

# HALLIBURTON

iCem<sup>®</sup> Service

**Laramie Energy LLC**

United States of America, COLORADO

**For: Laramie**

Date: Saturday, November 17, 2018

**SUP & SHEP 993-25-08W Surface PJR**

API #: 05-077-10571

Sincerely,

**Grand Junction Cement Engineering**

## 2.0 Real-Time Job Summary

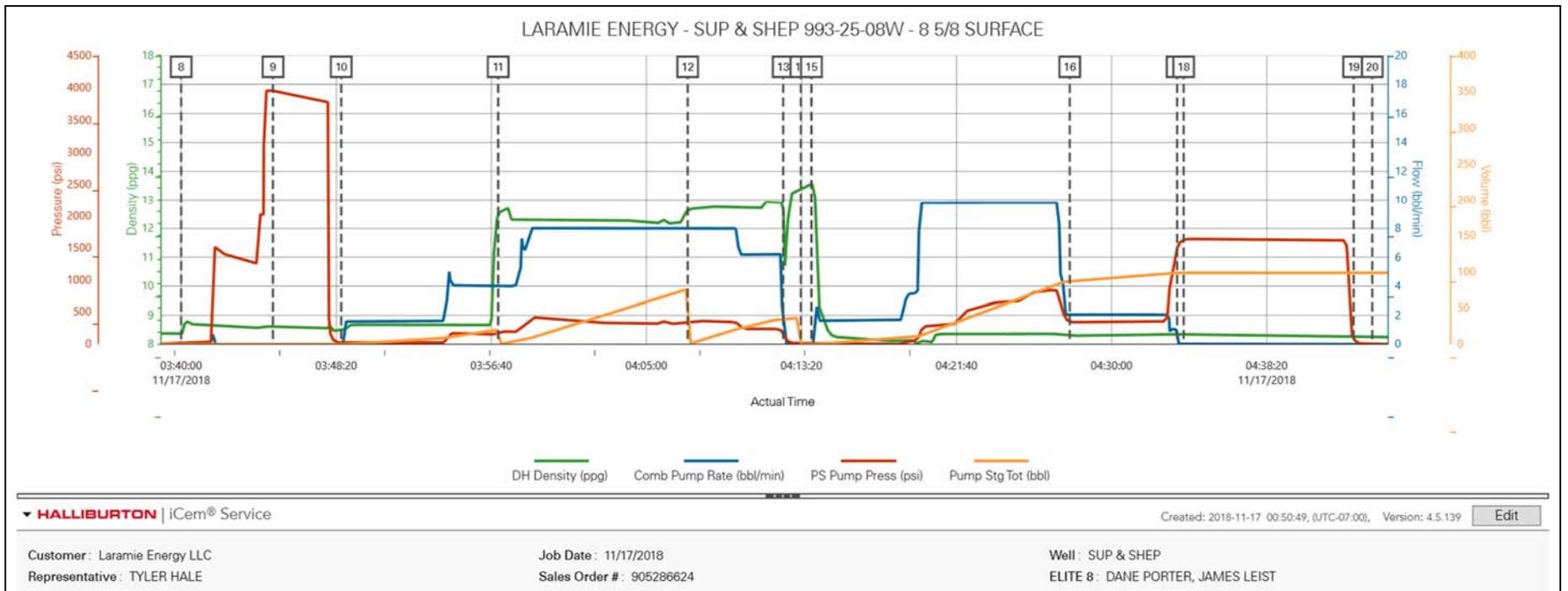
### 2.1 Job Event Log

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	11/16/2018	20:00:00	USER					
Event	2	Pre-Convoy Safety Meeting	11/16/2018	22:30:00	USER					JOURNEY MANAGEMENT COMPLETE, AS WELL AS JSA
Event	3	Crew Leave Yard	11/16/2018	23:00:00	USER					
Event	4	Arrive At Loc	11/17/2018	01:00:00	USER					JOURNEY MANAGEMENT CLOSED OUT. RIG RUNNING CASING
Event	5	Assessment Of Location Safety Meeting	11/17/2018	01:30:00	USER					
Event	6	Pre-Rig Up Safety Meeting	11/17/2018	01:45:00	USER					JSA COMPLETE
Event	7	Rig-Up Equipment	11/17/2018	02:00:00	USER					1 660, 1 ELITE, 1 UPRIGHT WATER TANK
Event	8	Other	11/17/2018	03:00:00	USER					WATER TEST: PH-7, CL-0, TEMP-61  WELL INFO: 8 5/8 24# CASING SET AT 1547 FT., TD- 1557, HOLE- 11", MUD# 9.0#, SJ- 44.40
Event	9	Pre-Job Safety Meeting	11/17/2018	03:10:00	USER					JSA COMPLETE
Event	10	Other	11/17/2018	03:30:00	USER					MUD SCALES CHECKED WITH WATER PRIOR TO JOB.
Event	11	Start Job	11/17/2018	03:40:00	COM5					
Event	12	Test Lines	11/17/2018	03:44:56	COM5			3961.00		3961 PSI
Event	13	Pump Spacer 1	11/17/2018	03:48:36	COM5	8.33	4.00	73.00	20.00	FRESH WATER
Event	14	Pump Lead Cement	11/17/2018	03:57:02	COM5	12.50	8.00	390.00	77.50	177 SKS VARICEM, 12.3 PPG, 2.46 FT3/SK, 14.17 GAL/SK

Event	15	Pump Tail Cement	11/17/2018	04:07:13	COM5	12.80	8.00	344.00	38.00	98 SKS VARICEM, 12.8 PPG, 2.18 FT3/SK, 12.11 GAL/SK
Event	16	Shutdown	11/17/2018	04:12:21	USER					TO WASH UP ON TOP OF PLUG, AND DROP TOP PLUG
Event	17	Drop Top Plug	11/17/2018	04:13:18	COM5					AWAY
Event	18	Pump Displacement	11/17/2018	04:13:52	COM5	8.33	10.00	843.00	95.60	FRESH WATER
Event	19	Slow Rate	11/17/2018	04:27:45	USER	8.33	2.00	370.00	85.70	TO BUMP PLUG
Event	20	Bump Plug	11/17/2018	04:33:31	COM5	8.33	2.00	420.00	95.6	PLUG BUMPED ON CALCULATED
Event	21	Other	11/17/2018	04:33:52	USER			1674.00		CASING TEST FOR 10 MIN. 1674 PSI
Event	22	Check Floats	11/17/2018	04:43:00	USER			1674.00		FLOATS HELD, 0.5 BBLS BACK TO TRUCK
Event	23	End Job	11/17/2018	04:44:00	COM5					GOOD RETURNS THROUGHOUT JOB, NO PIPE MOVEMENT, 25 BBLS OF CEMENT TO SURFACE
Event	24	Post-Job Safety Meeting (Pre Rig-Down)	11/17/2018	05:00:00	USER					JSA COMPLETE
Event	25	Crew Leave Location	11/17/2018	05:30:00	USER					THANK YOU FOR USING HALLIBURTON CEMENT, JAMES LEIST AND CREW

## 3.0 Attachments

### 3.1 CHART.png



# HALLIBURTON

iCem<sup>®</sup> Service

## **Laramie Energy LLC**

**For: Laramie**

Date: Tuesday, November 20, 2018

**SUP & SHEP 0993-25-08W Production PJR**

API # 05-077-10571-00

Sincerely,

**Grand Junction Cement Engineering**

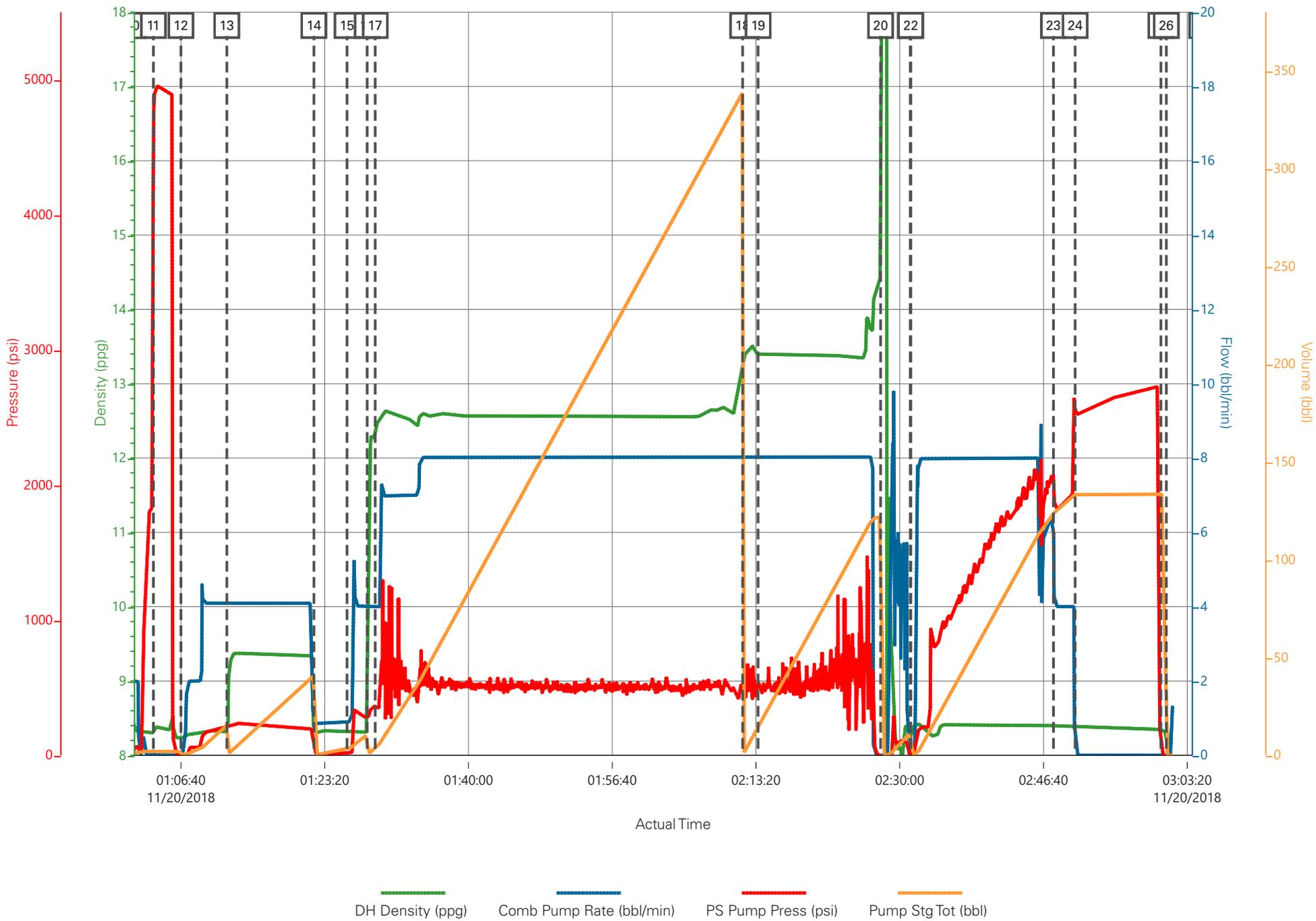
## 2.0 Real-Time Job Summary

### 2.1 Job Event Log

Type	Seq. No.	Graph Label	Date	Time	Source	DH Density <i>(ppg)</i>	Comb Pump Rate <i>(bbl/min)</i>	PS Pump Press <i>(psi)</i>	Pump Stg Tot <i>(bbl)</i>	Comments
Event	1	Call Out	11/19/2018	15:30:00	USER					REQUESTED ON LOCATION @ 21:30
Event	2	Pre-Convoy Safety Meeting	11/19/2018	18:20:00	USER					ALL HES PRESENT
Event	3	Crew Leave Yard	11/19/2018	18:30:00	USER					1 HT 400 PUMP TRUCK E8, 1 660 BULK TRUCK, 1 TRANSPORT, 1 550 SERVICE PICKUP
Event	4	Arrive At Loc	11/19/2018	20:00:00	USER					RIG RUNNING CASING WHEN HES ARRIVED AT LOCATION
Event	5	Assessment Of Location Safety Meeting	11/19/2018	20:10:00	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 CHEMICLES USED BY HES.
Event	6	Pre-Rig Up Safety Meeting	11/19/2018	20:15:00	USER					ALL HES PRESENT
Event	7	Rig-Up Equipment	11/19/2018	20:25:00	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	11/20/2018	00:45:00	USER					ALL HES EMPLOYEES AND RIG CREW PRESENT, RIG CIRCULATED @ 10 BPM PRIOR TO JOB PRESSURE @ 600 PSI. 20 UNITS OF GAS. CALIBRATED MUD SCALES ON WATER.
Event	9	Start Job	11/20/2018	01:00:15	COM6					TD 8678', TP 8668' OF 4 1/2" 11.6# P110 CSG, SJ 82.32', SURFACE CSG 8 5/8" 24# J55 SET @ 1547', OH 7 7/8", MUD 9.1 PPG
Event	10	Prime Lines	11/20/2018	01:01:06	USER	8.33	2	215	2	FRESH WATER
Event	11	Test Lines	11/20/2018	01:03:28	COM6			4970		ALL LINES HELD PRESSURE AT 4970 PSI
Event	12	Pump H2O Spacer	11/20/2018	01:06:40	COM6	8.33	4	280	15	15BBLs OF FRESH WATER WITH 5LBS OF PLOY-E-FLAKE

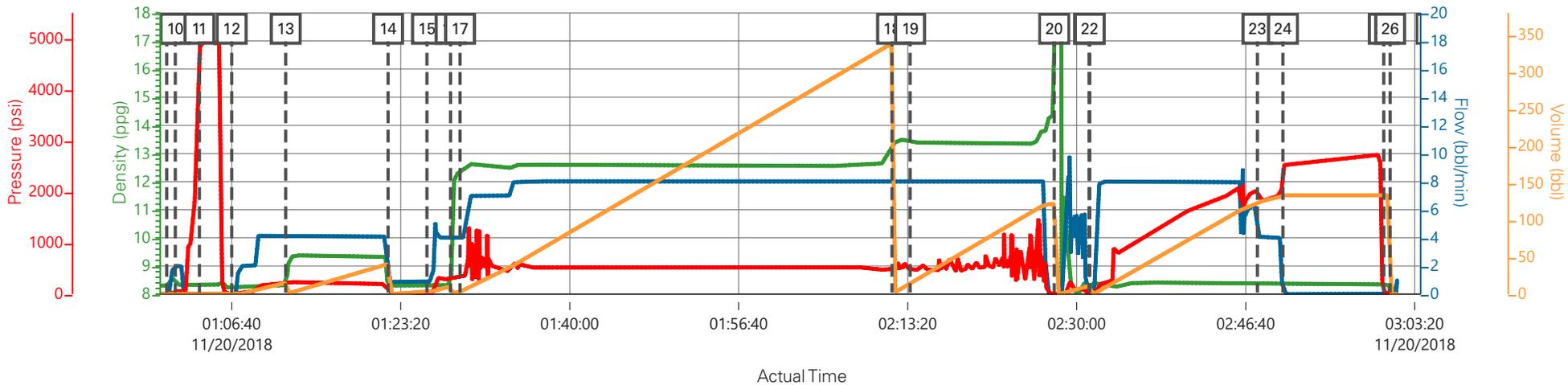
Event	13	Super Flush	11/20/2018	01:11:59	COM6	10	4	240	20	40BBLs SUPER FLUSH
Event	14	Pump H2O Spacer	11/20/2018	01:22:05	COM6	8.33	4	340	10	10BBLs FRESH WATER
Event	15	Drop Bottom Plug	11/20/2018	01:25:55	USER					VERIFIED BY PLUG INDICATOR
Event	16	Pump Lead Cement	11/20/2018	01:28:15	COM6	12.5	8	550	318	920 SKS OF NEOCEM CMT 12.5 PPG, 1.94 FT3/SK, 9.59 GAL/SK.
Event	17	Check Weight	11/20/2018	01:29:11	COM6					WEIGHT VERIFIED VIA PRESSUREIZED MUD SCALES
Event	18	Pump Tail Cement	11/20/2018	02:11:47	COM6	13.3	8	520	112.2	362 SKS THERMACEM CMT 13.3 PPG, 1.73 FT3/SK, 7.81 GAL/SK.
Event	19	Check Weight	11/20/2018	02:13:34	COM6					WEIGHT VERIFIED VIA PRESSUREIZED MUD SCALES
Event	20	Clean Lines	11/20/2018	02:27:47	COM6					END OF CEMENT. CLEAN PUMPS AND LINES TO CELLAR.
Event	21	Drop Top Plug	11/20/2018	02:31:13	COM6					VERIFIED BY PLUG INDICATOR
Event	22	Pump Displacement	11/20/2018	02:31:17	COM6	8.4	8	2100	133	1 GAL MMCR IN FIRST 10 BBLs, 5 GALS CLAY WEB THROUGH DISPLACEMENT, 1# BE-6 PER 20BBLs FOR THE FIRST 100BBLs
Event	23	Slow Rate	11/20/2018	02:47:49	USER	8.4	4	1820	123	SLOW RATE TO 4 BPM TO BUMP PLUG.
Event	24	Bump Plug	11/20/2018	02:50:20	COM6	8.4	4	1950	133	LANDED PLUG AT 1950 PSI, BROUGHT UP TO 2550 PSI AND HELD TEN MINS FOR CASING TEST.
Event	25	Check Floats	11/20/2018	03:00:17	USER					FLOATS HELD, 1.5 BBL BACK TO TRUCK
Event	26	End Job	11/20/2018	03:00:54	COM6					RETURNS THROUGH JOB, RETURNS SLOWED AT 80BBLs GONE ON DISPLACEMENT. 40 BBLs OF SUPER FLUSH TO SURFACE. 40# OF SUGAR USED.
Event	27	Post-Job Safety Meeting (Pre Rig-Down)	11/20/2018	03:05:00	USER					ALL HES PRESENT
Event	28	Rig Down Lines	11/20/2018	03:10:00	USER					ALL HES PRESENT
Event	29	Pre-Convoy Safety Meeting	11/20/2018	04:30:00	USER					ALL HES PRESENT
Event	30	Crew Leave Location	11/20/2018	04:40:00	USER					THANK YOU FOR CHOOSING HALLIBURTON CEMENT, SHAWN BLOSSOM AND CREW

# LARAMIE SUP&SHEP 993-25-08W, 4.5" PRODUCTION



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

# LARAMIE SUP&SHEP 993-25-08W, 4.5" 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)
11 Test Lines	01:03:28	8.37	0.00	4459.30	2.00
12 Pump H2O Spacer	01:06:40	8.24	0.00	-5.70	2.00
13 Super Flush	01:11:59	8.30	4.00	212.30	15.40
14 Pump H2O Spacer	01:22:05	8.34	0.80	72.30	40.50
15 Drop Bottom Plug	01:25:55	8.33	0.90	11.30	3.40
16 Pump Lead Cement	01:28:15	8.33	4.00	272.30	0.00
17 Check Weight	01:29:11	12.36	4.00	358.30	3.80
18 Pump Tail Cement	02:11:47	13.28	8.00	506.30	0.10
19 Check Weight	02:13:34	13.40	8.00	492.30	14.50
20 Clean Lines	02:27:47	15.07	0.00	-11.70	121.60
21 Drop Top Plug	02:31:13	7.89	0.00	-2.70	10.60
22 Pump Displacement	02:31:17	8.33	0.00	-8.70	0.00
23 Slow Rate	02:47:49	8.40	6.40	1998.30	123.70
24 Bump Plug	02:50:20	8.39	0.00	2526.30	133.50
25 Check Floats	03:00:17	8.34	0.00	60.30	133.50
26 End Job	03:00:54	8.32	0.00	-20.70	0.00

### Job Information

<b>Request/Slurry</b>	2515739/1	<b>Rig Name</b>	H&P 522	<b>Date</b>	16/NOV/2018
<b>Submitted By</b>	Connor Matthews	<b>Job Type</b>	Production Casing	<b>Bulk Plant</b>	Grand Junction
<b>Customer</b>	Laramie Energy	<b>Location</b>	Garfield	<b>Well</b>	Sup & Shep 0993-25-08W

### Well Information

<b>Casing/Liner Size</b>	4.5 in	<b>Depth MD</b>	8723 ft	<b>BHST</b>	114°C / 237°F
<b>Hole Size</b>	7.875 in	<b>Depth TVD</b>	8642 ft	<b>BHCT</b>	74°C / 165°F
<b>Pressure</b>	5349 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

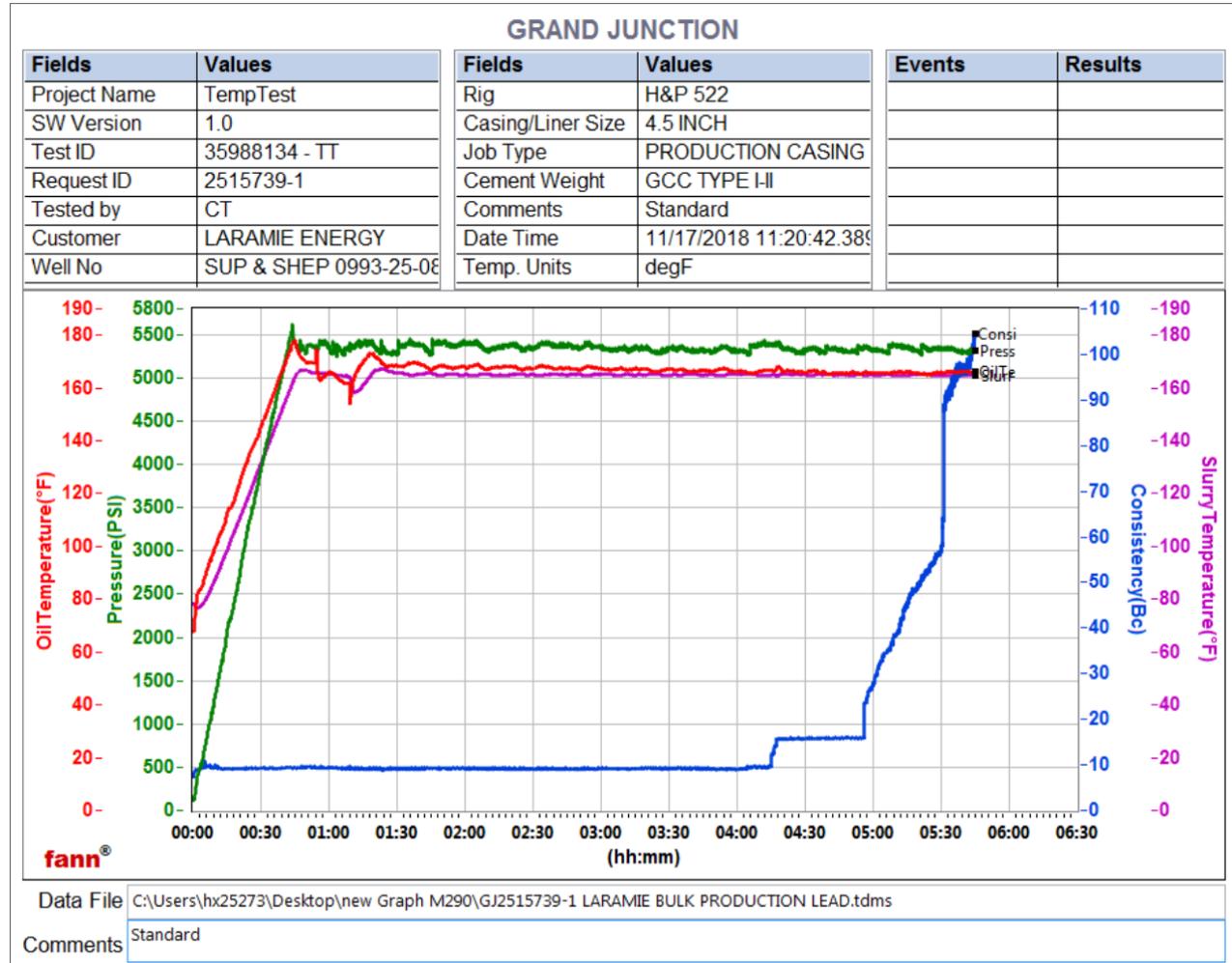
<u>Conc</u>	<u>UOM</u>	<u>Cement/Additive</u>	<u>Sample Type</u>	<u>Sample Date</u>	<u>Lot No.</u>	<b>Cement Properties</b>		
		NeoCem Lead				Slurry Density	12.5	lbm/gal
						Slurry Yield	1.946	ft3/sack
						Water Requirement	9.615	gal/sack
						Total Mix Fluid	9.615	gal/sack
						Water Source	Field (Fresh) Water	
						Water Chloride		

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Thickening Time - ON-OFF-ON

18/NOV/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)
165	5349	44	5:01	5:20	5:30	5:43	7	54	15	9



Total sks = 920  
 CS2475, Trailer 8678, 400 sks  
 CS2477, Trailer 2878, 400 sks  
 CS2479, Trailer 7304 - Front Pod, 120 sks  
 Deflection: 9 - 9

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### Job Information

<b>Request/Slurry</b>	2515740/1	<b>Rig Name</b>	H&P 522	<b>Date</b>	16/NOV/2018
<b>Submitted By</b>	Connor Matthews	<b>Job Type</b>	Production Casing	<b>Bulk Plant</b>	Grand Junction
<b>Customer</b>	Laramie Energy	<b>Location</b>	Garfield	<b>Well</b>	Sup & Shep 0993-25-08W

### Well Information

<b>Casing/Liner Size</b>	4.5 in	<b>Depth MD</b>	8723 ft	<b>BHST</b>	114°C / 237°F
<b>Hole Size</b>	7.875 in	<b>Depth TVD</b>	8642 ft	<b>BHCT</b>	74°C / 165°F
<b>Pressure</b>	5349 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

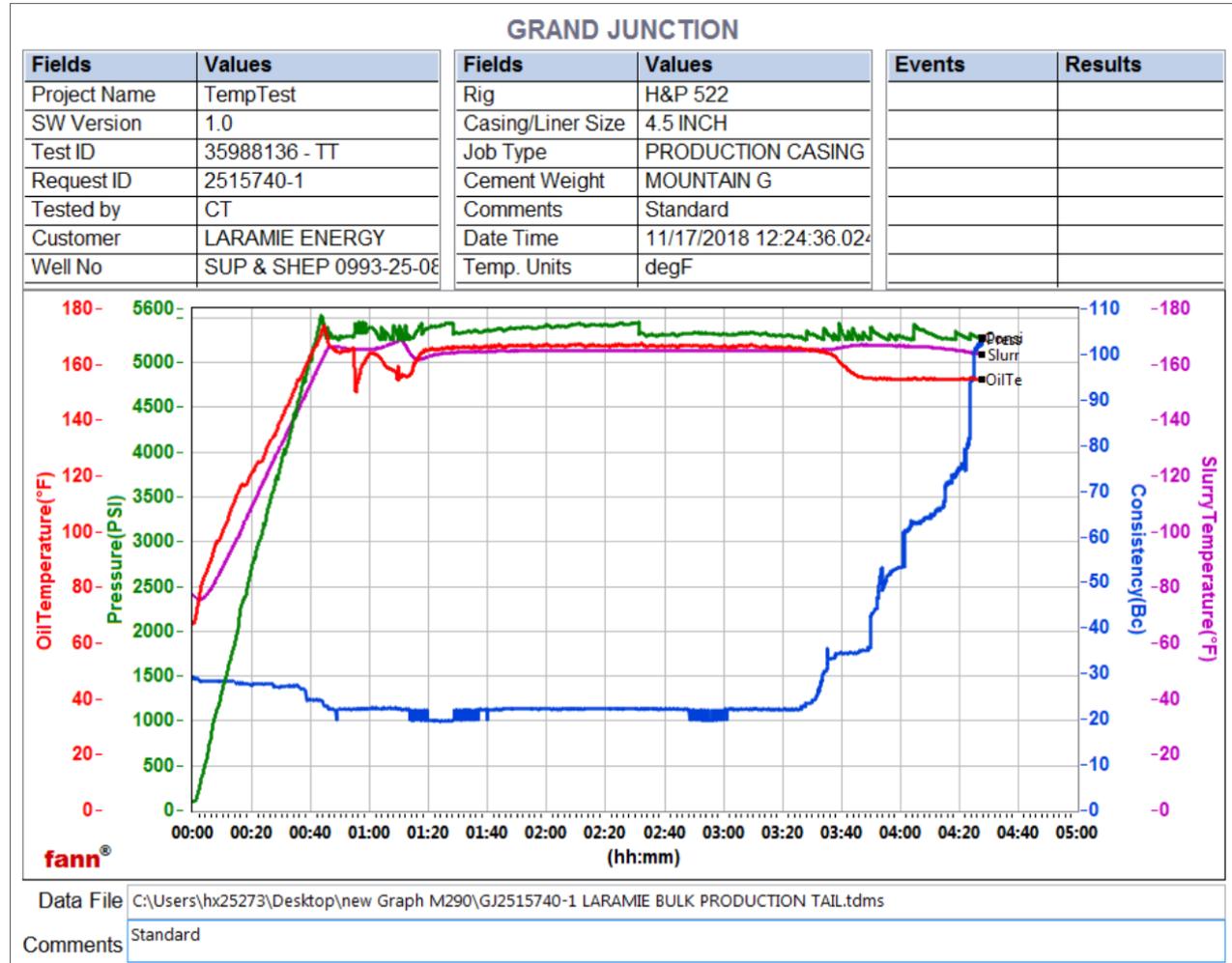
<u>Conc</u>	<u>UOM</u>	<u>Cement/Additive</u>	<u>Sample Type</u>	<u>Sample Date</u>	<u>Lot No.</u>	<b>Cement Properties</b>		
		ThermaCem Tail				Slurry Density	13.3	lbm/gal
						Slurry Yield	1.738	ft <sup>3</sup> /sack
						Water Requirement	7.795	gal/sack
						Total Mix Fluid	7.795	gal/sack
						Water Source	Field (Fresh) Water	
						Water Chloride		

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Thickening Time - ON-OFF-ON

18/NOV/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)
165	5349	44	3:34	3:49	4:15	4:25	29	54	15	22



Total sks = 362  
 CS2481, Trailer 1513, 362 sks  
 Deflection:20Bc--- > 22Bc  
 Please note heat of hydration at 3:35

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