HALLIBURTON

Cementing

WPX ENERGY ROCKY MOUNTAIN LLC-EBUS

PA 331-21

Nabors 573

Post Job Summary
Cement Surface Casing

Date Prepared: 07/14/2014
Job Date: 03/17/2014

Submitted by: Aaron Katz – Grand Junction Cement Engineer

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Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 300721	**Ship To #:** 3123595	**Quote #:**	**Sales Order #:** 0901197800
Customer: WPX ENERGY ROCKY MOUNTAIN LLC-EBUS		**Customer Rep:** B. OAKS	
Well Name: FEDERAL	**Well #:** PA 331-21		**API/UWI #:** 05-045-22029-00
Field: PARACHUTE	**City (SAP):** PAR	**County/Parish:** GARFIELD	**State:** COLORADO
Legal Description: SE NW-21-6S-95W-2600FNL-1411FWL			
Contractor: NABORS DRLG		**Rig/Platform Name/Num:** NABORS 573	
Job BOM: 7521			
Well Type: DIRECTIONAL GAS			
Sales Person: HALAMERICA\HB50180		**Srvc Supervisor:** Edward Arnold	

Job

Formation Name				
Formation Depth (MD)	**Top**		**Bottom**	
Form Type			**BHST**	
Job depth MD	1077ft		**Job Depth TVD**	
Water Depth			**Wk Ht Above Floor**	
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	8 RD	H-40	0	1077	0	1077
Open Hole Section			13.5				0	1077		0

Tools and Accessories

Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make
Guide Shoe	9.625			1077	**Top Plug**	9.625	1	HES
Float Shoe	9.625				**Bottom Plug**	9.625		HES
Float Collar	9.625				**SSR plug set**	9.625		HES
Insert Float	9.625				**Plug Container**	9.625	1	HES
Stage Tool	9.625				**Centralizers**	9.625		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	20	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	Lead Cement	VARICEM (TM) CEMENT	135	Sack/Ton	12.3	2.38		6	13.77
13.72 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
3	Tail Cement	VARICEM (TM) CEMENT	175	Sack/Ton	12.8	2.11		6	11.77
11.74 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	Displacement	Displacement	81.5	bbl	8.34			10	

Cement Left In Pipe	Amount	46 ft	Reason	Shoe Joint

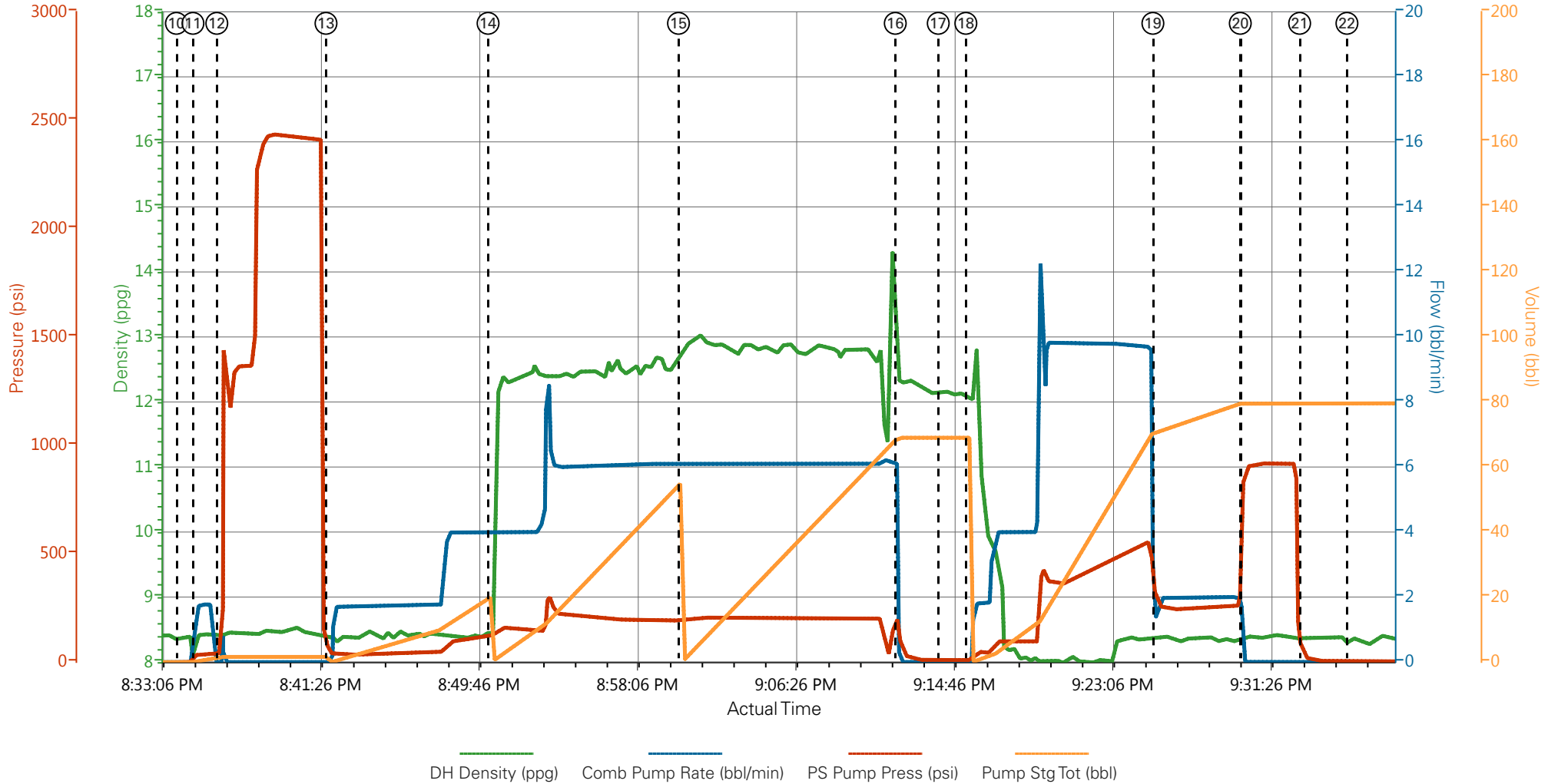
Comment

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	3/17/2014	07:00:00	USER					CREW CALLED OUT FOR JOB.
Event	2	Pre-Convoy Safety Meeting	3/17/2014	08:45:00	USER					DISCUSSED ROUTE HAZARDS AND SAFETY
Event	3	Crew Leave Yard	3/17/2014	09:00:00	USER					
Event	4	Arrive At Loc	3/17/2014	10:00:00	USER					RIG STARTING WIPER RUN MET WUTH CO REP. TOLD TO WAIT AT BOTTOM OF HILL TILL CALLED WITH AN ESTIMATE TIME FRAME OF 4-5 HOURS.
Event	5	Assessment Of Location Safety Meeting	3/17/2014	19:03:00	USER					DISCUSSED SPOTING OF EQUIPMENT HAZARDS AND SAFETY
Event	6	Pre-Rig Up Safety Meeting	3/17/2014	19:10:00	USER					DISCUSSED RIG UP HAZARDS AND SAFETY
Event	7	Rig-Up Equipment	3/17/2014	19:15:00	USER					1 ELITE #9, 1 660 BULK TRUCK, 1 HARD LINE TO FLOOR, 1 LINE TO UP RIGHT, 1 LINE TO RIG TANK, 1 9 5/8 COMPACT HEAD.
Event	8	Rig-Up Completed	3/17/2014	20:00:00	USER					
Event	9	Pre-Job Safety Meeting	3/17/2014	20:10:00	USER					DISCUSSED JOB PROCEDURES HAZARDS AND SAFETY.
Event	10	Start Job	3/17/2014	20:34:00	COM5	0	0	0	0	TD 1097, TP 1082, SJ 45.9, OH 13 /12, CASING 9 5/8 32.3# H-40, MUD 10.4.
Event	11	Prime Pumps	3/17/2014	20:34:53	USER	8.39	1.80	47.00	2	FILL LINES WITH 2 BBL FRESH WATER
Event	12	Test Lines	3/17/2014	20:36:08	COM5	8.43	0.00	2430	2	TESTED LINES TO 2430 PSI
Event	13	Pump Spacer 1	3/17/2014	20:41:53	COM5	8.40	4	125	20	20 BBL FRESH WATER SPACER.
Event	14	Pump Lead Cement	3/17/2014	20:50:24	COM5	12.3	6	202	57.2	135 SKS LEAD CAMENT, 12.3 PPG, 2.38 CF3, 13.77 GAL.SK.
Event	15	Pump Tail Cement	3/17/2014	21:00:25	COM5	12.8	6	206	65.7	175 SKS TAIL CEMENT, 12.8 PPG, 2.11 CF3, 11.77 GAL/SK
Event	16	Shutdown	3/17/2014	21:11:49	USER					
Event	17	Drop Plug	3/17/2014	21:14:05	USER					PLUG LEFT CONTAINER

Event	18	Pump Displacement	3/17/2014	21:15:32	COM5	8.33	10	520	71.5	FRESH WATER DISPLACEMENT
Event	19	Slow Rate	3/17/2014	21:25:22	USER	8.33	1.50	280	10	SLOW RATE LAST 10 BBL OF DISPLACMENT PRIOR TO BUMPING THE PUG
Event	20	Bump Plug	3/17/2014	21:29:58	COM5	8.33	0	915	81.5 TOTAL	PLUG BUMPED
Event	21	Check Floats	3/17/2014	21:33:05	USER					FLOATS HELD 3/4 BBL BACK
Event	22	End Job	3/17/2014	21:35:35	COM5					END JOB 12 BBL GOOD CEMENT TO SURFACE
Event	23	Pre-Rig Down Safety Meeting	3/17/2014	21:40:00	USER					DISCUSSED RIG DOWN HAZARDS AND SAFETY
Event	24	Rig-Down Equipment	3/17/2014	21:45:00	USER					
Event	25	Rig-Up Completed	3/17/2014	22:15:00	USER					
Event	26	Pre-Convoy Safety Meeting	3/17/2014	22:25:00	USER					DISCUSSED ROUTE HAZARDZ AND SAFETY WHIKE DRIVING
Event	27	Crew Leave Location	3/17/2014	22:30:00	USER					THANK YOU FOR USING HALLIBUTON ED ARNOLD AND CREW.

WPX - PA 331-21 - 9 5/8 SURFACE



① Call Out n/a;n/a;n/a;n/a
② Pre-Convoy Safety Meeting n/a;n/a;n/a;n/a
③ Crew Leave Yard n/a;n/a;n/a;n/a
④ Arrive At Loc n/a;n/a;n/a;n/a
⑤ Assessment Of Location Safety Meeting n/a;n/a;n/a;n/a
⑥ Pre-Rig Up Safety Meeting n/a;n/a;n/a;n/a
⑦ Rig-Up Equipment n/a;n/a;n/a;n/a
⑧ Rig-Up Completed 8.31;0;1;13.1
⑨ Pre-Job Safety Meeting 8.35;0;0;13.1
⑩ Start Job 8.37;0;-3;0
⑪ Prime Pumps 8.42;1.7;36;0.1
⑫ Test Lines 8.43;0;42;1.6
⑬ Pump Spacer 1 8.4;0;51;0
⑭ Pump Lead Cement 8.44;4;123.46;0.09
⑮ Pump Tail Cement 12.77;6.1;197;30.55
⑯ Shutdown 12.54;0.3;134;69
⑰ Drop Plug 12.11;0;9;69
⑱ Pump Displacement 12.08;0;9;69
⑲ Slow Rate 8.36;1.5;291;70.9
20 Bump Plug 8.33;0;846.34;79.6
21 Check Floats 8.35;0;41;79.6
22 End Job 8.36;0;3;79.6
23 Pre-Rig Down Safety Meeting 8.33;0;3;79.6
24 Rig-Down Equipment 8.41;0;3;79.6
25 Rig-Up Completed n/a;n/a;n/a;n/a
26 Pre-Convoy Safety Meeting n/a;n/a;n/a;n/a
27 Crew Leave Location n/a;n/a;n/a;n/a

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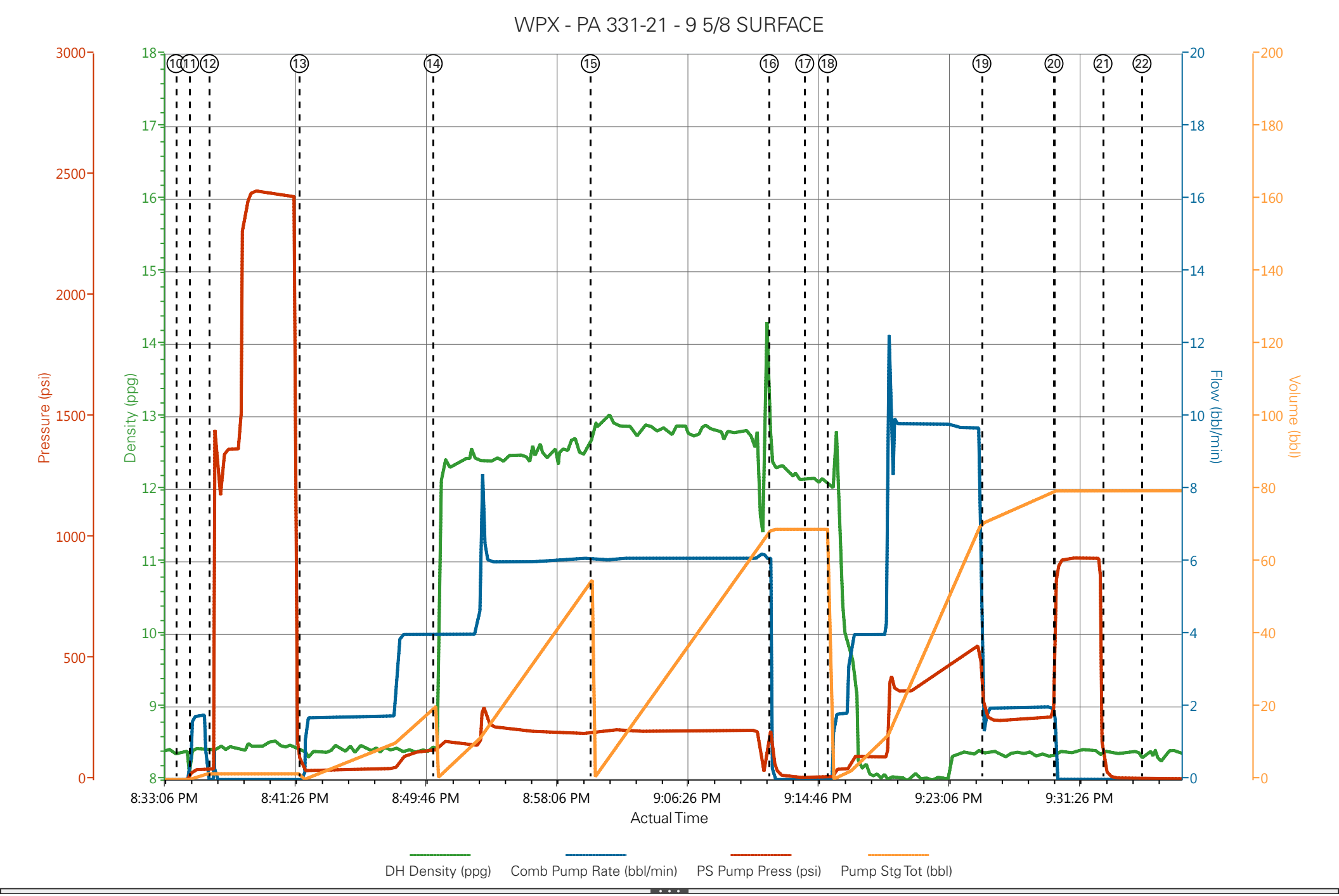
Created: 2014-03-17 17:57:30, Version: 3.0.121 Edit

Customer : WPX ENERGY ROCKY MOUNTAIN LLC-EBUS
Job Date : 3/17/2014 7:52:16 PM
Well : PA 331-21
Representative : B. OAKS
Sales Order # : 0901197800
ELITE #9 : ED ARNOLD / ANDREW SCHANZ



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Job Date : 3/17/2014 7:52:16 PM

Well : PA 331-21

Representative : B. OAKS

Sales Order # : 0901197800

ELITE #9 : ED ARNOLD / ANDREW SCHANZ

HALLIBURTON

Water Analysis Report

Company:	WPX	**Date:**	3/17/2014
Submitted by:	ED ARNOLD	**Date Rec.:**	3/17/2014
Attention:		**S.O.#**	901197800
Lease	PA	**Job Type:**	SURFACE
Well #	331-21		

Specific Gravity	*MAX*	1	
pH	*8*	7.5	
Potassium (K)	*5000*	200	Mg / L
Calcium (Ca)	*500*	120	Mg / L
Iron (FE2)	*300*	0	Mg / L
Chlorides (Cl)	*3000*	0	Mg / L
Sulfates (SO_4)	*1500*	<200	Mg / L
Chlorine (Cl_2)		0	Mg / L
Temp	*40-80*	50	Deg
Total Dissolved Solids			Mg / L

Respectfully: ED ARNOLD

Title: CEMENTING SUPERVISOR

Location: Grand Junction, CO

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CUSTOMER SURVEY

Sales Order #:	**Line Item:**	**Survey Conducted Date:**
0901197800	10	3/17/2014
Customer:		**Job Type (BOM):**
WPX ENERGY ROCKY MOUNTAIN LLC-EBUS		CMT SURFACE CASING BOM
Customer Representative:		**API / UWI: (leave blank if unknown)**
B. OAKS		05-045-22029-00
Well Name:		**Well Number:**
FEDERAL		0080125673
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**	**3/17/2014**
Survey Interviewer	**The survey interviewer is the person who initiated the survey.**	**HX46731**
Customer Participation	**Did the customer partipcipate in this survey? (Y/N)**	**Yes**
Customer Representative	**Enter the Customer representative name**	**B. OAKS**
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

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CUSTOMER SURVEY

Sales Order #:	**Line Item:**	**Survey Conducted Date:**
0901197800	10	3/17/2014
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B. OAKS		05-045-22029-00
Well Name:		**Well Number:**
FEDERAL		0080125673
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	3/17/2014

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.	3
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
Operating Hours (Pumping Hours) Total number of hours pumping fluid on this job. Enter in decimal format.	1
Customer Non-Productive Rig Time (hrs) 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.	0
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	5
Number of Unplanned Shutdowns Unplanned shutdown is when injection stops for any period of time.	0
Was this a Primary Cement Job (Yes / No)	Yes

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CUSTOMER SURVEY

Sales Order #:	**Line Item:**	**Survey Conducted Date:**
0901197800	10	3/17/2014
Customer:		**Job Type (BOM):**
WPX ENERGY ROCKY MOUNTAIN LLC-EBUS		CMT SURFACE CASING BOM
Customer Representative:		**API / UWI: (leave blank if unknown)**
B. OAKS		05-045-22029-00
Well Name:		**Well Number:**
FEDERAL		0080125673
Well Type:	**Well Country:**	
DIRECTIONAL GAS	USA	
H2S Present:	**Well State:**	**Well County:**
No	COLORADO	GARFIELD

Primary Cement Job= Casing job, Liner job, or Tie-back job.	
Did We Run Wiper Plugs? Did We Run Top And Bottom Casing Wiper Plugs?	Top
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	95
Was Automated Density Control Used? Was Automated Density Control (ADC) Used ?	Yes
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	99
Nbr of Remedial Sqz Jobs Rqd - Competition Number Of Remedial Squeeze Jobs Required After Primary Job Performed By Competition	0
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

EVENT #	EVENT	VOLUME	SACKS	WEIGHT	YIELD	GAL/ SK
1	Start Job		HES		CMT	
2	Fill Lines	2.0				
6	Test Lines	2500.0				
9	H2O Spacer	20.0				
13	Lead Cement	57.2	135	12.3	2.38	13.77
15	Tail cement	65.8	175	12.8	2.11	11.77
48	Shut Down/ Drop plug					
23	Displacement	81.5				
1085	Slow Rate	71.5		2BBL/Min		
	PSI to Land	231.0				
26	Bump Plug	731.0				
511	Check Floats					
2	End Job					
			Do Not Overdisplace			

MUD WEIGHT	TOTAL PIPE	SHOE JOINT LENGTH	FLOAT COLLAR	BBL/FT	H2O REQ.
10.40	1082	45.90	1036.10	0.0787	245
PIPE WEIGHT	32.3	******Use Mud Scales on Each Tier******			
PIPE SIZE	9.625				
PSI TO LIFT		404	TOTAL FLUID PUMPED		227
Collapse	1400	Burst	2270	SO#	901197800