

**ENCANA OIL & GAS (USA) INC. - EBUS  
DO NOT MAIL - 370 17TH ST STE 1700  
DENVER, Colorado**

Vogl-Geist 2F-5H-F267

**H&P 278**

# **Post Job Summary**

## **Cement Production Casing**

Date Prepared: 3/18/2014  
Version: 1

Service Supervisor: BIRCHELL, DEVIN

Submitted by: ESTENSSORO, SEBASTIAN

**HALLIBURTON**

# HALLIBURTON

## Wellbore Geometry

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Job Tubulars					MD		TVD		Shoe Joint Length ft
Type	Description	Size in	ID in	Wt lbm/ft	Top ft	Bottom ft	Top ft	Bottom ft	
Open Hole Section	6 1/8" Open Hole Section		6.125		7,575.00	14,660.00	0.00	7,200.00	0.00
Casing	4 1/2" Production Casing	4.50	3.920	13.50	0.00	14,660.00	0.00	7,200.00	40.00
Casing	7" Intermediate Casing String	7.00	6.366	26.00	0.00	7,575.00	0.00	7,200.00	0.00

# HALLIBURTON

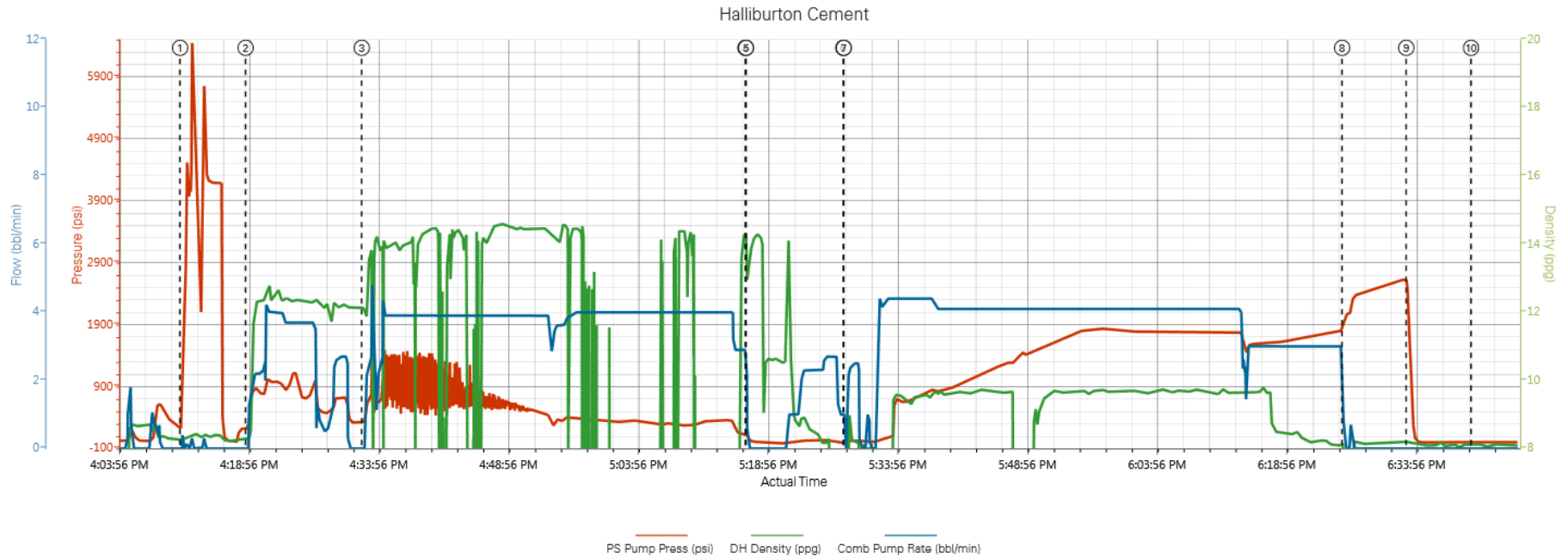
## ***Pumping Schedule***

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<b>Stage /Plug #</b>	<b>Fluid #</b>	<b>Fluid Type</b>	<b>Fluid Name</b>	<b>Surface Density lbm/gal</b>	<b>Avg Rate bbl/min</b>	<b>Surface Volume</b>	<b>Downhole Volume</b>
1	1	Spacer	TUNED SPACER III	11.50	4.00	30.0 bbl	30.0 bbl
1	2	Cement Slurry	13.8# ExpandaCem	13.80	4.00	175.0 sacks	175.0 sacks
1	3	Spacer	MMCR DISPLACEMENT	8.34	4.00	6.5 bbl	6.5 bbl
1	4	Spacer	DISPLACEMENT	8.34	4.00	218.0 bbl	218.0 bbl

# HALLIBURTON

## Data Acquisition



① Test Lines 1566;8.32;0    ③ Pump Lead Cement 327;12.02;0    ⑤ Clean Lines 47;13.39;0    ⑦ Pump Displacement 4;-0.12;0    ⑨ Check Floats 2038;8.18;0  
② Pump Spacer 1 228;8.31;0    ④ Shutdown 69;13.34;0    ⑥ Drop Top Plug 3;-0.11;0    ⑧ Bump Plug 2044;7.42;0    ⑩ End Job 3;8.1;0

▲ HALLIBURTON | iCem® Service

Created: 2014-03-13 13:25:16, Version: 3.0.121

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# HALLIBURTON

## Service Supervisor Reports

### Job Log

Date/Time	Chart #	Activity Code	Pump Rate	Cum Vol	Pump	Pressure (psig)	Comments
03/13/2014 06:00		Call Out					Called out for Noble Energy No Worries PC G14-62-1HN Intermediate
03/13/2014 10:40		Pre-Convoy Safety Meeting					Discuss road and weather conditions, fatigue and following distance
03/13/2014 11:00		Depart from Service Center or Other Site					Call journey management, Depart for location
03/13/2014 11:30		Arrive At Loc					Close journey, talk with compan rep on valumes, rates, and depth, rig still running casing
03/13/2014 11:40		Wait on Customer or Customer Sub-Contractor Equip					Wait for rig crew to finish running casing
03/13/2014 13:00		Pre-Rig Up Safety Meeting					Discussed rig up, line of fire, slips, and pinch points
03/13/2014 13:10		Rig-Up Equipment					Rig up ground line, and suction hoses
03/13/2014 14:30		Casing on Bottom					Casing on bottom rig will circulate until HES is rigged up
03/13/2014 14:30		Other					Finished running casing and rigged up blackhawk cement head and circulated until HES is rigged up
03/13/2014 15:00		Pre-Job Safety Meeting					Discuss pump schedule, procedure, high pressure iron, and emergency plan
03/13/2014 16:05		Other					filled lines to pressure test pump and lines
03/13/2014 16:10		Pressure Test				4760.0	Pressure test pump and lines to 4760 psi held for 3 minutes
03/13/2014 16:18		Pump Spacer	4	30			Pump 30 bbls Tuned Spacer III at 12.5 ppg
03/13/2014 16:32		Pump Lead Cement	4	161			Pump lead cement at 12.5 ppg Y: 2.19ft^3/sk W: 13.85gal/sk (175sks)
03/13/2014 17:20		Shutdown					Shutdown, wash pump and lines to cellar
03/13/2014 17:28		Pump Water	2.5	3		35.0	Pump 3 bbls MMCR before plug
03/13/2014 17:29		Drop Plug	2.5	0.5		35.0	Dropped plug pump .5 bbls
03/13/2014 17:31		Drop Ball					Dropped wipper ball
03/13/2014 17:31		Pump Displacement - Start	4	6.5			Pump 6.5 bbls MMCR 188 bbls KCL Water
03/13/2014 17:33		Pump Displacement	4	10		80.0	Begin pumping KCL water
03/13/2014 17:33		Returns To Surface	4	12		685.0	Returns seen at surface with 12 bbls displacement away
03/13/2014 17:33		Displ Reached Cmnt	4	12		685.0	displacement reached cement with 12 bbls away
03/13/2014 18:25		Bump Plug	3	218		1820.0	Bumped plug with 218 bbls with 1820 psi took pressure to 2380 psi
03/13/2014 18:34		Check Floats				2618.0	Checked floats, floats held with 1.5 bbls back to truck
03/13/2014 18:34		Release Casing Pressure					Released pressure ready for rig down
03/13/2014 18:36		Pre-Rig Down Safety Meeting					Discussed trapped pressure, slips, trips, falls, and overhead loads
03/13/2014 18:45		Rig-Down Equipment					Begin rigging down all iron and suction hoses
03/13/2014 19:30		Pre-Convoy Safety Meeting					Discussed fatigue, wildlife, weather, and journey management
03/13/2014 19:35		Depart Location for Service Center or Other Site					Depart for Halliburton Service Center

*The Road to Excellence Starts with Safety*

<b>Sold To #:</b> 340078	<b>Ship To #:</b> 3191322	<b>Quote #:</b>	<b>Sales Order #:</b> 901164098
<b>Customer:</b> ENCANA OIL & GAS (USA) INC. - EBUS		<b>Customer Rep:</b> Roane, Mike	
<b>Well Name:</b> Vogl-Geist		<b>Well #:</b> 2F-5H-F267	<b>API/UWI #:</b> 05-123-37777
<b>Field:</b> WATTENBERG	<b>City (SAP):</b> FIRESTONE	<b>County/Parish:</b> Weld	<b>State:</b> Colorado
<b>Lat:</b> N 40.168 deg. OR N 40 deg. 10 min. 4.8 secs.		<b>Long:</b> W 104.915 deg. OR W -105 deg. 5 min. 6 secs.	
<b>Contractor:</b> H&P		<b>Rig/Platform Name/Num:</b> H&P 278	
<b>Job Purpose:</b> Cement Production Casing			
<b>Well Type:</b> Development Well		<b>Job Type:</b> Cement Production Casing	
<b>Sales Person:</b> GREGORY, JON		<b>Srvc Supervisor:</b> BIRCHELL, DEVIN	<b>MBU ID Emp #:</b> 466993

**Job Personnel**

HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #
BIRCHELL, DEVIN Ray	7.0	466993	MASTEL, RYAN Eugene	0.0	561732	MILLER, GEOFFREY Alan	0.0	460232

**Equipment**

HES Unit #	Distance-1 way	HES Unit #	Distance-1 way	HES Unit #	Distance-1 way	HES Unit #	Distance-1 way
11064535	30 mile	11341988C	30 mile				

**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	Formation Depth (MD)	Top	Bottom	Called Out	Date	Time	Time Zone
					13 - Mar - 2014	06:00	MST
					13 - Mar - 2014	11:30	MST
	14660. ft		7200. ft		13 - Mar - 2014	16:00	MST
			25. ft		13 - Mar - 2014	18:30	MST
					13 - Mar - 2014	19:35	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
6 1/8" Open Hole Section				6.125				7575.	14660.	.	7200.
4 1/2" Production Casing	Unknown		4.5	3.92	13.5		P-110	.	14660.	.	7200.
7" Intermediate Casing String	Unknown		7.	6.366	26.	VAM - NEW	P-110	.	7575.	.	7200.

**Sales/Rental/3<sup>rd</sup> Party (HES)**

Description	Qty	Qty uom	Depth	Supplier
CMT CASING EQUIPMENT BOM	1	JOB		
MILEAGE FOR CEMENTING CREW,ZI	15	MI		
ZI FUEL SURCHG-CARS/PICKUPS<1 1/2TON	15	MI		
Description	Qty	Qty uom	Depth	Supplier

SH,FLT,4-1/2 ULT DQX 13.5,P110,2-3/4,HP						1	EA		
CLR,FLT,4-1/2 ULTRA DQX 13.5, P110, SSII						1	EA		
CTRZR ASSY,STR BL,SLIP-ON,AL,4 1/2 CSG						34	EA		
Fluid Data									
Stage/Plug #: 1									
Fluid #	Stage Type	Fluid Name	Qty	Qty uom	Mixing Density lbm/gal	Yield ft <sup>3</sup> /sk	Mix Fluid Gal/sk	Rate bbl/min	Total Mix Fluid Gal/sk
1	TUNED SPACER III	TUNED SPACER III - SBM (483826)	30.0	bbl	11.5	7.74	57.88	4.0	
	36.83 gal/bbl	FRESH WATER							
	177.85 lbm/bbl	BARITE, 100 LB SK (100003680)							
2	13.8# ExpandaCem	EXPANDACEM (TM) SYSTEM (452979)	175.0	sacks	13.8	1.68	7.74	4.0	7.74
	7.74 Gal	FRESH WATER							
3	MMCR DISPLACEMENT		6.5	bbl	8.34			4.0	
	0.2 gal/bbl	MICRO MATRIX CEMENT RETARDER, 1 GAL PAIL (100003780)							
4	DISPLACEMENT		218.0	bbl	8.34			4.0	
The Information Stated Herein Is Correct						Customer Representative Signature			

