

# HALLIBURTON

iCem<sup>®</sup> Service

## **LARAMIE ENERGY LLC**

Date: Sunday, May 06, 2018

### **Gunderson 994-13-15W**

Laramie Gunderson 994-13-15W Surface

API # 05-077-10542-00

Job Date: Thursday, May 03, 2018

Sincerely,

**Grand Junction Cement Engineering**

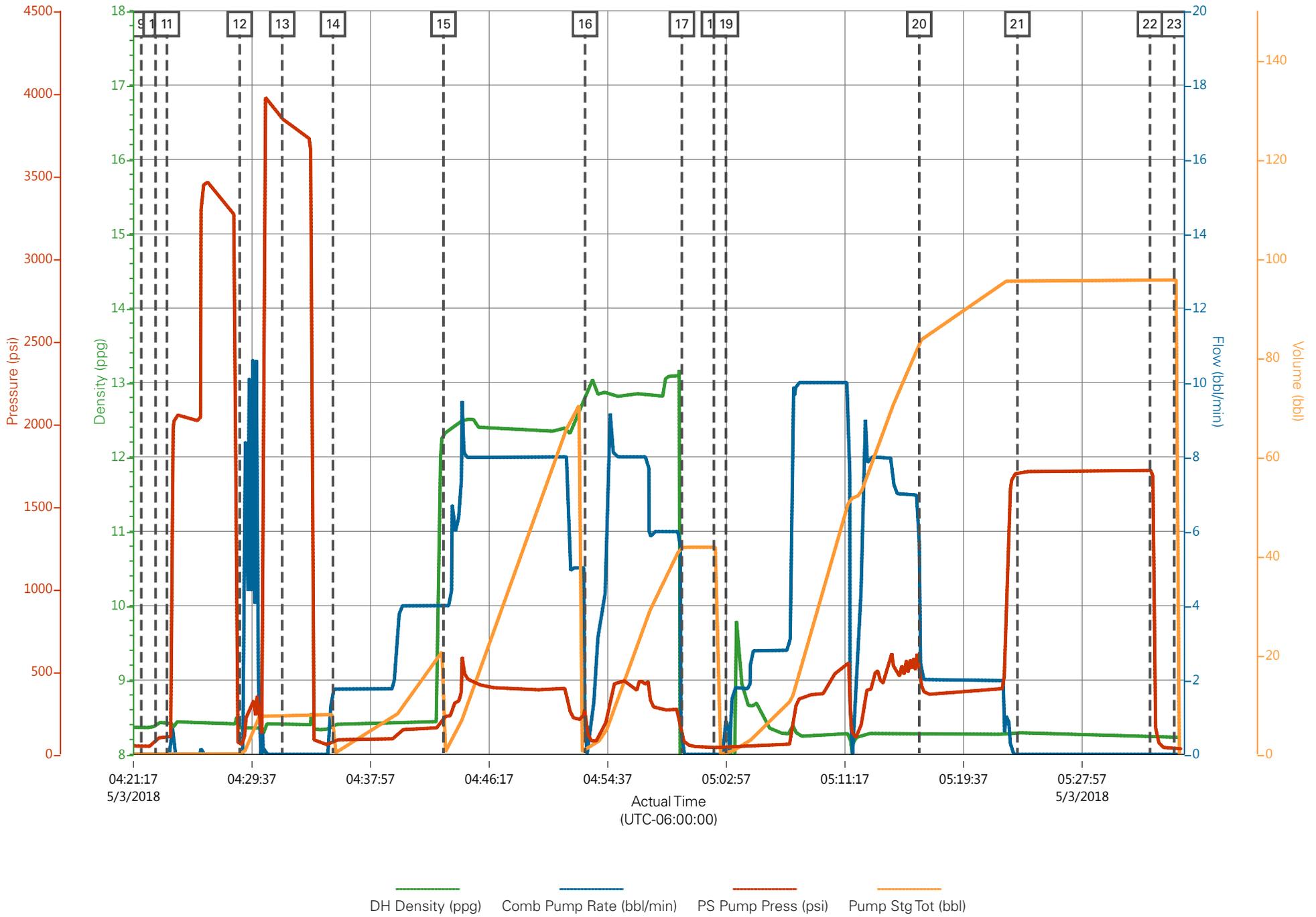
## 1.0 Real-Time Job Summary

### 1.1 Job Event Log

Type	Seq. No.	Graph Label	Date	Time	Source	PS Pump Press <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	5/2/2018	20:30:00	USER					REQUESTED ON LOCATION @ 2030
Event	2	Pre-Convoy Safety Meeting	5/2/2018	22:00:00	USER					ALL HES PRESENT
Event	3	Crew Leave Yard	5/2/2018	22:15:00	USER					1 F550, 1 PUMP TRUCK & 1 660 BULK TURCK
Event	4	Arrive at Location from Service Center	5/2/2018	23:45:00	USER					RIG RUNNING CASING
Event	5	Assessment Of Location Safety Meeting	5/3/2018	00:00:00	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	5/3/2018	00:15:00	USER					ALL HES PRESENT
Event	7	Rig-Up Completed	5/3/2018	01:00:00	USER					HES RIGGED UP EQUIPMENT WITHOUT ENTERING RED ZONE.
Event	8	Pre-Job Safety Meeting	5/3/2018	03:30:00	USER					ALL HES AND RIG CREW PRESENT
Event	9	Start Job	5/3/2018	04:21:50	COM3					TD 1561', TP 1551', SJ 45.5', OH 11", CSG 8.625" 32#, MUD 9.1 PPG.
Event	10	Drop Bottom Plug	5/3/2018	04:22:50	USER					PLUG WENT, VERIFIED BY CO REP
Event	11	Prime Pumps	5/3/2018	04:23:38	USER	108.00	8.33	1.00	2.00	8.33 PPG FRESH WATER
Event	12	Shutdown	5/3/2018	04:28:45	USER					SHUTDOWN TO CHANGE VALVE ON PLUG CONTAINER.

Event	13	Test Lines	5/3/2018	04:31:44	COM3	3848.00	8.33	0.00	7.80	ALL LINES HELD PRESSURE AT 3848 PSI
Event	14	Pump Spacer 1	5/3/2018	04:35:18	COM3	77.00	8.33	4.00	8.10	8.33 PPG FRESH WATER (20BBL)
Event	15	Pump Lead Cement	5/3/2018	04:43:04	COM3	426.00	12.30	8.00	69.00	VARICEM CEMENT 158 SKS (69 BBLs), 12.3 PPG, 2.46 FT3/SK, 14.17 GAL/SK
Event	16	Pump Tail Cement	5/3/2018	04:53:01	COM3	430.00	12.80	8.00	37.0	VARICEM CEMENT 95 SKS (37 BBLs), 12.8 PPG, 2.18 FT3/SK, 12.11 GAL/SK.
Event	17	Shutdown	5/3/2018	04:59:49	USER					END OF CMT
Event	18	Drop Top Plug	5/3/2018	05:02:04	USER					PLUG WENT, VERIFIED BY CO REP
Event	19	Pump Displacement	5/3/2018	05:02:55	COM3	706.00	8.33	10.00	81.70	8.34 PPG FRESH WATER (91.7 BBLs)
Event	20	Slow Rate	5/3/2018	05:16:30	USER	407.00	8.33	2.00	10.00	SLOW RATE TO 2 BPM 4 BPM PER CO REP TO LAND PLUG
Event	21	Bump Plug	5/3/2018	05:23:24	USER	1707.00	8.33	0.00	91.20	LAND PLUG AT 407 PSI, BROUGHT UP TO 1707 PSI FOR A 10 MIN CSG TEST.
Event	22	Check Floats	5/3/2018	05:32:43	USER	1719.00	8.33	0.00	91.20	FLOATS HELD, 1 BBL BACK TO TRUCK
Event	23	End Job	5/3/2018	05:34:25	COM3					RETURNS THROUGHOUT JOB, PIPE WAS NOT RECIPROCATED, 12 BBL OF CEMENT BACK TO SURFACE
Event	24	Post-Job Safety Meeting (Pre Rig-Down)	5/3/2018	06:00:00	USER					ALL HES PRESENT
Event	25	Rig-Down Completed	5/3/2018	06:05:00	USER					ALL HES PRESENT
Event	26	Pre-Convoy Safety Meeting	5/3/2018	06:10:00	USER					ALL HES PRESENT
Event	27	Crew Leave Location	5/3/2018	06:15:00	USER					THANK YOU FOR CHOOSING HALLIBURTON CEMENT, CHRIS SMITH AND CREW

# LARAMIE - GUNDERSON 0994-13-15W - 8.625" SURFACE



# HALLIBURTON

iCem<sup>®</sup> Service

**Laramie Energy LLC-EBUS**

United States of America, COLORADO

**For: Aaron Duncan**

Date: Saturday, May 05, 2018

**Gunderson 994-13-15W Production PJR**

API #05-077-10542-00

Sincerely,

**Grand Junction Cement Engineering**

## 1.0 Real-Time Job Summary

### 1.1 Job Event Log

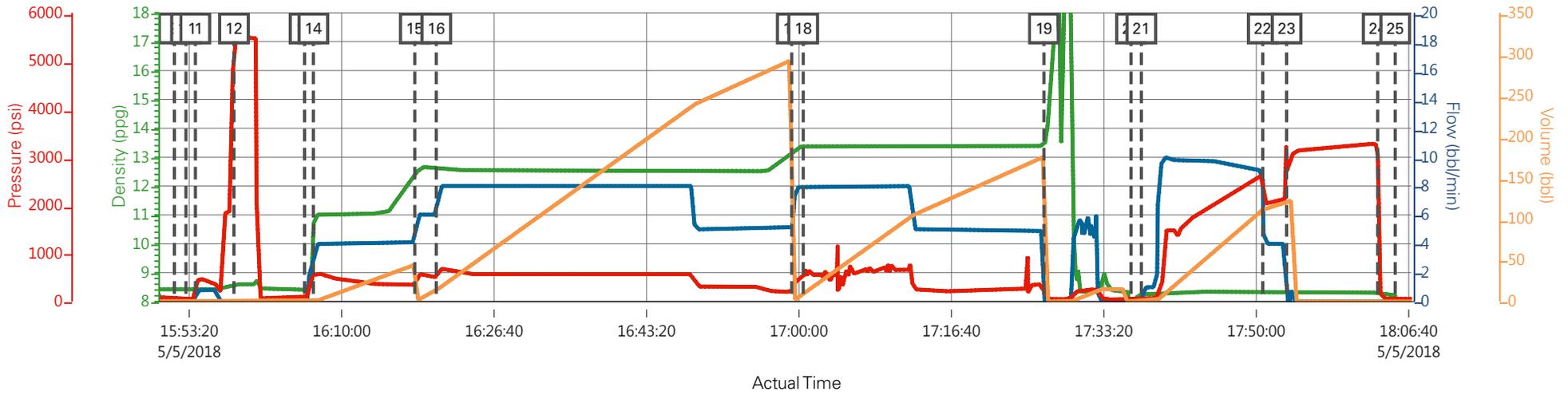
Type	Seq. No.	Graph Label	Date	Time	Source	DH Density (ppg)	Comb Pump Rate (bbl/min)	PS Pump Press (psi)	Pump Stg Tot (bbl)	Comments
Event	1	Call Out	5/5/2018	08:30:00	USER					REQUESTED ON LOCATION @ 14:30
Event	2	Depart Yard Safety Meeting	5/5/2018	11:46:00	USER					ALL HES PRESENT
Event	3	Crew Leave Yard	5/5/2018	12:00:00	USER					1 HT 400 PUMP TRUCK E4, 1 660 BULK TRUCK, 1 550 SERVICE PICKUP
Event	4	Arrive At Loc	5/5/2018	13:30:00	USER					HES SHOWED UP TO LOCATION 1 HOUR EARLY, RIG WAS RUNNING CASING
Event	5	Assessment Of Location Safety Meeting	5/5/2018	13:45:00	USER					MET WITH COMP REP, WENT OVER NUMBERS AND JOB PROCEDURE. WALKED AROUND LOCATION AND COLLECTED WATER SAMPLE. COMP REP WAS OFFERED SDS FOR ALL CHEMICLES USED BY HES.
Event	6	Spot Equipment	5/5/2018	13:50:00	USER					1 HT 400 PUMP TRUCK E4, 1 660 BULK TRUCK, 1 550 SERVICE PICKUP
Event	7	Pre-Rig Up Safety Meeting	5/5/2018	14:20:00	USER					ALL HES PRESENT
Event	8	Pre-Job Safety Meeting	5/5/2018	15:20:00	USER					ALL HES EMPLOYEES AND RIG CREW PRESENT, RIG CIRCULATED @ 10 BPM PRIOR TO JOB PRESSURE @ 760 PSI.
Event	9	Start Job	5/5/2018	15:51:42	USER					TD 7558', TP 7548' OF 4 ½" P-110 CSG, SJ 83.31', SURFACE CSG 8 5/8" 24# J55 SET @ 1561', OH 7 7/8", MUD 9.2 PPG

Event	10	Drop Bottom Plug	5/5/2018	15:52:58	USER					VERIFIED BY FLAG INDICATOR
Event	11	Prime Lines	5/5/2018	15:54:00	USER	8.33	1.6	440	3	FRESH WATER
Event	12	Test Lines	5/5/2018	15:58:13	COM5			5505		PRESSURE HELD
Event	13	Check Weight	5/5/2018	16:05:56	COM5					WEIGHT VERIFIED VIA PRESSUREIZED MUD SCALES
Event	14	Pump Tuned Spacer III	5/5/2018	16:06:54	COM5	11.0	4.0	410	40	40 BBL TUNED SPACER III, 11 PPG, 4.86 FT3/SK, 31.9 GAL/SK
Event	15	Pump Lead Cement	5/5/2018	16:17:59	COM5	12.5	8.0	580	257.4	745 SKS OF NEOCEM CMT 12.5 PPG, 1.94 FT3/SK, 9.6 GAL/SK.
Event	16	Check Weight	5/5/2018	16:20:20	COM5					WEIGHT VERIFIED VIA PRESSUREIZED MUD SCALES
Event	17	Pump Tail Cement	5/5/2018	16:59:12	COM5	13.3	8.0	650	121.7	395 SKS THERMACEM CMT 13.3 PPG, 1.73 FT3/SK, 7.81 GAL/SK.
Event	18	Check Weight	5/5/2018	17:00:28	COM5					WEIGHT VERIFIED VIA PRESSUREIZED MUD SCALES
Event	19	Shutdown	5/5/2018	17:26:47	COM5					END OF CEMENT
Event	20	Drop Top Plug	5/5/2018	17:36:18	USER					VERIFIED BY FLAG INDICATOR
Event	21	Pump Displacement	5/5/2018	17:37:26	COM5	8.33	9	2570	105.7	1 GAL MMCR IN FIRST 10 BBLS, 5 GALS CLAY WEB, 5 GAL AVANCID GL25 THROUGHOUT DISPLACEMENT
Event	22	Slow Rate	5/5/2018	17:50:42	USER	8.33	4.0	2000	10	SLOWED RATE TO BUMP PLUG
Event	23	Bump Plug	5/5/2018	17:53:19	COM5	8.33	4.0	2100	115.7	PLUG BUMPED BROUGHT PRESSURE UP TO 3000 PSI FOR A CASING TEST.
Event	24	Check Floats	5/5/2018	18:03:16	USER			3280		FLOATS HELD 1.5 BBL FLOWED BACK TO TRUCK
Event	25	End Job	5/5/2018	18:05:11	USER					RETURNS THROUGHOUT JOB. 30 BBL CEMENT TO SURFACE. USED 40 LBS SUGAR
Event	26	Post-Job Safety Meeting (Pre Rig-Down)	5/5/2018	18:10:00	USER					ALL HES PRESENT

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Event	27	Pre-Convoy Safety Meeting	5/5/2018	19:45:00	USER	ALL HES PRESENT
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Event	28	Crew Leave Location	5/5/2018	20:00:00	USER	THANK YOU FOR CHOOSING HALLIBURTON CEMENT, DUSTIN HYDE AND CREW
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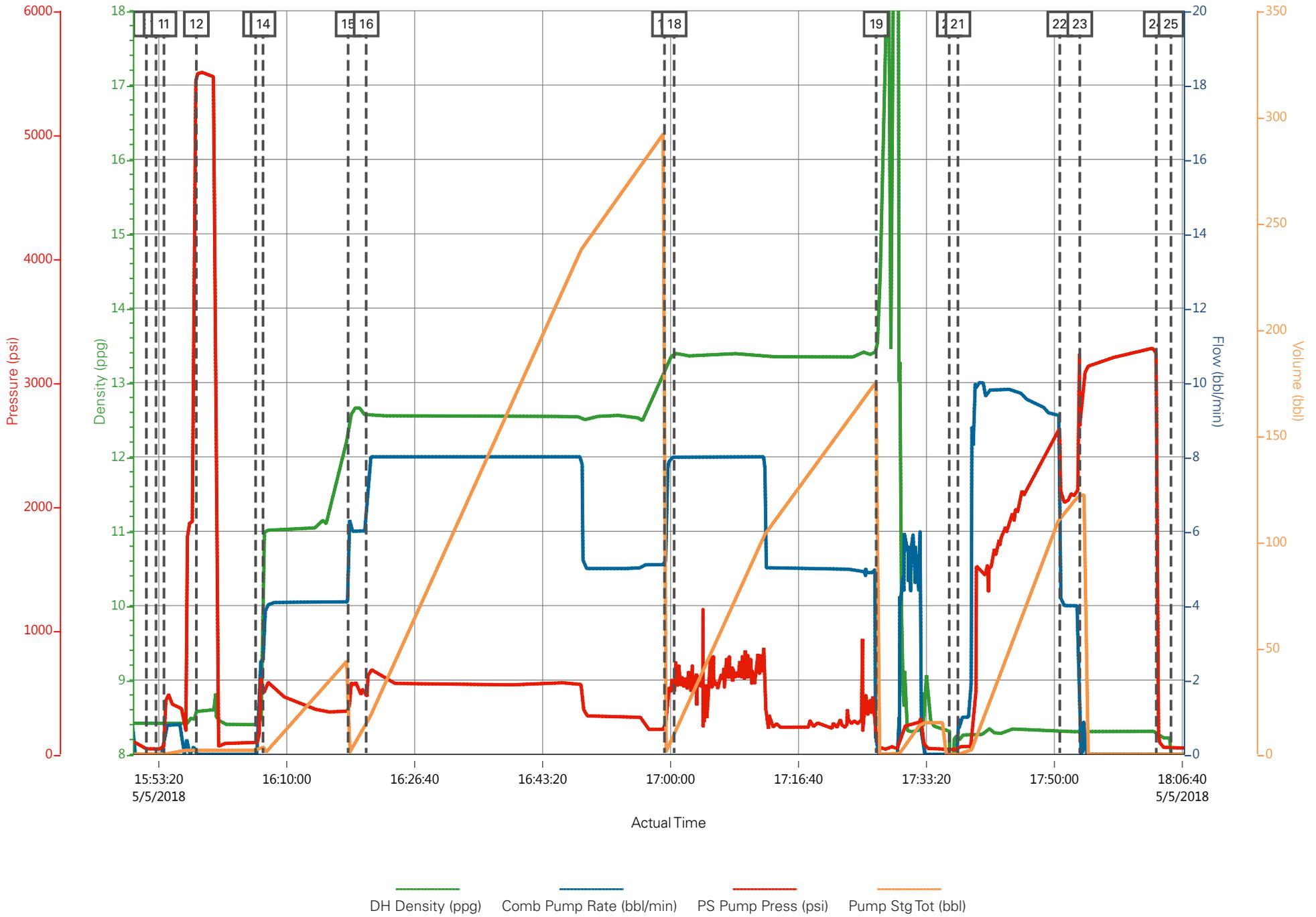
# LARAMIE - GUNDERSON 994-13-15W - 4 1/2" PRODUCTION



DH Density (ppg) Comb Pump Rate (bbl/min) PS Pump Press (psi) Pump Stg Tot (bbl)

Description	Actual Time	DH Density (ppg)	Comb Pump Rate (bbl/min)	PS Pump Press (psi)	Pump Stg Tot (bbl)
10 Drop Bottom Plug	15:52:58	8.43	0.00	43.00	0.10
11 Prime Lines	15:54:00	8.40	0.80	69.00	0.00
12 Test Lines	15:58:13	8.59	0.00	5465.00	1.90
13 Check Weight	16:05:56	8.40	0.00	96.00	1.90
14 Pump Tuned Spacer III	16:06:54	10.58	2.60	497.00	3.20
15 Pump Lead Cement	16:17:59	12.35	4.10	355.00	0.00
16 Check Weight	16:20:20	12.56	6.00	504.00	13.90
17 Pump Tail Cement	16:59:12	13.13	5.10	198.00	0.00
18 Check Weight	17:00:28	13.41	7.90	517.00	9.30
19 Shutdown	17:26:47	13.43	0.00	159.00	175.10
20 Drop Top Plug	17:36:18	8.31	0.00	39.00	0.00
21 Pump Displacement	17:37:26	8.25	0.00	39.00	0.00
22 Slow Rate	17:50:42	8.33	8.40	2619.00	111.70
23 Bump Plug	17:53:19	8.29	0.00	2667.00	122.10
24 Check Floats	18:03:16	8.31	0.00	3093.00	0.00
25 End Job	18:05:11	8.22	0.00	50.00	0.00

# LARAMIE - GUNDERSON 994-13-15W - 4 1/2" PRODUCTION



## Job Information

<b>Request/Slurry</b>	2471188/1	<b>Rig Name</b>	H&P 522	<b>Date</b>	29/APR/2018
<b>Submitted By</b>	Lukas Van Zyl	<b>Job Type</b>	Production Casing	<b>Bulk Plant</b>	Grand Junction
<b>Customer</b>	Laramie Energy	<b>Location</b>	Garfield	<b>Well</b>	Gunderson 0994-13-15W

## Well Information

<b>Casing/Liner Size</b>	4.5 in	<b>Depth MD</b>	7583 ft	<b>BHST</b>	113°C / 236°F
<b>Hole Size</b>	7.875 in	<b>Depth TVD</b>	7583 ft	<b>BHCT</b>	76°C / 169°F
<b>Pressure</b>	4608 psi				

## Drilling Fluid Information

<b>Mud Supplier Name</b>	Baroid	<b>Mud Trade Name</b>	BARADRIL-N	<b>Density</b>	9.9 lbm/gal
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## Cement Information - Lead Design

<u>Conc</u>	<u>UOM</u>	<u>Cement/Additive</u>	<u>Sample Type</u>	<u>Sample Date</u>	<u>Lot No.</u>	<b>Cement Properties</b>		
		NeoCem				Slurry Density	12.5	lbm/gal
						Slurry Yield	1.941	ft3/sack
						Water Requirement	9.623	gal/sack
						Total Mix Fluid	9.623	gal/sack
						Water Source	Fresh Water	
						Water Chloride		

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# Operation Test Results Request ID 2471188/1

## Thickening Time - ON-OFF-ON

03/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)
169	4608	39	4:23	6:05	6:05	6:06	15	49	15	19

Total sks = 745

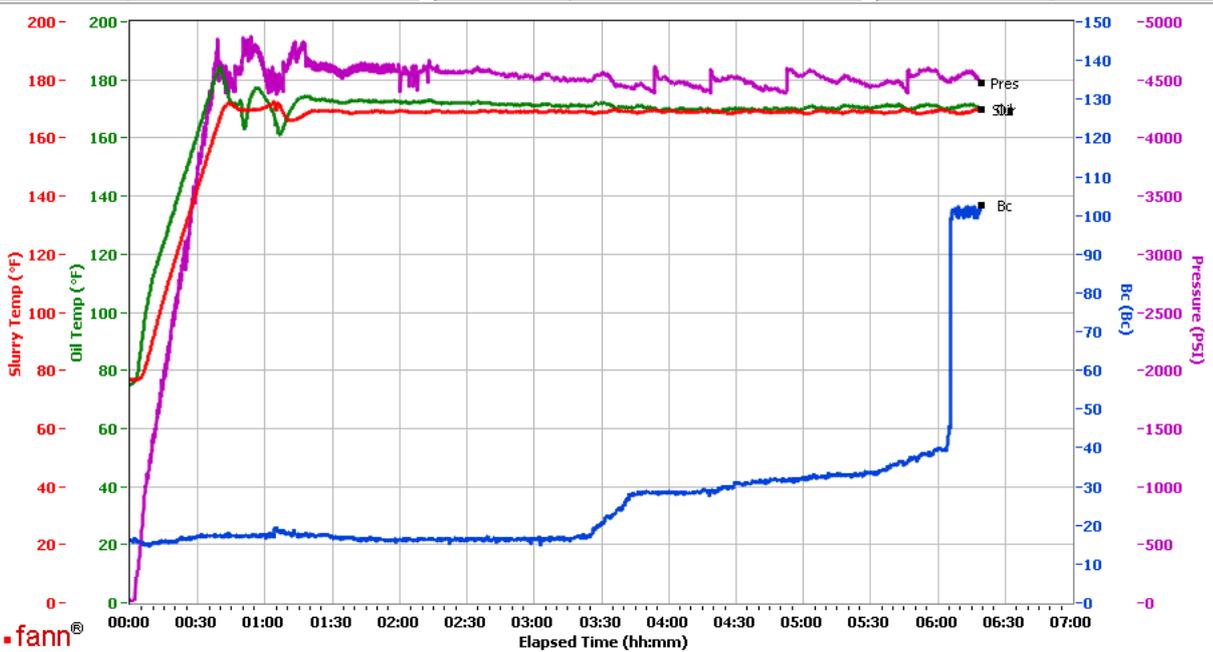
CS0984 TR#8476 372.5 SKS

CS0985 TR#8678 372.5 SKS

Deflected 17-- > 19

### Grand Junction, Colorado

Fields	Values	Fields	Values	Events	Results
Project Name	GJ2471188-1 LARAMIE PRODUCTION BULK	Job Type	PRODUCTION CASING	30.00 Bc	04h:23m
Test ID	35456401	Cement Type	GCC TYPE I-II	40.00 Bc	06h:00m
Request ID	GJ2471188-1	Cement Weight	Standard	50.00 Bc	06h:05m
Tested by	DEBA	Test Date	05/03/18	70.00 Bc	06h:05m
Customer	LARAMIE ENERGY	Test Time	05:27 AM	100.00 Bc	06h:06m
Well No	GUNDERSON D994-13-15W	Temp. Units	degF	00h:30m	17.10
Rig	H8P522	Pressure Units	PSI	01h:00m	17.17
Casing/Liner Size	4.5"	SW Version	2.1.0.507	01h:30m	16.81



Data File C:\Documents and Settings\M290\Local Settings\Temporary Internet Files\Content.IE5\K9YZ0P2R\GJ2471188-1 LARAMIE PRODUCTION BULK LEAD[1].tdms

Comments CS0984 TR#8476 372.5 SKS, CS0985 TR#8678 372.5 SKS

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### Job Information

<b>Request/Slurry</b>	2472178/1	<b>Rig Name</b>	H&P 522	<b>Date</b>	03/MAY/2018
<b>Submitted By</b>	Patrick Ealey	<b>Job Type</b>	Production Casing	<b>Bulk Plant</b>	Grand Junction
<b>Customer</b>	Laramie Energy	<b>Location</b>	Garfield	<b>Well</b>	Gunderson 0994-13-15W

### Well Information

<b>Casing/Liner Size</b>	4.5 in	<b>Depth MD</b>	8808 ft	<b>BHST</b>	113°C / 236°F
<b>Hole Size</b>	7.875 in	<b>Depth TVD</b>	7583 ft	<b>BHCT</b>	76°C / 169°F
<b>Pressure</b>	4608 psi				

### Drilling Fluid Information

<b>Mud Supplier Name</b>	Baroid	<b>Mud Trade Name</b>	BARADRIL-N	<b>Density</b>	9.9 lbm/gal
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### Cement Information - Tail Design

<u>Conc</u>	<u>UOM</u>	<u>Cement/Additive</u>	<u>Sample Type</u>	<u>Sample Date</u>	<u>Lot No.</u>	<b>Cement Properties</b>	
		ThermaCem				Slurry Density	13.3 lbm/gal
						Slurry Yield	1.733 ft <sup>3</sup> /sack
						Water Requirement	7.799 gal/sack
						Total Mix Fluid	7.799 gal/sack
						Water Source	Field (Fresh) Water
						Water Chloride	N/A

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## Operation Test Results Request ID 2472178/1

### Thickening Time - ON-OFF-ON

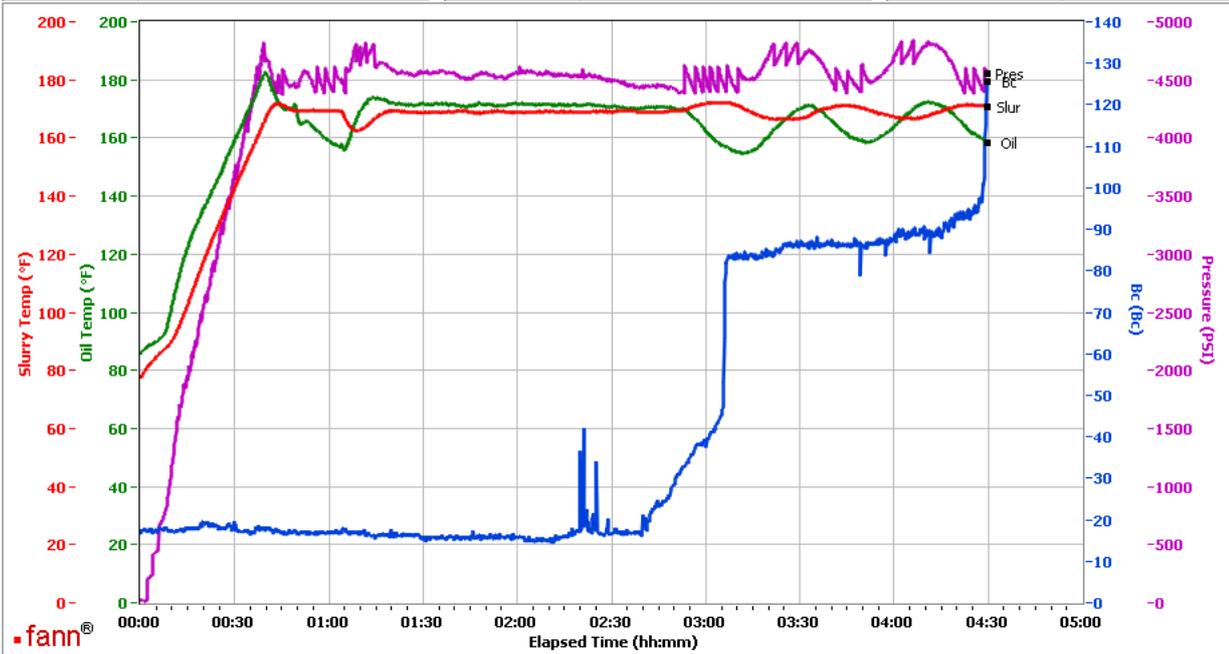
**03/MAY/2018**

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)
169	4008	39	2:50	3:05	3:06	4:28	17	49	15	17

Total sks = 395  
 CS0986 TR 2878 395 SKS  
 deflected from 16Bc--- > 17Bc  
 heat of hydration at 2:53

### Grand Junction, Colorado

Fields	Values	Fields	Values	Events	Results
Project Name	GJ2472178-1 LARAMIE PRODUCTION BULK	Job Type	PRODUCTION	30.00 Bc	02h:50m
Test ID	35467858	Cement Type	MOUNTAIN G	40.00 Bc	03h:01m
Request ID	2472178-1	Cement Weight	Light Weight	50.00 Bc	03h:05m
Tested by	JASON	Test Date	05/03/18	70.00 Bc	03h:06m
Customer	LARAMIE ENERGY	Test Time	05:44 PM	100.00 Bc	04h:28m
Well No	GUNDERSON D994-13-15W	Temp. Units	degF	00h:30m	18.88
Rig	H&P 522	Pressure Units	PSI	01h:00m	17.18
Casing/Liner Size	4.5 INCH	SW Version	2.1.0.507	01h:30m	15.07



Data File: C:\Documents and Settings\M290\Local Settings\Temporary Internet Files\Content.IE5\CDER4HUJ\GJ2472178-1 LARAMIE PRODUCTION BULK TAIL [1].tdms  
 Comments: CS0986 TR 2878 395 SKS

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