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# **WPX ENERGY ROCKY MOUNTAIN LLC-EBUS**

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**GM 521-4  
GRAND VALLEY  
Garfield County , Colorado**

**Squeeze Perfs**  
**24-Aug-2012**

**Post Job Report**

## The Road to Excellence Starts with Safety

Sold To #: 300721	Ship To #: 300721	Quote #:	Sales Order #: 9754251
Customer: WPX ENERGY ROCKY MOUNTAIN LLC-EBUS	Customer Rep: Skalla, Justin		
Well Name: GM	Well #: 521-4	API/UWI #: 05-045-10860	
Field: GRAND VALLEY	City (SAP): TULSA	County/Parish: Garfield	State: Colorado
Lat: N 39.471 deg. OR N 39 deg. 28 min. 15.125 secs.	Long: W 108.115 deg. OR W -109 deg. 53 min. 6.774 secs.		
Contractor: WORKOVER	Rig/Platform Name/Num: WORKOVER		
Job Purpose: Squeeze Perfs			
Well Type: Development Well	Job Type: Squeeze Perfs		
Sales Person: MAYO, MARK	Srvc Supervisor: ARNOLD, EDWARD	MBU ID Emp #: 439784	

## Job Personnel

HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #
ARNOLD, EDWARD John	6.5	439784	HONE, AARON D	6.5	381285	KEANE, JOHN Donovan	6.5	486519
SINCLAIR, DAN J	6.5	338784	VANALSTYNE, TROY L	6.5	420256			

## Equipment

HES Unit #	Distance-1 way	HES Unit #	Distance-1 way	HES Unit #	Distance-1 way	HES Unit #	Distance-1 way
	60 mile	10616651C	60 mile	11259882	60 mile	11360881	60 mile
11583916	60 mile	11808827	60 mile				

## Job Hours

Date	On Location Hours	Operating Hours	Date	On Location Hours	Operating Hours	Date	On Location Hours	Operating Hours
8-24-2012	6.5	4						

TOTAL Total is the sum of each column separately

## Job

Formation Name	Formation Depth (MD)	Top	Bottom	Form Type	Job depth MD	Water Depth	Perforation Depth (MD)	From	To
				BHST	4721. ft				
					Job Depth TVD	4721. ft			
					Wk Ht Above Floor	3. ft			

## Job Times

Called Out	Date	Time	Time Zone
	24 - Aug - 2012	02:00	MST
On Location	24 - Aug - 2012	07:30	MST
Job Started	24 - Aug - 2012	11:03	MST
Job Completed	24 - Aug - 2012	12:06	MST
Departed Loc	24 - Aug - 2012	14:00	MST

## Well Data

Description	New / Used	Max pressure psig	Size in	ID in	Weight lbm/ft	Thread	Grade	Top MD ft	Bottom MD ft	Top TVD ft	Bottom TVD ft
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Sales/Rental/3<sup>rd</sup> Party (HES)

Description	Qty	Qty uom	Depth	Supplier
ADC (AUTO DENSITY CTRL) SYS, /JOB,ZI	1	JOB		
PORT. DATA ACQUIS. W/OPTICEM RT W/HES	1	EA		
R/A DENSOMETER W/CHART RECORDER,/JOB,ZI	1	JOB		

## Tools and Accessories

Type	Size	Qty	Make	Depth	Type	Size	Qty	Make	Depth	Type	Size	Qty	Make
Guide Shoe					Packer					Top Plug			
Float Shoe					Bridge Plug					Bottom Plug			
Float Collar					Retainer					SSR plug set			
Insert Float										Plug Container			
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> /sk	Mix Fluid Gal/sk	Rate bbl/min	Total Mix Fluid Gal/sk
1	Injection Test		10.00	bbl	8.33	.0	.0	3	
2	SqueezeCem Tail Cement	SQUEEZECEM (TM) SYSTEM (452971)	196.0	sacks	15.8	1.15	4.97	3	4.97
	4.97 Gal	FRESH WATER							
3	Displacement		17.00	bbl	8.33	.0	.0	3	
<b>Calculated Values</b>		<b>Pressures</b>		<b>Volumes</b>					
Displacement	17	Shut In: Instant		Lost Returns		Cement Slurry	32	Pad	
Top Of Cement		5 Min		Cement Returns		Actual Displacement	17	Treatment	
Frac Gradient		15 Min		Spacers	10	Load and Breakdown		Total Job	59
<b>Rates</b>									
Circulating		Mixing	3	Displacement	3	Avg. Job		3	
Cement Left In Pipe	Amount	0 ft	Reason	Shoe Joint					
Frac Ring # 1 @	ID		Frac ring # 2 @	ID		Frac Ring # 3 @	ID		Frac Ring # 4 @
The Information Stated Herein Is Correct				Customer Representative Signature					

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<b>Customer:</b> WPX ENERGY ROCKY MOUNTAIN LLC-EBUS	<b>Customer Rep:</b> Skalla, Justin		
<b>Well Name:</b> GM	<b>Well #:</b> 521-4	<b>API/UWI #:</b> 05-045-10860	
<b>Field:</b> GRAND VALLEY	<b>City (SAP):</b> TULSA	<b>County/Parish:</b> Garfield	<b>State:</b> Colorado
<b>Legal Description:</b>			
<b>Lat:</b> N 39.471 deg. OR N 39 deg. 28 min. 15.125 secs.		<b>Long:</b> W 108.115 deg. OR W -109 deg. 53 min. 6.774 secs.	
<b>Contractor:</b> WORKOVER		<b>Rig/Platform Name/Num:</b> WORKOVER	
<b>Job Purpose:</b> Squeeze Perfs			<b>Ticket Amount:</b>
<b>Well Type:</b> Development Well		<b>Job Type:</b> Squeeze Perfs	
<b>Sales Person:</b> MAYO, MARK		<b>Srv Supervisor:</b> ARNOLD, EDWARD	<b>MBU ID Emp #:</b> 439784

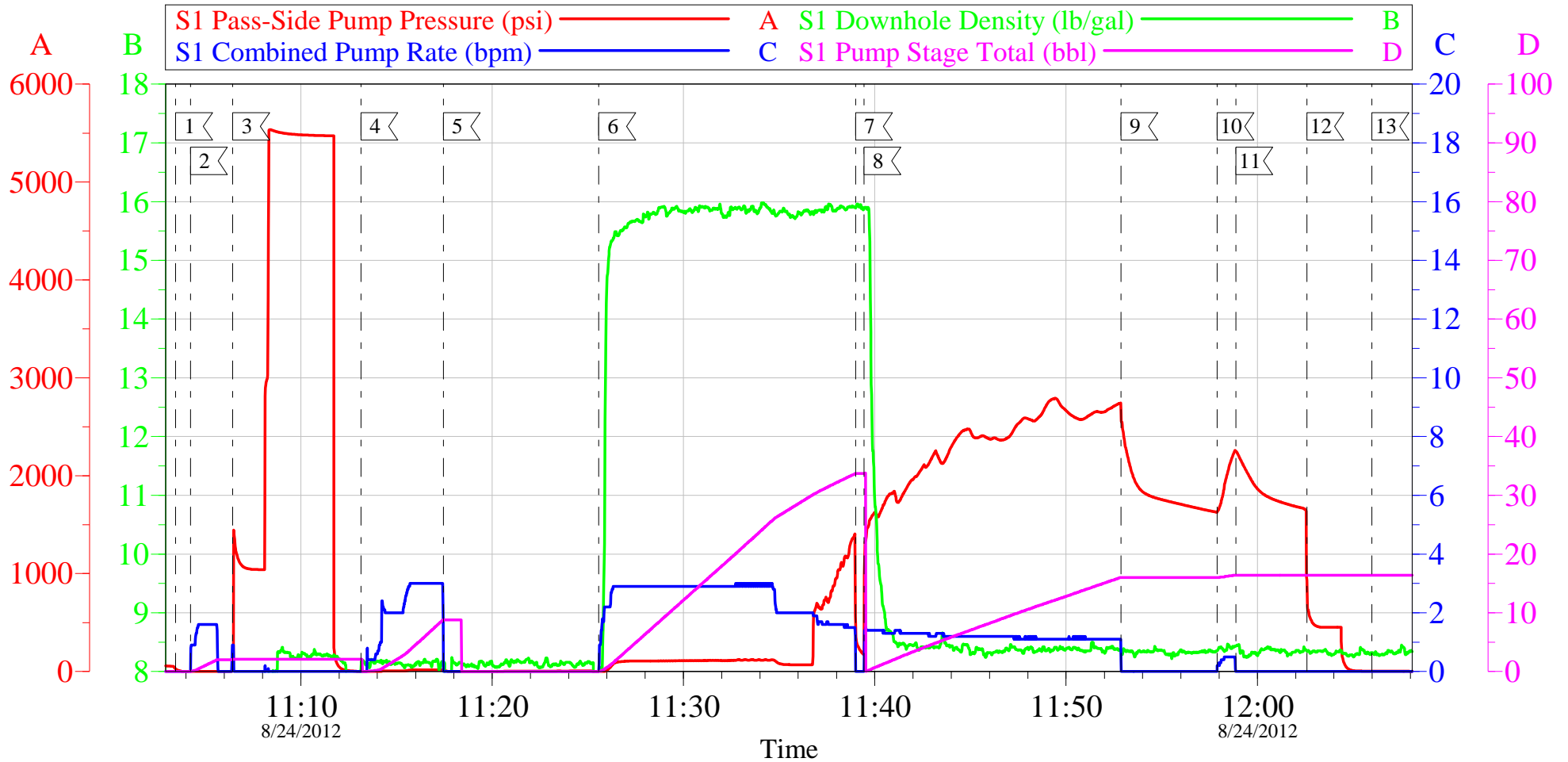
Activity Description	Date/Time	Cht #	Rate bbl/min	Volume bbl		Pressure psig		Comments
				Stage	Total	Tubing	Casing	
Call Out	08/24/2012 02:00							
Pre-Convoy Safety Meeting	08/24/2012 04:20							Including entire cement crew.
Crew Leave Yard	08/24/2012 04:30							
Arrive At Loc	08/24/2012 07:15							Supervisor on location 15 Min. late due to wrong directions. Equipment not able to come on to location until rig moved equipment to make room. All equipment on location at 10:00. HES time started at 07:30.
Assessment Of Location Safety Meeting	08/24/2012 07:30							Water; PH 7.5; KCL 250; So4 <200; Fe 0; Calcium 120; Chlorides 500; Temp 76; TDS 190.
Pre-Rig Up Safety Meeting	08/24/2012 10:05							Including entire cement crew.
Rig-Up Equipment	08/24/2012 10:10							1 Elite # 4; 1 660 bulk truck; 1 hard line to floor; 1 hard line to pit, Rig set up to reverse out. 2 water trucks on location for mixing and clean up.
Rig-Up Completed	08/24/2012 10:40							
Pre-Job Safety Meeting	08/24/2012 10:45							Including everyone on location.
Activity Description	Date/Time	Cht #	Rate bbl/min	Volume bbl		Pressure psig		Comments
				Stage	Total	Tubing	Casing	

Start Job	08/24/2012 11:03							Tubing 4476' 2.875" 4.7# J-55; Casing 4.5" 11.6# I-80; Perforations 4616-4721; Retainer set at 4476'; Bridge Plug 4775 with 30' of sand on top of it, Well fluid 8.4 ppg;
Pump Water	08/24/2012 11:04		2	2			.0	Fill lines with fresh water.
Test Lines	08/24/2012 11:06					5496.0		Good pressure test, no leaks.
Injection Test	08/24/2012 11:13		3	10			18.0	10 BBL fresh water injection test.
ISIP	08/24/2012 11:17							Shut down and get ISIP. No pressure on tubing. Started mixing cement at 1129.
Pump Cement	08/24/2012 11:25		1.5	32			1098.0	196 sks Cement, 15.8 ppg, 1.15 cf3, 4.97 gal/sk. Bringing back 54 sks of cement to yard for weight back. Customer would like to see about using n next well. Mixed approx. 39 BBL's and pumped 32 BBL's of cement.
Pump Displacement	08/24/2012 11:39		1.6	16.5			2730.0	Fresh water displacement. Started staging cement with 16.5 BBL's gone on displacement.
Stage Cement	08/24/2012 11:52		0.5	0.4			2087.0	Stage cement. Approx. 130 sacks of cement into the formation.
Other	08/24/2012 12:02							Cement squeezed off. Sting out of retainer and left approx. .5 BBL of cement on top of retainer. Used 20# of sugar in cement tub on pump.
Reverse Circ Well	08/24/2012 12:04							Reversed out 20 BBL's, 1 BBL of cement back.
End Job	08/24/2012 12:06							
Pre-Rig Down Safety Meeting	08/24/2012 12:10							Including entire cement crew.
Rig-Down Equipment	08/24/2012 12:15							
Rig-Down Completed	08/24/2012 13:30							

Activity Description	Date/Time	Cht #	Rate bbl/ min	Volume bbl		Pressure psig		Comments
				Stage	Total	Tubing	Casing	
Pre-Convoy Safety Meeting	08/24/2012 13:45							Including entire cement crew.
Crew Leave Location	08/24/2012 14:00							Crew leave location for Service Center or another location.
Other	08/24/2012 14:00							Thank You for using Halliburton. Ed Arnold and Crew.

# WPX GM 521-4

## SQUEEZE



### Local Event Log

1 START JOB	11:03:27	2 FILL LINES	11:04:14	3 TEST LINES	11:06:26
4 INJECTION TEST	11:13:09	5 SHUT DOWN/ ISIP	11:17:27	6 PUMP CEMENT	11:25:34
7 SHUT DOWN	11:39:00	8 PUMP DISPLACEMENT	11:39:26	9 SHUT DOWN	11:52:52
10 RESUME SQUEEZE	11:57:54	11 SHUT DOWN	11:58:52	12 RELEASE PSI/ STING OUT	12:02:35
13 END JOB	12:06:00				

Customer: WPX  
Well Description: GM 521-4  
Company Rep: Justin Skalla

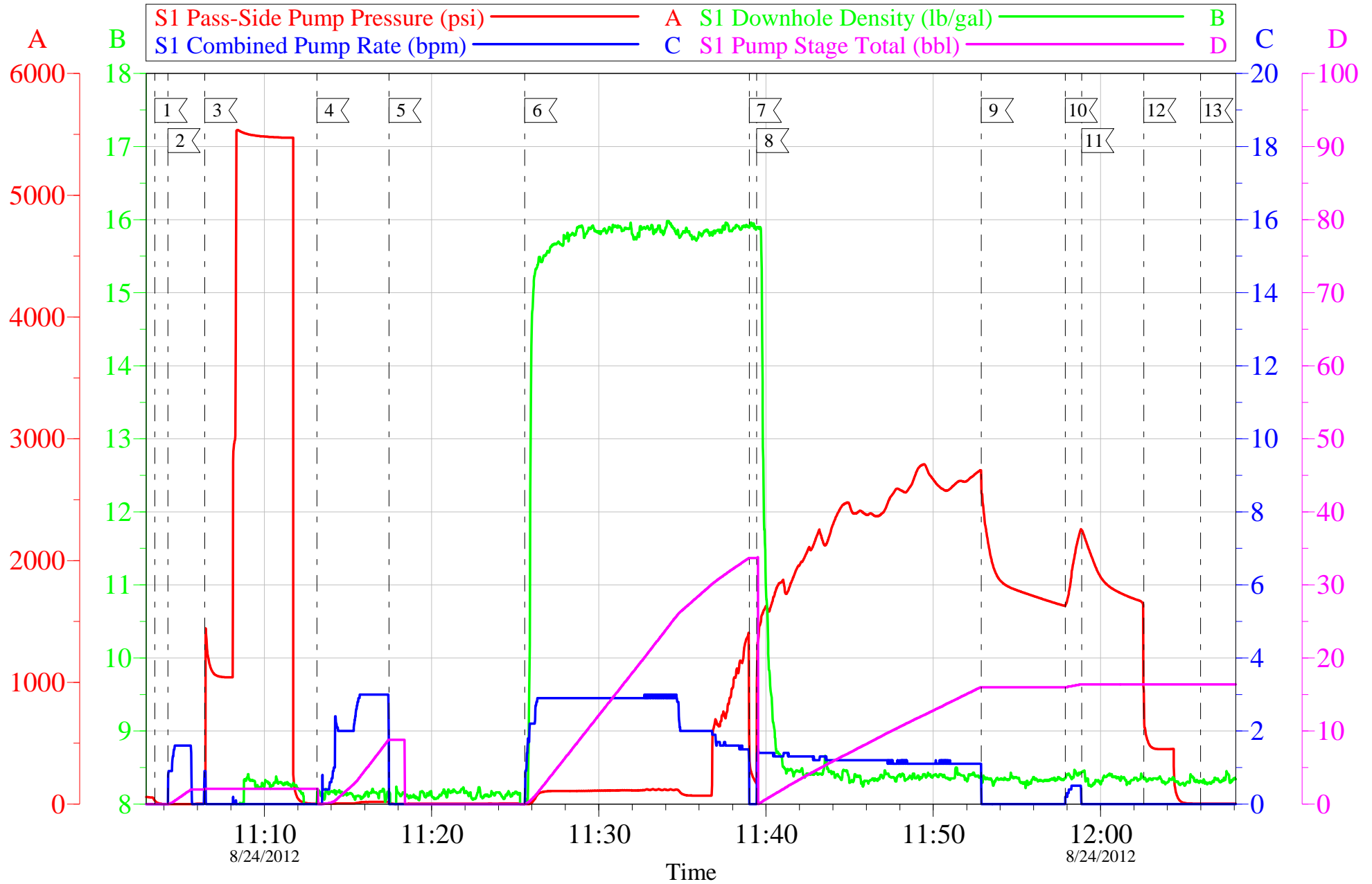
Job Date: 24-Aug-2012  
Job Type: SQUEEZE  
Cement Supervisor: Ed Arnold

Sales Order #: 9754251  
ADC Used: YES  
Elite #4: Troy Vanalstyne

OptiCem v6.4.10  
24-Aug-12 12:29

# WPX GM 521-4

## SQUEEZE



Customer: WPX  
Well Description: GM 521-4  
Company Rep: Justin Skalla

Job Date: 24-Aug-2012  
Job Type: SQUEEZE  
Cement Supervisor: Ed Arnold

Sales Order #: 9754251  
ADC Used: YES  
Elite #4: Troy Vanalstyne

OptiCem v6.4.10  
24-Aug-12 12:30



<b>Sales Order #:</b> 9754251	<b>Line Item:</b> 10	<b>Survey Conducted Date:</b> 8/24/2012
<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> 05-045-10860
<b>Well Name:</b> GM		<b>Well Number:</b> 521-4
<b>Well Type:</b> Development Well	<b>Well Country:</b> United States of America	
<b>H2S Present:</b>	<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	8/24/2012
Survey Interviewer	The survey interviewer is the person who initiated the survey.	EDWARD ARNOLD (HX46731)
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 Name:</b> GM		<b>Well Number:</b> 521-4
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<b>H2S Present:</b>	<b>Well State:</b> Colorado	<b>Well County:</b> Garfield

*KEY PERFORMANCE INDICATORS*

General	
<b>Survey Conducted Date</b>	8/24/2012
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>	4
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>	1.5
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>	5
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

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<b>Customer Representative:</b>		<b>API / UWI: (leave blank if unknown)</b> 05-045-10860
<b>Well Name:</b> GM		<b>Well Number:</b> 521-4
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<b>H2S Present:</b>	<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