

EXXONMOBIL CORPORATION

HOUSTON, Texas

Well: PCU 296-5A5

Rig: H&P 321

Post Job Summary

Cement Production Casing

Prepared for: George McNary

Date Prepared: 12/10/10

Version: 1

Service Supervisor: Ken Dearing

Submitted by: Kyle King

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	Intermediate Casing	7.00	6.276	26.00	0.0	9,967.00	0.00	9,859.00		80.00
Open Hole	Production Open Hole		6.125		9,967.00	13,721.00	9,859.00	13,613.00	350.00	
Casing	Production Casing	4.50	3.826	15.10	0.00	13,706.00	0.00	13,598.00		90.32

Pumping Schedule

Fluid #	Fluid Type	Fluid Name	Density lbm/gal	Avg Rate bbl/min	Volume
1	Spacer	Tuned Spacer III	10.5	5.0	80.0 bbl
2	Cement	Primary Cement (VariCem)	12.0	5.0	861.0 sacks
3	Displacement	2% NaCl Displacement	8.5	4.0	188.0 bbl

Fluids Pumped

HALLIBURTON

Fluid 1: Spacer

TUNED SPACER III - SBM (483826)
59.8 lbm/bbl Barite

Fluid Density: 10.00 lbm/gal
Fluid Volume: 80.00 bbl
Pump Rate: 5.00 bbl/min

Fluid 2: 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
Surface Volume: 861.0 sacks
Sacks: 861.0 sacks
Calculated Fill: 3,799.92 ft
Calculated Top of Fluid: 10,454.08 ft
Pump Rate: 5.00 bbl/min

Fluid 3: NaCl Displacement

7.15 lbm/bbl Salt

Fluid Density: 8.44 lbm/gal
Fluid Volume: 188.00 bbl
Pump Rate: 4.00 bbl/min

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Job Summary

Job Information

Job Start Date	11/30/2010 3:00:00 PM
Job MD	14,254.0 ft
Height of Plug Container/Swage Above Rig Floor	7.0 ft
Mud Type	Water Based Mud
Name of Mud Company	BAROID
Actual Mud Density	10 lbm/gal
Time Circulated before job	2.33 hour(s)
Rate at Which Well was Circulated	5.500 bbl/min
Pipe Movement During Hole Circulation	Reciprocated
Time From End Mud Circ. to Job Start	5.00 minute
Pipe Movement During Cementing	Reciprocated
Calculated Displacement	193.40 bbl
Job Displaced by (rig/halco)	Cement Unit HP Pumps
Length of Rat Hole	15.00 ft

Cementing Equipment

Number of Centralizers Used	168
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	1,885.0 psig

Service Supervisor Reports

Job Log

Date/Time	Chart #	Activity Code	Pump Rate	Cum Vol	Pressure (psig)	Comments
11/29/2010 04:00		Call Out				
11/29/2010 05:00		Pre-Convoy Safety Meeting				DISCUSS SAFETY AND HAZARDS OF TRAVEL.
11/29/2010 05:15		Other				LOAD EQUIPMENT FOR JOB AND CHECK OUT RCM.
11/29/2010 05:45		Other				PROBLEM WITH CHARGE FOR COMPUTER, CHECK OUT OTHER RCM-FROZE UP-UNTHAW RCM.
11/29/2010 08:50		Depart Yard Safety Meeting				DISCUSS SAFETY AND HAZARDS OF TRAVEL.
11/29/2010 09:00		Crew Leave Yard				
11/29/2010 11:45		Other				ARRIVE AT WHITE RIVER YARD-PICK UP BULK TRUCK, CHAIN UP.
11/29/2010 12:50		Pre-Convoy Safety Meeting				DISCUSS SAFETY AND HAZARDS OF TRAVEL.
11/29/2010 15:00		Arrive At Loc				
11/29/2010 15:10		Assessment Of Location Safety Meeting				SIGN IN AT SAFETY SHACK, GET WORK PERMIT SIGNED, WALK LOCATION, DISCUSS SPOTTING OF EQUIPMENT AND RIGGING UP, DISCUSS SAFETY AND HAZARDS.
11/29/2010 15:15		Safety Meeting				MEET WITH CO.MAN, GET WELL INFORMATION, DISCUSS WELL CONDITIONS, DISCUSS VPRESSURE TEST AND MAX PRESSURE, DISCUSS SAFETY AND HAZARDS, CASING @ 5500.0'.
11/29/2010 15:25		Safety Huddle				DISCUSS SAFETY AND HAZARDS.
11/29/2010 15:30		Other				SPOT EQUIPMENT.
11/29/2010 15:40		Safety Meeting - Pre Rig-Up				DISCUSS SAFETY AND HAZARDS.
11/29/2010 15:45		Rig-Up Equipment				RIG UP IRON AND SUCTION HOSE, TO RED ZONE, TEST H2O.

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Date/Time	Chart #	Activity Code	Pump Rate	Cum Vol	Pressure (psig)	Comments
11/29/2010 16:00		Other				CO.MAN REQUESTS 40 MORE bbls OF SPACER.
11/29/2010 16:30		Other				BULK TRUCK LEAVES TO GO TO WHITE RIVER YARD TO GET MORE SPACER.
11/29/2010 17:00		Other				CHECK OUT RCM AND EQUIPMENT FOR JOB READINESS.
11/29/2010 17:15		Other				WAIT ON RIG TO RUN CASING, CASING @ 6825.0'.
11/29/2010 18:30		Other				CASING AT 7753.0'
11/29/2010 20:30		Safety Meeting				MEET WITH CO.MAN, GO OVER CALCULATIONS, DISCUSS JOB PROCEDURE, DISCUSS CONTINGENCIES, DISCUSS SAFETY AND HAZARDS, CASING @ 9686.0'.
11/29/2010 21:50		Other				CASING AT INTERMEDIATE SHOE, 9967.0', RIG CIRCULATES BOTTOMS UP.
11/30/2010 05:50		Safety Meeting - Pre Rig-Up				DISCUSS SAFETY AND HAZARDS.
11/30/2010 06:00		Casing on Bottom				RIG PUMPS MUD TRYING TO ESTABLISH CIRCULATION, INTERMEDIATE RETURNS.
11/30/2010 06:00		Rig-Up Equipment				FINISH RIGGING UP IRON AND BULK LINES.
11/30/2010 06:15		Circulate Well				RIG PUMPS ON WELL TRYING TO ESTABLISH CIRCULATION, ONLY INTERMINTENT RETURNS.
11/30/2010 08:10		Other				LOAD PLUG INTO CEMENT HEAD WITH CO.MAN, WAIT WHILE CASERS RIG DOWN AND RIG RIGS DOWN CRT.
11/30/2010 08:50		Safety Meeting - Pre Rig-Up				DISCUSS SAFETY AND HAZARDS.
11/30/2010 09:00		Rig-Up Equipment				RIG UP CEMENT HEAD TO CASING AND RIG UP IRON ON RIG FLOOR.
11/30/2010 09:55		Circulate Well				RIG CIRCULATE THROUGH HES CEMENT HEAD, INTERMINTANT RETURNS.
11/30/2010 10:10		Other				WAIT WHILE RIG CREW RIGS UP ELEVAYORS AND BALES.

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Date/Time	Chart #	Activity Code	Pump Rate	Cum Vol	Pressure (psig)		Comments
11/30/2010 11:50		Other					RIG SWAPS LINES TO BACKSIDE AND PUMPS DOWN ANNULES.
11/30/2010 12:30		Circulate Well					RIG SWAPS BACK TO CEMENT, START PUMPING THROUGH HES IRON TO ESTABLISH CIRCULATION.
11/30/2010 12:35		Circulate Well					WELL STARTS CIRCULATING.
11/30/2010 12:40		Other					WAIT WHILE RIG CIRCULATES WELL AND CONDITIONS HOLE.
11/30/2010 14:15		Pre-Job Safety Meeting					DISCUSS JOB PUMPING SCHEDULE AND SAFETY
11/30/2010 14:35		Prime Pumps					PRIME UP RCM, CHECK ALL EQUIPMENT FOR JOB READYNESS.
11/30/2010 15:05	1	Pressure Test					LOW PRESSURE TEST IS GOOD
11/30/2010 15:09	3	Pressure Test					HIGH PRESSURE TEST IS GOOD
11/30/2010 15:15	5	Pump Spacer	5	135		500.0	PUMP 10.5 PPG TUNED SPACER III (DESIGN 80 BBLS, YIELD 5.686 CUFT/SK, WATER REQUIREMENT 37.954 GAL/SK= 71.4 BBLS OF TOTAL MIX WATER), BARREL COUNTER VOLUME OF 135 BBLS AND TOTAL MIX WATER USED WAS 119.8 BBLS
11/30/2010 15:17		Other	5			980.0	INCREASE RATE.
11/30/2010 15:38		Slow Rate	1			890.0	SLOW RATE TO DROP BOTTOM PLUG ON THE FLY.
11/30/2010 15:42	6	Other					AUTO CALIBRATE DENSOMETERS WITH H2O
11/30/2010 15:44	7	Drop Bottom Plug					DROP BOTTOM PLUG ON THE FLY AS PER CO.PERSON.

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Date/Time	Chart #	Activity Code	Pump Rate	Cum Vol	Pressure (psig)		Comments
11/30/2010 15:45	8	Pump Cement	5	375		430.0	PUMP 12 PPG PRIMARY SLURRY (DESIGN 334.3 BBLS, YIELD 2.18 CUFT/SK, WATER REQUIREMENT 12.12 GAL/SK = 248.5 BBLS OF TOTAL MIX WATER), BARREL COUNTER VOLUME OF 375 BBLS AND TOTAL MIXED WATER USED WAS 248 BBLS
11/30/2010 16:58		Shutdown					END CEMENT-SHUT DOWN.
11/30/2010 16:59		Other					WASH PUMPS AND LINES TO PIT.
11/30/2010 17:03	9	Drop Top Plug					
11/30/2010 17:05	10	Pump Displacement	4			175.0	PUMP SALT WATER DISPLACEMENT, USED 27 SKS AT 50 LBS EACH
11/30/2010 17:08		Other	5			250.0	INCREASE RATE AS PER CO.PERSON.
11/30/2010 17:14	11	Other	5	35		332.0	CAUGHT CEMENT 35 BBLS INTO DISPLACEMENT
11/30/2010 17:41	12	Slow Rate	2	175		2369.0	SLOW RATE PER COMPANY MAN, START TO SEE SPACER MIXED WITH MUD
11/30/2010 17:45		Other	2	183		2060.0	SPACER RETURNS TO SURFACE
11/30/2010 17:47		Shutdown				3000.0	PRESSURE OVER 800psi TO 3000psi-SHUT DOWN.
11/30/2010 17:47	13	Bump Plug	2	188		2200.0	BUMP PLUG AT 188 BBLS AWAY AT 2200 PSI.
11/30/2010 17:54	14	Check Floats					FLOATS HELD, 2.5 BBLS BLED BACK
11/30/2010 17:58		Other				3000.0	PRESSURE BACK UP TO 3000psi
11/30/2010 17:59		Check Floats					FLOATS HELD
11/30/2010 18:14		Other				2600.0	PRESSURE BACK UP TO 2600psi
11/30/2010 18:31		Check Floats					FLOATS HELD, 2 BBLS BLED BACK
11/30/2010 18:40		Post-Job Safety Meeting (Pre Rig-Down)					DISCUSS JOB, GO OVER HOC AND BBP OBSERVATIONS, DISCUSS SAFETY AND HAZARDS.

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Date/Time	Chart #	Activity Code	Pump Rate	Cum Vol	Pressure (psig)		Comments
11/30/2010 18:55		Safety Meeting - Pre Rig-Down					SAFETY MKEETING WITH NRIG CREW, DISCUSS SAFETY AND HAZARDS OF RIGGING DOWN ON RIG FLOOR.
11/30/2010 19:00		Rig-Down Equipment					RIG IRON OFF OF RIG FLOOR.
11/30/2010 19:10		Safety Huddle					DISCUSS SAFETY AND HAZARDS.
11/30/2010 19:15		Other					WASH RCM TO PIT, BLOW SILOS INT BULK TRUCK.
11/30/2010 19:55		Safety Meeting - Pre Rig-Down					DISCUSS SAFETY AND HAZARDS.
11/30/2010 20:00		Rig-Down Equipment					RIG DOWN AND RACK UP IRON AND SUCTION HOSE.
11/30/2010 21:45		Pre-Convoy Safety Meeting					DISCUSS SAFETY AND HAZARDS OF TRAVEL.
11/30/2010 22:00		Crew Leave Location					
11/30/2010 22:00		Other					THANK YOU-KEN, ISSAC, AND CREW.

The Road to Excellence Starts with Safety

Sold To #: 331699		Ship To #: 2753381		Quote #:		Sales Order #: 7790226	
Customer: EXXONMOBIL CORPORATION				Customer Rep: HUDON, MARC			
Well Name: PCU			Well #: 296-5A5			API/UWI #: 05103112440000	
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: TURNER, JAMIE			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 #
DEAN, MARK Christophe		454214	DEARING, KEN A		239372	GOODRICH, BENJAMIN Franklin		481342
PEAY, SHANE Blake		472880	WEYERMAN, JEREMY Todd		477287	WHORL, ISAAC Jacob		464968

Equipment

HES Unit #	Distance-1 way	HES Unit #	Distance-1 way	HES Unit #	Distance-1 way	HES Unit #	Distance-1 way
11023106	140 mile	11263211	140 mile				

Job Hours

Date	On Location Hours	Operating Hours	Date	On Location Hours	Operating Hours	Date	On Location Hours	Operating Hours
TOTAL			Total is the sum of each column separately					

Job

Formation Name					Date	Time	Time Zone
Formation Depth (MD)	Top		Bottom		Called Out	29 - Nov - 2010	04:00 MST
Form Type		BHST			On Location	29 - Nov - 2010	15:00 MST
Job depth MD	14254. ft	Job Depth TVD			Job Started	30 - Nov - 2010	15:00 MST
Water Depth		Wk Ht Above Floor	7. ft		Job Completed	30 - Nov - 2010	18:30 MST
Perforation Depth (MD)	From		To		Departed Loc	30 - Nov - 2010	22:00 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				9967.	13721.	9859.	13613.
Intermediate Casing	Unknown		7.	6.276	26.	HYDRIL - SERIES 500 TYPE 513	P-110	.	9967.	.	9859.
Production Casing	New		4.5	3.826	15.1	LTC	P-110	.	13706.	.	13598.

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	Spacer	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	Cement	VARICEM (TM) CEMENT (452009)	861.0	sacks	12.	2.18	12.12	6.0	12.12
	12.124 Gal	FRESH WATER							
	0.28 %	FE-2 (100001615)							
3	Displacement	2% NaCl Displacement	188.00	bbl	8.44	.0	.0	6.0	
	7.15 lbm/bbl	SALT, 100 LB BAG (100003652)							

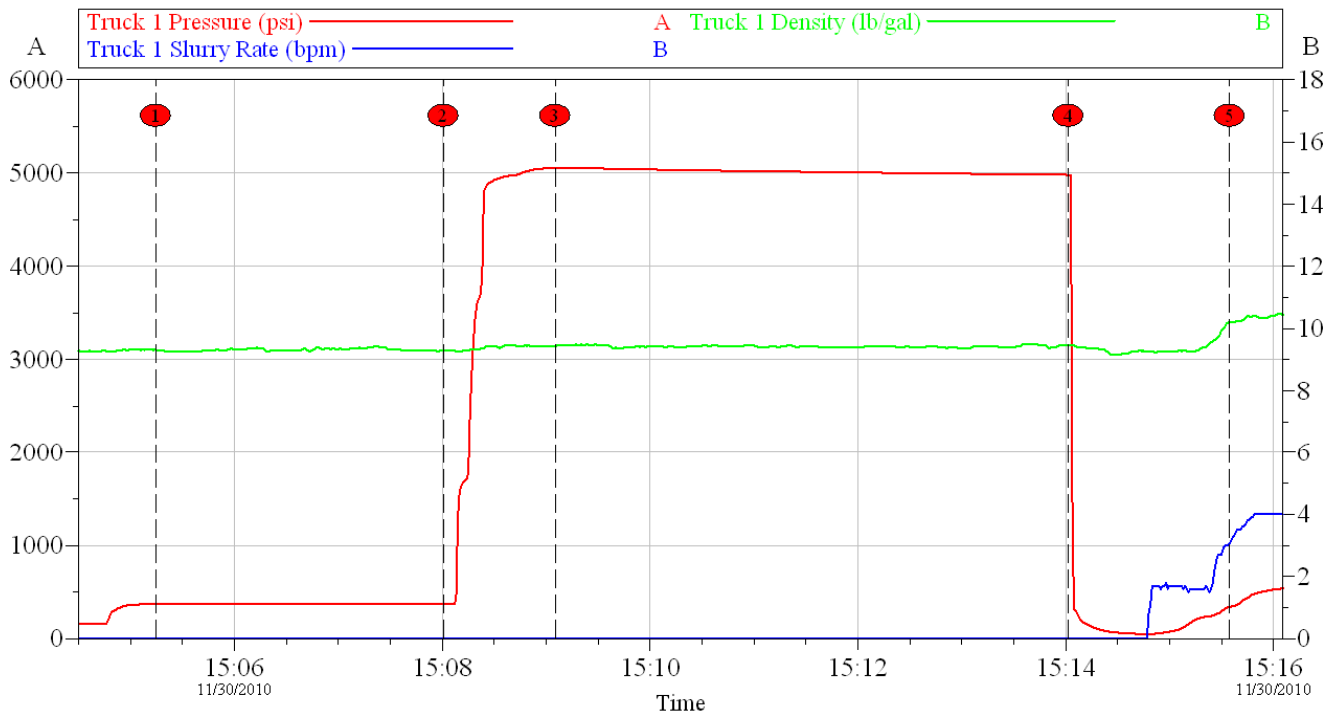
The Information Stated Herein Is Correct

Customer Representative Signature

Data Acquisition

PCU 296-5A5 Production Cement Job

Pressure Test



Local Event Log			
Intersection	PSI	Intersection	PSI
1 Low Pressure Test	15:05:14 371.0	2 End Low Pressure Test	15:08:01 369.0
4 End High Pressure Test	15:14:02 4981	3 High Pressure Test	15:09:05 5055
5 Pump Tuned Spacer III	15:15:35 340.6		

Customer: EXXONMOBIL
Well Description: PCU 296-5A5

Job Date: 30-Nov-2010
UWI: 05-103-11244

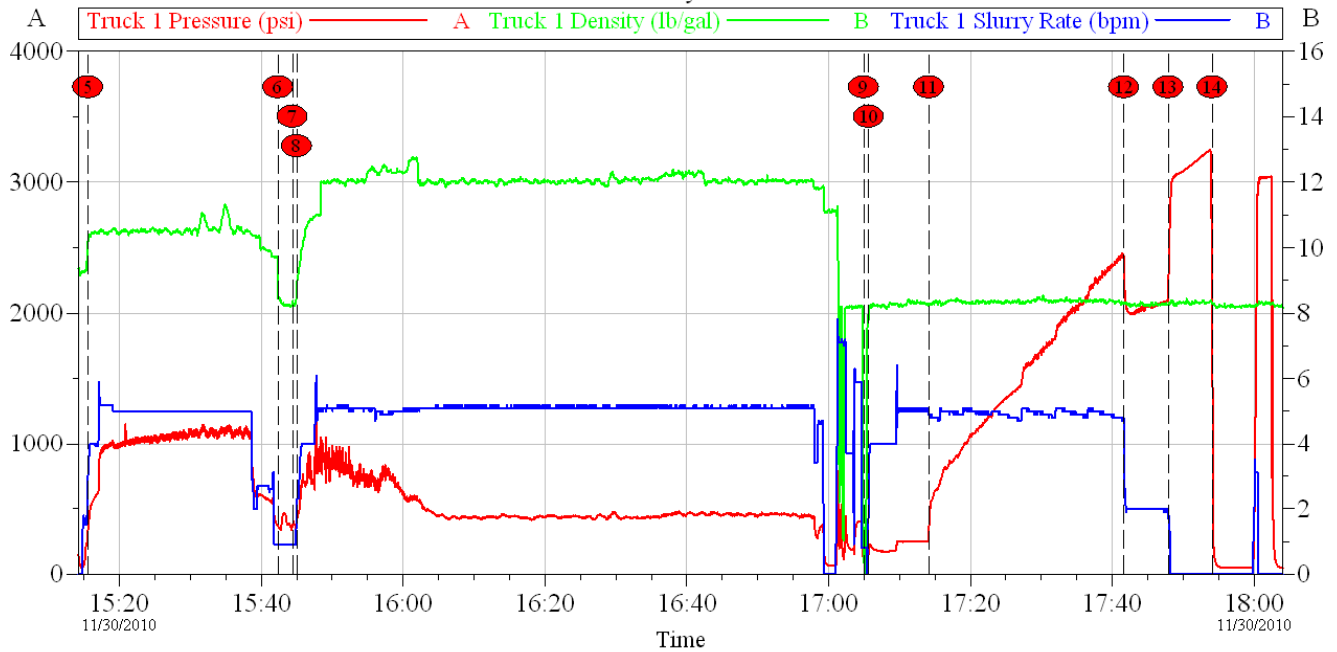
Sales Order #: 7790226

OptiCem v6.4.9
30-Nov-10 17:13

HALLIBURTON

PCU 296-5A5 Production Cement Job

Summary Chart



Local Event Log			
Intersection	PSI	Intersection	PSI
5 Pump Tuned Spacer III	15:15:35 340.6	6 Auto Calibrate Densometers	15:42:23 364.7
8 Pump Primary Cement	15:45:01 401.6	9 Drop Top Plug	17:04:56 102.1
11 Caught Cement	17:14:08 332.0	12 Slow Rate	17:41:38 2369
14 Check Floats	17:54:06 1684	7 Drop Bottom Plug	15:44:24 377.1
		10 Pump Displacement	17:05:40 175.6
		13 Bump Plug	17:47:53 2238

Customer: EXXONMOBIL
Well Description: PCU 296-5A5

Job Date: 30-Nov-2010
UWI: 05-103-11244

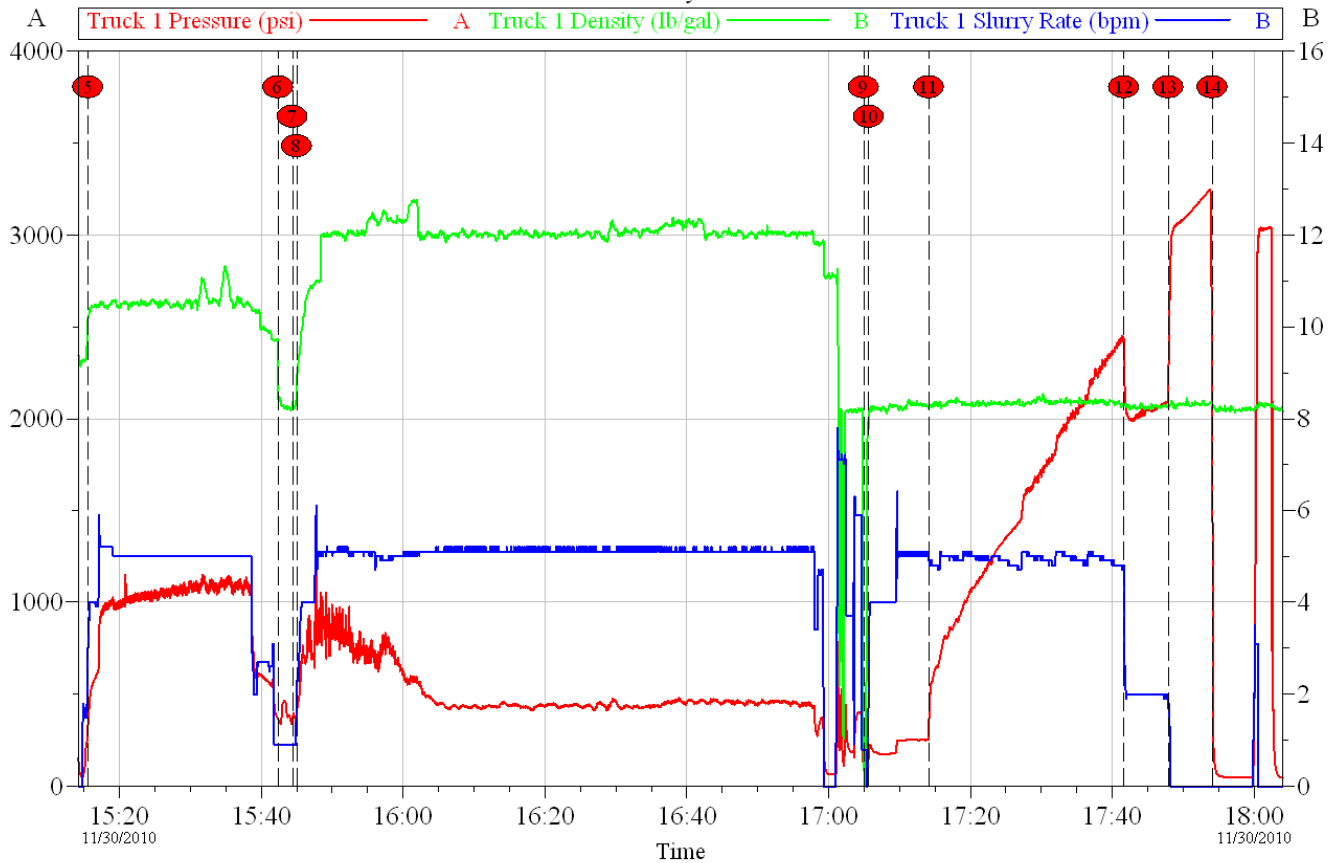
Sales Order #: 7790226

OptiCem v6.4.9
30-Nov-10 18:06

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PCU 296-5A5 Production Cement Job

Summary Chart



Customer: EXXONMOBIL
Well Description: PCU 296-5A5

Job Date: 30-Nov-2010
UWI: 05-103-11244

Sales Order #: 7790226

OptiCem v6.4.9
30-Nov-10 18:07

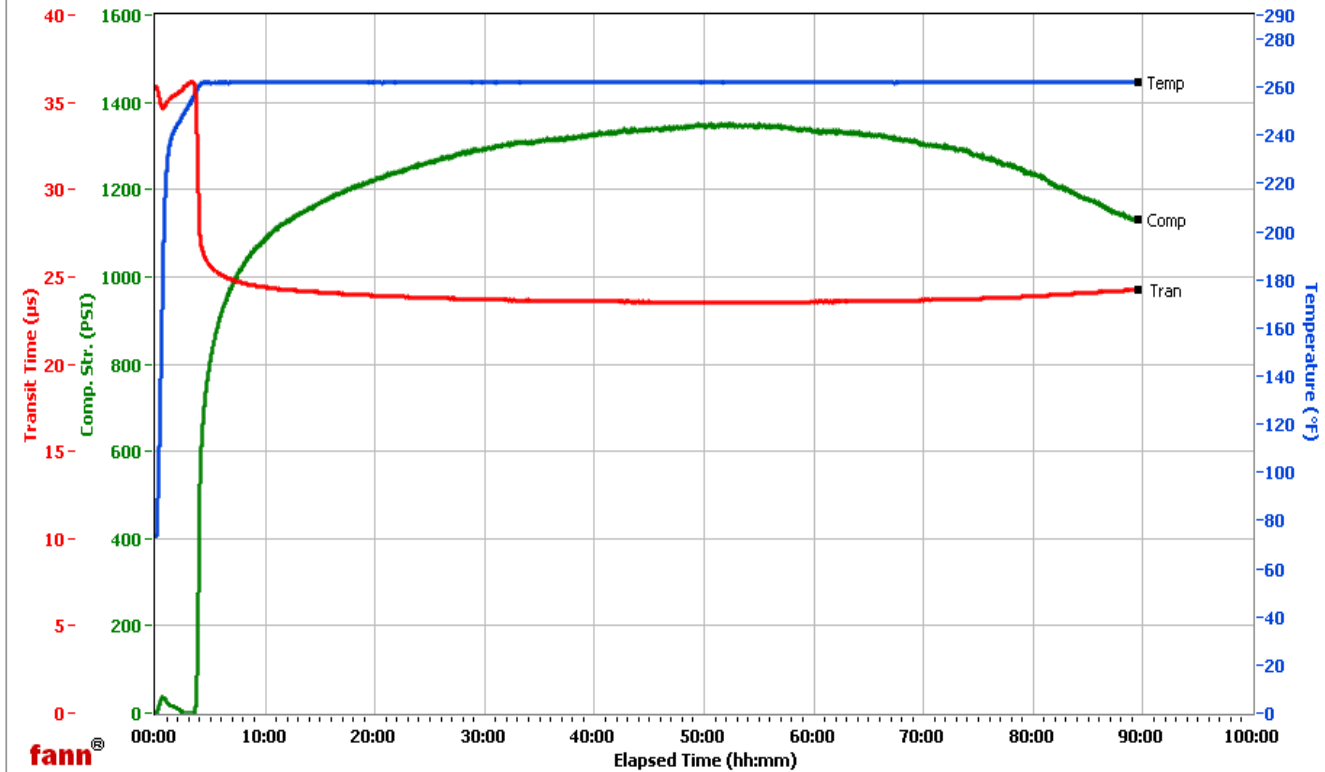
HALLIBURTON

WRCR

Fields	Values
Project Name	EXXONMOBIL 112061-1
Test ID	112601-1
Request ID	2
Tested by	RR
Customer	ExxonMobil
Well No	PCU 296-5A5
Rig	H&P 321
Casing/Liner Size	

Fields	Values
Job Type	PROD TAIL
Cement Type	TXI
Cement Weight	Light Weight
Test Date	11/21/2010
Test Time	9:04 PM
Temp. Units	degF
Pressure Units	PSI

Events	Results
50.00 PSI	03h:43m
100.00 PSI	03h:47m
500.00 PSI	04h:00m
1000.00 PSI	07h:24m
12h:00m	1126.63
24h:00m	1257.58
48h:00m	1341.16
72h:00m	1297.58



Data File C:\UCA Data\112061-1.tdms

Comments TXI, FE-2 .280%, DENSITY 12.0, YIELD 2.17 YARD