

# HALLIBURTON

iCem<sup>®</sup> Service

## **WPX ENERGY LLC-EBUS**

**For: Mark Mewshaw**

Date: Friday, June 24, 2016

**GM 411-9 Production**

**API # 05-045-22527-00**

**Sincerely,**

**Grand Junction Cement Engineering**

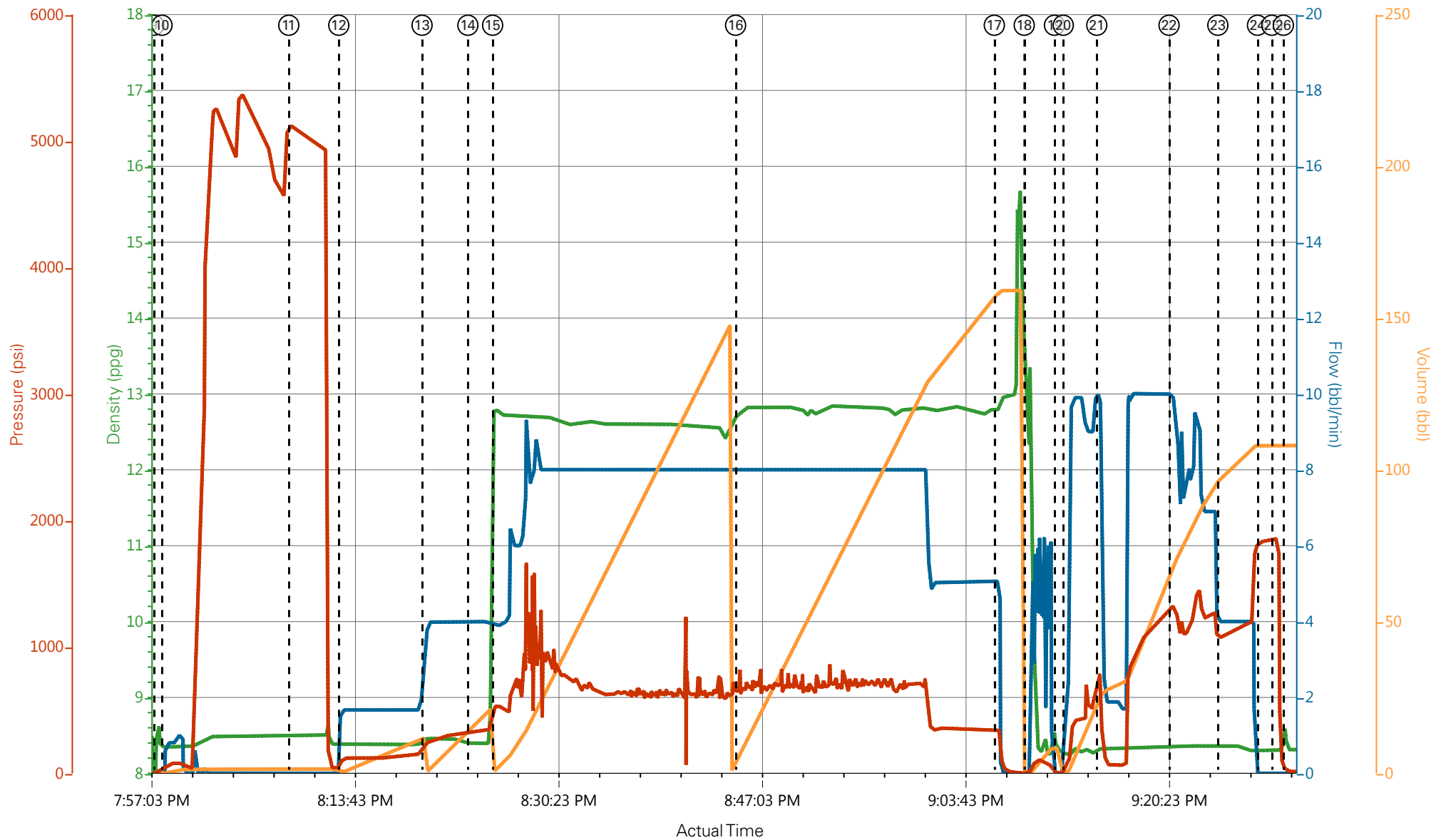
## 1.0 Real-Time Job Summary

## 1.1 Job Event Log

Type	Seq. No.	Graph Label	Date	Time	Source	Downhole Density (ppg)	Combined Pump Rate (bbl/min)	Pump Stage Total (bbl)	Pass-Side Pump Pressure (psi)	Comments
Event	1	Call Out	6/24/2016	19:14:16	USER					REQUESTED ON LOCATION @ 1800
Event	2	Pre-Convoy Safety Meeting	6/24/2016	19:19:49	USER					ALL HES PRESENT
Event	3	Crew Leave Yard	6/24/2016	19:20:28	USER					1 F550, 1 ELITE PUMP TRUCK & 2 660 BULK TRUCK
Event	4	Arrive At Loc	6/24/2016	19:21:04	USER					RIG RUNNING CASING
Event	5	Assessment Of Location Safety Meeting	6/24/2016	19:21:22	USER					MET WITH COMP REP, T.RAGSDALE, AND WENT OVER NUMBERS AND JOB PROCEDURE. WALKED AROUND LOCATION AND COLLECTED WATER SAMPLE (PH- 7, CHLORIDES- 250, TEMP- 63F). COMP REP WAS OFFERED SDS FOR ALL CHEMICLES USED BY HES.
Event	6	Pre-Rig Up Safety Meeting	6/24/2016	19:21:54	USER					ALL HES PRESENT
Event	7	Rig-Up Equipment	6/24/2016	19:22:07	USER					HES RIGGED UP EQUIPMENT WITHOUT ENTERING RED ZONE.
Event	8	Pre-Job Safety Meeting	6/24/2016	19:22:57	USER					ALL HES AND RIG CREW PRESENT
Event	9	Start Job	6/24/2016	19:57:30	USER					TD 6717', TP 6707', SJ 28.85', OH 8.75'', CSG 4.5'' 11.6#, MUD 9.8 PPG. RIG CIRCULATED WELL @ APPROX 16 BPM WITH 1000 PSI FOR APPROX 2 HRS.
Event	10	Fill Lines	6/24/2016	19:58:09	USER	8.36	0.80	0.0	44.00	8.33 PPG FRESH WATER
Event	11	Test Lines	6/24/2016	20:08:32	COM6	8.51	0.00	1.4	5125.00	ALL LINES HELD PRESSURE AT 5125 PSI
Event	12	Pump Spacer 1	6/24/2016	20:12:38	COM6	8.40	1.60	0.3	110.00	8.33 PPG FRESH WATER (10BBL)
Event	13	Pump Spacer 2	6/24/2016	20:19:27	COM6	8.46	3.20	0.0	223.00	8.4 PPG MUD FLUSH III (20BBL)
Event	14	Check weight	6/24/2016	20:23:12	COM6					WEIGHT VERIFIED VIA PRESSUREIZED MUD SCALES
Event	15	Pump Lead Cement	6/24/2016	20:25:14	COM6	12.83	3.90	1.2	547.00	NEOCEM CEMENT W/ TUFF FIBER 395 SKS (137 BBLS), 12.5 PPG, 1.96 FT3/SK, 9.34 GAL/SK

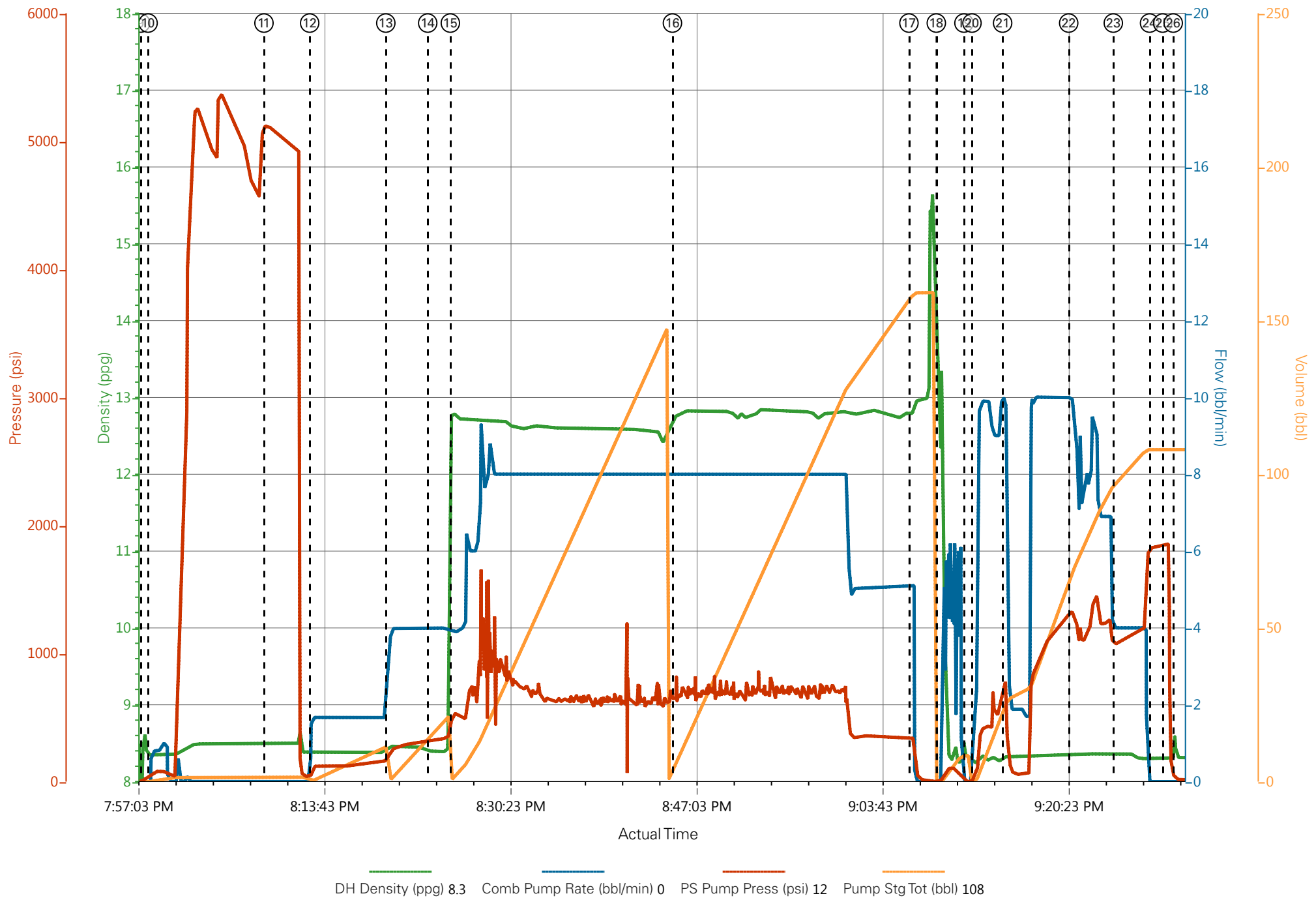
Event	16	Pump Tail Cement	6/24/2016	20:45:08	COM6	12.75	8.00	5.7	635.00	NEOCER CEMENT 435 SKS (145 BBLs), 12.7 PPG, 1.87 FT3/SK, 8.71 GAL/SK.
Event	17	Shutdown	6/24/2016	21:06:19	USER					END OF CEMENT
Event	18	Clean Lines	6/24/2016	21:08:46	USER					WASH UP PUMPS AND LINES TO CATCH TANK
Event	19	Drop Top Plug	6/24/2016	21:11:15	COM6					PLUG WENT, VERIFIED BY CO REP.
Event	20	Pump Displacement	6/24/2016	21:11:58	COM6	8.25	1.70	0.3	62.00	8.34 PPG FRESH WATER (103.5 BBLs) 3 BAGS BE6, 10 KCL
Event	21	Slow Rate	6/24/2016	21:14:43	USER	8.33	9.80	25.2	791.00	LOST PRIME ON WATER LINE TO SECONDARY TANK
Event	22	Slow Rate	6/24/2016	21:20:38	USER	8.35	10.00	67.4	1319.00	DR SD DECK MOTOR ISSUES
Event	23	Slow Rate	6/24/2016	21:24:37	USER	8.36	4.00	97.3	1077.00	SLOW RATE TO 4 BPM PER CO REP TO LAND PLUG
Event	24	Bump Plug	6/24/2016	21:27:52	COM6	8.31	0.00	108.0	1830.00	LAND PLUG AT 1200 PSI, BROUGHT UP TO 1850 PSI
Event	25	Check Floats	6/24/2016	21:29:03	USER	8.32	0.00	108.0	1853.00	FLOATS HELD, 1 BBL BACK TO TRUCK
Event	26	End Job	6/24/2016	21:30:00	USER					RETURNS THROUGHOUT JOB, PIPE WAS NOT RECIPROCATED DURING THE JOB, 0 BBL OF SPACER OR CEMENT BACK TO SURFACE
Event	27	Post-Job Safety Meeting (Pre Rig-Down)	6/24/2016	21:40:00	USER					ALL HES PRESENT
Event	28	Rig-Down Equipment	6/24/2016	21:45:00	USER					ALL HES PRESENT
Event	29	Pre-Convoy Safety Meeting	6/24/2016	21:50:00	USER					ALL HES PRESENT
Event	30	Crew Leave Location	6/24/2016	22:00:00	USER					THANK YOU FOR CHOOSING HALLIBURTON CEMENT, CHRIS SMITH AND CREW

# WPX, FED GM 411-9, 4.5" PRODUCTION



- ① Call Out      ③ Crew Leave Yard      ⑤ Assessment Of Location Safety Meeting      ⑦ Rig-Up Equipment      ⑨ Start Job      ⑪ Test Lines      ⑬ Pump Spacer 2      ⑮ Pump Lead Cement
- ② Pre-Convoy Safety Meeting      ④ Arrive At Loc      ⑥ Pre-Rig Up Safety Meeting      ⑧ Pre-Job Safety Meeting      ⑩ Fill Lines      ⑫ Pump Spacer 1      ⑭ Check weight      ⑯ Pump Tail Cement

# WPX, FED GM 411-9, 4.5" PRODUCTION



### Job Information

<b>Request/Slurry</b>	2326339/1	<b>Rig Name</b>	H&P 318	<b>Date</b>	23/JUN/2016
<b>Submitted By</b>	Aaron Katz	<b>Job Type</b>	Production Casing	<b>Bulk Plant</b>	Grand Junction
<b>Customer</b>	WPX Energy, Inc.	<b>Location</b>	Garfield	<b>Well</b>	GM 411-9

### Well Information

<b>Casing/Liner Size</b>	4.5 in	<b>Depth MD</b>	6654 ft	<b>BHST</b>	89°C / 192°F
<b>Hole Size</b>	8.75 in	<b>Depth TVD</b>	6591 ft	<b>BHCT</b>	53°C / 128°F
<b>Pressure</b>	3910 psi				

### Drilling Fluid Information

<b>Mud Supplier Name</b>	Baroid	<b>Mud Trade Name</b>	BARADRIL-N	<b>Density</b>	9.9 lbm/gal
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### Cement Information - Lead Design

<u>Conc</u>	<u>UOM</u>	<u>Cement/Additive</u>	<u>Sample Type</u>	<u>Sample Date</u>	<u>Lot No.</u>	<u>Cement Properties</u>		
						Slurry Density	12.5	lbm/gal
						Slurry Yield	1.96	ft3/sack
						Water Requirement	9.406	gal/sack
						Total Mix Fluid	9.406	gal/sack
		NeoCem GJ1						
9.41	gal/sack	Fresh Water	Lab	12.03.13				
3	% BWOC	Bentonite Wyoming - PB	Bulk Blend	23.06.16	Tank 17			
0.3	% BWOC	Econolite (Powder - PB)	Bulk Blend	23.06.16	U070415	Water Source	Fresh Water	
0.5	% BWOC	Na2SO4 (Sodium Sulfate) Salt	Bulk Blend	23.06.16	02-05-16	Water Chloride		
0.5	% BWOC	HALAD-344 (PB)	Bulk Blend	23.06.16	16022940			
0.183	% BWOC	NaCl (Sodium Chloride) Salt	Bulk Blend	23.06.16	Tank 14			
0.1	% BWOC	HALAD-567	Bulk Blend	23.06.16	081115-139			
0.15	% BWOC	Fe-2 (citric acid)	Bulk Blend	23.06.16	GA5L27BK5E			
0.25	lb/sk	Pol-E-Flake	Bulk Blend	23.06.16	NA			

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# Operation Test Results Request ID 2326339/1

## Thickening Time

24/JUN/2016

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)
128	3910	35	8	4:21	4:21	4:21	4:32	7:27

395 Total Sacks

CS0543 TR 2878 395 SKS

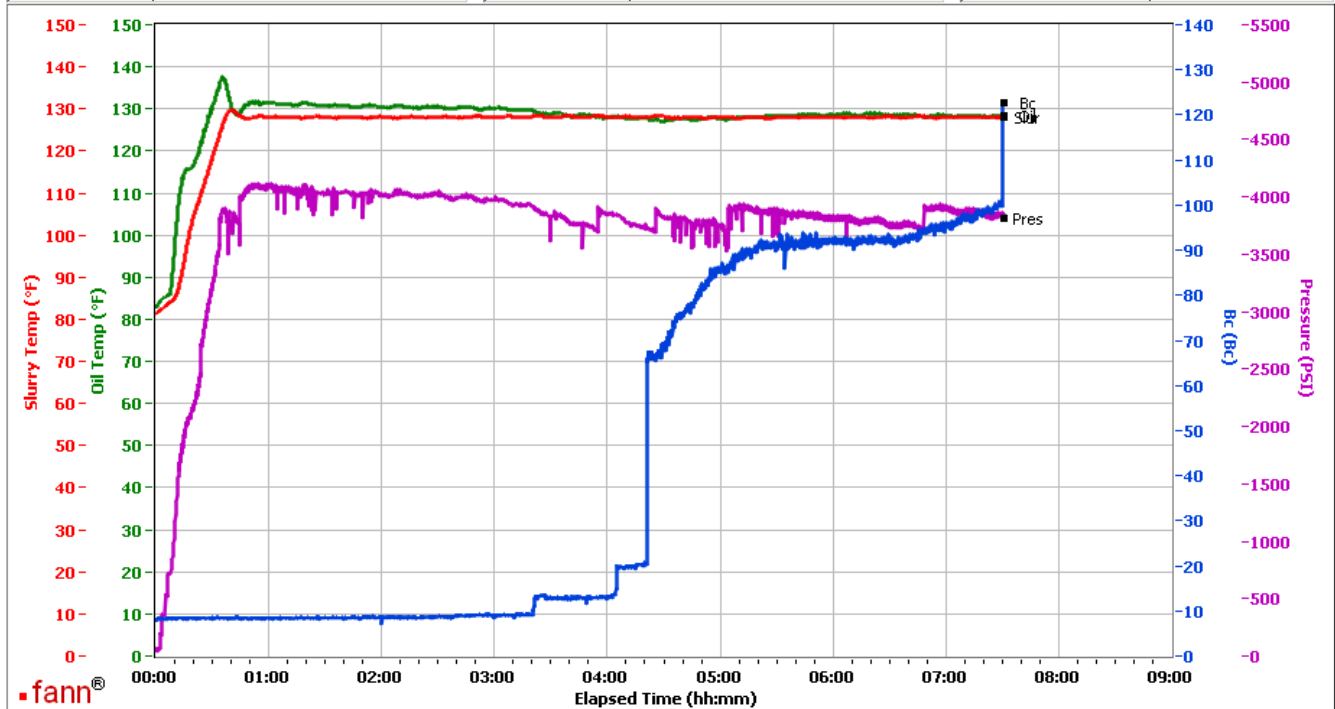
Heat of hydration started around 4 hours.

## Grand Junction Colorado

Fields	Values
Project Name	GJ2326339-1 TERRA PRODUCTOIN BULK LE
Test ID	GJ2326339-1 TERRA
Request ID	
Tested by	JASON
Customer	TERRA
Well No	GM 411-9
Rig	H&P 318
Casing/Liner Size	4.5

Fields	Values
Job Type	PRODUCTION
Cement Type	NEOCEM
Cement Weight	Light Weight
Test Date	06/23/16
Test Time	06:09 PM
Temp. Units	degF
Pressure Units	PSI
SW Version	2.1.0.507

Events	Results
30.00 Bc	04h:21m
40.00 Bc	04h:21m
50.00 Bc	04h:21m
70.00 Bc	04h:32m
100.00 Bc	07h:27m
00h:30m	8.17
01h:00m	8.47
01h:30m	8.76



Data File C:\Documents and Settings\M290\Desktop\Test Data\GJ2326339-1 TERRA BULK LEAD.tdmp

Comments CS0543 TR 2878 395 SKS

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# HALLIBURTON

## Rockies, Grand Junction

## Lab Results- Tail

### Job Information

Request/Slurry	2325368/3	Rig Name	H&P 318	Date	17/JUN/2016
Submitted By	Evan Russell	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	WPX Energy, Inc.	Location	Garfield	Well	GM 42-8

### Well Information

Casing/Liner Size	4.5 in	Depth MD	6716 ft	BHST	88°C / 191°F
Hole Size	8.75 in	Depth TVD	65480 ft	BHCT	53°C / 127°F
Pressure	3880 psi				

### Drilling Fluid Information

Mud Supplier Name	Baroid	Mud Trade Name	BARADRIL-N	Density	9.9 lbm/gal
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### Cement Information - Primary Design



Conc	UOM	Cement/Additive	Sample Type	Sample Date	Lot No.	Cement Properties	
					Tank 22	Slurry Density	12.7 lbm/gal
					tank 30	Slurry Yield	1.869 ft3/sack
					tank 19	Water Requirement	8.744 gal/sack
						Total Mix Fluid	8.744 gal/sack
		NeoCem GJ1					
9.41	gal/sack	Fresh Water	Lab	12.03.13			
3	% BWOC	Bentonite Wyoming - PB	Bulk Blend	19.06.16	tank 17 & 24		
0.3	% BWOC	Econolite (Powder - PB)	Bulk Blend	19.06.16	U070415	Water Source	Fresh Water
0.5	% BWOC	Na2SO4 (Sodium Sulfate) Salt	Bulk Blend	19.06.16	02-05-16	Water Chloride	
0.5	% BWOC	HALAD-344 (PB)	Bulk Blend	19.06.16	15073140		
0.183	% BWOC	NaCl (Sodium Chloride) Salt	Bulk Blend	19.06.16	tank 14/32615ADC CA		
0.1	% BWOC	HALAD-567	Bulk Blend	19.06.16	08115-139		
0.15	% BWOC	Fe-2 (citric acid)	Bulk Blend	19.06.16	GA5L27BK5E		

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# Operation Test Results Request ID 2325368/3

## Thickening Time

20/JUN/2016

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)
127	3880	35	14	4:01	4:24	4:32	4:40	4:54

790 Total Sacks

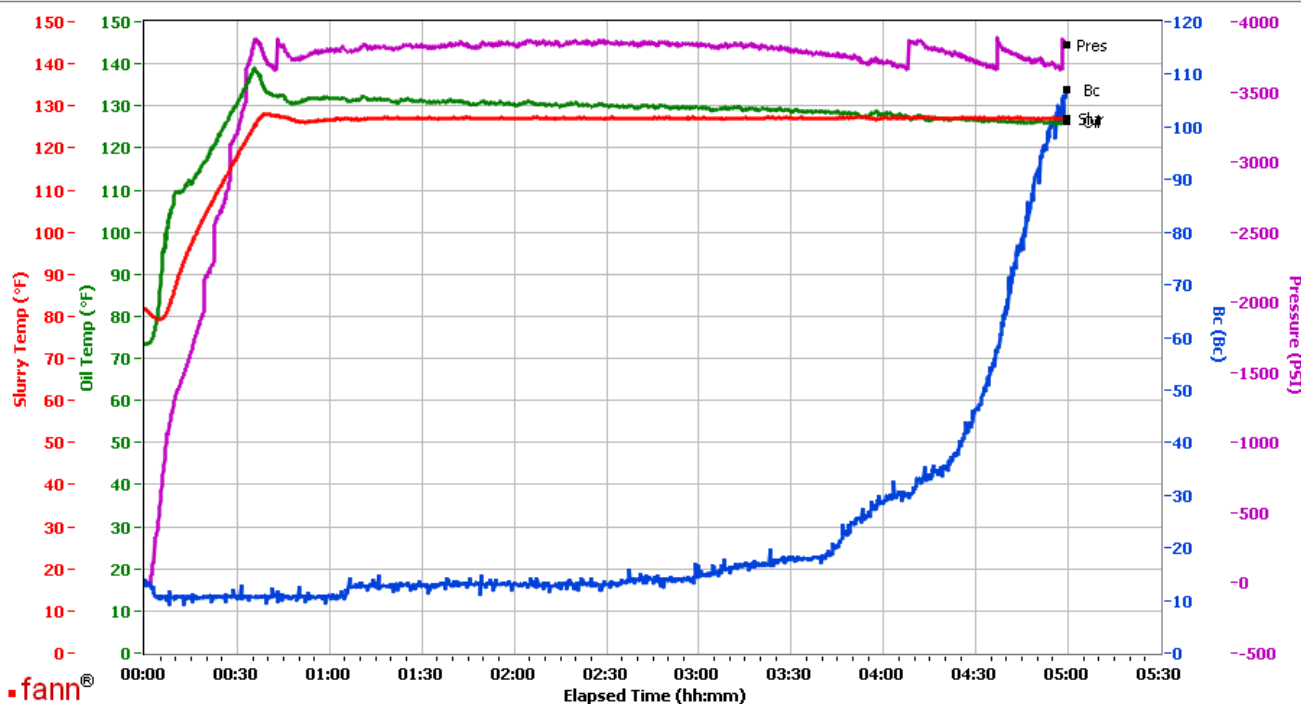
CS0515 TR 4080 165 SKS

## Grand Junction, Colorado

Fields	Values
Project Name	GJ2325368-3
Test ID	GJ2325368-3 WPX PROD BULK PRIMARY 12
Request ID	
Tested by	DEBA
Customer	WPX
Well No	GM 42-8
Rig	
Casing/Liner Size	

Fields	Values
Job Type	
Cement Type	
Cement Weight	Standard
Test Date	06/19/16
Test Time	10:57 PM
Temp. Units	degF
Pressure Units	PSI
SW Version	2.1.0.507

Events	Results
30.00 Bc	04h:01m
40.00 Bc	04h:24m
50.00 Bc	04h:32m
70.00 Bc	04h:40m
100.00 Bc	04h:54m
00h:30m	10.90
01h:00m	10.62
01h:30m	12.61



Data File C:\Documents and Settings\M290\Local Settings\Temporary Internet Files\Content.IE5\0HU90BIZ\GJ2325368-3 WPX PROD BULK PRIMARY 12.SPPG[1].tdms

Comments CS0515 TR#4080 165 SKS

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# Operation Test Results Request ID 2326340/1

## Thickening Time

24/JUN/2016

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)
128	3910	35	9	4:31	4:31	4:34	4:46	5:01

435 Total Sacks

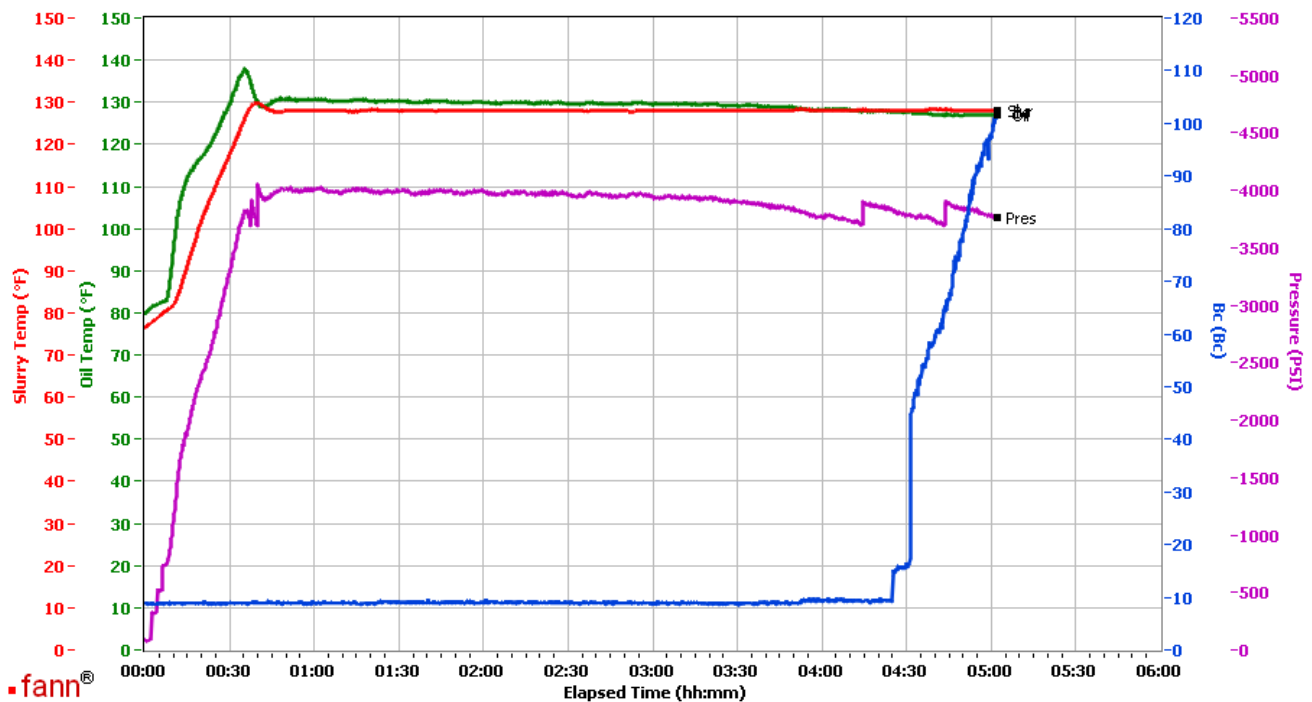
CS0544 TR 1283 299 SKS

## Grand Junction Colorado

Fields	Values
Project Name	GJ2326340-1 TERRA PRODUCTION BULK TA
Test ID	GJ2326340-1 TERRA
Request ID	
Tested by	JASON
Customer	TERRA
Well No	GM 411-9
Rig	H&P 318
Casing/Liner Size	4.5

Fields	Values
Job Type	PRODUCTION
Cement Type	NEOCEM
Cement Weight	Light Weight
Test Date	06/24/16
Test Time	07:32 AM
Temp. Units	degF
Pressure Units	PSI
SW Version	2.1.0.507

Events	Results
30.00 Bc	04h:31m
40.00 Bc	04h:31m
50.00 Bc	04h:34m
70.00 Bc	04h:46m
100.00 Bc	05h:01m
00h:30m	9.01
01h:00m	8.96
01h:30m	9.07



Data File C:\Documents and Settings\M290\Desktop\Test Data\GJ2326340-1 TERRA BULK TAIL.tdms

Comments CS0544 TR 1283 299 SKS

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