

# HALLIBURTON

iCem<sup>®</sup> Service

**GREAT WESTERN OIL & GAS LLC - eBUS**

**For:**

Date: Saturday, August 16, 2014

**Postle IC 11-162HN Surface**

GREAT WESTERN OIL & GAS POSTLE IC 11-162HN

Sincerely,

**Derek Trier**

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## **1.1 Executive Summary**

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Halliburton appreciates the opportunity to perform the cementing services on the **Postle IC 11-162HN** cement **Surface** 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.

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 [Brighton]**

**Job Times**

	<b>Date</b>	<b>Time</b>	<b>Time Zone</b>
<b>Called Out</b>	8/16/14	09:00	
<b>On Location</b>	8/16/14	15:00	
<b>Job Started</b>	8/16/14	17:20	
<b>Job Completed</b>	8/16/14	18:50	
<b>Departed Location</b>	8/16/14	20:15	

## 1.2 Cementing Job Summary

<b>Sold To #:</b> 346459		<b>Ship To #:</b> 3474560		<b>Quote #:</b>		<b>Sales Order #:</b> 0901592688				
<b>Customer:</b> GREAT WESTERN OIL & GAS LLC - eBUS						<b>Customer Rep:</b>				
<b>Well Name:</b> POSTLE IC			<b>Well #:</b> 11-162HN			<b>API/UWI #:</b> 05-123-39352-00				
<b>Field:</b> WATTENBERG		<b>City (SAP):</b> PLATTEVILLE		<b>County/Parish:</b> WELD			<b>State:</b> COLORADO			
<b>Legal Description:</b> SW NW-11-3N-68W-1556FNL-481FWL										
<b>Contractor:</b>				<b>Rig/Platform Name/Num:</b> Craig 7						
<b>Job BOM:</b> 7521										
<b>Well Type:</b> HORIZONTAL OIL										
<b>Sales Person:</b> HALAMERICA\H117930				<b>Srvc Supervisor:</b> Bradley Hinkle						
<b>Job</b>										
<b>Formation Name</b>										
<b>Formation Depth (MD)</b>		<b>Top</b>		<b>Bottom</b>						
<b>Form Type</b>					<b>BHST</b>					
<b>Job depth MD</b>		1025ft			<b>Job Depth TVD</b>					
<b>Water Depth</b>					<b>Wk Ht Above Floor</b>					
<b>Perforation Depth (MD)</b>				<b>To</b>						
<b>Well Data</b>										
	<b>New / Used</b>	<b>Size</b> in	<b>ID</b> in	<b>Weight</b> lbm/ft	<b>Thread</b>	<b>Grade</b>	<b>Top MD</b> ft	<b>Bottom MD</b> ft	<b>Top TVD</b> ft	<b>Bottom TVD</b> ft
Casing		9.625	8.921	36	STC	J-55	0	1055		
Open Hole Section			13.5				0	1055		0
<b>Tools and Accessories</b>										
<b>Type</b>	<b>Size</b> in	<b>Qty</b>	<b>Make</b>	<b>Depth</b> ft		<b>Type</b>	<b>Size</b> in	<b>Qty</b>	<b>Make</b>	
Guide Shoe	9.625	1		1055		Top Plug	9.625	1	HES	
Float Shoe	9.625	1				Bottom Plug	9.625	1	HES	
Float Collar	9.625	1				SSR plug set	9.625	1	HES	
Insert Float	9.625	1				Plug Container	9.625	1	HES	
	9.625	1				Centralizers	9.625	1	HES	
<b>Miscellaneous Materials</b>										
<b>Gelling Agt</b>		<b>Conc</b>		<b>Surfactant</b>		<b>Conc</b>		<b>Acid Type</b>	<b>Qty</b>	
<b>Treatment Fld</b>		<b>Conc</b>				<b>Conc</b>		<b>Sand Type</b>		
<b>Fluid Data</b>										
<b>Stage/Plug #: 1</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
1	Fresh Water Spacer	Rig Water with Red Dye	10	bbl	8.4			6	
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	SwiftCem B2	SWIFTCEM (TM) SYSTEM	460	sack	14.2	1.54		6	7.64
7.64 Gal									
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	Displacement	Displacement	78	bbl	8.33			6	
		Amount	45 ft						
Comment GOT 30 BBLS CEMENT BACK TO SURFACE FLOATS HELD									

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**1.4 Job Overview**

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		Units	Description
1	Surface temperature at time of job	°F	93
2	Mud type (OBM, WBM, SBM, Water, Brine)	-	WBM
3	Actual mud density	lb/gal	9.0
4	Time circulated before job	HH:MM	1:00
5	Mud volume circulated	Bbls	
6	Rate at which well was circulated	Bpm	
7	Pipe movement during hole circulation	Y/N	N
8	Rig pressure while circulating	Psi	
9	Time from end mud circulation to start of job	HH:MM	:15
10	Pipe movement during cementing	Y/N	N
11	Calculated displacement	Bbls	78
12	Job displaced by	Rig/HES	HES
13	Annular before job)?	Y/N	
14	Annular flow after job	Y/N	
15	Length of rat hole	Ft	
16	Units of gas detected while circulating	Units	
17	Was lost circulation experienced at any time ?	Y/N	N

## 1.5 Water Field Test

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Item	Recorded Test Value	Units	Max. Acceptable Limit	Potential Problems in Exceeding Limit
pH	7	----	6.0 - 8.0	Chemicals in the water can cause severe retardation
Chlorides	<3000	ppm	3000 ppm	Can shorten thickening time of cement
Sulfates	<1500	ppm	1500 ppm	Will greatly decrease the strength of cement
Total Hardness	<500	ppm	500 mg/L	High concentrations will accelerate the set of the cement
Calcium	<500	ppm	500 ppm	High concentrations will accelerate the set of the cement
Total Alkalinity	<1000	ppm	1000 ppm	Cement is greatly retarded to the point where it may not set up at all (typically occurs @ pH ≥ 8.3).
Bicarbonates	<1000	ppm	1000 ppm	Cement is greatly retarded to the point where it may not set up at all
Potassium	<5000	ppm	5000 ppm	High concentrations will shorten the pump time of cement (indicates the presence of chlorides, therefore if Potassium levels are measured as high, so should the chlorides)
Iron	<300	ppm	300 ppm	High concentrations will accelerate the set of the cement
Temperature	68	°F	50-80 °F	High temps will accelerate; Low temps may risk freezing in cold weather

**Submitted Respectfully by:** BRAD HINKLE

## 1.6 Job Event Log

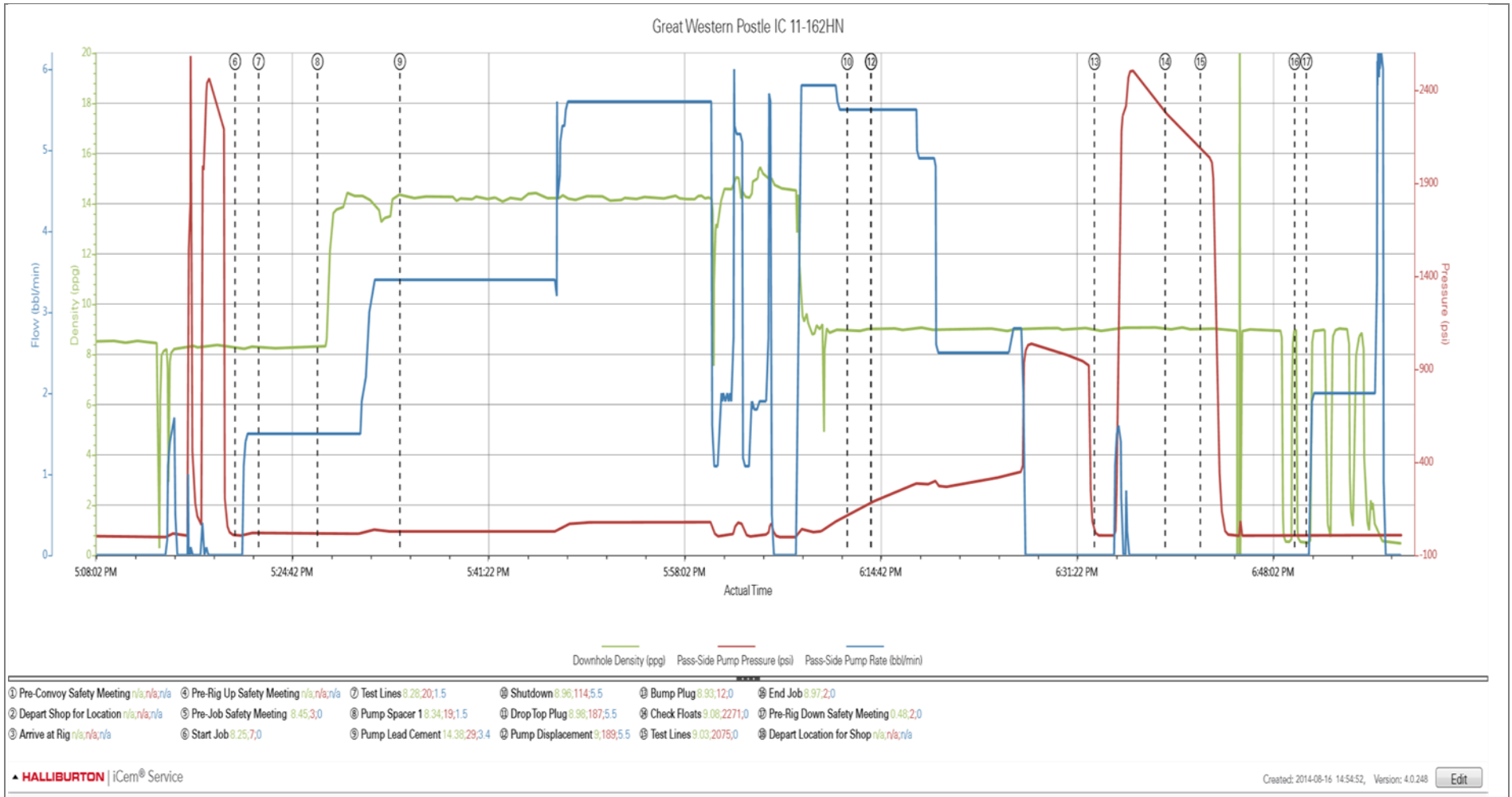
Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Downhole Density (ppg)	Pass-Side Pump Pressure (psi)	Pass-Side Pump Rate (bbl/min)	Comment
Event	1	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	8/16/2014	13:40:00	USER				
Event	2	Depart Shop for Location	Depart Shop for Location	8/16/2014	13:50:00	USER				
Event	3	Arrive at Rig	Arrive at Rig	8/16/2014	14:30:00	USER				Arrive at location 30 minutes early. Rig running casing with 12 joints left.
Event	4	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	8/16/2014	15:30:00	USER				Hazard hunt and pre-rig up safety meeting.
Event	5	Pre-Job Safety Meeting	Pre-Job Safety Meeting	8/16/2014	17:00:00	USER	8.45	3.00	0.00	Held pre-job safety meeting with rig and third party mud company on location.
Event	6	Start Job	Start Job	8/16/2014	17:20:00	COM6	8.26	7.00	0.00	
Event	7	Test Lines	Test Lines	8/16/2014	17:22:00	COM6	8.28	20.00	1.50	Test lines to 2500 PSI.
Event	8	Pump Spacer 1	Pump Spacer 1	8/16/2014	17:27:00	COM6	8.35	19.00	1.50	Pump 10 bbl fresh water with red dye added.
Event	9	Pump Lead Cement	Pump Lead Cement	8/16/2014	17:34:00	COM6	14.38	28.00	3.40	Pump 126 bbl 14.2# cement.
Event	10	Shutdown	Shutdown	8/16/2014	18:12:00	COM6	8.95	114.00	5.50	
Event	11	Drop Top Plug	Drop Top Plug	8/16/2014	18:14:00	COM6	8.97	188.00	5.50	
Event	12	Pump Displacement	Pump Displacement	8/16/2014	18:14:02	COM6	8.98	188.00	5.50	Pump 78 bbl fresh water supplied by rig. Good returns throughout. GOT 30 BBLS CEMENT BACK TO SURFACE
Event	13	Bump Plug	Bump Plug	8/16/2014	18:33:00	COM6	8.93	13.00	0.00	Bump plug at 354 PSI and brought 500 PSI over. Held for 5 minutes.
Event	14	Check Floats	Check Floats	8/16/2014	18:39:00	USER	9.08	2271.00	0.00	Floats held. Half barrel back.
Event	15	Test Lines	Test Lines	8/16/2014	18:42:00	COM6	9.03	2075.00	0.00	Casing test at 2400 PSI for 30 minutes. Casing test failed after 7 minutes due to too much lost pressure.
Event	16	End Job	End Job	8/16/2014	18:50:00	COM6	8.97	2.00	0.00	
Event	17	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	8/16/2014	18:51:00	USER	0.48	2.00	0.00	Pre-rig down safety meeting with Halliburton hands.



Event	18	Depart Location for Shop	Depart Location for Shop	8/16/2014	20:15:00	USER
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## 2.0 Attachments

### 2.1 GREAT WESTERN OIL & GAS POSTLE IC 11-162HN-Custom Results.png



## 3.0 Appendix

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