

WPX Energy Rocky Mountain LLC - EBUS

RGU 313-25-198

**H&P 318**

## **Post Job Summary**

# **Cement Surface Casing**

Date Prepared: 3/30/2015

Job Date: 3/11/2015

Submitted by: Patrick Ealey – Grand Junction Cement Engineer

*The Road to Excellence Starts with Safety*

Sold To #: 300721	Ship To #: 3124456	Quote #:	Sales Order #: 0902195430
Customer: WPX ENERGY ROCKY MOUNTAIN LLC-EBUS		Customer Rep: Ted Ragsdale	
Well Name: FEDERAL	Well #: RGU 313-25-198	API/UWI #: 05-103-11983-00	
Field: SULPHUR CREEK	City (SAP): MEEKER	County/Parish: RIO BLANCO	State: COLORADO
Legal Description: 26-1S-98W-2447FNL-897FEL			
Contractor: H & P DRLG		Rig/Platform Name/Num: H & P 318	
Job BOM: 392189			
Well Type: DIRECTIONAL GAS			
Sales Person: HALAMERICA\HB50180		Srvc Supervisor: Cliff Sparks	

**Job**

Circulated 50 bbls of cement off of stage tool. 2<sup>nd</sup> stage circulated 85bbls of cement to surface. Rig topped out well # RGU 343-26-198 (25') with excess

Formation Name			
Formation Depth (MD)	Top		Bottom
Form Type	BHST		
Job depth MD	4042ft	Job Depth TVD	4048
Water Depth		Wk Ht Above Floor	3
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
Open Hole Section			14.75				0	1800		
Casing	3	9.625	8.921	36	8 RD	J-55	0	4042		0
Open Hole Section			13.5				1800	4048		0

**Tools and Accessories**

Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make
Guide Shoe	9.625	1		4042	Top Plug			
Float Shoe	9.625				Bottom Plug			
Float Collar	9.625	1		4013	SSR plug set	9.625	1	
Insert Float	9.625				Plug Container	9.625	1	HES
Stage Tool	9.625	1		1839	Centralizers			

**Miscellaneous Materials**

Gelling Agt	Conc	Surfactant	Conc	Acid Type	Qty	Conc
Treatment Fld	Conc	Inhibitor	Conc	Sand Type	Size	Qty

**Fluid Data**

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/mi n	Total Mix Fluid Gal
1	Fresh Water	Fresh Water	40	bbl	8.33			4	

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft <sup>3</sup> /sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal

2	VersaCem GJ1	VERSACEM (TM) SYSTEM	605	sack	12.8	1.77	9.31	8	134
9.31 Gal		FRESH WATER							
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
3	VariCem GJ1	VARICEM (TM) CEMENT	210	sack	12.8	2.11	11.77	6	59
11.77 Gal		FRESH WATER							
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
4	Fresh Water Displacement	Fresh Water Displacement	309.5	bbl	8.3			10	
<b>Cement Left In Pipe</b>	<b>Amount</b>	29.4 ft		<b>Reason</b>				Shoe Joint	
Fluid Data									
Stage/Plug #: 2									
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
1	Fresh Water	Fresh Water	30	bbl	8.3			4	
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
2	VariCem GJ5	VARICEM (TM) CEMENT	835	sack	12.8	2.18	12.11	8	240.8
12.11 Gal		FRESH WATER							
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
3	Fresh Water Displacement	Fresh Water Displacement	142.1	bbl	8.3			10	
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
4	Top Out	HALCEM (TM) SYSTEM	25	Feet	12.8	2.18	12.11	1	
5.22 Gal		FRESH WATER							

## 2.0 Real-Time Job Summary

### 2.1 Job Event Log

Type	Seq. No.	Activity	Date	Time	Source	DH Density (ppg)	Comb Pump Rate (bbl/min)	PS Pump Press (psi)	Pump Stg Tot (bbl)	Comments
Event	1	Call Out	3/11/2015	02:00:00	USER					Hole 14.75 to 1800', 13.5 to 4042.29', Casing 9.625 36# to 3595.5 and 40# to 4012.86. 29.4' Shoe. Top of tool @ 1838.9' and mud weight 9.5ppg
Event	2	Depart Yard Safety Meeting	3/11/2015	04:50:00	USER					All HES
Event	3	Crew Leave Yard	3/11/2015	05:00:00	USER					1 Pickup w/booster trailer, 1 pump and 2 660's
Event	4	Arrive At Loc	3/11/2015	08:30:00	USER					Arrived on time. Casing crew running casing
Event	5	Assessment Of Location Safety Meeting	3/11/2015	08:45:00	USER					
Event	6	Pre-Rig Up Safety Meeting	3/11/2015	09:30:00	USER					
Event	7	Pre-Job Safety Meeting	3/11/2015	12:30:00	USER					
Event	8	Start Job	3/11/2015	12:55:00	COM2					
Event	9	Prime Pumps	3/11/2015	12:59:00	COM2	8.34	2	61	2	Fresh Water
Event	10	Test Lines	3/11/2015	13:02:23	COM2	8.34	0.00	5005	0	Tested to 5000. Pressure held
Event	11	Pump Spacer 1	3/11/2015	13:08:06	COM2	8.34	4	200	40	40BBL Water
Event	12	Pump Lead Cement	3/11/2015	13:18:34	COM2	12.8	8	550	190.7	605 sks (190.7bbl) 12.8ppg, 1.77 yield, 9.31 gal/sk 2.5 boxes tuff fiber in 1st 100 bbls
Event	13	Pump Tail Cement	3/11/2015	13:45:07	COM2	12.8	8	500	79	210 sks (79bbl) 12.8ppg 2.11 yield 11.77 gal/sk

Event	14	Shutdown	3/11/2015	13:56:02	COM2						
Event	15	Drop Plug	3/11/2015	13:59:46	COM2						Plug went
Event	16	Pump Displacement	3/11/2015	14:02:00	COM2	8.34	10	1120	309.5		277.9 bbls Water displacement
Event	17	Slow Rate	3/11/2015	14:39:34	USER	8.34	2.00	695.00	299.5		2 bbls/min
Event	18	Bump Plug	3/11/2015	14:42:17	COM2	8.34	0.00	1236.00	309.5		Plug bumped 700psi brought to 1200psi
Event	19	Check Floats	3/11/2015	14:46:11	USER						Floats held 1.5 bbls back
Event	20	Drop Opening Device For Multiple Stage Cementer	3/11/2015	14:50:34	USER						Dropped opening tool and waited 12 min. Pressured up and tool opened at 670 psi. Returns right away started mixing 2nd stage cement
Event	21	Pump Spacer 1	3/11/2015	15:02:59	COM2	8.34	4	243	30		30 bbls water spacer
Event	22	Pump Cement	3/11/2015	15:10:52	COM2	12.8	8	520	324.2		835 sks (324.2bbl) 12.8 ppg 2.18 Yield, 12.11 gal/sk. 2.5 boxes tuff fiber in last 100 bbls. Cement from 105 bbls gone to 180 bbls gone
Event	23	Shutdown	3/11/2015	15:53:41	USER						
Event	24	Drop Plug	3/11/2015	15:55:04	USER						Plug went
Event	25	Pump Displacement	3/11/2015	15:57:40	COM2	8.34	10	870	142.1		142.1 bbls Displacement Cement returns @ 55 bbls gone
Event	26	Slow Rate	3/11/2015	16:14:29	USER	8.34	4	580	132		4 bbls/min
Event	27	Bump Plug	3/11/2015	16:16:51	COM2	8.34	4	1772.00	142.1		Landed at 580psi to 1773psi. Felt tool close
Event	28	Check Floats	3/11/2015	16:17:56	USER						Floats held 1.5 bbls back
Event	29	End Job	3/11/2015	16:19:31	COM2						Good returns throughout job and casing was not moved.
Event	30	Post-Job Safety Meeting (Pre Rig-Down)	3/11/2015	16:30:00	USER						
Event	31	Depart Location	3/11/2015	17:20:00	USER						

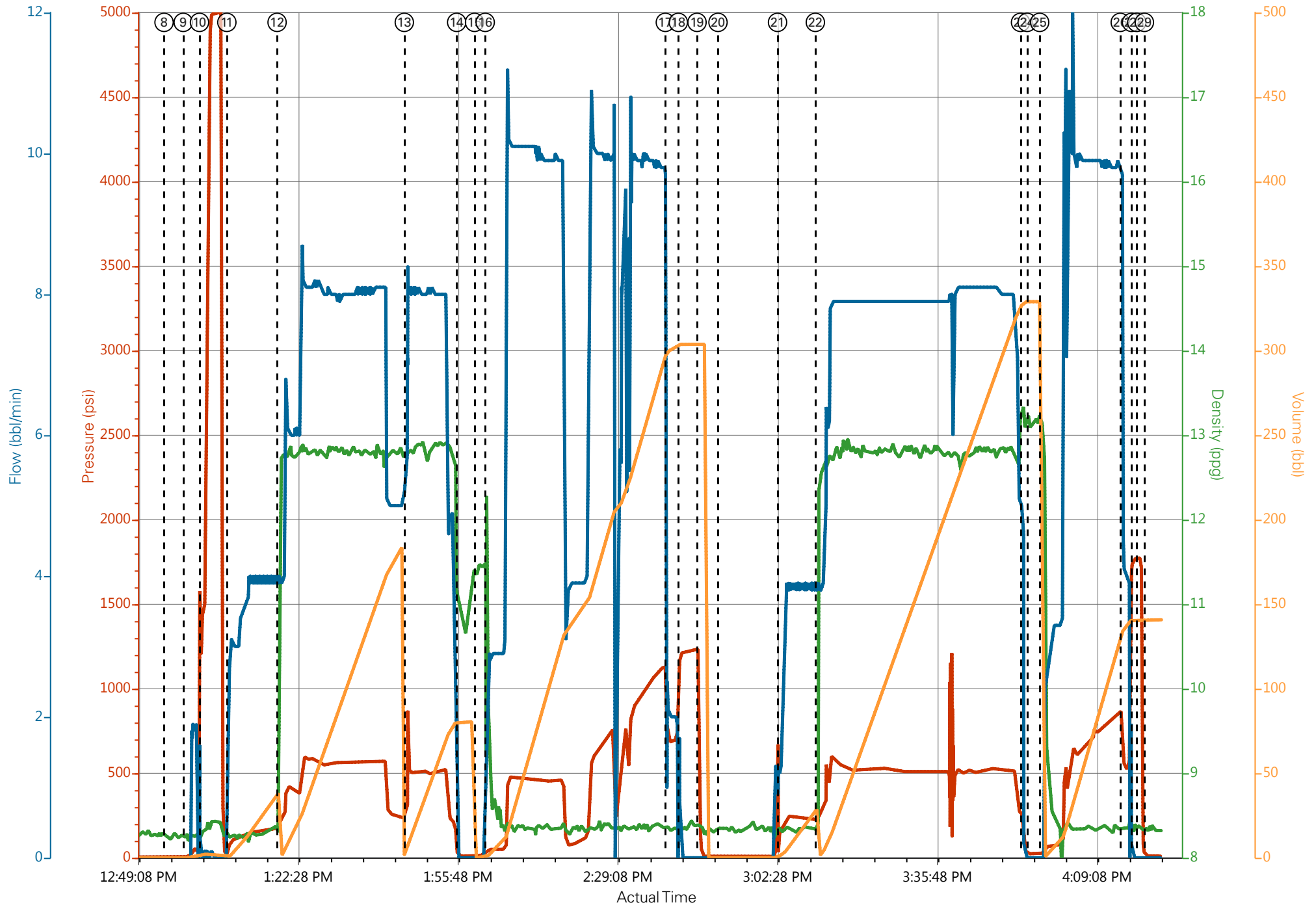
Safety Meeting

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Event	32	Crew Leave Location	3/11/2015	17:30:00	USER	Thank you for using Halliburton Cement Cliff Sparks and crew.
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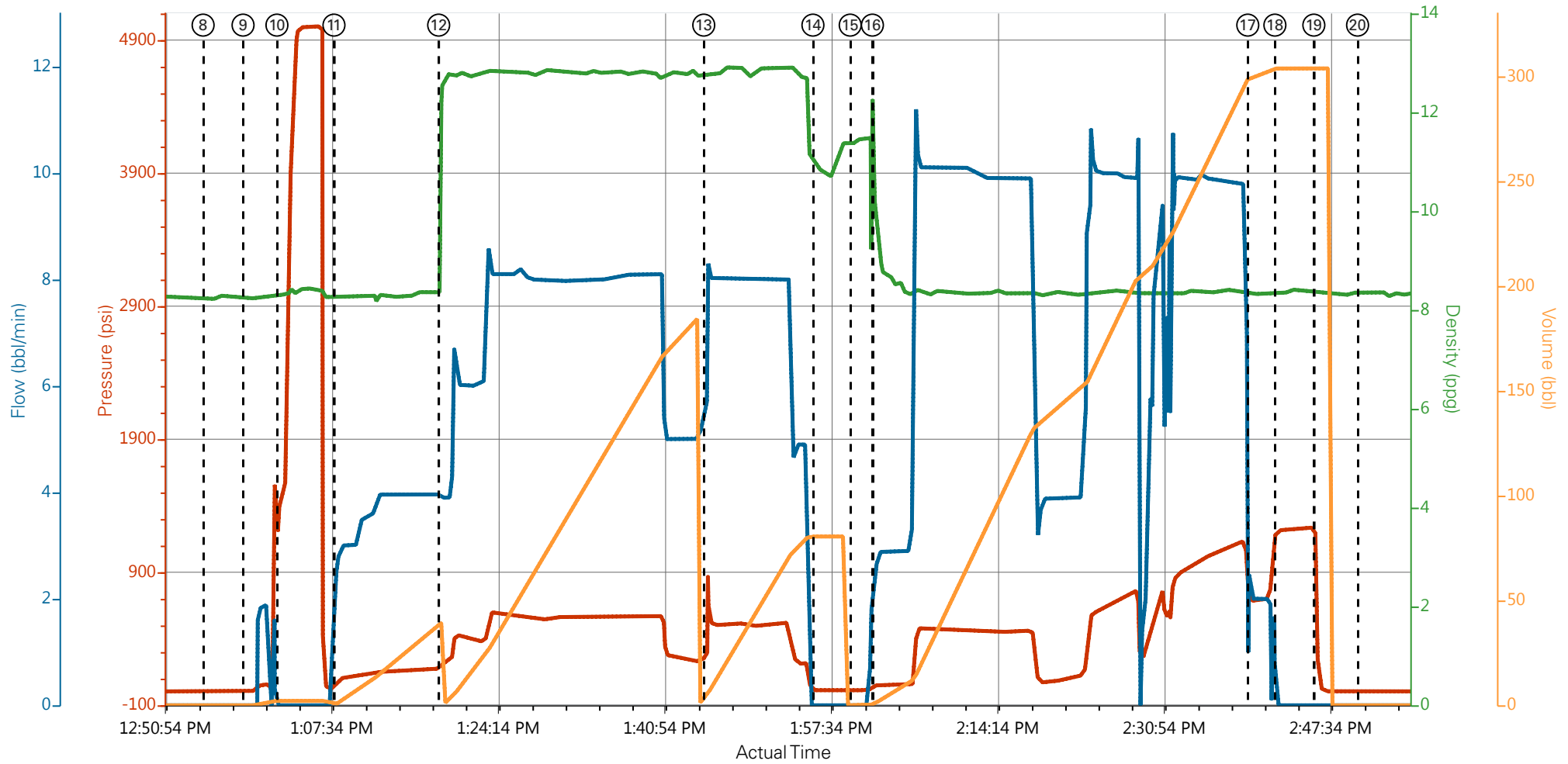
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# WPX RGU 313-25-198 Two Stage Surface



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

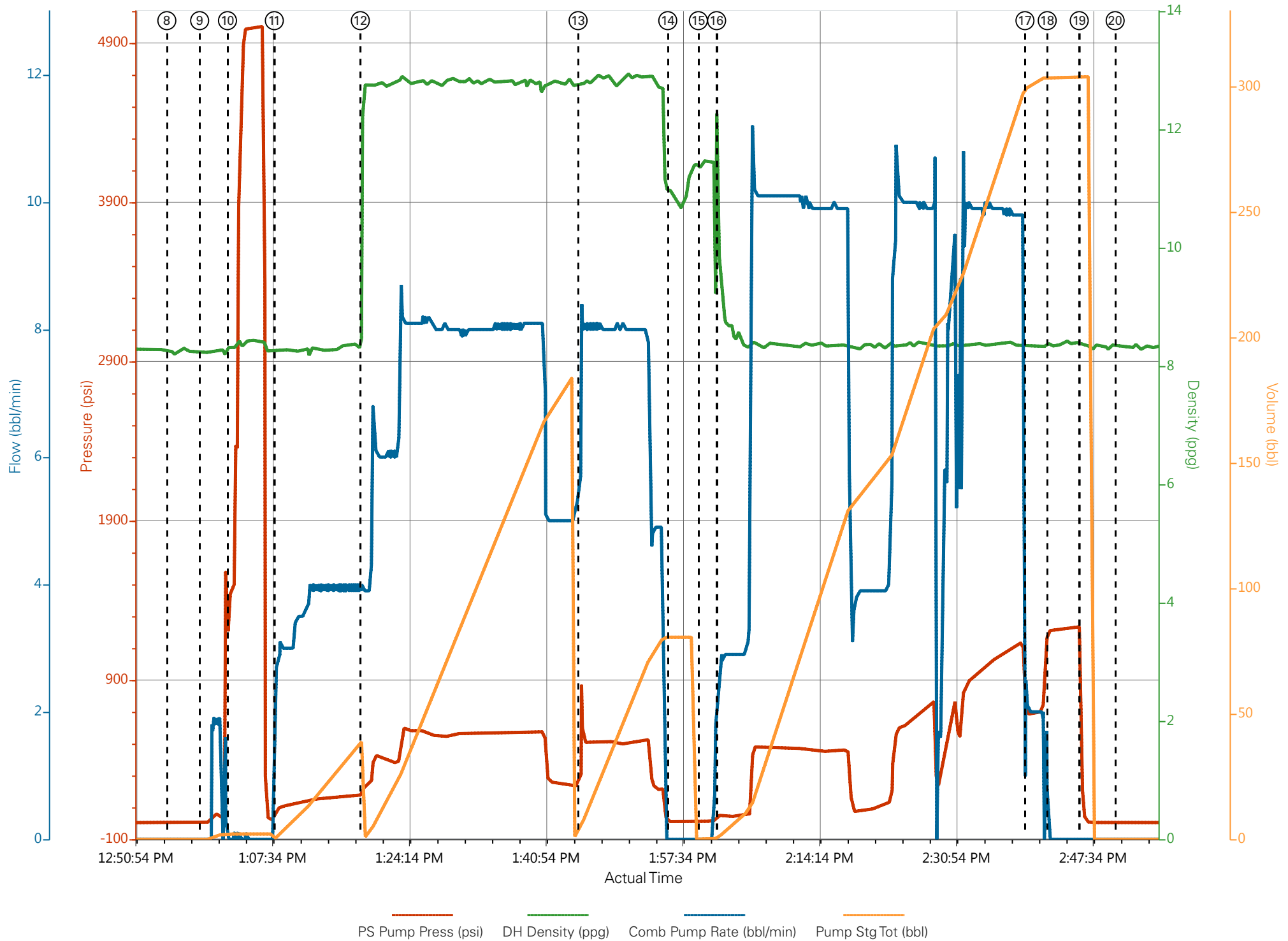
# WPX RGU 313-25-198 First Stage



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

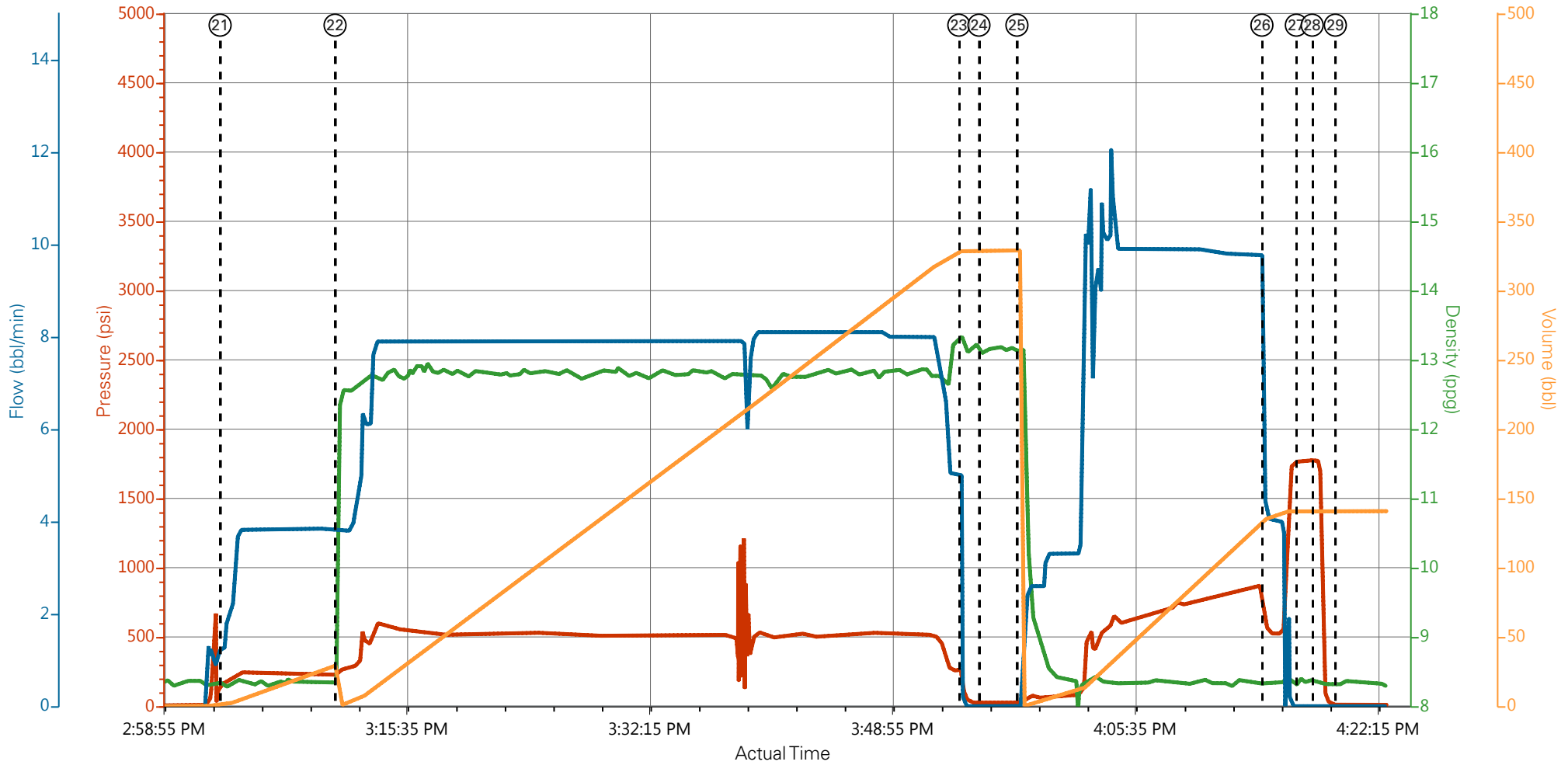
- |   |   |   |
|---|---|---|
| ① Call Out n/a;n/a;n/a;n/a                              | ⑫ Pump Lead Cement 209;12.55;3.9;0                            | 23 Shutdown 189;13.33;1.1;328.9                           |
| ② Depart Yard Safety Meeting n/a;n/a;n/a;n/a            | ⑬ Pump Tail Cement 312;12.74;7.1;5.4                          | 24 Drop Plug 23;13.12;0;329                               |
| ③ Crew Leave Yard n/a;n/a;n/a;n/a                       | ⑭ Shutdown 9;10.97;0;80.5                                     | 25 Pump Displacement 26;13.16;0;0                         |
| ④ Arrive at Loc n/a;n/a;n/a;n/a                         | ⑮ Drop Plug 13;11.38;0;0                                      | 26 Slow Rate 605;8.35;4.3;135.1                           |
| ⑤ Assessment Of Location Safety Meeting n/a;n/a;n/a;n/a | ⑯ Pump Displacement 53;9.77;2.6;1.3                           | 27 Bump Plug 1772;8.39;0;140.8                            |
| ⑥ Pre-Rig Up Safety Meeting n/a;n/a;n/a;n/a             | ⑰ Slow Rate 695;8.36;2;299.7                                  | 28 Check Floats 1776;8.38;0;140.8                         |
| ⑦ Pre-Job Safety Meeting 4;8.21;0;0                     | ⑱ Bump Plug 1214;8.36;0;303.8                                 | 29 End Job 9;8.29;0;140.8                                 |
| ⑧ Start Job 4;8.26;0;0                                  | ⑲ Check Floats 223;8.37;0;303.8                               | 30 Post-Job Safety Meeting (Pre Rig-Down) n/a;n/a;n/a;n/a |
| ⑨ Prime Pumps 6;8.26;0;0                                | 20 Drop Opening Device For Multiple Stage Cementer 5;8.36;0;0 | 31 Depart Location Safety Meeting n/a;n/a;n/a;n/a         |
| ⑩ Test Lines 1453;8.32;0;2.1                            | 21 Pump Spacer 1 167;8.26;1.2;1.4                             | 32 Crew Leave Location n/a;n/a;n/a;n/a                    |
| ⑪ Pump Spacer 1 90;8.24;2.8;1                           | 22 Pump Cement 229;10.83;3.9;0                                |   |

# WPX RGU 313-25-198 First Stage



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

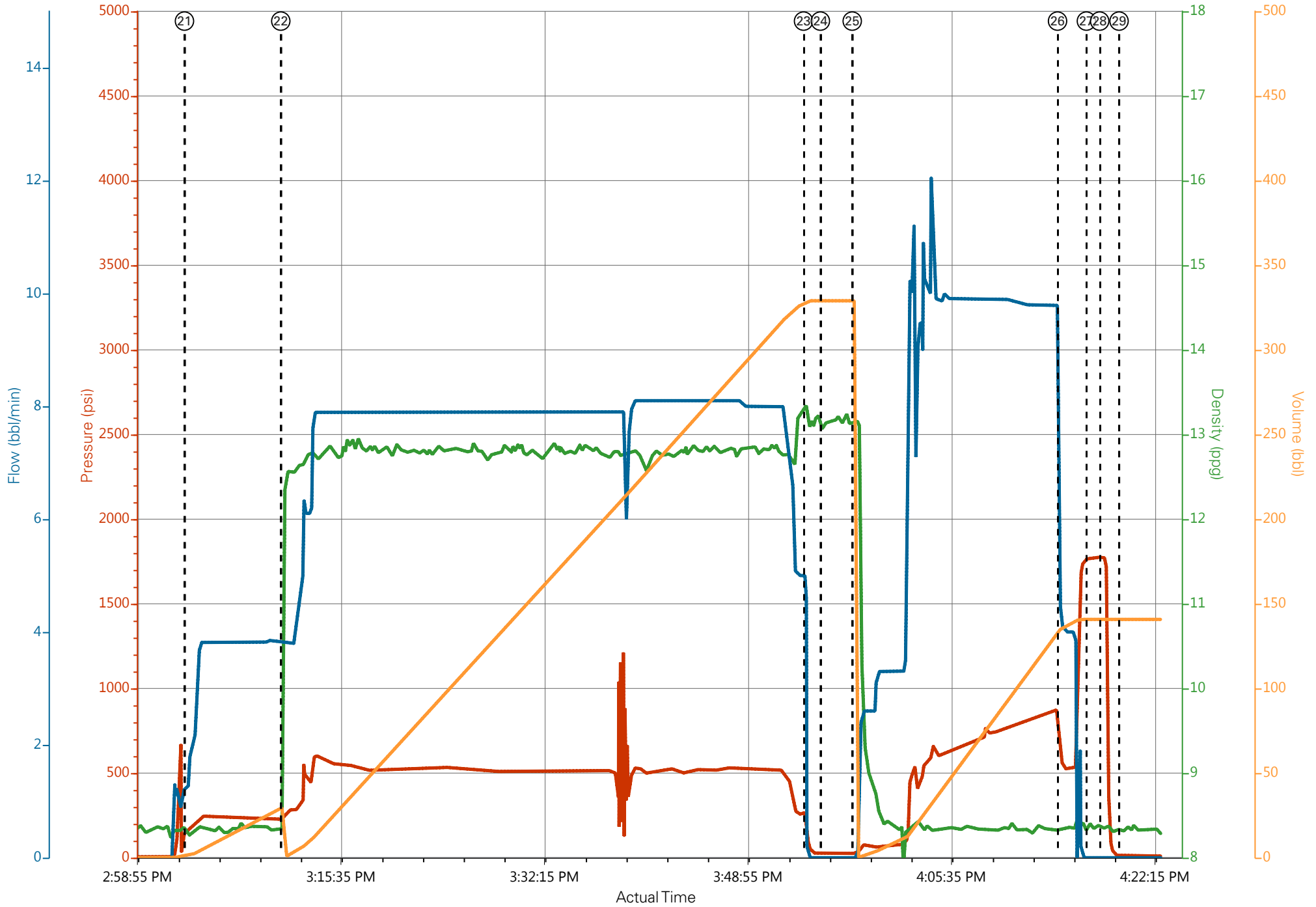
# WPX RGU 313-25-198 Second Stage



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

- ① Call Out n/a;n/a;n/a;n/a
- ② Depart Yard Safety Meeting n/a;n/a;n/a;n/a
- ③ Crew Leave Yard n/a;n/a;n/a;n/a
- ④ Arrive at Loc n/a;n/a;n/a;n/a
- ⑤ Assessment Of Location Safety Meeting n/a;n/a;n/a;n/a
- ⑥ Pre-Rig Up Safety Meeting n/a;n/a;n/a;n/a
- ⑦ Pre-Job Safety Meeting 4;8.21;0;0
- ⑧ Start Job 4;8.26;0;0
- ⑨ Prime Pumps 6;8.26;0;0
- ⑩ Test Lines 1453;8.32;0;2.1
- ⑪ Pump Spacer 1 90;8.24;2.8;1
- ⑫ Pump Lead Cement 209;12.55;3.9;0
- ⑬ Pump Tail Cement 312;12.74;7.1;5.4
- ⑭ Shutdown 9;10.97;0;80.5
- ⑮ Drop Plug 13;11.38;0;0
- ⑯ Pump Displacement 53;9.77;2.6;1.3
- ⑰ Slow Rate 695;8.36;2;299.7
- ⑱ Bump Plug 1214;8.36;0;303.8
- ⑲ Check Floats 223;8.37;0;303.8
- ⑳ Drop Opening Device For Multiple Stage Cementer 5;8.36;0;0
- ㉑ Pump Spacer 1 167;8.26;1.2;1.4
- ㉒ Pump Cement 229;10.83;3.9;0
- ㉓ Shutdown 189;13.33;1.1;328.9
- ㉔ Drop Plug 23;13.12;0;329
- ㉕ Pump Displacement 26;13.16;0;0
- ㉖ Slow Rate 605;8.35;4.3;135.1
- ㉗ Bump Plug 1772;8.39;0;140.8
- ㉘ Check Floats 1776;8.38;0;140.8
- ㉙ End Job 9;8.29;0;140.8
- ㉚ Post-Job Safety Meeting (Pre Rig-Down) n/a;n/a;n/a;n/a
- ㉛ Depart Location Safety Meeting n/a;n/a;n/a;n/a
- ㉜ Crew Leave Location n/a;n/a;n/a;n/a

# WPX RGU 313-25-198 Second Stage



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

# HALLIBURTON

## Water Analysis Report

Company: WPX  
Submitted by: CLIFF SPARKS  
Attention: DALLAS SCOTT  
Lease: FED RGU  
Well #: 313-26-198

Date: 3/11/2015  
Date Rec.: 3/11/2015  
S.O.#: 902195430  
Job Type: 9 5/8" SURFACE

Specific Gravity	<i>MAX</i>	<b>1</b>
pH	<i>8</i>	<b>8</b>
Potassium (K)	<i>5000</i>	<b>400 Mg / L</b>
Calcium (Ca)	<i>500</i>	<b>120 Mg / L</b>
Iron (FE2)	<i>300</i>	<b>0 Mg / L</b>
Chlorides (Cl)	<i>3000</i>	<b>0 Mg / L</b>
Sulfates (SO <sub>4</sub> )	<i>1500</i>	<b>-200 Mg / L</b>
Chlorine (Cl <sub>2</sub> )		<b>0 Mg / L</b>
Temp	<i>40-80</i>	<b>52 Deg</b>
Total Dissolved Solids		<b>210 Mg / L</b>

Respectfully: CLIFF SPARKS

Title: CEMENTING SUPERVISOR

Location: Grand Junction, CO

NOTICE:

This report is limited to the described sample tested. Any person using or relying on this report agrees that Halliburton shall not be liable for any loss or damage whether due to act or omission resulting from such report or its use.

<b>Sales Order #:</b> 0902195430	<b>Line Item:</b> 10	<b>Survey Conducted Date:</b> 3/11/2015
<b>Customer:</b> WPX ENERGY ROCKY MOUNTAIN LLC-EBUS		<b>Job Type (BOM):</b> CMT MULTIPLE STAGES BOM
<b>Customer Representative:</b> TED RAGSDALE		<b>API / UWI: (leave blank if unknown)</b> 05-103-11983-00
<b>Well Name:</b> FEDERAL		<b>Well Number:</b> 0080129286
<b>Well Type:</b> DIRECTIONAL GAS	<b>Well Country:</b> USA	
<b>H2S Present:</b> No	<b>Well State:</b> COLORADO	<b>Well County:</b> RIO BLANCO

Dear Customer,

We hope that you were satisfied with the service quality of this job performed by Halliburton. It is the aim of our management and service personnel to deliver equipment and service of a standard unmatched in the service sector of the energy industry.

Please take the time to let us know if our performance met with your satisfaction. Please be as critical as possible to ensure we constantly improve our service. Your comments are of great value to us and are intended for the exclusive use of Halliburton.

### CUSTOMER SATISFACTION SURVEY

CATEGORY	CUSTOMER SATISFACTION RESPONSE	
Survey Conducted Date	The date the survey was conducted	3/11/2015
Survey Interviewer	The survey interviewer is the person who initiated the survey.	HAL9235
Customer Participation	Did the customer participate in this survey? (Y/N)	Yes
Customer Representative	Enter the Customer representative name	TED RAGSDALE
HSE	Was our HSE performance satisfactory? Circle Y or N	Yes
Equipment	Were you satisfied with our Equipment? Circle Y or N	Yes
Personnel	Were you satisfied with our people? Circle Y or N	Yes
Customer Comment	Customer's Comment	JOB WELL DONE THANKS GUYS!

<b>CUSTOMER SIGNATURE</b>
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<b>H2S Present:</b> No	<b>Well State:</b> COLORADO	<b>Well County:</b> RIO BLANCO

### KEY PERFORMANCE INDICATORS

General	
<b>Survey Conducted Date</b>	3/11/2015
The date the survey was conducted	

Cementing KPI Survey	
<b>Type of Job</b>	0
Select the type of job. (Cementing or Non-Cementing)	
<b>Select the Maximum Deviation range for this Job</b>	Deviated
What is the highest deviation for the job you just completed? This may not be the maximum well deviation.	
<b>Total Operating Time (hours)</b>	5
Total Operating Hours Including Rig-up, Pumping, Rig-down. Enter in decimal format.	
<b>HSE Incident, Accident, Injury</b>	No
HSE Incident, Accident, Injury. This should be recordable incidents only.	
<b>Was the job purpose achieved?</b>	Yes
Was the job delivered correctly as per customer agreed design?	
<b>Pumping Hours</b>	3
Total number of hours pumping fluid on this job. Enter in decimal format.	
<b>Type of Rig Classification Job Was Performed</b>	Drilling Rig (Portable)
Type Of Rig (classification) Job Was Performed On	
<b>Number Of JSAs Performed</b>	5
Number Of Jsas Performed	
<b>Was this a Primary Cement Job (Yes / No)</b>	Yes
Primary Cement Job= Casing job, Liner job, or Tie-back job.	
<b>Number of Unplanned Shutdowns</b>	0
Unplanned shutdown is when injection stops for any period of time.	
<b>Customer Non-Productive Rig Time (hrs)</b>	0

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<b>H2S Present:</b> No	<b>Well State:</b> COLORADO	<b>Well County:</b> RIO BLANCO

Lost time due to Halliburton in the start, execution, or completion of an ordered service or product, or delays in a follow-on service. Enter in decimal format. 0 if none.	
<b>Was the non productive time or the unplanned shutdown caused by a problem with a piece of equipment?</b> Was the non productive time or the unplanned shutdown caused by a problem with a piece of equipment?	No
<b>Did We Run Wiper Plugs?</b> Did We Run Top And Bottom Casing Wiper Plugs?	Both
<b>If a top plug was run, was the plug bumped? (Yes/No/N/A)</b> If a top plug was run, was the plug bumped? (Yes/No/N/A)	Yes
<b>If applicable, was Halliburton float equipment used? (Yes/No/N/A)</b> If applicable, was Halliburton float equipment used? (Yes/No/N/A)	No
<b>If applicable, did the floats hold? (Yes/No/N/A)</b> If applicable, did the floats hold? (Yes/No/N/A)	Yes
<b>Mixing Density of Job Stayed in Designed Density Range (0-100%)</b> Density Range defined as +/- .20 ppg. Calculation: Total BBLs cement mixed at designed density divided by total BBLs of cement multiplied by 100	98
<b>Pump Rate (percent) of Job Stayed At Designed Pump Rate</b> Pump Rate range defined as +/- 1bbl/min. Calculation: Total BBLs of fluid pumped at the designed rate divided by Total BBLs of fluid pumped, multiplied by 100	98
<b>If applicable, were there returns throughout the job? (Yes/No/N/A)</b> If applicable, were there returns throughout the job? (Yes/No/N/A)	Yes
<b>Nbr of Remedial Plug Jobs Rqd - HES</b> Number Of Remedial Plug Jobs Needed After Primary Plug Pumped By HES	0
<b>Nbr of Remedial Sqz Jobs Rqd - HES</b> Number Of Remedial Squeeze Jobs Required After Primary Job Performed By HES	0