

EXXONMOBIL CORPORATION

HOUSTON, Texas

PCU 296-5A10

H&P 321

Post Job Summary

Cement Intermediate Casing

Prepared for:
Date Prepared:
Version: 1

Service Supervisor: ASHBY, ANDREW

Submitted by: M.C. Dube

HALLIBURTON

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Wellbore Geometry

Job Tubular					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	Surface Casing	10.75	9.950	45.50	0.00	4,649.00	0.00	4,612.00		80.00
Open Hole Section	Intermediate Open Hole		9.875		4,649.00	9,883.00	4,612.00	9,846.00	100.00	
Casing	Intermediate Casing	7.00	6.276	26.00	0.00	9,836.00	0.00	9,800.00		91.40

Pumping Schedule

Stage/Plug #	Fluid #	Fluid Type	Fluid Name	Surface Density lbm/gal	Avg Rate bbl/min	Surface Volume	Downhole Volume
1	1	Spacer	TUNED SPACER III	10.00	6.00	80.0 bbl	80.0 bbl
1	2	Cement Slurry	New Vernal Tuned Light	11.00	6.00	1405.0 sacks	1405.0 sacks
1	3	Spacer	Fresh Water w/Barcor & Aldacide	8.44	6.00	373.0 bbl	373.0 bbl

Fluids Pumped

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Stage/Plug # 1 Fluid 1: TUNED SPACER III
TUNED SPACER III - SBM (483826)
59.8 lbm/bbl Barite

Fluid Density: 10.00 lbm/gal
Fluid Volume: 80.00 bbl
Pump Rate: 6.00 bbl/min

Stage/Plug # 1 Fluid 2: New Vernal Tuned
 Light
 TUNED LIGHT (TM) SYSTEM
0.5 lbm HR-601

Fluid Weight: 11.00 lbm/gal
Slurry Yield: 2.21 ft³/sack
Total Mixing Fluid: 9.70 Gal
Surface Volume: 1405.0 sacks
Sacks: 1405.0 sacks
Calculated Fill: 5,748.00 ft
Calculated Top of Fluid: 4,144.00 ft
Estimated Top of Fluid:
Pump Rate: 6.00 bbl/min

Stage/Plug # 1 Fluid 3: Fresh Water w/Barcor
 & Aldacide
DUMMY MUD / FLUSH / SPACER SBC MATERIAL

Fluid Density: 8.44 lbm/gal
Fluid Volume: 373.00 bbl
Pump Rate: 6.00 bbl/min

HALLIBURTON

Job Summary

Job Information

Job Start Date	1/25/2011 1:00:00 PM
Job MD	9,830.0 ft
Job TVD	9,794.0 ft
Height of Plug Container/Swage Above Rig Floor	4.0 ft
Surface Temperature at Time of Job	30 degF
Mud Type	Water Based Mud
Name of Mud Company	BAROID
Actual Mud Density	9 lbm/gal
Mud loss while running Casing	3,300.00 bbl
Pipe Movement During Hole Circulation	None
Mud loss during Cement Job	1,000.00 bbl
Pipe Movement During Cementing	None
Calculated Displacement	372.65 bbl
Job Displaced by (rig/halco)	Cement Unit HP Pumps
Annular flow Before Job? (Water/Gas)	No
Annular flow After Job? (Water/Gas)	Unknown
Length of Rat Hole	47.00 ft

Cementing Equipment

Number of Centralizers Used	54
Pipe Centralization	Through Entire Cement Column
Brand of Float Equipment Used	Halliburton
Did Float Equipment Hold?	Yes
Plug set used?	Yes
Brand of Plug set used?	Halliburton
Did Plugs Bump?	Yes
Calculated Pressure to Bump Plugs	1,400.0 psig
Did Stage Cementing Tool Open Properly?	Unknown

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Service Supervisor Reports

Job Log

Date/Time	Activity Code	Pump Rate	Cum Vol	Pressure (psig)	Comments
01/21/2011 04:30	Call Out				Crew Called out for Job. Plug Container#D1263
01/21/2011 07:25	Pre-Convoy Safety Meeting				Met w/crew to discuss safety and hazards of travel to location
01/21/2011 07:30	Depart from Service Center or Other Site				Entered into Journey Management.
01/21/2011 11:30	Arrive At Loc				Ended Journey Management. [Casing being ran - 3000ft to go]
01/21/2011 11:45	Assessment Of Location Safety Meeting				Met w/crew to discuss hazards of site, location of materials and safety precautions.
01/21/2011 12:00	Other				Spot Equipment
01/21/2011 12:15	Pre-Rig Up Safety Meeting				Met w/crew to discuss the best way to rig up, safety and hazards involved.
01/21/2011 12:20	Rig-Up Equipment				Rig up Ground & Standpipe
01/21/2011 15:00	Wait on Customer or Customer Sub-Contractor Equip				Rigged up as far as possible - everything except the floor - waiting on casing.
01/23/2011 10:00	Depart Location for Service Center or Other Site				Released from the well site to go to the White River City Ranch to wait. Entered into Journey Management.
01/24/2011 12:00	Other				Called back to the rig to move trucks off location.
01/24/2011 14:00	Arrive At Loc				Ended Journey Management.
01/24/2011 15:00	Depart Location for Service Center or Other Site				Moved trucks off location and headed back to the White River City Ranch. Entered into Journey Management.
01/24/2011 18:15	Other				Called back to the rig. 400 ft left to go with casing.
01/24/2011 19:50	Arrive At Loc				Ended Journey Management
01/24/2011 20:00	Pre-Rig Up Safety Meeting				Met w/crew to discuss the safety and hazards of spotting the trucks back in place and connecting the product lines, buddy lines, water lines, and Iron.
01/24/2011 20:10	Rig-Up Equipment				Spotted trucks and rigged-up equipment.
01/25/2011 08:31	Rig-Up Equipment				Rig-up the rig floor.
01/25/2011 08:31	Pre-Job Safety Meeting				Met w/Rig Crew, Co. Rep, and our crew to discuss job procedures, contingencies, and safety measures.

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Date/Time	Activity Code	Pump Rate	Cum Vol	Pressure (psig)	Comments
01/25/2011 09:00	Other				Casing on bottom - Rig pulled out 1 joint of casing to control lost circulation issues.
01/25/2011 12:45	Pre-Job Safety Meeting				Discuss job procedure and safety precautions with new rig crew.
01/25/2011 13:10	Pressure Test			330.0	Low pressure test to 330 psi. Lost 9 psi in 3 minutes - passed.
01/25/2011 13:15	Pressure Test			5104.0	High pressure test to 5104 psi. Lost 261 psi in 5 minutes - passed.
01/25/2011 13:24	Pump Spacer	6	80	777.0	Begin pumping 80 barrels of 10 lb/gal Tuned Spacer III. Calculated water requirement 73 barrels. Actual volume pumped: 73 barrels, actual water used: 64 barrels
01/25/2011 13:30	Pump Cement				Begin pumping 553 bbl 11 lb/gal Tuned Light. Calculated yield: 2.21 ft ³ /sk, calculated water requirement: 9.67 gal/sk, estimated total water usage: 323 bbl, actual volume pumped 587 bbl, actual water used 347 bbl
01/25/2011 15:40	Shutdown				Shutdown, wash lines to pit.
01/25/2011 15:47	Pump Displacement	8	372.5	355.0	Pump 373 barrels displacement water treated with Barracor and Aldacide
01/25/2011 15:53	Displ Reached Cmnt	8	35	817.0	Displacement reached cement with 35 barrels gone.
01/25/2011 16:13	Slow Rate	6	205	1200.0	Slow rate to 6 barrels per minute with 205 barrels gone.
01/25/2011 16:29	Slow Rate	5	300	1325.0	Slow displacement rate to 5 barrels per minute with 300 barrels gone.
01/25/2011 16:31	Slow Rate	4	308	1215.0	Reduce displacement rate to 4 barrels per minute with 308 barrels gone.
01/25/2011 16:36	Slow Rate	3	325	1185.0	Slow displacement rate to 3 bpm with 325 barrels gone.
01/25/2011 16:45	Slow Rate	2	350	1230.0	Slow displacement rate to 2 barrels per minute with 350 barrels gone.
01/25/2011 16:55	Bump Plug	2	371	1281.0	Bump plugs after 371 barrels displacement gone, final circulating pressure: 1281 psi.
01/25/2011 17:01	Check Floats	0		1900.0	Floats held - 2.5 barrels back.
01/25/2011 17:05	End Job				Job Complete
01/25/2011 17:20	Post-Job Safety Meeting (Pre Rig-Down)				Met w/crew to discuss rigging down safely.
01/25/2011 17:30	Rig-Down Equipment				Rig everything down.
01/25/2011 22:45	Pre-Convoy Safety Meeting				Met w/crew to discuss fit-for-duty, safety and hazards of travel back.

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Date/Time	Activity Code	Pump Rate	Cum Vol	Pressure (psig)	Comments
01/25/2011 23:00	Depart Location for Service Center or Other Site				Entered into Journey Management.
01/25/2011 23:00	Other				Thanks for using Halliburton!!!

The Road to Excellence Starts with Safety

Sold To #: 331699	Ship To #: 2753406	Quote #:	Sales Order #: 7898228
Customer: EXXONMOBIL CORPORATION		Customer Rep:	
Well Name: PCU		Well #: 296-5A10	API/UWI #: 05103112390000
Field:	City (SAP): MEEKER	County/Parish: Rio Blanco	State: Colorado
Legal Description: Section 5 Township 2S Range 96W			
Contractor: H&P		Rig/Platform Name/Num: 321	
Job Purpose: Cement Intermediate Casing			
Well Type: Development Well		Job Type: Cement Intermediate Casing	
Sales Person: MCNARY, GEORGE	Srvc Supervisor: ASHBY, ANDREW		MBU ID Emp #: 450544

Job Personnel

HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #
ASHBY, ANDREW A	74.5	450544	DUBE, CRAIG	21	476241	MUTASA, SIMUKAYI Taiziveyi	22	464970
PACE, GARRET L	43.5	475041	PARTRIDGE, TRAVIS M	25.5	484614	POOLE, ALAN	40	388188
SAGE, JAMES Edwin	74.5	470468	SMITH, KC Hyrum	74.5	462378	STILL, MICHEAL Wayne	6	258213
TEICHERT, RONDO Chad	28	476071						

Equipment

HES Unit #	Distance-1 way	HES Unit #	Distance-1 way	HES Unit #	Distance-1 way	HES Unit #	Distance-1 way
10741125	140 mile	10829454	140 mile	10991613	140 mile	11019277	140 mile
11127525	140 mile	11189139	140 mile	11410664	140 mile	11526496	140 mile
6325	140 mile	6573	140 mile	D1263	140 mile		

Job Hours

Date	On Location Hours	Operating Hours	Date	On Location Hours	Operating Hours	Date	On Location Hours	Operating Hours
21 Jan 2010	24.5	0	22 Jan 2010	24	0	23 Jan 2010	10	0
24 Jan 2010	5	0	25 Jan 2010	23	4			

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	21 - Jan - 2011	04:30	MST
Form Type		BHST	210 degF		On Location	21 - Jan - 2011	11:30	MST
Job depth MD	9830. ft	Job Depth TVD	9794. ft		Job Started	25 - Jan - 2011	13:00	MST
Water Depth		Wk Ht Above Floor	4. ft		Job Completed	25 - Jan - 2011	17:00	MST
Perforation Depth (MD)	From		To		Departed Loc	25 - Jan - 2011	23:00	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
Intermediate Open Hole				9.875				4649.	9883.	4612.	9846.
Intermediate Casing	Unknown		7.	6.276	26.	HYDRIL - SERIES 500 TYPE 513	P-110	.	9836.	.	9800.
Surface Casing	Unknown		10.75	9.95	45.5	BTC	J-55	.	4649.	.	4612.

Tools and Accessories

Type	Size	Qty	Make	Depth	Type	Size	Qty	Make	Depth	Type	Size	Qty	Make
------	------	-----	------	-------	------	------	-----	------	-------	------	------	-----	------

Guide Shoe				Packer		0		Top Plug		1	
Float Shoe		1		Bridge Plug		0		Bottom Plug		1	
Float Collar		1		Retainer		0		SSR plug set		0	
Insert Float		0						Plug Container		1	
Stage Tool		0						Centralizers		54	

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	TUNED SPACER III	TUNED SPACER III - SBM (483826)	80.00	bbl	10.	6.15	42.02	6.0	
	38.32 gal/bbl	FRESH WATER							
	59.8 lbm/bbl	BARITE, 100 LB SK (100003680)							
2	New Vernal Tuned Light	TUNED LIGHT (TM) SYSTEM (452984)	1405.0	sacks	11.	2.21	9.7	6.0	9.7
	0.5 lbm	HR-601, 50 LB BAG (101328348)							
	9.7 Gal	FRESH WATER							
3	Fresh Water w/Barcor & Aldacide		373.00	bbl	8.44	.0	.0	6.0	

Calculated Values

Pressures

Volumes

Displacement	373	Shut In: Instant		Lost Returns		Cement Slurry	587	Pad	
Top Of Cement		5 Min		Cement Returns		Actual Displacement		Treatment	
Frac Gradient		15 Min		Spacers		Load and Breakdown		Total Job	

Rates

Circulating		Mixing		6	Displacement		8	Avg. Job		7
Cement Left in Pipe	Amount	91.4 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

LOCATION WATER TEST

General Information

Customer: EXXONMOBIL CORPORATION Date: 21 - Jan - 2011

Sales Order #: 7898228 Time: 13:00

Lease Name & #: PCU 296-5A10 Water Source: 3 Uprights

SL Name & Employee #: ASHBY, ANDREW (00450544)

TestResultsSample#1

	Field		Lab	Standards
Temp	<u>65.4</u> °F	<u> </u>	°F	Max Temp 120°F
pH	<u>6</u>	<u> </u>		6.0-8.0
Sulfates	<u>< 200</u> mg/L	<u> </u>	mg/L	Less Than 1800 mg/L
Chlorides	<u>64</u> mg/L	<u> </u>	mg/L	Less Than 3000 mg/L
Tanin&Lignin	<u>N</u> Y/N	<u> </u>	Y/N	No Trace
Bicarbonates	<u>XXXXXXXXXX</u>	<u> </u>	mg/L	Less Than 500 mg/L
Iron = 0				

TestResultsSample#2

	Field		Lab	Standards
Temp	<u>57.2</u> °F	<u> </u>	°F	MaxT emp 120°F
pH	<u>6</u>	<u> </u>		6.0-8.0
Sulfates	<u>< 200</u> mg/L	<u> </u>	mg/L	Less Than 1800 mg/L
Chlorides	<u>81</u> mg/L	<u> </u>	mg/L	Less Than 3000 mg/L
Tanin&Lignin	<u>N</u> Y/N	<u> </u>	Y/N	No Trace
Bicarbonates	<u>XXXXXXXXXX</u>	<u> </u>	mg/L	Less Than 500 mg/L
Iron = 0				

TestResultsSample#3

	Field		Lab	Standards
Temp	<u>69.8</u> °F	<u> </u>	°F	Max Temp 120°F
pH	<u>7</u>	<u> </u>		6.0-8.0
Sulfates	<u>< 200</u> mg/L	<u> </u>	mg/L	Less Than 1800 mg/L
Chlorides	<u>< 33</u> mg/L	<u> </u>	mg/L	Less Than 3000 mg/L
Tanin&Lignin	<u>N</u> Y/N	<u> </u>	Y/N	No Trace
Bicarbonates	<u>XXXXXXXXXX</u>	<u> </u>	mg/L	Less Than 500 mg/L
Iron = 0				
Remarks:				

HALLIBURTON

Lab Data

Job Information

Request/Slurry	121873/4	Rig Name	H&P 321	Date	12/JAN/2011
Submitted By	Simukayi Mutasa	Job Type	Intermediate Casing	Bulk Plant	Vernal
Customer	ExxonMobil	Location	Rio Blanco	Well	PCU 296-5A10

Well Information

Casing/Liner Size	7"	Depth MD	10195 ft	BHST	210 F
Hole Size	9 7/8"	Depth TVD	10159 ft	BHCT	154 F

Cement Information - Primary Design

Conc	UOM	Cement/Additive	Sample Type	Sample Date	Lot No.	Cement Properties		
		Tuned Light				Slurry Density	11.00	PPG
						Slurry Yield	2.21	ft3/sk
36.88	%	> Boral Craig Pozmix	Bulk	Jan 16, 2011		Water Requirement	9.69	GPS
11	%	> HGS 6000 (PB)	Bulk	Jan 16, 2011				
53.19	%	> Holcim Type V	Bulk	Jan 16, 2011				
13	%	> Silicalite - Compacted	Bulk	Jan 16, 2011				
100.00	% BWOC	Cement Blend						
0.500	lb/sk	HR-601	Bulk	Jan 16, 2011				
0.500	lb/sk	D-Air 3000	Bulk	Jan 16, 2011				
0.200	lb/sk	FWCA	Bulk	Jan 16, 2011				
9.69	gal/sack	Field (Fresh) Water	Lab	Jan 13, 2011	1-13-2011			

Operation Test Results Request ID 121873/4

UCA Comp. Strength, Request Test ID:1250423

End Temp (°F)	Pressure (psi)	50 psi (hh:mm)	500 psi (hh:mm)	12 hr CS (psi)	24 hr CS (psi)	48 hr CS (psi)	End CS (psi)	End Time (hrs)
191	3,000	07:51	09:27	1,722	1,900	1,874	1,899	72

Thickening Time, Request Test ID:1249910

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)
154	6,149	60	13	03:46	04:04	04:37	05:30

Mixability (0 - 5) - 0 is not mixable, Request Test ID:1249911

Mixability rating (0 - 5)

5

Marsh Funnel, Request Test ID:1250424

Volume [ml]	Time [Sec]	Foam Quality
102	50	0

Stopped flowing after 50 seconds

Free Water, Request Test ID:1250422

Test Temp (°F)	% FW 45 Inc
154	0

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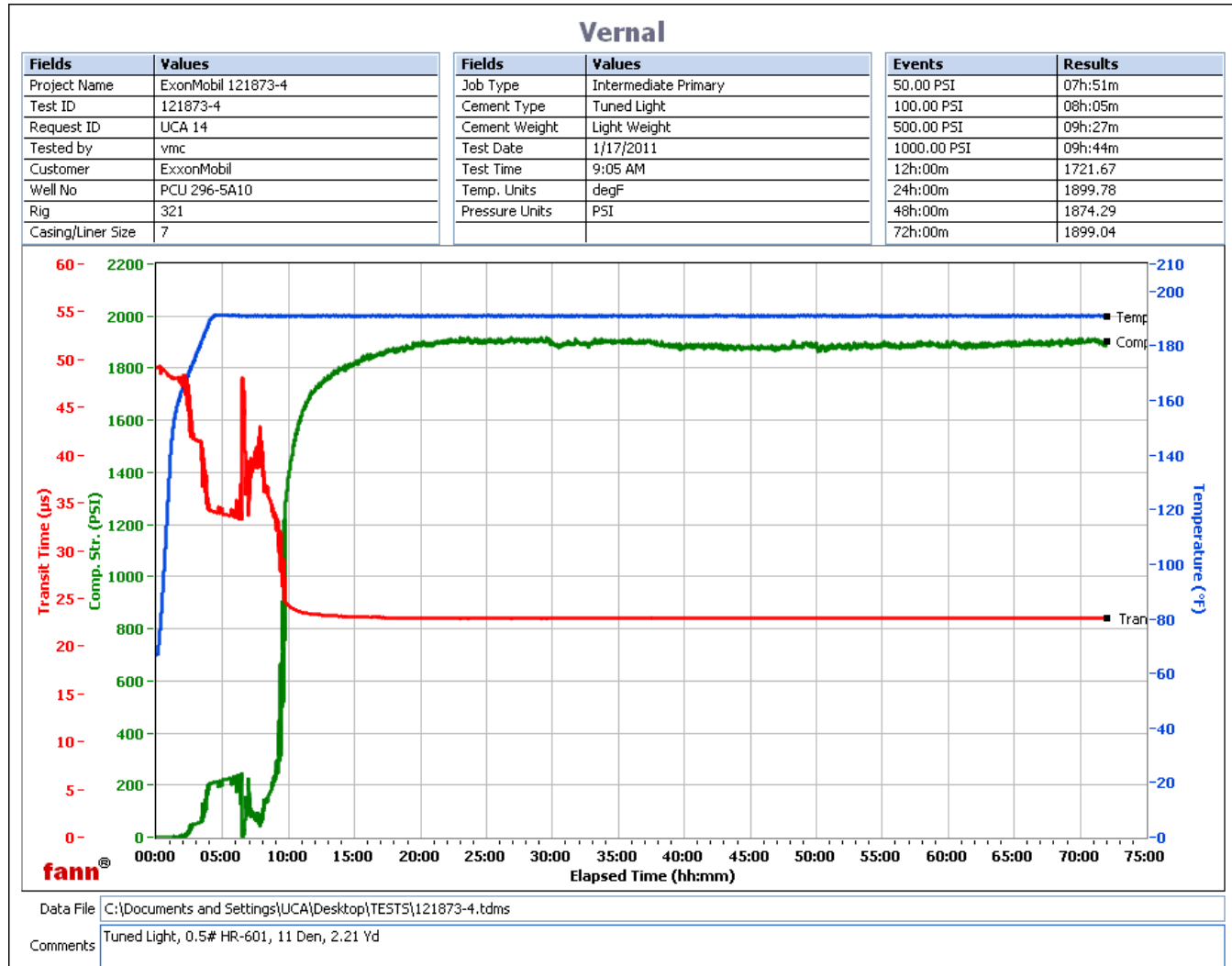
API Rheology, Request Test ID:1250420

Temp (°F)	600	300	200	100	60	30	6	3	Cond Time (min)	PV/YP
80	245	140	109	76	64	52	31	24	20	109.9 / 36.5

API Fluid Loss, Request Test ID:1250421

Test Temp (°F)	Test Pressure (psi)	Test Time (min)	Meas. Vol (< 30 min, cc)	Extr. ISO FL (cc/30 min)
154	1,000	3.5	33	193

Additional Comments



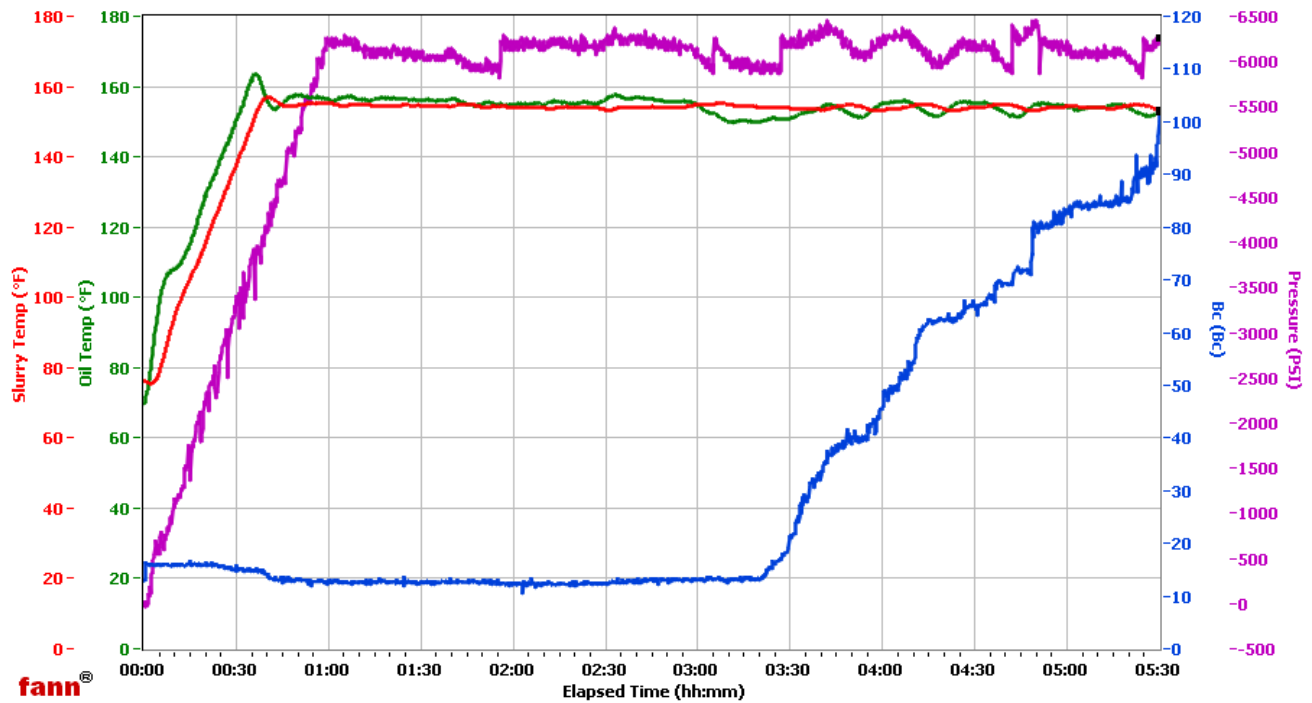
HALLIBURTON

Vernal

Fields	Values
Project Name	ExxonMobil 121873-4
Test ID	121873-4
Request ID	
Tested by	ADF
Customer	ExxonMobil
Well No	PCU 296-5A10
Rig	321
Casing/Liner Size	7

Fields	Values
Job Type	Inter Pm
Cement Type	V
Cement Weight	Light Weight
Test Date	01/16/11
Test Time	05:48 PM
Temp. Units	degF
Pressure Units	PSI

Events	Results
30.00 Bc	03h:36m
50.00 Bc	04h:04m
60.00 Bc	04h:12m
70.00 Bc	04h:37m
100.00 Bc	05h:30m
200.00 Bc	NaN
03h:00m	12.94
06h:00m	NaN



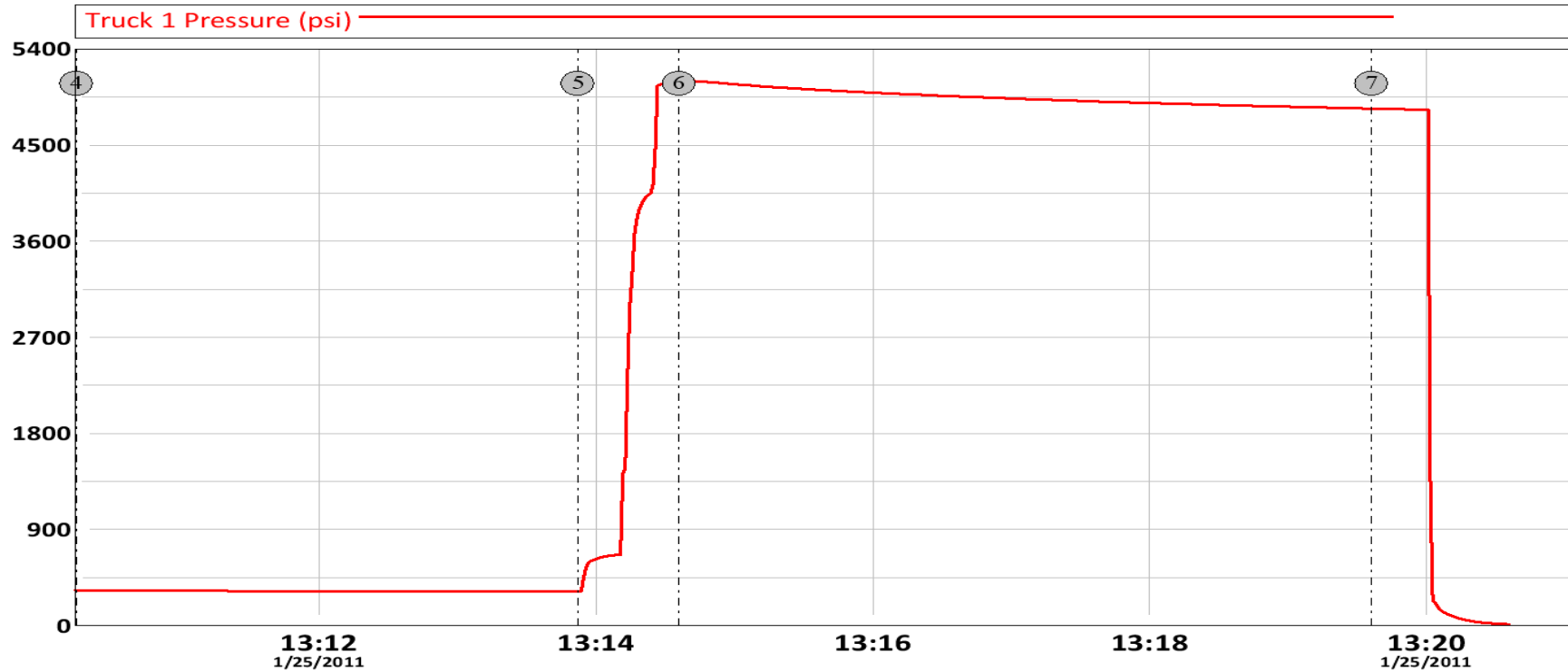
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Comments 11 D, 2.21 Y

HALLIBURTON

Data Acquisition

Pressure Test PCU 296-5A10 Intermediate



④ Begin Low Pressure Test 13:10:15 330.8 ⑤ End Low Pressure Test 13:13:52 321.0
⑥ Begin High Pressure Test 13:14:36 5104 ⑦ End High Pressure Test 13:19:36 4842

Customer: ExxonMobil
Well Description: PCU 296-5A10

Job Date: Jan, 25th, 2011
UWI: 05-103-11239

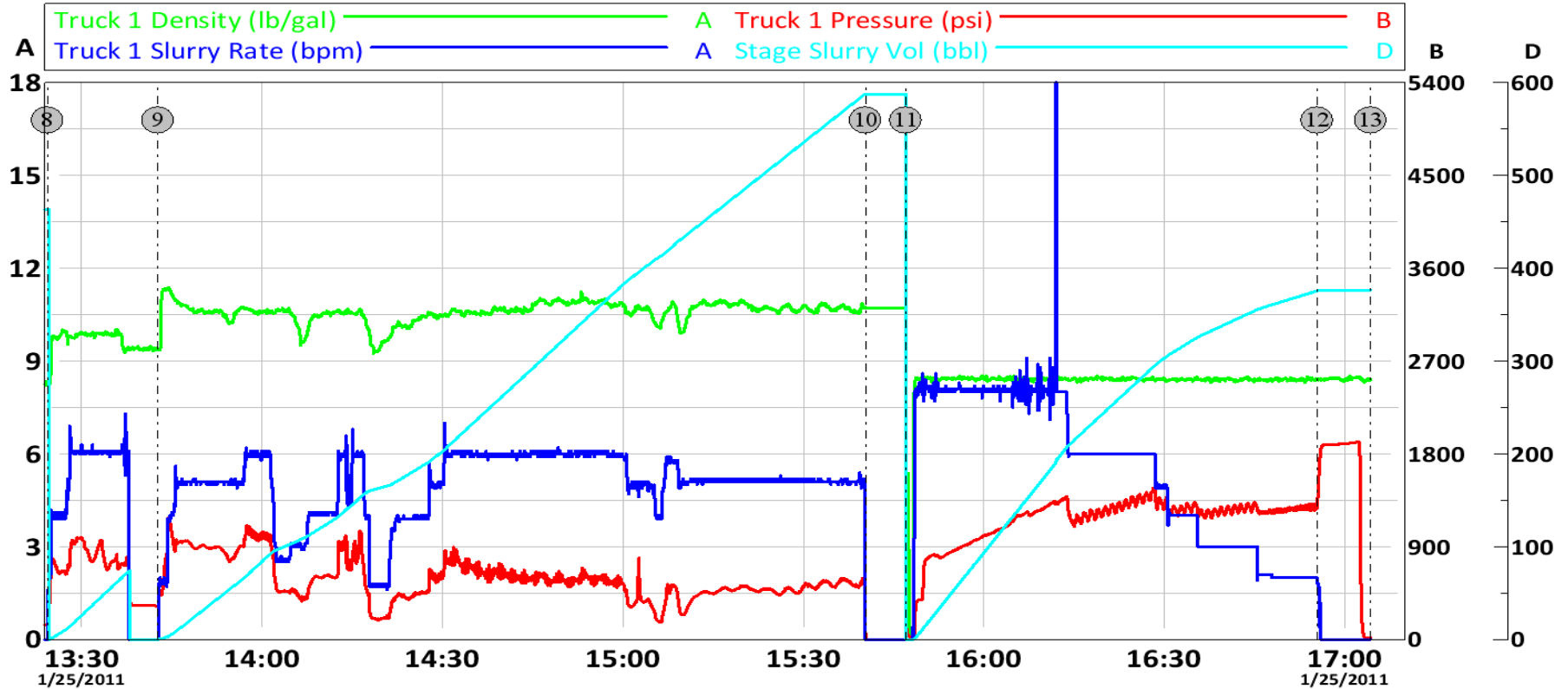
Sales Order #: 7898228
Rig: H&P 321

OptiCem v6.4.9
25-Jan-11 13:20

HALLIBURTON

ExxonMobil

PCU 296-5A10 Intermediate



8 80 bbl 10# Tuned Spacer III	13:24:19 145.0	9 1405 sk 11# Tuned Light	13:42:41 324.0
10 Shutdown, Wash To Pit	15:40:19 0.000	11 Treated Water Displacement	15:47:01 170.9
12 Bump Plugs	16:55:25 1281	13 Ending Job	17:04:19 15.00

Customer: ExxonMobil
Well Description: PCU 296-5A10

Job Date: Jan, 25th, 2011
UWI: 05-103-11239

Sales Order #: 7898228
Rig: H&P 321

OptiCem v6.4.9
 25-Jan-11 17:05