

XTO ENERGY INC EBUSINESS  
DO NOT MAIL - 382 ROAD 3100  
AZTEC, New Mexico

PCU T78X-12G13

H&P 215

## Post Job Summary

### Cement Intermediate Casing

Prepared for:  
Date Prepared: 01/23/2012  
Version: 1

Service Supervisor: BIRCHELL, DEVIN

Submitted by: M.C. Dube

**HALLIBURTON**

# HALLIBURTON

## Wellbore Geometry

Job Tubulars					MD		TVD		Shoe Joint Length ft
Type	Description	Size in	ID in	Wt lbm/ft	Top ft	Bottom ft	Top ft	Bottom ft	
Casing	Surface Casing	10.75	9.950	45.50	0.00	3,919.00	0.00	3,826.00	80.00
Open Hole Section	Intermediate Open Hole		9.875		3,919.00	9,245.00	3,826.00	9,120.00	0.00
Casing	Intermediate Casing	7.00	6.276	26.00	0.00	9,245.00	0.00	9,120.00	80.00

## Pumping Schedule

Stage/Plug #	Fluid #	Fluid Type	Fluid Name	Surface Density lbm/gal	Avg Rate bbl/min	Surface Volume
1	1	Spacer	TUNED SPACER III	10.00	6.00	80.0 bbl
1	2	Cement Slurry	New Vernal Tuned Light	11.00	6.00	1345.0 sacks
1	3	Spacer	Drilling Mud	0.00	0.00	307.0 bbl

## Fluids Pumped

**Stage/Plug # 1    Fluid 1:**    TUNED SPACER III  
TUNED SPACER III - SBM (483826)  
65.375 Barite  
lbm/bbl

Fluid Density: 10.00 lbm/gal  
Fluid Volume: 80.00 bbl  
Pump Rate: 6.00 bbl/min

**Stage/Plug # 1    Fluid 2:**    New Vernal Tuned  
Light  
TUNED LIGHT (TM) SYSTEM  
0.95 lbm HR-601  
0.2 % Econolite

Fluid Weight: 11.00 lbm/gal  
Slurry Yield: 2.22 ft<sup>3</sup>/sack  
Total Mixing Fluid: 9.68 Gal  
Surface Volume: 1345.0 sacks  
Sacks: 1345.0 sacks  
Calculated Fill: 5,963.20 ft  
Calculated Top of Fluid: 3,993.80 ft  
Estimated Top of Fluid:  
Pump Rate: 6.00 bbl/min

**Stage/Plug # 1    Fluid 3:**    Drilling Mud  
MUD

Fluid Volume: 307.00 bbl  
Pump Rate: 0.00 bbl/min

Fluid Density: 9.00 lbm/gal

## Job Summary

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### Job Information

Job Start Date	1/21/2012 3:50:00 AM
Job MD	9,245.0 ft
Job TVD	9,120.0 ft
Height of Plug Container/Swage Above Rig Floor	8.0 ft
Surface Temperature at Time of Job	55 degF
Mud Type	Water Based Mud
Name of Mud Company	BAROID DRILLING FLUIDS
Actual Mud Density	9 lbm/gal
Time Circulated before job	12.00 hour(s)
Mud Volume Circulated	614.00 bbl
Rate at Which Well was Circulated	6.400 bbl/min
Mud loss while Circulating	2,800.00 bbl
Pipe Movement During Hole Circulation	Reciprocated
Time From End Mud Circ. to Job Start	22.00 minute
Pipe Movement During Cementing	Rotated
Calculated Displacement	347.00 bbl
Job Displaced by (rig/halco)	Cement Unit HP Pumps
Annular flow After Job? (Water/Gas)	No
Length of Rat Hole	15.00 ft

### Cementing Equipment

Number of Centralizers Used	49
Pipe Centralization	Bottom Joints (1 TO 10)
Brand of Float Equipment Used	Weatherford
Did Float Equipment Hold?	Yes
Plug set used?	Yes
Brand of Plug set used?	Weatherford
Did Plugs Bump?	Yes
Calculated Pressure to Bump Plugs	694.0 psig

## ***Service Supervisor Reports***

### **Job Log**

Date/Time	Activity Code	Pump Rate	Cum Vol	Pressure (psig)	Comments
01/19/2012 10:00	Call Out				Called Out For QEP Energy For a 4.5 Production
01/19/2012 15:30	Pre-Convoy Safety Meeting				Descussed Hazards For Route to Location
01/19/2012 16:00	Depart from Service Center or Other Site				
01/19/2012 18:30	Arrive At Loc				Arived to Location at 20:30 Talked to Company Man About Valumes
01/19/2012 18:40	Pre-Rig Up Safety Meeting				Descussed With Crew On Spotting and Rigging Up Equipment
01/19/2012 18:50	Rig-Up Equipment				Rigged Up Equipment Staying Away From Moving Casing
01/19/2012 22:00	Pre-Job Safety Meeting				Descussed Job Procidures With Cement and Rig Crews
01/20/2012 00:20	Pressure Test				Pressure Test Pump and Lines to 200 psi
01/20/2012 00:23	Pressure Test				Pressure Test Pump and Lines to 4500 psi
01/20/2012 00:30	Wait on Customer or Customer Sub-Contractor Equip				Rig Pumping Mud to Establish Circulation Before Cement Job
01/21/2012 05:00	Pre-Job Safety Meeting				Pre- job safety meeting with Co-man and Tesco
01/21/2012 05:38	Wait on Customer or Customer Sub-Contractor Equip				Wait on Tesco to drop bottom plug and install top plug and ball in ball launcher
01/21/2012 05:41	Pump Spacer 1	5.5	72	465.0	Pumped 80 bbls Tuned Spacer Yield 6.60 ft3/sk Water 45.28 Gal/sk
01/21/2012 05:58	Pump Cement	6	542	460.0	Pumped 532bbls Intermediate Primary @ 11 ppg (1345sks) Yield 2.22 ft3/sk Water 9.68 Gal/sk
01/21/2012 07:43	Drop Ball	0.75	1	475.0	Drop tesco ball recorded 900psi on the pump truck. Witnessed by Co-man
01/21/2012 07:44	Pump Displacement	8	190	480.0	Pump mud displacement
01/21/2012 08:08	Slow Rate	6	180	485.0	At 180 bbls Displacement
01/21/2012 21:46	Slow Rate	2	327	571.0	At 327 bbls Displacement Slowed Rate To 2 bpm To Bump Plug

# HALLIBURTON

Date/Time	Activity Code	Pump Rate	Cum Vol	Pressure (psig)	Comments
01/21/2012 08:42	Bump Plug	2		624.0	Bumped Plug @ 624 Went 600 Over To 1209 psi
01/21/2012 08:45	Check Floats				Checked Floats, Floats Held With 1.5 bbls Back To Truck
01/21/2012 08:46	End Job				
01/21/2012 08:48	Pre-Rig Down Safety Meeting				Discussed With Crew Hazards For Rigging Down Equipment
01/21/2012 09:00	Rig-Down Equipment				
01/21/2012 10:50	Pre-Convoy Safety Meeting				
01/21/2012 11:10	Depart Location for Service Center or Other Site				

## The Road to Excellence Starts with Safety

<b>Sold To #:</b> 353810		<b>Ship To #:</b> 2900878		<b>Quote #:</b>		<b>Sales Order #:</b> 9200574	
<b>Customer:</b> XTO ENERGY INC EBUSINESS				<b>Customer Rep:</b>			
<b>Well Name:</b> PCU			<b>Well #:</b> T78X-12G13			<b>API/UWI #:</b>	
<b>Field:</b> PICEANCE CREEK		<b>City (SAP):</b> MEEKER		<b>County/Parish:</b> Rio Blanco		<b>State:</b> Colorado	
<b>Contractor:</b> H&P			<b>Rig/Platform Name/Num:</b> 215				
<b>Job Purpose:</b> Cement Intermediate Casing							
<b>Well Type:</b> Development Well			<b>Job Type:</b> Cement Intermediate Casing				
<b>Sales Person:</b> MCNARY, GEORGE			<b>Srvc Supervisor:</b> BIRCHELL, DEVIN			<b>MBU ID Emp #:</b> 466993	

### Job Personnel

HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #
BIRCHELL, DEVIN Ray	0.0	466993	Dube, Mthokocisi Craig	0.0	476241	ELDER, DENNIS R	0.0	505202
ESTEP, KENNETH	0.0	121420	GOODRICH, BENJAMIN Franklin	0.0	481342	MASTRANGELO, MATTHEW M	0.0	505218
WILLIAMS, CAMERON Kent	0.0	438405						

### Equipment

HES Unit #	Distance-1 way	HES Unit #	Distance-1 way	HES Unit #	Distance-1 way	HES Unit #	Distance-1 way
10616259	45 mile	10982742	45 mile	11061775	45 mile	11062230	45 mile
11071474	45 mile	11076824	45 mile	11211506	45 mile	11259880	45 mile
11410668	45 mile						

### Job Hours

Date	On Location Hours	Operating Hours	Date	On Location Hours	Operating Hours	Date	On Location Hours	Operating Hours
<b>TOTAL</b>			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	9245. ft				
					Job Depth TVD	9120. ft			
					Wk Ht Above Floor	8. ft			
							Deparied Loc	21 - Jan - 2012	11:00

### Job Times

Date	Time	Time Zone
19 - Jan - 2012	00:00	MST
19 - Jan - 2012	18:30	MST
21 - Jan - 2012	03:50	MST
21 - Jan - 2012	08:42	MST
21 - Jan - 2012	11:00	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
Intermediate Open Hole				9.875				3919.	9245.	3826.	9120.
Intermediate Casing	Unknown		7.	6.276	26.	HYDRIL - SERIES 500 TYPE 513	P-110	.	9245.	.	9120.
Surface Casing	Unknown		10.75	9.95	45.5	BTC	J-55	.	3919.	.	3826.

### 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	TUNED SPACER III	TUNED SPACER III - SBM (483826)	80.00	bbl	10.	.0	.0	6.0	
	38.5033 gal/bbl	FRESH WATER							
	65.375 lbm/bbl	BARITE, 100 LB SK (100003680)							
2	New Vernal Tuned Light	TUNED LIGHT (TM) SYSTEM (452984)	1345.0	sacks	11.	2.22	9.68	6.0	9.68
	0.95 lbm	HR-601, 50 LB BAG (101328348)							
	0.2 %	ECONOLITE (100001580)							
	9.68 Gal	FRESH WATER							
3	Drilling Mud		307.00	bbl	.	.0	.0	.0	

## Calculated Values

## Pressures

## Volumes

Displacement		Shut In: Instant		Lost Returns		Cement Slurry		Pad	
Top Of Cement		5 Min		Cement Returns		Actual Displacement		Treatment	
Frac Gradient		15 Min		Spacers		Load and Breakdown		Total Job	

## Rates

Circulating		Mixing		Displacement		Avg. Job	
Cement Left In Pipe	Amount	80 ft	Reason	Shoe Joint			
Frac Ring # 1 @	ID	Frac ring # 2 @	ID	Frac Ring # 3 @	ID	Frac Ring # 4 @	ID

The Information Stated Herein Is Correct

Customer Representative Signature

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## Lab Data

### Job Information

Request/Slurry	205089/1	Rig Name	H&P 215	Date	11/JAN/2012
Submitted By	Craig Dube	Job Type	Intermediate Casing	Bulk Plant	Vernal
Customer	XTO	Location	Rio Blanco	Well	T78X-12G13

### Well Information

Casing/Liner Size	7"	Depth MD	9245 ft	BHST	216 F
Hole Size	9 7/8"	Depth TVD	9120 ft	BHCT	150 F

### Cement Information - Primary Design

Conc	UOM	Cement/Additive	Sample Type	Sample Date	Lot No.	Cement Properties	
		Tuned Light				Slurry Density	11.00 PPG
						Slurry Yield	2.22 ft3/sk
36.88	%	> Boral Craig Pozmix	Bulk	Jan 11, 2012	S-1116006029	Water Requirement	9.68 GPS
						Total Mix Fluid	9.68 GPS
11	%	> HGS 6000 (PB)	Bulk	Jan 11, 2012			
53.19	%	> Holcim Type II/V	Bulk	Jan 11, 2012	805,569,460		
13	%	> Silicalite - Compacted	Bulk	Jan 11, 2012			
100.00	% BWOC	Cement Blend	Bulk	Jan 11, 2012			
0.200	lb/sk	Econolite (Powder - PB)	Bulk	Jan 11, 2012	213035		
0.950	lb/sk	HR-601	Bulk	Jan 11, 2012	HR09Y-24S3SM		
0.500	lb/sk	D-Air 3000	Bulk	Jan 11, 2012	2011215AC		
9.68	gal/sack	Field (Fresh) Water	Lab	Oct 17, 2011	10/17/11		

### Operation Test Results Request ID 205089/1

#### Thickening Time, Request Test ID:2075037

Temp (°F)	Pressure (psi)	Reached in (min)	Start BC	30 Bc (hh:mm)	50 Bc (hh:mm)	70 Bc (hh:mm)	100 Bc (hh:mm)
150	5,211	60	6	03:50	04:00	04:08	04:16

Meets pump time request criterion.

#### Mixability (0 - 5) - 0 is not mixable, Request Test ID:2073087

Mixability rating (0 - 5)

5

#### Free Water, Request Test ID:2073085

Test Temp (°F)	% FW 45 Inc
150	0.6

#### API Rheology, Request Test ID:2073084

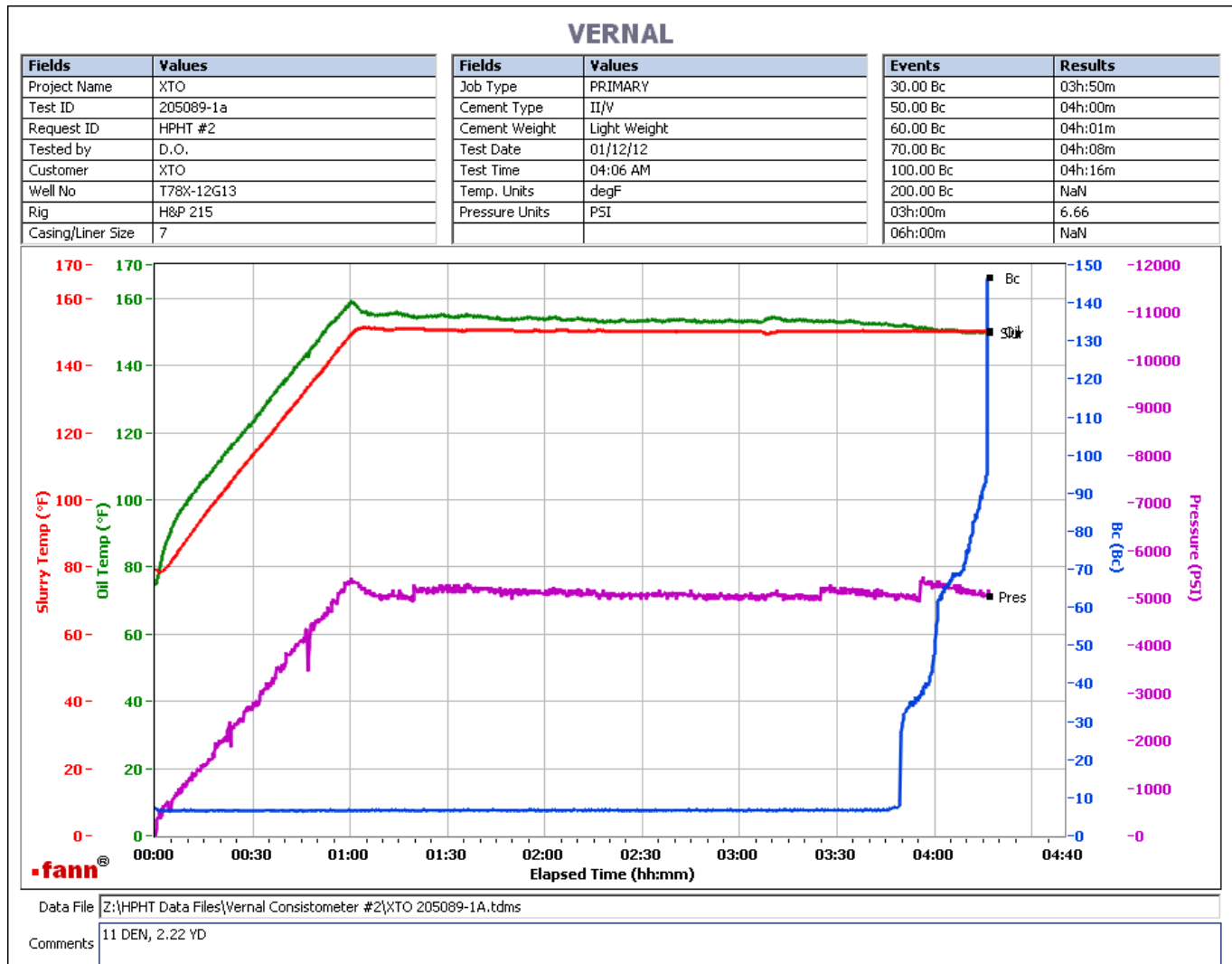
Temp (°F)	600	300	200	100	60	30	6	3	Foam Quality	PV/YP
80	37	25	22	27	18	30	32	27	0	-5.3 / 29.6

#### API Fluid Loss, Request Test ID:2073086

Test Temp (°F)	Test Pressure (psi)	Test Time (min)	ISO FL (cc/30 min)	Extr. ISO FL (cc/30 min)
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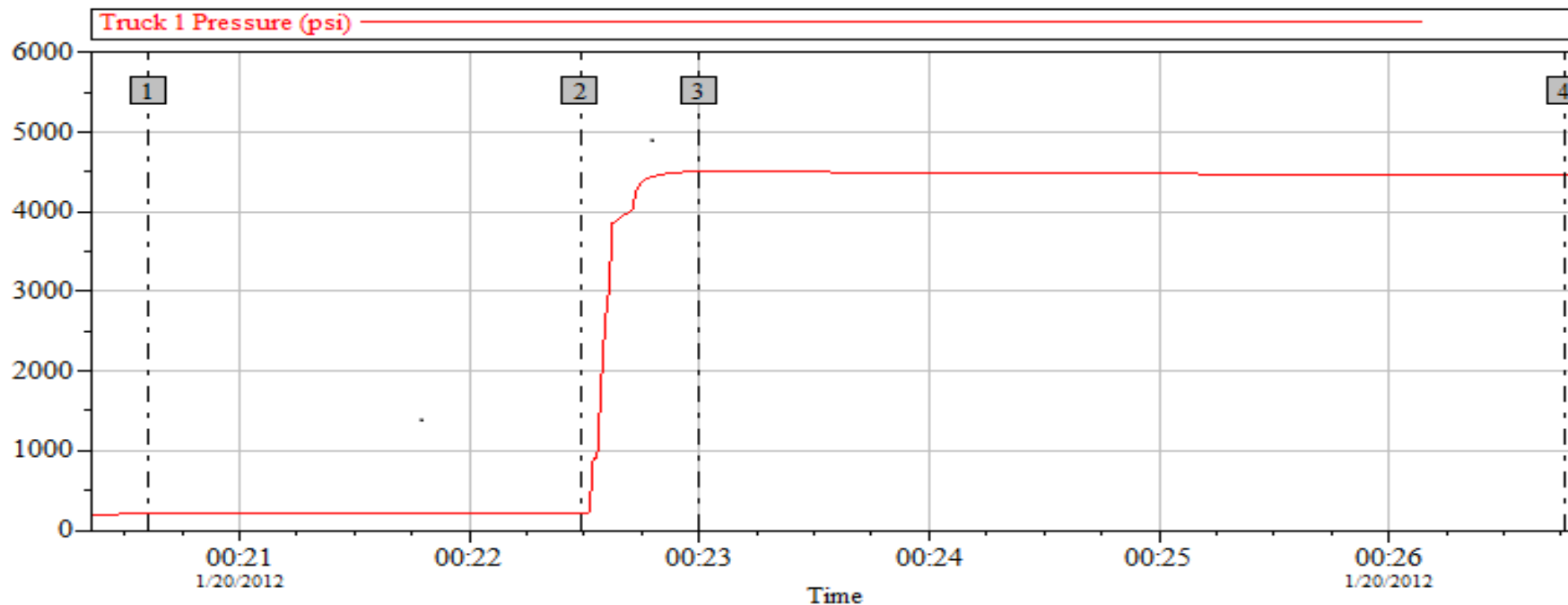
## Additional Comments



# HALLIBURTON

## Data Acquisition

### XTO PCU T78X-12G13 Intermediate Cement Job Pressure Test



Local Event Log			
Intersection			T1P
1	Start Low Pressure Test	00:20:36	214.5
2	End Low Pressure Test	00:22:29	219.0
3	Start High Pressure Test	00:23:00	4505
4	End High Pressure Test	00:26:46	4460

Customer:  
Job Description:  
Service Supervisor:

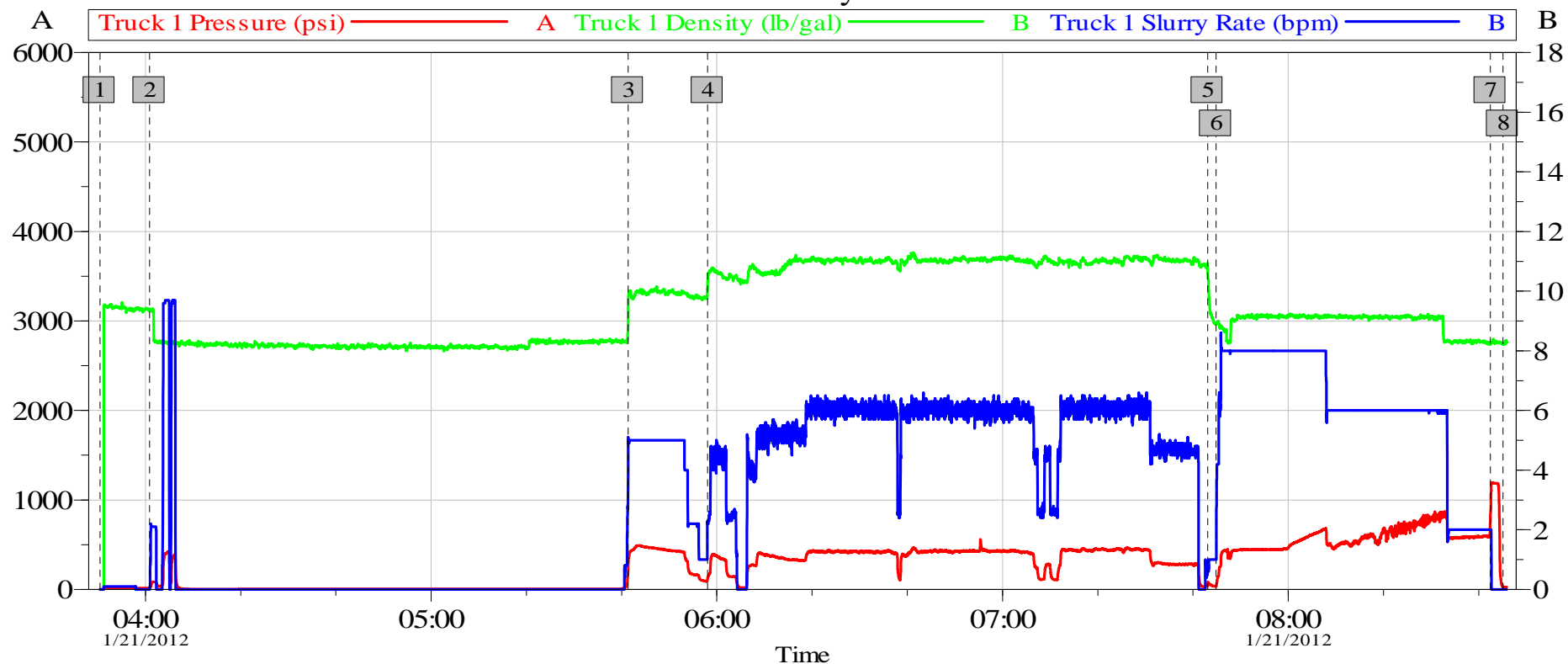
Job Date: 19-Jan-2012  
UWI:  
Service Operator:

Sales Order #: 9200574  
Elite #:  
Service Leader:

OptiCem v6.4.10  
20-Jan-12 01:10

## XTO PCU T78X-12G13 Intermediate Cement Job

### Job Summary Chart



### Global Event Log

1 Starting Job	03:50:25	2 Establish flow through lines	04:00:53	3 Pump Spacer	05:41:22
4 Pump Lead Cement	05:58:06	5 Drop Ball	07:43:06	6 Pump Displacement	07:44:51
7 Other	08:42:30	8 Check Floats	08:45:06		

Customer: XTO  
Job Description: PCU T78X-12G13 Intermediate  
Service Supervisor: DEvin Birchell

Job Date: 21-Jan-2012  
UWI: 05-103-11723  
Service Operator: Cameron Williams

Sales Order #: 9200574  
Elite #: 11076824  
Service Leader: Ken Estep Sr

OptiCem v6.4.10  
21-Jan-12 09:21