

EXXONMOBIL CORPORATION

HOUSTON, Texas

FRU 197-28A6 Surface

H&P 215

## Post Job Summary

### Cement Multiple Stages

Prepared for: Josh Anglin  
Date Prepared: July 19, 2010  
Version: 1

Service Supervisor: Cody Davis

Submitted by: Simukayi Mutasa

**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		
Open Hole Section	Surface Open Hole		14.750		0.00	1,041.00	0.00	1,041.00	75.00	
Open Hole Section	Surface Open Hole		14.750		1,041.00	3,600.00	1,041.00	3,553.00	25.00	
Casing	Surface Casing	10.75	9.950	45.50	0.00	3,600.00	0.00	3,553.00		80.00
Cement Stage Tool	Multiple Stage Cementer				1,041.00	1,041.00				

## Pumping Schedule

Stage/Plug #	Fluid #	Fluid Type	Fluid Name	Surface Density lbm/gal	Avg Rate bbl/min	Surface Volume
1	1	Spacer	FreshWater Ahead	8.33	6.00	50.0 bbl
1	2	Cement Slurry	First Stage Lead Cement	12.70	6.00	755.0 sacks
1	3	Cement Slurry	First Stage Tail Cement	15.80	6.00	350.0 sacks
1	4	Spacer	Drilling Fluid / Mud	8.90	6.00	336.0 bbl
2	1	Spacer	Freshwater Ahead	8.33	6.00	50.0 bbl
2	2	Cement Slurry	Second Stage Lead Cement	12.70	6.00	525.0 sacks
2	3	Spacer	Drilling Fluid / Mud	8.90	6.00	101.0 bbl

# HALLIBURTON

## Fluids Pumped

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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  
5 lbm Cal-Seal 60  
0.6 % HR-7  
3 lbm Silicalite Compacted  
0.8 % Econolite  
0.25 lbm Poly-E-Flake

Fluid Weight: 12.70 lbm/gal  
Slurry Yield: 1.88 ft<sup>3</sup>/sack  
Total Mixing Fluid: 9.96 Gal  
Surface Volume: 755.0 sacks  
Sacks: 755.0 sacks  
Calculated Fill: 1,838.00 ft  
Calculated Top of Fluid: 1,039.00 ft  
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 ft<sup>3</sup>/sack  
Total Mixing Fluid: 4.95 Gal  
Surface Volume: 350.0 sacks  
Sacks: 350.0 sacks  
Calculated Fill: 516.00 ft  
Calculated Top of Fluid: 2,877.00 ft  
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: 336.00 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  
5 lbm Cal-Seal 60  
3 lbm Silicalite Compacted  
0.8 % Econolite  
0.25 lbm Poly-E-Flake

Fluid Weight: 12.70 lbm/gal  
Slurry Yield: 1.87 ft<sup>3</sup>/sack  
Total Mixing Fluid: 9.98 Gal  
Surface Volume: 525.0 sacks  
Sacks: 525.0 sacks  
Calculated Fill: 1,039.00 ft  
Calculated Top of Fluid: 0.00 ft  
Pump Rate: 6.00 bbl/min

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

Fluid Density: 8.90 lbm/gal  
Fluid Volume: 101.00 bbl  
Pump Rate: 6.00 bbl/min

# HALLIBURTON

## Job Summary

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### Job Information

Job Start Date	7/14/2010 11:30:00 PM
Job MD	3,553.0 ft
Job TVD	3,600.0 ft
Height of Plug Container/Swage Above Rig Floor	3.0 ft
Surface Temperature at Time of Job	65 degF
Mud Type	Water Based Mud
Actual Mud Density	9.60 lbm/gal
Mud PV	15.0 cp
Mud YP	11.0 lbf/100ft <sup>2</sup>
Time Circulated before job	2.00 hour(s)
Rate at Which Well was Circulated	6.000 bbl/min
Pipe Movement During Hole Circulation	Reciprocated
Time From End Mud Circ. to Job Start	60.00 minute
Pipe Movement During Cementing	Reciprocated
Calculated Displacement	99.92 bbl
Amount of Cement Returns	110.00 bbl
Job Displaced by (rig/halco)	Cement Unit HP Pumps

### Cementing Equipment

Pipe Centralization	Through Entire Cement Column
Brand of Float Equipment Used	Weatherford
Did Float Equipment Hold?	Yes
Plug set used?	Yes
Brand of Plug set used?	Weatherford
Did Plugs Bump?	Yes
Calculated Pressure to Bump Plugs	650.0 psig
Brand of Stage Cementing Tools Used	Weatherford
Did Stage Cementing Tool Open Properly?	Yes

## Service Supervisor Reports

### Job Log

Date/Time	Chart #	Activity Code	Pump Rate	Cum Vol	Pressure (psig)	Comments
07/14/2010 12:00		Call Out				
07/14/2010 14:15		Depart Yard Safety Meeting				
07/14/2010 14:30		Crew Leave Yard				
07/14/2010 17:00		Arrive at Location from Service Center				RIG RUNNING CASING
07/14/2010 17:15		Safety Meeting - Assessment of Location				OVER HEAD LINES AND RED ZONES
07/14/2010 17:20		Other				MEET W/ CO MAN AND GO OVER NUMBERS
07/14/2010 17:30		Other				SPOT TRUCKS USING TWO SPOTTERS
07/14/2010 17:45		Safety Meeting - Pre Rig-Up				PINCH POINTS RED ZONES LINE OF FIRE...
07/14/2010 18:00		Rig-Up Equipment				RIG UP TO RED ZONES
07/14/2010 19:00		Other				WAIT ON RIG TO RUN CASING
07/14/2010 22:15		Safety Meeting - Pre Rig-Up				PINCH POINTS RED ZONES LINE OF FIRE...
07/14/2010 22:30		Rig-Up Equipment				FINISH RIGGING UP TO CMT HEAD
07/14/2010 23:00		Rig-Up Completed				
07/14/2010 23:30		Safety Meeting - Pre Job				GO OVER JOB PROCESS WITH EVERY ONE
07/14/2010 23:40		Pump Water				2BBLS TO FILL LINES
07/14/2010 23:41		Pressure Test			250.0	TO 250PSI
07/14/2010 23:47		Pressure Test			5000.0	TO 5000PSI
07/14/2010 23:51		Pump Water	7		390.0	PUMP 50BBLS H2O
07/14/2010 23:58		Pump Lead Cement	7		530.0	PUMP 252.8BBLS LEAD CMT 12.7# 1.88YIELD 9.96GAL/SK 755SKS
07/15/2010 00:34		Pump Tail Cement	7		312.0	PUMP 71.6BBLS TAIL CMT 15.8# 1.15YIELD 4.95GAL/SK 350SKS
07/15/2010 00:48		Shutdown				
07/15/2010 00:51		Drop Bottom Plug				
07/15/2010 00:53		Pump Displacement - Start	8		275.0	DISPLACE WITH MUD
07/15/2010 01:05		Slow Rate	3		170.0	90BBLS GONE SLOW TO GO THROUGH TOOL
07/15/2010 01:11		Other	8		450.0	110BBLS GONE
07/15/2010 01:37		Slow Rate	3.5		670.0	310BBLS GONE
07/15/2010 01:40		Slow Rate	2		650.0	320BBLS GONE
07/15/2010 01:46		Bump Plug	2		700.0	TOTAL DISPLACEMENT 336.5BBLS PRESSURE OVER TO 1158

# HALLIBURTON

Date/Time	Chart #	Activity Code	Pump Rate	Cum Vol	Pressure (psig)	Comments
07/15/2010 01:50		Check Floats				1.25BBLS BACK
07/15/2010 01:53		Other				DROP DART AND WAIT 10MINS
07/15/2010 02:03		Other	2.5		420.0	OPEN TOOL AT 420PSI AND CIRCULATE 20BBLS MUD AND TURN OVER TO RIG AND WAIT ON CMT
07/15/2010 05:15		Safety Meeting - Pre Job				
07/15/2010 05:34		Pump Water	7		300.0	50BBLS H2O
07/15/2010 05:42		Pump Cement	7		312.0	174.8BBLS 12.7# 1.87YIELD 9.98GAL/SK 525SKS
07/15/2010 06:03		Cement Returns to Surface	7		445.0	150BBLS GONE
07/15/2010 06:06		Shutdown				
07/15/2010 06:10		Drop Top Plug				
07/15/2010 06:13		Pump Displacement - Start	7		300.0	DISPLACE WITH MUD
07/15/2010 06:22		Slow Rate	6		480.0	70BBLS GONE
07/15/2010 06:25		Slow Rate	4		280.0	85BBLS GONE
07/15/2010 06:26		Slow Rate	2.5		220.0	90BBLS GONE
07/15/2010 06:31		Bump Plug	2.5		300.0	TOTAL DISPLACEMENT 101BBLS TOTAL CMT RETURNS 120BBLS PRESSURE OVER TO 1700PSI AND CLOSED TOOL
07/15/2010 06:36		Check Floats				1.25BBLS BACK
07/15/2010 06:45		Safety Meeting - Pre Rig-Down				PINCH POINTS RED ZONES LINE OF FIRE...
07/15/2010 07:00		Rig-Down Equipment				
07/15/2010 08:45		Rig-Down Completed				
07/15/2010 09:00		Safety Meeting - Departing Location				JOURNEY MANAGEMENT
07/15/2010 09:15		Depart Location for Service Center or Other Site				

The Road to Excellence Starts with Safety

Sold To #: 331699		Ship To #: 2793129		Quote #:		Sales Order #: 7497414	
Customer: EXXONMOBIL CORPORATION				Customer Rep:			
Well Name: FRU			Well #: 197-28A6			API/UWI #: 05-103-11634	
Field: PICEANCE CREEK		City (SAP): MEEKER		County/Parish: Rio Blanco			State: Colorado
Legal Description: Section 16 Township 2S Range 97W							
Contractor: H&P			Rig/Platform Name/Num: H&P215				
Job Purpose: Cement Multiple Stages							
Well Type: Development Well			Job Type: Cement Multiple Stages				
Sales Person: TURNER, JAMIE			Srvc Supervisor: DAVIS, CODY			MBU ID Emp #: 446891	

### Job Personnel

HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #
DAVIS, CODY R		446891	ESTEP, KENNETH		214387	NINO, RICHARD G.		466825
SPENCER, WESTON Chad		391271	VAUGHN, WILLIAM Floyd		448738	VOORHIS, WALTER T		472268

### Equipment

HES Unit #	Distance-1 way	HES Unit #	Distance-1 way	HES Unit #	Distance-1 way	HES Unit #	Distance-1 way

### 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

Job Details					Job Dates			
Formation Name						Date	Time	Time Zone
Formation Depth (MD)	Top		Bottom		Called Out	14 - Jul - 2010	12:00	MST
Form Type			BHST		On Location	14 - Jul - 2010	17:00	MST
Job depth MD	3553. ft		Job Depth TVD	3600. ft	Job Started	14 - Jul - 2010	23:30	MST
Water Depth			Wk Ht Above Floor	3. ft	Job Completed	15 - Jul - 2010	06:35	MST
Perforation Depth (MD)	From		To		Departed Loc	15 - Jul - 2010	09:00	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	Unknown							1041.	1041.		
Surface Open Hole				14.75				.	1041.	.	1041.
Surface Open Hole				14.75				1041.	3600.	1041.	3553.
Surface Casing	Unknown		10.75	9.95	45.5		J-55	.	3600.	.	3553.

### 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

Summit  
Version:

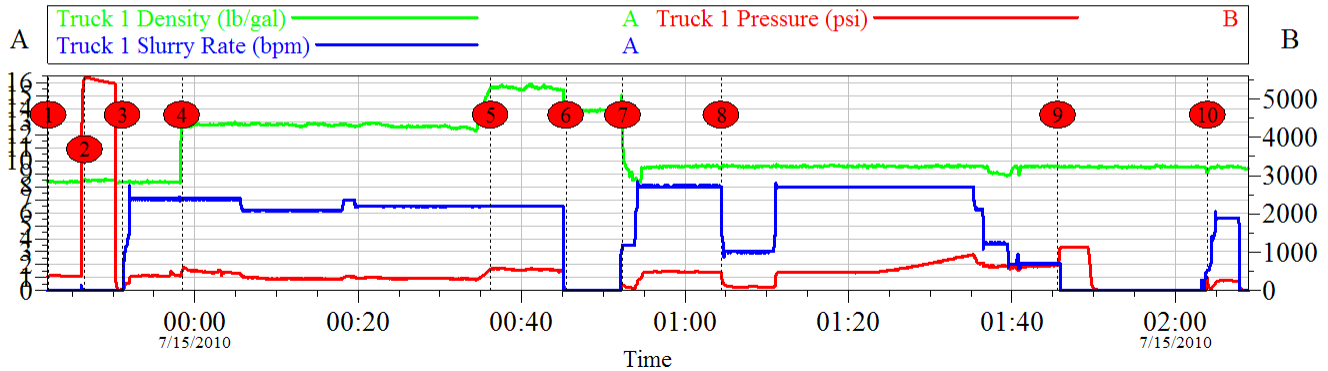
Monday, July 19, 2010 10:44:00

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	FreshWater Ahead				50.00	bbl	8.33	.0	.0	6.0																					
2	First Stage Lead Cement	ECONOCEM (TM) SYSTEM (452992)			755.0	sacks	12.7	1.88	9.96	6.0	9.96																				
	5 lbm	CAL-SEAL 60, 50 LB BAG (101217146)																													
	0.6 %	HR-7 (100005055)																													
	3 lbm	SILICALITE - COMPACTED, 50 LB SK (100012223)																													
	0.8 %	ECONOLITE (100001580)																													
	0.25 lbm	POLY-E-FLAKE (101216940)																													
	9.957 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				336.00	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)			525.0	sacks	12.7	1.87	9.98	6.0	9.98																				
	5 lbm	CAL-SEAL 60, 50 LB BAG (101217146)																													
	3 lbm	SILICALITE - COMPACTED, 50 LB SK (100012223)																													
	0.8 %	ECONOLITE (100001580)																													
	0.25 lbm	POLY-E-FLAKE (101216940)																													
	9.982 Gal	FRESH WATER																													
3	Drilling Fluid / Mud				101.00	bbl	8.9	.0	.0	6.0																					
4	Top Out	CMT - STANDARD CEMENT (100003684)				sacks	15.8	1.16	5.01	2.0	5.01																				
	94 lbm	CMT - STANDARD - CLASS A REG OR TYPE I, BULK (100003684)																													
	2 %	CALCIUM CHLORIDE - HI TEST PELLET (100005053)																													
	5.038 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																					



## Data Acquisition

### EXXONMOBIL 215 10.75 SURFACE 7-15-10 WELL FRU #197-28A6 STAGE 1

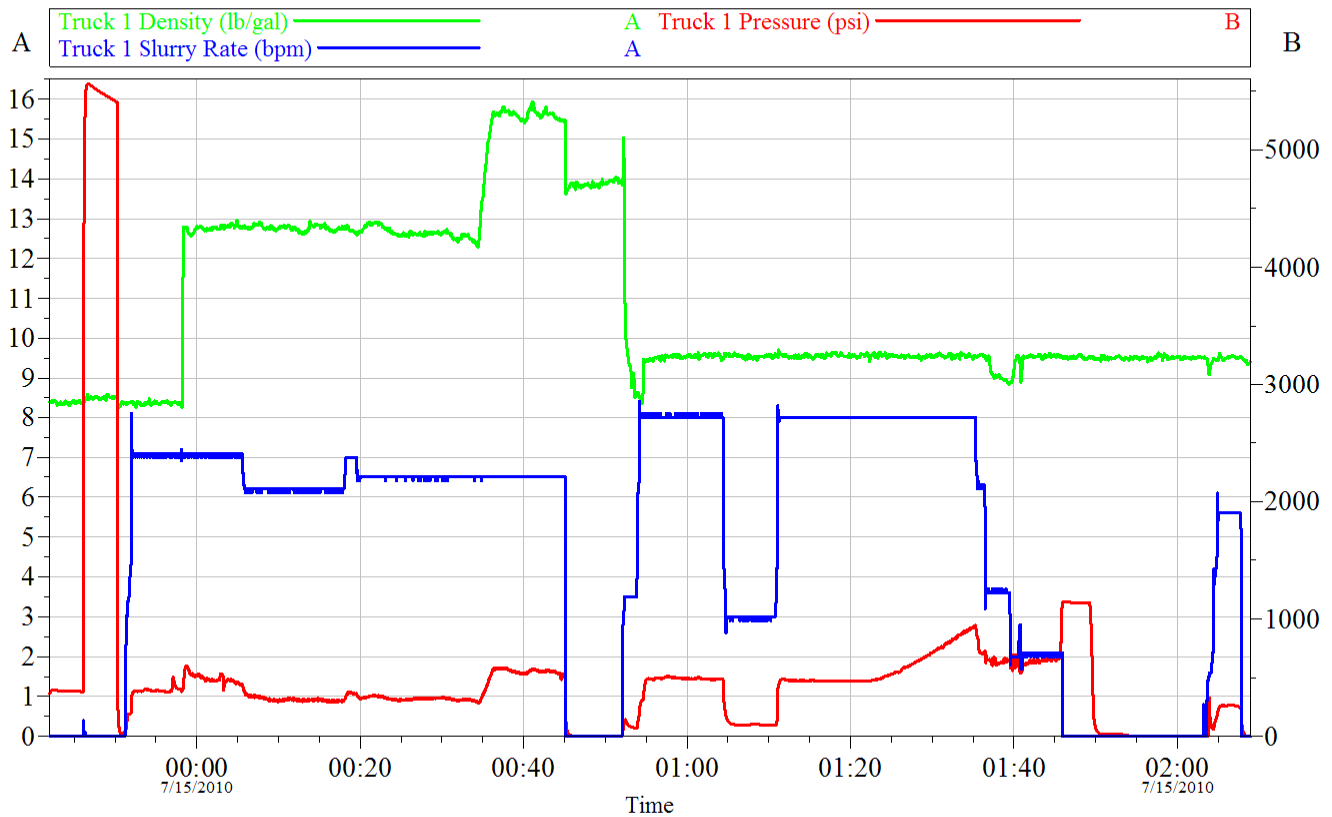


Intersection		TID	TIP
①	LOW PRESSURE TEST	7/14/2010 23:42:05	8.370 379.2
②	HIGH PRESSURE TEST	7/14/2010 23:46:32	8.467 554.4
③	50BBLS H2O	7/14/2010 23:51:09	8.350 38.30
④	LEAD CMT	7/14/2010 23:58:26	12.78 517.0
⑤	TAIL CMT	7/15/2010 00:36:12	15.63 559.3
⑥	SHUT DOWN DROP PLUG	7/15/2010 00:45:26	13.75 27.25
⑦	DISPLACE	7/15/2010 00:52:23	11.15 139.1
⑧	SLOW TO GO THROUGH TOOL	7/15/2010 01:04:27	9.490 348.2
⑨	BUMP PLUG	7/15/2010 01:45:38	9.530 677.8
⑩	OPEN TOOL	7/15/2010 02:03:58	9.110 326.3

<b>Customer:</b> EXXONMOBIL CORPORATION	<b>Job Date:</b> 15-Jul-2010	<b>Sales Order #:</b> 7497414
<b>Well Description:</b> FRU 197-28A6	<b>UWI:</b> 05-103-11634	<b>Rig:</b> H&P 215

# HALLIBURTON

## EXXONMOBIL 215 10.75 SURFACE 7-15-10 WELL FRU #197-28A6 STAGE 1



**Customer:** EXXONMOBIL CORPORATION  
**Well Description:** FRU 197-28A6

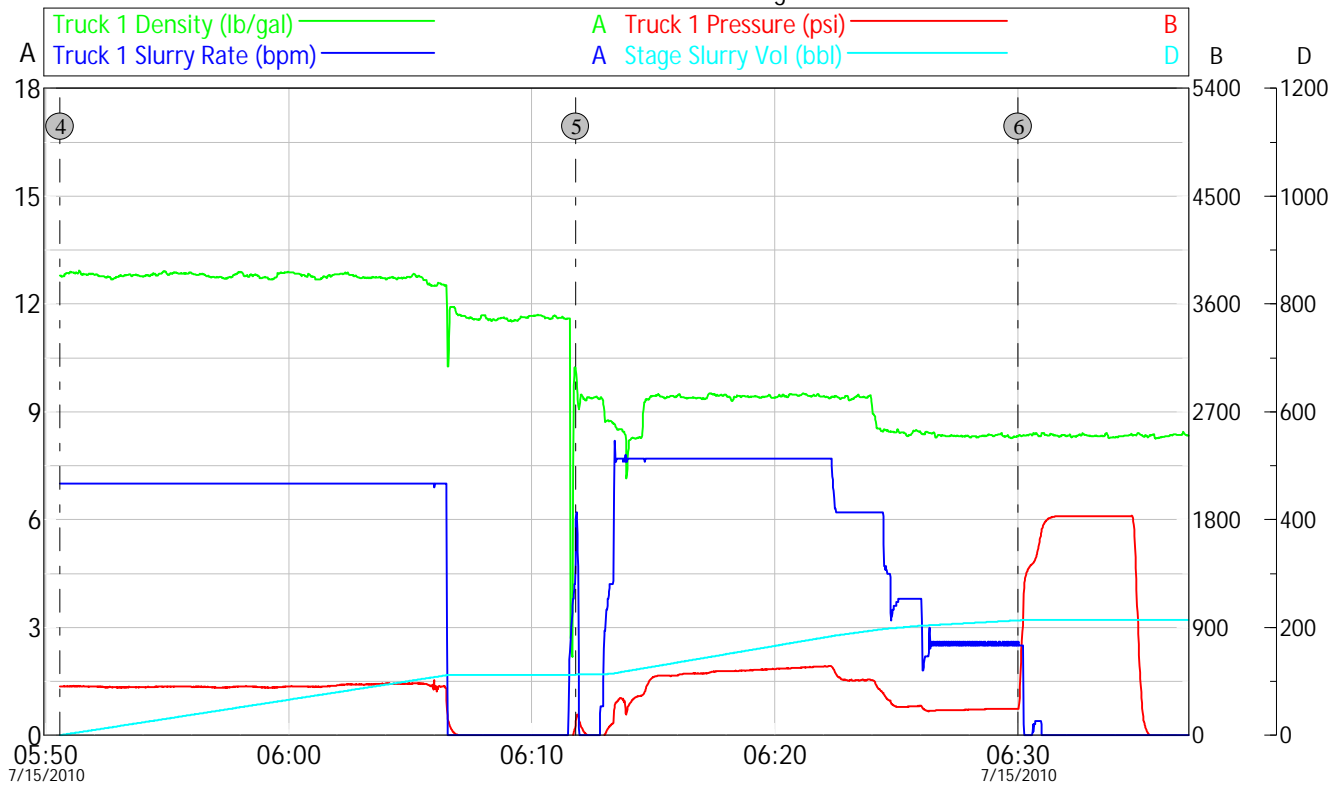
**Job Date:** 15-Jul-2010  
**UWI:** 05-103-11634

**Sales Order #:** 7497414  
**Rig:** H&P 215

# HALLIBURTON

Exxon Mobil

FRU 197-28A6 Surface 2nd Stage



Customer: EXXONMOBIL CORPORATION  
Well Description: FRU 197-28A6

Job Date: 15-Jul-2010  
UWI: 05-103-11634

Sales Order #: 7497414  
Rig: H&P 215

OptiCem v6.4.9  
19-Jul-10 10:39