

EXXONMOBIL CORPORATION

HOUSTON, Texas

PCU 296-5A4

H&P 321

Post Job Summary

Cement Production Casing

Date Prepared: 12/28/10
Version: 1

Service Supervisor: CARREON, CESAR

Submitted by: Isaac Whorl

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Wellbore Geometry

Job Tubulars					MD		TVD		Excess	Shoe Joint Length
Type	Description	Size in	ID in	Wt lbm/ft	Top ft	Bottom ft	Top ft	Bottom ft	%	ft
Casing	Intermediate Casing	7.00	6.276	26.00	0	9,965	0	9,859		80.00
Open Hole Section	Production Open Hole		6.125		9,965	13,742	9,859	13,742	350.00	
Casing	Production Casing	4.50	3.826	15.10	0	13,703	0	13,703		89.59

Pumping Schedule

Fluid #	Fluid Type	Fluid Name	Density lbm/gal	Avg Rate bbl/min	Volume
1	Spacer	TUNED SPACER III	10.00	6.00	80.0 bbl
2	Cement Slurry	Lightweight Tail Cement	12.00	6.00	865.0 sacks
3	Spacer	NaCl Displacement	8.44	4.00	193.0 bbl

Fluids Pumped

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

Fluid Density: 10.00 lbm/gal
Fluid Volume: 80.00 bbl

Stage/Plug # 1 Fluid 2: Lightweight Tail
Cement
VARICEM (TM) CEMENT
0.28 % Fe-2

Fluid Weight: 12.00 lbm/gal
Slurry Yield: 2.18 ft³/sack
Total Mixing Fluid: 12.12 Gal
Volume: 865.0 sacks
Calculated Fill: 3,799.92 ft
Calculated Top of Fluid: 10,532.08 ft

Stage/Plug # 1 Fluid 3: NaCl Displacement
DISPLACEMENT FLUID
7.15 lbm/bbl Salt

Fluid Density: 8.44 lbm/gal
Fluid Volume: 193.00 bbl

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Job Summary

Job Information

Job Start Date	12/10/2010 4:00:00 AM
Job MD	13,742.2 ft
Height of Plug Container/Swage Above Rig Floor	6.0 ft
Surface Temperature at Time of Job	35 degF
Mud Type	Water Based Mud
Name of Mud Company	BAROID
Actual Mud Density	10 lbm/gal
Time From End Mud Circ. to Job Start	30.00 minute
Pipe Movement During Cementing	Reciprocated
Calculated Displacement	193.30 bbl
Job Displaced by (rig/halco)	Cement Unit HP Pumps
Length of Rat Hole	38.29 ft

Cementing Equipment

Number of Centralizers Used	130
Pipe Centralization	Through Entire Cement Column
Brand of Float Equipment Used	Weatherford GEMOCO
Did Float Equipment Hold?	Yes
Plug set used?	Yes
Brand of Plug set used?	Weatherford GEMOCO
Did Plugs Bump?	Yes
Calculated Pressure to Bump Plugs	2,500.0 psig

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Service Supervisor Reports

Job Log

Date/Time	Activity Code	Pump Rate	Pressure (psig)	Comments
12/09/2010 10:00	Call Out			
12/09/2010 16:00	Depart from Service Center or Other Site			DEPART FROM YARD TO LOCATION
12/09/2010 20:30	Arrive At Loc			
12/09/2010 20:35	Other			SIGN IN
12/09/2010 20:45	Assessment Of Location Safety Meeting			ASSESED LOCATION POINTING OUT RIG UP AND HAZARDS
12/09/2010 20:55	Safety Meeting - Pre Rig-Up			
12/09/2010 21:10	Other			SPOT EQUIPMENT
12/09/2010 21:30	Rig-Up Equipment			
12/09/2010 23:59	Rig-Up Completed			RIG UP COMPLETED TO STAND PIPE
12/10/2010 00:01	Wait on Customer or Customer Sub-Contractor Equipm			WAIT ON CASINGCREW TO RUN CASING TO TD
12/10/2010 03:54	Safety Meeting - Pre Job			SAFETY MEETING PRE JOB, WENT OVER JOB PROCEDURES AND SAFETY
12/10/2010 04:00	Rig-Up Completed			RIG UP COMPLETED TO PLUGCONTAINER
12/10/2010 04:14	Other	2	360.0	FILL LINES TO PRESSURE TEST
12/10/2010 04:15	Test Lines	1	250.0	PRESSURE TEST TO 250 PSI, HOLD FOR 5 MINUTES
12/10/2010 04:19	Test Lines	1	5000.0	PRESSURE TEST TO 5000 PSI, HOLD FOR 5 MINUTES
12/10/2010 04:37	Pump Spacer 1	2	38.0	PUMPED FRESH WATER AHEAD
12/10/2010 04:46	Pump Spacer 2	5	80.0	PUMPED 80 BBLS OF TUNED SPACER @ 10.0 PPG
12/10/2010 05:00	Drop Bottom Plug			DROP BOTTOM PLUG
12/10/2010 05:02	Pump Cement	6	1600.0	PUMPED 860 SKS OF CEMENT @ 12.0 PPG YIELD 2.18 CU.FT./SK, WATER 12.12 GPS

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Date/Time	Activity Code	Pump Rate	Pressure (psig)	Comments
12/10/2010 05:55	Drop Plug			SHUTDOWN, TO WASH UP AND DROP TOP PLUG
12/10/2010 06:02	Pump Displacement	6	340.0	PUMPED BRINE WATER FOR DISPLACEMENT, SLOWED DOWN RATE TO 2 BPM AT FOR THE LAST 10 BBLS OF DISPLACEMENT
12/10/2010 06:47	Bump Plug			BUMPED PLUG @ 2100 PSI, TO 2900 PSI TO HOLD PRESSURE
12/10/2010 06:50	Check Floats			CHECK FLOATS, GOT 2.5 BBLS BACK
12/10/2010 07:00	Safety Meeting - Pre Rig-Down			
12/10/2010 07:10	Rig-Down Equipment			
12/10/2010 09:00	Rig-Down Completed			
12/10/2010 09:30	Depart Location for Service Center or Other Site			JOB COMPLETED, THANK YOU CESAR CARREON AND CREW

The Road to Excellence Starts with Safety

Sold To #: 331699	Ship To #: 2751710	Quote #:	Sales Order #: 7818803
Customer: EXXONMOBIL CORPORATION	Customer Rep: Mcclain, Eric		
Well Name: PCU	Well #: 296-5A4	API/UWI #: 05103112450000	
Field:	City (SAP): MEEKER	County/Parish: Rio Blanco	State: Colorado
Legal Description: Section 5 Township 2S Range 96W			
Contractor: H&P	Rig/Platform Name/Num: 321		
Job Purpose: Cement Production Casing			
Well Type: Development Well	Job Type: Cement Production Casing		
Sales Person: MCNARY, GEORGE	Srv Supervisor: CARREON, CESAR	MBU ID Emp #: 362735	

Job Personnel

HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #
BEREECE, TERRY	4.5	222819	CARREON, CESAR Martin	12.5	362735	FUCHS, BEN	12.5	470584
WALKER, DERRICK W	12.5	267871	WALSH, JAMES	12.5	457722	CHANEY, DAVID	12.5	483674

Equipment

HES Unit #	Distance-1 way	HES Unit #	Distance-1 way	HES Unit #	Distance-1 way	HES Unit #	Distance-1 way
10948687	140 mile						

Job Hours

Date	On Location Hours	Operating Hours	Date	On Location Hours	Operating Hours	Date	On Location Hours	Operating Hours
12/9/10	3.5	1.5	12/10/10	9	5.5			
TOTAL			Total is the sum of each column separately					

Job

Formation Name	Formation Depth (MD)	Top	Bottom	Form Type	Job depth MD	Job Depth TVD	Water Depth	Perforation Depth (MD)	From	To	Job Times	Date	Time	Time Zone
				BHST	13742.2 ft	13742.2 ft	6. ft				Called Out	09 - Dec - 2010	10:00	MST
											On Location	09 - Dec - 2010	20:30	MST
											Job Started	10 - Dec - 2010	04:00	MST
											Job Completed	10 - Dec - 2010	07:00	MST
											Departed Loc	10 - Dec - 2010	09:00	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
Production Open Hole				6.125				9965.	13742.2	9859.	13742.2
Intermediate Casing	Unknown		7.	6.276	26.	HYDRIL - SERIES 500 TYPE 513	P-110	.	9965.	.	9859.
Production Casing	Unknown		4.5	3.826	15.1	LTC	P-110	.	13703.9	.	13703.9

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

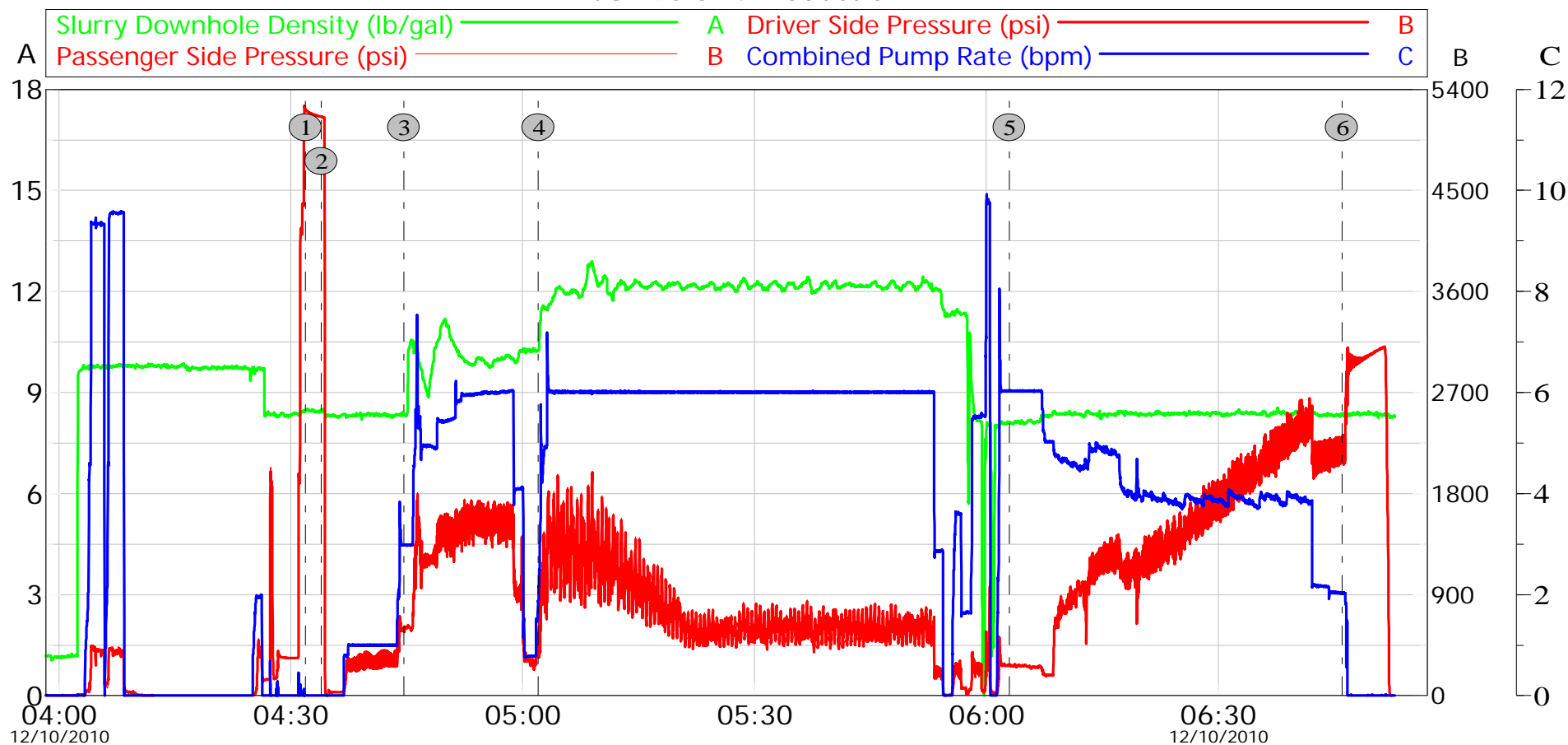
Fluid Data									
Stage/Plug #: 1									
Fluid #	Stage Type	Fluid Name	Qty	Qty uom	Mixing Density lbm/gal	Yield ft ³ /sk	Mix Fluid Gal/sk	Rate bbl/min	Total Mix Fluid Gal/sk
1	TUNED SPACER III	TUNED SPACER III - SBM (483826)	80.00	bbl	10.	.0	.0	6.0	
	38.32 gal/bbl	FRESH WATER							
	59.8 lbm/bbl	BARITE, 100 LB SK (100003680)							
2	Lightweight Tail Cement	VARICEM (TM) CEMENT (452009)	865.0	sacks	12.	2.18	12.12	6.0	12.12
	12.124 Gal	FRESH WATER							
	0.28 %	FE-2 (100001615)							
3	NaCl Displacement		193.00	bbl	8.44	.0	.0	6.0	
	7.15 lbm/bbl	SALT, 100 LB BAG (100003652)							
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	89.59 ft	Reason	Shoe Joint					
Frac Ring # 1 @	ID		Frac ring # 2 @	ID		Frac Ring # 3 @	ID		Frac Ring # 4 @
The Information Stated Herein Is Correct				Customer Representative Signature					

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Data Acquisition

Exxon Mobil

PCU 296-5A4 Production



① Begin Pressure Test	04:31:55	5218	② End Pressure Test	04:33:57	5156	③ 80 bbls Tuned Spacer	04:44:39	580.7
④ 360 sks 12# Varicem	05:02:02	445.7	⑤ 193 bbls Water	06:02:58	267.3	⑥ Bump Plugs	06:46:00	2217

Customer: ExxonMobil
Well Description: PCU 296-5A4 Production

Job Date: 09-Dec-2010
UWI: 0510311245

Sales Order #: 7818803
Rig: H&P 321

OptiCem v6.4.9
13-Dec-10 14:34

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Lab Data

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Cementing Rockies, Meeker

LAB RESULTS - Tail

Job Information

Request/Slurry	114842/1	Rig Name	H&P 321	Date	December 4th 2010
Submitted By	Simukayi Mutasa	Job Type	Production Casing	Bulk Plant	Meeker
Customer	ExxonMobil	Location	Rio Blanco	Well	PCU 296-5A4

Well Information

Casing/Liner Size	4 1/2"	Depth MD	14332 ft	BHST	290 F
Hole Size	6 1/8"	Depth TVD	14226 ft	BHCT	230 F

Cement Information - Tail Design

Conc	UOM	Cement/Additive	Sample Type	Sample Date	Lot No.	Cement Properties		
		VariCem				Slurry Density	12.00	PPG
						Slurry Yield	2.17	FT3
100.00	% BWOC	TXI Lightweight	Bulk	Dec 04, 2010		Water Requirement	11.95	GPS
25.00	% BWOC	Silicalite - Compacted	Bulk	Dec 04, 2010	OG170705-2	Water Source	Field (Fresh) Water	
0.60	% BWOC	HALAD-344 (PB)	Bulk	Dec 04, 2010	ZM0G0051A0			
0.60	% BWOC	D-Air 3000	Bulk	Dec 04, 2010	2010252AC			
0.10	% BWOC	Econolite (Powder - PB)	Bulk	Dec 04, 2010	U100110			
0.28	% BWOC	Fe-2 (citric acid)	Bulk	Dec 04, 2010	CA0E032B4			
132.94	L/100kg	Field (Fresh) Water	Lab	Oct 20, 2010	10-20-2010			

Operation Test Results Request ID 114842/1

UCA Comp. Strength, Request Test ID:1181939

End Temp (°F)	Pressure (psi)	50 psi (hh:mm)	500 psi (hh:mm)	12 hr CS (psi)	24 hr CS (psi)	48 hr CS (psi)	End CS (psi)	End Time (hrs)
259	3,000	06:55	09:30	751	980	1,061	1,082	72

Thickening Time, Request Test ID:1181937

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)
230	9,592	41	3	03:59	04:02	04:05	04:07	04:10

Mixability (0 - 5) - 0 is not mixable, Request Test ID:1181943

Mixability rating (0 - 5)

5

Free Water, Request Test ID:1181941

Test Temp (°F)	% FW 45 Inc	Conditioning time
180	0	30

no settling , channeling, or streaking

API Rheology, Request Test ID:1181940

Temp (°F)	600	300	200	100	60	30	6	3	Cond Time (min)	PV/YP
80	43	25	18	12	8	6	5	4	0	21 / 4.3

API Fluid Loss, Request Test ID:1181942

Test Temp (°F)	Test Pressure (psi)	Test Time (min)	Meas. Vol (< 30 min, cc)	Extr. ISO FL (cc/30 min)
180	1,000	14.9	52	148

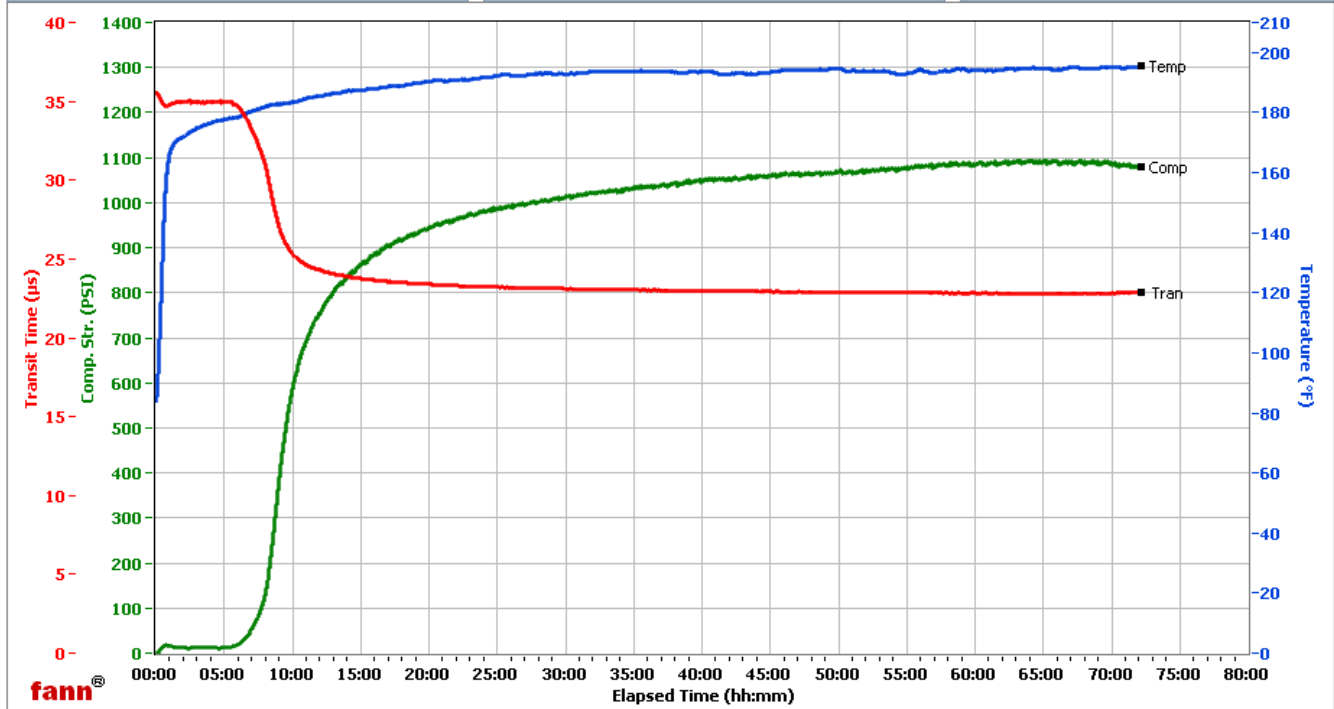
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WRCR

Fields	Values
Project Name	EXXONMOBIL 114842-1
Test ID	114842-1
Request ID	3
Tested by	RR
Customer	ExxonMobil
Well No	PCU 296-5A4
Rig	H&P 321
Casing/Liner Size	

Fields	Values
Job Type	PROD TAIL
Cement Type	TXI
Cement Weight	Standard
Test Date	12/4/2010
Test Time	12:33 PM
Temp. Units	degF
Pressure Units	PSI

Events	Results
50.00 PSI	06h:55m
100.00 PSI	07h:43m
500.00 PSI	09h:30m
1000.00 PSI	28h:02m
12h:00m	751.16
24h:00m	980.31
48h:00m	1061.36
72h:00m	1082.33



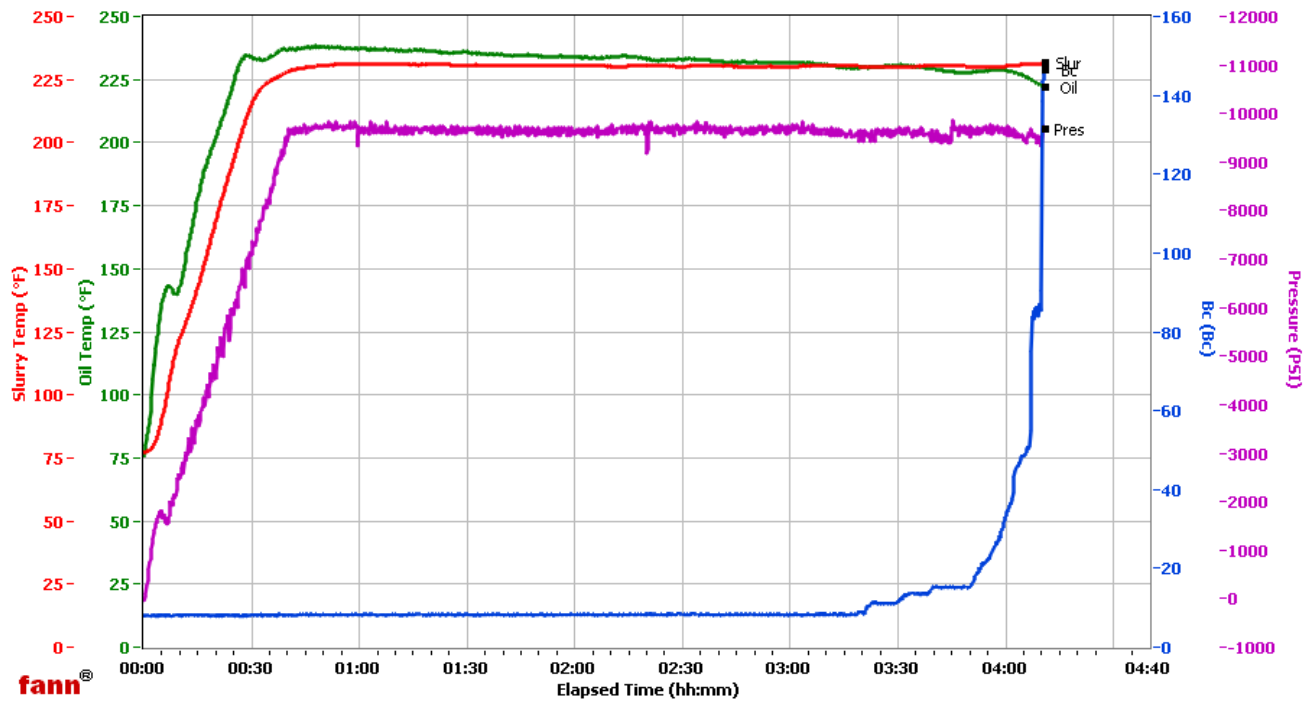
Data File C:\UCA Data\114842-1.tdms

Comments TXI, FE-2 .28%, DENSITY 12.0, YIELD 1.17 YARD

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WRCR

Fields	Values	Fields	Values	Events	Results
Project Name	EXXONMOBIL 114842-1	Job Type	PROD TAIL	30.00 Bc	03h:59m
Test ID	114842-1	Cement Type	TXI	40.00 Bc	04h:02m
Request ID	3	Cement Weight	Standard	50.00 Bc	04h:05m
Tested by	RR	Test Date	12/04/10	70.00 Bc	04h:07m
Customer	EXXONMOBIL	Test Time	08:25 PM	100.00 Bc	04h:10m
Well No	PCU 296-5A4	Temp. Units	degF	200.00 Bc	NaN
Rig	H&P 321	Pressure Units	PSI	03h:00m	8.54
Casing/Liner Size				06h:00m	NaN



Data File O:\HPHT Data Files WRCR\WRCR Consistometer #3\EXXONMOBIL 114842-1.tdms

Comments TXI, FE-2 .28%, DENSITY 12.0, YIELD 2.17