

**WPX Energy Rocky Mountain LLC - EBUS**

RGU 444-23-198

Aztec 1000

**Post Job Summary**  
**Cement Production Casing**

Date Prepared: 12/04/2014  
Job Date: 11/22/2014

Submitted by: Patrick Ealey – Grand Junction Cement Engineer

The Road to Excellence Starts with Safety

Sold To #: 300721	Ship To #: 3560630	Quote #:	Sales Order #: 0901829080
Customer: WPX ENERGY ROCKY MOUNTAIN LLC-EBUS		Customer Rep: BRANDON HAIRE	
Well Name: FEDERAL	Well #: RGU 444-23-198	API/UWI #: 05-103-12139-00	
Field: SULPHUR CREEK	City (SAP): MEEKER	County/Parish: RIO BLANCO	State: COLORADO
Legal Description: SE SE-23-1S-98W-1028FSL-645FEL			
Contractor: AZTEC DRLG		Rig/Platform Name/Num: AZTEC 1000	
Job BOM: 7523			
Well Type: DIRECTIONAL GAS			
Sales Person: HALAMERICA\HB50180		Srcv Supervisor: Bill Jamison	

**Job**

Calculated top of cement top of tail 6610 top of lead 4526 top of scav to surface no cement to surface

Formation Name			
Formation Depth (MD)	Top		Bottom
Form Type	BHST		
Job depth MD	12653ft	Job Depth TVD	12653
Water Depth		Wk Ht Above Floor	2
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
Casing		9.625	8.921	36			0	3947		0
Casing		4.5	4	11.6	8 RD	P-110	0	12653		0
Open Hole Section			8.75				3947	8818	0	0
Open Hole Section			8.5				8810	10930	0	0
Open Hole Section			7.875				10930	12663	0	0

**Tools and Accessories**

Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make
Guide Shoe	4.5	1		12653	Top Plug			
Float Shoe					Bottom Plug			
Float Collar	4.5	1		12624	SSR plug set			
Insert Float					Plug Container	4.5	1	HES
Stage Tool					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/min	Total Mix Fluid Gal
1	Fresh Water	Fresh Water	100	bbl	8.3			10	

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

2	ExtendaCem GJ1	EXTENDACEM (TM) SYSTEM	630	sack	11	2.75		8	16.07
16.18 Gal		FRESH WATER							
<b>Fluid #</b>	<b>Stage Type</b>	<b>Fluid Name</b>	<b>Qty</b>	<b>Qty UoM</b>	<b>Mixing Density lbm/gal</b>	<b>Yield ft3/sack</b>	<b>Mix Fluid Gal</b>	<b>Rate bbl/min</b>	<b>Total Mix Fluid Gal</b>
3	EconoCem GJ1	ECONOCEM (TM) SYSTEM	335	sack	12.7	1.91		8	10.07
10.25 Gal		FRESH WATER							
<b>Fluid #</b>	<b>Stage Type</b>	<b>Fluid Name</b>	<b>Qty</b>	<b>Qty UoM</b>	<b>Mixing Density lbm/gal</b>	<b>Yield ft3/sack</b>	<b>Mix Fluid Gal</b>	<b>Rate bbl/min</b>	<b>Total Mix Fluid Gal</b>
4	ThermaCem GJ1	THERMACEM (TM) SYSTEM	955	sack	13.5	1.75		8	8.23
8.32 Gal		FRESH WATER							
<b>Fluid #</b>	<b>Stage Type</b>	<b>Fluid Name</b>	<b>Qty</b>	<b>Qty UoM</b>	<b>Mixing Density lbm/gal</b>	<b>Yield ft3/sack</b>	<b>Mix Fluid Gal</b>	<b>Rate bbl/min</b>	<b>Total Mix Fluid Gal</b>
5	Displacement	Displacement	195.7	bbl	8.5			10	
<b>Cement Left In Pipe</b>	<b>Amount</b>	28.2 ft		<b>Reason</b>				<b>Shoe Joint</b>	
<b>Comment</b>									

# HALLIBURTON

WPX ENERGY ROCKY MOUNTAIN LLC-EBUS  
901829080  
WPX FEDERAL RGU 444-23-198 PRODUCTION CASING

## 4.5 Job Event Log

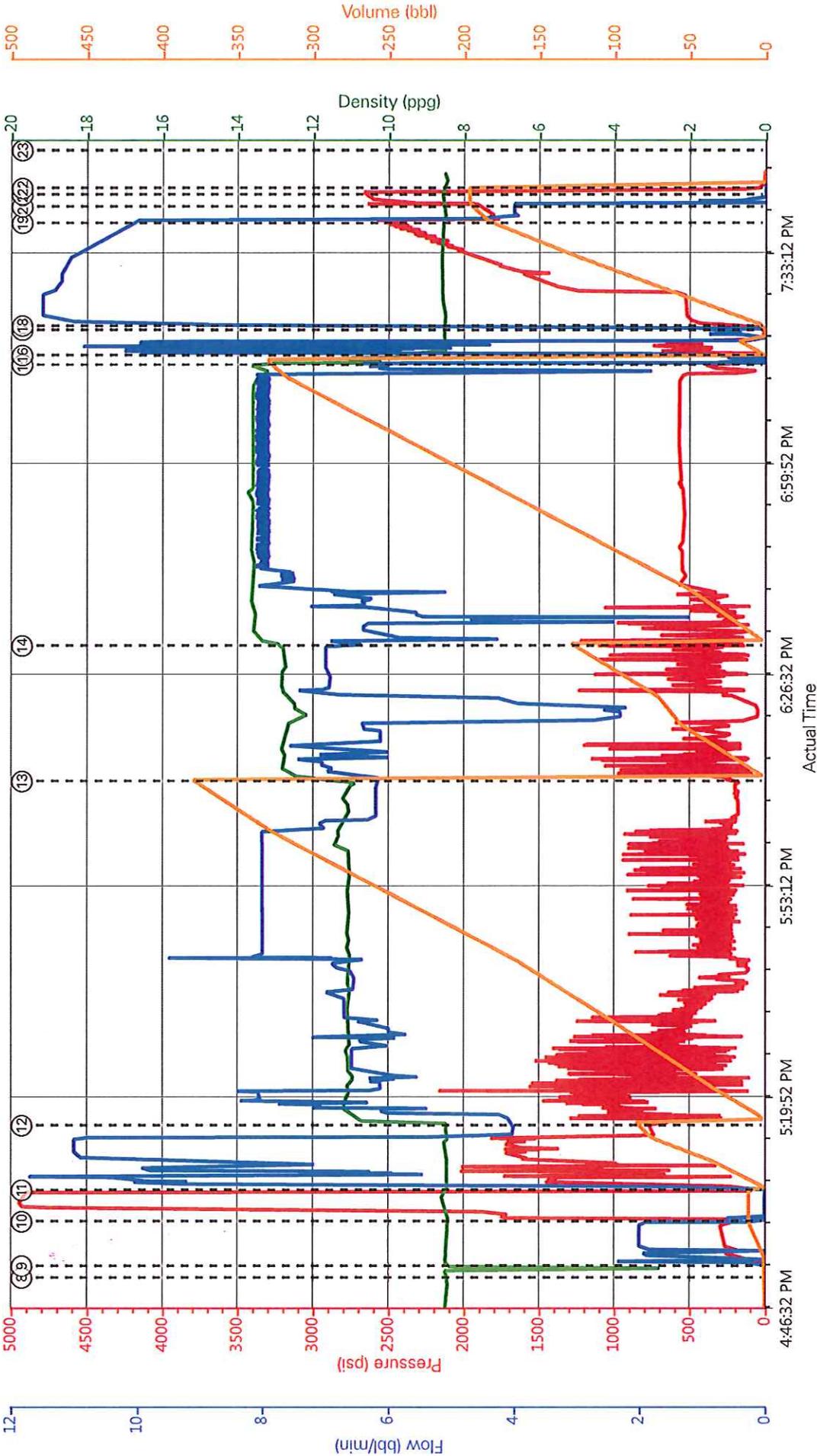
Type	Seq. No.	Activity	Date	Time	Source	DH Density (ppg)	Comb Pump Rate (bbbl/min)	PS Pump Press (psi)	Pump Stg Tot (bbbl)	Comments
Event	1	Call Out	11/22/2014	06:00:00	USER					TD 12663 TP 12653 SJ 28.20 PRODUCTION CASING 4.5 11.6 P-110 SURFACE SET @ 3947 9.625 36# OPEN HOLE 8.75 TO 8810 8.5 TO 10930 7.875 TO 12663 MUD 9.4#
Event	2	Depart Yard Safety Meeting	11/22/2014	09:50:00	USER					DID NOT USE HALLIBURTON PLUG USED CUSTOMERS PLUG
Event	3	Crew Leave Yard	11/22/2014	10:00:00	USER					
Event	4	Arrive At Loc	11/22/2014	12:30:00	USER					
Assessment Of										
Event	5	Location Safety Meeting	11/22/2014	12:40:00	USER					
Event	6	Pre-Rig Up Safety Meeting	11/22/2014	13:00:00	USER					
Event	7	Pre-Job Safety Meeting	11/22/2014	16:30:00	USER					
Event	8	Start Job	11/22/2014	16:51:49	COM2					
Event	9	Prime Pumps	11/22/2014	16:53:42	COM2	8.4	2	300	11	FRESH WATER
Event	10	Test Lines	11/22/2014	17:00:43	COM2			5000		
Event	11	Pump Spacer 1	11/22/2014	17:05:42	COM2	8.4	10	1700	100	FRESH WATER
Event	12	Pump Spacer 2	11/22/2014	17:15:56	COM2	11.0	8	1390	308.5	SCAVENGER 630 SKS 11.0 YIELD 2.75 GAL/SK 16.07
Event	13	Pump Lead Cement	11/22/2014	18:10:15	COM2	12.7	8	335	114	335 SKS 12.7 YIELD 1.91 WAT/REQ 10.07
Event	14	Pump Tail Cement	11/22/2014	18:31:37	COM2	13.5	8	580	297.6	955 SKS YIELD 1.75 WAT/REQ 8.23
Event	15	Shutdown	11/22/2014	19:16:01	USER					
Event	16	Clean Lines	11/22/2014	19:17:30	USER					
Event	17	Drop Top Plug	11/22/2014	19:21:31	COM2					
Event	18	Pump Displacement	11/22/2014	19:22:11	COM2	8.5	11.00	464.00		FRESH WATER W/KCL

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 901829080  
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Type	Seq. No.	Activity	Date	Time	Source	DH Density (ppg)	Comb Pump Rate (bbt/min)	PS Pump Press (psi)	Pump Stg Tot (bbt)	Comments
Event	19	Slow Rate	11/22/2014	19:38:27	USER	8.5	4	2555	186	
Event	20	Bump Plug	11/22/2014	19:41:04	COM2	8.5	4	1850	196.5	PRESSURED UP TO 2670 PSI
Event	21	Check Floats	11/22/2014	19:43:00	USER	8.55	0.00	2249.00	196	FLOATS HELD
Event	22	End Job	11/22/2014	19:44:00	COM2					GOOD CIRCULATION TILL 150 AWAY ON DISPLACEMENT LOST RETURNS
Post-Job Safety										
Event	23	Meeting (Pre Rig-Down)	11/22/2014	19:50:00	USER					CASING WAS BEING WORK THROUGHOUT JOB
Depart Location										
Event	24	Safety Meeting	11/22/2014	20:50:00	USER					
Crew Leave Location										
Event	25	Crew Leave Location	11/22/2014	21:00:00	USER					THANKS FOR USING HALLIBURTON BILL JAMISON & CREW

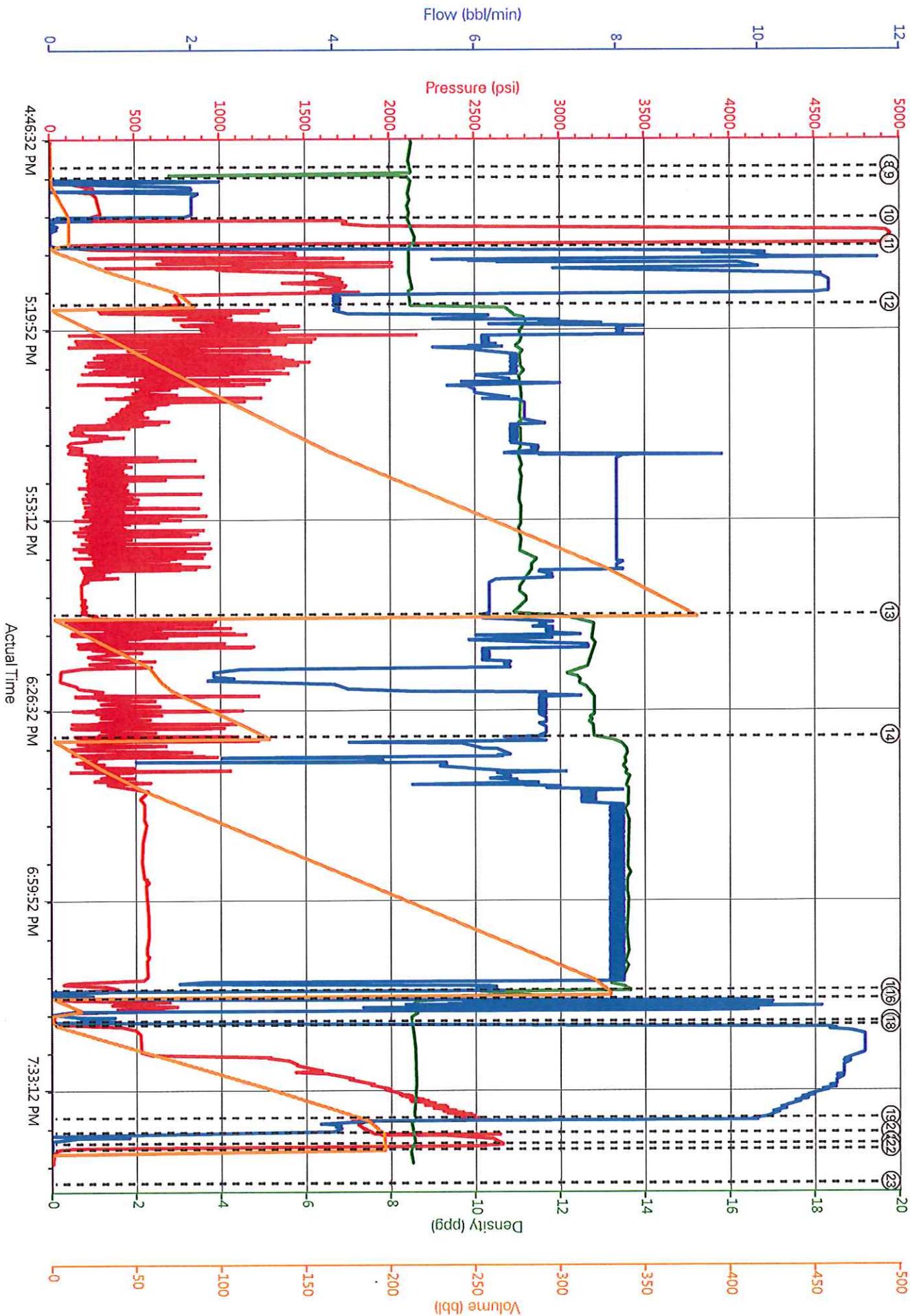
RGU 444-23-198 Production



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 -30;8.45;0.1;276
- ⑧ Start Job 0;8.46;0;0
- ⑨ Prime Pumps 2;8.47;1.4;0
- ⑩ Test Lines 1749;8.44;0.1;11
- ⑪ Pump Spacer 1 239;8.44;1.6;0.3
- ⑫ Pump Spacer 2 693;10.16;4.1;0
- ⑬ Pump Lead Cement 244;12.35;6.1;0.1
- ⑭ Pump Tail Cement 303;13.23;6.9;0.1
- ⑮ Shutdown 41;10.28;0;329.7
- ⑯ Clean Lines 497;8.67;8;2.6
- ⑰ Drop Top Plug 53;8.5;4.4;0.8
- ⑱ Pump Displacement 464;8.47;11;6.6
- ⑲ Slow Rate 2591;8.5;10;186
- ⑳ Bump Plug 2381;8.51;0;196.5
- ㉑ Check Floats 2249;8.55;0;196.7
- ㉒ End Job 10;8.48;0;0
- ㉓ Post-Job Safety Meeting (Pre Rig-Down) n/a;n/a;n/a;n/a
- ㉔ Depart Location Safety Meeting n/a;n/a;n/a;n/a
- ㉕ Crew Leave Location n/a;n/a;n/a;n/a

RGU 444-23-198 Production



# HALLIBURTON

## Water Analysis Report

Company: WPX  
Submitted by: BILL JAMISON  
Attention: DALLAS SCOTT  
Lease: FED  
Well #: RGU 444-23-198

Date: 11/22/2014  
Date Rec.: 11/22/2014  
S.O.#: 901829080  
Job Type: 4.5 PRODUCTION

Specific Gravity	<i>MAX</i>	<b>1</b>
pH	<i>8</i>	<b>7</b>
Potassium (K)	<i>5000</i>	<b>400 Mg / L</b>
Calcium (Ca)	<i>500</i>	<b>425 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>68 Deg</b>
Total Dissolved Solids		<b>1040 Mg / L</b>

Respectfully: BILL JAMISON

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> 0901829080	<b>Line Item:</b> 10	<b>Survey Conducted Date:</b> 11/22/2014
<b>Customer:</b> WPX ENERGY ROCKY MOUNTAIN LLC-EBUS		<b>Job Type (BOM):</b> CMT PRODUCTION CASING BOM
<b>Customer Representative:</b> BRANDON HAIRE		<b>API / UWI: (leave blank if unknown)</b> 05-103-12139-00
<b>Well Name:</b> FEDERAL		<b>Well Number:</b> 0080641193
<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	11/22/2014
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	BRANDON HAIRE
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	NONE

CUSTOMER SIGNATURE

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### KEY PERFORMANCE INDICATORS

General	
<b>Survey Conducted Date</b> The date the survey was conducted	11/22/2014

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

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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?	Top
<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)	NO
<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