

EXXONMOBIL CORPORATION

HOUSTON, Texas

PCU 197-36A6

H&P 326

Post Job Summary

Cement Multiple Stages

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

Service Supervisor: ANDERSON, BENJAMIN

Submitted by: Joshua Anglin

HALLIBURTON

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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		
Open Hole Section	Surface Open Hole		14.750		0.00	1,591.00	0.00	1,564.00	75.00	
Open Hole Section	Surface Open Hole		14.750		1,591.00	4,181.00	1,564.00	4,069.00	25.00	
Casing	Surface Casing	10.75	9.950	45.50	0.00	4,181.00	0.00	4,069.00		80.00
Cement Stage Tool	Multiple Stage Cementer		.000		1,591.00	1,591.00				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	770.0 sacks	770.0 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	394.0 bbl	394.0 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	830.0 sacks	830.0 sacks
2	3	Spacer	Drilling Fluid / Mud	8.90	6.00	155.0 bbl	155.0 bbl
2	4	Cement Slurry	Top Out	15.80	2.00	400.0 sacks	400.0 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: 1.86 ft³/sack
Total Mixing Fluid: 9.87 Gal
Surface Volume: 770.0 sacks
Sacks: 770.0 sacks
Calculated Fill: 2,073.82 ft
Calculated Top of Fluid: 1,591.00 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: 3,664.82 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: 394.00 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: 1.86 ft³/sack
Total Mixing Fluid: 9.87 Gal
Surface Volume: 830.0 sacks
Sacks: 830.0 sacks
Calculated Fill: 1,591.00 ft
Calculated Top of Fluid: 0.00 ft
Estimated Top of Fluid:
Pump Rate: 6.00 bbl/min

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

Fluid Density: 8.90 lbm/gal
Fluid Volume: 155.00 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: 400.0 sacks
Sacks: 400.0 sacks
Estimated Top of Fluid:
Pump Rate: 2.00 bbl/min

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Job Summary

Job Information

Job Start Date	10/20/2010 12:30:00 PM
Job MD	4,210.0 ft
Job TVD	4,210.0 ft
Height of Plug Container/Swage Above Rig Floor	4.0 ft
Surface Temperature at Time of Job	40 degF
Mud Type	Water Based Mud
Actual Mud Density	9 lbm/gal
Pipe Movement During Cementing	Reciprocated
Calculated Displacement	155.00 bbl
Amount of Cement Returns	10.00 bbl
Job Displaced by (rig/halco)	Cement Unit HP Pumps
Annular flow Before Job? (Water/Gas)	Unknown
Annular flow After Job? (Water/Gas)	Unknown
Length of Rat Hole	13.00 ft

Cementing Equipment

Did Float Equipment Hold?	Yes
Plug set used?	Yes
Brand of Plug set used?	Weatherford
Did Plugs Bump?	Yes
Calculated Pressure to Bump Plugs	636.0 psig
Did Stage Cementing Tool Open Properly?	Yes

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Service Supervisor Reports

Job Log

Date/Time	Chart #	Activity Code	Pump Rate	Cum Vol	Pump		Pressure (psig)	Comments
10/19/2010 14:30		Call Out						CREW CALLED OUT, GOT TRUCKS PREPPED FOR CONVOY AND JOB
10/19/2010 14:45		Pre-Convoy Safety Meeting						DISCUSSED CONVOY PROCEDURES, ROUTE, STOPS, TRAFFIC, WILDLIFE, ROAD HAZARDS, EMERGENCY, AND BREAKDOWN PROCEDURES
10/19/2010 15:00		Arrive At Loc						RIG IS RIGGING UP TO START RUNNING CASING
10/19/2010 15:30		Pre-Rig Up Safety Meeting						DISCUSSED RIG UP PROCEDURES, RED ZONES, PINCH POINTS, LIFTING TECHNIQUES, SLIPS/TRIPS/FALLS
10/19/2010 15:45		Rig-Up Equipment						RIGGED UP SAFELY AND TO BOTH HALLIBURTON AND EXXON STANDARDS
10/19/2010 17:00		Other						WAITING FOR CASING TO BE FINISHED
10/20/2010 07:45		Other						CASING ON BOTTOM, RIG IS CIRCULATING A BOTTOMS UP
10/20/2010 12:30		Pre-Job Safety Meeting						DISCUSSED JOB PROCEDURES, RIG ISSUES, SAFETY ISSUES, HAZARDS WITH PRESSURE, EMERGENCY, AND EVACUATION PROCEDURES
10/20/2010 13:07		Test Lines					250.0	LOW PRESSURE TEST IS GOOD
10/20/2010 13:13		Test Lines					5000.0	HIGH PRESSURE TEST IS GOOD
10/20/2010 13:19		Pump Spacer	5				250.0	PUMPED FRESH WATER @ 8.33 PPG

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Date/Time	Chart #	Activity Code	Pump Rate	Cum Vol	Pump	Pressure (psig)	Comments
10/20/2010 13:30		Pump Lead Cement	6			401.0	MIXED @ 12.7 PPG, 770 SKS, YLD 1.88, WTR 9.98,
10/20/2010 14:13		Pump Tail Cement	6			504.0	MIXED @ 15.8 PPG, 350 SKS, YLD 1.15, WTR 4.95
10/20/2010 14:26		Drop Top Plug					PLUG DROPPED BY WEATHERFORD TOOL HAND
10/20/2010 14:34		Pump Displacement	8			506.0	PUMPED FRESH WATER @ 8.33 PPG AND FRESH WATER MUD @ 9.2 PPG
10/20/2010 14:53		Slow Rate	3			51.0	SLOWED RATE TO GO THRU THE DV TOOL
10/20/2010 15:04		Resume	8			505.0	PICKED RATE BACK UP TO PREVIOUS RATE
10/20/2010 15:40		Bump Plug	2			1284.0	BUMPED @ 715 PSI AND TOOK PRESSURE 500 PSI OVER AS PER COMPANY MAN AND WEATHERFORD TOOL HAND
10/20/2010 15:44		Check Floats					FLOATS HELD, GOT 2 BBLS BACK
10/20/2010 15:50		Drop Opening Device For Multiple Stage Cementer					OPENING TOOL DROPPED BY WEATHERFORD TOOL HAND
10/20/2010 16:15		Pressure Up	1.5			540.0	PRESSURED UP TO OPEN TOOL, TOOL OPENED AT 540 PSI
10/20/2010 16:20		Shutdown					SHUTDOWN / SWAPPED TO THE RIG, SO RIG CAN CIRCULATE FOR 2 OR 3 HOURS
10/20/2010 16:30		Wait on Orders - Start Time					WAITING FOR CEMENT TO SET UP
10/20/2010 19:10		Wait on Orders - End Time					CEMENT IS SET UP, NOW STARTING 2ND STAGE
10/20/2010 19:15		Pre-Job Safety Meeting					DISCUSSED JOB PROCEDURES, RIG ISSUES, SAFETY ISSUES, HAZARDS WITH PRESSURE, EMERGENCY, AND EVACUATION PROCEDURES

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Date/Time	Chart #	Activity Code	Pump Rate	Cum Vol	Pump	Pressure (psig)	Comments
10/20/2010 19:32		Pump Spacer	6			270.0	PUMPED FRESH WATER @ 8.33 PPG
10/20/2010 19:46		Pump Cement	6			450.0	MIXED @ 12.7 PPG, 830 SKS, YLD 1.87, WTR 10.0,
10/20/2010 20:34		Drop Top Plug					PLUG DROPPED BY WEATHERFORD TOOL HAND
10/20/2010 20:44		Pump Displacement	4			350.0	PUMPED WATER BASED MUD @ 9.2 PPG
10/20/2010 21:30		Bump Plug	3			1852.0	BUMPED @ 445 PSI AND TOOK PRESSURE 1200 PSI OVER AS PER COMPANY MAN AND WEATHERFORD TOOL HAND
10/20/2010 21:35		Check Floats					FLOATS HELD, GOT 1.5 BBLs BACK
10/20/2010 21:37		Pressure Up Well					PRESSURED BACK UP AGAINST THE PLUG
10/20/2010 21:40		Check Floats					FLOATS HELD AGAIN, GOT 1.5 BBLs BACK AGAIN
10/21/2010 00:00		Pre-Job Safety Meeting					DISCUSSED JOB PROCEDURES FOR TOPOUT, RIG ISSUES, SAFETY ISSUES, HAZARDS WITH PRESSURE, EMERGENCY, AND EVACUATION PROCEDURES
10/21/2010 00:07		Pump Cement	1.5			80.0	MIXED @ 15.8 PPG, 400 SKS, YLD 1.17, WTR 5.02
10/21/2010 00:15		Shutdown					SHUTDOWN TO WAIT ON THE CEMENT TO SET UP
10/21/2010 04:30		Post-Job Safety Meeting (Pre Rig-Down)					DISCUSSED JOB OUTCOME AND DISCUSSED RIG DOWN PROCEDURES, RED ZONES, PINCH POINTS, LIFTING TECHNIQUES, SLIPS/TRIPS/FALLS
10/21/2010 04:40		Rig-Down Equipment					RIGGED DOWN SAFELY AND TO BOTH HALLIBURTON AND EXXON STANDARDS

HALLIBURTON

Date/Time	Chart #	Activity Code	Pump Rate	Cum Vol	Pump		Pressure (psig)		Comments
10/21/2010 06:20		Pre-Convoy Safety Meeting							DISCUSSED CONVOY PROCEDURES, ROUTE, STOPS, TRAFFIC, WILDLIFE, ROAD HAZARDS, EMERGENCY, AND BREAKDOWN PROCEDURES
10/21/2010 06:30		Depart Location for Service Center or Other Site							THANKS FOR USING HALLIBURTON!!!

The Road to Excellence Starts with Safety

Sold To #: 331699	Ship To #: 2807229	Quote #:	Sales Order #: 7711692
Customer: EXXONMOBIL CORPORATION		Customer Rep: Kelly, Whitnee	
Well Name: PCU		Well #: 197-36A6	API/UWI #: 05-103-11185-00
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: ANDERSON, BENJAMIN	MBU ID Emp #: 342843

Job Personnel

HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #
ANDERSON, BENJAMIN L	26	342843	MCCONKIE, TRAVIS Terry	26	471264	PEAY, SHANE Blake	26	472880
WALSH, JAMES Ronald	26	457722	WEYERMAN, JEREMY Todd	26	477287			

Equipment

HES Unit #	Distance-1 way	HES Unit #	Distance-1 way	HES Unit #	Distance-1 way	HES Unit #	Distance-1 way
10948690	45 mile	10994445	45 mile	11062230	45 mile	11076824	45 mile
11338211	45 mile	11410662	45 mile	6441	45 mile		

Job Hours

Date	On Location Hours	Operating Hours	Date	On Location Hours	Operating Hours	Date	On Location Hours	Operating Hours
21-OCT-2010	26	5						
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	20 - Oct - 2010	04:30	MST
Form Type	BHST		Job Started	20 - Oct - 2010	12:30	MST
Job depth MD	4210. ft	Job Depth TVD	4210. ft	Job Completed	20 - Oct - 2010	04:15
Water Depth		Wk Ht Above Floor	4. ft	Departed Loc	20 - Oct - 2010	06:30
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
Multiple Stage Cementer	Used			.				1591.	1591.		
Surface Open Hole				14.75				.	1591.	.	1564.
Surface Open Hole				14.75				1591.	4181.	1564.	4069.
Surface Casing	Unknown		10.75	9.95	45.5	BTC	J-55	.	4181.	.	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			
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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)	770.0	sacks	12.7	1.86	9.87	6.0	9.87
	0.6 %	HR-7 (100005055)							
	0.25 lbm	POLY-E-FLAKE (101216940)							
	9.866 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		394.00	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)	830.0	sacks	12.7	1.86	9.87	6.0	9.87
	0.25 lbm	POLY-E-FLAKE (101216940)							
	9.874 Gal	FRESH WATER							
3	Drilling Fluid / Mud		155.00	bbl	8.9	.0	.0	6.0	
4	Top Out	CMT - PREMIUM - CLASS G, 94 LB SK (100003685)	400.0	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	155	Shut In: Instant		Lost Returns	0	Cement Slurry	606	Pad	
Top Of Cement		5 Min		Cement Returns	160	Actual Displacement	152	Treatment	
Frac Gradient		15 Min		Spacers	80	Load and Breakdown		Total Job	1285

Rates									
Circulating	6	Mixing	6	Displacement	8	Avg. Job	6.7		
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

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Cementing Rockies, Meeker

LAB RESULTS – 1st Stage Lead

Job Information

Request/Slurry	105774/1	Rig Name	H&P 326	Date	October 18th 2010
Submitted By	Kyle King	Job Type	Surface Casing	Bulk Plant	Meeker
Customer	ExxonMobil	Location	Rio Blanco	Well	PCU 197-36A6

Well Information

Casing/Liner Size	10 3/4"	Depth MD	4184 ft	BHST	135 F
Hole Size	14 3/4"	Depth TVD	4069 ft	BHCT	102 F

Cement Information - Lead Design

Cone	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
						Water Requirement 10.02 GPS
35	%	> Boral Craig Pozmix	Bulk	Oct 18, 2010	09-20-10	
65	%	> Holcim Type V	Bulk	Oct 18, 2010	10-07-10	
5.00	lb/sk	Cal-Seal 60	Bulk	Oct 18, 2010		
3.00	lb/sk	Silicalite - Compacted	Bulk	Oct 18, 2010		
0.80	% BWOC	Econolite (Powder - PB)	Bulk	Oct 18, 2010		
0.60	% BWOC	HR-7	Bulk	Oct 18, 2010		
0.25	lb/sk	Pol-E-Flake	Bulk	Oct 18, 2010		
97.49	L/100kg	Field (Fresh) Water	Lab	Oct 06, 2010		

Operation Test Results Request ID 105774/1

Thickening Time, Request Test ID:1102207

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)
102	2,341	25	4	03:49	04:03	04:22	05:30	05:30

Pin sheared coming out of second shutdown at 5:30 hrs. See graph.

Mixability (0 - 5) - 0 is not mixable, Request Test ID:1102209

Mixability rating (0 - 5)

5

API Rheology, Request Test ID:1102208

Temp (°F)	600	300	200	100	60	30	6	3	Cond Time (min)	PV/YP
80	43	29	26	22	20	18	17	16	20	12.9 / 17.9

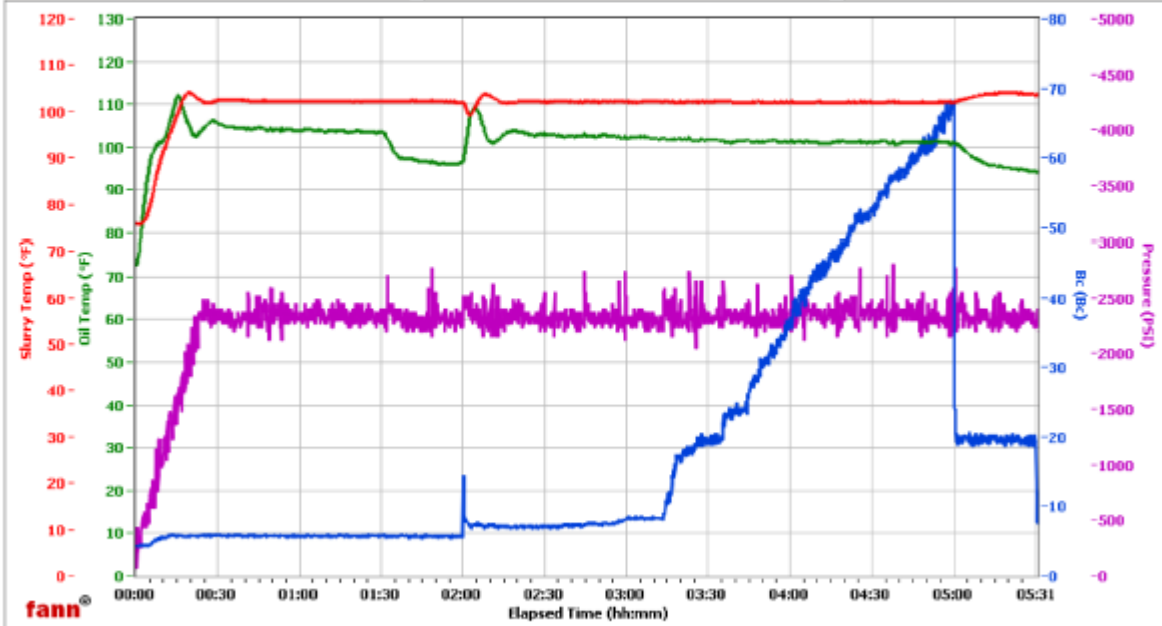
Additional Comments

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WRCR

Fields	Values	Fields	Values	Events	Results
Project Name	ExxonMobil 105774-1	Job Type	Surf Lead Lst	30.00 Bc	03h:49m
Test ID	105774-1	Cement Type	65/35 V/Poz	40.00 Bc	04h:03m
Request ID	HPHT 5	Cement Weight	Light Weight	50.00 Bc	04h:22m
Tested by	ac	Test Date	10/18/10	70.00 Bc	NaN
Customer	ExxonMobil	Test Time	10:59 PM	100.00 Bc	NaN
Well No	PCU 197-36A6	Temp. Units	degF	200.00 Bc	NaN
Rig	H&P 326	Pressure Units	PSI	03h:00m	8.28
Casing/Liner Size				06h:00m	NaN



Data File: O:\HPHT Data Files\WRCR\WRCR Consistometer #5\ExxonMobil 105774-1.tdms

Comments: 65/35% V/Poz, 0.600 Hr-7, 1.88 Yield, 12.702 Den

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Cementing Rockies, Meeker

LAB RESULTS - 1st Stage Tail

Job Information

Request/Slurry	105777/1	Rig Name	H&P 326	Date	October 18th 2010
Submitted By	Kyle King	Job Type	Surface Casing	Bulk Plant	Meeker
Customer	ExxonMobil	Location	Rio Blanco	Well	PCU 197-36A6

Well Information

Casing/Liner Size	10 3/4"	Depth MD	4170 ft	BHST	135 F
Hole Size	14 3/4"	Depth TVD	4069 ft	BHCT	102 F

Cement Information - Tail Design

Conc	UOM	Cement/Additive	Sample Type	Sample Date	Lot No.	Cement Properties		
		HalCem				Slurry Density	15.798	PPG
100.00	% BWOC	Mountain G	Bulk	Oct 18, 2010	10-10-10	Slurry Yield	1.15	FT3
						Water Requirement	5	GPS
0.25	% BWOC	HR-800	Bulk	Oct 18, 2010	02241001			
44.37	L/100kg	Field (Fresh) Water	Lab	Oct 06, 2010	10-06-10			

Operation Test Results Request ID 105777/1

Thickening Time, Request Test ID:1102226

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)
102	2,341	25	7	03:18	03:31	03:34	03:42	03:42

Mixability (0 - 5) - 0 is not mixable, Request Test ID:1102228

Mixability rating (0 - 5)
5

API Rheology, Request Test ID:1102227

Temp (°F)	600	300	200	100	60	30	6	3	Cond Time (min)	PV/YP
80	94	69	62	52	46	40	22	16	20	47.3 / 30.1

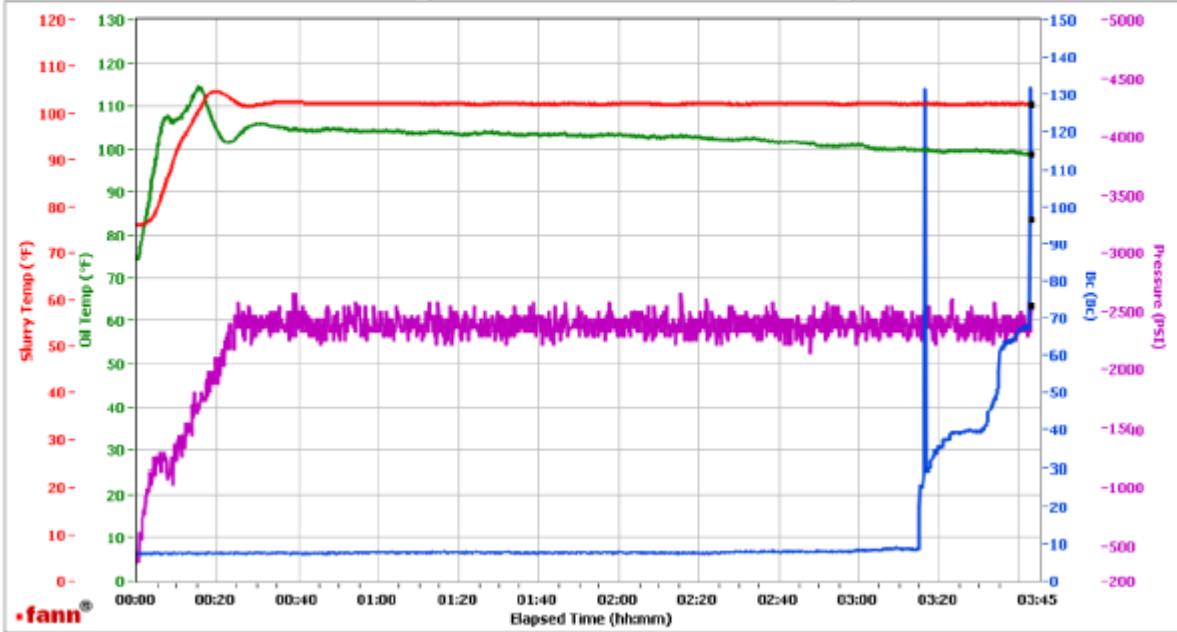
Additional Comments

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WRRCR

Fields	Values	Fields	Values	Events	Results
Project Name	ExxonMobil 105777-1	Job Type	Surf Tail	30.00 Bc	03h:18m
Test ID	105777-1	Cement Type	G	40.00 Bc	03h:31m
Request ID	HRHT 1	Cement Weight	Standard	50.00 Bc	03h:34m
Tested by	ac	Test Date	10/19/10	70.00 Bc	03h:42m
Customer	ExxonMobil	Test Time	12:48 AM	100.00 Bc	03h:42m
Well No	PCU 197-36A6	Temp. Units	degF	200.00 Bc	NaN
Rig	H6P 326	Pressure Units	PSI	03h:00m	8.10
Casing/Liner Size				06h:00m	NaN



Data File | O:\HRHT Data Files WRRCR\WRRCR - Consistometer #1\ExxonMobil 105777-1.tdms
 Comments | 100% G, 0.250 HR-800

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Cementing Rockies, Meeker

LAB RESULTS – 2nd Stage Lead

Job Information

Request/Slurry	105775/1	Rig Name	H&P 326	Date	October 18th 2010
Submitted By	Kyle King	Job Type	Surface Casing	Bulk Plant	Meeker
Customer	ExxonMobil	Location	Rio Blanco	Well	PCU 197-36 A6

Well Information

Casing/Liner Size	10 3/4"	Depth MD	1592 ft	BHST	101 F
Hole Size	14 3/4"	Depth TVD	1564 ft	BHCT	86 F

Cement Information - Lead Design

Conc	UOM	Cement/Additive	Sample Type	Sample Date	Lot No.	Cement Properties		
		EconoCem				Slurry Density	12.702	PPG
		Cement Blend				Slurry Yield	1.88	FT3
						Water Requirement	10.05	GPS
100.00	% BWOC							
35	%	> Boral Craig Pozmix	Bulk	Oct 18, 2010	09-20-10			
65	%	> Holcim Type V	Bulk	Oct 18, 2010	10-07-10			
5.00	lb/sk	Cal-Seal 60	Bulk	Oct 18, 2010	9-30-10			
3.00	lb/sk	Silicalite - Compacted	Bulk	Oct 18, 2010	10-08-10			
0.80	% BWOC	Econolite (Powder - PB)	Bulk	Oct 18, 2010	UO20610			
97.82	L/100kg	Field (Fresh) Water	Lab	Oct 06, 2010	10-06-10			

Operation Test Results Request ID 105775/1

Thickening Time, Request Test ID:1102219

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)
86	982	15	9	05:00	05:00	05:00	05:00	05:00

Upon exiting shutdown, Bc's witnessed to jump from 24 to 112.

Mixability (0 - 5) - 0 is not mixable, Request Test ID:1102221

Mixability rating (0 - 5)

5

API Rheology, Request Test ID:1102220

Temp (°F)	600	300	200	100	60	30	6	3	Cond Time (min)	PV/YP
80	55	37	33	28	26	23	18	13	20	20.3 / 19.9

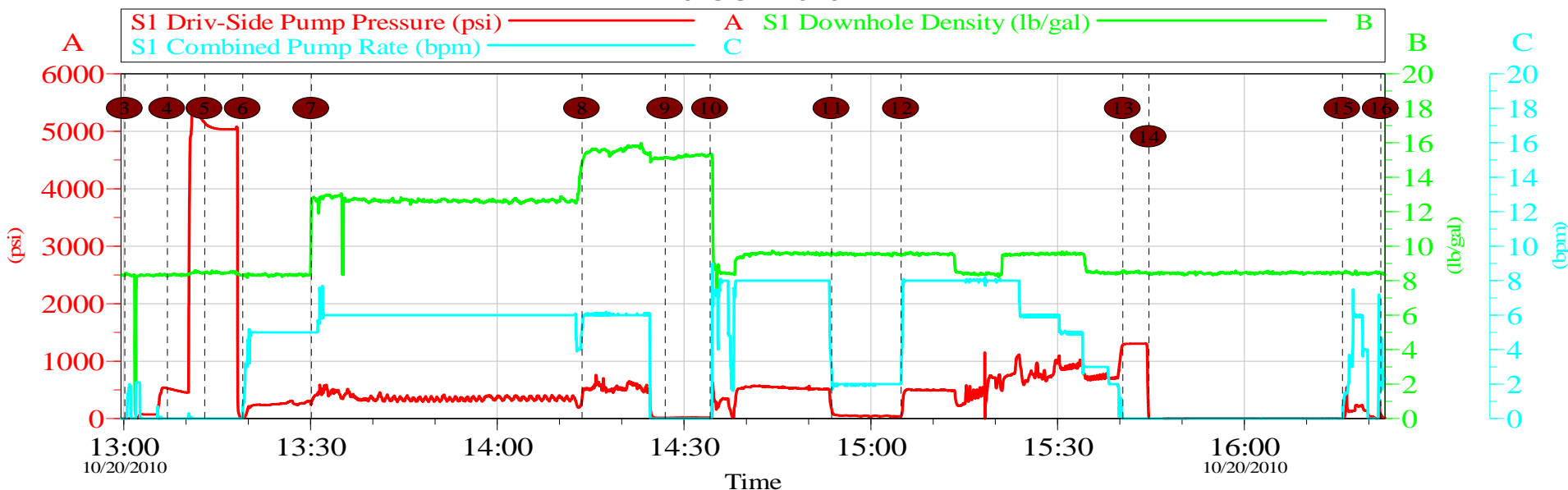
Additional Comments

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Data Acquisition

EXXONMOBIL - PCU WELL 197-36A6 - 1ST STAGE 20-OCT-2010



Global Event Log

Intersection	SDPP	Intersection	SDPP
3 Start Job	13:00:10 1.000	4 Test Lines	13:07:00 526.5
5 Test Lines	13:13:00 5149	6 Pump Fresh Water Spacer	13:19:07 8.000
7 Pump Lead Cement, 770 sks, yld 1.88, wtr 9.98	13:30:08 268.8	8 Pump Tail Cement, 830 sks, yld 1.87, wtr 10.0	14:13:36 353.2
9 Drop Top Plug	14:26:58 17.00	10 Pump Displacement	14:34:12 21.00
11 Slowed Rate For DV Tool	14:53:43 159.5	12 Increased Rate Back To Previous	15:04:52 39.11
13 Bump Plug	15:40:30 1284	14 Check Floats	15:44:41 5.231
15 Pressured Up Well To Open The Tool	16:15:46 4.000	16 End Job	16:21:56 46.00

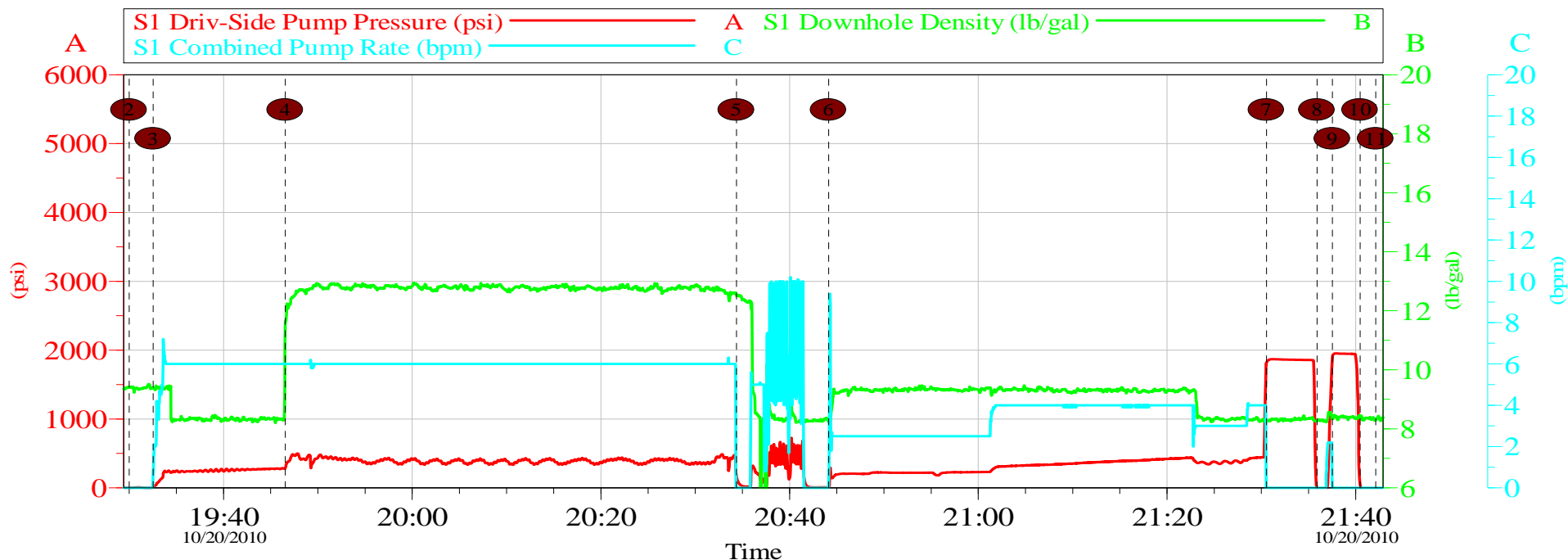
Customer: EXXONMOBIL
Well Description: PCU
SVC SPR STARBUCKS

Job Date: 20-Oct-2010
WELL 197-36A6
SVC OPR TRAVIS MCCONKIE

Sales Order #: 7711692
PUMP TRK 11076824

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OptiCem v6.2.3
20-Oct-10 17:02

EXXONMOBIL - PCU
WELL 197-36A6 - 2ND STAGE SURFACE
20-OCT-2010



Intersection		SDPP	Intersection		SDPP		
2	Start Job	19:30:00	3.000	3	Pump Fresh Water Spacer	19:32:32	2.299
4	Pump Cement, 830 sks, yld 1.87, wtr 10.0	19:46:33	287.8	5	Shutdown / Dropped Top Plug	20:34:22	172.6
6	Pump Displacement	20:44:08	12.07	7	Bump Plug	21:30:33	1817
8	Check Floats	21:35:54	-14.72	9	Pressured Up Again	21:37:32	1914
10	Check Floats Again	21:40:29	37.34	11	End Job	21:42:08	-9.000

Customer: EXXON	Job Date: 20-Oct-2010	Sales Order #: 7711692
Well Description: PCU	WELL 197-36A6	PUMP TRK 11076824
SVC SPR STARBUCKS	SVC OPR TRAVIS MCCONKIE	