

HALLIBURTON

iCem® Service

BP AMERICA PROD CO-SORAC/NAG EBIZ

For: MIKE STARNES

Date: Sunday, June 07, 2015

BP AMERICA TUBBS 32-6-9 B #4 902476087

Case 1

Job Date: Saturday, June 06, 2015

Sincerely, DAVID HAHN AND CREW

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The Road to Excellence Starts with Safety

Sold To #: 358135	Ship To #: 3658490	Quote #:	Sales Order #: 0902476087
Customer: BP AMERICA PROD CO-SORAC/NAG EBIZ	Customer Rep: MIKE STARNES		
Well Name: TUBBS 32-6-9 B	Well #: 4	API/UWI #: 05-067-09927-00	
Field: IGNACIO-BLANCO	City (SAP): IGNACIO	County/Parish: LA PLATA	State: COLORADO
Legal Description: SW NE-9-32N-6W-2448FNL-2240FEL			
Contractor: AZTEC WELL SERVICING CO	Rig/Platform Name/Num: AZTEC 507		
Job BOM: 7523			
Well Type: COAL DE-GAS			
Sales Person: HALAMERICA\HX38199	Srvc Supervisor: David Hahn		

Job

Formation Name	
Formation Depth (MD)	Top Bottom
Form Type	BHST
Job depth MD	3682 ft Job Depth TVD
Water Depth	Wk Ht Above Floor
Perforation Depth (MD)	From To

Well Data

Description	New / Used	Size in	ID in	Weight lbm/ft	Thread	Grade	Top MD ft	Bottom MD ft	Top TVD ft	Bottom TVD ft
Casing		8.625	8.097	24			0	719		678
Casing		5.5	4.95	15.5			0	3672		3093
Open Hole Section			7.875				700	3682	678	3093

Tools and Accessories

Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make
Guide Shoe	5.5			3672	Top Plug	5.5	1	HES
Float Shoe	5.5				Bottom Plug	5.5		HES
Float Collar	5.5				SSR plug set	5.5		HES
Insert Float	5.5				Plug Container	5.5	1	HES
Stage Tool	5.5				Centralizers	5.5		HES

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 /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
1	Chemical Wash	Chemical Wash	10	bbl	8.35				
	1000 gal/Mgal	FRESH WATER							

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
2	Lead Cement	VARICEM (TM) CEMENT	210	sack	12.3	2.42			13.57
0.40 %		FE-2 (100001615)							
0.1250 lbm		POLY-E-FLAKE (101216940)							
13.57 Gal		FRESH WATER							
5 lbm		KOL-SEAL, BULK (100064233)							
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
3	Lead Cement (with Super CBL)	VARICEM (TM) CEMENT	40	sack	12.3	2.49			14.26
14.26 Gal		FRESH WATER							
0.1250 lbm		POLY-E-FLAKE (101216940)							
0.30 %		SUPER CBL, 50 LB PAIL (100003668)							
0.40 %		FE-2 (100001615)							
5 lbm		KOL-SEAL, BULK (100064233)							
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
4	Tail Cement	VARICEM (TM) CEMENT	105	sack	13.5	1.85			9.32
0.40 %		FE-2 (100001615)							
0.1250 lbm		POLY-E-FLAKE (101216940)							
9.32 Gal		FRESH WATER							
5 lbm		KOL-SEAL, BULK (100064233)							
0.30 %		SUPER CBL, 50 LB PAIL (100003668)							
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
5	Displacement	Displacement	86.4	bbl	8.33				
Cement Left In Pipe		Amount	ft	Reason				Shoe Joint	
Mix Water:		pH ##	Mix Water:## ppm Chloride:			Mix Water Temperature:## °F °C			
Cement Temperature:## °F °C		Plug Displaced by:## lb/gal kg/m3 XXXX				Disp. Temperature:## °F °C			
Plug Bumped? Yes/No		Bump Pressure:#### psi MPa				Floats Held? Yes/No			
Cement Returns:## bbl m3		Returns Density:## lb/gal kg/m3				Returns Temperature:## °F °C			
Comment									

Summary Report



Crew: _____

Job Start Date: 6/7/2015

Sales Order #: 0902476087

WO #: 0902476087

PO/AFE #: NA

Customer: BP AMERICA PROD CO-
SORAC/NAG EBIZ
UWI / API Number: 05-067-09927-00
Well Name: TUBBS 32-6-9 B
Well No: 4

Field: IGNACIO-BLANCO
County/Parish: LA PLATA
State: COLORADO
Latitude: 37.032371
Longitude: -107.504309
Sect / Twn / Rng: 9/32/6

Job Type: CMT PRODUCTION
CASING BOM
Service Supervisor: David Hahn

Cust Rep Name: MIKE STARNES
Cust Rep Phone #:

Remarks:

The Information Stated Herein Is Correct	Customer Representative Signature 	Date 6-7-15
	Customer Representative Printed Name Mike Starnes	

2.0 Real-Time Job Summary

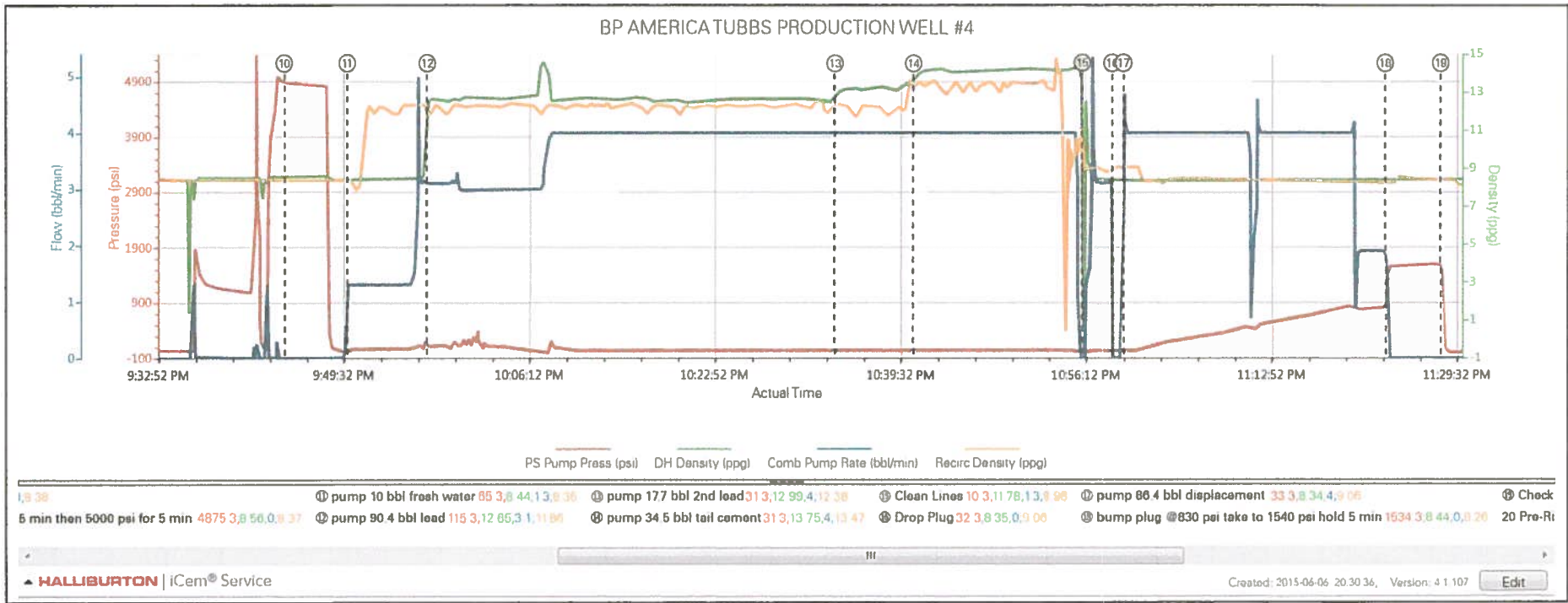
2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	PS Pump Press (psi)	DH Density (ppg)	Comb Pump Rate (bbl/min)	Recirc Density (ppg)	Comments
Event	1	Call Out	Call Out	6/6/2015	15:00:00	USER					call out @ 1500 for a 2130 on location time.
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	6/6/2015	16:30:00	USER					
Event	3	Depart from Service Center or Other Site	Depart from Service Center or Other Site	6/6/2015	16:35:00	USER					
Event	4	Arrive at Location from Service Center	Arrive at Location from Service Center	6/6/2015	17:45:00	USER					
Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	6/6/2015	18:00:00	USER					
Event	6	Rig-Up Equipment	Rig-Up Equipment	6/6/2015	18:15:00	USER					
Event	7	Rig-Up Completed	Rig-Up Completed	6/6/2015	19:15:00	USER					
Event	8	Pre-Job Safety Meeting	Pre-Job Safety Meeting	6/6/2015	21:10:00	USER	42.30	8.42	0.00	8.37	
Event	9	Start Job	Start Job	6/6/2015	21:15:00	COM4	42.30	8.42	0.00	8.38	
Event	10	Test Lines	test lines to 500 for 5 min then 5000 psi for 5 min	6/6/2015	21:44:27	COM4	4875.30	8.56	0.00	8.37	
Event	11	Pump Spacer	pump 10 bbl fresh water	6/6/2015	21:50:05	USER	65.30	8.44	1.30	8.35	
Event	12	Pump Cement	pump 90.4 bbl lead	6/6/2015	21:57:14	USER	115.30	12.65	3.10	11.86	210 sks 12.3 ppg 2.42 yeild 13.57 gal sk
Event	13	Pump Cement	pump 17.7 bbl 2nd lead	6/6/2015	22:33:51	USER	31.30	12.99	4.00	12.38	40sks 12.3 ppg 2.49 yeild 14.26 gal sk
Event	14	Pump Tail Cement	pump 34.5 bbl tail cement	6/6/2015	22:40:53	USER	31.30	13.75	4.00	13.47	105 sks 13.5 ppg 1.85 yeild 9.32 gal sk
Event	15	Clean Lines	Clean Lines	6/6/2015	22:56:06	USER	10.30	11.78	1.30	8.98	

Event	16	Drop Plug	Drop Plug	6/6/2015	22:58:44	USER	32.30	8.35	0.00	9.06	hes top plug verified by company man
Event	17	Pump Displacement	pump 86.4 bbl displacement	6/6/2015	22:59:43	USER	33.30	8.34	4.00	9.06	
Event	18	Bump Plug	bump plug @830 psi take to 1540 psl hold 5 min	6/6/2015	23:23:18	USER	1534.30	8.44	0.00	8.26	24 bbl cement back to surface
Event	19	Check Floats	Check Floats	6/6/2015	23:28:15	USER	535.30	8.41	0.00	8.37	. 5 bbl back
Event	20	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	6/7/2015	00:00:00	USER					
Event	21	Rig-Down Equipment	Rig-Down Equipment	6/7/2015	00:15:00	USER					
Event	22	Rig-Down Completed	Rig-Down Completed	6/7/2015	01:00:00	USER					
Event	23	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	6/7/2015	01:15:00	USER					
Event	24	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	6/7/2015	01:30:00	USER					

3.0 Attachments

3.1 Custom Results - Case 1.png



Job Information

Request/Slurry	2247263/1	Rig Name	AZTEC WELL SERVICING #507	Date	05/JUN/2015
Submitted By	Alexandria Salazar	Job Type	Production Casing	Bulk Plant	
Customer	BP	Location		Well	Tubbs 32-6-9 B 4

Well Information

Casing/Liner Size	5.5 in / 139.7 mm	Depth MD	1114 m / 3655 ft	BHST	47°C / 117°F
Hole Size	7.875 in / 200.025 mm	Depth TVD	941 m / 3086 ft	BHCT	36°C / 96°F
Pressure	124 bar / 1797 psi				

Drilling Fluid Information

Mud Supplier Name	AES Drilling Fluids	Mud Trade Name	Density
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Cement Information - Lead Design

Conc	UOM	Cement/Additive	Sample Type	Sample Date	Lot No.	Cement Properties		
100	% BWOC	GCC Type III	Bulk Blend	05.06.15		Slurry Density	12.3	lbm/gal
13.58	gal/sack	Fresh Water	Chemicals	15.01.15	2015	Slurry Yield	2.4219	ft3/sack
		D-Air 5000	Bulk Blend	05.06.15		Water Requirement	13.5784	gal/sack
		Fe-2 (citric acid)	Bulk Blend	05.06.15		Total Mix Fluid	13.58	gal/sack
		Kol-Seal	Bulk Blend	05.06.15				
		Pol-E-Flake	Bulk Blend	05.06.15				
		Econolite (Powder - PB)	Bulk Blend	05.06.15		Water Source	Fresh Water	
		Cal-Seal 60	Bulk Blend	05.06.15		Water Chloride		
		NaCl (Sodium Chloride) Salt	Bulk Blend	05.06.15				
		VERSASET (PB)	Bulk Blend	05.06.15				

Operation Test Results Request ID 2247263/1

Thickening Time, Historical Data 05/JUN/2015

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)
96	1797	21	2	3:25	3:40	3:42	3:58	4:14

These are draft results and have not been approved for final use.

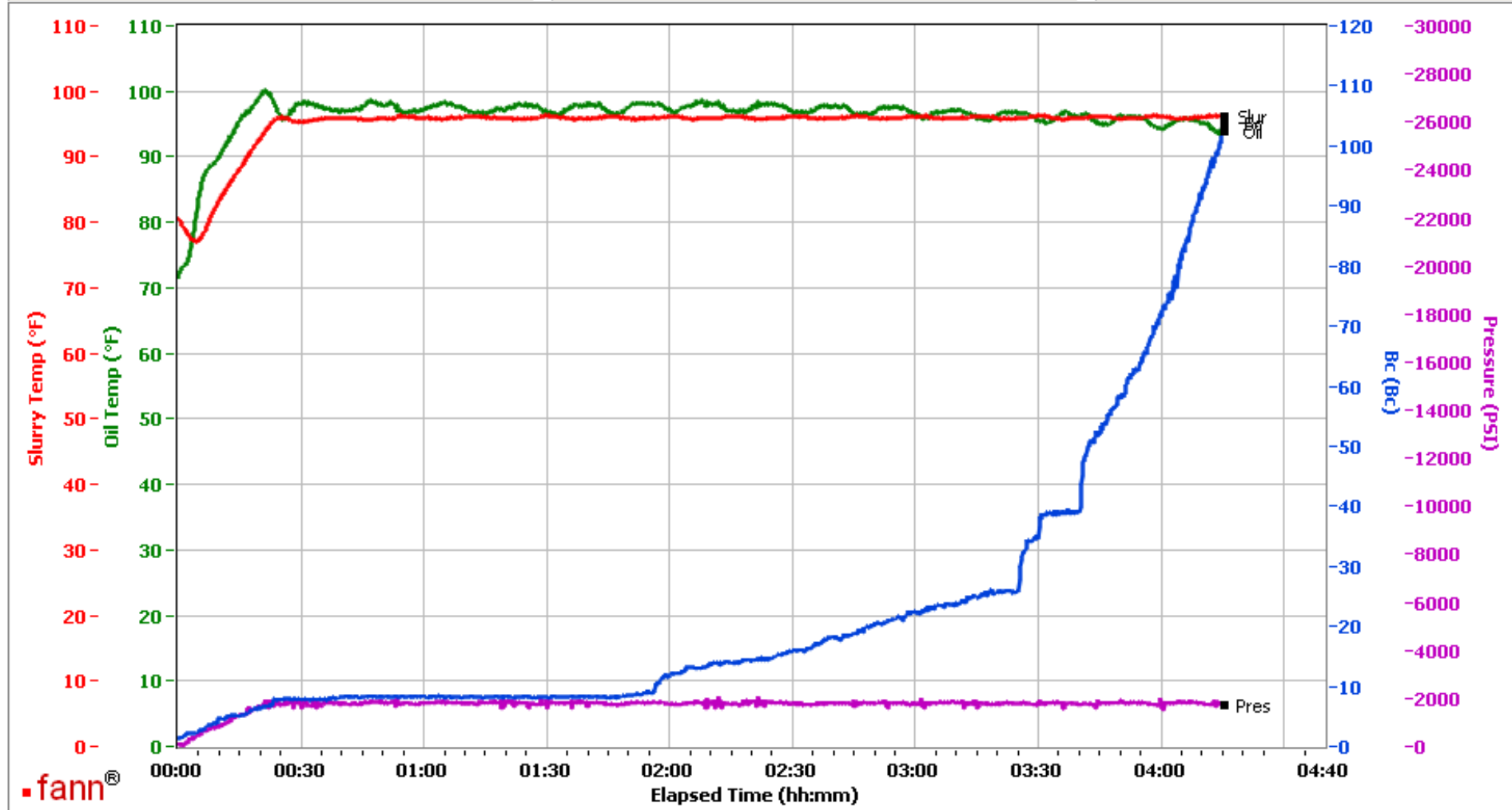
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Farmington

Fields	Values
Project Name	FM2247263-1 BP-Tubbs 32-6-9 B4 Lead Bulk
Test ID	FM2247263-1
Request ID	
Tested by	AP
Customer	BP
Well No	
Rig	
Casing/Liner Size	

Fields	Values
Job Type	
Cement Type	
Cement Weight	Light Weight
Test Date	06/05/15
Test Time	03:01 PM
Temp. Units	degF
Pressure Units	PSI
SW Version	2.0.2.206

Events	Results
30.00 Bc	03h:25m
40.00 Bc	03h:40m
50.00 Bc	03h:42m
70.00 Bc	03h:58m
100.00 Bc	04h:14m
00h:30m	7.82
01h:00m	8.41
01h:30m	8.28



Data File C:\Documents and Settings\M290\Desktop\TT Graphs\FM2247263-1 BP-Tubbs 32-6-9 B4 Lead Bulk.tdms

Comments 12.3 ppg

Job Information

Request/Slurry	2247264/1	Rig Name	AZTEC WELL SERVICING #507	Date	05/JUN/2015
Submitted By	Alexandria Salazar	Job Type	Production Casing	Bulk Plant	
Customer	BP	Location		Well	Tubbs 32-6-9 B 4

Well Information

Casing/Liner Size	5.5 in / 139.7 mm	Depth MD	1114 m / 3655 ft	BHST	47°C / 117°F
Hole Size	7.875 in / 200.025 mm	Depth TVD	941 m / 3086 ft	BHCT	36°C / 96°F
Pressure	124 bar / 1797 psi				

Drilling Fluid Information

Mud Supplier Name	AES Drilling Fluids	Mud Trade Name	Density
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Cement Information - Lead Design

Conc	UOM	Cement/Additive	Sample Type	Sample Date	Lot No.	Cement Properties		
100	% BWOC	GCC Type III	Bulk Blend	05.06.15		Slurry Density	12.3	lbm/gal
13.61	gal/sack	Fresh Water	Chemicals	15.01.15	2015	Slurry Yield	2.4277	ft3/sack
		D-Air 5000	Bulk Blend	05.06.15		Water Requirement	13.6092	gal/sack
		Fe-2 (citric acid)	Bulk Blend	05.06.15		Total Mix Fluid	13.61	gal/sack
		Kol-Seal	Bulk Blend	05.06.15				
		Pol-E-Flake	Bulk Blend	05.06.15				
		Econolite (Powder - PB)	Bulk Blend	05.06.15		Water Source	Fresh Water	
		Cal-Seal 60	Bulk Blend	05.06.15		Water Chloride		
		NaCl (Sodium Chloride)	Bulk Blend	05.06.15				
		Salt	Bulk Blend	05.06.15				
		VERSASET (PB)	Bulk Blend	05.06.15				
		SUPER CBL	Bulk Blend	05.06.15				

Operation Test Results Request ID 2247264/1

Thickening Time, Historical Data 05/JUN/2015

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)
96	1797	21	2	3:45	3:56	4:11	4:39	4:57

Mixability (0 - 5) - 0 is not mixable, Historical Data 05/JUN/2015

Mixability rating (0 - 5)	Avg rpm mixing under load (~12,000)
5	12000

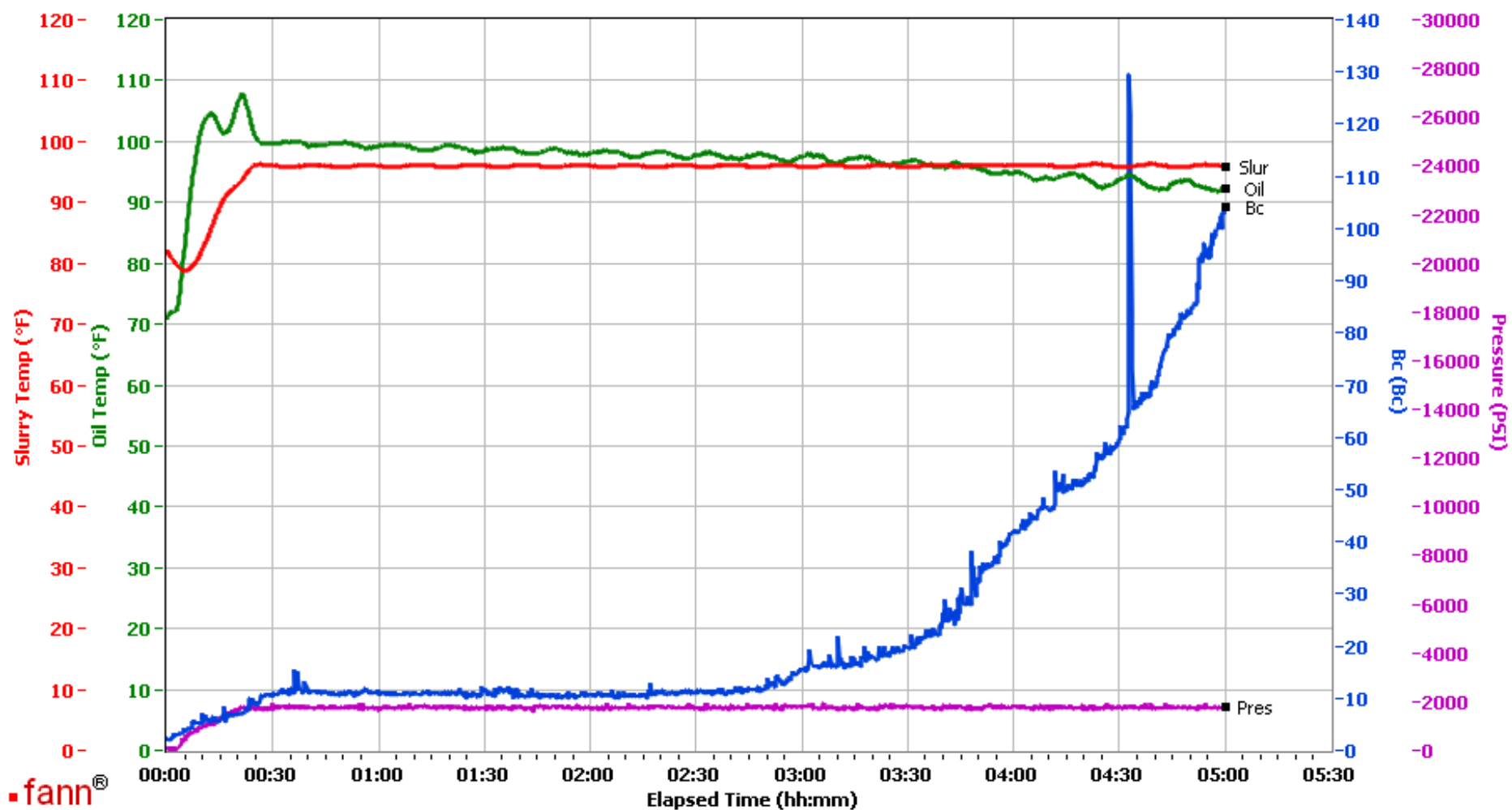
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Farmington

Fields	Values
Project Name	FM2247264-1 BP Production Tubbs 32-6-9 B
Test ID	FM2247264-1
Request ID	
Tested by	NY
Customer	BP
Well No	32-6-9 B 4
Rig	
Casing/Liner Size	

Fields	Values
Job Type	
Cement Type	
Cement Weight	Light Weight
Test Date	06/05/15
Test Time	11:41 PM
Temp. Units	degF
Pressure Units	PSI
SW Version	2.0.2.206

Events	Results
30.00 Bc	03h:45m
40.00 Bc	03h:56m
50.00 Bc	04h:11m
70.00 Bc	04h:39m
100.00 Bc	04h:57m
00h:30m	10.86
01h:00m	11.27
01h:30m	11.89



Data File C:\Documents and Settings\M290\Desktop\TT Graphs\FM2247264-1 BP Production Tubbs 32-6-9 B 4 Lead with SCBL Bulk TT.tdms

Comments 12.3 PPG

Job Information

Request/Slurry	2247266/1	Rig Name	AZTEC WELL SERVICING #507	Date	05/JUN/2015
Submitted By	Alexandria Salazar	Job Type	Production Casing	Bulk Plant	
Customer	BP	Location		Well	Tubbs 32-6-9 B 4

Well Information

Casing/Liner Size	5.5 in / 139.7 mm	Depth MD	1114 m / 3655 ft	BHST	47°C / 117°F
Hole Size	7.875 in / 200.025 mm	Depth TVD	941 m / 3086 ft	BHCT	36°C / 96°F
Pressure	124 bar / 1797 psi				

Drilling Fluid Information

Mud Supplier Name	AES Drilling Fluids	Mud Trade Name		Density	
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Cement Information - Tail Design



<u>Conc</u>	<u>UOM</u>	<u>Cement/Additive</u>	<u>Sample Type</u>	<u>Sample Date</u>	<u>Lot No.</u>	<u>Cement Properties</u>		
100	% BWOC	GCC Type III	Bulk Blend	05.06.15	14040-OTB	Slurry Density	13.5	lbm/gal
9.32	gal/sack	Fresh Water	Chemicals	15.01.15	2015	Slurry Yield	1.848	ft3/sack
		D-Air 5000	Bulk Blend	05.06.15	2014213AC	Water Requirement	9.3208	gal/sack
		Fe-2 (citric acid)	Bulk Blend	05.06.15	6040624	Total Mix Fluid	9.32	gal/sack
		Kol-Seal	Bulk Blend	05.06.15	7987			
		Pol-E-Flake	Bulk Blend	05.06.15	6-5-2015			
		Econolite (Powder - PB)	Bulk Blend	05.06.15	44243004	Water Source	Fresh Water	
		Cal-Seal 60	Bulk Blend	05.06.15	4/1/2037	Water Chloride		
		NaCl (Sodium Chloride) Salt	Bulk Blend	05.06.15	02615ADCAA			
		VERSASET (PB)	Bulk Blend	05.06.15	249-16-2			
		SUPER CBL	Bulk Blend	05.06.15	14LOO57(114)			

Operation Test Results Request ID 2247266/1

Thickening Time, Historical Data 06/JUN/2015

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)
96	1797	21	5	3:44	7:46	8:03	8:26	8:46

Mixability (0 - 5) - 0 is not mixable, Historical Data 05/JUN/2015

Mixability rating (0 - 5)	Avg rpm mixing under load (~12,000)
5	12000

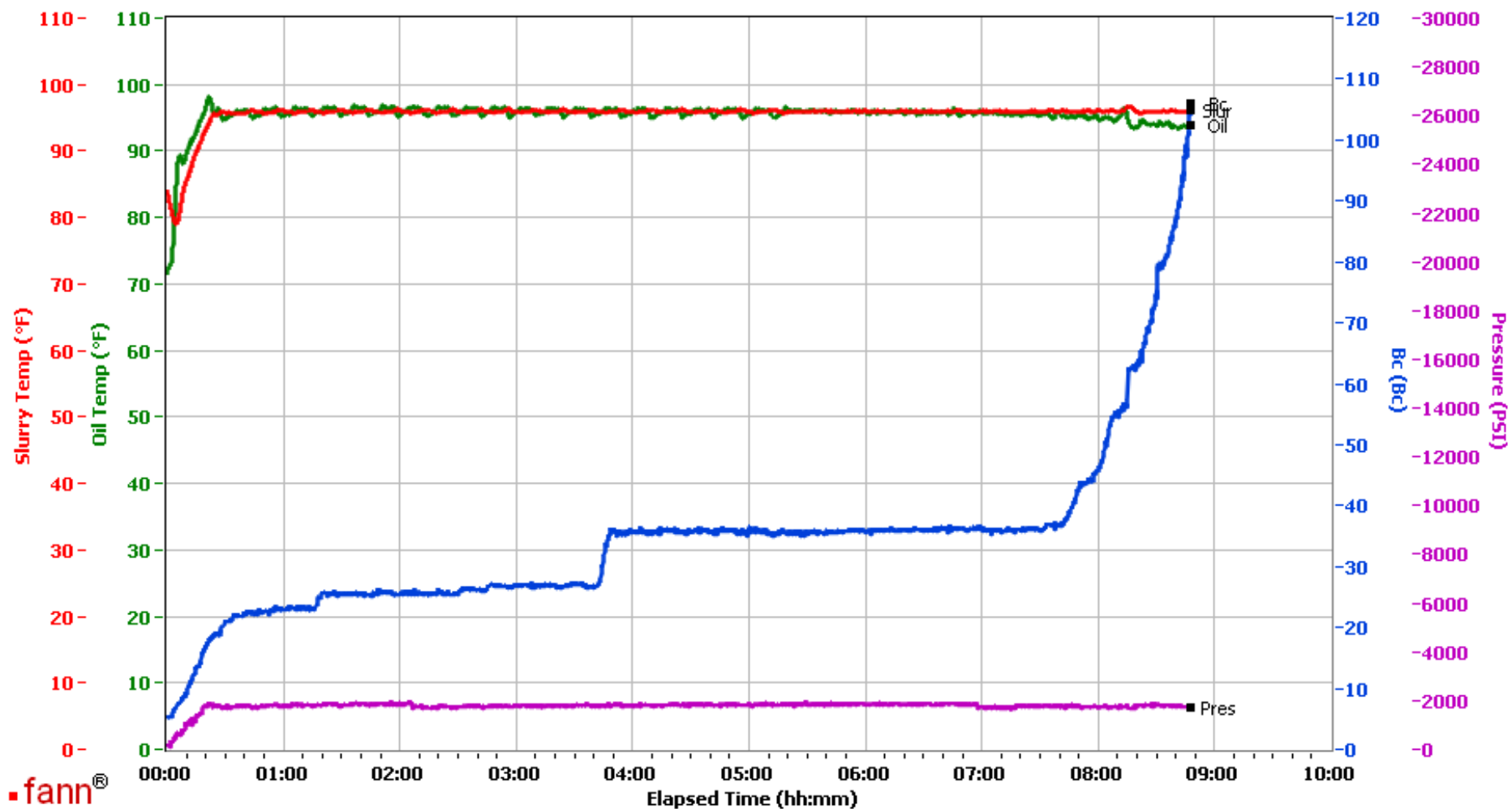
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Farmington

Fields	Values
Project Name	FM2247266-1 BP Production Tubbs 32-6-9 B
Test ID	FM2247266-1
Request ID	
Tested by	NY
Customer	BP
Well No	32-6-9 B 4
Rig	
Casing/Liner Size	

Fields	Values
Job Type	
Cement Type	
Cement Weight	Light Weight
Test Date	06/05/15
Test Time	04:29 PM
Temp. Units	degF
Pressure Units	PSI
SW Version	2.0.2.206

Events	Results
30.00 Bc	03h:44m
40.00 Bc	07h:46m
50.00 Bc	08h:03m
70.00 Bc	08h:26m
100.00 Bc	08h:46m
00h:30m	20.99
01h:00m	23.00
01h:30m	25.61



Data File C:\Documents and Settings\M290\Desktop\TT Graphs\FM2247266-1 BP Production Tubbs 32-6-9 B 4 Tail With SCBL Bulk TT.tdms

Comments 13.5 PPG