

WPX ENERGY ROCKY MOUNTAIN LLC-EBUS

RGU 442-24-198

**Cyclone/29**

## **Post Job Summary**

# **Cement Surface Casing**

Date Prepared: 05/02/2014

Job Date: 04/26/2014

Submitted by: Kory Hugentobler - Cement Engineer

## The Road to Excellence Starts with Safety

Sold To #: 300721	Ship To #: 3276472	Quote #: 0021852020	Sales Order #: 0901294695
Customer: WPX ENERGY ROCKY MOUNTAIN LLC-EBUS		Customer Rep: ANDREW BRUNK	
Well Name: FEDERAL		Well #: RGU 442-24-198	API/UWI #: 05-103-12084-00
Field: SULPHUR CREEK	City (SAP): MEE	County/Parish: RIO BLANCO	State: COLORADO
Legal Description: 24-1S-98W-2156FSL-1700FEL			
Contractor: CYCLONE		Rig/Platform Name/Num: CYCLONE 29	
Job BOM: 392189			
Well Type: DIRECTIONAL GAS			
Sales Person: HALAMERICA\HB50180		Srvc Supervisor: Anthony Andrews	

### Job

Formation Name	
Formation Depth (MD)	Top
Form Type	BHST
Job depth MD	3926ft
Water Depth	Wk Ht Above Floor
Perforation Depth (MD)	From

### 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	1794		0
Casing		9.625	8.921	36		J-55	0	3926		0
Open Hole Section			13.5				1794	3930	0	0

### Tools and Accessories

Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make
Guide Shoe	9.625	1		3926	Top Plug	9.625		HES
Float Shoe	9.625				Bottom Plug	9.625		HES
Float Collar	9.625	1			SSR plug set	9.625		HES
Insert Float	9.625				Plug Container	9.625	1	HES
Stage Tool	9.625	1		1794	Centralizers	9.625		HES

### 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 ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
1	Fresh Water	Fresh Water	40	bbl	8.3				
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal

2	Stage 1 HLC Lead	ECONOCEM (TM) SYSTEM	630	sack	12.8	1.77		4	9.33
9.33 Gal		FRESH WATER							
0.35 %		HR-5, 50 LB SK (100005050)							
0.25 lbm		POLY-E-FLAKE (101216940)							
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
3	Stage 1 VariCem Tail	VARICEM (TM) CEMENT	245	sack	12.8	1.96		4	10.95
10.91 Gal		FRESH WATER							
0.25 lbm		POLY-E-FLAKE (101216940)							
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
4	Displacement	Displacement	291.8	bbl	8.3				
Cement Left In Pipe Amount 26 ft Reason 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/min	Total Mix Fluid Gal
1	Fresh Water	Fresh Water	20	bbl	8.3				
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
2	Stage 2 VariCem Lead	VARICEM (TM) CEMENT	1245	sack	12.8	1.96		4	10.96
0.25 lbm		POLY-E-FLAKE (101216940)							
10.91 Gal		FRESH WATER							
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
3	Displacement	Displacement	138.9	bbl	8.3				
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
4	HalCem	HALCEM (TM) SYSTEM	0	sack	15.8	1.15		2	5
4.99 Gal		FRESH WATER							
Cement Left In Pipe Amount 26 ft Reason Shoe Joint									
Comment									

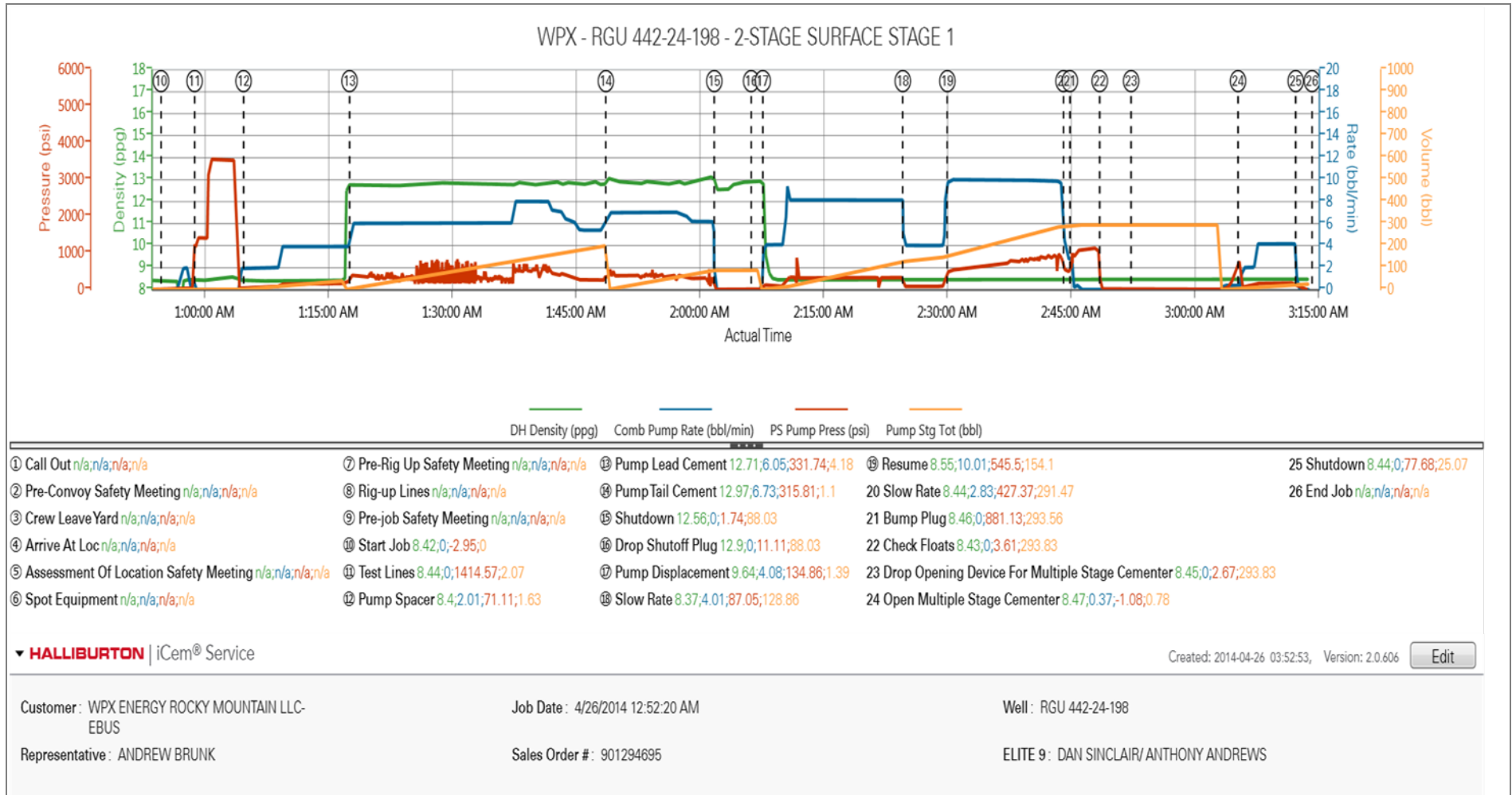
## 4.5 Job Event Log

Graph Label	Time	Description/Graph Label	Slurry Downhole Density (ppg)	Combined Pump Rate (bbl/min)	Passenger Side Pressure (psi)	Combined Pump Stage Total (bbl)	Comment
①	01:00:00	Call Out					
②	03:45:00	Pre-Convoy Safety Meeting					
③	04:00:00	Crew Leave Yard					
④	07:00:00	Arrive At Loc					
⑤	07:10:00	Assessment Of Location Safety Meeting					
⑥	07:15:00	Other					
⑦	07:20:00	Pre-Rig Up Safety Meeting					
⑧	07:30:00	Rig-Up Equipment					
⑨	12:30:00	Pre-Job Safety Meeting					
⑩	12:55:00	Start Job	8.42	0.00	-2.95	0.00	TD: 3930 TP: 3926 DV TOOL:1794' SJ: 26.43 MW: 9.3 MSC @ 1794 9 5/8" 36#/FT CSG IN 14 3/4" % 13 1/2" OH (14 3/4' TO 1794'-13 1/2" TO TD)
⑪	12:59:04	Test Lines	8.44	0.00	3500	0	3500 PSI TEST
⑫	01:05:00	Pump Spacer	8.40	2.01	87	40	FRESH H2O SPACER
⑬	01:17:50	Pump Lead Cement	12.8	6.00	331	198.6	630 SKS @ 12.8 PPG 1.77 YLD 9.33 GAL/SK H2O 5 BOX TUF FIBER ADDED TO FIRST 100 BBLs LEAD SLURRY
⑭	01:48:55	Pump Tail Cement	12.8	8	315	85.5	245 SKS @ 12.8 PPG 1.96 YLD 10.95 GAL/SK H2O
⑮	02:02:03	Shutdown	12.56	0.00	0	0	
⑯	02:06:31	Drop Plug	12.90	0.00	0	0	PLUG AWAY
⑰	02:07:55	Pump Displacement	8.33	8	371	301.8	FRESH H2O DISPLACEMENT
⑱	02:24:54	Slow Rate	8.37	4.00	87.	128	SLOW RATE @ 128 BBL AAY TO ALLOW PLUG TO PASS THROUGH TOOL
⑲	02:30:18	Resume	8.33	10.00	545	148	RESUME RATE TO 10 BPM @ 148 AWAY

Graph Label	Time	Description/Graph Label	Slurry Downhole Density (ppg)	Combined Pump Rate (bbl/min)	Passenger Side Pressure (psi)	Combined Pump Stage Total (bbl)	Comment
20	02:44:22	Slow Rate	8.33	3	427	291	SLOW RATE @ 290 BBLS AWAY TO BUMP PLUG
21	02:45:09	Bump Plug	8.33	0.00	981	291.8	PLUG BUMPED AT CALCULATED DISPLACEMENT. FULL RETURNS THROUGH JOB UNTIL 240 BBLS AWAY, NO RETURNS FOR THE REMAINDER OF DISP (60 BBL)
22	02:48:46	Check Floats	8.33	0.00	3.61	291.8	FLOATS HELD
23	02:52:34	Drop Opening Device For Multiple Stage Cementer	8.33	0.00	2.67	0	WAIT 12 MIN FOR OPENING DEVICE TO REACH MSC
24	03:05:32	Open Multiple Stage Cementer	8.33	1	740	1.5	PRESSURE UP TO OPEN TOOL, TOOL OPENED SUCCESSFULLY @ 740 PSI. PUMP 25 BBLS WATER.
25	03:12:31	Shutdown	8.44	0.00	77.68	25.00	TURN OVER TO RIG TO ESTABLISH CIRCULATION.
26	03:14:30	End Job					PENDING STAGE 2 (CHARTING PROBLEMS CAUSED THE NEED FOR 2 SEPERATE CHARTS) COMPLETE JOB LOG IS SPLIT BETWEEN THE TWO.

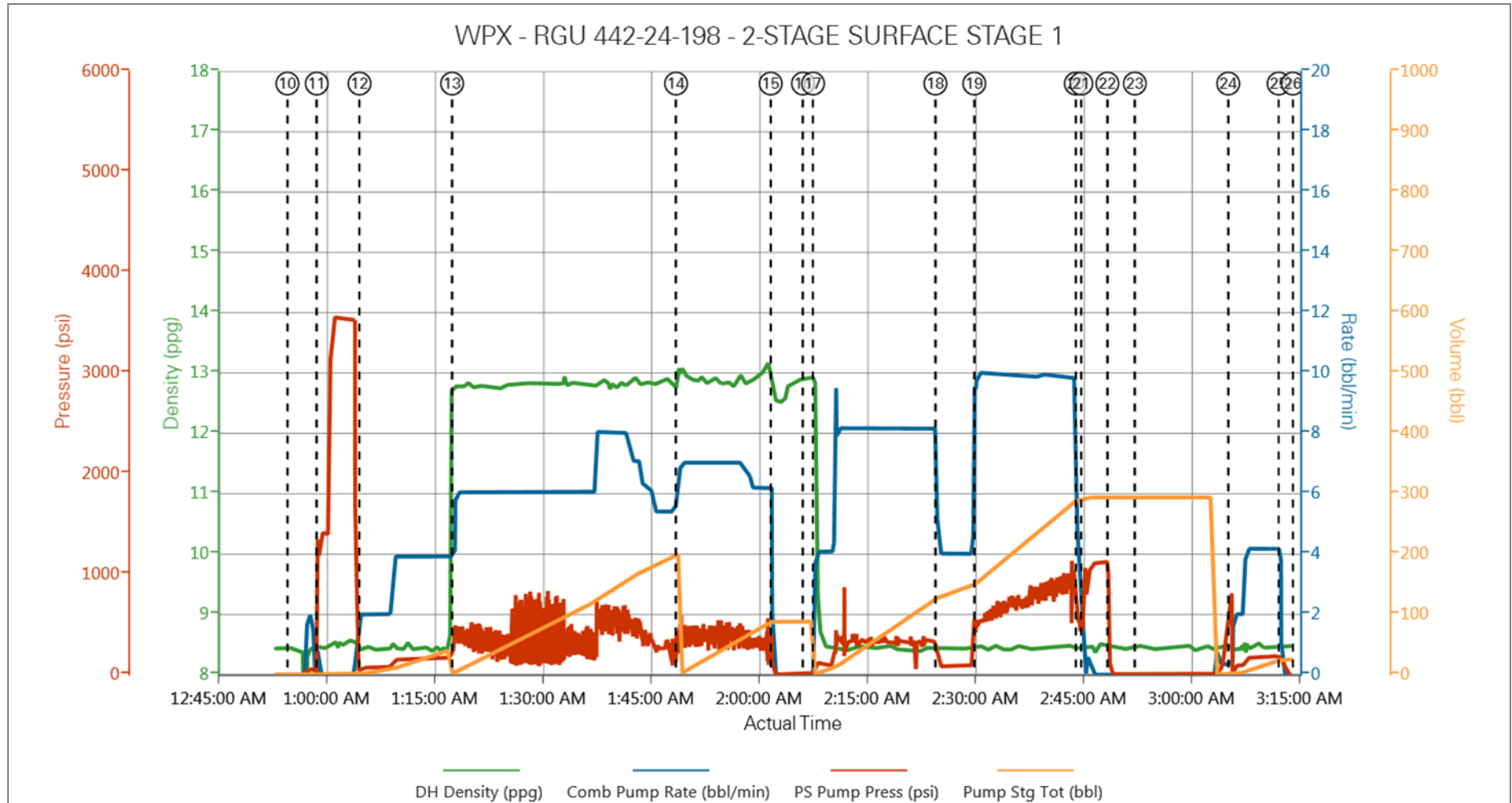
## 5.0 Attachments

## 5.1 RTD-Custom Results STAGE 1.png

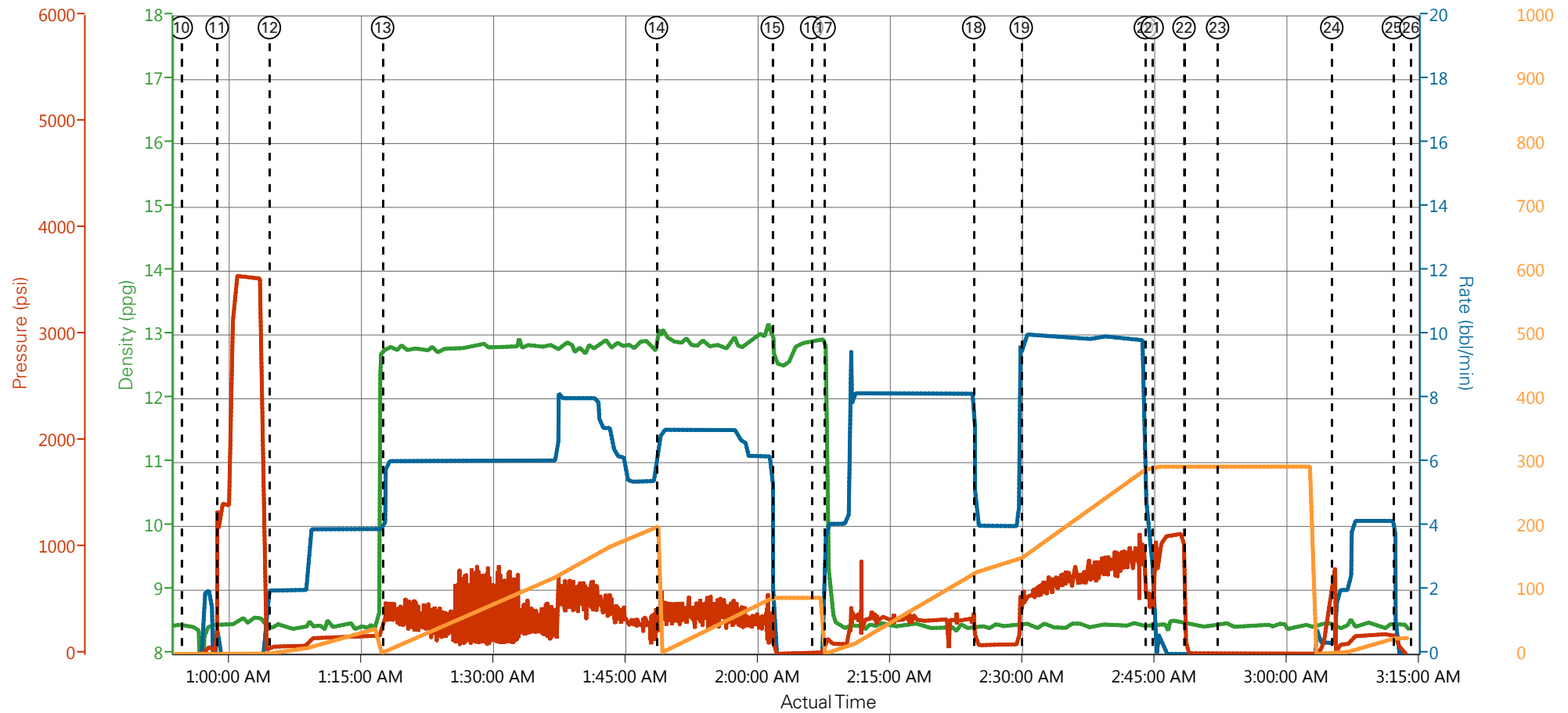


## 6.0 Custom Graphs

### 6.1 Custom Graph



# WPX - RGU 442-24-198 - 2-STAGE SURFACE STAGE 1



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

- |   |   |   |
|---|---|---|
| ① Call Out n/a;n/a;n/a;n/a                              | ⑩ Start Job 8.42;0;-2.95;0                | ⑲ Resume 8.55;10.01;545.5;154.1                                       |
| ② Pre-Convoy Safety Meeting n/a;n/a;n/a;n/a             | ⑪ Test Lines 8.44;0;1414.57;2.07          | 20 Slow Rate 8.44;2.83;427.37;291.47                                  |
| ③ Crew Leave Yard n/a;n/a;n/a;n/a                       | ⑫ Pump Spacer 8.4;2.01;71.11;1.63         | 21 Bump Plug 8.46;0;881.13;293.56                                     |
| ④ Arrive At Loc n/a;n/a;n/a;n/a                         | ⑬ Pump Lead Cement 12.71;6.05;331.74;4.18 | 22 Check Floats 8.43;0;3.61;293.83                                    |
| ⑤ Assessment Of Location Safety Meeting n/a;n/a;n/a;n/a | ⑭ Pump Tail Cement 12.97;6.73;315.81;1.1  | 23 Drop Opening Device For Multiple Stage Cementer 8.45;0;2.67;293.83 |
| ⑥ Spot Equipment n/a;n/a;n/a;n/a                        | ⑮ Shutdown 12.56;0;1.74;88.03             | 24 Open Multiple Stage Cementer 8.47;0.37;-1.08;0.78                  |
| ⑦ Pre-Rig Up Safety Meeting n/a;n/a;n/a;n/a             | ⑯ Drop Shutoff Plug 12.9;0;11.11;88.03    | 25 Shutdown 8.44;0;77.68;25.07  |
| ⑧ Rig-up Lines n/a;n/a;n/a;n/a                          | ⑰ Pump Displacement 9.64;4.08;134.86;1.39 | 26 End Job n/a;n/a;n/a;n/a  |
| ⑨ Pre-job Safety Meeting n/a;n/a;n/a;n/a                | ⑱ Slow Rate 8.37;4.01;87.05;128.86        |   |

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Created: 2014-04-26 03:52:53, Version: 2.0.606

Edit

Customer: WPX ENERGY ROCKY MOUNTAIN LLC-EBUS

Job Date: 4/26/2014 12:52:20 AM

Well: RGU 442-24-198

Representative: ANDREW BRUNK

Sales Order #: 901294695

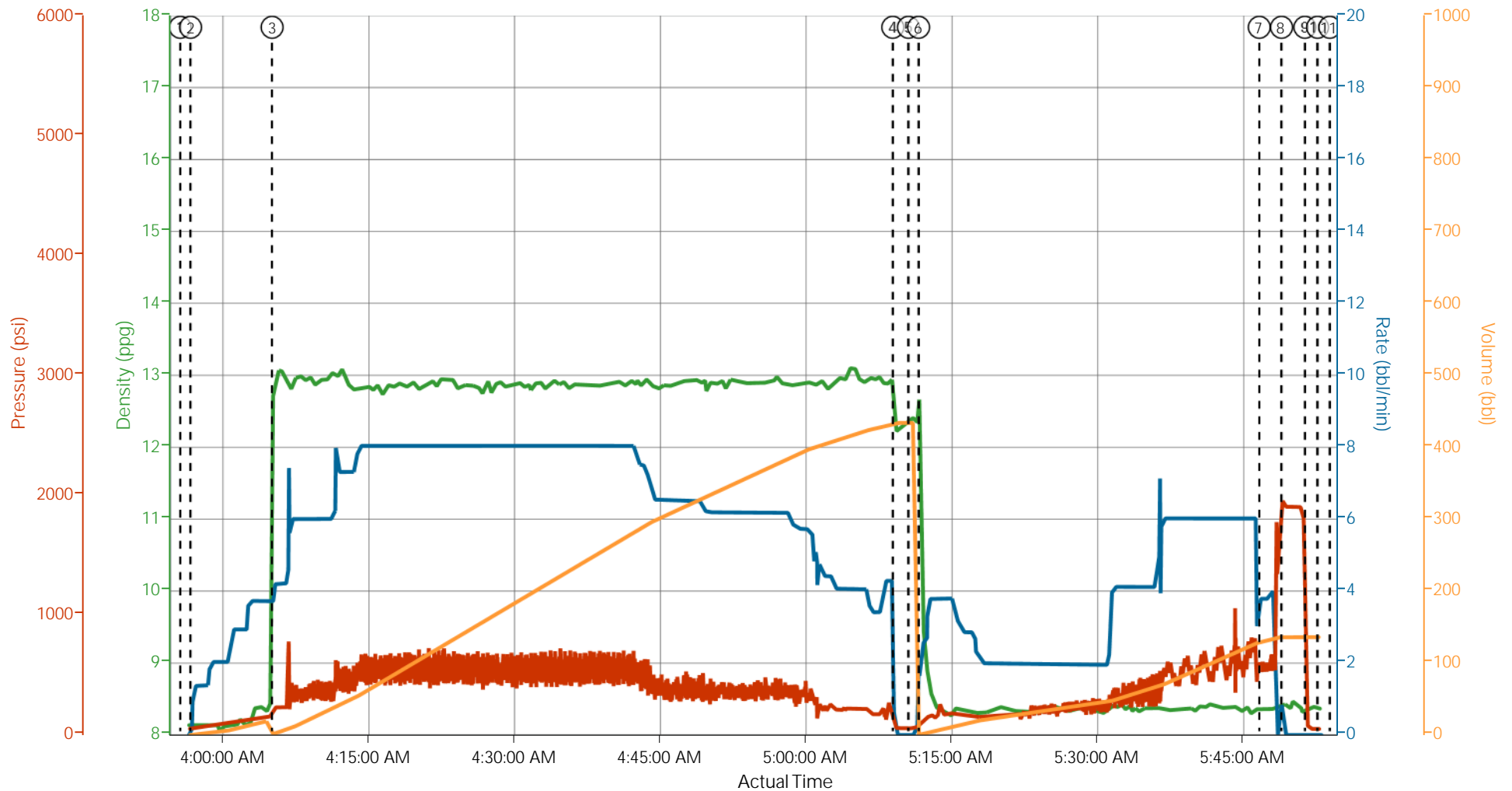
ELITE 9: DAN SINCLAIR/ ANTHONY ANDREWS



## 4.5 Job Event Log

Graph Label	Time	Graph Label	Slurry Downhole Density (ppg)	Combined Pump Rate (bbl/min)	Passenger Side Pressure (psi)	Combined Pump Stage Total (bbl)	Comment
1	03:56:00	Start Stage 2					
2	03:57:03	Pump Spacer	8.33	2	75	20	FRESH H2O SPACER
3	04:05:27	Pump Tail Cement	12.8	8	318	434.6	1245 SKS @ 12.8 PPG 1.96 YLD 10.96 GAL/SK H2O GAINED
4	05:09:18	Shutdown	12.26	0.00	0	0	
5	05:10:54	Drop Closing Plug	12.42	0.00	0	0	PLUG AWAY
6	05:11:57	Pump Displacement	8.33	10	504	138.9	FRESH H2O DISPLACEMENT.
7	05:47:00	Slow Rate	8.38	4	578	128	
8	05:49:17	Bump Plug	8.45	4	1907	138.9	PLUG BUMPED AT CALCULATED DISPLACEMENT, PRESSUR UP TO CLOSE TOOL
9	05:51:41	Check Floats	8.36	0.00	0	0	VERIFY TOOL CLOSED SUCESSFULLY, TOOL CLOSED.
10	05:53:00	End Job	8.35	0.00	0	0	GOOD CIRCULATION THROUGHOUT JOB. PIPE WAS LEFT STATIC THROUGHOUT JOB.
11	05:54:15	Other					GAINED CEMENT RETURNS @ 403 AWAY ON TAIL CMT. CIRCULATED 170 BBLS CMT TO SURFACE. RIG USED SOME OF THE CMT RETURNS TO FILL 2 PREVIOUS WELLS (533-24-198 AND 333-24-198) WITH APPROX 8 BBLS AND 24 BBLS, RESPECTIVELY. CREW STAYING ON LOCATION TO TOP OUT 2 OTHER WELLS, SEPERATE REPORTS TO FOLLOW

# WPX - RGU 442-24-198 - 2 STAGE SURFACE-STAGE 2



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

- Start Stage 2 n/a; n/a; n/a; n/a
- Pump Spacer 8.17; 1.36; 74.12; 0.28
- Pump Tail Cement 12.87; 4.21; 227.88; 2.6
- Shutdown 12.26; 0; 58.19; 433.81
- Drop Closing Plug 12.42; 0; 57.25; 433.81
- Pump Displacement 10.06; 2.56; 118.19; 1.08
- Slow Rate 8.38; 3.78; 578.51; 130.42
- Bump Plug 8.45; 0; 1907.9; 136.09
- Check Floats 8.36; 0; 52.56; 136.09
- End Job 8.35; 0; 51.62; 136.09
- Other n/a; n/a; n/a; n/a

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Created: 2014-04-26 06:15:19, Version: 2.0.606

Edit

Customer : WPX ENERGY ROCKY MOUNTAIN LLC-EBUS

Job Date : 4/26/2014 3:56:12 AM

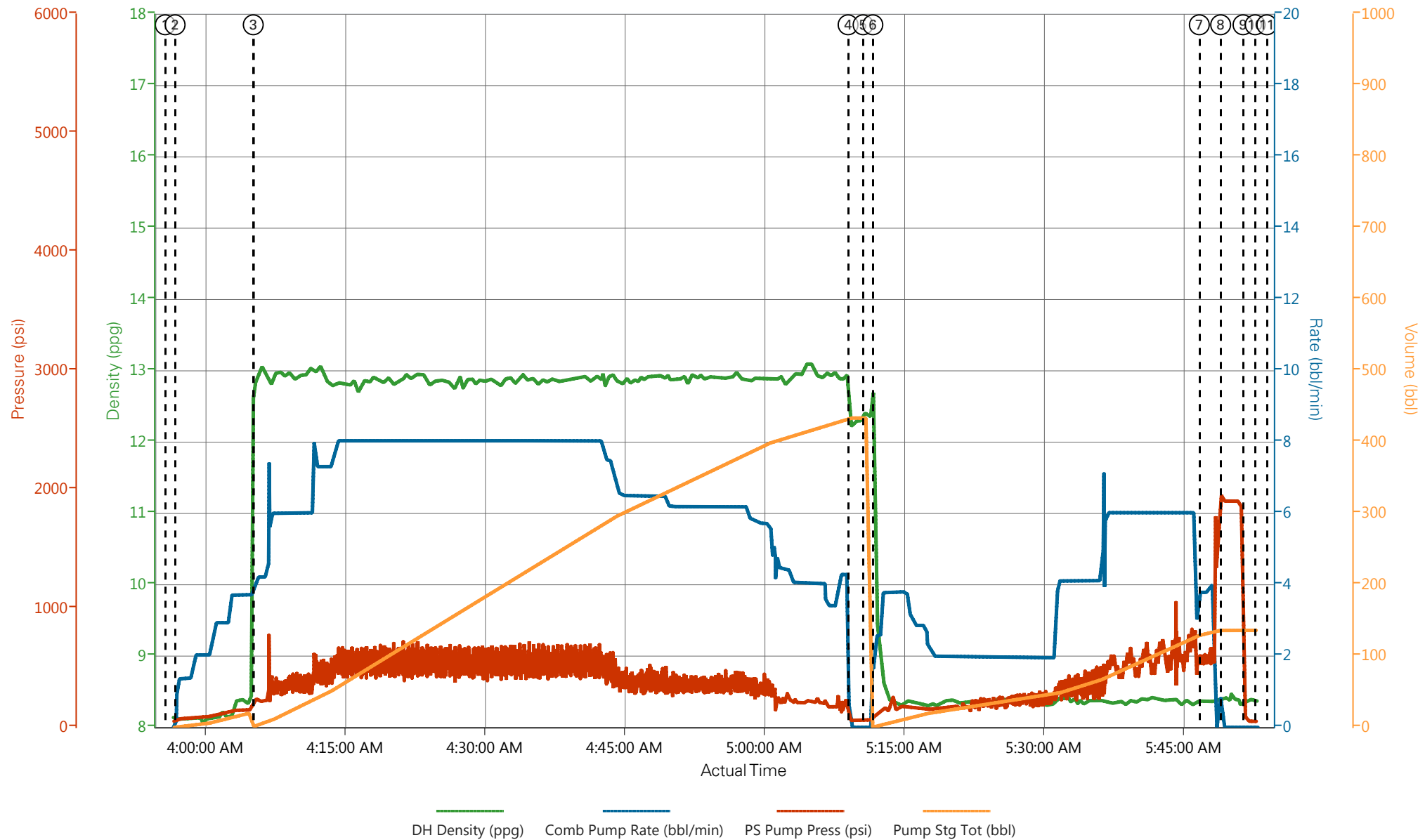
Well : RGU 442-24-198

Representative : ANDREW BRUNK

Sales Order # : 901294695

ELITE 9 : DAN SINCLAIR/ ANTHONY ANDREWS

# WPX - RGU 442-24-198 - 2 STAGE SURFACE-STAGE 2



① Start Stage 2 n/a;n/a;n/a;n/a	④ Shutdown 12.26;0;58.19;433.81	⑦ Slow Rate 8.38;3.78;578.51;130.42	⑩ End Job 8.35;0;51.62;136.09
② Pump Spacer 8.17;1.36;74.12;0.28	⑤ Drop Closing Plug 12.42;0;57.25;433.81	⑧ Bump Plug 8.45;0;1907.9;136.09	⑪ Other n/a;n/a;n/a;n/a
③ Pump Tail Cement 12.87;4.21;227.88;2.6	⑥ Pump Displacement 10.06;2.56;118.19;1.08	⑨ Check Floats 8.36;0;52.56;136.09	

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Edit

Customer: WPX ENERGY ROCKY MOUNTAIN LLC-EBUS

Job Date: 4/26/2014 3:56:12 AM

Well: RGU 442-24-198

Representative: ANDREW BRUNK

Sales Order #: 901294695

ELITE 9: DAN SINCLAIR/ ANTHONY ANDREWS

# HALLIBURTON

## Water Analysis Report

Company: WPX

Submitted by: ANTHONY ANDREWS

Attention: R.Chambers/ J.Trout

Lease RGU

Well # 442-24-198

Date: 4/25/2014

Date Rec.: 4/25/2014

S.O.# 901294695

Job Type: 2STAGE SURFACE

Specific Gravity	<i>MAX</i>	<b>1</b>
pH	<i>8</i>	<b>7</b>
Potassium (K)	<i>5000</i>	<b>450</b> Mg / L
Calcium (Ca)	<i>500</i>	<b>0</b> Mg / L
Iron (FE2)	<i>300</i>	<b>0</b> Mg / L
Chlorides (Cl)	<i>3000</i>	<b>0</b> Mg / L
Sulfates (SO <sub>4</sub> )	<i>1500</i>	<b>&gt;200</b> Mg / L
Chlorine (Cl <sub>2</sub> )		<b>0</b> Mg / L
Temp	<i>40-80</i>	<b>60</b> Deg
Total Dissolved Solids		<b>410</b> Mg / L

Respectfully: ANTHONY ANDREWS

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 i

<b>Sales Order #:</b> 0901294695	<b>Line Item:</b> 10	<b>Survey Conducted Date:</b> 4/27/2014
<b>Customer:</b> WPX ENERGY ROCKY MOUNTAIN LLC-EBUS		<b>Job Type (BOM):</b> CMT MULTIPLE STAGES BOM
<b>Customer Representative:</b>		<b>API / UWI: (leave blank if unknown)</b> 05-103-12084-00
<b>Well Name:</b> FEDERAL		<b>Well Number:</b> 0080359372
<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	4/27/2014
Survey Interviewer	The survey interviewer is the person who initiated the survey.	HAM3833
Customer Participation	Did the customer participate in this survey? (Y/N)	No
Customer Representative	Enter the Customer representative name	
HSE	Was our HSE performance satisfactory? Circle Y or N	
Equipment	Were you satisfied with our Equipment? Circle Y or N	
Personnel	Were you satisfied with our people? Circle Y or N	
Customer Comment	Customer's Comment	

<b>CUSTOMER SIGNATURE</b>
---------------------------

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<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

### KEY PERFORMANCE INDICATORS

General	
<b>Survey Conducted Date</b>	4/27/2014
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>	Vertical
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>	8
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>Operating Hours (Pumping Hours)</b>	4
Total number of hours pumping fluid on this job. Enter in decimal format.	
<b>Customer Non-Productive Rig Time (hrs)</b>	0
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>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>	7
Number Of Jsas Performed	
<b>Number of Unplanned Shutdowns</b>	0
Unplanned shutdown is when injection stops for any period of time.	
<b>Was this a Primary Cement Job (Yes / No)</b>	Yes

<b>Sales Order #:</b> 0901294695	<b>Line Item:</b> 10	<b>Survey Conducted Date:</b> 4/27/2014
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<b>Customer Representative:</b>		<b>API / UWI: (leave blank if unknown)</b> 05-103-12084-00
<b>Well Name:</b> FEDERAL		<b>Well Number:</b> 0080359372
<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

Primary Cement Job= Casing job, Liner job, or Tie-back job.	
<b>Did We Run Wiper Plugs?</b> Did We Run Top And Bottom Casing Wiper Plugs?	Both
<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	90
<b>Was Automated Density Control Used?</b> Was Automated Density Control (ADC) Used ?	Yes
<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	90
<b>Nbr of Remedial Sqz Jobs Rqd - Competition</b> Number Of Remedial Squeeze Jobs Required After Primary Job Performed By Competition	0
<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