

# HALLIBURTON

iCem<sup>®</sup> Service

**EXTRACTION OIL & GAS-EBUS**

**VT-Glenmere C1-16-18 Production**

Sincerely,  
**Meghan Jacobs**

## Legal Notice

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### Disclaimer:

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## 1.0 Cementing Job Summary

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### 1.1 Executive Summary

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Halliburton appreciates the opportunity to perform the cementing services on the **VT-Glenmere C1-16-18** cement **Production** 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 55bbls 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 #: 3786956	Quote #:	Sales Order #: 0904906481							
Customer: EXTRACTION OIL & GAS		Customer Rep: Larry Siegel								
Well Name: VT-GLENMERE	Well #: C1-16-18	API/UWI #: 05-123-44424-00								
Field: WATTENBERG	City (SAP): GREELEY	County/Parish: WELD	State: COLORADO							
Legal Description: SW NW-15-5N-65W-1877FNL-697FWL										
Contractor:		Rig/Platform Name/Num: Patterson 901								
Job BOM: 7523 7523										
Well Type: HORIZONTAL OIL										
Sales Person: HALAMERICA\HX38199		Srv Supervisor: Kamereon White								
<b>Job</b>										
Formation Name										
Formation Depth (MD)	Top	Bottom								
Form Type	BHST									
Job depth MD	20710ft	Job Depth TVD	6945							
Water Depth	Wk Ht Above Floor 4									
Perforation Depth (MD)	From	To								
<b>Well Data</b>										
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		J-55	0	1600	0	1600
Casing	0	5.5	4.778	20	BTC	P-110	0	20690	0	6945
Open Hole Section			8.375				1600	9003		
Open Hole Section			8.5				9003		1550	6945
<b>Tools and Accessories</b>										
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make	
Guide Shoe	5.5			20750		Top Plug	5.5		HES	
Float Shoe	5.5					Bottom Plug	5.5		HES	
Float Collar	5.5					SSR plug set	5.5		HES	
Insert Float	5.5					Plug Container	5.5	1	HES	
Stage Tool	5.5					Centralizers	5.5		HES	
<b>Fluid Data</b>										
Stage/Plug #: 1										
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft <sup>3</sup> /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal	
1	11.5 lb/gal Tuned Spacer III	Tuned Spacer III	50	bbl	11.5	3.73	23.4	5		
0.50 gal/bbl		MUSOL(R) A, 5 GAL PAIL (100064220)								
149.34 lbm/bbl		BARITE, BULK (100003681)								
35 gal/bbl		FRESH WATER								
0.50 gal/bbl		DUAL SPACER SURFACTANT B, 5 GAL PAIL (100003665)								

last updated on 6/11/2018 12:42:44 AM

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(v. 4.5.139)

Created: Tuesday, June 12, 2018

## HALLIBURTON

*Cementing Job Summary*

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft <sup>3</sup> /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal																														
2	ElastiCem	ELASTICEM (TM) SYSTEM	3365	sack	13.2	1.57		8	7.53																														
0.45 %		SCR-100 (100003749)																																					
7.50 Gal		FRESH WATER																																					
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft <sup>3</sup> /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal																														
3	Displacement	Displacement	459	bbl	8.33																																		
<table border="1"> <tr> <td>Cement Left In Pipe</td> <td>Amount</td> <td>5 ft</td> <td>Reason</td> <td>Shoe Joint</td> </tr> <tr> <td>Mix Water:</td> <td>7 pH</td> <td>Mix Water &lt; 400 ppm Chloride:</td> <td>Mix Water Temperature:</td> <td>73 °F</td> </tr> <tr> <td>Cement Temperature:</td> <td></td> <td>Plug Displaced by:</td> <td>8.33 lb/gal</td> <td>Disp. Temperature:</td> </tr> <tr> <td>Plug Bumped?</td> <td>Yes</td> <td>Bump Pressure:</td> <td>2520 psi</td> <td>Floats Held?</td> </tr> <tr> <td>Cement Returns:</td> <td>55 bbl</td> <td>Returns Density:</td> <td>13.2 lb/gal</td> <td>Returns Temperature:</td> </tr> <tr> <td colspan="5">Comment</td> </tr> </table>										Cement Left In Pipe	Amount	5 ft	Reason	Shoe Joint	Mix Water:	7 pH	Mix Water < 400 ppm Chloride:	Mix Water Temperature:	73 °F	Cement Temperature:		Plug Displaced by:	8.33 lb/gal	Disp. Temperature:	Plug Bumped?	Yes	Bump Pressure:	2520 psi	Floats Held?	Cement Returns:	55 bbl	Returns Density:	13.2 lb/gal	Returns Temperature:	Comment				
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Comment																																							

## 2.0 Real-Time Job Summary

## 2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DS Pump Press (psi)	DH Density (ppg)	Comb Pump Rate (bbl/min)	Comments
Event	1	Call Out	Call Out	6/10/2018	08:00:00	USER				Crew called out and was requested to be on location @1300 on 06/10/2018.
Event	2	Depart from Service Center or Other Site	Depart from Service Center or Other Site	6/10/2018	10:40:00	USER				Crew left the yard and called in a journey.
Event	3	Arrive at Location from Service Center	Arrive at Location from Service Center	6/10/2018	11:30:00	USER				Crew arrived on location early.
Event	4	Assessment Of Location Safety Meeting	Assessment Of Location Safety Meeting	6/10/2018	11:40:00	USER				Crew discussed rig up procedures.
Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	6/10/2018	11:50:00	USER				Discussed the JSA Before we began any task.
Event	6	Other	Rig Up Equipment	6/10/2018	12:00:00	USER				Rig up all HES equipment and lines .
Event	7	Other	Rig Up Completed	6/10/2018	14:00:00	USER				All HES equipment and lines rigged up safely.
Event	8	Safety Meeting - Pre Job	Safety Meeting - Pre Job	6/10/2018	18:30:00	USER	-9.00	8.31	0.00	Discussed the job procedure and pressures.
Event	9	Start Job	Start Job	6/10/2018	19:20:03	COM5	-10.00	8.27	0.00	Start Job.
Event	10	Pump Spacer 1	Pump Spacer 1	6/10/2018	19:26:20	COM5	218.00	10.43	3.00	Pumped 50 bbls of tuned spacer III @ 11.5 ppg 3.73 yield, 23.4 gal/sk 5 bpm 400 psi.
Event	11	Pump Lead Cement	Pump Lead Cement	6/10/2018	19:37:28	COM5	244.00	11.83	5.10	Pumped 941 bbls of cement @ 13.2 ppg, 1.57 yield 7.53 gal/sk ( 3365 sks) 8 bpm 765 psi.
Event	12	Check Weight	Check Weight	6/10/2018	19:40:34	COM5	951.00	13.45	7.90	Checked the weight of the cement with pressurized mud scales, scaled @ 13.2 ppg
Event	13	Check Weight	Check Weight	6/10/2018	19:51:06	COM5	712.00	13.24	7.90	Checked the weight of the cement with pressurized mud scales, scaled @ 13.2 ppg.
Event	14	Check Weight	Check Weight	6/10/2018	19:55:00	COM5	798.00	13.51	7.90	Checked the weight of the cement with pressurized mud scales, scaled @ 13.2 ppg

Event	15	Check Weight	Check Weight	6/10/2018	20:23:37	COM5	561.00	13.29	5.90	Checked the weight of the cement with pressurized mud scales, scaled @ 13.4 ppg
Event	16	Check Weight	Check Weight	6/10/2018	20:25:32	COM5	498.00	13.15	6.00	Checked the weight of the cement with pressurized mud scales, scaled @ 13.2 ppg
Event	17	Check Weight	Check Weight	6/10/2018	20:27:50	COM5	455.00	13.04	6.00	Checked the weight of the cement with pressurized mud scales, scaled @ 13.3 ppg
Event	18	Check Weight	Check Weight	6/10/2018	20:32:12	COM5	506.00	13.28	5.90	Checked the weight of the cement with pressurized mud scales, scaled @ 13.2 ppg
Event	19	Check Weight	Check Weight	6/10/2018	20:36:07	COM5	888.00	13.42	8.00	Checked the weight of the cement with pressurized mud scales, scaled @ 13.0 ppg
Event	20	Check Weight	Check Weight	6/10/2018	20:38:22	COM5	793.00	13.13	8.00	Checked the weight of the cement with pressurized mud scales, scaled @ 13.2 ppg
Event	21	Check Weight	Check Weight	6/10/2018	20:39:14	COM5	820.00	13.22	8.00	Checked the weight of the cement with pressurized mud scales, scaled @ 13.2 ppg
Event	22	Shutdown	Shutdown	6/10/2018	21:47:39	COM5	76.00	12.59	0.00	Shutdown to break the cap off the plug container to load the KLX latchdown plug. Rigged back up to pump displacement.
Event	23	Drop Top Plug	Drop Top Plug	6/10/2018	21:56:14	COM5	-9.00	12.97	0.00	Drop KLX latch down plug.
Event	24	Pump Displacement	Pump Displacement	6/10/2018	21:56:18	COM5	-8.00	12.91	0.00	Pumped 459 bbls of fresh water for displacement. @ 354 bbls into displacement we got spacer back to surface and @ 404 bbls away we got cement back to surface which gave us 50 bbls of spacer back and 55 bbls of cement back.
Event	25	Bump Plug	Bump Plug	6/10/2018	22:51:27	COM5	2960.00	8.22	0.00	Bumped the plug on calculated displacement, the final circulating psi was 2520 psi and took 500 psi over to 3000 psi and shutdown the pump.
Event	26	Other	Other	6/10/2018	22:52:32	COM5	2968.00	8.23	0.00	Pressured up @ 2bpm to rupture the disk , the disk ruptured @ 3707 psi .
Event	27	Other	Other	6/10/2018	22:53:23	COM5	2740.00	8.24	2.00	Pumped a 5 bbl wet shoe as customer request.
Event	28	Other	Other	6/10/2018	22:56:07	COM5	1894.00	8.19	0.00	Checked the floats and the the floats held , got 3 bbls back.
Event	29	End Job	End Job	6/10/2018	22:57:16	COM5	-4.00	8.14	0.00	Cement job complete and was asked to wash up

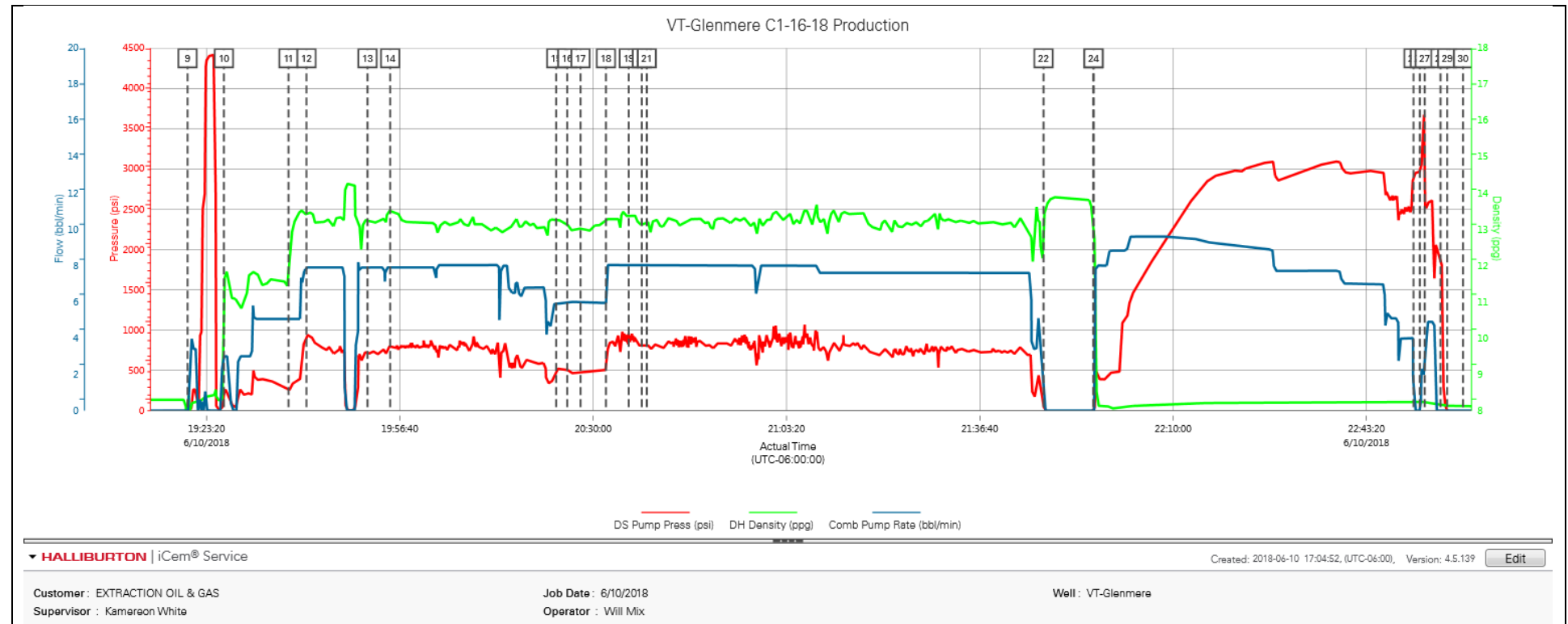


through the rigs stack untill cleaned.

Event	30	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	6/10/2018	23:00:00	USER	-14.00	8.13	0.00	Discussed rig down procedures and JSA.
Event	31	Rig Down Lines	Rig Down Lines	6/10/2018	23:10:00	USER	-16.00	8.12	0.00	Rigged down all HES equipment and lines.
Event	32	Rig-Down Completed	Rig-Down Completed	6/11/2018	01:00:00	USER				All HES equipment and lines rigged down safely.
Event	33	Rig-Down Completed	Rig-Down Completed	6/11/2018	01:00:00	USER				All HES equipment and lines rigged down safely.
Event	34	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	6/11/2018	01:30:00	USER				Kamereon White and crew would like to thank you for your business and choosing Halliburton Cement , Please give us a call if you have any questions.

## 3.0 Attachments

### 3.1 VT-Glenmere C1-16-18 Production – Job Chart with Events



## 3.2 VT-Glenmere C1-16-18 Production – Job Chart without Events

