HALLIBURTON

Cementing

WPX ENERGY ROCKY MOUNTAIN LLC-EBUS

PA 441-27

Nabors 576

Post Job Summary
Cement Production Casing

Date Prepared: 1/09/2015
Job Date: 12/28/2014

Submitted by: Aaron Katz – Grand Junction Cement Engineer

HALLIBURTON

HALLIBURTON

Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 300721	**Ship To #:** 3207586	**Quote #:**	**Sales Order #:** 0901973685
Customer: WPX ENERGY ROCKY MOUNTAIN LLC-EBUS		**Customer Rep:** AL HARTL	
Well Name: FEDERAL	**Well #:** PA 441-27		**API/UWI #:** 05-045-22237-00
Field: PARACHUTE	**City (SAP):** RIFLE	**County/Parish:** GARFIELD	**State:** COLORADO
Legal Description: 27-6S-95W-2337FNL-647FEL			
Contractor: NABORS DRLG		**Rig/Platform Name/Num:** NABORS 576	
Job BOM:			
Well Type: DIRECTIONAL GAS			
Sales Person: HALAMERICA\HB50180		**Srvc Supervisor:** Christopher Kukus	

Job

Formation Name				
Formation Depth (MD)	**Top**		**Bottom**	
Form Type			**BHST**	
Job depth MD	9002ft		**Job Depth TVD**	
Water Depth			**Wk Ht Above Floor**	5FT
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
Casing		9.625	9.001	32.3			0	2992		0
Casing	0	4.5	4	11.6	8 RD	I-80	0	9002		0
Open Hole Section			8.75				2992	9011	0	0

Tools and Accessories

Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make
Guide Shoe	4.5	1		9002		**Top Plug**	4.5	1	HES
Float Shoe	4.5					**Bottom Plug**	4.5		HES
Float Collar	4.5	1		8972.5		**SSR plug set**	4.5		HES
Insert Float	4.5					**Plug Container**	4.5	1	HES
Stage Tool	4.5					**Centralizers**	4.5		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	10	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	EconoCem GJ2	ECONOCEM (TM) SYSTEM	400	sack	12.7	1.66		6	8.51
8.69 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	ThermaCem GJ2	THERMACEM (TM) SYSTEM	670	sack	13.5	1.74		7	7.61
7.72 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
4	Fresh Water Displacement	Fresh Water Displacement	139.1	bbl	8.34			10	

Cement Left In Pipe	Amount	30 ft	Reason	Shoe Joint

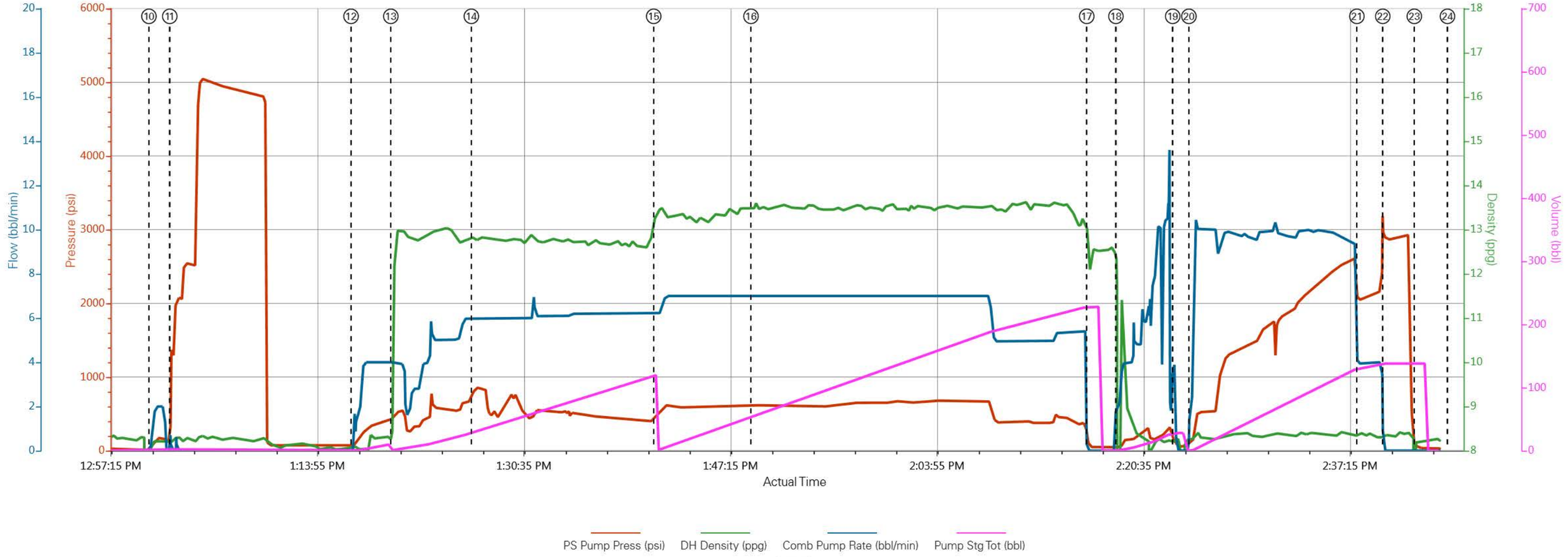
Comment

1.1 Job Event Log

Type	Seq. No.	Graph Label	Date	Time	Source	PS Pump Press *(psi)*	DH Density *(ppg)*	Comb Pump Rate *(bbl/min)*	Pump Stg Tot *(bbl)*	Comment
Event	1	Call Out	12/28/2014	03:30:49	USER					HES CREW CALLED OUT AT 03:30 WITH ON LOCATION TIME OF 09:00
Event	2	Pre-Convoy Safety Meeting	12/28/2014	06:50:01	USER					ALL HES CREW MEMBERS
Event	3	Crew Leave Yard	12/28/2014	07:00:13	USER					HES CREW AND EQUIPMENT READY AND LEFT YARD AT 07:00
Event	4	Arrive at Location from Service Center	12/28/2014	08:30:24	USER					HES CREW ARRIVED 30 MINS EARLY AT 08:30 RIG WAS RUNNING CASING HES CREW WAITTED OFF LOCATION FOR RIG TO FINISH CASING DUE TO TIGHT LOCATION
Event	5	Assessment Of Location Safety Meeting	12/28/2014	10:30:29	USER					ALL HES CREW MEMBERS
Event	6	Pre-Rig Up Safety Meeting	12/28/2014	10:40:45	USER					ALL HES CREW MEMBERS
Event	7	Rig-Up Equipment	12/28/2014	10:50:56	USER					RIG UP IRON TO STAND PIPE, WASH UP LINE TO WASH UP TRUCK, FRESH WATER LINES TO UP RIGHT AND DAY TANK, BULK LINES TO SILO AND BULK TRUCK
Event	8	Pre-Job Safety Meeting	12/28/2014	12:01:06	USER					ALL HES CREW MEMBERS AND RIG CREW
Event	9	Start Job	12/28/2014	12:47:00	COM5					TD: 9011 TP: 9002 SJ: 29.5 FC: 8972.5 CSG: 4 1/2 11.6# I-80 OH: 8 3/4 SF CSG: 9 5/8 32.3# H-40 AT 2992 MUD: 11.8 VISC: 55 RIG CIRCULATED 3 HOURS BEFORE CEMENT JOB
Event	10	Prime Lines	12/28/2014	13:00:29	COM5	170.0	8.33	2.0	2.0	PRIME LINES WITH 2 BBLS OF FRESH WATER
Event	11	Test Lines	12/28/2014	13:02:10	COM5	5054.0	8.21	0.00	2.1	PRESSURE TEST OK AT 5054 PSI KICK OUTS WORKING STALL OUT AT 2547 PSI
Event	12	Pump Spacer 1	12/28/2014	13:16:47	COM5	416.0	8.34	4.0	10.0	PUMP 10 BBLS FRESH WATER SPACER
Event	13	Pump Lead Cement	12/28/2014	13:20:00	COM5	436.00	12.77	6.0	118.3	ECONOCEM 400 SKS 12.7 PPG 1.66 YIELD 8.51 GAL/SK LEAD CEMENT WEIGHT VERIFIED BY MUD SCALE WET AND DRY SAMPLES WERE TAKEN TOTAL OF 118.3 BBLS OF LEAD AWAY
Event	14	Check weight	12/28/2014	13:26:30	COM5	805.00	12.79	6.00	29.3	LEAD CEMENT WEIGHT VERIFIED
Event	15	Pump Tail Cement	12/28/2014	13:41:13	COM5	475.00	13.55	7.0	207.6	THERMACEM 670 SKS 13.5 PPG 1.74 YIELD 7.72

										GAL/SK TAIL CEMENT WEIGHT VERIFIED BY MUD SCALE WET AND DRY SAMPLES WERE TAKEN TOTAL OF 207.6 BBLS OF TAIL AWAY
Event	16	Check weight	12/28/2014	13:49:04	COM5	611.00	13.50	7.00	54.5	TAIL CEMENT WEIGHT VERIFIED
Event	17	Shutdown	12/28/2014	14:16:10	USER	80.00	12.29	0.00	206.7	SHUTDOWN END OF CEMENT READY TANKS FOR DISPLACEMENT
Event	18	Clean Lines	12/28/2014	14:18:31	USER	51.00	8.45	6.0	10.0	CLEAN PUMPS AND LINES WITH 10 BBLS OF FRESH WATER
Event	19	Drop Top Plug	12/28/2014	14:23:06	USER					TOP PLUG AWAY NO ISSUES
Event	20	Pump Displacement	12/28/2014	14:24:25	COM5	2200.0	8.36	10.0	139.1	PUMP 139.1 BBLS OF KCL DISPLACEMENT 13 BAGS, 3 BAGS BE-6, 1 GAL MMCR WERE ADDED
Event	21	Slow Rate	12/28/2014	14:37:58	USER	2045.00	8.38	4.0	129.1	SLOW RATE TO BUMP PLUG
Event	22	Bump Plug	12/28/2014	14:40:03	COM5	2160.0	8.33	4.0	139.1	PLUG BUMP AT 2160 PSI AND WAS TOOK UP TO 2930 PSI
Event	23	Check Floats	12/28/2014	14:42:36	USER	2930.0	8.19	0.00	139.1	FLOATS HELD WITH 1.5 BBLS BACK TO DISPLACEMENT TANKS
Event	24	End Job	12/28/2014	14:45:17	COM5					JOB WENT GOOD WITH NO ISSUES WELL HAD FULL RETURNS THROUGH OUT CEMENT JOB 30 LBS OF SUGAR WAS USED
Event	25	Post-Job Safety Meeting (Pre Rig-Down)	12/28/2014	14:55:06	USER					ALL HES CREW MEMBERS
Event	26	Pre-Rig Down Safety Meeting	12/28/2014	15:00:22	USER					ALL HES CREW MEMBERS
Event	27	Rig-Down Equipment	12/28/2014	15:15:35	USER					RIG DOWN RIG FLOOR, PUMP LINE, WASH UP LINE, FRESH WATER LINES, BULK LINES, WASH UP AND BLOW DOWN PUMP
Event	28	Pre-Job Safety Meeting	12/28/2014	15:50:51	USER					ALL HES CREW MEMBERS
Event	29	Crew Leave Location	12/28/2014	16:00:09	USER					THANK YOU FOR USING HALLIBURTON CEMENT CHRIS KUKUS AND CREW HAVE A NICE DAY

WPX ENERGY / FEDERAL PA 441-27 / 4 1/2 PRODUCTION CASING



① Call Out	⑩ Prime Lines	⑲ Drop Top Plug	28 Pre-Job Safety Meeting
② Pre-Convoy Safety Meeting	⑪ Test Lines	20 Pump Displacement	29 Crew Leave Location
③ Crew Leave Yard	⑫ Pump Spacer 1	21 Slow Rate	
④ Arrive at Location from Service Center	⑬ Pump Lead Cement	22 Bump Plug	
⑤ Assessment Of Location Safety Meeting	⑭ Check weight	23 Check Floats	
⑥ Pre-Rig Up Safety Meeting	⑮ Pump Tail Cement	24 End Job	
⑦ Rig-Up Equipment	⑯ Check weight	25 Post-Job Safety Meeting (Pre Rig-Down)	
⑧ Pre-Job Safety Meeting	⑰ Shutdown	26 Pre-Rig Down Safety Meeting	
⑨ Start Job	⑱ Clean Lines	27 Rig-Down Equipment	

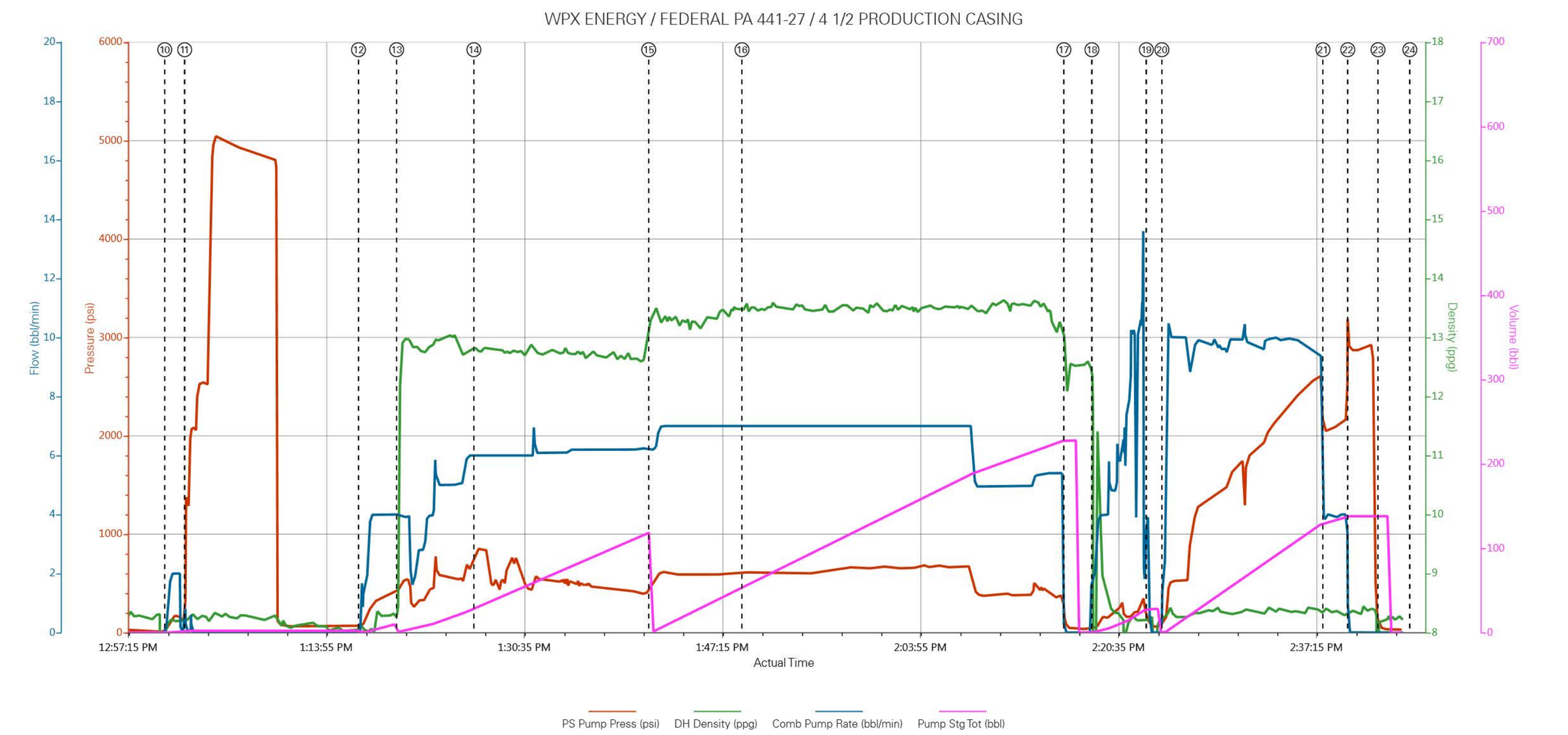
HALLIBURTON | iCem® Service

Created: 2014-12-28 11:53:42, Version: 4.0.248 Edit

Customer: WPX ENERGY LLC-EBUS
Representative: AL HARTL

Job Date: 12/28/2014 11:56:49 AM
Sales Order #: 901973685

Well: FEDERAL PA 441-27
ELITE # 3: ZACH DIAZ / CHRIS KUKUS



HALLIBURTON | iCem® Service

Created: 2014-12-28 11:53:42, Version: 4.0.248 Edit

Customer: WPX ENERGY LLC-EBUS
Representative: AL HARTL

Job Date: 12/28/2014 11:56:49 AM
Sales Order #: 901973685

Well: FEDERAL PA 441-27
ELITE # 3: ZACH DIAZ / CHRIS KUKUS

HALLIBURTON

Water Analysis Report

Company:	WPX ENERGY	**Date:**	12/28/2014
Submitted by:	CHRIS KUKUS	**Date Rec.:**	12/28/2014
Attention:	LARRY COOKSEY	**S.O.#**	901973685
Lease	FEDERAL	**Job Type:**	PRODUCTION
Well #	PA 441-27		

Specific Gravity	*MAX*	**1**	
pH	*8*	**7**	
Potassium (K)	*5000*	**0**	**Mg / L**
Calcium (Ca)	*500*	**120**	**Mg / L**
Iron (FE2)	*300*	**0**	**Mg / L**
Chlorides (Cl)	*3000*	**0**	**Mg / L**
Sulfates (SO_4)	*1500*	**UNDER 400**	**Mg / L**
Hardness		**50**	**Mg / L**
Temp	*40-80*	**65**	**Deg**
Total Dissolved Solids		**200**	**Mg / L**

Respectfully: CHRIS KUKUS

Title: CEMENTING SUPERVISOR

Location: GRAND JUNCTION , CO

HALLIBURTON

CUSTOMER SURVEY

Sales Order #:	**Line Item:**	**Survey Conducted Date:**
0901973685	20	12/28/2014
Customer:		**Job Type (BOM):**
WPX ENERGY ROCKY MOUNTAIN LLC-EBUS		CMT PRODUCTION CASING BOM
Customer Representative:		**API / UWI: (leave blank if unknown)**
AL HARTL		05-045-22237-00
Well Name:		**Well Number:**
FEDERAL		0080244847
Well Type:	**Well Country:**	
DIRECTIONAL GAS	USA	
H2S Present:	**Well State:**	**Well County:**
No	COLORADO	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**	**12/28/2014**
Survey Interviewer	**The survey interviewer is the person who initiated the survey.**	**HX35027**
Customer Participation	**Did the customer partipcipate in this survey? (Y/N)**	**Yes**
Customer Representative	**Enter the Customer representative name**	**AL HARTL**
HSE	**Was our HSE performance satisfactory? Circle Y or N**	**Yes**
Equipment	**Were you satisfied with our Equipment? Circle Y or N**	**Yes**
Personnel	**Were you satisfied with our people? Circle Y or N**	**Yes**
Customer Comment	**Customer's Comment**	

CUSTOMER SIGNATURE

HALLIBURTON

CUSTOMER SURVEY

Sales Order #:	**Line Item:**	**Survey Conducted Date:**
0901973685	20	12/28/2014
Customer:		**Job Type (BOM):**
WPX ENERGY ROCKY MOUNTAIN LLC-EBUS		CMT PRODUCTION CASING BOM
Customer Representative:		**API / UWI: (leave blank if unknown)**
AL HARTL		05-045-22237-00
Well Name:		**Well Number:**
FEDERAL		0080244847
Well Type:	**Well Country:**	
DIRECTIONAL GAS	USA	
H2S Present:	**Well State:**	**Well County:**
No	COLORADO	GARFIELD

KEY PERFORMANCE INDICATORS

General	
Survey Conducted Date The date the survey was conducted	12/28/2014

Cementing KPI Survey	
Type of Job Select the type of job. (Cementing or Non-Cementing)	0
Select the Maximum Deviation range for this Job What is the highest deviation for the job you just completed? This may not be the maximum well deviation.	Vertical
Total Operating Time (hours) Total Operating Hours Including Rig-up, Pumping, Rig-down. Enter in decimal format.	5
HSE Incident, Accident, Injury HSE Incident, Accident, Injury. This should be recordable incidents only.	No
Was the job purpose achieved? Was the job delivered correctly as per customer agreed design?	Yes
Pumping Hours Total number of hours pumping fluid on this job. Enter in decimal format.	3
Type of Rig Classification Job Was Performed Type Of Rig (classification) Job Was Performed On	Drilling Rig (Portable)
Number Of JSAs Performed Number Of Jsas Performed	6
Was this a Primary Cement Job (Yes / No) Primary Cement Job= Casing job, Liner job, or Tie-back job.	Yes
Number of Unplanned Shutdowns Unplanned shutdown is when injection stops for any period of time.	0
Customer Non-Productive Rig Time (hrs)	0

HALLIBURTON

CUSTOMER SURVEY

Sales Order #:	**Line Item:**	**Survey Conducted Date:**
0901973685	20	12/28/2014
Customer:		**Job Type (BOM):**
WPX ENERGY ROCKY MOUNTAIN LLC-EBUS		CMT PRODUCTION CASING BOM
Customer Representative:		**API / UWI: (leave blank if unknown)**
AL HARTL		05-045-22237-00
Well Name:		**Well Number:**
FEDERAL		0080244847
Well Type:	**Well Country:**	
DIRECTIONAL GAS	USA	
H2S Present:	**Well State:**	**Well County:**
No	COLORADO	GARFIELD

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.	
Was the non productive time or the unplanned shutdown caused by a problem with a piece of equipment? Was the non productive time or the unplanned shutdown caused by a problem with a piece of equipment?	No
Did We Run Wiper Plugs? Did We Run Top And Bottom Casing Wiper Plugs?	Top
If a top plug was run, was the plug bumped? (Yes/No/N/A) If a top plug was run, was the plug bumped? (Yes/No/N/A)	Yes
If applicable, was Halliburton float equipment used? (Yes/No/N/A) If applicable, was Halliburton float equipment used? (Yes/No/N/A)	No
If applicable, did the floats hold? (Yes/No/N/A) If applicable, did the floats hold? (Yes/No/N/A)	Yes
Mixing Density of Job Stayed in Designed Density Range (0-100%) Density Range defined as +/- .20 ppg. Calculation: Total BBLs cment mixed at designed density divided by total BBLs of cement multiplied by 100	80
Pump Rate (percent) of Job Stayed At Designed Pump Rate 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	80
If applicable, were there returns throughout the job? (Yes/No/N/A) If applicable, were there returns throughout the job? (Yes/No/N/A)	Yes
Nbr of Remedial Plug Jobs Rqd - HES Number Of Remedial Plug Jobs Needed After Primary Plug Pumped By HES	0
Nbr of Remedial Sqz Jobs Rqd - HES Number Of Remedial Squeeze Jobs Required After Primary Job Performed By HES	0