

EXXONMOBIL CORPORATION

HOUSTON, Texas

PCU 296-5A9

H&P 321 1-970-756-2061

Post Job Summary
Cement Intermediate Casing

Date Prepared: 2/27/11
Version: 1

Service Supervisor: Ken Dearing

Submitted by: Isaac Whorl

HALLIBURTON

HALLIBURTON

Wellbore Geometry

Job Tubulars					MD		TVD		Excess %	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	4,747	0	4,583		80.00
Open Hole Section	Intermediate Open Hole		9.875		4,747	10,051	4,583	9,854	100	
Casing	Intermediate Casing	7.00	6.276	26.00	0	10,036	0	9,839		80.00

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 bbl
2	Cement Slurry	New Vernal Tuned Light	11.00	6.00	1410 sks
3	Spacer	Treated Water Displacement	8.40	5.00	379 bbl

Fluids Pumped

Stage/Plug # 1 Fluid 1: TUNED SPACER III Fluid Density: 10.00 lbm/gal
 TUNED SPACER III - SBM (483826)
 59.8 lbm/bbl Barite

Stage/Plug # 1 Fluid 2: New Vernal Tuned Light Fluid Weight: 11.00 lbm/gal
 TUNED LIGHT (TM) SYSTEM Slurry Yield: 2.21 ft³/sack
 0.6 lbm HR-601 Total Mixing Fluid: 9.70 Gal
 Calculated Fill: 6,138.00 ft
 Calculated Top of Fluid: 4,144.00 ft

Stage/Plug # 1 Fluid 3: Displacement Fluid Fluid Density: 8.4 lbm/gal
 Treated Water

HALLIBURTON

Job Summary

Job Information

Job MD	10,36.0 ft
Job TVD	9,839.0 ft
Mud Type	Water Based Mud
Actual Mud Density	9 lbm/gal
Calculated Displacement	379 bbl

Service Supervisor Reports

Activity Description	Date/Time	Rate bbl/min	Volume bbl Total	Pressure psig Casing	Comments
Call Out	01/31/2011 18:00				
Pre-Convoy Safety Meeting	01/31/2011 18:45				DISCUSS SAFETY AND HAZARDS OF TRAVEL.
Other	01/31/2011 19:00				LOAD EQUIPMENT FOR JOB.
Depart Yard Safety Meeting	01/31/2011 20:20				DISCUSS SAFETY AND HAZARDS OF TRAVEL.
Crew Leave Yard	01/31/2011 20:30				
Other	02/01/2011 00:23				CHAIN UP TRUCKS ON BOTTOM OF CR 3.
Arrive At Loc	02/01/2011 06:00				
Assessment Of Location Safety Meeting	02/01/2011 06:05				SIGN IN AT SAFETY SHACK, GET WORK PERMIT SIGNED, WALK LOCATION, DISCUSS SPOTTING OF EQUIPMENT AND RIGGING UP, DISCUSS SAFETY AND HAZARDS.
Safety Meeting	02/01/2011 06:10				MEET WITH CO.REP, DISCUSS SPOTTING OF EQUIPMENT AND RIGGING UP, DISCUSS WELL CONDITIONS, GET WELL INFORMATION, DISCUSS SAFETY AND HAZARDS, CASING @ 8825'.
Safety Huddle	02/01/2011 06:20				DISCUSS SAFETY AND HAZARDS.
Other	02/01/2011 06:30				SPOT EQUIPMENT.
Safety Meeting - Pre Rig-Up	02/01/2011 06:45				DISCUSS SAFETY AND HAZARDS.

Rig-Up Equipment	02/01/2011 06:50				RIG UP IRON AND SUCTION HOSE, TEST H2O.
Other	02/01/2011 10:00				RIGGED UP TO RED ZONE, ALL EQUIPMENT CHECKED OUT FOR JOB READINESS, WAIT ON RIG TO FINISH RUNNING CASING, CASING AT 8915'
Safety Meeting	02/01/2011 13:15				MEET WITH CO.REP, DISCUSS JOB CALCULATIONS, DISCUSS JOB PROCEDURE, DISCUSS PRESSURE TEST AND MAX PRESSURE, DISCUSS CONTINGENCIES BECOUSE OF COLD WEATHER, DISCUSS SAFETY AND HAZARDS, CASING @ 9905'.
Casing on Bottom	02/01/2011 14:00				RIG CIRCULATING.
Safety Meeting - Pre Rig-Up	02/01/2011 14:20				DISCUSS SAFETY AND HAZARDS.
Rig-Up Equipment	02/01/2011 14:30				FINISH RIGGING UP IRON TO STAND PIPE.
Other	02/01/2011 15:45				RIG SHUTS DOWN PUMPING, STARTS RIGGING DOWN CRT, LOAD PLUGS WITH CO.REP.
Safety Meeting - Pre Rig-Up	02/01/2011 16:35				SAFETY MEETING WITH RIG CREW AND CO.REP, DISCUSS SAFETY AND HAZARDS OF RIGGING UP ON RIG FLOOR.
Rig-Up Equipment	02/01/2011 16:45				RIG UP CEMENT HEAD ONTO CASING.
Circulate Well	02/01/2011 17:00				RIG STARTS CIRCULATING THROUGH CEMENT HEAD.
Safety Meeting - Pre Rig-Up	02/01/2011 17:10				DISCUSS SAFETY AND HAZARDS.
Rig-Up Equipment	02/01/2011 17:15				RIG UP IRON ON RIG FLOOR.
Safety Meeting - Pre Job	02/01/2011 18:00				SAFETY MEETING WITH RIG CREW AND CO.REP, GO OVER JOB PROCEDURE, DISCUSS CONTINGENCIES, DISCUSS SAFETY AND HAZARDS.
Other	02/01/2011 18:30				GET HOT WORK PERMIT AND USE BURNER TO UNTHAW VALVES ON RCM.

Sold To 331699
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Ship To # :2753405

Quote # :

Sales Order # 7931718
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SUMMIT 7.20.130
Version:

Tuesday, March 01, 2011 08:25:00

Prime Pumps	02/01/2011 19:00				PRIME UP AND GET ALL EQUIPMENT READY FOR JOB.
Pump Water	02/01/2011 19:25	4		490.0	PUMP 5bbls OF H2O TO FILL LINES.
Pressure Test	02/01/2011 19:29			250.0	LOW PRESSURE TEST.
Pressure Test	02/01/2011 19:32			5000.0	HIGH PRESSURE TEST, PRESSURE TEST GOOD AS PER CO.REP.
Pump Spacer	02/01/2011 19:46	5		690.0	START PUMPING 80bbls OF 10# TUNED SPACER.
Drop Bottom Plug	02/01/2011 20:00	2	77	125.0	SLOW DOWN AND DROP BOTTOM PLUG ON THE FLY AS PER CO.REP.
Pump Cement	02/01/2011 20:03	6.5		810.0	START PUMPING 11.0# TUNED LIGHT CEMENT, 555bbls, 1410sk, 2.21cf/ft, 9.68gal/sk.
Drop Top Plug	02/01/2011 21:40	2	552	125.0	SLOW DOWN-DROP TP PLUG ON THE FLY AS PER CO.REP.
Pump Displacement	02/01/2011 21:43	5		250.0	START H2O DISPLACEMENT, WASHING ON TOP OF PLUG AS PER CO.REP, WITH ALDACIDE AND BARACOR ADDED ON THE SIDE.
Other	02/01/2011 21:51	6	46	345.0	INCREASE RATE AS PER CO.REP.
Displ Reached Cmnt	02/01/2011 21:51	6	60	400.0	SEE CEMENT LIFT PRESSURE.
Slow Rate	02/01/2011 21:58	5	86	400.0	SLOW RATE AS PER CO.REP.
Other	02/01/2011 22:16	6	175	850.0	INCREASE RATE AS PER CO.REP.
Slow Rate	02/01/2011 22:20	4	200	800.0	SLOW RATE AS PER CO.REP.
Other	02/01/2011 22:26	5	223	920.0	INCREASE RATE AS PER CO.REP.
Other	02/01/2011 22:39	6	228	1210.0	INCREASE RATE AS PER CO.REP.
Slow Rate	02/01/2011 22:53	2	363	1110.0	SLOW RATE TO BUMP PLUG AS PER CO.REP.
Bump Plug	02/01/2011 22:57	2	379	1100.0	BUMP PLUG AT 1100psi
Shutdown	02/01/2011 22:57			1600.0	PRESSURE 500psi OVER TO 1600psi-SHUT DOWN.

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Quote # :

Sales Order # 7931718
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Version:

Tuesday, March 01, 2011 08:25:00

Post-Job Safety Meeting (Pre Rig-Down)	02/01/2011 23:00				DISCUSS JOB AND BBP AND HOC OBSERVATIONS, DISCUSS SAFETY AND HAZARDS.
Safety Huddle	02/01/2011 23:05				DISCUSS SAFETY AND HAZARDS.
Other	02/01/2011 23:10				WASH UP RCM TO PIT.
Safety Meeting - Pre Rig-Down	02/01/2011 23:45				DISCUSS SAFETY AND HAZARDS.
Rig-Down Equipment	02/01/2011 23:50				RIG IRON OFF OF RIG FLOOR.
Safety Meeting - Pre Rig-Down	02/02/2011 00:15				DISCUSS SAFETY AND HAZARDS.
Rig-Down Equipment	02/02/2011 00:25				RIG DOWN AND RACK UP IRON AND SUCTION HOSE.
Safety Huddle	02/02/2011 01:45				DISCUSS SAFETY AND HAZARDS.
Other	02/02/2011 01:55				BLOW SILOS OF INTO BULK TRUCK.
Pre-Convoy Safety Meeting	02/02/2011 03:45				DISCUSS SAFETY AND HAZARDS OF TRAVEL.
Crew Leave Location	02/02/2011 04:00				
Other	02/02/2011 04:00				THANK YOU-KEN, JOSH, KEN, AND CREW.
Check Floats	02/02/2011 23:07				FLOATS HOLD 2.5bbls BACK.

Sold To 331699
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Quote # :

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SUMMIT 7.20.130
Version:

Tuesday, March 01, 2011 08:25:00

The Road to Excellence Starts with Safety

Sold To #: 331699	Ship To #: 2753405	Quote #:	Sales Order #: 7931718
Customer: EXXONMOBIL CORPORATION		Customer Rep: CURTIS, CANDACE	
Well Name: PCU		Well #: 296-5A9	API/UWI #:
Field: PICEANCE	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	1-970-756-2061
Job Purpose: Cement Intermediate Casing			
Well Type: Development Well		Job Type: Cement Intermediate Casing	
Sales Person: MCNARY, GEORGE		Srvc Supervisor: DEARING, KEN	MBU ID Emp #: 239372

Job Personnel

HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #
ANGLIN, JOSHUA B	9.5	462343	BURKE, RYAN A	22	480688	DEARING, KEN A	22	239372
ELDREDGE, VANCE E.	22	477303	ESTEP, KENNETH	14	121420	OKONKWO, CHIJOKE Jude	22	480660
REYNOLDS, COREY W	14	212159	SAGE, JAMES Edwin	22	470468			

Equipment

HES Unit #	Distance-1 way						
10872435	140 mile	10897817	140 mile	10897881	140 mile	10948686	140 mile
11263211	140 mile	11307422	140 mile				

Job Hours

Date	On Location Hours	Operating Hours	Date	On Location Hours	Operating Hours	Date	On Location Hours	Operating Hours
02-01-11	18	3.5	02-02-11	4	0			
TOTAL	<i>Total is the sum of each column separately</i>							

Job

Job Times

Formation Name	Top	Bottom	Called Out	Date	Time	Time Zone
Formation Depth (MD)			On Location	01 - Feb - 2011	06:00	MST
Form Type	BHST		Job Started	01 - Feb - 2011	19:30	MST
Job depth MD	10,036 ft	Job Depth TVD 9,839 ft	Job Completed	01 - Feb - 2011	23:00	MST
Water Depth		Wk Ht Above Floor 4. ft	Departed Loc	02 - Feb - 2011	04:00	MST
Perforation Depth (MD)	<i>From</i>	<i>To</i>				

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				4747.	10051.	4583.	9854.
Intermediate Casing	New		7.	6.276	26.	HYDRIL - SERIES 500 TYPE 513	P-110	.	10036.	.	9839.
Surface Casing	Unknown		10.75	9.95	45.5	BTC	J-55	.	4747.	.	4583.

Tools and Accessories

Type	Size	Qty	Make	Depth	Type	Size	Qty	Make	Depth	Type	Size	Qty	Make
EZC BIT	8.5	1		10032	Packer					Top Plug	7	1	Weather
Float Collar	7	1	Weath	10030	Bridge Plug					Bottom Plug	7	1	Weather
Float Collar	7	1	Weath	9939	Retainer					SSR plug set			
Insert Float										Plug Container	7	1	HES
Stage Tool										Centralizers	7	45	Weather

Fluid Data

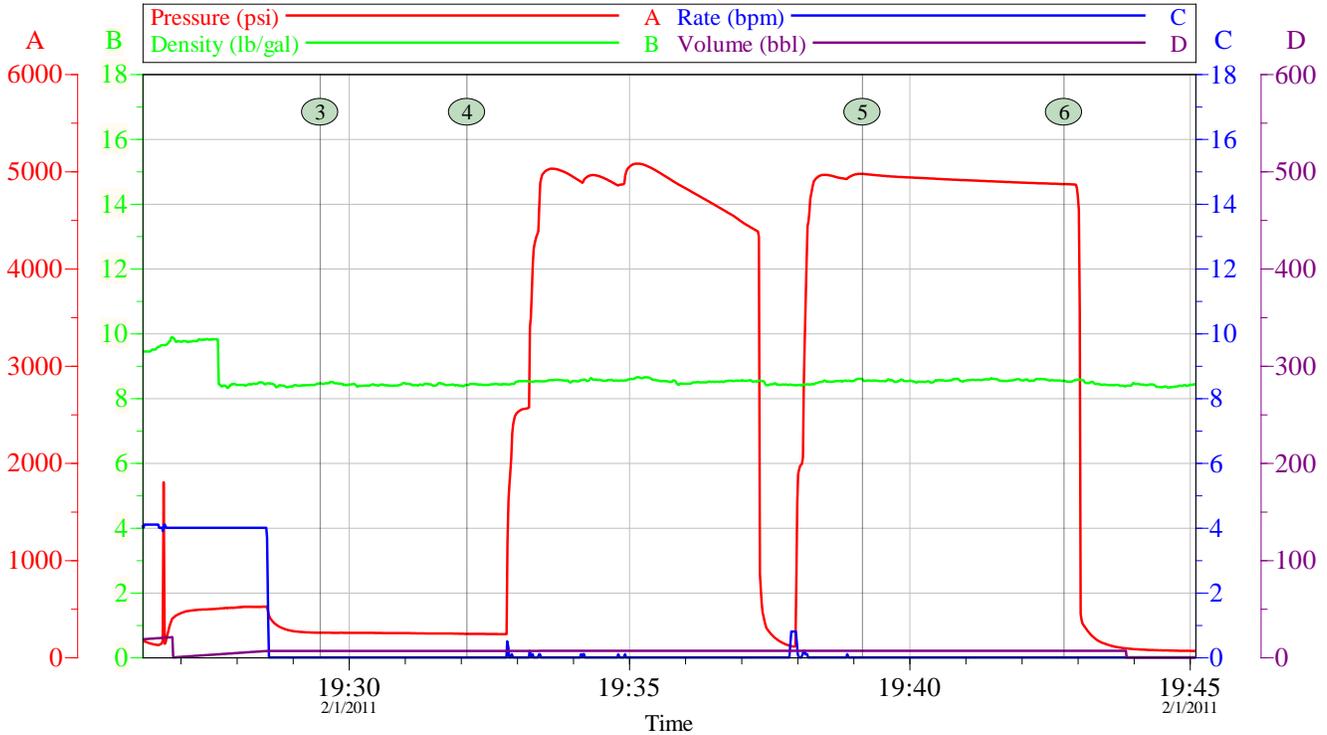
Stage/Plug #: 1									
Fluid #	Stage Type	Fluid Name	Qty	Qty uom	Mixing Density lbm/gal	Yield ft ³ /sk	Mix Fluid Gal/sk	Rate bbl/min	Total Mix Fluid Gal/sk
1	TUNED SPACER III	TUNED SPACER III - SBM (483826)	80.00	bbl	10.	.0	.0	5.0	
	38.32 gal/bbl	FRESH WATER							
	59.8 lbm/bbl	BARITE, 100 LB SK (100003680)							
2	New Vernal Tuned Light	TUNED LIGHT (TM) SYSTEM (452984)	1410.0	sacks	11.	2.21	9.68	7.0	9.68
	0.6 lbm	HR-601, 50 LB BAG (101328348)							
	9.99 Gal	FRESH WATER							
3	Treated Water	Aldacide and Baracor added	379.00	bbl	.	.0	.0	6.0	
Calculated Values		Pressures		Volumes					
Displacement	379.9	Shut In: Instant	1600	Lost Returns		Cement Slurry	555	Pad	
Top Of Cement	3636'	5 Min	1680	Cement Returns	0	Actual Displacement	379	Treatment	
Frac Gradient		15 Min		Spacers	0	Load and Breakdown		Total Job	
Rates									
Circulating	5	Mixing	7	Displacement	6	Avg. Job	6		
Cement Left In Pipe	Amount	96.4 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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Data Acquisition

XOM PCU 296-5A9 7" Intermediate Cement Job

Pressure Test



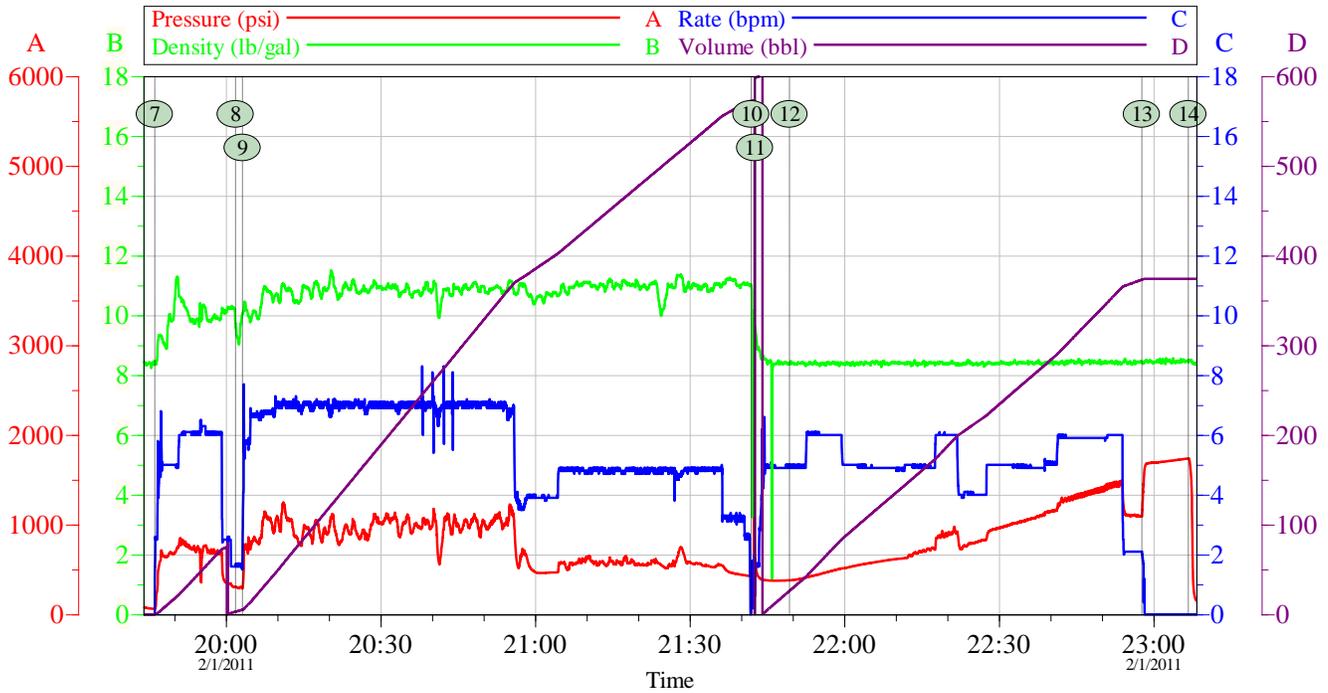
		psi		psi			
③	Start Low Pressure Test	19:29:29	254.0	④	End Low Pressure Test	19:32:06	243.0
⑤	Start High Pressure Test	19:39:10	4975	⑥	End High Pressure Test	19:42:45	4869

Customer:	EXXONMOBIL	Job Date:	01-Feb-2011	Sales Order #:	7931718
Well Description:	PCU 296-5A9	UWI:	05-103-11241	Engineer:	Josh Anglin
Service Lead:	Ken Estep Sr.	Service Sup:	Ken Dearing		

OptiCem v6.4.9
01-Feb-11 23:15

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XOM PCU 296-5A9 7" Intermediate Cement Job Job Chart



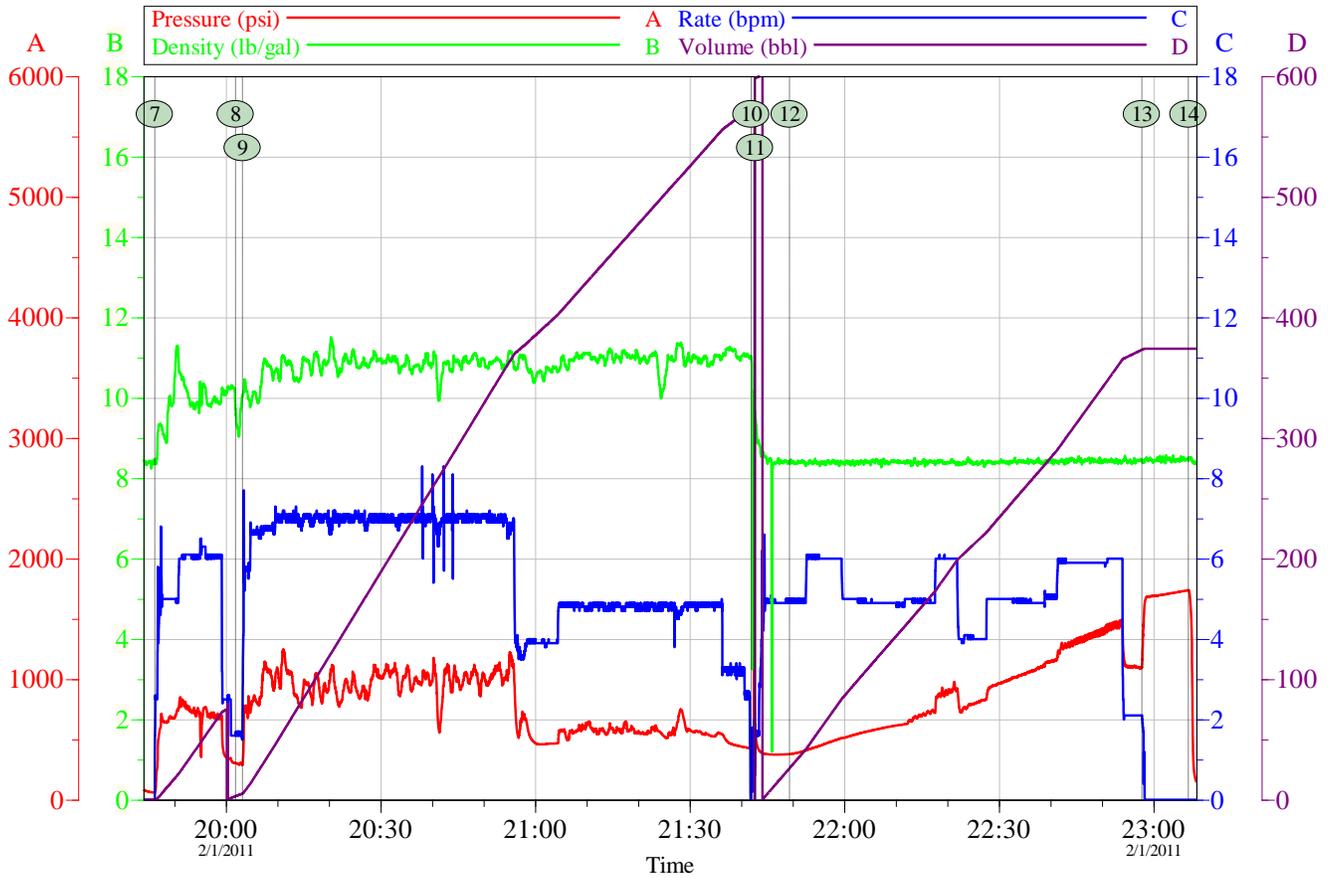
7 Pump 10# Tuned Spacer III	19:46:11	8 Drop Top Plug	20:01:51
9 Pump 11# Tuned Light Cement	20:03:13	10 Drop Bottom Plug	21:41:56
11 Pump Treated Water Displacement	21:42:39	12 Caught Cement	21:49:21
13 Bump Plug	22:57:43	14 Check Floats	23:06:44

Customer: EXXONMOBIL	Job Date: 01-Feb-2011	Sales Order #: 7931718
Well Description: PCU 296-5A9	UWI: 05-103-11241	Engineer: Josh Anglin
Service Lead: Ken Estep Sr.	Service Sup: Ken Dearing	

OptiCem v6.4.9
01-Feb-11 23:16

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XOM PCU 296-5A9 7" Intermediate Cement Job Job Chart



Customer: EXXONMOBIL	Job Date: 01-Feb-2011	Sales Order #: 7931718
Well Description: PCU 296-5A9	UWI: 05-103-11241	
Service Lead: Ken Estep Sr.	Service Sup: Ken Dearing	Engineer: Josh Anglin

OptiCem v6.4.9
01-Feb-11 23:16

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Lab Data

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LAB RESULTS - Primary

Cementing Rockies, Vernal

Job Information

Request/Slurry	124971/1	Rig Name	H&P 321	Date	26/JAN/2011
Submitted By	Isaac Whorl	Job Type	Intermediate Casing	Bulk Plant	Vernal
Customer	ExxonMobil	Location	Rio Blanco	Well	PCU 296-5A9

Well Information

Casing/Liner Size	7"	Depth MD	10282 ft	BHST	221 F
Hole Size	9 7/8"	Depth TVD	10089 ft	BHCT	163 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	2.21	ft ³ /sk
36.88	%	> Boral Craig Pozmix	Bulk	Jan 27, 2011		Water Requirement	9.68	GPS
11	%	> HGS 6000 (PB)	Bulk	Jan 27, 2011		Water Source	Field (Fresh) Water	
53.19	%	> Holcim Type V	Bulk	Jan 27, 2011				
13	%	> Silicalite - Compacted	Bulk	Jan 27, 2011				
100.00	%	BWOC Cement Blend						
0.600	lb/sk	HR-601	Bulk	Jan 27, 2011	08S3JP			
0.500	lb/sk	D-Air 3000	Bulk	Jan 27, 2011	20103A1AG			
0.200	lb/sk	FWCA	Bulk	Jan 27, 2011	37967			
9.68	gal/sack	Field (Fresh) Water	Lab	Jan 13, 2011	1-13-2011			

Operation Test Results Request ID 124971/1

UCA Comp. Strength, Request Test ID:1271230

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)
200	3,000	08:06	09:22	1,217	1,222	1,356	1,525	72

Thickening Time, Request Test ID:1271229

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)
163	4,770	60	22	03:56	04:26	04:44	05:12

Free Water, Request Test ID:1271232

Test Temp (°F)	% FW 45 Inc
163	0

API Rheology, Request Test ID:1271231

Temp (°F)	600	300	200	100	60	30	6	3	Cond Time (min)	PV/YP
80	191	137	108	74	66	60	39	32	0	98.2 / 43.7

API Fluid Loss, Request Test ID:1271233

Test Temp (°F)	Test Pressure (psi)	Test Time (min)	ISO FL (cc/30 min)	Meas. Vol (< 30 min, cc)
163	1,000	2.1	204	27

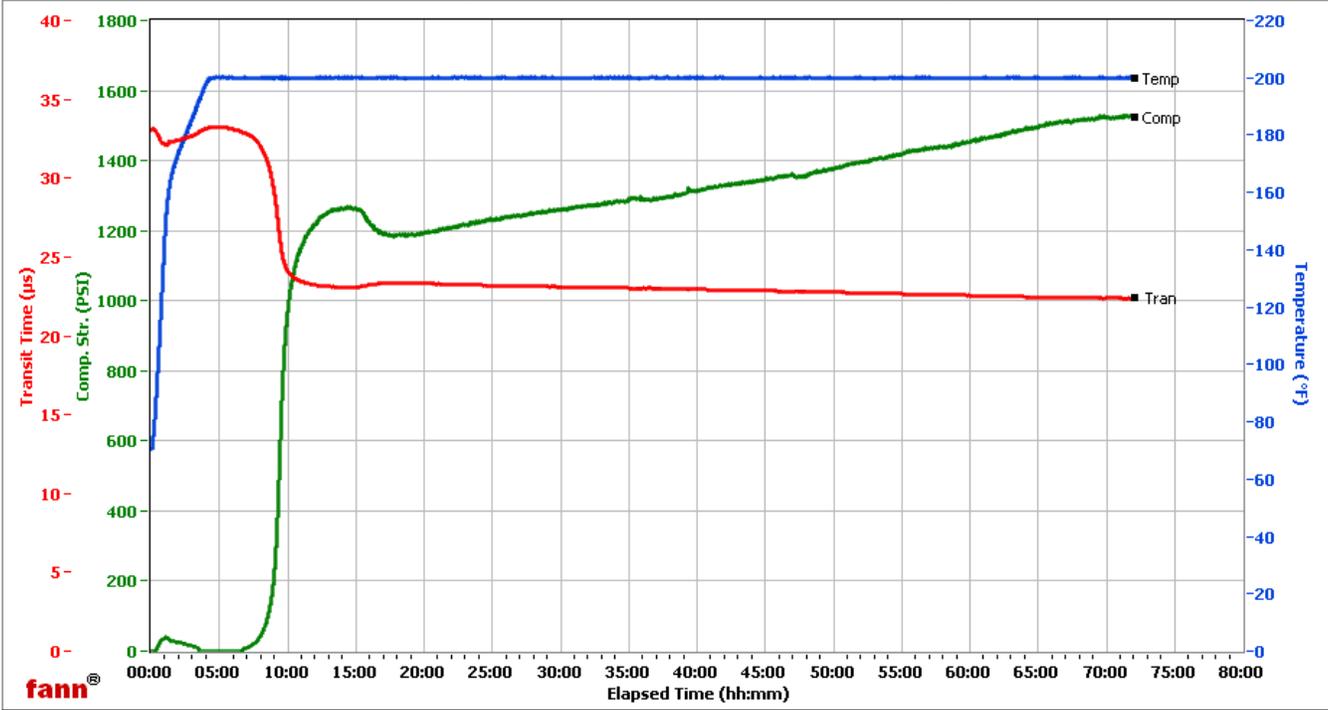
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Vernal

Fields	Values
Project Name	ExxonMobil 124971-1
Test ID	124971-1
Request ID	5
Tested by	Brian
Customer	ExxonMobil
Well No	PCU 296-5A9
Rig	H&P 321
Casing/Liner Size	7

Fields	Values
Job Type	Intermediate Primary
Cement Type	Tuned Light
Cement Weight	Light Weight
Test Date	1/26/2011
Test Time	11:19 PM
Temp. Units	degF
Pressure Units	PSI

Events	Results
50.00 PSI	08h:06m
100.00 PSI	08h:33m
500.00 PSI	09h:22m
1000.00 PSI	10h:05m
12h:00m	1217.13
24h:00m	1222.47
48h:00m	1355.57
72h:00m	1524.86



Data File C:\Data Files\124971-1.tdms

Comments Tuned Light, 0.6 #/sk HR-601, density - 10.9, yield 2.21

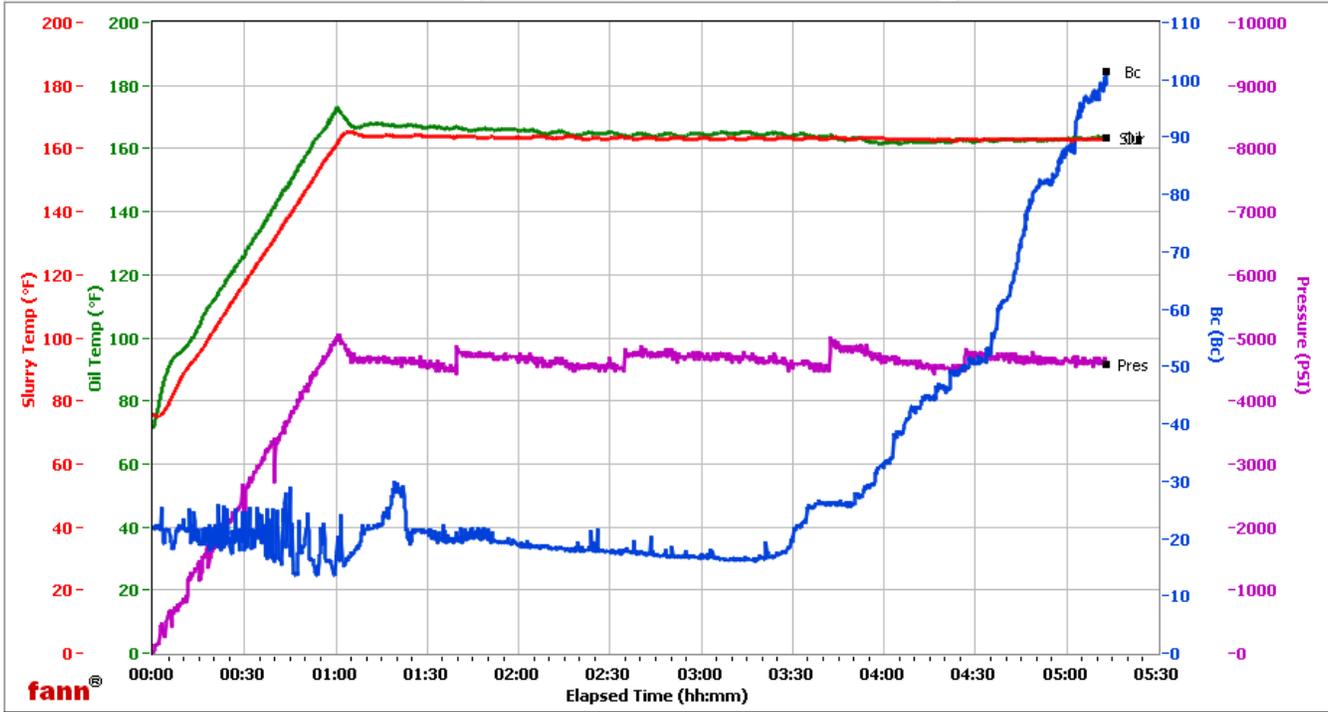
HALLIBURTON

Vernal

Fields	Values
Project Name	ExxonMobil 124971-1
Test ID	124971-1
Request ID	5
Tested by	Brian
Customer	ExxonMobil
Well No	PCU 296-5A9
Rig	H&P 321
Casing/Liner Size	7

Fields	Values
Job Type	Intermediate Primary
Cement Type	V
Cement Weight	Light Weight
Test Date	01/27/11
Test Time	07:52 AM
Temp. Units	degF
Pressure Units	PSI

Events	Results
30.00 Bc	03h:56m
50.00 Bc	04h:26m
60.00 Bc	04h:37m
70.00 Bc	04h:44m
100.00 Bc	05h:12m
200.00 Bc	NaN
03h:00m	16.69
06h:00m	NaN



Data File O:\HPHT Data Files\Vernal Consistometer #5\ExxonMobil 124971-1.tdms

Comments Tuned Light, 0.6 #/sk HR-601, density - 10.9, yield - 2.21