

WPX ENERGY ROCKY MOUNTAIN LLC-EBUS

Jolley KP 17-15

**Workover**

# **Post Job Summary**

## **Cement Perforation Squeeze**

Date Prepared: 05/10/2014

Job Date: 05/09/2014

Submitted by: Kory Hugentobler - Cement Engineer

*The Road to Excellence Starts with Safety*

<b>Sold To #:</b> 300721	<b>Ship To #:</b> 3474955	<b>Quote #:</b>	<b>Sales Order #:</b> 0901337614
<b>Customer:</b> WPX ENERGY ROCKY MOUNTAIN LLC-EBUS		<b>Customer Rep:</b> BILLY ROEX	
<b>Well Name:</b> Jolley		<b>Well #:</b> 17-15	<b>API/UWI #:</b>
<b>Field:</b> KP	<b>City (SAP):</b> SILT	<b>County/Parish:</b> GARFIELD	<b>State:</b> COLORADO
<b>Legal Description:</b>			
<b>Contractor:</b>		<b>Rig/Platform Name/Num:</b> Workover	
<b>Job BOM:</b> 7526			
<b>Well Type:</b> OIL			
<b>Sales Person:</b> HALAMERICA\HB50180		<b>Srv Supervisor:</b> Thomas Ponder	
<b>Job</b>			

Formation Name	
Formation Depth (MD)	Top
Form Type	BHST
Job depth MD	2480ft
Water Depth	
Perforation Depth (MD)	From 2530 ft
	To 2531 ft

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
Tubing		2.375	1.995	4.7			0	2480		0
Casing		4.5	4	11.6			0	7900		

Tools and Accessories									
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make
Guide Shoe	2.375					Top Plug	2.375		HES
Float Shoe	2.375					Bottom Plug	2.375		HES
Float Collar	2.375					SSR plug set	2.375		HES
Insert Float	2.375					Plug Container	2.375		HES
Stage Tool	2.375					Centralizers	2.375		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	Injection Test	Injection Test	0	bbl	8.34			0		
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	SqueezeCem	SQUEEZECM (TM) SYSTEM	75	sack	17	1		1.5	3.79	

3.79 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	Fresh Water Displacement	Fresh Water Displacement	9.6	bbl	8.34			1	
Cement Left In Pipe		Amount	ft		Reason		Shoe Joint		
Comment									

## 1.1 Job Event Log

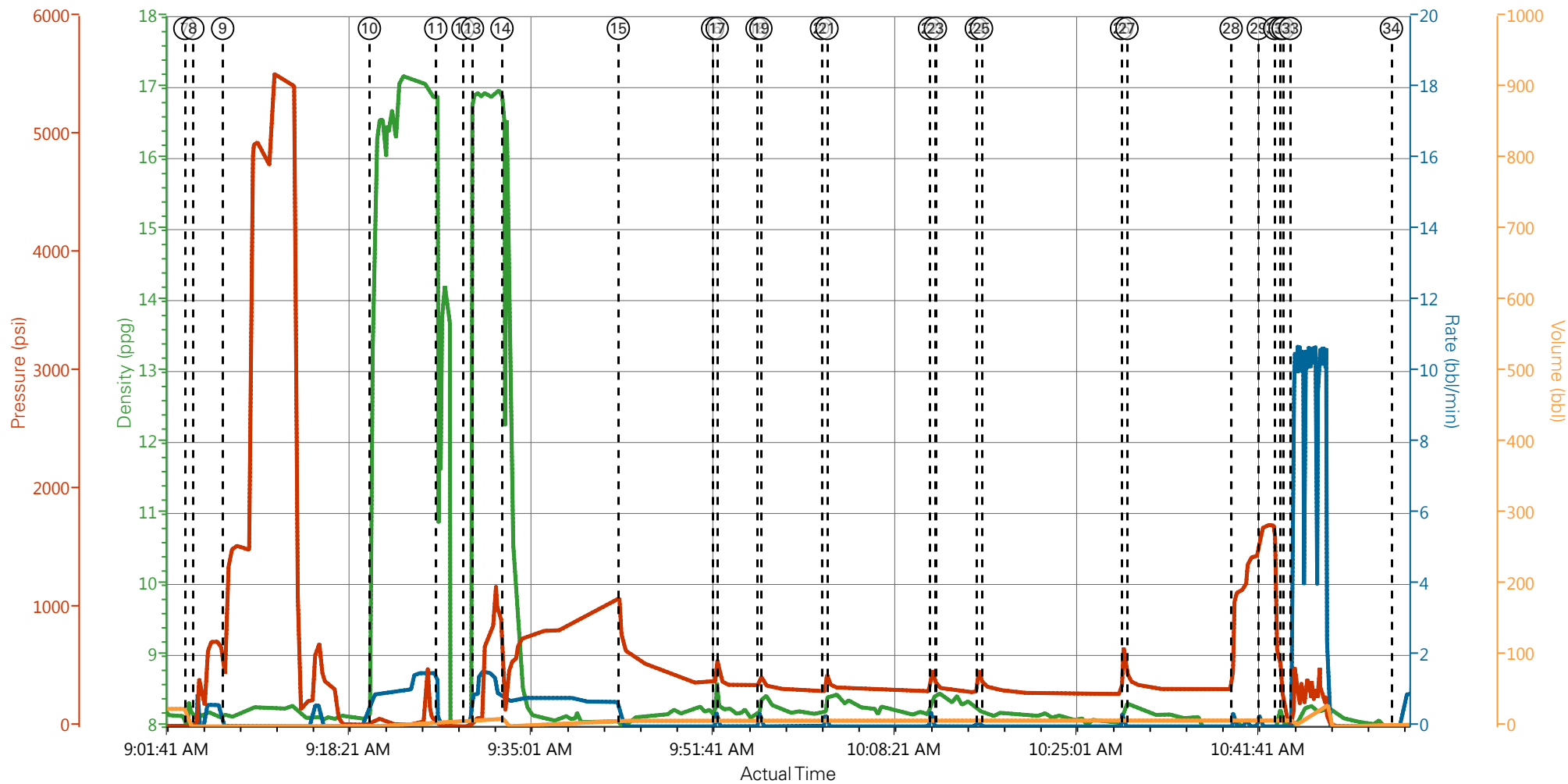
Type	Seq No.	Graph Label	Date	Time	Source	DH Density (ppg)	Comb Pump Rate (bbl/min)	PS Pump Press (psi)	Pump Stg Tot (bbl)	Comment
Event	1	Call Out	5/9/2014	01:00:00	USER					ON LOCATION TIME @ 0700
Event	2	Crew Leave Yard	5/9/2014	03:00:00	USER					ALL HES PRESENT FOR THE PRE-CONVOY SAFETY MEETING
Event	3	Arrive At Loc	5/9/2014	05:00:00	USER					RIG CREW ARRIVED ON LOCATION @ 0600, CO REP ARRIVED ON LOCATION @ 0800
Event	4	Assessment Of Location Safety Meeting	5/9/2014	07:45:00	USER					
Event	5	Rig-Up Equipment	5/9/2014	08:00:00	USER					1- 550 PICK UP TRUCK, 1- ELITE PUMP TRUCK, 1- 400 CUFT BODY LOAD
Event	6	Pre-Job Safety Meeting	5/9/2014	08:45:00	USER					ALL HES PRESENT, RIG CREW PRESENT
Event	7	Start Job	5/9/2014	09:03:39	COM6					
Event	8	Prime Pumps	5/9/2014	09:04:23	COM6	8.33	.5	742	1	FILL LINES
Event	9	Test Lines	5/9/2014	09:07:07	COM6	8.32	.1	5540	.1	GOOD PRESSURE TEST NO LEAKS IN THE LINES
Event	10	Pump Tail Cement	5/9/2014	09:20:34	COM6	17	1.5	75	7	75 SKS 17.0 PPG 1.00 FT3/SK 3.79 GAL/SK, SPOT CEMENT 1 BBL ABOVE TOOL
Event	11	Shutdown	5/9/2014	09:26:39	USER					SHUTDOWN TO CLOSE BACKSIDE
Event	12	Sting in	5/9/2014	09:29:09	USER					STING IN TO RETAINER
Event	13	Pump Tail Cement	5/9/2014	09:30:01	USER	17	1.5	1254	13.4	FINISH PUMPING CEMENT
Event	14	Pump Displacement	5/9/2014	09:32:43	COM6	8.32	.75	1089	8	FRESH WATER
Event	15	Shutdown	5/9/2014	09:43:22	USER			1089		HESITATE AS PER CO REP REQUEST
Event	16	Pump Displacement	5/9/2014	09:52:01	USER	8.68	0.40	370	8	FRESH WATER
Event	17	Shutdown	5/9/2014	09:52:26	USER			595	8.0	HESITATE AS PER CO REP REQUEST
Event	18	Pump Displacement	5/9/2014	09:56:05	USER	8.36	0.40	340	8.0	FRESH WATER
Event	19	Shutdown	5/9/2014	09:56:26	USER			480	8.0	HESITATE AS PER CO REP REQUEST
Event	20	Pump Displacement	5/9/2014	10:01:59	USER	8.21	0.40	291	8.0	FRESH WATER

Event	21	Shutdown	5/9/2014	10:02:29	USER			468	8.0	HESITATE AS PER CO REP REQUEST
Event	22	Pump Displacement	5/9/2014	10:11:53	USER	8.41	0.40	296	8.1	FRESH WATER
Event	23	Shutdown	5/9/2014	10:12:25	USER			519	8.1	HESITATE AS PER CO REP REQUEST
Event	24	Pump Displacement	5/9/2014	10:16:11	USER	8.25	0.40	290	8.1	FRESH WATER
Event	25	Shutdown	5/9/2014	10:16:39	USER			510	8.1	HESITATE AS PER CO REP REQUEST
Event	26	Pump Displacement	5/9/2014	10:29:29	USER	8.36	0.40	273	8.1	FRESH WATER
Event	27	Shutdown	5/9/2014	10:29:59	USER			685	8.1	HESITATE AS PER CO REP REQUEST
Event	28	Pump Displacement	5/9/2014	10:39:31	USER	8.3	0.40	315	8.1	FRESH WATER
Event	29	Shutdown	5/9/2014	10:42:01	USER			1703	8.2	MONITOR SQUEEZE PRESSURE
Event	30	Release Casing Pressure	5/9/2014	10:43:30	USER					BLEED OFF PRESSURE
Event	31	Sting out	5/9/2014	10:44:01	USER					STING OUT OF RETAINER
Event	32	Reverse Circ Well	5/9/2014	10:44:17	USER					RIG REVERSED OUT WITH THEIR PUMPS
Event	33	Clean Lines	5/9/2014	10:44:56	USER					WASH UP TRUCK WHILE RIG REVERSES OUT
Event	34	End Job	5/9/2014	10:54:12	COM6					THANK YOU FOR CHOOSING HALLIBURTON, THOMAS PONDER AND CREW

## 2.1 CHART EVENTS.png

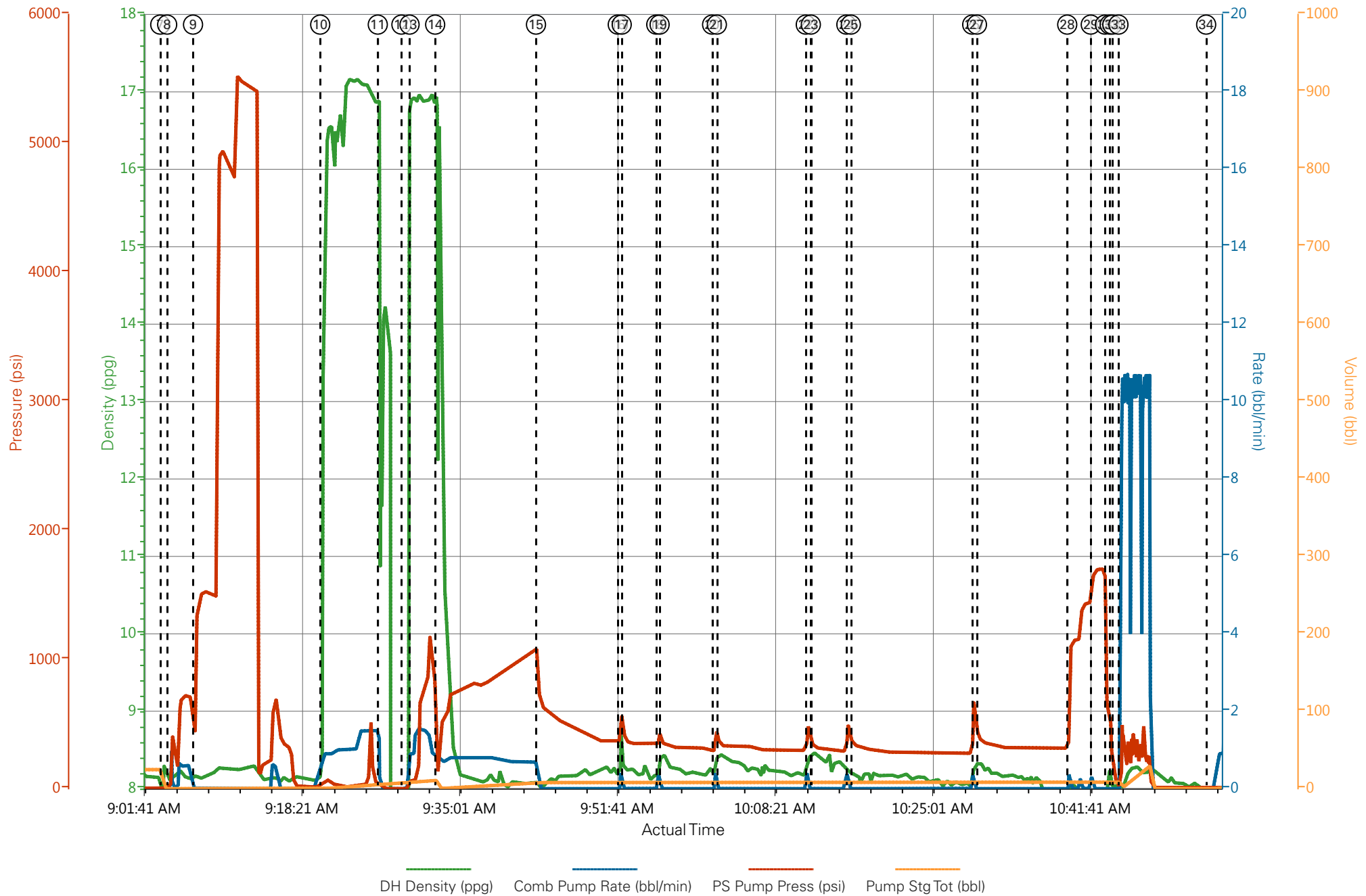


# WPX - JOLLEY 17-15 - SQUEEZE PERFS



① Call Out n/a;n/a;n/a;n/a	⑥ Pre-Job Safety Meeting n/a;n/a;n/a;n/a	⑪ Shutdown 12.64;0;12;6.9	⑮ Pump Displacement 8.7;0.4;568;8	⑲ Shutdown 8.47;0;350;8
② Crew Leave Yard n/a;n/a;n/a;n/a	⑦ Start Job 8.36;0;2;0	⑫ Sting in -0.26;0;-2;6.9	⑯ Pump Displacement 8.26;0;397;8	⑳ Pump Displacement 8.21;0.4;360;8
③ Arrive At Loc n/a;n/a;n/a;n/a	⑧ Prime Pumps 8.11;0;29;0	⑬ Pump Tail Cement 16.95;0.9;77;7.4	⑰ Shutdown 8.26;0;397;8	㉑ Shutdown 8.45;0;340;8
④ Assessment Of Location Safety Meeting n/a;n/a;n/a;n/a	⑨ Test Lines 8.16;0;431;0.9	⑭ Pump Displacement 16.13;0.8;131;0	⑱ Shutdown 8.47;0;350;8	㉒ Pump Displacement
⑤ Rig-Up Equipment n/a;n/a;n/a;n/a	⑩ Pump Tail Cement 13.78;0.9;47;0	⑮ Shutdown 7.95;0;733;7.9	㉓ Pump Displacement 8.42;0;320;8	㉔ Pump Displacement

# WPX - JOLLEY 17-15 - SQUEEZE PERFS





# HALLIBURTON

Company:	<u>WPX</u>	Date:	<u>5/9/2014</u>
Submitted by:	<u>THOMAS PONDER</u>	Date Rec.:	<u>5/9/2014</u>
Attention:	<u>LARRY COOKSEY</u>	S.O.#	<u>901337614</u>
Lease	<u>JOLLEY</u>	Job Type:	<u>SQUEEZE</u>
Well #	<u>17-15</u>		

Specific Gravity	<i>MAX</i>	<i>1</i>
pH	<i>8</i>	<i>8</i>
Potassium (K)	<i>5000</i>	<i>200</i> Mg / L
Calcium (Ca)	<i>500</i>	<i>120</i> Mg / L
Iron (FE2)	<i>300</i>	<i>0</i> Mg / L
Chlorides (Cl)	<i>3000</i>	<i>0</i> Mg / L
Sulfates (SO <sub>4</sub> )	<i>1500</i>	<i>&lt;200</i> Mg / L
Carbonates hardness		
Temp	<i>40-80</i>	<i>38</i> Deg
Total Dissolved Solids		<i>330</i> Mg / L

Respectfully: THOMAS PONDER

Title: CEMENTING SUPERVISOR

Location: GRAND JCT, CO

<b>Sales Order #:</b> 0901337614	<b>Line Item:</b> 10	<b>Survey Conducted Date:</b> 5/9/2014
<b>Customer:</b> WPX ENERGY ROCKY MOUNTAIN LLC-EBUS		<b>Job Type (BOM):</b> CMT SQUEEZE PERFORATIONS BOM
<b>Customer Representative:</b>		<b>API / UWI: (leave blank if unknown)</b>
<b>Well Name:</b> Jolley		<b>Well Number:</b> N/A
<b>Well Type:</b> OIL	<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	5/9/2014
Survey Interviewer	The survey interviewer is the person who initiated the survey.	HX41187
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>
---------------------------

<b>Sales Order #:</b> 0901337614	<b>Line Item:</b> 10	<b>Survey Conducted Date:</b> 5/9/2014
<b>Customer:</b> WPX ENERGY ROCKY MOUNTAIN LLC-EBUS		<b>Job Type (BOM):</b> CMT SQUEEZE PERFORATIONS BOM
<b>Customer Representative:</b>		<b>API / UWI: (leave blank if unknown)</b>
<b>Well Name:</b> Jolley		<b>Well Number:</b> N/A
<b>Well Type:</b> OIL	<b>Well Country:</b> USA	
<b>H2S Present:</b> No	<b>Well State:</b> COLORADO	<b>Well County:</b> GARFIELD

*KEY PERFORMANCE INDICATORS*

General	
<b>Survey Conducted Date</b>	5/9/2014
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>	2
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>	No

<b>Sales Order #:</b> 0901337614	<b>Line Item:</b> 10	<b>Survey Conducted Date:</b> 5/9/2014
<b>Customer:</b> WPX ENERGY ROCKY MOUNTAIN LLC-EBUS		<b>Job Type (BOM):</b> CMT SQUEEZE PERFORATIONS BOM
<b>Customer Representative:</b>		<b>API / UWI: (leave blank if unknown)</b>
<b>Well Name:</b> Jolley		<b>Well Number:</b> N/A
<b>Well Type:</b> OIL	<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>Was this a Plug or a Squeeze Job?</b> Please select the appropriate choice	No
<b>Was this a Primary or a Remedial Job?</b> Kick off plug, Plug to Abandon, LCM plug or Planned Liner Top Squeeze, Squeeze of existing perforations, Squeeze of casing leak	No
<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>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	99
<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

# HALLIBURTON

## Rockies, Grand Junction

### Lab Results- Squeeze

Job Information					
Request/Slurry	2132152/1	Rig Name	Workover	Date	08/MAY/2014
Submitted By	Anthony Eschete	Job Type	Perforation Squeeze	Bulk Plant	Grand Junction
Customer	WPX Energy, Inc.	Location	Garfield	Well	Jolley KP 17-15
Well Information					
Casing/Liner Size	4.5 in / 114.3 mm	Depth MD	771 m / 2530 ft	BHST	51°C / 123°F
Hole Size	8.75 in / 222.25 mm	Depth TVD	771 m / 2530 ft	BHCT	41°C / 105°F
Pressure	132 bar / 1920 psi				
Drilling Fluid Information					
Mud Supplier Name	AMC	Mud Trade Name		Density	
Cement Information - Squeeze Design					
Cement/Additive	Sample Type	Sample Date	Lot No.	Cement Properties	
Mountain G	Bulk Blend	09.05.14	Tank 29	Slurry Density	17 lbm/gal
Fresh Water	Lab	12.03.13	N/A	Slurry Yield	1.0024 ft3/sack
CaCl2 (Calcium Chloride)	Bulk Blend	09.05.14	BJ07CC34	Water Requirement	3.7941 gal/sack
94-97 % Salt				Total Mix Fluid	3.79 gal/sack
CFR-3 (PB)	Bulk Blend	09.05.14	70220130		
				Water Source	Fresh Water
				Water Chloride	

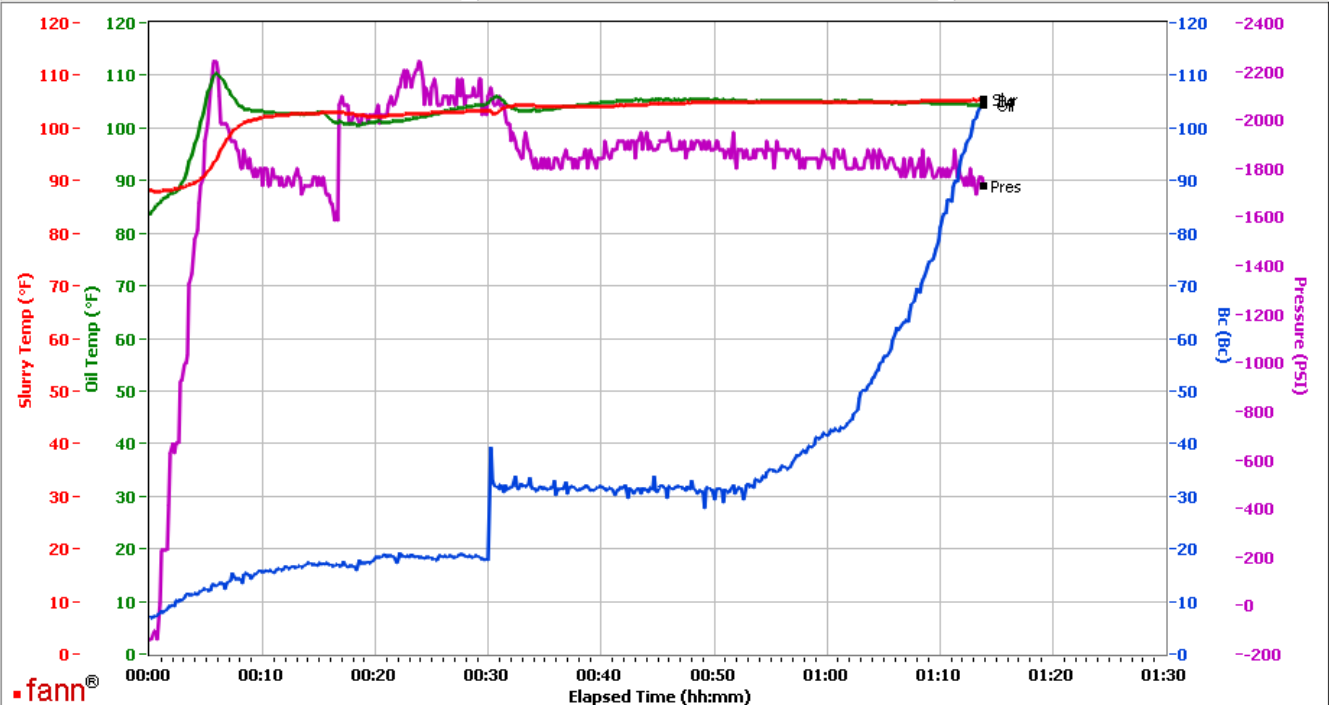
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**Operation Test Results Request ID 2132152/1****Thickening Time - ON-OFF-ON****08/May/2014**

Test Temp (°F)	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)
105	1920	5	0:30	1:03	1:08	1:13	7	20	10	46

**Grand Junction Colorado**

Fields	Values	Fields	Values	Events	Results
Project Name	GJ2132152-1 WPX SQUEEZE BULK	Job Type	SQUEEZE	30.00 Bc	00h:30m
Test ID	GJ2132152-1 WPX	Cement Type	MOUNTAIN G	40.00 Bc	00h:58m
Request ID		Cement Weight	Standard	50.00 Bc	01h:03m
Tested by	JASON	Test Date	05/09/14	70.00 Bc	01h:08m
Customer	WPX	Test Time	05:15 AM	100.00 Bc	01h:13m
Well No	JOLLEY KP 17-15	Temp. Units	degF	00h:30m	17.88
Rig	WORKOVER	Pressure Units	PSI	01h:00m	41.59
Casing/Liner Size	4.5	SW Version	2.0.2.206	01h:30m	NaN



Data File C:\Documents and Settings\HPHT\Desktop\Test Data\GJ2132152-1 WPX .tdms

Comments CS1656 TR 8065 75 SK5

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