

WPX Energy Rocky Mountain LLC-EBUS

GM 702-4-HN1

**Workover**

# **Post Job Summary**

## **Squeeze Perfs**

Date Prepared: 06/26/2014  
Job Date: 06/19/14

Submitted by: Evan Russell Grand-Junction Cement Engineer

The Road to Excellence Starts with Safety

Sold To #: 300721	Ship To #: 3009612	Quote #:	Sales Order #: 0901431060
Customer: WPX ENERGY ROCKY MOUNTAIN LLC-EBUS		Customer Rep: Kyle Kohl	
Well Name: FEDERAL	Well #: GM 702-4-HN1	API/UWI #: 05-045-22051-00	
Field: GRAND VALLEY	City (SAP): PARACHUTE	County/Parish: GARFIELD	State: COLORADO
Legal Description: SW NE-4-7S-96W-1401FNL-2354FEL			
Contractor:		Rig/Platform Name/Num: Workover	
Job BOM: 7526			
Well Type: HORIZONTAL GAS			
Sales Person: HALAMERICA\HB50180		Srv Supervisor: Carlton Kukus	
<b>Job</b>			

Formation Name			
Formation Depth (MD)	Top		Bottom
Form Type			BHST
Job depth MD	4960ft		Job Depth TVD
Water Depth			Wk Ht Above Floor 5ft
Perforation Depth (MD)	From 4960		To 4960

**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	4.6			0	4910		0

**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 ft <sup>3</sup> /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
1	Fresh Water	Fresh Water	6	bbl	8.3			1.5	

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	SqueezeCem	SQUEEZECEM (TM) SYSTEM	50	sack	15.8	1.15		1.5	4.98
		4.96 Gal	FRESH WATER						

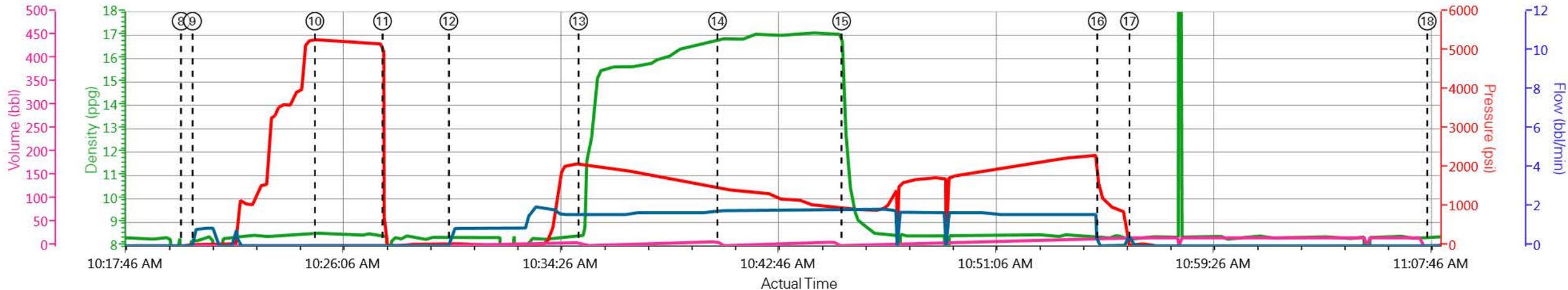
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft <sup>3</sup> /sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
3	SqueezeCem	SQUEEZECEM (TM) SYSTEM	50	sack	17	0.99			3.73
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft <sup>3</sup> /sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
4	Displacement	Displacement	17.5	bbl	8.3			2	
<b>Cement Left in Pipe</b>		<b>Amount</b>	<b>ft</b>	<b>Reason</b>			<b>Shoe Joint</b>		
<b>Comment</b>									

2.1 Job Event Log

Type	Seq. No.	Activity	Date	Time	Source	DH Density (ppg)	PS Pump Press (psi)	Pump Stg Tot (bbl)	Comb Pump Rate (bbl/min)	Comment
Event	1	Call Out	6/19/2014	04:30:00	USER					HES CREW WAS CALLED OUT AFTER 10 HOUR RESET
Event	2	Pre-Convoy Safety Meeting	6/19/2014	07:30:00	USER					ALL HES EMPLOYEES
Event	3	Crew Leave Yard	6/19/2014	07:30:01	USER					1-F-550 PICKUP, 1-ELITE PUMP TRUCK, 1-660 BULK TRUCK
Event	4	Arrive At Loc	6/19/2014	09:30:00	USER					ALL HES EMPLOYEES ARRIVED ON TIME
Event	5	Assessment Of Location Safety Meeting	6/19/2014	09:57:28	USER	9.55	5.00	7.3	7.00	RIG WAS READY AND WAITING ON HES
Event	6	Pre-Rig Up Safety Meeting	6/19/2014	10:00:00	USER	9.53	-24.00	7.8	0.00	HES HELD SAFETY MEETING AND BEGAN RIG UP
Event	7	Pre-Job Safety Meeting	6/19/2014	10:10:15	USER	8.36	-22.00	0.0	0.00	ALL HES AND RIG CREW PRESENT TO DISCUSS JOB PROCEDURES
Event	8	Start Job	6/19/2014	10:20:01	COM5	0.51	-4.00	0.0	0.00	PACKER SET AT 4910FT, PERFS AT 4960FT, 2 3/8 4.7# TUBING, 5.5 CASING
Event	9	Prime Pumps	6/19/2014	10:20:27	USER	8.30	45	1	.9	FILL LINES TO PRESSURE TEST
Event	10	Test Lines	6/19/2014	10:25:08	USER	8.54	5284.00	0.8	0.00	TEST LINES TO 5000 PSI, PRESSURE TEST OK
Event	11	Release Tubing Pressure	6/19/2014	10:27:43	USER	8.40	49.00	0.8	0.00	RELEASE PRESSURE TEST
Event	12	Pump Spacer	6/19/2014	10:30:16	USER	8.35	2104	6	1.5	6 BBL FRESH WATER SPACER
Event	13	Pump Cement	6/19/2014	10:35:14	COM5	15.8	1303	9	1.5	50 SKS OF SQUEEZECHEM CEMENT 15.8 PPG 1.15 YIELD 4.98 GAL/SK WEIGHT OF CEMENT VERIFIED VIA MUD SCALES THROUGHOUT LEAD CEMENT

Event	14	Pump Tail Cement	6/19/2014	10:40:33	COM5	17	1303	8.8	1.5	50 SKS OF SQUEEZECEM CEMENT 17 PPG .99 YIELD 3.73 GAL/SK WEIGHT OF CEMENT VERIFIED VIA MUD SCALES THROUGHOUT TAIL CEMENT
Event	15	Pump Displacement	6/19/2014	10:45:18	COM5	8.34	2318	17.5	2	PUMP 17.5 BBLS OF FRESH WATER DISPLACEMENT LEAVING 1.5 BBLS OF CEMENT LEFT IN THE TUBING
Event	16	Next Stage	6/19/2014	10:55:05	COM5	8.41	1376.00	16.9	0.00	SHUTDOWN END OF DISPLACEMENT
Event	17	Sting out	6/19/2014	10:56:19	USER	8.33	30.00	17.0	0.20	RIG STINGS OUT OF PACKER,AND BEGINS REVERSING OUT GETTING 1.5 BBLS OF CEMENT BACK
Event	18	End Job	6/19/2014	11:07:43	COM5	8.34	-24.00	0.0	0.00	THANK YOU FOR CHOOSING HALLIBURTON CEMENT CARL KUKUS AND CREW
Event	19	Pre-Rig Down Safety Meeting	6/19/2014	11:21:19	USER	8.35	3.00	42.4	2.50	ALL HES EMPLOYEES
Event	20	Rig Down Lines	6/19/2014	11:21:24	USER	8.40	2.00	42.6	2.50	RIG DOWN ALL LINES AND EQUIPMENT
Event	21	Pre-Convoy Safety Meeting	6/19/2014	11:21:29	USER	8.33	3.00	42.8	2.50	1-F-550 PICKUP, 1-660 BULK TRUCK
Event	22	Crew Leave Location	6/19/2014	11:21:32	USER	8.34	2.00	42.9	2.60	LOCATION WAS LEFT AS CLEAN AS WHEN HES ARRIVED

# WPX/FEDERAL GM 701-4-HN1/SQUEEZE



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

- |  |                                       |   |
|--|---------------------------------------|---|
| ① Call Out n/a;n/a;n/a;n/a                           | ⑨ Fill Lines 8.28;34;0;0.9            | ⑰ Sting out 8.33;30;17;0.2                    |
| ② Pre-Convoy Safety Meeting n/a;n/a;n/a;n/a          | ⑩ Test Lines 8.55;5283;0.8;0          | ⑱ End Job 8.34;-24;0;0                        |
| ③ Crew Leave Yard n/a;n/a;n/a;n/a                    | ⑪ Release Pressure 8.4;49;0.8;0       | ⑲ Pre-Rig Down Safety Meeting 8.35;3;42.4;2.5 |
| ④ Arrive At Loc n/a;n/a;n/a;n/a                      | ⑫ Fresh Water Spacer 8.36;47;0.8;0.8  | 20 Rig Down Lines 8.4;2;42.6;2.5              |
| ⑤ Assessment Of Location Safety Meeting 9.55;5;7.3;7 | ⑬ Lead Cement 8.44;2086;0;1.6         | 21 Pre-Convoy Safety Meeting 8.33;3;42.8;2.5  |
| ⑥ Pre-Rig Up Safety Meeting 9.53;-24;7.8;0           | ⑭ Pump Tail Cement 16.8;1509;0;1.8    | 22 Crew Leave Location 8.35;3;42.9;2.6        |
| ⑦ Pre-Job Safety Meeting 8.36;-22;0;0                | ⑮ Pump Displacement 13.73;973;0.6;1.9 |   |
| ⑧ Start Job 0.51;-4;0;0                              | ⑯ Shutdown 8.41;1376;16.9;0           |   |

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Created: 2014-06-19 09:51:19, Version: 3.0.121

Edit

Customer: WPX ENERGY ROCKY MOUNTAIN LLC-EBUS

Job Date: 6/19/2014 9:57:28 AM

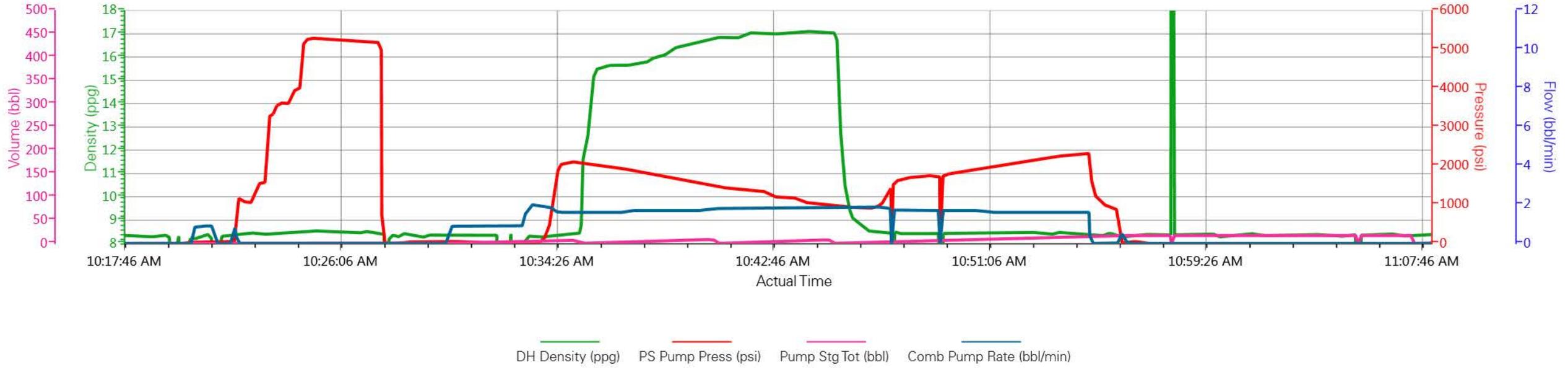
Well: Federal GM 702-4-HN1

Representative: Kyle Kohl

Sales Order #: 901431060

Supervisor/Operator: Carlton Kukus/Andrew Schanz E-2

# WPX/FEDERAL GM 701-4-HN1/SQUEEZE



# HALLIBURTON

## Rockies, Grand Junction

### Lab Results- Lead

#### Job Information

<b>Request/Slurry</b>	2143676/3	<b>Rig Name</b>	Workover	<b>Date</b>	14/JUN/2014
<b>Submitted By</b>	Aaron Katz	<b>Job Type</b>	Perforation Squeeze	<b>Bulk Plant</b>	Grand Junction
<b>Customer</b>	WPX Energy, Inc.	<b>Location</b>	Garfield	<b>Well</b>	GM 702-4 HN1

#### Well Information

<b>Casing/Liner Size</b>	4.5 in / 114.3 mm	<b>Depth MD</b>	1512 m / 4960 ft	<b>BHST</b>	73°C / 164°F
<b>Hole Size</b>		<b>Depth TVD</b>		<b>BHCT</b>	59°C / 138°F
<b>Pressure</b>	261 bar / 3780 psi				

#### Drilling Fluid Information

<b>Mud Supplier Name</b>	AES Drilling Fluids	<b>Mud Trade Name</b>		<b>Density</b>	
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#### Cement Information - Lead Design

<u>Cement/Additive</u>	<u>Sample Type</u>	<u>Sample Date</u>	<u>Lot No.</u>	<u>Cement Properties</u>		
Mountain G	Bulk Blend	17.06.14	tank 29	Slurry Density	15.798	lbm/gal
Fresh Water	Lab	12.03.13	N/A	Slurry Yield	1.15	ft3/sack
HALAD-344 (PB)	Bulk Blend	17.06.14	B4140988	Water Requirement	4.98	gal/sack
HALAD-413 (PB)	Bulk Blend	17.06.14	ZM3L0301A0	Total Mix Fluid	4.98	gal/sack

Water Source            Fresh Water  
 Water Chloride

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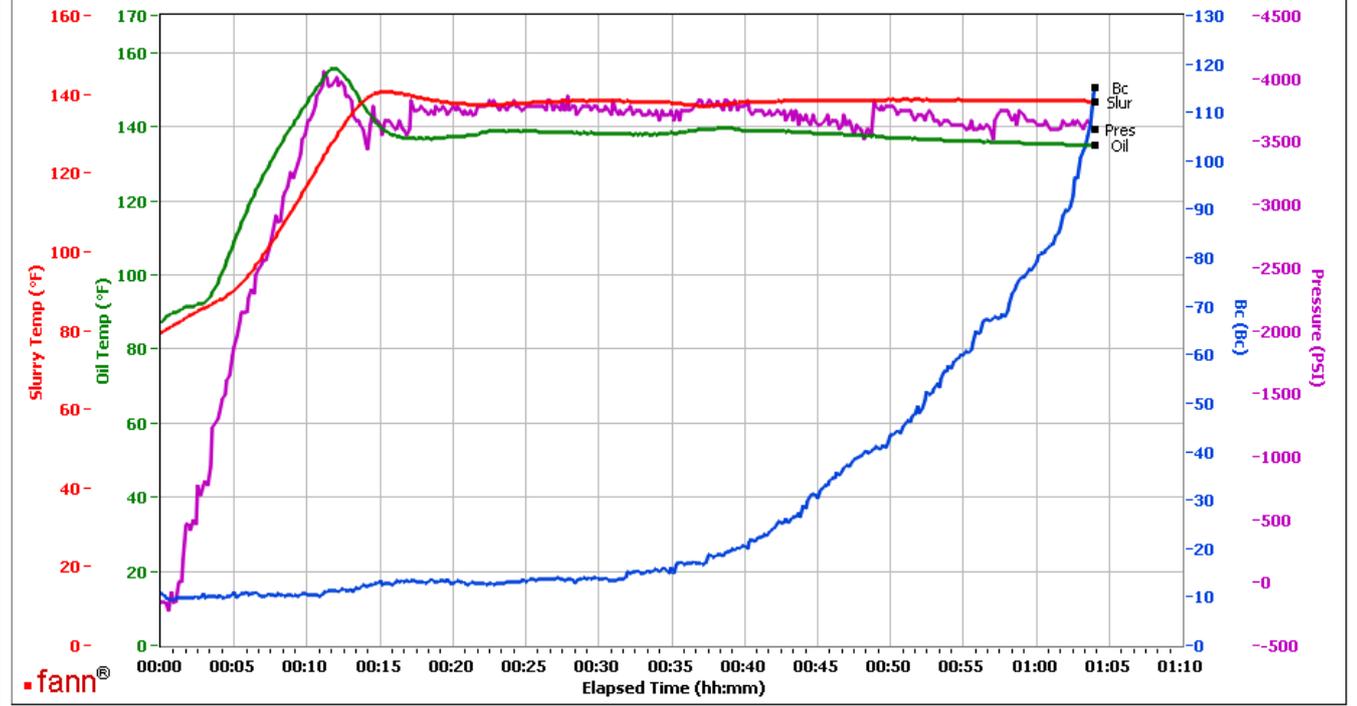
**Operation Test Results Request ID 2143676/3**

**Thickening Time** **17/Jun/2014**

Temp (°F)    Pressure (psi)    Reached in (min)    Start BC    30 Bc (hh:mm)    40 Bc (hh:mm)    50 Bc (hh:mm)    70 Bc (hh:mm)    100 Bc (hh:mm)

**Grand Junction Colorado**

Fields	Values	Fields	Values	Events	Results
Project Name	GJ2143676-3	Job Type		30.00 Bc	00h:44m
Test ID	GJ2143676-3 WPX BULK SQ	Cement Type		40.00 Bc	00h:48m
Request ID		Cement Weight	Standard	50.00 Bc	00h:52m
Tested by	DS	Test Date	06/18/14	70.00 Bc	00h:58m
Customer	WPX	Test Time	12:53 AM	100.00 Bc	01h:03m
Well No	GM 702-4-HN1	Temp. Units	degF	00h:30m	13.56
Rig		Pressure Units	PSI	01h:00m	79.24
Casing/Liner Size		SW Version	2.0.2.206	01h:30m	NaN



Data File: C:\Documents and Settings\HPHT\Desktop\Test Data\GJ2143676-3 WPX BULK SQ.tdms  
 Comments: CS2243 TR#5039 50 SKS DIP

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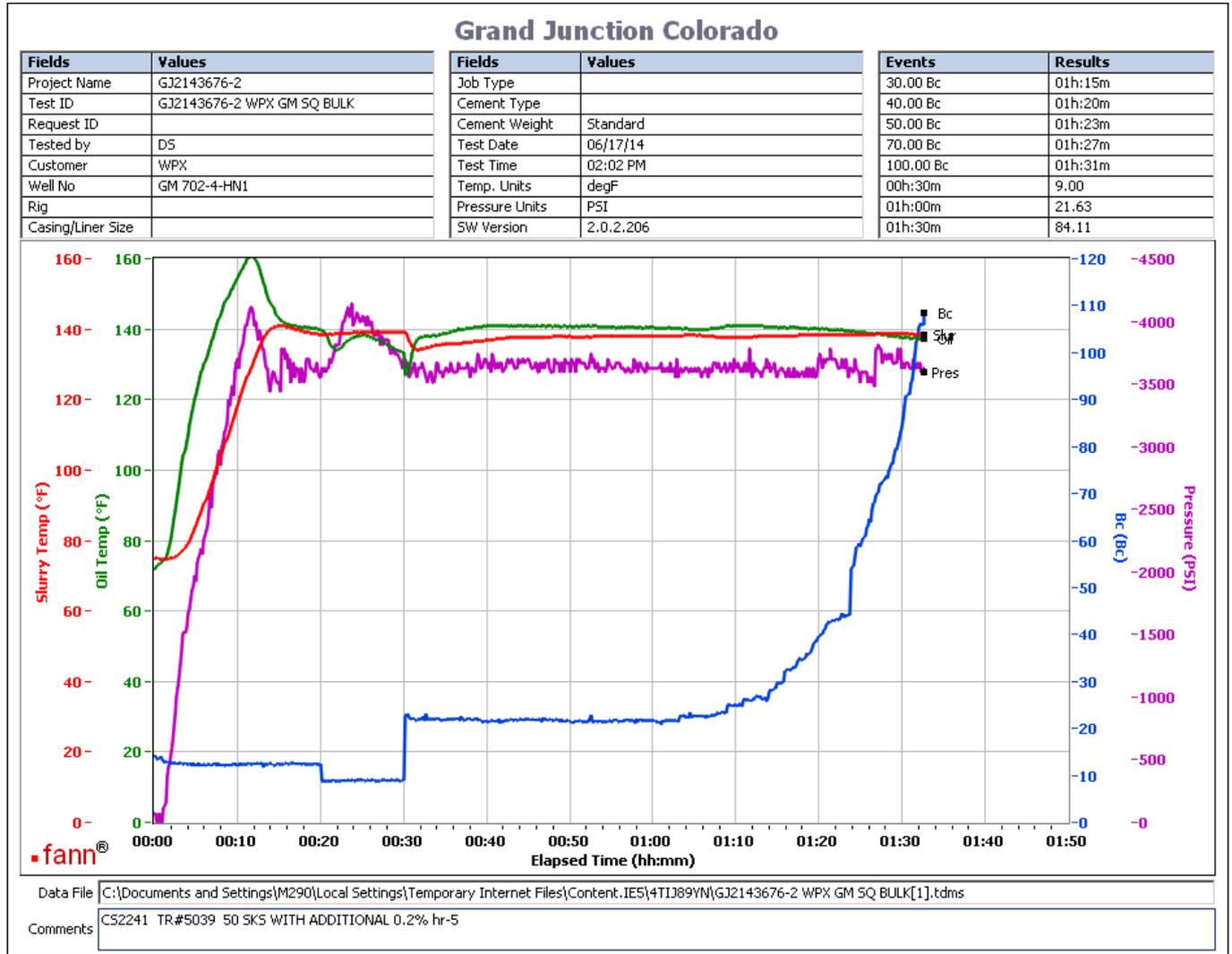
**Operation Test Results Request ID 2143676/2**

**Thickening Time - ON-OFF-ON**

**17/Jun/2014**

Test Temp (°F)	Pressure (psi)	Reached in (min)	30 Bc (hh:min)	50 Bc (hh:min)	70 Bc (hh:min)	100 Bc (hh:min)	Start Bc	Stirring before stop (mins)	Static Period (min)	Peak reading (BC)
138	3780	11	1:15	1:23	1:27	1:31	13	20	10	28

CS2241 Trailer 5039 50 sks with additional 0.2% HR-5 in mix water



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# HALLIBURTON

## Rockies, Grand Junction

### Lab Results- Tail

#### Job Information

<b>Request/Slurry</b>	2144907/1	<b>Rig Name</b>	Workover	<b>Date</b>	18/JUN/2014
<b>Submitted By</b>	Kory Hugentobler	<b>Job Type</b>	Perforation Squeeze	<b>Bulk Plant</b>	Grand Junction
<b>Customer</b>	WPX Energy, Inc.	<b>Location</b>	Garfield	<b>Well</b>	GM 702-4 HN1

#### Well Information

<b>Casing/Liner Size</b>	4.5 in / 114.3 mm	<b>Depth MD</b>	1512 m / 4960 ft	<b>BHST</b>	73°C / 164°F
<b>Hole Size</b>		<b>Depth TVD</b>		<b>BHCT</b>	59°C / 138°F
<b>Pressure</b>	261 bar / 3780 psi				

#### Drilling Fluid Information

<b>Mud Supplier Name</b>	AES Drilling Fluids	<b>Mud Trade Name</b>		<b>Density</b>	
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#### Cement Information - Tail Design

<u>Cement/Additive</u>	<u>Sample Type</u>	<u>Sample Date</u>	<u>Lot No.</u>	<u>Cement Properties</u>		
Mountain G	Bulk Blend	19.06.14	Tank 29	Slurry Density	17	lbm/gal
Fresh Water	Lab	12.03.13	N/A	Slurry Yield	0.9907	ft3/sack
CFR-3 (PB)	Bulk Blend	19.06.14	70220130	Water Requirement	3.7275	gal/sack
				Total Mix Fluid	3.73	gal/sack
				Water Source	Fresh Water	
				Water Chloride		

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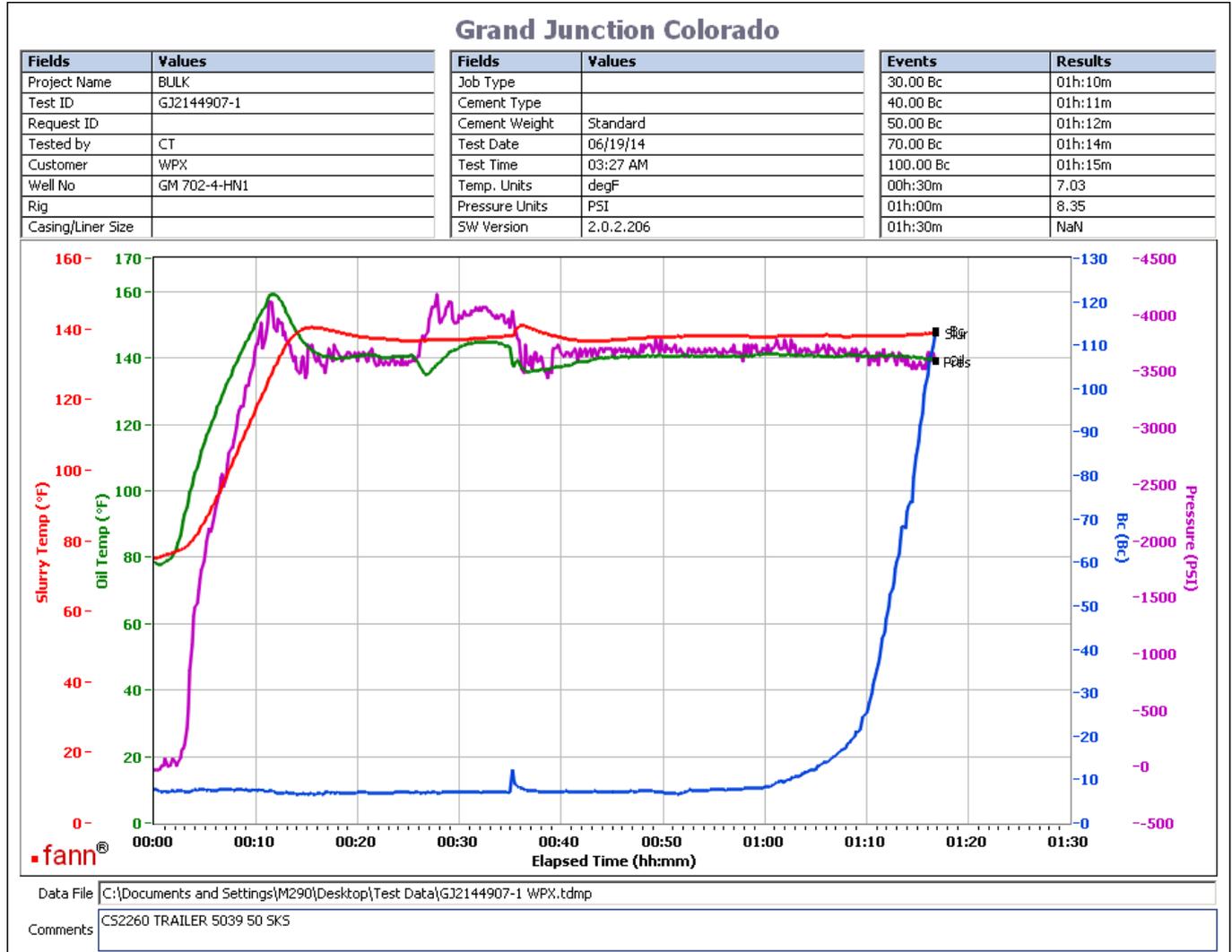
**Operation Test Results Request ID 2144907/1**

**Thickening Time - ON-OFF-ON**

**18/Jun/2014**

Test Temp (°F)	Pressure (psi)	Reached in (min)	30 Bc (hh:min)	50 Bc (hh:min)	70 Bc (hh:min)	100 Bc (hh:min)	Start Bc	Stirring before stop (mins)	Static Period (min)	Peak reading (BC)
138	3780	11	1:10	1:12	1:14	1:15	8	25	10	14

50sks Total tail  
 CS2260 Trailer 5039 50 sks  
 Deflection: 8 - 14 - 9



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