

EXXONMOBIL CORPORATION

HOUSTON, Texas

PCU B F13-1G

Workover

Post Job Summary

Casing Squeeze

Prepared for: Tim Greene
Date Prepared: July 29, 2011
Version: 1

Service Supervisor: DEARING, KEN

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
Casing	Production Casing	4.50	4.090	9.50	0.00	2,717.00	0.00	2,717.00		0.00
Tubing	Tubing	2.38	1.995	4.70	0.00	1,460.00	0.00	1,460.00		0.00
Retainer	Retainer		.000		1,460.00	1,465.00				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	FRESH WATER	8.33	3.00	5.0 bbl	5.0 bbl
1	2	Cement Slurry	Squeeze Cement	15.80	3.00	120.0 sacks	120.0 sacks
1	3	Spacer	FRESH WATER	8.33	3.00	4.0 bbl	4.0 bbl

HALLIBURTON

Fluids Pumped

Stage/Plug # 1 Fluid 1: FRESH WATER
DUMMY MUD / FLUSH / SPACER SBC MATERIAL

Fluid Density: 8.33 lbm/gal
Fluid Volume: 5.00 bbl
Pump Rate: 3.00 bbl/min

Stage/Plug # 1 Fluid 2: Squeeze Cement
SQUEEZECEM (TM) SYSTEM

Fluid Weight: 15.80 lbm/gal
Slurry Yield: 1.15 ft³/sack
Total Mixing Fluid: 4.99 Gal
Surface Volume: 120.0 sacks
Sacks: 120.0 sacks
Calculated Fill: 339.00 ft
Calculated Top of Fluid: 0.00 ft
Estimated Top of Fluid:
Pump Rate: 3.00 bbl/min

Stage/Plug # 1 Fluid 3: FRESH WATER
DUMMY MUD / FLUSH / SPACER SBC MATERIAL

Fluid Density: 8.33 lbm/gal
Fluid Volume: 4.00 bbl
Pump Rate: 3.00 bbl/min

Job Summary

Job Information

Job Start Date	9/27/2010 6:00:00 PM
Job MD	2,252.0 ft
Job TVD	1,695.0 ft
Height of Plug Container/Swage Above Rig Floor	5.0 ft
Mud Type	Water Based Mud
Actual Mud Density	8 lbm/gal
Pipe Movement During Hole Circulation	None
Pipe Movement During Cementing	None
Did Pipe Pull Dry?	Pipe Pulled Dry
Job Displaced by (rig/halco)	Cement Unit HP Pumps
Annular flow Before Job? (Water/Gas)	Unknown
Annular flow After Job? (Water/Gas)	Unknown

Service Supervisor Reports

Job Log

Date/Time	Chart #	Activity Code	Pump Rate	Cum Vol	Pump		Pressure (psig)		Comments
09/27/2010 07:30		Call Out							
09/27/2010 08:15		Pre-Convoy Safety Meeting							DISCUSS SAFETY AND HAZARDS OF TRAVEL.
09/27/2010 08:30		Other							LOAD EQUIPMENT FOR JOB.
09/27/2010 08:50		Depart Yard Safety Meeting							DISCUSS SAFETY AND HAZARDS OF TRAVEL.
09/27/2010 09:00		Crew Leave Yard							
09/27/2010 14:00		Arrive At Loc							
09/27/2010 14:05		Safety Meeting - Assessment of Location							WALK LOCATION, DISCUSS SPOTTING OF EQUIPMENT, DISCUSS SAFETY AND HAZARDS.
09/27/2010 14:10		Safety Meeting							MEET WITH CO.MAN, DISCUSS WELL CONDITIONS, GET WELL INFORMATION, DISCUSS PRESSURE TEST AND MAX PRESSURE, DISCUSS SAFETY AND HAZARDS.
09/27/2010 14:15		Safety Huddle							DISCUSS SAFETY AND HAZARDS.
09/27/2010 14:20		Other							SPOT EQUIPMENT.
09/27/2010 14:25		Safety Meeting - Pre Rig-Up							DISCUSS SAFETY AND HAZARDS.
09/27/2010 14:30		Rig-Up Equipment							RIG UP IRON AND SUCTION HOSE TO RED ZONE, TEST H2O.
09/27/2010 15:30		Other							WAIT ON RIG TO RUN TUBING.

HALLIBURTON

Date/Time	Chart #	Activity Code	Pump Rate	Cum Vol	Pump		Pressure (psig)	Comments
09/27/2010 17:10		Safety Meeting - Pre Job						SAFETY MEETING WITH RIG CREW AND CO.MAN, GO OVER JOB PROCEDURES, DISCUSS SAFETY AND HAZARDS OF JOB.
09/27/2010 17:30		Safety Meeting - Pre Rig-Up						DISCUSS SAFETY AND HAZARDS.
09/27/2010 17:40		Rig-Up Equipment						RIG UP IRON TO RIG FLOOR.
09/27/2010 17:55		Pressure Up Annulus					500.0	PRESSURE UP BACK SIDE WITH 500psi.
09/27/2010 17:58		Pressure Test					3350.0	PRESSURE TEST LINES.
09/27/2010 18:03		Injection Test	0.7				650.0	START INJECTION RATE TEST PUMPING H2O.
09/27/2010 18:08		Other	1				1355.0	INJECTION RATE, START MIXING 15.8# CEMENT, 11.5bbls TOTAL H2O AHEAD.
09/27/2010 18:16		Pump Cement	1	12.3			1355.0	START PUMPING 15.8# CEMENT, 12.3bbls, 60sks, 1.15cf/ft, 4.99gal/sk.
09/27/2010 18:28		Pump Displacement	1				500.0	START H2O DISPLACEMENT.
09/27/2010 18:30		Shutdown					650.0	
09/27/2010 18:45		Other	1				35.0	PUMP H2O TO SQUEEZE.
09/27/2010 18:46		Shutdown					300.0	
09/27/2010 19:04		Other	1				35.0	PUMP H2O TO SQUEEZE.
09/27/2010 19:05		Shutdown					520.0	6bbls TOTAL DISPLACEMENT.
09/27/2010 19:06		Other	1	13			925.0	SQUEEZE DID NOT TAKE AS PER CO.MAN, PUMP H2O TO PUMP CEMENT AWAY.
09/27/2010 19:20		Shutdown					600.0	
09/27/2010 19:25		Safety Huddle						DISCUSS SAFETY AND HAZARDS.
09/27/2010 19:30		Other						WASH UP RCM TO PIT.

HALLIBURTON

Date/Time	Chart #	Activity Code	Pump Rate	Cum Vol	Pump		Pressure (psig)		Comments
09/27/2010 20:45		Other							CHECK ALL EQUIPMENT FOR LEAVING FOR THE NIGHT.
09/27/2010 21:10		Pre-Convoy Safety Meeting							DISCUSS SAFETY AND HAZARDS OF TRAVEL.
09/27/2010 22:00		Crew Leave Location							
09/28/2010 09:00		Arrive At Loc							
09/28/2010 09:05		Assessment Of Location Safety Meeting							WALK LOCATION, DISCUSS SPOTTING OF EQUIPMENT, DISCUSS SAFETY AND HAZARDS, TEST H2O.
09/28/2010 09:30		Safety Meeting							SAFETY MEETING WITH RIG CREW AND CO.MAN, DISCUSS SAFETY AND HAZARDS OF JOB.
09/28/2010 09:45		Prime Pumps							GET EQUIPMENT READY FOR JOB.
09/28/2010 09:55		Safety Meeting - Pre Job							SAFETY MEETING WITH RIG CREW AND CO.MAN, GO OVER JOB PROCEDURES, DISCUSS SAFETY AND HAZARDS OF JOB.
09/28/2010 10:04		Pressure Up Annulus						500.0	PRESSURE UP BACK SIDE WITH 500psi.
09/28/2010 10:07		Pressure Test						3100.0	PRESSURE TEST LINES.
09/28/2010 10:11		Injection Test	0.7					50.0	START INJECTION RATE TEST PUMPING H2O.
09/28/2010 10:15		Other	0.7					635.0	INJECTION RATE, START MIXING 15.8# CEMENT, 5.8bbls TOTAL H2O AHEAD.
09/28/2010 10:20		Pump Cement	0.7	12.6				685.0	START PUMPING 15.8# CEMENT, 12.6bbls, 60sks, 1.18cf/ft, 5.25gal/sk.
09/28/2010 10:37		Pump Displacement	0.7					655.0	START PUMPING H2O DISPLACEMENT.
09/28/2010 10:40		Shutdown						660.0	
09/28/2010 10:55		Other	0.4					40.0	PUMP H2O TO SQUEEZE.

HALLIBURTON

Date/Time	Chart #	Activity Code	Pump Rate	Cum Vol	Pump		Pressure (psig)	Comments
09/28/2010 10:58		Shutdown					560.0	
09/28/2010 11:08		Other	0.4				80.0	PUMP H2O TO SQUEEZE.
09/28/2010 11:12		Shutdown					800.0	4bbls TOTAL H2O DISPLACEMENT.
09/28/2010 11:24		Other					220.0	SQUEEZE GOOD AS PER CO.MAN, RIG STINGS OUT OF RETAINER, 220psi WHEN RIG STINGS OUT.
09/28/2010 11:25		Other	1.5				25.0	PUMP .5bbl H2O TO LEAVE .5bbl CEMENT ON TOP OF RETAINER.
09/28/2010 11:25		Shutdown						
09/28/2010 11:25		Safety Huddle						DISCUSS SAFETY AND HAZARDS.
09/28/2010 11:26		Other						RIG IRON OFF OF TUBING, RIG PULLS 2 STANDS, RIG BACK UP TO TUBING.
09/28/2010 11:36		Reverse Circ Well	1				100.0	START PUMPING H2O TO REVERSE OUT TUBING.
09/28/2010 11:39		Other	2				235.0	SEE CEMENT BACK TO PIT.
09/28/2010 11:40		Other	2				180.0	SEE CLEAN WATER BACK TO PIT.
09/28/2010 11:42		Shutdown						REVERSING GOOD, TUBING CLEAN AS PER CO.MAN, SHUT DOWN.
09/28/2010 11:45		Safety Meeting - Pre Rig-Down						DISCUSS SAFETY AND HAZARDS.
09/28/2010 11:50		Rig-Down Equipment						RIG DOWN IRON OFF OF RIG FLOOR.
09/28/2010 12:05		Other						RIG STARTS PULLING TUBING OUT OF HOLE.
09/28/2010 12:05		Post-Job Safety Meeting (Pre Rig-Down)						DISCUSS JOB, DISCUSS BBP AND HOC OBSERVATIONS, DISCUSS SAFETY AND HAZARDS.

HALLIBURTON

Date/Time	Chart #	Activity Code	Pump Rate	Cum Vol	Pump		Pressure (psig)		Comments
09/28/2010 12:20		Rig-Down Equipment							RIG DOWN AND RACK UP IRON AND SUCTION HOSE.
09/28/2010 14:45		Pre-Convoy Safety Meeting							DISCUSS SAFETY AND HAZARDS OF TRAVEL.
09/28/2010 15:00		Crew Leave Location							
09/28/2010 15:00		Other							THANK YOU-KEN AND CREW.

The Road to Excellence Starts with Safety

Sold To #: 331699		Ship To #: 2808189		Quote #:		Sales Order #: 7664252	
Customer: EXXONMOBIL CORPORATION				Customer Rep: NOWELL, STEVE			
Well Name: PCU			Well #: BF13-1G			API/UWI #: 05-103-07478	
Field:		City (SAP): MEEKER		County/Parish: Harris		State: Texas	
Lat: N 39.904 deg. OR N 39 deg. 54 min. 13.543 secs.				Long: E 108.235 deg. OR E 108 deg. 14 min. 5.168 secs.			
Contractor: WORKOVER			Rig/Platform Name/Num: Workover				
Job Purpose: Plug to Abandon Service							
Well Type: Development Well				Job Type: Casing Squeeze			
Sales Person: ANGLIN, JOSHUA			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 #
DE OLIVEIRA, GABRIEL Antonio		466988	DEAN, MARK Christophe		454214	DEARING, KEN A		239372

Equipment

HES Unit #	Distance-1 way	HES Unit #	Distance-1 way	HES Unit #	Distance-1 way	HES Unit #	Distance-1 way
10872435	45 mile	10897817	45 mile	11263211	45 mile	11287531	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

Formation Name					Job Times			
Formation Depth (MD)	Top	Bottom			Called Out	Date	Time	Time Zone
Form Type		BHST	135 degF		On Location	27 - Sep - 2010	14:00	MST
Job depth MD	2252. ft		Job Depth TVD	1695. ft		Job Started	27 - Sep - 2010	18:00
Water Depth			Wk Ht Above Floor	5. ft		Job Completed	28 - Sep - 2010	12:00
Perforation Depth (MD)	From	2,286.00 ft	To	2,294.00 ft	Departed Loc	28 - Sep - 2010	15:00	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
Perforation Interval								2286.	2294.	.	.
Perforation Interval								2314.	2319.	.	.
Perforation Interval								2715.	2717.	.	.
Perforation Interval								2486.	2494.	.	.
Perforation Interval								2534.	2538.	.	.
Retainer	Unknown			.				1460.	1465.		
Production Casing	Unknown		4.5	4.09	9.5			.	2717.	.	2717.
Tubing	Unknown		2.375	1.995	4.7		J-55	.	1460.	.	1460.

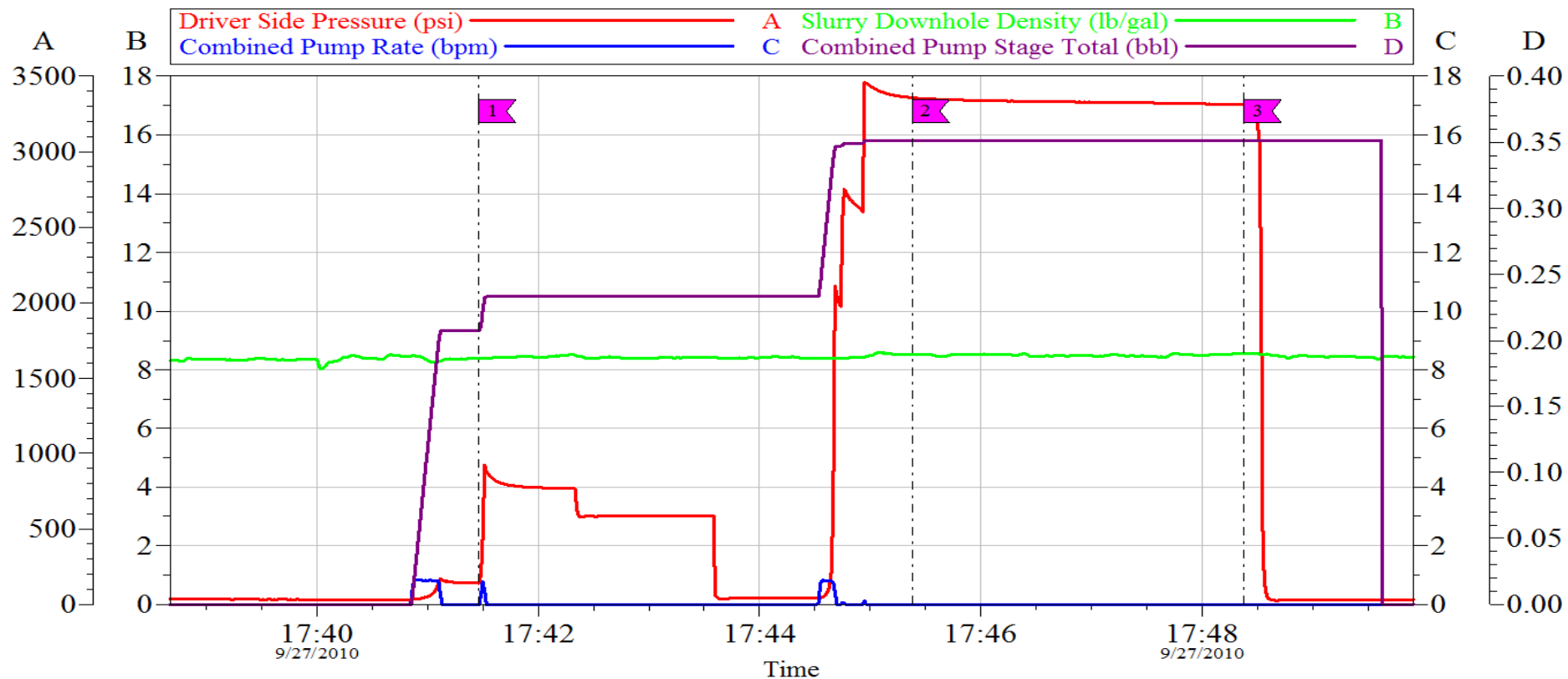
Tools and Accessories													
Type	Size	Qty	Make	Depth	Type	Size	Qty	Make	Depth	Type	Size	Qty	Make
Guide Shoe					Packer					Top Plug			
Float Shoe					Bridge Plug					Bottom Plug			
Float Collar					Retainer					SSR plug set			
Insert Float										Plug Container			
Stage Tool										Centralizers			
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 ft3/sk	Mix Fluid Gal/sk	Rate bbl/min	Total Mix Fluid Gal/sk		
1	FRESH WATER				5.00	bbl	8.33	.0	.0	3.0			
2	Squeeze Cement	SQUEEZECM (TM) SYSTEM (452971)			120.0	sacks	15.8	1.15	4.99	3.0	4.99		
	4.989 Gal	FRESH WATER											
3	FRESH WATER				4.00	bbl	8.33	.0	.0	3.0			
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	0 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							

HALLIBURTON

Data Acquisition

EXXONMOBIL CORPORATION

PCU WELL #: BF13-1G
CEMENT SQUEEZE SERVICE
PRESSURE TEST



Intersection			DSP	Intersection			DSP
1	PRESSURE OP BACK SIDE	17:41:28	141.5	2	PRESSURE TEST START	17:45:23	3357
3	PRESSURE TEST END	17:48:23	3312				

Customer: STEVE NOWELL
Well Description: PCU WELL #: BF13-1G

Job Date: 27-Sep-2010
UWI:

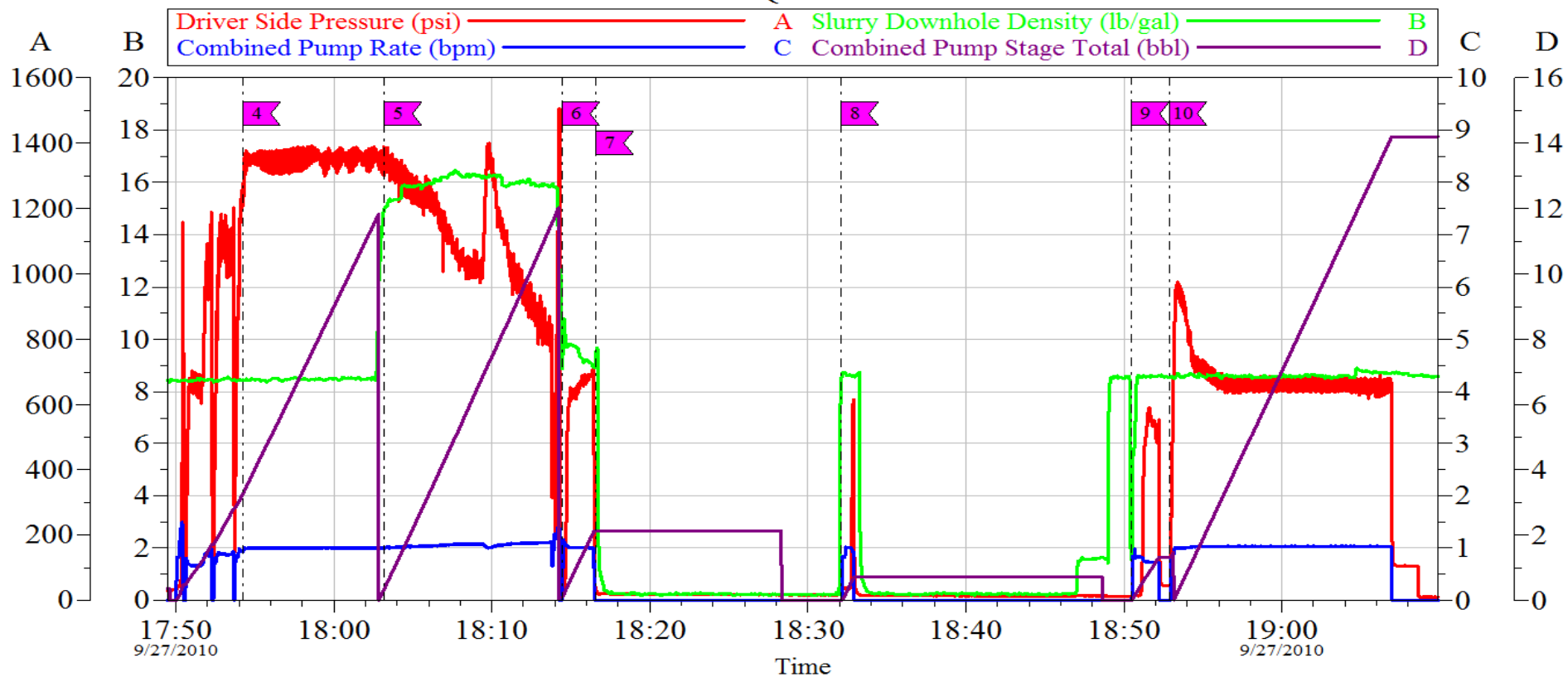
Sales Order #: 7664252
RIG: KEY WORKOVER

OptiCem v6.4.8
29-Sep-10 10:40

EXXONMOBIL CORPORATION

PCU WELL #: BF13-1G

CEMENT SQUEEZE SERVICE



4	INJECTION RATE-H2O	17:54:15	5	START 15.8# CEMENT	18:03:13
6	START H2O DISPLACEMENT-2.5bbl	18:14:27	7	SHUT DOWN-WATCH PRESSURE	18:16:35
8	SQUEEZE-H2O-2bbls	18:32:06	9	SQUEEZE-H2O1.5bbls	18:50:30
10	PUMP CEMENT AWAY-13bbls	18:52:53			

Customer: STEVE NOWELL
Well Description: PCU WELL #: BF13-1G

Job Date: 27-Sep-2010
UWI:

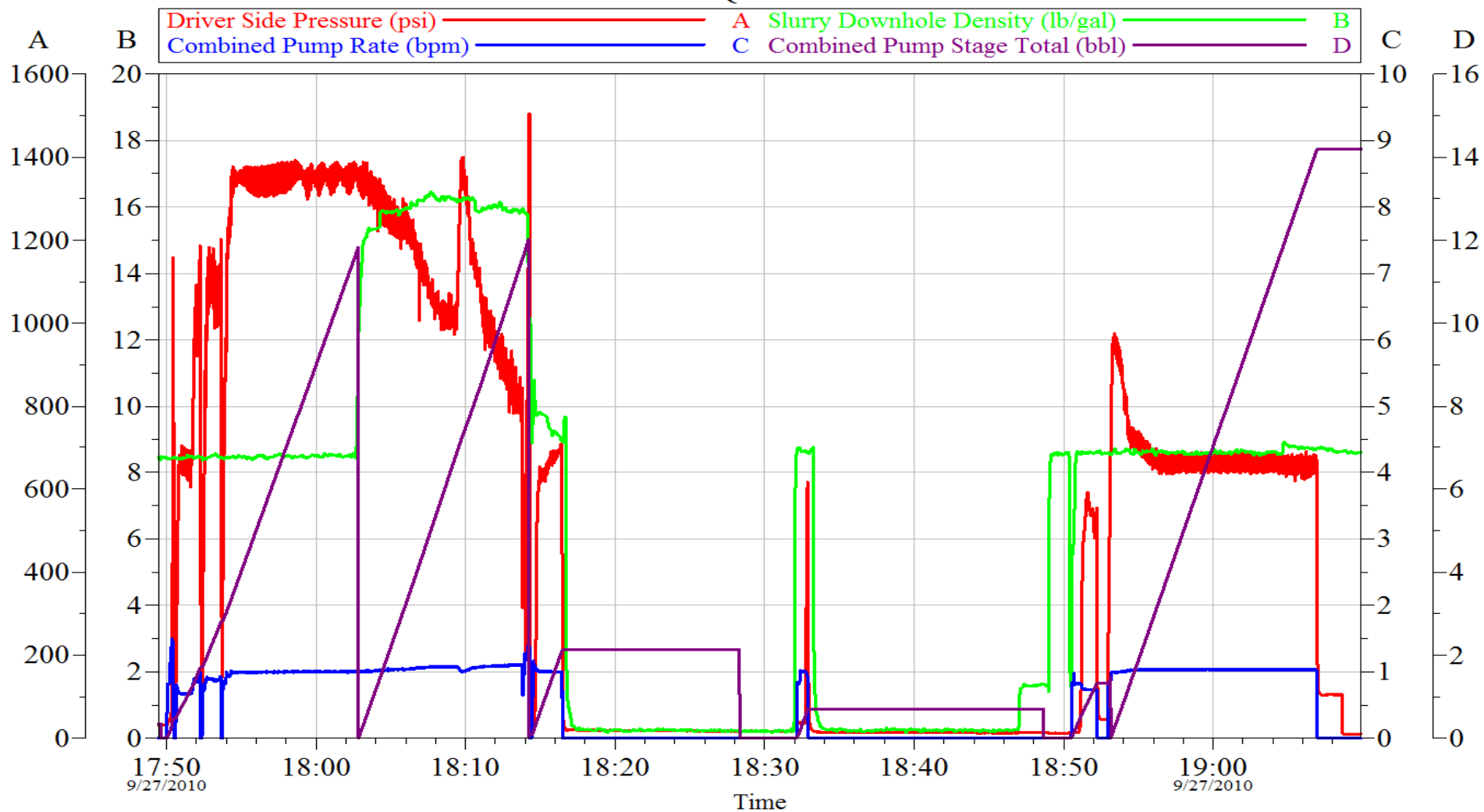
Sales Order #: 7664252
RIG: KEY WORKOVER

OptiCem v6.4.8
29-Sep-10 10:48

EXXONMOBIL CORPORATION

PCU WELL #: BF13-1G

CEMENT SQUEEZE SERVICE



Customer: STEVE NOWELL
Well Description: PCU WELL #: BF13-1G

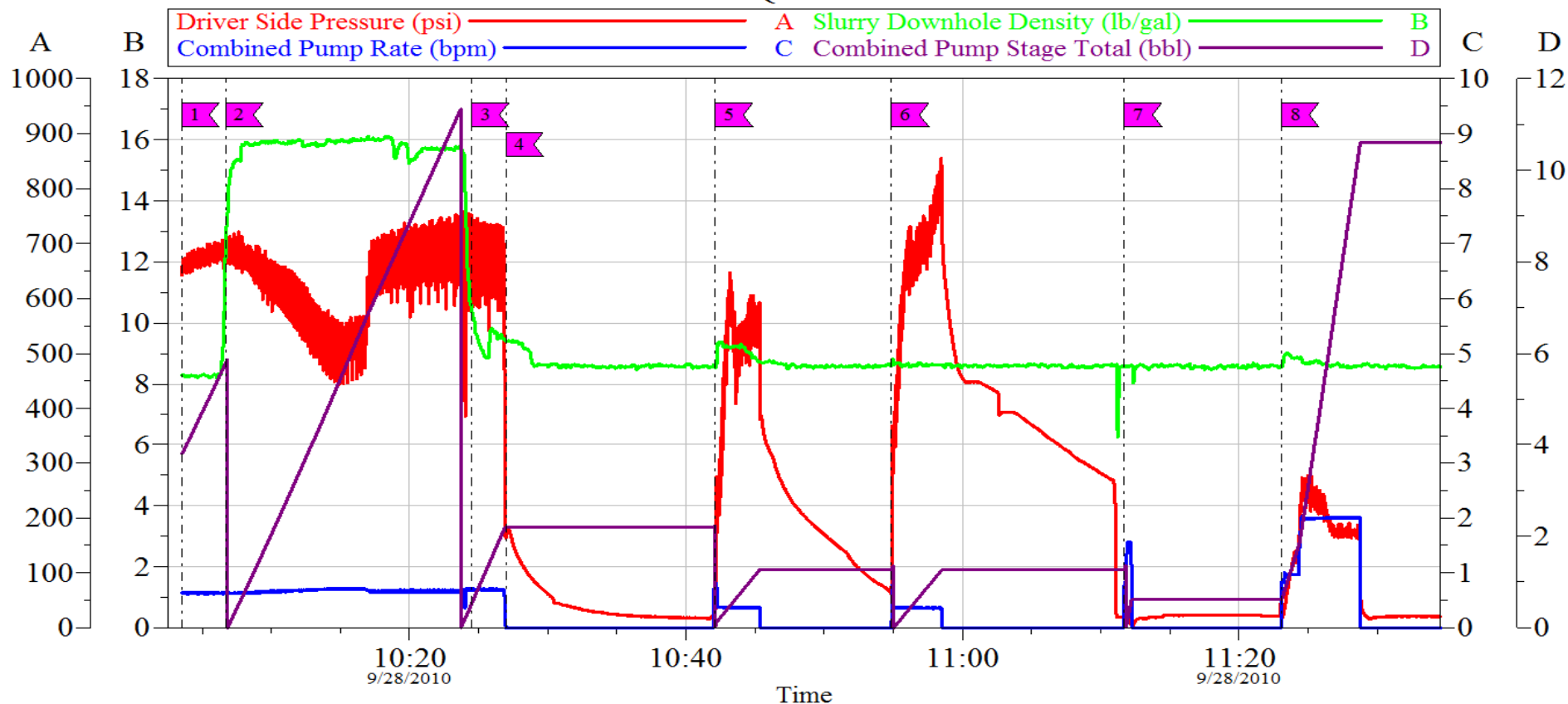
Job Date: 27-Sep-2010
UWI:

Sales Order #: 7664252
RIG: KEY WORKOVER

OptiCem v6.4.8
29-Sep-10 10:49

EXXONMOBIL CORPORATION

PCU WELL #: BF13-1G
CEMENT SQUEEZE SURFACE



1	INJECTION RATE-H2O	10:03:30	2	START 15.8# CEMENT	10:06:41
3	START H2O DISPLACEMENT-2.5bbls	10:24:29	4	SHUT DOWN --WATCH PRESSURE	10:26:58
5	SQUEEZE-1bbl	10:42:07	6	SQUEEZE-1bbl	10:54:52
7	PUMP .5bbl CEMENT ON TOP OF RETAINER	11:11:43	8	START REVERSING OUT-H2O	11:23:04

Customer: STEVE NOWELL
Well Description: PCU BF13-1G

Job Date: 28-Sep-2010
UWI:

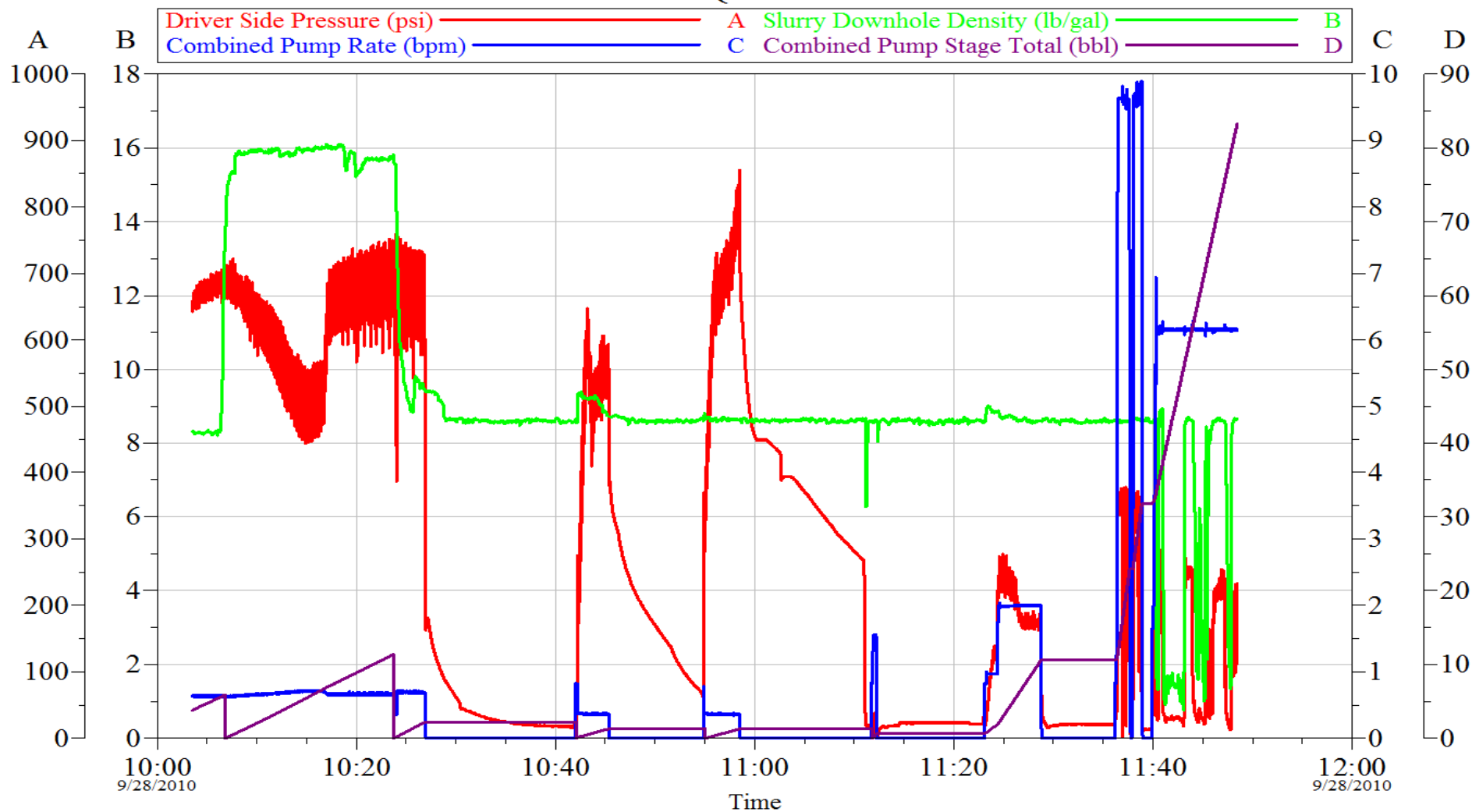
Sales Order #: 7664252
RIG: KEY WORKOVER

OptiCem v6.4.8
29-Sep-10 10:26

EXXONMOBIL CORPORATION

PCU WELL #: BF13-1G

CEMENT SQUEEZE SURFACE



Customer: STEVE NOWELL

Well Description: PCU BF13-1G

Job Date: 28-Sep-2010

UWI:

Sales Order #:

7664252

RIG: KEY WORKOVER

OptiCem v6.4.8
29-Sep-10 10:26