

HALLIBURTON

**CHEVRON - MID-CONTINENT EBIZ
11111 S WILCREST DR - DO NOT MAIL
HOUSTON, Texas**

Emerald
Emerald 93X

H&P/ 304 432-238/-4515

Post Job Summary

Cement Surface Casing

Prepared for:
Date Prepared:
Version: 1

Service Supervisor:

Submitted by:

HALLIBURTON

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Wellbore Geometry

Job Tubulars					MD		Excess %	Shoe Joint Length ft
Type	Description	Size in	ID in	Wt lbm/ft	Top ft	Bottom ft		
Casing	Conductor Casing	16.00	15.010	84.00	0.00	60.00		
Open Hole Section	12-1/4" Hole		12.250		60.00	2,000.00	50.00	
Casing	Surface Casing	9.63	8.921	36.00	0.00	2,000.00		40.00

Pumping Schedule

Fluid #	Fluid Type	Fluid Name	Surface Density lbm/gal	Avg Rate bbl/min	Downhole Volume
1	Spacer	Gel Water	8.50	0.00	.0
2	Cement Slurry	Tuned Light Lead	11.00		.0
3	Cement Slurry	Tuned Light Tail	12.00		.0
4	Spacer	Displacement	8.34	0.00	.0
5	Cement Slurry	Top Out Cement	15.80		.0

Fluids Pumped

Stage/Plug # 1 Fluid 1: Gel Water
DUMMY MUD / FLUSH / SPACER SBC MATERIAL

10 lbm/bbl Halliburton Gel

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Fluid Density: 8.50 lbm/gal
Pump Rate: 0.00 bbl/min

Stage/Plug # 1 Fluid 2: Tuned Light Lead
TUNED LIGHT (TM) SYSTEM
0.125 lbm Poly-E-Flake

Fluid Weight: 11.00 lbm/gal
Slurry Yield: 2.88 ft³/sack
Total Mixing Fluid: 15.68 Gal
Calculated Fill: 1,500.00 ft
Calculated Top of Fluid: 0.00 ft
Estimated Top of Fluid:

Stage/Plug # 1 Fluid 3: Tuned Light Tail
TUNED LIGHT (TM) SYSTEM
0.125 lbm Poly-E-Flake

Fluid Weight: 12.00 lbm/gal
Slurry Yield: 2.03 ft³/sack
Total Mixing Fluid: 9.48 Gal
Calculated Fill: 500.00 ft
Calculated Top of Fluid: 1,500.00 ft
Estimated Top of Fluid:

Stage/Plug # 1 Fluid 4: Displacement
DUMMY MUD / FLUSH / SPACER SBC MATERIAL

Fluid Density: 8.34 lbm/gal
Pump Rate: 0.00 bbl/min

Stage/Plug # 1 Fluid 5: Top Out Cement
Top Out Cement
94 lbm Premium Cement
2 % Calcium Chloride, Pellet

Fluid Weight: 15.80 lbm/gal
Slurry Yield: 1.17 ft³/sack
Total Mixing Fluid: 5.02 Gal
Estimated Top of Fluid:

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Job Summary

Job Information

Job MD	2,000.0 ft
Job TVD	2,000.0 ft
Calculated Displacement	151.53 bbl
Annular flow Before Job? (Water/Gas)	Unknown
Annular flow After Job? (Water/Gas)	Unknown

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Service Supervisor Reports

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Cementing Job Log

The Road to Excellence Starts with Safety

Sold To #: 336668	Ship To #: 2853126	Quote #:	Sales Order #: 8161646
Customer: CHEVRON - MID-CONTINENT EBIZ	Customer Rep: Kavander, Chad		
Well Name: Emerald	Well #: 93X	API/UWI #:	
Field:	City (SAP): RANGELY	County/Parish:	State: Texas
Legal Description:			
Lat: N 0 deg. OR N 0 deg. 0 min. 0 secs.		Long: E 0 deg. OR E 0 deg. 0 min. 0 secs.	
Contractor: H&P	Rig/Platform Name/Num: 304	432-238-4515	
Job Purpose: Cement Surface Casing		Ticket Amount:	
Well Type: Development Well		Job Type: Cement Surface Casing	
Sales Person: GROFF, THEODORE		Svc Supervisor: HAMMOND, QUINN	
		MBU ID Emp #: 472403	

Activity Description	Date/Time	Cht #	Rate bbl/min	Volume bbl		Pressure psig		Comments
				Stage	Total	Tubing	Casing	
Call Out	05/11/2011 23:30							Crew Called out for Job.
Pre-Convoy Safety Meeting	05/12/2011 01:15							Met w/crew to discuss safety and hazards of travel to location
Depart from Service Center or Other Site	05/12/2011 01:30							Entered into Journey Management.
Arrive At Loc	05/12/2011 02:30							Ended Journey Management. (WHAT WAS GOING ON WHEN WE ARRIVED)
Assessment Of Location Safety Meeting	05/12/2011 13:30							Met w/crew to discuss hazards of site, location of materials and safety precautions.
Other	05/12/2011 14:00							Spot Equipment
Pre-Rig Up Safety Meeting	05/12/2011 14:10							Met w/crew to discuss the best way to rig up, safety and hazards involved.
Rig-Up Equipment	05/12/2011 14:30							Rig up Ground & Standpipe
Pre-Job Safety Meeting	05/12/2011 15:30							Met w/Rig Crew, Co. Rep, and our crew to discuss job procedures, contingencies, and safety measures.
Rig-Up Equipment	05/12/2011 15:35							Rig-up the rig floor.
Other	05/12/2011 15:40							Fill Lines
Test Lines	05/12/2011 15:45							Pressure Test our Iron (3000 psi)
Pump Spacer 1	05/12/2011 16:10							Fresh GEL Spacer

Sold To #: 336668

Ship To #: 2853126

Quote #:

Sales Order #:

8161646

SUMMIT Version: 7.20.130

Friday, May 13, 2011 08:27:00

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Cementing Job Log

Activity Description	Date/Time	Cht #	Rate bbl/min	Volume bbl		Pressure psig		Comments
				Stage	Total	Tubing	Casing	
Pump Lead Cement	05/12/2011 16:15		5	170	170		111.0	330 sks Tuned Light @11 ppg 2.88cuft/sk 15.68gps
Pump Tail Cement	05/12/2011 16:40		5	60.4	60.4		115.0	165 sks Tuned Light @ 12ppg 2.03cuft/sk 9.48 gps
Shutdown	05/12/2011 16:50							Shutdown / Drop Plug
Pump Displacement	05/12/2011 16:50							8.8ppg mud displacement
Slow Rate	05/12/2011 17:20							Slow rate to bump plug.
Bump Plug	05/12/2011 17:24							500 psi over final circulating pressure (210 psi)
Check Floats	05/12/2011 17:29							held for 5 min, check floats. .5 bbls back - Floats held.
Other	05/12/2011 18:30							run 100' of 1"
Safety Huddle	05/12/2011 19:00							met with rig crew to explain top out
Pump Cap Cement	05/12/2011 19:10		1.5	10.5	10.5	.0	165.0	50 sks top out no returns
Other	05/12/2011 19:59							wait 2 hours
Safety Huddle	05/12/2011 22:00							Met with rig crew to get ready for top out #2
Pump Cap Cement	05/12/2011 23:00		1.5	10.5	10.5	.0	165.0	50 sks top out no returns
Other	05/12/2011 23:05							wait 2 hours
Safety Huddle	05/13/2011 01:30							met with rig crew for top out #3
Pump Cap Cement	05/13/2011 01:45		1.5	21	21		95.0	100 sks no returns
Other	05/13/2011 02:10							wait 4 hours
Safety Huddle	05/13/2011 06:30							met with rig crew for top out #4
Pump Cap Cement	05/13/2011 06:45		1.5	10.5	10.5	.0	75.0	returns to surface told to mix another 50 sks
Pump Cap Cement	05/13/2011 06:55		1.5	10.5	21	.0	75.0	shut down and watch on surface
End Job	05/13/2011 09:33							Job Complete

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Friday, May 13, 2011 06:27:00

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Cementing Job Log

Activity Description	Date/Time	Cht #	Rate bbl/ min	Volume bbl		Pressure psig		Comments
				Stage	Total	Tubing	Casing	
Post-Job Safety Meeting (Pre Rig-Down)	05/13/2011 09:45							Met w/crew to discuss rigging down safely.
Rig-Down Equipment	05/13/2011 10:00							Rig everything down.
Pre-Convoy Safety Meeting	05/13/2011 12:30							Met w/crew to discuss fit-for-duty, safety and hazards of travel back.
Depart Location for Service Center or Other Site	05/13/2011 13:00							Entered into Journey Management.
Other	05/13/2011 13:01							Thanks for using Halliburton!!!

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Quote #:

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SUMMIT Version: 7.20.130

Friday, May 13, 2011 08:27:00

The Road to Excellence Starts with Safety

Sold To #: 338668		Ship To #: 2853126		Quote #:		Sales Order #: 8161646	
Customer: CHEVRON - MID-CONTINENT EBIZ				Customer Rep: Kavander, Chad			
Well Name: Emerald			Well #: 93X		API/UWI #:		
Field: RANGELY		City (SAP):		County/Parish: Rio Blanco		State: Colorado	
WEBER SAND UNIT		RANGELY					
Contractor: H&P			Rig/Platform Name/Num: 304 432-238-4515				
Job Purpose: Cement Surface Casing							
Well Type: Development Well				Job Type: Cement Surface Casing			
Sales Person: GROFF, THEODORE			Srvc Supervisor:			MBU ID Emp #:	

Job Personnel

HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #
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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

Formation Name	Formation Depth (MD)	Top	Bottom	Form Type	Job depth MD	2000. ft	Job Depth TVD	2000. ft	Water Depth	Wk Ht Above Floor	Perforation Depth (MD)	From	To
				BHST									

Job Times

Date	Time	Time Zone	Called Out	On Location	Job Started	Job Completed	Departed Loc

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
12-1/4" Hole				12.25				60.	2000.		
Conductor Casing	Unknown		16.	15.01	84.			.	60.		
Surface Casing	New		9.625	8.921	36.		H-40	.	2000.		

Sales/Rental/3rd Party (HES)

Description	Qty	Qty uom	Depth	Supplier
PLUG,CMTG, TOP, 9 5/8, HWE, 8.16 MIN/9.06 MA	1	EA		
SUGAR - GRANULATED	20	LB		

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	Gel Water			bbl	8.5	.0	.0	.0	
	10 lbm/bbl	HALLIBURTON GEL, 50 LB SK (100064040)							
2	Tuned Light Lead	TUNED LIGHT (TM) SYSTEM (452984)		sacks	11.	2.88	15.68		15.68
	0.125 lbm	POLY-E-FLAKE (101216940)							
	15.68 Gal	FRESH WATER							
3	Tuned Light Tail	TUNED LIGHT (TM) SYSTEM (452984)		sacks	12.	2.03	9.48		9.48
	0.125 lbm	POLY-E-FLAKE (101216940)							
	9.48 Gal	FRESH WATER							
4	Displacement			bbl	8.34	.0	.0	.0	
5	Top Out Cement	CMT - PREMIUM - CLASS G, 94 LB SK (100003685)		sacks	15.8	1.17	5.02		5.02
	94 lbm	CMT - PREMIUM - CLASS G REG OR TYPE V, BULK (100003685)							
	2 %	CALCIUM CHLORIDE, PELLET, 50 LB (101509387)							
	5.019 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	40 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

Lab Data

Job Information

Request/Slurry	147275/1	Rig Name	H&P 304	Date	09/MAY/2011
Submitted By	Joshua Anglin	Job Type	Surface Casing	Bulk Plant	Vernal
Customer	Chevron	Location	Rio Blanco	Well	Emerald 93X

Well Information

Casing/Liner Size	9 5/8"	Depth MD	2000 ft	BHST	106 F
Hole Size	12 1/4"	Depth TVD	0 ft	BHCT	90 F

Cement Information - Lead Design

Conc	UOM	Cement/Additive	Sample Type	Sample Date	Lot No.	Cement Properties		
		ExtendaCem				Slurry Density	11.00	PPG
						Slurry Yield	2.88	ft3/sk
92.55	%	> Holcim Type III	Bulk	May 09, 2011		Water Requirement	15.68	GPS
13	%	> Spherelite TEST	Bulk	May 09, 2011		Water Source	Field (Fresh) Water	
100.00	% BWOC	Cement Blend						
3.000	lb/sk	Cal-Seal 60	Bulk	May 09, 2011				
3.000	lb/sk	Econolite (Powder - PB)	Bulk	May 09, 2011				
0.200	lb/sk	D-Air 3000	Bulk	May 09, 2011				
15.68	gal/sack	Field (Fresh) Water	Lab	Jul 22, 2010	7/22/2010			

Operation Test Results Request ID 147275/1

Thickening Time, Request Test ID:1480945

Temp (°F)	Pressure (psi)	Reached in (min)	Start BC	30 Bc (hh:mm)	Termination Time	Termination BC
90	1,200	17	7	09:52	11:55	35

Mixability (0 - 5) - 0 is not mixable, Request Test ID:1480948

Mixability rating (0 - 5)

5

Marsh Funnel, Request Test ID:1480950

Volume [ml]	Time [Sec]	Foam Quality
250	10	0

Free fluid API 10B-2 / ISO 10426-2, Request Test ID:1480951

Con. Temp (F)	Static time (min)	Incl. (deg)	% Fluid
90	120	90	2.2

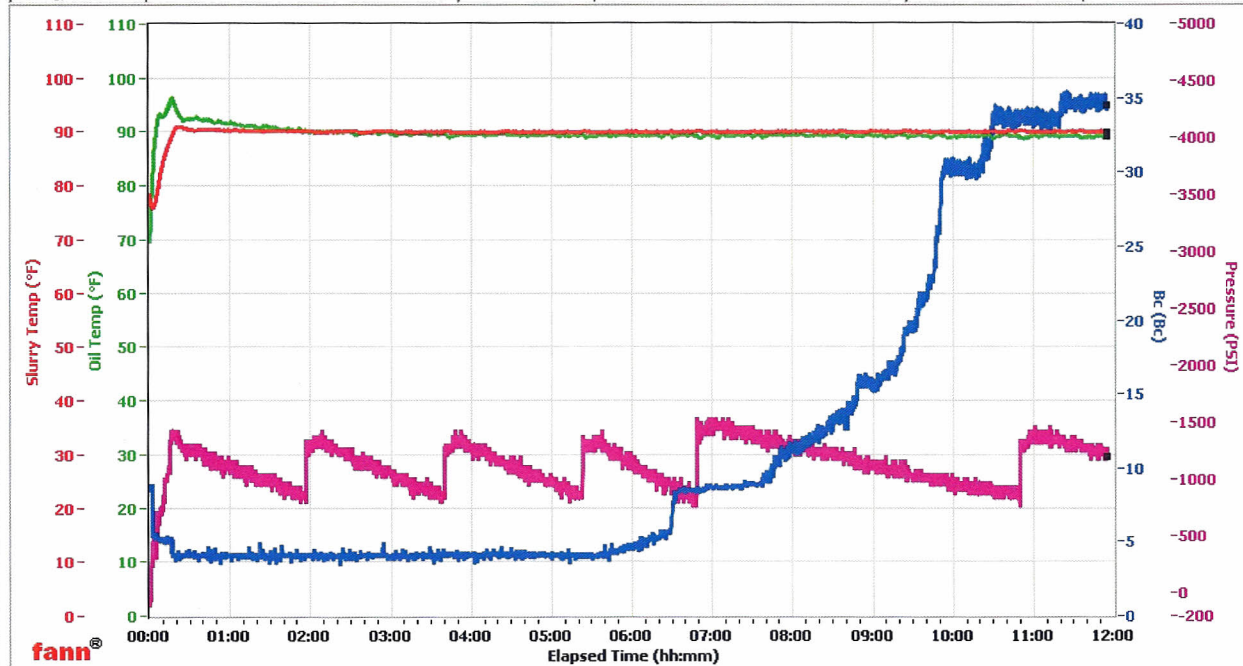
FYSA Viscosity Profile & Gel Strength, Request Test ID:1480949

Test Temp (°F)	600	300	200	100	60	30	6	3	3D - 3 rpm Decay	6D - 6 rpm Decay
80	37	11	8	7	6	5	5	5	4	4

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Vernal

Fields	Values	Fields	Values	Events	Results
Project Name	Chevron 147275-1	Job Type	Surface Leadq	30.00 Bc	09h:52m
Test ID	147275-1	Cement Type	III	50.00 Bc	NaN
Request ID	HPHT 4	Cement Weight	Light Weight	60.00 Bc	NaN
Tested by	vmc	Test Date	05/10/11	70.00 Bc	NaN
Customer	Chevron	Test Time	02:23 AM	100.00 Bc	NaN
Well No	Emerald 93X	Temp. Units	degF	200.00 Bc	NaN
Rig	H8P 304	Pressure Units	PSI	02h:00m	4.22
Casing/Liner Size	9.625			05h:00m	4.06



Data File Z:\HPHT Data Files\Vernal Consistometer #4\Chevron 147275-1.tdms

Comments III, 11 Den, 2.88 Yd

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Job Information

Request/Slurry	147276/5	Rig Name	H&P 304	Date	09/MAY/2011
Submitted By	Joshua Anglin	Job Type	Surface Casing	Bulk Plant	Vernal
Customer	Chevron	Location	Rio Blanco	Well	Emerald 93X

Well Information

Casing/Liner Size	9 5/8"	Depth MD	2000 ft	BHST	106 F
Hole Size	12 1/4"	Depth TVD	0 ft	BHCT	90 F

Cement Information - Tail Design

Conc	UOM	Cement/Additive	Sample Type	Sample Date	Lot No.	Cement Properties		
		ExtendaCem				Slurry Density	12.00	PPG
						Slurry Yield	2.03	ft3/sk
92.55	%	> Holcim Type III	Bulk	May 11, 2011		Water Requirement	9.48	GPS
13	%	> Spherelite TEST	Bulk	May 11, 2011				
100.00	% BWOC	Cement Blend	Bulk	May 11, 2011				
3.000	lb/sk	Cal-Seal 60	Bulk	May 11, 2011				
0.200	lb/sk	D-Air 3000	Bulk	May 11, 2011	1010074 46	Water Source	Field (Fresh) Water	
9.48	gal/sack	Field (Fresh) Water	Lab	Jul 22, 2010	7/22/201 0	Water Chloride	N/A	ppm

Slurry Comments

New FBT from bulk plant blended up at 12 ppg. This will be the final volumes.

Operation Test Results Request ID 147276/5

Thickening Time, Request Test ID:1482694

Temp (°F)	Pressure (psi)	Reached in (min)	Start BC	30 Bc (hh:mm)	50 Bc (hh:mm)	70 Bc (hh:mm)	Termination Time	Termination BC
90	1,200	17	12	03:22	04:03	04:36	07:07	94

Mixability (0 - 5) - 0 is not mixable, Request Test ID:1482699

Mixability rating (0 - 5)

5

Note: This was mixed in the Kitchen Aid mixer rather than a blender due to the Spherelite material.

Marsh Funnel, Request Test ID:1482700

Volume [ml]	Time [Sec]	Foam Quality
250	56	0

Operation Test Results Request ID 147276/4

FYSA Viscosity Profile & Gel Strength, Request Test ID:1484207

Test Temp (°F)	600	300	200	100	60	30	6	3	3D - 3 rpm Decay	6D - 6 rpm Decay	K1 factor	K2 factor
80	45	30	29	23	23	22	20	19	18	17	0	1

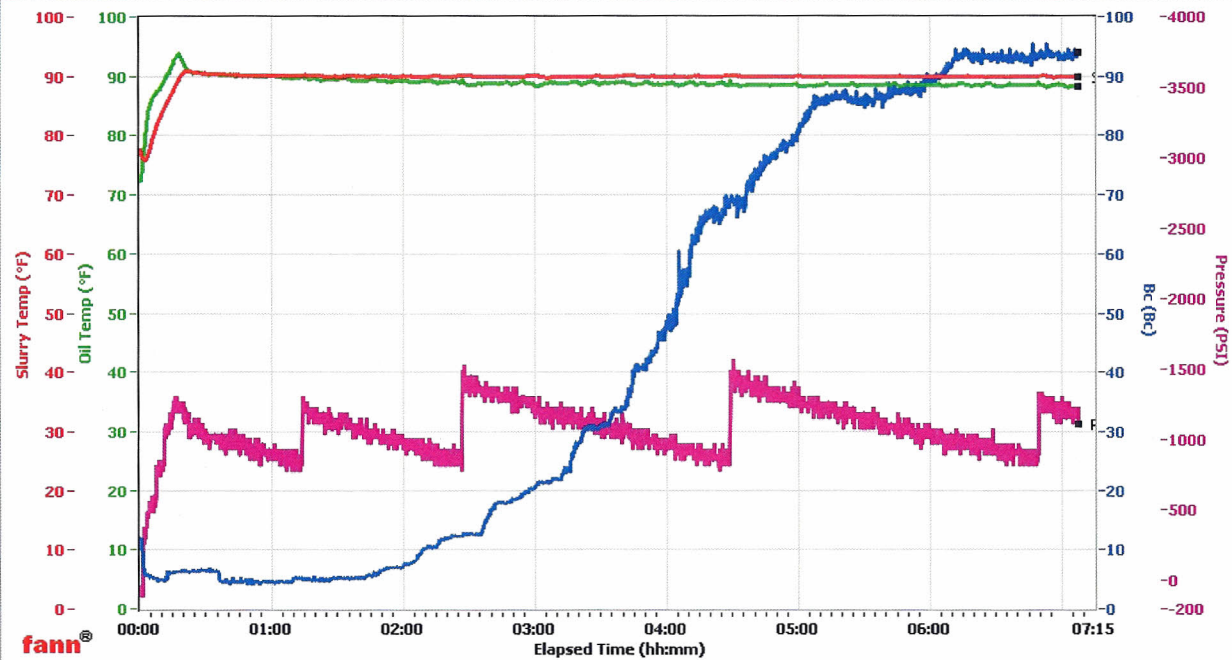
HALLIBURTON

VERNAL

Fields	Values
Project Name	CHEVRON 147276-5
Test ID	147276-5
Request ID	HPHT #2
Tested by	PBL
Customer	CHEVRON
Well No	EMERALD 93X
Rig	H&P 304
Casing/Liner Size	9.625

Fields	Values
Job Type	SURFACE TAIL FINAL
Cement Type	III
Cement Weight	Light Weight
Test Date	05/11/11
Test Time	04:49 PM
Temp. Units	degF
Pressure Units	PSI

Events	Results
30.00 Bc	03h:22m
50.00 Bc	04h:03m
60.00 Bc	04h:05m
70.00 Bc	04h:36m
100.00 Bc	NaN
200.00 Bc	NaN
00h:44m	4.44
06h:00m	89.02



Data File Z:\HPHT Data Files\Vernal Consistometer #2\CHEVRON 147276-5.tdms

Comments HOLCIM TYPE III 92.55%, SPHERELITE 13.0%, DEN 12.001, VLD 2.03

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Data Acquisition

