

# HALLIBURTON

iCem<sup>®</sup> Service

## **CONOCO/PHILLIPS COMPANY-EBUS**

Date: Monday, September 11, 2017

### **State Bierstadt 4-65 35-34 1CH Production**

Job Date: Thursday, August 17, 2017

Sincerely,

**Bryce Hinsch**

## Legal Notice

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## 1.0 Cementing Job Summary

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### 1.1 Executive Summary

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Halliburton appreciates the opportunity to perform the cementing services on the **State Bierstadt 4-65 35-34 1CH** cement **production** casing job. A pre-job safety meeting was held before the job where details of the job were discussed, potential safety hazards were reviewed, and environmental compliance procedures were outlined.

**Approximately 35 bbls of spacer were returned to surface.**

Halliburton maintains a continuous quality improvement process and appreciates any comments or suggestions that you may have. Halliburton again thanks you for the opportunity to perform service work on this well. We hope to be your solutions provider for future projects.

Respectfully,

**Halliburton [Fort Lupton]**

*The Road to Excellence Starts with Safety*

Sold To #: 352431	Ship To #: 3814148	Quote #: 0022334985	Sales Order #: 0904235304
Customer: CONOCO/PHILLIPS COMPANY-EBUS		Customer Rep: James Beach	
Well Name: STATE BIERSTADT 4-65 34-35		Well #: 1CH	API/UWI #: 05-005-07296-00
Field: WILDCAT	City (SAP): AURORA	County/Parish: ARAPAHOE	State: COLORADO
Legal Description: NE NE-35-4S-65W-1210FNL-650FEL			
Contractor: H & P DRLG		Rig/Platform Name/Num: H & P 448	
Job BOM: 7523 7523			
Well Type: HORIZONTAL OIL			
Sales Person: HALAMERICA\HB41307		Srvc Supervisor: Nicholas Roles	

**Job**

Formation Name			
Formation Depth (MD)	Top		Bottom
Form Type	BHST		
Job depth MD	16712ft		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		9.625	8.921	36	LTC	J-55	0	2305		2305
Casing		5.5	4.67	23	TXP-BTC	P-110	0	16712	0	8008
Open Hole Section			8.5				2305	7331	2305	7331
Open Hole Section			8.5				7331	16728	7331	8008

**Tools and Accessories**

Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make
Guide Shoe	5.5				Top Plug	5.5		HES
Float Shoe	5.5			16712	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

**Fluid Data**

Stage/Plug #: 1										
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft <sup>3</sup> /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal	
1	10.5 lb/gal Tuned Spacer III	Tuned Spacer III	60	bbl	10.5	6.4		5		
0.20 gal/bbl		<b>MUSOL A, 330 GAL TOTE - (790828)</b>								

37.58 gal/bbl	<b>FRESH WATER</b>
87.48 lbm/bbl	<b>BARITE, BULK (100003681)</b>
0.20 gal/bbl	<b>DUAL SPACER SURFACTANT B, 5 GAL PAIL (100003665)</b>
40.15 lbm/bbl	<b>CHEM - TUNED SPACER III, 2000 LB REUSABLE BULK BAG (101636575)</b>

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
2	ElastiCem	ELASTICEM (TM) SYSTEM	850	sack	13.2	1.57		8	7.54

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
3	EconoCem	ECONOCEM (TM) SYSTEM	1335	sack	13.5	1.79		8	8.72

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
4	MMCR Displacement	MMCR Displacement	40	bbl	8.34			8	

0.50 gal/bbl	<b>MICRO MATRIX CEMENT RETARDER, 5 GAL PAIL (100003781)</b>
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Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
5	Water	Water	314	bbl	8.33			8	

Cement Left In Pipe	<b>Amount</b>	95 ft	<b>Reason</b>	Shoe Joint
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**Comment** Got 35bbls Spacer back. Estimated TOT-6329' TOL-770'

## 2.0 Real-Time Job Summary

### 2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DH Density <i>(ppg)</i>	Comb Pump Rate <i>(bbl/min)</i>	DS Pump Press <i>(psi)</i>	Comments
Event	1	Call Out	Call Out	8/17/2017	11:00:00	USER				Called out by Service Coordinator for O/L at 1730
Event	2	Depart Yard Safety Meeting	Depart Yard Safety Meeting	8/17/2017	15:00:00	USER				Held meeting with all personnel in convoy to discuss directions and hazards associated with drive, all fit to drive.
Event	3	Depart from Service Center or Other Site	Depart from Service Center or Other Site	8/17/2017	15:15:00	USER				Journey Management prior to departure
Event	4	Arrive at Location from Service Center	Arrive at Location from Service Center	8/17/2017	16:15:00	USER				Upon arrival met with company man to discuss job details and calculations, performed hazard hunt and site assessment.
Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	8/17/2017	16:30:00	USER				Discussed rigging up hazards and procedure according to HMS.
Event	6	Other	Other	8/17/2017	17:00:00	USER				Water test- PH-6, Chlor-0, Temp-65. Cement temp-70.
Event	7	Pre-Job Safety Meeting	Pre-Job Safety Meeting	8/17/2017	23:30:00	USER	8.54	0.00	75.00	Held safety meeting with all job associated personnel to discuss job procedure, hazards and stop work authority.
Event	8	Check Weight	Check weight	8/18/2017	00:09:11	COM4	8.54	0.00	75.00	Weight verified with pressurized mud scales.
Event	9	Start Job	Start Job	8/18/2017	00:12:23	COM4	7.67	0.00	78.00	TD-16728', TP-16711.9' 5.5" 23#, TVD-8008', OH-8.5", SURF-2305' 9.625" 36#,

										MUD-9.7#.
Event	10	Test Lines	Test Lines	8/18/2017	00:15:50	COM4	8.61	0.00	108.00	Pumped 4bbls fresh water to fill lines, closed manifold, performed 500psi k/o function test, followed with 5th gear stall at 1850psi, proceeded to bring pressure up to 5000psi. Held pressure and no leaks.
Event	11	Pump Spacer 1	Pump Spacer 1	8/18/2017	00:25:27	COM4	8.58	0.00	-11.00	Pumped 20bbls of 10.5# 6.4y 42.2g/s Tuned Spacer III with 15g Dual Spacer B, 15g Musol-A and 5g D-Air at 5bpm 533psi
Event	12	Drop Bottom Plug	Drop Bottom Plug	8/18/2017	00:39:45	COM4	10.48	0.00	0.00	Dropped by HES supervisor, witnessed by company man
Event	13	Pump Lead Cement	Pump Lead Cement	8/18/2017	00:48:45	COM4	10.83	4.90	264.00	Pumped 850sks or 237.7bbls of 13.2# 1.57y 7.54g/s Elasticem at 8bpm 450psi
Event	14	Check Weight	Check weight	8/18/2017	00:53:21	COM4	13.42	6.00	410.00	Weight verified with pressurized mud scales.
Event	15	Check Weight	Check weight	8/18/2017	01:13:56	COM4	13.06	8.00	489.00	Weight verified with pressurized mud scales.
Event	16	Pump Tail Cement	Pump Tail Cement	8/18/2017	01:25:38	COM4	13.34	7.00	399.00	Pumped 1335sks or 425.6bbls of 13.5# 1.79y 8.72g/s EconoCem at 8 bpm
Event	17	Check Weight	Check weight	8/18/2017	01:34:08	COM4	13.51	8.00	505.00	Weight verified with pressurized mud scales.
Event	18	Check Weight	Check weight	8/18/2017	02:23:48	COM4	13.52	5.90	251.00	Weight verified with pressurized mud scales.
Event	19	Drop Top Plug	Drop Top Plug	8/18/2017	02:57:40	COM4	8.11	0.00	-27.00	Dropped by HES supervisor, witnessed by company man
Event	20	Pump Displacement	Pump Displacement	8/18/2017	02:57:46	COM4	8.11	0.00	-27.00	Pumped 354bbls fresh

										water with 20g of MMCR in first 40bbbls, with 20g biocide throughout and 1bucket oxygen.
Event	21	Bump Plug	Bump Plug	8/18/2017	03:47:09	COM4	8.16	0.00	3561.00	Slowed down at 330bbbls away to 3bpm, final circulating pressure- 2573psi. Bump pressure- 3590psi
Event	22	Check Floats	Check Floats	8/18/2017	03:52:33	USER	8.12	0.00	3497.00	Released pressure and got 4bbbls fresh water back. Floats held.
Event	23	End Job	End Job	8/18/2017	03:54:21	COM4				35bbbls spacer back. Estimated TOT-6329' TOL- 770'
Event	24	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	8/18/2017	04:00:00	USER	8.07	0.00	-26.00	Discussed rigging down hazards and procedure according to HMS with all effected personnel.
Event	25	Depart Location Safety Meeting	Depart Location Safety Meeting	8/18/2017	06:15:00	USER				Held meeting with all personnel in convoy to discuss directions and hazards associated with drive, all fit to drive.
Event	26	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	8/18/2017	06:30:00	USER				Pre journey management prior to departure.

3.0 Attachments

3.1 Conoco State Bierstadt 4-65 35-34 #1CH Production Job Chart

