

WPX ENERGY ROCKY MOUNTAIN LLC-EBUS

RWF 521-25

**Cyclone 17**

## **Post Job Summary**

# **Cement Surface Casing**

Date Prepared: 05/20/2014

Job Date: 03/24/2014

Submitted by: Kory Hugentobler - Cement Engineer

The Road to Excellence Starts with Safety

Sold To #: 300721	Ship To #: 3123549	Quote #:	Sales Order #: 0901214100
Customer: WPX ENERGY ROCKY MOUNTAIN LLC-EBUS		Customer Rep: AL DUNIHOO	
Well Name: SAVAGE	Well #: RWF 521-25	API/UWI #: 05-045-21963-00	
Field: RULISON	City (SAP): RIF	County/Parish: GARFIELD	State: COLORADO
Legal Description: SE NW-25-6S-94W-2444FNL-1444FWL			
Contractor: CYCLONE		Rig/Platform Name/Num: CYCLONE 17	
Job BOM: 7521			
Well Type: DIRECTIONAL GAS			
Sales Person: HALAMERICA\HB60191		Srcv Supervisor: John Keane	
<b>Job</b>			

Formation Name	
Formation Depth (MD)	Top Bottom
Form Type	BHST
Job depth MD	1147ft Job Depth TVD
Water Depth	Wk Ht Above Floor
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			13.5				0	1152		0
Casing		9.625	9.001	32.3	8 RD	H-40	0	1147	0	1147

Tools and Accessories									
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make
Guide Shoe	9.625	1		1147		Top Plug	9.625	1	HES
Float Shoe	9.625	1				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					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	0	bbl	8.34			4		
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	Lead Cement	VARICEM (TM) CEMENT		Sack/Ton	12.3	2.38		8	13.77	
13.70 Gal			FRESH WATER							

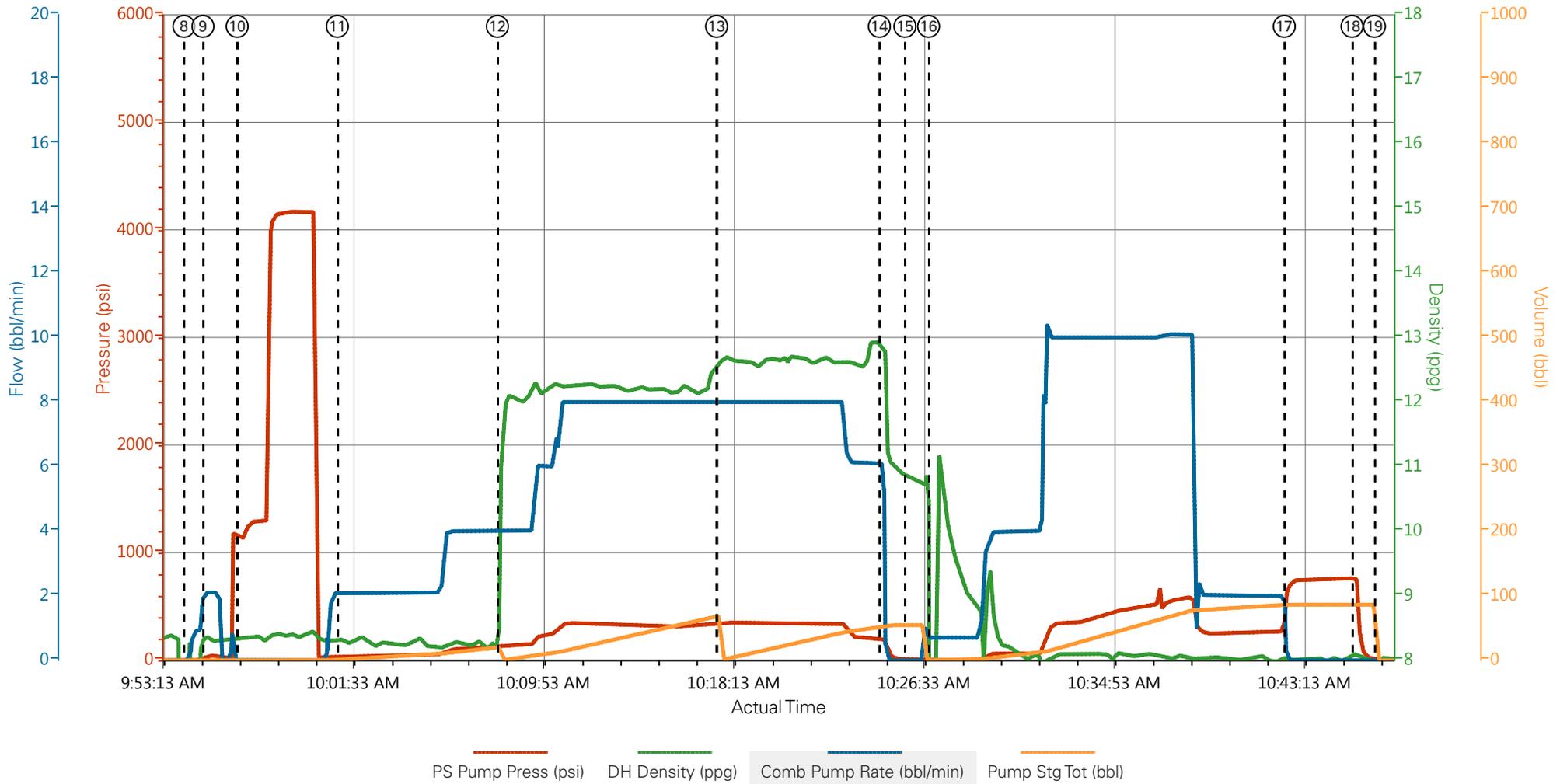
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
3	Tail Cement	VARICEM (TM) CEMENT		Sack/Ton	12.8	2.11		8	11.77
11.71 Gal		FRESH WATER							
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
4	Displacement	Displacement	87	bbl	8.34			10	
<b>Cement Left In Pipe</b>		<b>Amount</b> 46 ft	<b>Reason</b>			Shoe Joint			
<b>Comment</b>									

## 3.5 Job Event Log

Type	Seq. No.	Graph Label/Activity	Date	Time	Source	Pass-Side Pump Pressure (psi)	Downhole Density (ppg)	Combined Pump Rate (bbl/min)	Pump Stage Total (bbl)	Comment
Event	1	Call Out	3/24/2014	01:00:00	USER					
Event	2	Pre-Convoy Safety Meeting	3/24/2014	04:30:00	USER					WITH HES
Event	3	Arrive At Loc	3/24/2014	06:30:00	USER					RIG RUNNING CASING UPON HES ARRIVAL
Event	4	Assessment Of Location Safety Meeting	3/24/2014	06:45:00	USER					WITH HES
Event	5	Pre-Rig Up Safety Meeting	3/24/2014	07:43:03	USER					WITH HES
Event	6	Rig-Up Equipment	3/24/2014	07:43:43	USER					
Event	7	Pre-Job Safety Meeting	3/24/2014	07:44:21	USER					WITH HES, WPX , AND CYCLONE 17
Event	8	Start Job	3/24/2014	09:54:16	COM5	-2.00	7.44	0.00	0.0	TD 1147.1 FT, TP 1152 FT, SHOE 46.40 FT, HOLE 13.5 IN, CSG 9.625 IN 32.3 LB/FT H-40, MWT 10.5 LB/GAL, RIG CIRCULATING AT 6.6 BBL/MIN, 555 PSI
Event	9	Prime Pumps	3/24/2014	09:55:06	COM5	46	8.36	2.10	0.9	FILL LINES
Event	10	Test Lines	3/24/2014	09:56:36	COM5	1140	8.36	0.00	2.1	LOW TEST AT 1298 PSI, HIGH TEST AT 4170 PSI, PRESSURE HOLDING
Event	11	Pump Fresh Water Spacer	3/24/2014	10:00:59	COM5	47	8.33	2.10	20	
Event	12	Pump Lead Cement	3/24/2014	10:08:00	COM5	122	11	4.00	67	MIXED AT 12.3 LB/GAL, 160 SKS, 2.38 FT3/SK, 13.75 GAL/SK, DENSITY VERIFIED USING PRESSURIZED MUD SCALES
Event	13	Pump Tail Cement	3/24/2014	10:17:36	COM5	346	12.6	8.00	60	MIXED AT 12.8 LB/GAL, 160 SKS, 2.11 FT3/SK, 11.75 GAL/SK, DENSITY VERIFIED USING PRESSURIZED MUD SCALES
Event	14	Shutdown	3/24/2014	10:24:44	USER	212	12.85	6.10	60	
Event	15	Drop Top Plug	3/24/2014	10:25:51	COM5	6	10.84	0.00	60	PLUG LAUNCHED

Event	16	Pump Displacement	3/24/2014	10:26:53	COM5	12	3.90	0.70	87	FRESH WATER
Event	17	Bump Plug	3/24/2014	10:42:28	COM5	666	8.03	0.00	87	PLUG BUMPED AT CALCULATED DISPLACEMENT
Event	18	Check Floats	3/24/2014	10:45:26	USER	762	8.08	0.00	87	FLOATS HOLDING, .5 BBL RETURNED TO THE TRUCK
Event	19	End Job	3/24/2014	10:46:25	COM5	8	7.95	0.00	0.0	GOOD CIRCULATION, PIPE WAS STATIC, NO ADD HOURS CHARGED, NO DERRICK CHARGE, RIG USED 50 LBS OF SUGAR, 25 BBL CEMENT CIRCULATED TO SURFACE
Event	20	Pre-Rig Down Safety Meeting	3/24/2014	11:00:00	USER					WITH HES
Event	21	Rig-Down Equipment	3/24/2014	11:10:00	USER					
Event	22	Pre-Convoy Safety Meeting	3/24/2014	11:40:00	USER					WITH HES
Event	23	Crew Leave Location	3/24/2014	11:41:00	USER					
Event	24	Comment	3/24/2014	11:42:00	USER					THANKS FOR USING HALLIBURTON, JOHN KEANE AND CREW

# WPX - RWF-525-21 - 9.625 IN SURFACE



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                              | ⑨ Prime Pumps 30;8.36;2.1;0.9             | ⑰ Bump Plug 666;8.03;0;86.1                    |
| ② Pre-Convoy Safety Meeting n/a;n/a;n/a;n/a             | ⑩ Test Lines 1140;8.36;0;2.1              | ⑱ Check Floats 762;8.08;0;86.1                 |
| ③ Arrive At Loc n/a;n/a;n/a;n/a                         | ⑪ Pump Fresh Water Spacer 47;8.33;2.1;1.1 | ⑲ End Job 8;7.95;0;0                           |
| ④ Assessment Of Location Safety Meeting n/a;n/a;n/a;n/a | ⑫ Pump Lead Cement 122;11;4;0             | 20 Pre-Rig Down Safety Meeting n/a;n/a;n/a;n/a |
| ⑤ Pre-Rig Up Safety Meeting n/a;n/a;n/a;n/a             | ⑬ Pump Tail Cement 346;12.6;8;69.1        | 21 Rig-Down Equipment n/a;n/a;n/a;n/a          |
| ⑥ Rig-Up Equipment n/a;n/a;n/a;n/a                      | ⑭ Shutdown 212;12.85;6.1;53.9             | 22 Pre-Convoy Safety Meeting n/a;n/a;n/a;n/a   |
| ⑦ Pre-Job Safety Meeting n/a;n/a;n/a;n/a                | ⑮ Drop Top Plug 6;10.84;0;54.3            | 23 Crew Leave Location n/a;n/a;n/a;n/a         |
| ⑧ Start Job -2;7.44;0;0                                 | ⑯ Pump Displacement 12;3.9;0.7;0.2        | 24 Comment n/a;n/a;n/a;n/a                     |

▼ **HALLIBURTON** | iCem® Service

Created: 2014-03-24 07:26:07, Version: 3.0.121

Edit

Customer: WPX ENERGY ROCKY MOUNTAIN LLC-EBUS

Job Date: 3/24/2014 9:34:03 AM

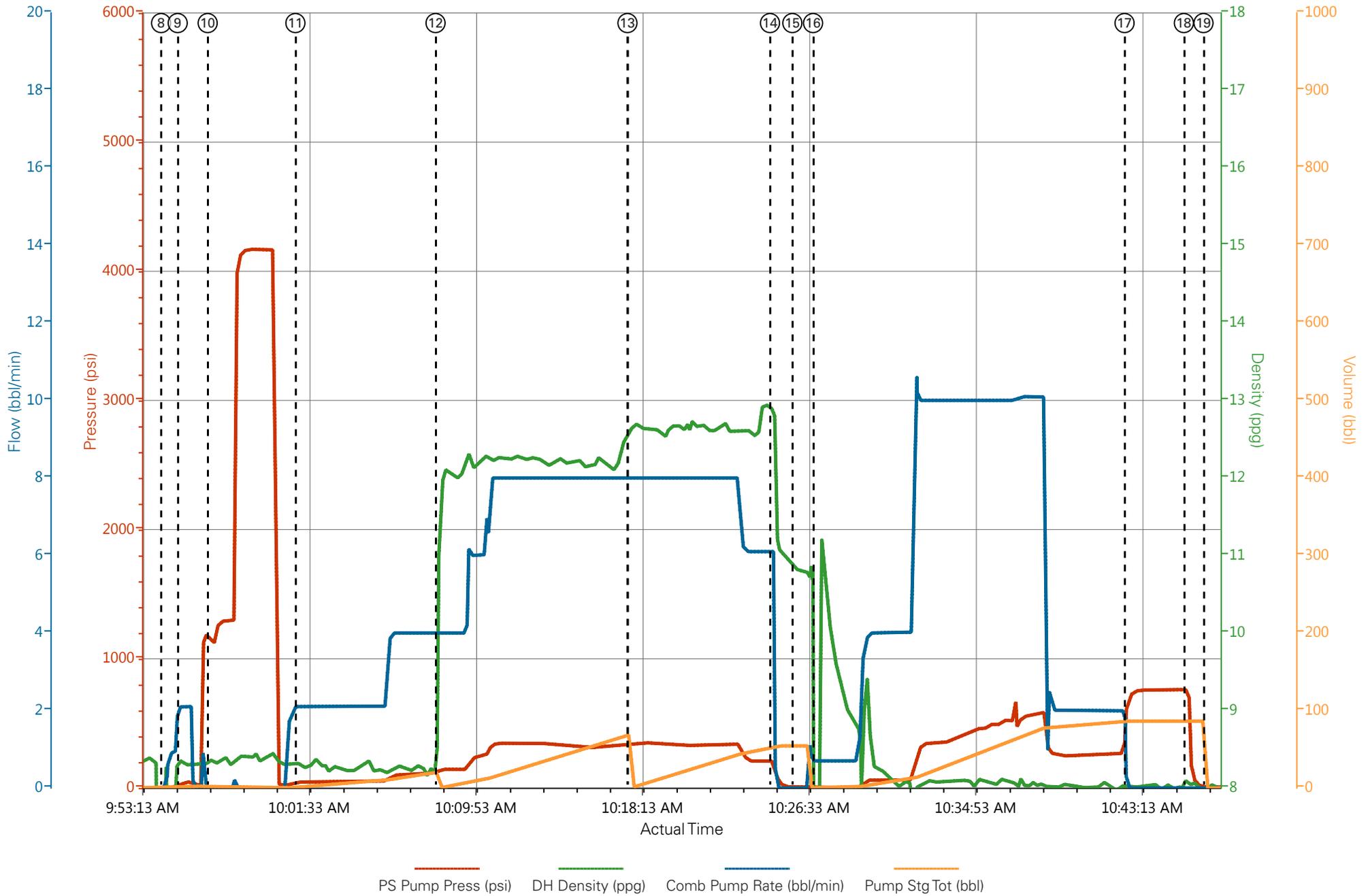
Well: RWF-521-25

Representative: AL DUNIHO

Sales Order #: 901214100

ELITE 3: JOHN KEANE / ANDREW LYNN

WPX - RWF-525-21 - 9.625 IN SURFACE



# HALLIBURTON

## Water Analysis Report

Company: WPX

Date: 3/24/2014

Submitted by: JOHN KEANE

Date Rec.: 3/24/2014

Attention: CHUCK ROSS

S.O.# 901214100

Lease RWF

Job Type: SURFACE

Well # 521-25

Specific Gravity	<i>MAX</i>	<b>1</b>
pH	<i>8</i>	<b>7.1</b>
Potassium (K)	<i>5000</i>	<b>0 Mg / L</b>
Calcium (Ca)	<i>500</i>	<b>250 Mg / L</b>
Iron (FE2)	<i>300</i>	<b>0 Mg / L</b>
Chlorides (Cl)	<i>3000</i>	<b>500 Mg / L</b>
Sulfates (SO <sub>4</sub> )	<i>1500</i>	<b>&lt;200 Mg / L</b>
Chlorine (Cl <sub>2</sub> )		<b>0 Mg / L</b>
Temp	<i>40-80</i>	<b>58 Deg</b>
Total Dissolved Solids		<b>340 Mg / L</b>

Respectfully: JOHN KEANE

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

<b>Sales Order #:</b> 0901214100	<b>Line Item:</b> 10	<b>Survey Conducted Date:</b> 3/24/2014
<b>Customer:</b> WPX ENERGY ROCKY MOUNTAIN LLC-EBUS		<b>Job Type (BOM):</b> CMT SURFACE CASING BOM
<b>Customer Representative:</b>		<b>API / UWI: (leave blank if unknown)</b> 05-045-21963-00
<b>Well Name:</b> SAVAGE		<b>Well Number:</b> 0080125621
<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> GARFIELD

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	3/24/2014
Survey Interviewer	The survey interviewer is the person who initiated the survey.	HB58526
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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### KEY PERFORMANCE INDICATORS

General	
<b>Survey Conducted Date</b>	3/24/2014
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>	3
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>	1
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>	6
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

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<b>Customer Representative:</b>		<b>API / UWI: (leave blank if unknown)</b> 05-045-21963-00
<b>Well Name:</b> SAVAGE		<b>Well Number:</b> 0080125621
<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> GARFIELD

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?	Top
<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	95
<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	95
<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