

EXXONMOBIL CORPORATION

HOUSTON, Texas

PCU T78X-12G14

H&P 215 970-942-7060

Post Job Summary

Cement Multiple Stages

Date Prepared: 12/15/11
Version: 1

Service Supervisor: CARPENTER, LANCE

Submitted by: Isaac Whorl

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		
Cement Stage Tool	Multiple Stage Cementer				1,361	1,362	1,350	1,351	0.00	0.00
Open Hole Section	Surface Open Hole		14.75		0	1,361	0	1,350	75.00	0.00
Open Hole Section	Surface Open Hole		14.75		1,362	3,805	1,351	3,885	25.00	0.00
Casing	Surface Casing	10.75	9.95	45.50	0	4,413	0	4,371	0.00	80.00

Pumping Schedule

Stage #	Fluid #	Fluid Type	Fluid Name	Density lbm/gal	Avg Rate bbl/min	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	750.0 sacks
1	3	Cement Slurry	First Stage Tail Cement	15.80	6.00	340.0 sacks
1	4	Spacer	Drilling Fluid / Mud	8.90	6.00	364.0 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	680.0 sacks
2	3	Spacer	Drilling Fluid / Mud	8.90	6.00	135.0 bbl
2	4	Cement Slurry	Top Out	15.80	2.00	

HALLIBURTON

Fluids Pumped

Stage/Plug # 1	Fluid 1:	FreshWater Ahead	Fluid Density:	8.33 lbm/gal
Water Spacer			Fluid Volume:	50.00 bbl
Stage/Plug # 1	Fluid 2:	First Stage Lead	Fluid Weight:	12.70 lbm/gal
	Cement		Slurry Yield:	1.87 ft3/sack
	ECONOCEM (TM) SYSTEM		Total Mixing Fluid:	9.93 Gal
5 lbm	Cal-Seal 60		Surface Volume:	750.0 sacks
0.8 %	Econolite		Calculated Fill:	2,351.00 ft
0.68 %	HR-7		Calculated Top of Fluid:	1,704.00 ft
0.25 lbm	Poly-E-Flake			
3 lbm	Silicalite Compacted			
Stage/Plug # 1	Fluid 3:	First Stage Tail Cement	Fluid Weight:	15.80 lbm/gal
	HALCEM (TM) SYSTEM		Slurry Yield:	1.15 ft3/sack
0.22 %	HR-800		Total Mixing Fluid:	4.98 Gal
0.25 lbm	Poly-E-Flake		Surface Volume:	340.0 sacks
			Calculated Fill:	500.00 ft
			Calculated Top of Fluid:	4,055.00 ft
Stage/Plug # 1	Fluid 4:	Drilling Fluid / Mud	Fluid Density:	8.90 lbm/gal
Mud Displacement			Fluid Volume:	364.00 bbl
Stage/Plug # 2	Fluid 1:	Freshwater Ahead	Fluid Density:	8.33 lbm/gal
Water Spacer			Fluid Volume:	50.00 bbl
Stage/Plug # 2	Fluid 2:	Second Stage Lead	Fluid Weight:	12.70 lbm/gal
	Cement		Slurry Yield:	1.87 ft3/sack
	ECONOCEM (TM) SYSTEM		Total Mixing Fluid:	9.96 Gal
0.25 lbm	Poly-E-Flake		Surface Volume:	680.0 sacks
			Calculated Fill:	1,704.00 ft
			Calculated Top of Fluid:	0.00 ft
Stage/Plug # 2	Fluid 3:	Drilling Fluid / Mud	Fluid Density:	8.90 lbm/gal
Mud Displacement			Fluid Volume:	135.00 bbl
Stage/Plug # 2	Fluid 4:	Top Out	Fluid Weight:	15.80 lbm/gal
Top Out			Slurry Yield:	1.17 ft3/sack
94 lbm	Premium Cement		Total Mixing Fluid:	5.02 Gal
2 %	Calcium Chloride			

HALLIBURTON

Job Summary

Job Information

Job Start Date	12/9/2011 1:00:00 AM
Job MD	3,878.2 ft
Height of Plug Container/Swage Above Rig Floor	3.0 ft
Surface Temperature at Time of Job	20 degF
Mud Type	Water Based Mud
Actual Mud Density	9 lbm/gal
Time Circulated before job	2.00 hour(s)
Rate at Which Well was Circulated	4.000 bbl/min
Pipe Movement During Hole Circulation	Reciprocated
Time From End Mud Circ. to Job Start	15.00 minute
Pipe Movement During Cementing	Reciprocated
Calculated Displacement	364.00 bbl
Amount of Cement Returns	155.00 bbl
Job Displaced by (rig/halco)	Cement Unit HP Pumps
Annular flow Before Job? (Water/Gas)	No
Annular flow After Job? (Water/Gas)	No

Cementing Equipment

Number of Centralizers Used	44
Did Float Equipment Hold?	Yes
Plug set used?	No
Did Plugs Bump?	Yes
Calculated Pressure to Bump Plugs	581.0 psig
Did Stage Cementing Tool Open Properly?	Yes

Service Supervisor Reports**Job Log**

Date/Time	Activity Code	Pump Rate	Volume	Pressure (psig)	Comments
12/08/2011 13:30	Call Out				CREW CALLED OUT
12/08/2011 15:15	Pre-Convoy Safety Meeting				CREW HAS JOURNEY MANAGEMENT SAFETY MEETING
12/08/2011 15:30	Depart from Service Center or Other Site				CREW DEPARTS FROM LOCATION
12/08/2011 19:45	Arrive At Loc				CREW ARRIVES AT LOCATION
12/08/2011 19:55	Assessment Of Location Safety Meeting				CREW ASSESSES LOCATION FOR HAZARDS AND EQUIPMENT LAYOUT. CASING ON BOTTOM AND CASING CREW JUST GETTING READY TO HAVE PRE RIG DOWN SAFETY MEETING
12/08/2011 20:05	Pre-Rig Up Safety Meeting				CREW HAS PRE RIG UP SAFETY MEETING
12/08/2011 20:15	Rig-Up Equipment				CREW BEGINS RIGGING UP EQUIPMENT
12/08/2011 23:00	Comment				CASING CREW RIGGED DOWN AND READY TO DEPART
12/08/2011 23:45	Rig-Up Completed				CREW IS RIGGED UP AND READY TO BEGIN
12/09/2011 00:00	Pre-Job Safety Meeting				CREW, RIG CREW AND COMPANY REP HAVE PRE JOB SAFETY MEETING
12/09/2011 00:39	Prime Pumps				PRIME PUMPS
12/09/2011 00:52	Test Lines				PRESSURE TEST LINES. LOW PSI TEST OF 300, HIGH OF 5100
12/09/2011 01:05	Pump Water	5	50	50.0	PUMP 50 BBL FRESH WATER AHEAD. ESTABLISHED CIRCULATION AT 11 BBL
12/09/2011 01:15	Shutdown				SHUTDOWN. MIX CEMENT.
12/09/2011 01:21	Pump Lead Cement	6	250	41.0	PUMP 750 SKS ECONOCHEM 12.7# 1.87 YIELD 9.93 GAL
12/09/2011 02:04	Pump Tail Cement	4	70	130.0	PUMP 340 SKS HALCEM 15.8# 1.15 YIELD 4.98 GAL
12/09/2011 02:23	Shutdown				SHUTDOWN
12/09/2011 02:26	Drop Plug				DROP PLUG

Date/Time	Activity Code	Pump Rate	Volume	Pressure (psig)	Comments
12/09/2011 02:38	Pump Displacement	6	364	80.0	PUMP DRILLING MUD DISPLACEMENT. 9.2#
12/09/2011 03:34	Bump Plug				BUMP PLUG. FINAL CIRCULATING PSI 580. BUMPED AT 1200 PSI
12/09/2011 03:38	Check Floats				CHECK FLOATS. GOT 2 BBL BACK
12/09/2011 03:45	Drop Opening Device For Multiple Stage Cementer				DROP BOMB TO OPEN STAGE TOOL
12/09/2011 03:56	Open Multiple Stage Cementer	1	15	200.0	PUMP MUD DISPLACEMENT TO OPEN TOOL. TOOL OPENED AT 590 PSI. CIRCULATED 15 BBL THEN TURNED OVER TO RIG.
12/09/2011 04:15	Comment				WAITING ON CEMENT SAMPLES BEFORE STARTING NEXT STAGE.
12/09/2011 07:08	Test Lines				PRESSURE TEST LINES. LOW PSI OF 250. HIGH OF 5000.
12/09/2011 07:15	Pump Water	4	50	50.0	PUMP FRESH WATER AHEAD
12/09/2011 07:30	Pump Lead Cement	5	227	180.0	PUMP 680 SKS ECONOCEM 12.7# 1.87 YIELD 9.96 GAL
12/09/2011 08:14	Shutdown				SHUTDOWN
12/09/2011 08:18	Drop Plug				DROP CLOSING TOOL
12/09/2011 08:20	Pump Displacement	6	135	490.0	PUMP MUD DISPLACEMENT. FINAL CIRCULATING PSI 490. BUMPED AT 2000.
12/09/2011 08:50	Check Floats				CHECK FLOATS. GOT 1.25 BBL BACK.
12/09/2011 09:00	Comment				WAITING TO SEE IF CEMENT WOULD STAY AT SURFACE
12/09/2011 10:30	Pre-Rig Down Safety Meeting				CREW AND RIG CREW HAVE PRE RIG DOWN SAFETY MEETING
12/09/2011 10:45	Rig-Down Equipment				CREW BEGINS RIGGING DOWN EQUIPMENT
12/09/2011 12:30	Rig-Down Completed				CREW IS RIGGED DOWN
12/09/2011 12:45	Pre-Convoy Safety Meeting				CREW HAS JOURNEY MANAGEMENT SAFETY MEETING
12/09/2011 13:00	Depart Location for Service Center or Other Site				CREW DEPARTS FROM LOCATION

The Road to Excellence Starts with Safety

Sold To #: 331699	Ship To #: 2893646	Quote #:	Sales Order #: 9094205
Customer: EXXONMOBIL CORPORATION	Customer Rep: McGourty, Alex		
Well Name: PCU	Well #: T78X-12G14	API/UWI #:	
Field:	City (SAP): MEEKER	County/Parish: Harris	State: Texas
Contractor: H&P	Rig/Platform Name/Num: 215	970-942-7060	
Job Purpose: Cement Multiple Stages			
Well Type: Development Well	Job Type: Cement Multiple Stages		
Sales Person: MCNARY, GEORGE	Srv Supervisor: CARPENTER, LANCE	MBU ID Emp #: 461737	

Job Personnel

HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #
CARPENTER, LANCE S		461737	DUBE, MTHOKOZISI		476241	FARNSWORTH, SHAY Daryl		505203
PAUU, SEMISI Tu'a		445202	PETERSON, JIMMY J		458945	SAGE, JAMES Edwin		470468

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

Formation Name							Date	Time	Time Zone
Formation Depth (MD)	Top		Bottom			Called Out	08 - Dec - 2011	13:30	MST
Form Type			BHST			On Location	08 - Dec - 2011	19:45	MST
Job depth MD	3878.2 ft		Job Depth TVD	3878.2 ft		Job Started	09 - Dec - 2011	01:00	MST
Water Depth			Wk Ht Above Floor	3. ft		Job Completed	09 - Dec - 2011	09:00	MST
Perforation Depth (MD)	From		To			Departed Loc	09 - Dec - 2011	13:00	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			.				1361.	1362.	1350.	1351.
Surface Open Hole				14.75				.	1361.	.	1350.
Surface Open Hole				14.75				1362.	3805.	1351.	3885.
Surface Casing	Unknown		10.75	9.95	45.5	BTC	J-55	.	4413.	.	4371.

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

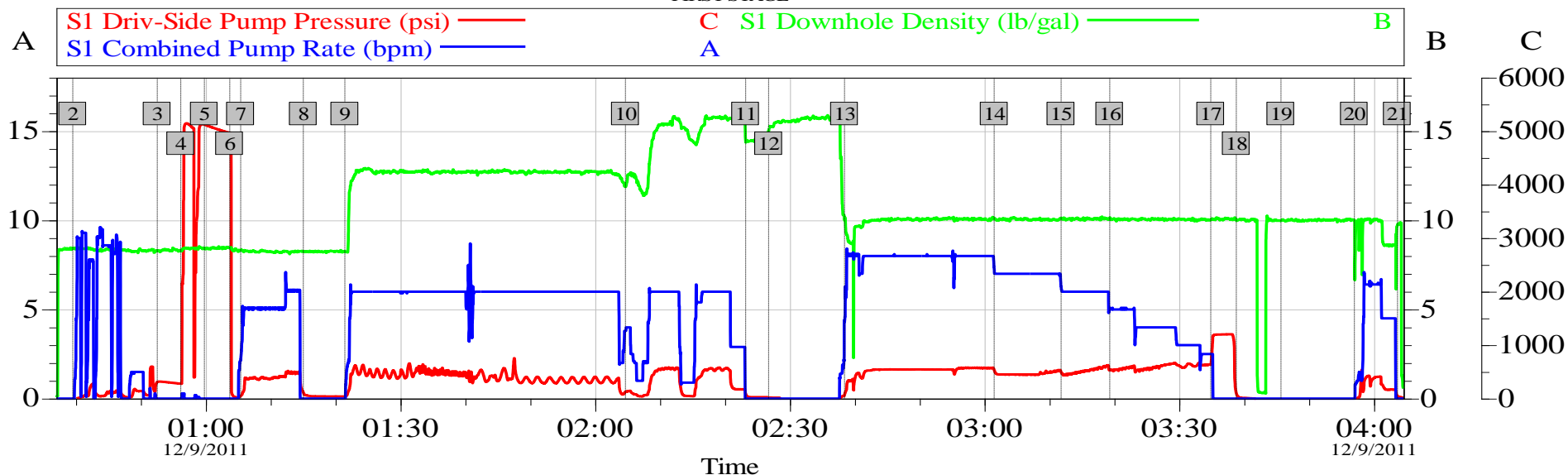
Gelling Agt	Conc	Surfactant	Conc	Acid Type	Qty	Conc	%
Treatment Fld	Conc	Inhibitor	Conc	Sand Type	Size		Qty

Fluid Data									
Stage/Plug #: 1									
Fluid #	Stage Type	Fluid Name	Qty	Qty uom	Mixing Density lbm/gal	Yield ft ³ /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)	750.0	sacks	12.7	1.87	9.93	6.0	9.93
	5 lbm	CAL-SEAL 60, 100 LB BAG (100005051)							
	0.8 %	ECONOLITE (100001580)							
	0.68 %	HR-7 (100005055)							
	0.25 lbm	POLY-E-FLAKE (101216940)							
	3 lbm	SILICALITE - COMPACTED, 50 LB SK (100012223)							
	9.93 Gal	FRESH WATER							
3	First Stage Tail Cement	HALCEM (TM) SYSTEM (452986)	340.0	sacks	15.8	1.15	4.98	6.0	4.98
	0.22 %	HR-800, 50 LB SACK (101619742)							
	0.25 lbm	POLY-E-FLAKE (101216940)							
	4.98 Gal	FRESH WATER							
4	Drilling Fluid / Mud		364.00	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)	680.0	sacks	12.7	1.87	9.96	6.0	9.96
	0.25 lbm	POLY-E-FLAKE (101216940)							
	9.96 Gal	FRESH WATER							
3	Drilling Fluid / Mud		135.00	bbl	8.9	.0	.0	6.0	
4	Top Out	CMT - PREMIUM - CLASS G, 94 LB SK (100003685)		sacks	15.8	1.17	5.02	2.0	5.02
	94 lbm	CMT - PREMIUM - CLASS G REG OR TYPE V, BULK (100003685)							
	2 %	CALCIUM CHLORIDE - HI TEST PELLET (100005053)							
	5.02 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					

HALLIBURTON

Data Acquisition

EXXON 10.75" SURFACE
H & P 215
PCU T78X-12G14
FIRST STAGE



Intersection		Global Event Log				Intersection		PSI
			PSI					PSI
2	Prime Pumps	00:39:31	-17.15	3	Test Lines	00:52:31	310.1	
4	End Low Pressure Test	00:56:09	280.2	5	Start High Pressure Test	00:59:47	512.4	
6	End Highh Pressure Test	01:03:41	496.6	7	Pump Water Spacer	01:05:23	48.80	
8	Shutdown	01:15:02	116.9	9	Pump Lead Cement	01:21:26	41.30	
10	Pump Tail Cement	02:04:40	127.3	11	Shut down Drop Plug	02:23:11	93.48	
12	Drop Plug	02:26:44	20.30	13	Pump Displacement	02:38:26	80.07	
14	Slow Rate	03:01:29	535.7	15	Slow Rate	03:11:47	498.2	
16	Slow Rate	03:19:18	541.1	17	Bump Plug	03:34:51	638.7	
18	Check Floats	03:38:47	102.7	19	Drop Opening Device For Multiple Stage Cementer	03:45:40	-3.373	
20	Open Multiple Stage Cementer	03:56:59	-7.696	21	Shutdown	04:03:37	49.41	

Customer: EXXON
Well Description: PCU T78X-12G14

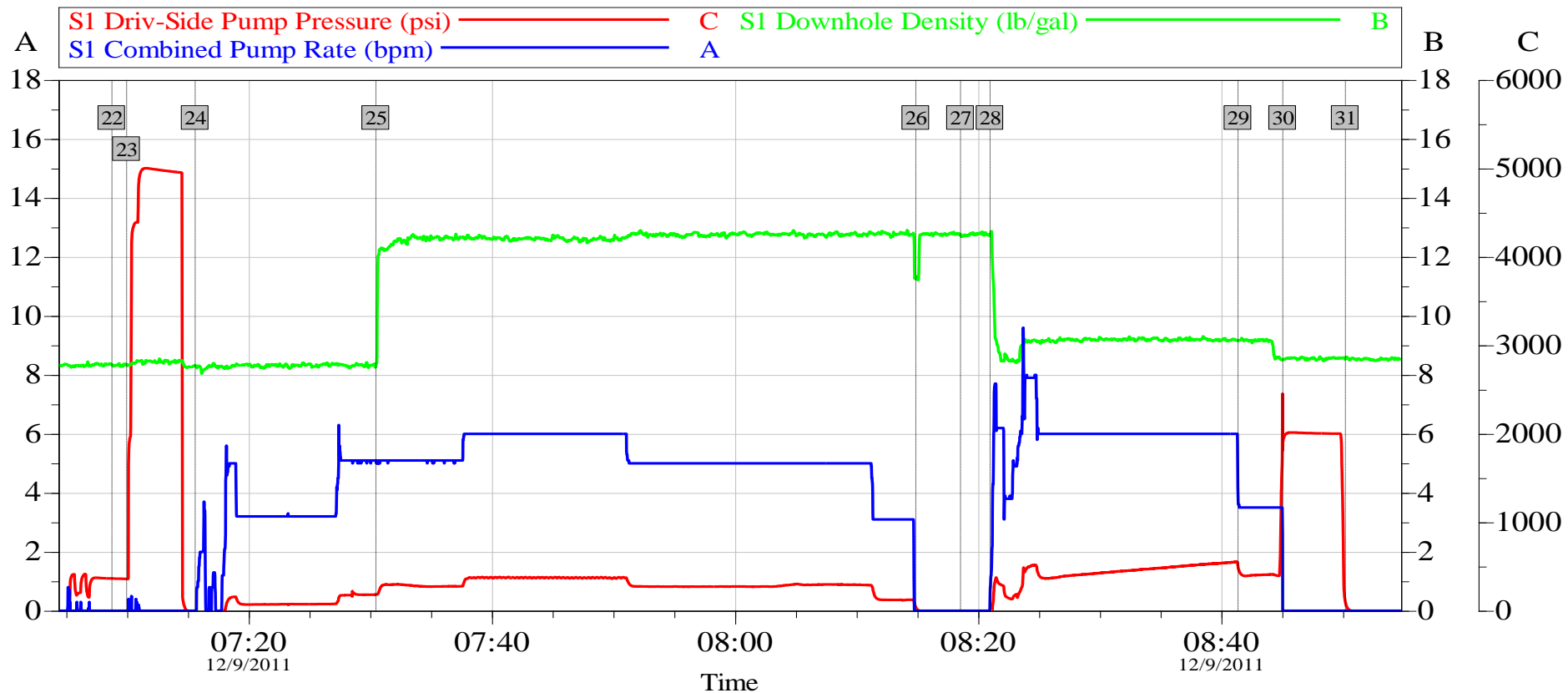
Job Date: 09-Dec-2011
UWI:

Sales Order #: 9094205

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09-Dec-11 04:46

HALLIBURTON

EXXON 10.75" SURFACE
H & P 215
PCU T78X-12G14
SECOND STAGE



Global Event Log					
Intersection		PSI	Intersection		PSI
22	Test Lines	07:08:45 365.3	23	Test Lines	07:09:58 360.3
25	Pump Lead Cement	07:30:28 183.3	26	Shutdown	08:14:52 39.83
28	Pump Displacement	08:20:59 -22.70	29	Slow Rate	08:41:22 494.3
31	Check Floats	08:50:12 96.33	30	Bump Plug	08:45:03 1869
			24	Pump Spacer 1	07:15:36 -12.70
			27	Drop Plug	08:18:33 -22.70

Customer: EXXON
Well Description: PCU T78X-12G14

Job Date: 09-Dec-2011
UWI:

Sales Order #: 9094205

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09-Dec-11 11:20