

# HALLIBURTON

iCem<sup>®</sup> Service

## **LARAMIE ENERGY II LLC**

**For: Laramie**

Date: Tuesday, May 29, 2018

**Cascade Creek 0697-03-12E Surface PJR**

Job Date: Tuesday, May 29, 2018

Sincerely,

**Grand Junction Cement Engineering**

## 1.0 Real-Time Job Summary

## 1.1 Job Event Log

Type	Seq. No.	Graph Label	Date	Time	Source	PS Pump Press (psi)	DH Density (ppg)	Comb Pump Rate (bbl/min)	Pump Stg Tot (bbl)	Comments
Event	1	Call Out	5/28/2018	17:00:00	USER					REQUESTED ON LOCATION @ 0400
Event	2	Pre-Convoy Safety Meeting	5/28/2018	18:30:00	USER					ALL HES PRESENT
Event	3	Crew Leave Yard	5/28/2018	18:45:00	USER					1 F550, 1 PUMP TRUCK & 1 660 BULK TURCK
Event	4	Arrive at Location from Service Center	5/28/2018	20:30:00	USER					RIG RUNNING CASING
Event	5	Assessment Of Location Safety Meeting	5/28/2018	20:45:00	USER					MET WITH COMP REP AND WENT OVER NUMBERS AND JOB PROCEDURE. WALKED AROUND LOCATION AND COLLECTED WATER SAMPLE (PH- 7, CHLORIDES- 0, TEMP- 71F). COMP REP WAS OFFERED SDS FOR ALL CHEMICLES USED BY HES.
Event	6	Pre-Rig Up Safety Meeting	5/28/2018	21:00:00	USER					ALL HES PRESENT
Event	7	Rig-Up Completed	5/28/2018	22:00:00	USER					HES RIGGED UP EQUIPMENT WITHOUT ENTERING RED ZONE.
Event	8	Prime Pumps	5/28/2018	22:27:31	COM6					8.33 PPG FRESH WATER
Event	9	Pre-Job Safety Meeting	5/28/2018	23:30:00	USER					ALL HES AND RIG CREW PRESENT
Event	10	Start Job	5/28/2018	23:48:00	COM6					TD 2566', TP 2556', SJ 86.8" OH 14.75", CSG 9.625" 36#, MUD 8.4 PPG. RIG CLEARED

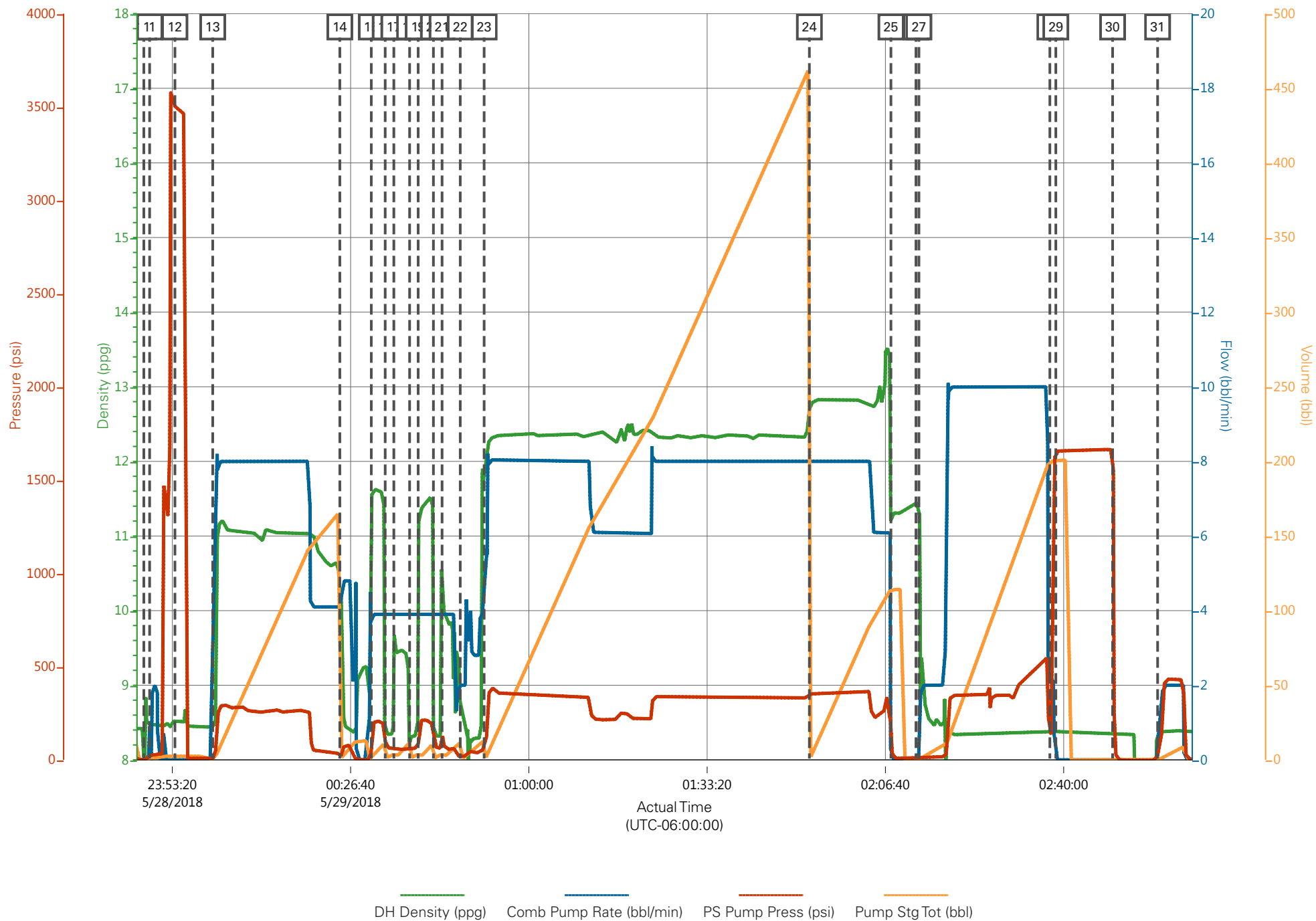
CASING CAPACITY (250 BBL) AND TURNED OVER TO HES.										
Event	11	Prime Pumps	5/28/2018	23:49:05	USER	25.00	8.33	0.90	5.00	8.33 PPG FRESH WATER
Event	12	Test Lines	5/28/2018	23:53:49	COM6	3545.00	8.33	0.50	0.50	ALL LINES HELD PRESSURE AT 3545 PSI
Event	13	Pump Scavenger Cement	5/29/2018	00:00:53	COM6	273.00	11.00	8.00	130.00	SCAVENGER CEMENT 306 SKS (130 BBLS), 11 PPG, 2.38 FT3/SK, 12.38 GAL/SK
Event	14	Pump Spacer 1	5/29/2018	00:24:39	COM6	290.00	8.33	4.10	10.00	8.33 PPG FRESH WATER (10 BBL)
Event	15	Pump Spacer 2	5/29/2018	00:30:32	COM6	330.00	11.00	3.90	10.00	11 PPG SUPER FLUSH 100 (10 BBL)
Event	16	Pump Spacer 1	5/29/2018	00:33:08	COM6	290.00	8.33	3.90	5.00	8.33 PPG FRESH WATER (5 BBL)
Event	17	Pump Spacer 2	5/29/2018	00:34:45	COM6	300.00	9.40	3.90	10.00	9.4 PPG CALCIUM CHLORIDE WATER (10 BBL)
Event	18	Pump Spacer 1	5/29/2018	00:37:42	COM6	300.00	8.33	3.90	5.00	8.33 PPG FRESH WATER (5 BBL)
Event	19	Pump Spacer 2	5/29/2018	00:39:18	COM6	330.00	11.00	3.90	10.00	11 PPG SUPER FLUSH 100 (10 BBL)
Event	20	Pump Spacer 1	5/29/2018	00:42:09	COM6	190.00	8.33	3.90	5.00	8.33 PPG FRESH WATER (5 BBL)
Event	21	Pump Spacer 2	5/29/2018	00:43:46	COM6	300.00	9.40	3.90	10.00	9.4 PPG CALCIUM CHLORIDE WATER (10 BBL)
Event	22	Pump Spacer 1	5/29/2018	00:47:10	COM6	300.00	8.33	2.00	10.00	8.33 PPG FRESH WATER (10 BBL)
Event	23	Pump Lead Cement	5/29/2018	00:51:38	COM6	375.00	12.30	8.00	428.00	VARICEM CEMENT 1015 SKS (428 BBLS), 12.3 PPG, 2.38 FT3/SK, 13.74 GAL/SK
Event	24	Pump Tail Cement	5/29/2018	01:52:27	COM6	353.00	12.80	8.00	110.00	VARICEM CEMENT 292 SKS (110 BBLS), 12.8 PPG, 2.11 FT3/SK, 11.75 GAL/SK.

Event	25	Shutdown	5/29/2018	02:07:42	USER					END OF CMT
Event	26	Drop Top Plug	5/29/2018	02:12:23	USER					PLUG WENT, VERIFIED BY CO REP
Event	27	Pump Displacement	5/29/2018	02:12:56	COM6	542.00	8.33	10.00	187.00	8.34 PPG FRESH WATER (197 BBLs)
Event	28	Slow Rate	5/29/2018	02:37:25	USER	185.00	8.33	2.00	10.00	SLOW RATE TO 2 BPM PER CO REP TO LAND PLUG
Event	29	Bump Plug	5/29/2018	02:38:32	USER	1649.00	8.33	2.00	197.00	LAND PLUG AT 200 PSI, BROUGHT UP TO 1600 PSI FOR A 10 MIN CSG TEST.
Event	30	Check Floats	5/29/2018	02:49:09	USER	1665.00	8.33	0.00	197.00	FLOATS HELD, 1 BBL BACK TO TRUCK
Event	31	Other	5/29/2018	02:57:34	COM6	400.00	8.33	2.50	12.00	CLEAR PARASITE STRING, 8.34 SUGAR WATER (12 BBL)
Event	32	Pump Spacer 1	5/29/2018	06:46:25	USER	0.00	11.00	0.00	10.00	11 PPG SUPER FLUSH 100 (10 BBL), TRICKLED DOWN THE BACKSIDE, 7 BBLs GONE WHEN CREW BEGAN PUMPING CEMENT.
Event	33	Pump Spacer 2	5/29/2018	06:54:54	COM6	123.00	8.33	2.00	3.00	8.33 PPG FRESH WATER (3 BBL)
Event	34	Pump Top Out Cement	5/29/2018	06:56:46	COM6	105.00	15.60	2.50	33.00	TYPE I/II CEMENT 155 SKS (33 BBLs), 15.6 PPG, 1.19 FT3/SK, 5.24 GAL/SK. APPROX. 3 BBL OF SUPER FLUSH TRICKLED DOWN THE BACKSIDE WHILE PUMPING CEMENT. SUPERFLUSH WAS SHUT OFF AT 10 BBL AWAY ON CEMENT.
Event	35	End Job	5/29/2018	07:20:49	USER					NO RETURNS DURING THE JOB, PIPE WAS NOT RECIPROCATED, 0 BBL OF SPACER OR CEMENT BACK

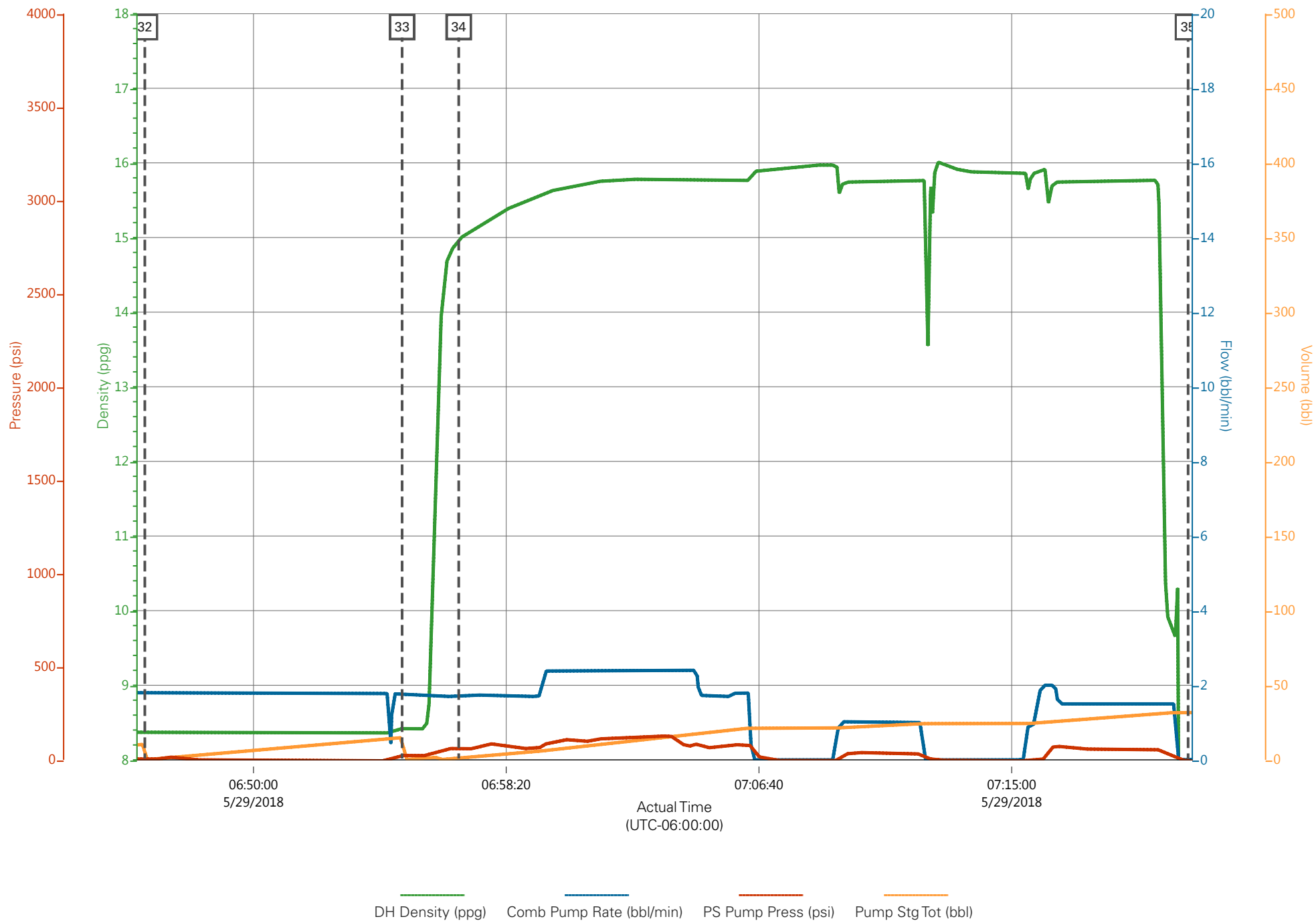
TO SURFACE ON PRIMARY  
JOB. 155 SKS OF TOP OUT  
USED, CEMENT DID NOT  
FALL BACK AFTER 1 HOUR.  
CUSTOMER RELEASED  
CREW AT 7:55AM.

Event	36	Clean Lines	5/29/2018	07:23:26	USER	CLEAN LINES
Event	37	Post-Job Safety Meeting (Pre Rig-Down)	5/29/2018	08:00:00	USER	ALL HES PRESENT
Event	38	Rig-Down Completed	5/29/2018	08:40:00	USER	ALL HES PRESENT
Event	39	Pre-Convoy Safety Meeting	5/29/2018	09:00:00	USER	ALL HES PRESENT
Event	40	Crew Leave Location	5/29/2018	09:15:00	USER	THANK YOU FOR CHOOSING HALLIBURTON CEMENT, CHRIS SMITH AND CREW

# LARAMIE - CC 0697-03-12E - 9.625" SURFACE



# LARAMIE - CC 0697-03-12E - 9.625" SURFACE (TOP OUT)



# HALLIBURTON

iCem<sup>®</sup> Service

## **LARAMIE ENERGY II LLC EBUSINESS**

Date: Wednesday, June 06, 2018

### **Cascade Creek 697-03-12E**

API# 05-045-23803-00

Laramie Cascade Creek 0697-03-12E Production

Job Date: Friday, June 01, 2018

Sincerely,

**Grand Junction Cement Engineering**



## 1.0 Real-Time Job Summary

## 1.1 Job Event Log

Type	Seq. No.	Graph Label	Date	Time	Source	DH Density (ppg)	Comb Pump Rate (bbl/min)	PS Pump Press (psi)	Pump Stg Tot (bbl)	Comments
Event	1	Call Out	6/1/2018	10:00:00	USER					REQUESTED ON LOCATION @ 16:00
Event	2	Pre-Convoy Safety Meeting	6/1/2018	12:45:00	USER					ALL HES PRESENT
Event	3	Crew Leave Yard	6/1/2018	13:00:00	USER					1 HT 400 PUMP TRUCK E4, 1 660 BULK TRUCK,1 TRANSPORT, 1 450 SERVICE PICKUP
Event	4	Arrive At Loc	6/1/2018	16:00:00	USER					RIG RUNNING CASING WHEN HES ARRIVED AT LOCATION
Event	5	Assessment Of Location Safety Meeting	6/1/2018	16:05:00	USER					MET WITH COMP REP, AND WENT OVER NUMBERS AND JOB PROCEDURE. WALKED AROUND LOCATION AND COLLECTED WATER SAMPLE (PH- 7.0, CHLORIDES- 500, TEMP- 62F). COMP REP WAS OFFERED SDS FOR ALL CHEMICALS USED BY HES.
Event	6	Pre-Rig Up Safety Meeting	6/1/2018	16:10:00	USER					ALL HES PRESENT
Event	7	Rig-Up Equipment	6/1/2018	16:15:00	USER					HES RIGGED UP 1 HT400 PUMP TRUCK, 1 660 BULK TRUCK, 2 CEMENT SILOS,1 TRANSPORT, 2" DISCHARGE IRON, AND 4" SUCTION HOSE WITHOUT ENTERING RED ZONE.
Event	8	Pre-Job Safety Meeting	6/1/2018	18:00:00	USER					ALL HES EMPLOYEES AND RIG CREW PRESENT, RIG CIRCULATED @ 10 BPM PRIOR TO JOB PRESSURE @ 154 PSI.WITH 2000CFM ON PARASITE STRING

Event	9	Start Job	6/1/2018	18:19:47	COM6					TD 9772', TP 9762' OF 4 ½" 11.6# P110 CSG, SJ 86.49', SURFACE CSG 9 5/8" 36# J55 SET @ 2556', OH 8 3/4", MUD 8.8 PPG
Event	10	Prime Lines	6/1/2018	18:20:28	USER	8.33	2	41	2	FRESH WATER
Event	11	Test Lines	6/1/2018	18:22:05	COM6	8.33		5197		ALL LINES HELD PRESSURE AT 5197 PSI
Event	12	Mud Flush	6/1/2018	18:26:31	COM6	8.4	4	70	40	40 BBLS MUD FLUSH
Event	13	Pump Super Flush	6/1/2018	18:36:39	COM6	10	4	155	20	20BBLS SUPER FLUSH
Event	14	Pump H2O Spacer	6/1/2018	18:42:05	COM6	8.33	4	66	10	10 BBLS FRESH WATER
Event	15	Drop Bottom Plug	6/1/2018	18:43:57	COM6					VERIFIED BY FLAG INDICATOR
Event	16	Pump Lead Cement	6/1/2018	18:45:13	COM6	12.5	8	600	419.1	1213 SKS OF NEOCEM CMT 12.5 PPG, 1.94 FT3/SK, 9.59 GAL/SK.
Event	17	Slow Rate	6/1/2018	19:30:56	USER					SLOWED TO END LEAD SILO
Event	18	Pump Tail Cement	6/1/2018	19:55:50	COM6	13	7	500	191.4	519 SKS NEOCEM CMT 13. PPG, 2.07 FT3/SK, 9.42 GAL/SK.
Event	19	Slow Rate	6/1/2018	20:26:50	USER					SLOWED TO END TAIL SILO
Event	20	Clean Lines	6/1/2018	20:34:05	COM6					END OF CEMENT. CLEAN PUMPS AND LINES TO CELLAR.
Event	21	Drop Top Plug	6/1/2018	20:42:54	COM6					VERIFIED BY FLAG INDICATOR
Event	22	Pump Displacement	6/1/2018	20:43:00	COM6	8.33	8	1500	150	1 GAL MMCR IN FIRST 10 BBLS, 5 GALS CLAY WEB THROUGHT DISPLACEMENT
Event	23	Slow Rate	6/1/2018	21:03:30	USER	8.33	4	1170	140	SLOW RATE TO 4 BPM TO BUMP PLUG
Event	24	Bump Plug	6/1/2018	21:06:47	COM6	8.33	4	1280	150	LANDED PLUG AT 1280 PSI, BROUGHT UP TO 3000 PSI
Event	25	Casing Test	6/1/2018	21:11:26	USER			3000		HELD 3000PSI ON CASING FOR 5 MINS
Event	26	Check Floats	6/1/2018	21:14:37	USER					FLOATS HELD, 1 BBL BACK TO TRUCK
Event	27	Top Out	6/1/2018	22:03:43	USER	15.6	2	73	7.5	35 SKS G CMT 15.6 PPG, 1.19FT3/SK, 5.24 GAL/SK.. PUMPED 7.5BBLS DOWN THE PARASITE STRING
Event	28	End Job	6/1/2018	22:12:11	COM6					RETURNS THROUGHT CEMENT WITH 2000CFM ON PARASITE. LOTS RETUNERS ON DISPLACEMENT AFTER

SHUTTING OFF AIR, 20 BBLS OF SUPER FLUSH SPACER TO SURFACE. 50# OF SUGAR USED.

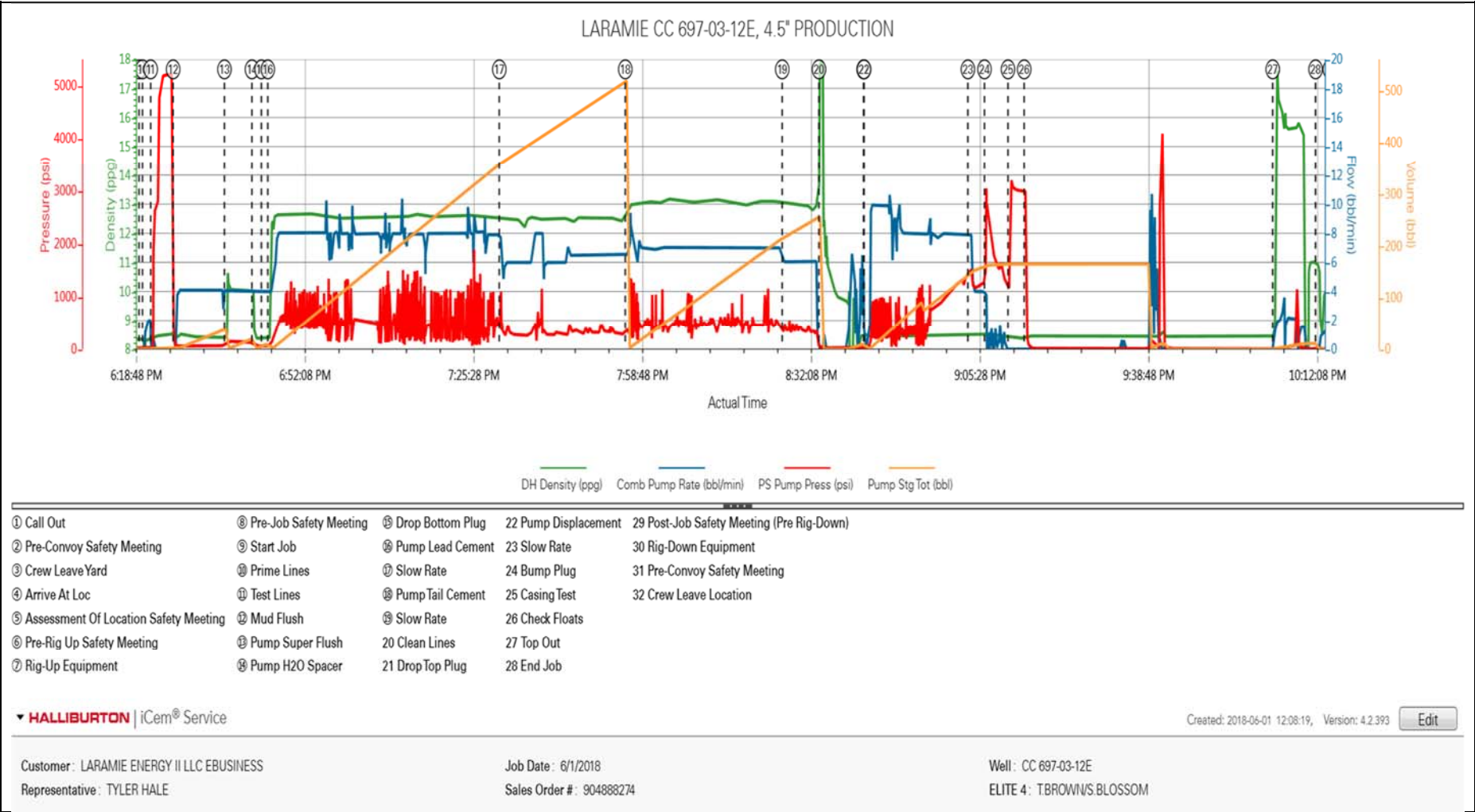
Event	29	Post-Job Safety Meeting (Pre Rig-Down)	6/1/2018	22:15:00	USER	ALL HES PRESENT
Event	30	Rig-Down Equipment	6/1/2018	22:20:00	USER	ALL HES PRESENT
Event	31	Pre-Convoy Safety Meeting	6/1/2018	23:30:00	USER	ALL HES PRESENT
Event	32	Crew Leave Location	6/1/2018	23:45:00	USER	THANK YOU FOR CHOOSING HALLIBURTON CEMENT, SHAWN BLOSSOM AND CREW

## 2.0 Attachments

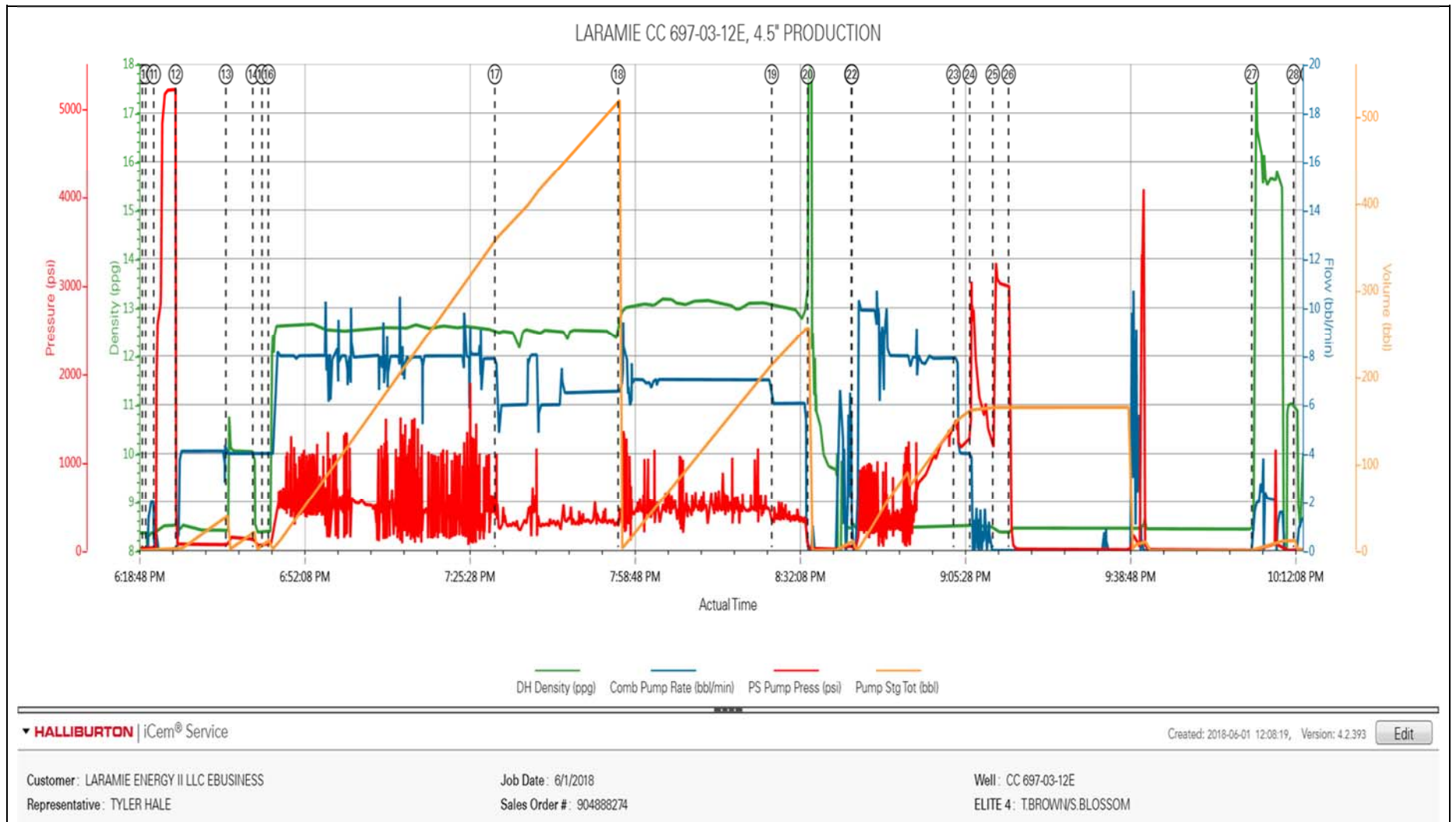
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### 2.1 CHART WITH EVENTS.png

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## 2.2 CHART WITH OUT EVENTS.png





**Job Information**

Request/Slurry	2477630/2	Rig Name		Date	28/MAY/2018
Submitted By	Lukas Van Zyl	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Laramie Energy	Location	Garfield	Well	Cascade Creek 0697-03-12E

**Well Information**

Casing/Liner Size	4.5 in	Depth MD	9830 ft	BHST	118°C / 245°F
Hole Size	8.75 in	Depth TVD	9724 ft	BHCT	79°C / 175°F
Pressure	6107 psi				

**Drilling Fluid Information**

Mud Supplier Name	Mud Trade Name	Density
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**Cement Information - Lead Design**

Conc	UOM	Cement/Additive	Sample Type	Sample Date	Lot No.	Cement Properties		
		NeoCem				Slurry Density	12.5	lbm/gal
						Slurry Yield	1.946	ft3/sack
						Water Requirement	9.615	gal/sack
						Total Mix Fluid	9.615	gal/sack
						Water Source	Fresh Water	
						Water Chloride		

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# Operation Test Results Request ID 2477630/2

## Thickening Time - ON-OFF-ON

31/MAY/2018

Test Temp (degF)	Pressure (psi)	Reached in (min)	30 Bc (hh:mm)	50 Bc (hh:mm)	70 Bc (hh:mm)	100 Bc (hh:mm)	Start Bc	Stirring before stop (mins)	Static Period (min)	Peak reading (BC)
175	6107	49	5:16	5:32	5:42	6:01	16	59	15	15

Total SKS = 1213

CS1135 TR#1283 300 SKS

CS1136 TR#5692 113 SKS

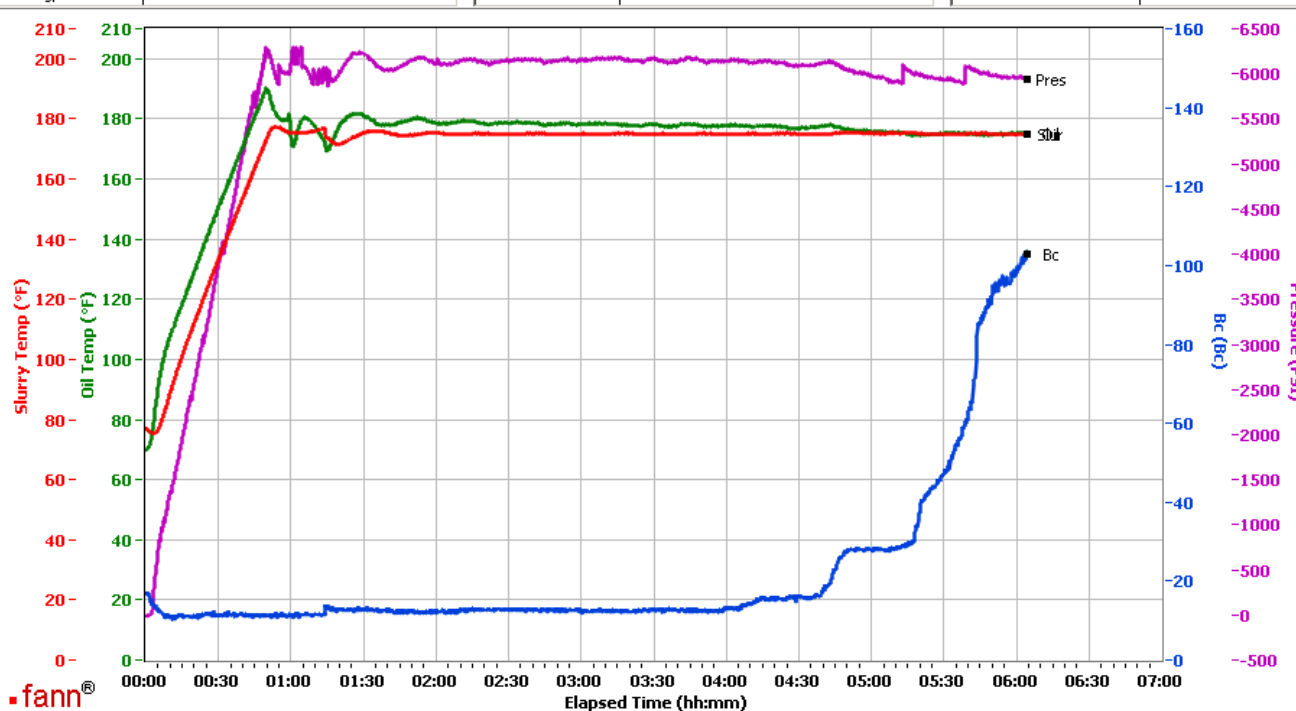
Deflected 12-- > 15

## Grand Junction, Colorado

Fields	Values
Project Name	GJ2477630-2 LARAMIE PRODUCTION BULK
Test ID	35542939
Request ID	GJ2477630-2
Tested by	DEBA
Customer	LARAMIE ENERGY
Well No	CC0697-03-12E
Rig	
Casing/Liner Size	4.5"

Fields	Values
Job Type	PRODUCTION CASING
Cement Type	GCC TYPE I-II
Cement Weight	Standard
Test Date	05/31/18
Test Time	04:18 PM
Temp. Units	degF
Pressure Units	PSI
SW Version	2.1.0.507

Events	Results
30.00 Bc	05h:16m
40.00 Bc	05h:20m
50.00 Bc	05h:32m
70.00 Bc	05h:42m
100.00 Bc	06h:01m
00h:30m	11.37
01h:00m	11.87
01h:30m	12.85



Data File C:\Documents and Settings\M290\Desktop\Test Data\GJ2477630-2 LARAMIE PRODUCTION BULK LEAD.tdms

Comments CS1135 TR#1283 300 SKS AND CS1136 TR#5692 113 SKS

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## Thickening Time

01/JUN/2018

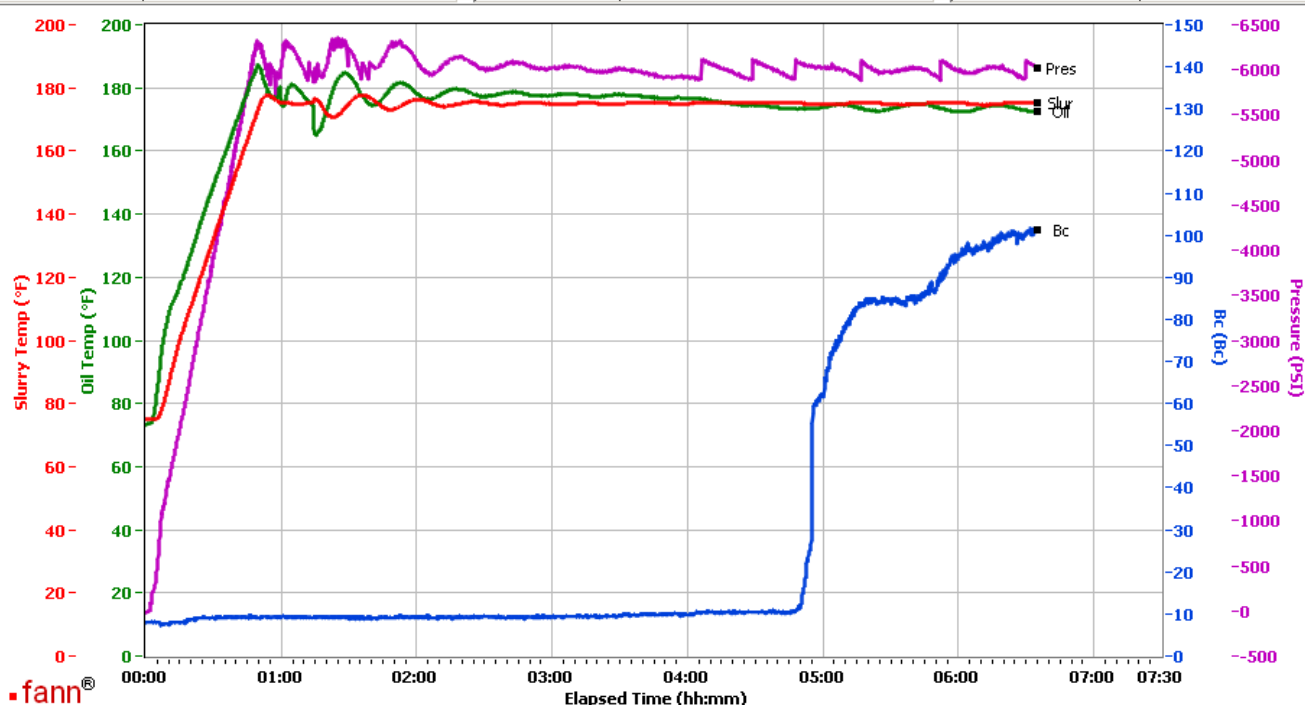
Temp (degF)	Pressure (psi)	Reached in (min)	Start BC	30 Bc (hh:mm)	40 Bc (hh:mm)	50 Bc (hh:mm)	70 Bc (hh:mm)	100 Bc (hh:mm)
175	6107	49	8	4:55	4:55	4:55	4:55	4:55

### Grand Junction Colorado

Fields	Values
Project Name	GJ2477630-2 LARAMIE PRODUCTION BULK
Test ID	35544056
Request ID	2477630-2
Tested by	JASON
Customer	LARAMIE ENERGY
Well No	CC 0697-03-12E
Rig	H&P 522
Casing/Liner Size	4.5 INCH

Fields	Values
Job Type	PRODUCTION
Cement Type	GCC TYPE I-II
Cement Weight	Light Weight
Test Date	05/31/18
Test Time	06:24 PM
Temp. Units	degF
Pressure Units	PSI
SW Version	2.1.0.507

Events	Results
30.00 Bc	04h:55m
40.00 Bc	04h:55m
50.00 Bc	04h:55m
70.00 Bc	05h:02m
100.00 Bc	06h:18m
00h:30m	8.89
01h:00m	9.37
01h:30m	8.71



Data File C:\Documents and Settings\M290\Local Settings\Temporary Internet Files\Content.IE5\4TIJ89YN\GJ2477630-2 LARAMIE PRODUCTION BULK LEAD TIEBREAKER[1].tdms

Comments CS1135 TR 1283 300 SK5 CS1136 TR 5692 113 SK5

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Job Information					
Request/Slurry	2477631/1	Rig Name		Date	28/MAY/2018
Submitted By	Lukas Van Zyl	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Laramie Energy	Location	Garfield	Well	Cascade Creek 0697-03-12E

Well Information					
Casing/Liner Size	4.5 in	Depth MD	9830 ft	BHST	118°C / 245°F
Hole Size	8.75 in	Depth TVD	9724 ft	BHCT	79°C / 175°F
Pressure	6107 psi				

Drilling Fluid Information		
Mud Supplier Name	Mud Trade Name	Density

Cement Information - Tail Design							
Conc	UOM	Cement/Additive	Sample Type	Sample Date	Lot No.	Cement Properties	
		NeoCem				Slurry Density	13 lbm/gal
						Slurry Yield	2.069 ft3/sack
						Water Requirement	9.417 gal/sack
						Total Mix Fluid	9.417 gal/sack
						Water Source	Fresh Water
						Water Chloride	

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# Operation Test Results Request ID 2477631/1

## Thickening Time - ON-OFF-ON

29/MAY/2018

Test Temp (degF)	Pressure (psi)	Reached in (min)	30 Bc (hh:min)	50 Bc (hh:min)	70 Bc (hh:min)	100 Bc (hh:min)	Start Bc	Stirring before stop (mins)	Static Period (min)	Peak reading (BC)
175	6107	49	2:05	2:23	2:24	2:28	20	59	15	18

Total SKS = 519

CS1128 TR#8678 259.5 SKS

CS1133 TR#2878 259.5 SKS

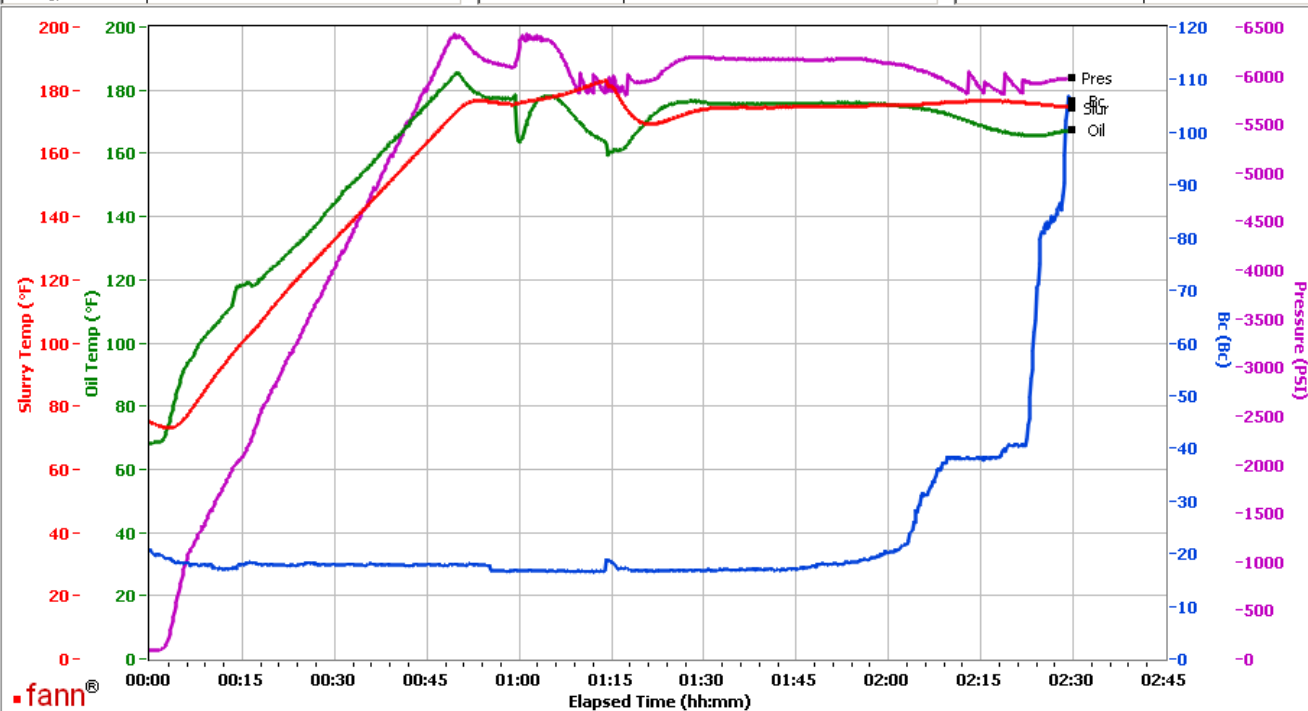
deflected from 17Bc--- > 18Bc Please note the heat of hydration at 2:07

## Grand Junction Colorado

Fields	Values
Project Name	GJ2477631-1 LARAMIE PRODUCTION BULK
Test ID	35534809
Request ID	GJ2477631-1
Tested by	DEBA
Customer	LARAMIE ENERGY
Well No	CC 0697-03-12E
Rig	
Casing/Liner Size	4.5"

Fields	Values
Job Type	PRODUCTION CASING
Cement Type	GCC TYPE I-II
Cement Weight	Standard
Test Date	05/29/18
Test Time	4:31 PM
Temp. Units	degF
Pressure Units	PSI
SW Version	2.1.0.507

Events	Results
30.00 Bc	02h:05m
40.00 Bc	02h:18m
50.00 Bc	02h:23m
70.00 Bc	02h:24m
100.00 Bc	02h:28m
00h:30m	17.93
01h:00m	16.86
01h:30m	16.70



Data File C:\Documents and Settings\M290\Local Settings\Temporary Internet Files\Content.IE5\CDER4HUV\GJ2477631-1 LARAMIE PRODUCTION BULK TAIL[1].tdms

Comments CS1128 TR#8678 259.5 sks AND CS1133 TR#2878 259.5 SKS

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