

EXXONMOBIL CORPORATION

HOUSTON, Texas

PCU 197-36A8

H&P 326

Post Job Summary

Cement Multiple Stages

Prepared for: George McNary
Date Prepared: November 16, 2010
Version: 1

Service Supervisor: SARVER, ZACHARY

Submitted by: Joshua Anglin

HALLIBURTON

HALLIBURTON

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
Open Hole Section	Surface Open Hole		14.750		0.00	1,606.00	0.00	1,564.00	75.00	
Open Hole Section	Surface Open Hole		14.750		1,606.00	4,373.00	1,564.00	4,069.00	25.00	
Casing	Surface Casing	10.75	9.950	45.50	0.00	4,373.00	0.00	4,069.00		80.00
Cement Stage Tool	Multiple Stage Cementer		.000		1,606.00	1,606.00				0.00

Pumping Schedule

Stage /Plug #	Fluid #	Fluid Type	Fluid Name	Surface Density lbm/gal	Avg Rate bbl/min	Surface Volume	Downhole Volume
1	1	Spacer	FreshWater Ahead	8.33	6.00	50.0 bbl	50.0 bbl
1	2	Cement Slurry	First Stage Lead Cement	12.70	6.00	840.0 sacks	840.0 sacks
1	3	Cement Slurry	First Stage Tail Cement	15.80	6.00	350.0 sacks	350.0 sacks
1	4	Spacer	Drilling Fluid / Mud	8.90	6.00	410.0 bbl	410.0 bbl
2	1	Spacer	Freshwater Ahead	8.33	6.00	50.0 bbl	50.0 bbl
2	2	Cement Slurry	Second Stage Lead Cement	12.70	6.00	840.0 sacks	840.0 sacks
2	3	Spacer	Drilling Fluid / Mud	8.90	6.00	154.0 bbl	154.0 bbl
2	4	Cement Slurry	Top Out	15.80	2.00	35.0 sacks	35.0 sacks

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Fluids Pumped

Stage/Plug # 1 Fluid 1: FreshWater Ahead
DUMMY MUD / FLUSH / SPACER SBC MATERIAL

Fluid Density: 8.33 lbm/gal
Fluid Volume: 50.00 bbl
Pump Rate: 6.00 bbl/min

Stage/Plug # 1 Fluid 2: First Stage Lead
Cement
ECONOCEM (TM) SYSTEM
0.6 % HR-7
0.25 lbm Poly-E-Flake

Fluid Weight: 12.70 lbm/gal
Slurry Yield: 1.87 ft³/sack
Total Mixing Fluid: 9.89 Gal
Surface Volume: 840.0 sacks
Sacks: 840.0 sacks
Calculated Fill: 2,250.82 ft
Calculated Top of Fluid: 1,606.00 ft
Estimated Top of Fluid:
Pump Rate: 6.00 bbl/min

Stage/Plug # 1 Fluid 3: First Stage Tail Cement
HALCEM (TM) SYSTEM
0.25 % HR-800
0.25 lbm Poly-E-Flake

Fluid Weight: 15.80 lbm/gal
Slurry Yield: 1.15 ft³/sack
Total Mixing Fluid: 4.95 Gal
Surface Volume: 350.0 sacks
Sacks: 350.0 sacks
Calculated Fill: 516.18 ft
Calculated Top of Fluid: 3,856.82 ft
Estimated Top of Fluid:
Pump Rate: 6.00 bbl/min

Stage/Plug # 1 Fluid 4: Drilling Fluid / Mud
DUMMY MUD / FLUSH / SPACER SBC MATERIAL

Fluid Density: 8.90 lbm/gal
Fluid Volume: 410.00 bbl
Pump Rate: 6.00 bbl/min

Stage/Plug # 2 Fluid 1: Freshwater Ahead
DUMMY MUD / FLUSH / SPACER SBC MATERIAL

Fluid Density: 8.33 lbm/gal
Fluid Volume: 50.00 bbl
Pump Rate: 6.00 bbl/min

Stage/Plug # 2 Fluid 2: Second Stage Lead
Cement
ECONOCEM (TM) SYSTEM
0.25 lbm Poly-E-Flake

Fluid Weight: 12.70 lbm/gal
Slurry Yield: 0.90 ft³/sack
Total Mixing Fluid: 4.49 Gal
Surface Volume: 840.0 sacks
Sacks: 840.0 sacks
Calculated Fill: 1,606.00 ft
Calculated Top of Fluid: 0.00 ft
Estimated Top of Fluid:
Pump Rate: 6.00 bbl/min

HALLIBURTON

Stage/Plug # 2 Fluid 3: Drilling Fluid / Mud
DUMMY MUD / FLUSH / SPACER SBC MATERIAL

Fluid Density: 8.90 lbm/gal
Fluid Volume: 154.00 bbl
Pump Rate: 6.00 bbl/min

Stage/Plug # 2 Fluid 4: Top Out
Top Out

94 lbm Premium Cement
2 % Calcium Chloride

Fluid Weight: 15.80 lbm/gal
Slurry Yield: 1.16 ft³/sack
Total Mixing Fluid: 5.01 Gal
Surface Volume: 35.0 sacks
Sacks: 35.0 sacks
Estimated Top of Fluid:
Pump Rate: 2.00 bbl/min

Job Summary

Job Information

Job Start Date	10/6/2010 4:27:00 AM
Job MD	4,373.0 ft
Mud Type	Water Based Mud
Actual Mud Density	9 lbm/gal
Calculated Displacement	154.45 bbl
Annular flow Before Job? (Water/Gas)	Unknown
Annular flow After Job? (Water/Gas)	Unknown

Cementing Equipment

Did Float Equipment Hold?	Unknown
Plug set used?	Unknown
Did Plugs Bump?	Unknown
Did Stage Cementing Tool Open Properly?	Unknown

Service Supervisor Reports

Job Log

Date/Time	Chart #	Activity Code	Pump Rate	Cum Vol	Pump		Pressure (psig)		Comments
10/05/2010 03:55		Pre-Job Safety Meeting							PRE JOB SAFETY MEETING WITH RIG CREW ABOUT PUMPING THE JOB
10/05/2010 13:00		Call Out							CREW CALLED OUT TO LOCATION
10/05/2010 15:00		Pre-Convoy Safety Meeting							SAFETY MEETING WITH CREW ABOUT TRAVEL TO LOCATION
10/05/2010 16:00		Crew Leave Yard							CREW DEPARTS YARD FOR LOCATION
10/05/2010 20:00		Arrive At Loc							CREW ARRIVES ON LOCATION, RIG IS RUNNING CASING HAS 23 JOINTS OF PIPE LEFT TO RUN
10/05/2010 20:15		Assessment Of Location Safety Meeting							CREW WALKS AROUND LOCATION LOOKING FOR RISKS
10/05/2010 20:30		Pre-Rig Up Safety Meeting							SAFETY MEETING WITH CREW ABOUT RIGGING UP TO THE RED ZONE
10/05/2010 20:40		Rig-Up Equipment							START RIGGING UP EQUIPMENT
10/06/2010 04:27	1	Pressure Test						257.0	START LOW PRESSURE TEST
10/06/2010 04:32	2	Pressure Test						253.0	END LOW PRESSURE TEST
10/06/2010 04:34	3	Pressure Test						5048.0	START HIGH PRESSURE TEST
10/06/2010 04:39	4	Pressure Test						4948.0	END HIGH PRESSURE TEST
10/06/2010 04:43	5	Pump Spacer	5	50				176.0	START PUMPING FRESH WATER SPACER AHEAD
10/06/2010 04:53	6	Pump 1st Stage Lead Slurry	5	281				243.0	START PUMPING 1ST STAGE LEAD CEMENT @ 12.7 LBS/GAL, 1.88 YLD, 10.02 WR (840 SKS) TOTAL VOLUME PUMPED 283 BBLs

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Date/Time	Chart #	Activity Code	Pump Rate	Cum Vol	Pump		Pressure (psig)		Comments
10/06/2010 05:41	7	Pump 1st Stage Tail Slurry	3	71				247.0	START PUMPING 1ST STAGE TAIL CEMENT @ 15.8 LBS/GAL, 1.15 YLD, 5.0 WR (250 SKS) TOTAL VOLUME PUMPED 70 BBLS
10/06/2010 05:57	8	Shutdown						178.0	SHUTDOWN TO DROP PLUG
10/06/2010 06:03	9	Pump Displacement	4	410				210.0	START PUMPING FRESH WATER DISPLACEMENT
10/06/2010 06:08	10	Pump Displacement	8	410				100.0	START PUMPING DRILLING MUD DISPLACEMENT
10/06/2010 06:18	11	Slow Rate	6	410				446.0	SLOW RATE TO 6.0 BPM AT CUSTOMERS REQUEST
10/06/2010 06:25	12	Slow Rate	3	410				239.0	SLOW RATE TO 3.0 BPM TO GO THROUGH MSC TOOL
10/06/2010 06:32	13	Resume	6	410				259.0	RESUME PUMPING 6.0 BPM
10/06/2010 06:46	14	Pump Displacement	6	410				284.0	START PUMIING FRESH WATER DISPLACEMENT
10/06/2010 06:56	15	Pump Displacement	6	410				414.0	START PUMPING DRILLING MUD DISPLACEMENT
10/06/2010 07:09	16	Slow Rate	4	410				809.0	SLOW RATE TO 4.0 BPM
10/06/2010 07:12	17	Pump Displacement	4	410				674.0	START PUMPING FRESH WATER DISPLACEMENT
10/06/2010 07:14	18, 19	Bump Plug	4	410				683.0	BUMP PLUG @ 683 PSI PRESSURE AFTER BUMPING PLUG 1224
10/06/2010 07:20	20	Check Floats							CHECK FLOATS, FLOATS HELD WITH 2.0 BBLS BACK
10/06/2010 07:25		Drop Opening Device For Multiple Stage Cementer							DROP OPENING DEVICE FOR MSC TOOL
10/06/2010 07:54	21	Open Multiple Stage Cementer	1					2.0	START OPEN MSC TOOL

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Date/Time	Chart #	Activity Code	Pump Rate	Cum Vol	Pump		Pressure (psig)		Comments
10/06/2010 07:57	22,23	Other	1				1150.0		SHUTDOWN MSC TOOL DID NOT OPEN PRESSURE RELEASES AND TRY AGAIN
10/06/2010 07:58	24	Open Multiple Stage Cementer	2				27.0		START TO OPEN MSC TOOL
10/06/2010 07:58	25	Open Multiple Stage Cementer	2				625.0		MSC TOOL OPENS AT 625 PSI
10/06/2010 07:59	26	Pump Well Fluid	4	10			52.0		START PUMPING DRILLING MUD
10/06/2010 08:01	27	Shutdown	4	10			143.0		END PUMPING DRILLING MUD TURN OVER TO RIG TO CIRCULATE WELL
10/06/2010 11:30		Pre-Job Safety Meeting							PRE JOB SAFETY MEETING WITH RIG CREW ABOUT PUMPING THE SECOND STAGE
10/06/2010 11:45		Shutdown							RIG PUMPS ARE SHUTDOWN AND LINES ARE SWAPED TO HALLIBURTON
10/06/2010 11:47	28	Pump Spacer	6	50			51.0		START PUMPING FRESH WATER SPACER AHEAD
10/06/2010 11:56	29	Pump Cement	6	281			248.0		START PUMPING CEMENT @ 12.7 LBS/GAL, 1.88 YLD, 10.05 WR (840 SKS) TOTAL VOLUME PUMPED 270 BBLs
10/06/2010 12:42	30	Shutdown							SHUTDOWN TO DROP CLOSING PLUG AND CLEAN LINES TO PIT
10/06/2010 12:44	31	Clean Lines							START WASHING PUMPING LINES TO PIT
10/06/2010 12:48	32	Clean Lines							END WASHING PUMPING LINES TO PIT
10/06/2010 12:50	33	Pump Displacement	6	154			118.0		START PUMPING FRESH WATER DISPLACEMENT
10/06/2010 12:54	34	Pump Displacement	6	154			237.0		START PUMPING DRILLING MUD DISPLACEMENT
10/06/2010 12:56	35	Slow Rate	4	154			321.0		SLOW RATE TO 4.0 BPM

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Date/Time	Chart #	Activity Code	Pump Rate	Cum Vol	Pump		Pressure (psig)	Comments
10/06/2010 13:02	36	Slow Rate	2.5	154			275.0	SLOW RATE TO 2.5 BPM, CEMENT RETURNS TO SURFACE
10/06/2010 13:29	37	Other	4	154			385.0	INCREASE RATE TO 4.0 BPM TO CLOSE MSC TOOL
10/06/2010 13:35	38,39	Close Multiple Stage Cementer	4	154			448.0	LAND CLOSING PLUG, PRESSURE BEFORE LANDING 448 PSI PRESSURE AFTER SHUTDOWN 1784 PSI
10/06/2010 13:40	40	Close Multiple Stage Cementer						CHECK MSC TOOL TOOL CLOSED WITH 1.5 BBLS BACK
10/06/2010 15:15		Pre-Job Safety Meeting						PRE JOB SAFETY MEETING WITH RIG CREW ABOUT TOP OUT
10/06/2010 15:45	41	Pump Cement	1	6			9.0	START PUMPING CEMENT @ 15.8 LBS/GAL, 1.15 YLD, 5.0 WR (35 SKS)
10/06/2010 15:47	42	Shutdown	1	6			21.0	SHUTDOWN PUMPING TO HOOK UP LINES FOR TOP OUT
10/06/2010 15:48	43	Pump Cement	6	6			13.0	RESUME PUMPING DOWN BACK SIDE OF WELL FOR TOP OUT
10/06/2010 15:50	44	Cement Returns to Surface	6	6			69.0	CEMENT RETURNS TO SURFACE
10/06/2010 15:55	45	Shutdown						SHUTDOWN, CEMENT RETURNS TO SURFACE
10/06/2010 16:10		Post-Job Safety Meeting (Pre Rig-Down)						POST JOB SAFETY MEETING WITH CREW ABOUT RIGGING DOWN LOCATION
10/06/2010 16:20		Rig-Down Equipment						START RIGGING DOWN EQUIPMENT
10/06/2010 18:30		Rig-Down Completed						RIG DOWN COMPLETE
10/06/2010 18:45		Pre-Convoy Safety Meeting						SAFETY MEETING WITH CREW ABOUT TRAVEL BACK TO YARD
10/06/2010 19:00		Crew Leave Location						CREW DEPARTS LOCATION FOR YARD

The Road to Excellence Starts with Safety

Sold To #: 331699	Ship To #: 2807231	Quote #:	Sales Order #: 7680700
Customer: EXXONMOBIL CORPORATION	Customer Rep: Kelly, Whitnee		
Well Name: PCU	Well #: 197-36A8	API/UWI #: 05103111870000	
Field: PICEANCE CREEK	City (SAP): MEEKER	County/Parish: Rio Blanco	State: Colorado
Legal Description: Section 36 Township 1S Range 97W			
Job Purpose: Cement Multiple Stages			
Well Type: Development Well	Job Type: Cement Multiple Stages		
Sales Person: TURNER, JAMIE	Srvc Supervisor: SARVER, ZACHARY	MBU ID Emp #: 219539	

Job Personnel

HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #
CHRISTENSEN, BRIAN A		469415	PACE, GARRET L		475041	PEAY, SHANE		472880
SARVER, ZACHARY S		219539	WELDON, LEW		122191			

Equipment

HES Unit #	Distance-1 way	HES Unit #	Distance-1 way	HES Unit #	Distance-1 way	HES Unit #	Distance-1 way
10741129	45 mile	10784082	45 mile	10804581	45 mile	10867527	45 mile
10872113	45 mile	10948689	45 mile	11019277	45 mile	11263210	45 mile
11304256	45 mile	6616	45 mile	6647	45 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

Job Times

Formation Name					Date	Time	Time Zone
Formation Depth (MD)	Top		Bottom		Called Out	05 - Oct - 2010	13:00 MST
Form Type		BHST			On Location	05 - Oct - 2010	20:00 MST
Job depth MD	4373. ft	Job Depth TVD			Job Started	06 - Oct - 2010	04:27 MST
Water Depth		Wk Ht Above Floor			Job Completed	06 - Oct - 2010	15:55 MST
Perforation Depth (MD)	From		To		Departed Loc	06 - Oct - 2010	19:00 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
Multiple Stage Cementer	Used			.				1606.	1606.		
Surface Open Hole				14.75				.	1606.	.	1564.
Surface Open Hole				14.75				1606.	4373.	1564.	4069.
Surface Casing	Unknown		10.75	9.95	45.5	BTC	J-55	.	4373.	.	4069.

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			
Fluid Data													
Stage/Plug #: 1													
Fluid #	Stage Type	Fluid Name	Qty	Qty uom	Mixing Density lbm/gal	Yield ft3/sk	Mix Fluid Gal/sk	Rate bbl/min	Total Mix Fluid Gal/sk				
1	FreshWater Ahead		50.00	bbl	8.33	.0	.0	6.0					
2	First Stage Lead Cement	ECONOCEM (TM) SYSTEM (452992)	840.0	sacks	12.7	1.87	9.89	6.0	9.89				
0.6 %		HR-7 (100005055)											
0.25 lbm		POLY-E-FLAKE (101216940)											
9.889 Gal		FRESH WATER											
3	First Stage Tail Cement	HALCEM (TM) SYSTEM (452986)	350.0	sacks	15.8	1.15	4.95	6.0	4.95				
0.25 %		HR-800, 50 LB SACK (101619742)											
0.25 lbm		POLY-E-FLAKE (101216940)											
4.948 Gal		FRESH WATER											
4	Drilling Fluid / Mud		410.00	bbl	8.9	.0	.0	6.0					
Stage/Plug #: 2													
Fluid #	Stage Type	Fluid Name	Qty	Qty uom	Mixing Density uom	Yield uom	Mix Fluid uom	Rate uom	Total Mix Fluid uom				
1	Freshwater Ahead		50.00	bbl	8.33	.0	.0	6.0					
2	Second Stage Lead Cement	ECONOCEM (TM) SYSTEM (452992)	840.0	sacks	12.7	.9	4.49	6.0	4.49				
0.25 lbm		POLY-E-FLAKE (101216940)											
4.489 Gal		FRESH WATER											
3	Drilling Fluid / Mud		154.00	bbl	8.9	.0	.0	6.0					
4	Top Out	CMT - PREMIUM - CLASS G, 94 LB SK (100003685)	35.0	sacks	15.8	1.16	5.01	2.0	5.01				
94 lbm		CMT - PREMIUM - CLASS G REG OR TYPE V, BULK (100003685)											
2 %		CALCIUM CHLORIDE - HI TEST PELLET (100005053)											
5.019 Gal		FRESH WATER											
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									

Lab Data

HALLIBURTON

Cementing Rockies, Meeker

LAB RESULTS – 1st Stage Lead

Job Information

Request/Slurry	102622/1	Rig Name	H&P 326	Date	October 4th 2010
Submitted By	Isaac Whorl	Job Type	Surface Casing	Bulk Plant	Meeker
Customer	ExxonMobil	Location	Rio Blanco	Well	PCU 197-36A8

Well Information

Casing/Liner Size	10 3/4"	Depth MD	4373 ft	BHST	135 F
Hole Size	14 3/4"	Depth TVD	4069 ft	BHCT	102 F

Cement Information - Lead Design

Conc	UOM	Cement/Additive	Sample Type	Sample Date	Lot No.	Cement Properties		
						EconoCem	Slurry Density	12.702 PPG
100.00	% BWOC	Cement Blend					Slurry Yield	1.88 FT3
35	%	> Boral Craig Pozmix	Bulk	Oct 03, 2010			Water Requirement	10.02 GPS
65	%	> Holcim Type V	Bulk	Oct 03, 2010			Water Source	Field (Fresh) Water
5.00	lb/sk	Cal-Seal 60	Bulk	Oct 03, 2010				
3.00	lb/sk	Silicalite - Compacted	Bulk	Oct 03, 2010				
0.80	% BWOC	Econolite (Powder - PB)	Bulk	Oct 03, 2010				
0.60	% BWOC	HR-7	Bulk	Oct 03, 2010				
0.25	lb/sk	Pol-E-Flake	Bulk	Oct 03, 2010				
97.49	L/100kg	Field (Fresh) Water	Lab	Aug 29, 2010				

Operation Test Results Request ID 102622/1

Thickening Time, Request Test ID:1077948

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)
102	1,860	60	5	05:00	05:00	05:00	05:00

pin sheared coming out of S.D.

API Rheology, Request Test ID:1075259

Temp (°F)	600	300	200	100	60	30	6	3	Cond Time (min)	PV/YP
80	44	27	24	20	18	16	15	14	20	12.7 / 15.9

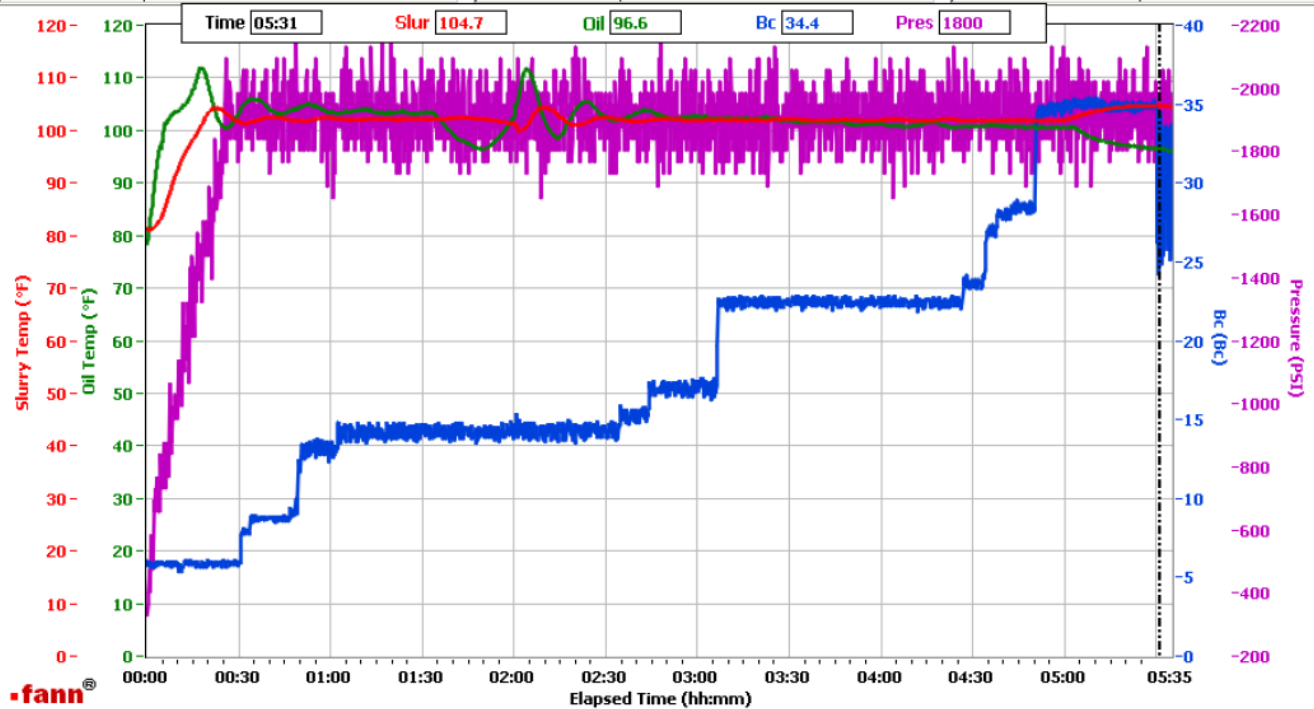
HALLIBURTON

WRCR

Fields	Values
Project Name	Exxonmobil 102622-1
Test ID	102622-1
Request ID	HPHT#1
Tested by	D.P.
Customer	Exxonmobil
Well No	PCU 197-36A8
Rig	H8P 326
Casing/Liner Size	10.75

Fields	Values
Job Type	Surface Lead
Cement Type	V
Cement Weight	Light Weight
Test Date	10/04/10
Test Time	04:53 AM
Temp. Units	degF
Pressure Units	PSI

Events	Results
30.00 Bc	04h:50m
50.00 Bc	05h:00m
60.00 Bc	NaN
70.00 Bc	05h:00m
100.00 Bc	05h:00m
200.00 Bc	NaN
03h:00m	17.24
06h:00m	27.78



Data File O:\HPHT Data Files\WRCR\WRCR Consistometer #1\Exxonmobil 102622-1.tdms

Comments 65/35 POZ, .6% HR-7, 12.702 DEN, 1.88 YD.

Job Information

Request/Slurry	102621/1	Rig Name	H&P 326	Date	October 4th 2010
Submitted By	Isaac Whorl	Job Type	Surface Casing	Bulk Plant	Meeker
Customer	ExxonMobil	Location	Rio Blanco	Well	PCU 197-36A8

Well Information

Casing/Liner Size	10 3/4"	Depth MD	4373 ft	BHST	135 F
Hole Size	14 3/4"	Depth TVD	4069 ft	BHCT	102 F

Cement Information - Tail Design

<u>Conc</u>	<u>UOM</u>	<u>Cement/Additive</u>	<u>Sample Type</u>	<u>Sample Date</u>	<u>Lot No.</u>	<u>Cement Properties</u>		
		HalCem				Slurry Density	15.798	PPG
						Slurry Yield	1.15	FT3
100.00	% BWOC	Mountain G	Bulk	Oct 03, 2010		Water Requirement	5	GPS
0.25	% BWOC	HR-800	Bulk	Oct 03, 2010	02241001	Water Source	Field (Fresh) Water	
44.37	L/100kg	Field (Fresh) Water	Lab	Aug 29, 2010	8/29/10			

Operation Test Results Request ID 102621/1

Thickening Time, Request Test ID:1077952

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)
102	1,860	60	6	03:31	03:31	03:36	04:12

API Rheology, Request Test ID:1075256

Temp (°F)	600	300	200	100	60	30	6	3	Cond Time (min)	PV/YP
80	111	61	52	42	38	33	20	14	20	41.9 / 24.7

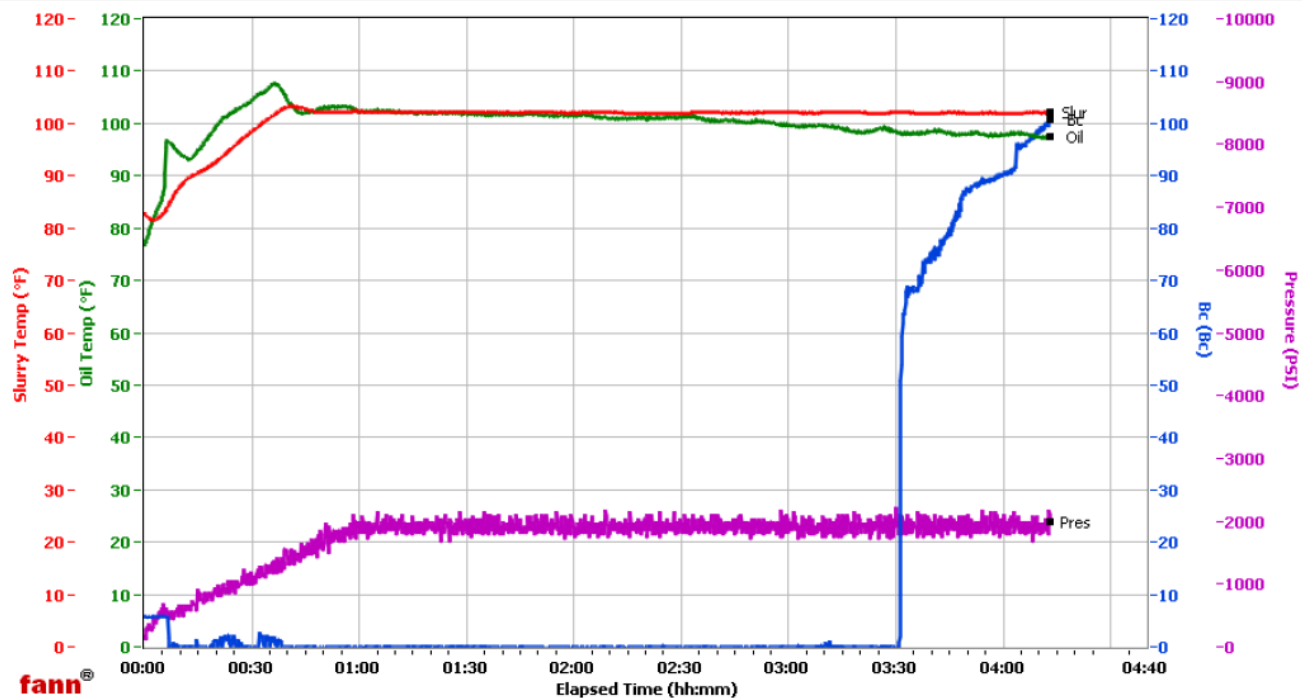
HALLIBURTON

WRCR

Fields	Values
Project Name	Exxonmobil 102621-1
Test ID	102621-1
Request ID	HPHT#4
Tested by	D.P.
Customer	Exxonmobil
Well No	PCU 197-36A8
Rig	H&P 326
Casing/Liner Size	10.75

Fields	Values
Job Type	Surface Tail
Cement Type	Mountain G
Cement Weight	Light Weight
Test Date	01/01/70
Test Time	06:24 AM
Temp. Units	degF
Pressure Units	PSI

Events	Results
30.00 Bc	03h:31m
50.00 Bc	03h:31m
60.00 Bc	03h:31m
70.00 Bc	03h:36m
100.00 Bc	04h:12m
200.00 Bc	NaN
03h:00m	-0.10
06h:00m	NaN



Data File O:\HPHT Data Files WRCR\WRCR Consistometer #4\Exxonmobil 102621-1.tdms

Comments 100% G, 15.798 DEN, 1.15 YD.

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Cementing Rockies, Meeker

LAB RESULTS – 2nd Stage Lead

Job Information

Request/Slurry	102623/1	Rig Name	H&P 326	Date	October 4th 2010
Submitted By	Isaac Whorl	Job Type	Surface Casing	Bulk Plant	Meeker
Customer	ExxonMobil	Location	Rio Blanco	Well	PCU 197-36A8

Well Information

Casing/Liner Size	10 3/4"	Depth MD	1606 ft	BHST	97 F
Hole Size	14 3/4"	Depth TVD	1564 ft	BHCT	81 F

Cement Information - Lead Design

Conc	UOM	Cement/Additive	Sample Type	Sample Date	Lot No.	Cement Properties		
		EconoCem				Slurry Density	12.702	PPG
						Slurry Yield	1.88	FT3
100.00	% BWOC	Cement Blend				Water Requirement	10.05	GPS
35	%	> Boral Craig Pozmix	Bulk	Oct 03, 2010		Water Source	Field (Fresh) Water	
65	%	> Holcim Type V	Bulk	Oct 03, 2010				
5.00	lb/sk	Cal-Seal 60	Bulk	Oct 03, 2010	9-23-10			
3.00	lb/sk	Silicalite - Compacted	Bulk	Oct 03, 2010	OG171712-2			
0.80	% BWOC	Econolite (Powder - PB)	Bulk	Oct 03, 2010	U020610			
97.82	L/100kg	Field (Fresh) Water	Lab	Aug 29, 2010	8/29/10			

Operation Test Results Request ID 102623/1

Thickening Time, Request Test ID:1075261

Temp (°F)	Pressure (psi)	Reached in (min)	Start BC	30 Bc (hh:mm)	50 Bc (hh:mm)	70 Bc (hh:mm)
81	726	30	11	05:00	05:00	05:00

API Rheology, Request Test ID:1075262

Temp (°F)	600	300	200	100	60	30	6	3	Cond Time (min)	PV/YP
80	67	53	48	42	40	36	24	18	20	29.7 / 29

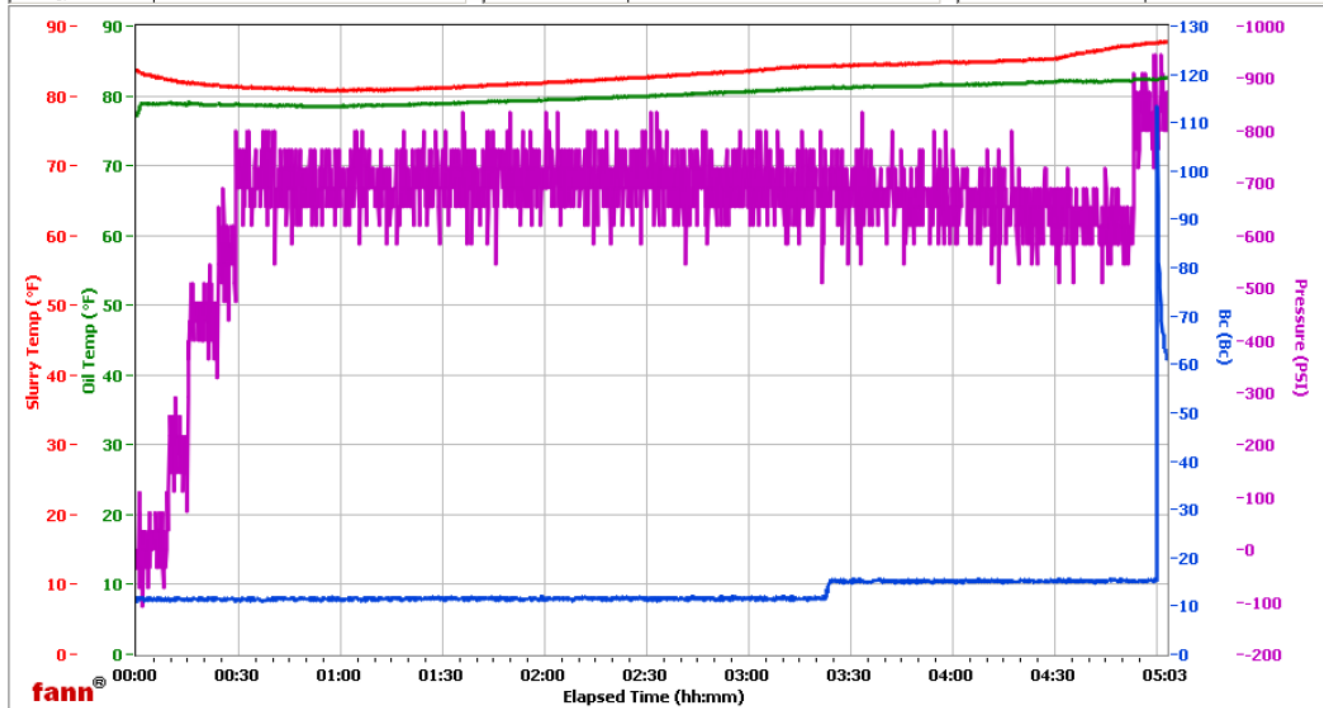
HALLIBURTON

WRCR

Fields	Values
Project Name	Exxonmobil 102623-1
Test ID	102623-1
Request ID	HPHT #3
Tested by	D.P.
Customer	Exxonmobil
Well No	PCU 197-36A8
Rig	H&P 326
Casing/Liner Size	10.75

Fields	Values
Job Type	Surface Lead
Cement Type	Type V
Cement Weight	Light Weight
Test Date	10/03/10
Test Time	11:33 PM
Temp. Units	degF
Pressure Units	PSI

Events	Results
30.00 Bc	05h:00m
50.00 Bc	05h:00m
60.00 Bc	05h:00m
70.00 Bc	05h:00m
100.00 Bc	05h:00m
200.00 Bc	NaN
03h:00m	11.80
06h:00m	NaN



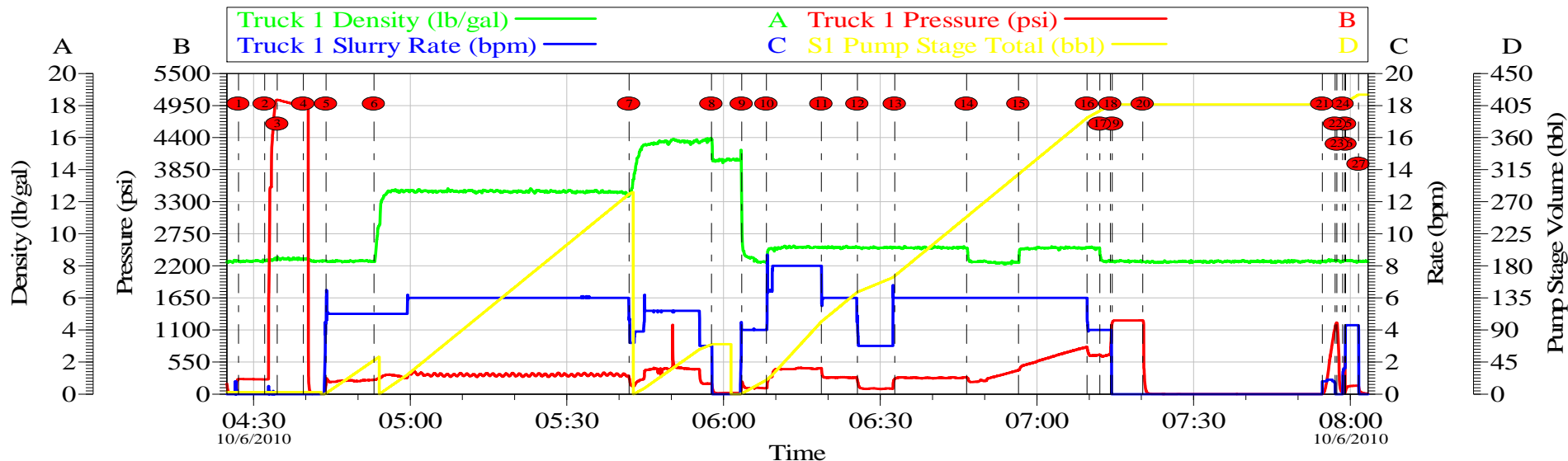
Data File O:\HPHT Data Files WRCR\WRCR Consistometer #3\Exxonmobil 102623-1.tdms

Comments 65/35 POZ, .8% ECON, 12.702 DEN, 1.88 YD.

HALLIBURTON

Data Acquisition

ExxonMobil Corporation
PCU 197-36A8 10 3/4" Surface, 1st Stage
October 6, 2010



Intersection	Time	PSI	Intersection	Time	PSI
1 Start Low Pressure Test	04:27:08	257.9	2 End Low Pressure Test	04:32:08	253.0
2 Start High Pressure Test	04:34:32	5048	3 End High Pressure Test	04:39:32	4948
3 Start Fresh Water Spacer	04:43:54	176.8	4 Start Lead Cement @ 12.7 lbs/gal (840 sks)	04:53:04	243.0
4 Start Tail Cement @ 15.8 lbs/gal (350 sks)	05:41:56	274.1	5 Shutdown To Drop Plug	05:57:40	178.0
5 Start Fresh Water Displacement	06:03:28	210.2	6 Start Drilling Mud Displacement, 20 bbls away	06:08:12	100.00
6 Slow Rate to 6.0 bpm, 110 bbls away	06:18:44	446.8	7 Slow Rate to 3.0 bpm, 145 bbls away	06:25:37	239.3
7 Resume Pumping Displacement @ 6.0 bpm	06:32:47	259.8	8 Start Pumping Fresh Water Displacement, 250 bbls away	06:46:32	284.4
8 Start Pumping Drilling Mud Displacement, 310 bbls away	06:56:27	414.0	9 Slow Rate to 4.0 bpm, 390 bbls away	07:09:36	809.5
9 Start Pumping Fresh Water Displacement, 400 bbls away	07:12:03	674.0	10 Pressure Before Bumping Plug	07:14:03	683.8
10 Pressure After Bumping Plug	07:14:25	1224	11 Check Floats	07:20:15	1264
11 Start Open MSC tool	07:54:37	1.979	12 MSC Tool Not Opened	07:57:05	1150
12 Release Pressure	07:57:26	1226	13 Open MSC Tool	07:58:32	27.00
13 MSC Tool Opens	07:58:59	625.8	14 Start Pumping Drilling Mud	07:59:05	52.41
14 Shutdown & Turn Over to Rig	08:01:34	143.7			

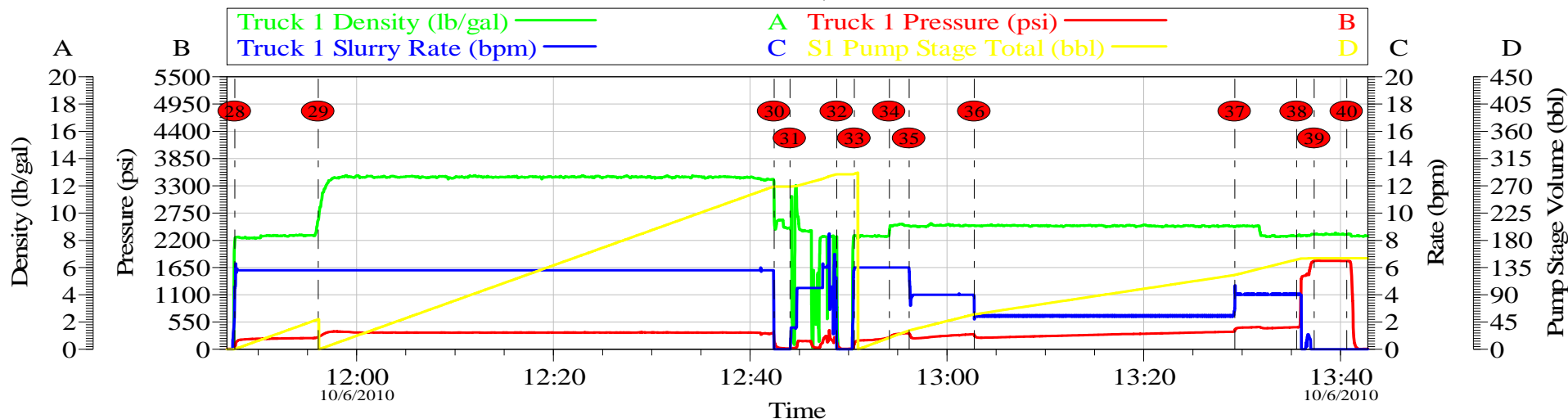
Customer: XOM
Well Description: PCU 197-36A8

Job Date: 06-Oct-2010
Job Type: 10 3/4" 2 Stage Surface

Sales Order #: 7680700

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06-Oct-10 15:06

ExxonMobil Corporation
PCU 197-36A8 10 3/4" Surface, 2nd Stage
October 6, 2010



Intersection	Time	PSI
28 Start Fresh Water Spacer Ahead	11:47:38	51.63
29 Start Cement @ 12.7 lbs/gal (840 sks)	11:56:06	248.7
30 Shutdown To Drop Closing Plug	12:42:26	160.3
31 Start Wash Pumping Lines	12:44:03	17.00
32 End Wash Pumping Lines	12:48:49	136.6
33 Start Fresh Water Displacement	12:50:35	118.9
34 Start Drilling Mud Displacement	12:54:09	237.4
35 Slow Rate to 4.0 bpm, 35 bbls away	12:56:09	321.0
36 Slow Rate to 2.5 bpm, Cement Returns to Surface, 60 bbls away	13:02:47	275.0
37 Increase Rate to 4.0 bpm, 130 bbls away	13:29:15	385.0
38 Pressure Before Closing Tool	13:35:33	448.0
39 Pressure After Closing Tool	13:37:20	1784
40 Check MSC Tool	13:40:38	1781

Customer: XOM
Well Description: PCU 197-36A8

Job Date: 06-Oct-2010
Job Type: 10 3/4" 2 Stage Surface

Sales Order #: 7680700

OptiCem v6.3.3
06-Oct-10 14:04