPARTURE.

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3.0 Attachments

3.1 Custom Results – Job Chart with Events

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3.2   Custom Results – Job Chart without Events