

# HALLIBURTON

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## Post Job Report

**GREAT WESTERN OIL & GAS LLC**

**For:**

Date: Tuesday, April 29, 2014

**Bruegman South EG 34-021 HN**

Case 1

Sincerely,

**CHRISTOPHER PICKELL**

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**1.1 Executive Summary**

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Halliburton appreciates the opportunity to perform the cementing services on the Bruegman South EG 34-021HN cement Intermediate 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>Requested Time On Location</b>	04/09	1630	MST
<b>Called Out</b>	04/09	1230	MST
<b>On Location</b>	04/09	1630	MST
<b>Job Started</b>	04/09	2207	MST
<b>Job Completed</b>	04/09	2345	MST
<b>Departed Location</b>	04/09	0100	MST

## 1.2 Cementing Job Summary

The Road to Excellence Starts with Safety					
Sold To #: <b>346459</b>		Ship To #: <b>3282194</b>		Primary Sales Order #: <b>0901255756</b>	
Customer: <b>GREAT WESTERN OIL &amp; GAS LLC - eBUS</b>			Job Purpose: <b>7521 CMT SURFACE CASING BOM</b>		
Well Name: <b>BRUEGMAN SOUTH -EG-</b>			Well #: <b>34-021 HN</b>		API/UWI #: <b>05-123-38842-00</b>
Field: <b>WATTENBERG</b>		City: <b>EAT</b>		Country/Parish: <b>WELD</b>	State/Prov: <b>COLORADO</b>
Legal Description:					
Rig Name & Number / Phone Number: <b>Xtreme 17 / 303-218-5371</b>				Location: <b>LAND</b>	
myCem id# :		Job Criticality Status: <b>GREEN</b>		iFacts Request id #:	
Contacts					
Type	Name	Email	Phone		
<b>Service Coordinator</b>	<b>Jared Whipple</b>	<b>Jared.Whipple@Halliburton.com</b>	<b>+13036554782</b>		
<b>Account Rep</b>	<b>Jon Gregory</b>	<b>Jon.Gregory@Halliburton.com</b>	<b>+19702104722</b>		
<b>Company Man</b>					
PPE, Safety Huddles, JSA's, HOC & Near Miss Reporting, BBP Observations					
Distance/Mileage(1 way)		<b>30 mile</b>		Distance/Mileage(1 way) Mtls: <b>30 mile</b>	
Srvcs:					
				Rqstd Job Start Date/Time: <b>04/07/2014</b>	
HSE Information					
H2S Present:		<b>Unknown</b>		CO2 Present: <b>Unknown</b>	
<b>Drive Safely. Lights On for Safety. Wear Seat Belts. Observe all HES / Customer Safety Policies.</b>					
Directions:					
from the yard go West on CR 8 to Hwy 85, North on Hwy 85 to Eaton, From Eaton go East on CR 74 12 miles, then North to location.					
Instruction					
Job Info / Well Data					
Job Depth (MD) ft	Job Depth (TVD) ft	Well Fluid Type	Well Fluid Weight lbm/gal	Displacement Fluid	Displ Fluid Weight lbm/gal
<b>833</b>				<b>Displacemen</b>	<b>8.33</b>

				<b>t</b>
BHST degF	BHCT degF	Log Temp degF		Time Since Circ Stopped HH:MM:SS

Job Tubulars/Tools											
Description	Size in	Weight lbm/ft	ID in	Thread	Grade	Top MD ft	Btm MD ft	Top TVD ft	Btm TVD ft	Shoe Jnt ft	% Excess
13.5" Open Hole			13.5			0	966				
9.625" Surface Casing	9.625	36	8.921		J-55	0	966		0	42	

**Mud conditioning plan**

The condition of the drilling fluid is one of the most important variables in achieving a cement barrier. Prior to cementing, circulate the mud at the planned highest displacement rate for the cement job for at least 2 bottoms-up until the well is clean, mud is free of gas and pump pressures have stabilized.

**Materials**

Stage/Plug #: 1

Fluid #	Fluid Name	Package/SBM/Material Name	Rqstd Del Qty	UOM	Density lbm/gal	Yield ft <sup>3</sup> /sack	Water Req Gal/sack	Rate bbl/min	Total Mix Fluid Gal/sack	Surface Batch Mixing Time hr
	<b>Lead Cement</b>	<b>SWIFTCEM (TM) SYSTEM</b>	<b>365</b>	<b>sack</b>	<b>14.2</b>	<b>1.54</b>	<b>7.64</b>	<b>6</b>	<b>7.64</b>	

Facts Test id #

Fluid #	Fluid Name	Package/SBM/Material Name	Rqstd Del Qty	UOM	Density lbm/gal	Yield ft <sup>3</sup> /sack	Water Req Gal/sack	Rate bbl/min	Total Mix Fluid Gal/sack	Surface Batch Mixing Time
	<b>Displacement</b>		<b>62.5</b>	<b>bbl</b>	<b>8.33</b>					

Facts Test id #

**Caution: Displacement quantities and densities are estimates ONLY! Do not use them for the actual job.**

<b>Packaged Materials</b>				
<b>SAP #</b>	<b>Material</b>	<b>Qty</b>	<b>UOM</b>	<b>Comments</b>
	<b>FRESH WATER</b>	<b>2788.6</b>	<b>Gal</b>	

## 1.3 Planned Pumping Schedule

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Stage /Plug #	Fluid #	Fluid Type	Fluid Name	Surface Density lbm/gal	Avg Rate bbl/min	Surface Volume	Downhole Volume
1	2	Spacer	Mud Flush III	8.4	4.00	12.0bbl	12.0bbl
1	2	Cement Slurry	Lead Cement	12.50	6.00	400.0 sacks	400.0 sacks

## 1.4 Job Overview

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		Units	Description
1	Surface temperature at time of job	°F	
2	Mud type (OBM, WBM, SBM, Water, Brine)	-	WBM
3	Actual mud density	lb/gal	
4	Actual mud Plastic Viscosity (PV)	cP	
5	Actual mud Yield Point (YP)	lb <sub>f</sub> /100ft <sup>2</sup>	
6	Actual mud 30 min Gel Strength	lb <sub>f</sub> /100ft <sup>2</sup>	
7	Time circulated before job	HH:MM	
8	Mud volume circulated	Bbls	
9	Rate at which well was circulated	Bpm	
10	Pipe movement during hole circulation	Y/N	
11	Rig pressure while circulating	Psi	
12	Time from end mud circulation to start of job	HH:MM	
13	Pipe movement during cementing	Y/N	
14	Calculated displacement	Bbls	
15	Job displaced by	Rig/HES	
16	Annular flow before job	Y/N	N
17	Annular flow after job	Y/N	N
18	Length of rat hole	Ft	
19	Units of gas detected while circulating	Units	
20	Was lost circulation experienced at any time?	Y/N	



## 1.5 Job Event Log

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GREAT WESTERN OIL & GAS LLC  
 BRUEGMAN SOUTH -EG- 34-021 HN  
 BRUEGMAN SOUTH -EG- 34-021 HN

#### 1.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DH Density (ppg)	PS Pump Press (psi)	Comb Pump Rate (bbl/min)	Comb Pump Total bbl	Comment
Event	1	Call Out	Call Out	4/9/2014	12:30:00	USER					Crew called out at 1230 to be on location at 1730. Crew was Christopher Pickell, Roy Nesbitt, Keaton Simmons
Event	2	Depart from Service Center or Other Site	Depart from Service Center or Other Site	4/9/2014	15:00:00	USER					Safety meeting held for journey. Left the yard for Xtreme 17
Event	3	Arrive At Loc	Arrive at Loc	4/9/2014	16:30:00	USER					Arrive at location 1 hour early. Casing crew just beginning to rig up to run casing.
Event	4	Rig-Up Equipment	Rig-Up Equipment	4/9/2014	20:00:00	USER					Hazard hunt performed. Rig up planned and executed.
Event	5	Safety Meeting	Safety Meeting	4/9/2014	21:40:00	USER					Safety meeting held with rig crew to discuss job safety and procedure.
Event	6	Start Job	Start Job	4/9/2014	22:07:10	COM5					Quick latch plug container used on job
Event	7	Prime Pumps	Prime Pumps	4/9/2014	22:07:25	COM5	8.33		1.70	3	Prime lines with 3 bbl of water
Event	8	Test Lines	Test Lines	4/9/2014	22:09:35	COM5	8.33	3500	1	4	Pressure test lines to 3500 psi
Event	9	Pump Spacer 1	Pump Water W/Red Dye	4/9/2014	22:11:32	COM5	8.33	50	1.7	14	Pump 10 bbl water with 1 pound of red dye
Event	10	Pump Cement	Pump Swiftcem 14.2#	4/9/2014	22:19:03	COM5	14.2	130	5.5	124	Pump 110 bbl Swiftcem cement 400 sks 14.2 ppg 1.54 cuft/sk 7.76 gal/sk
Event	11	Shutdown	Shutdown	4/9/2014	22:41:46	COM5					Shutdown to drop plug
Event	12	Drop Top Plug	Drop Top Plug	4/9/2014	22:43:09	COM5					Plug preloaded. Witnessed by company man. Wash pumps and lines on top of the plug

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 BRUEGMAN SOUTH -EG- 34-021 HN  
 BRUEGMAN SOUTH -EG- 34-021 HN

Event	13	Pump Displacement	Pump Displacement	4/9/2014	22:43:18	COM5	8.4	325	6	201	Pump 77 bbl of displacement using pit water
Event	14	Bump Plug	Bump Plug	4/9/2014	23:06:24	COM5		342	2.5		Calculated pressure to land was 306. Plug landed with 324 psi going 500 psi over
Event	15	Other	Check Floats	4/9/2014	23:09:29	COM5		1344			Pressure was released after 3 minutes. Floats held. 1/2 bbl back to tanks
Event	16	Other	Casing Test	4/9/2014	23:15:49	COM5	8.4	2400	1.5		2400 psi casing test
Event	17	Other	Release Casing Pressure	4/9/2014	23:44:44	COM5		2445.00			Pressure was released after 30 minutes and climbing to 2445
Event	18	End Job	End Job	4/9/2014	23:45:58	COM5					All preflush and 15 bbl cement to surface
Event	19	Safety Meeting	Safety Meeting	4/9/2014	23:47:14	USER					Safety meeting held for rig down
Event	20	Rig Down Lines	Rig Down Lines	4/9/2014	23:49:48	USER					Rig down all equipment
Event	21	Depart Location for Service Center or Other Site	Leave location for the yard	4/10/2014	01:00:00	USER					Safety meeting held for journey. Left location for the yard

Density (ppg)

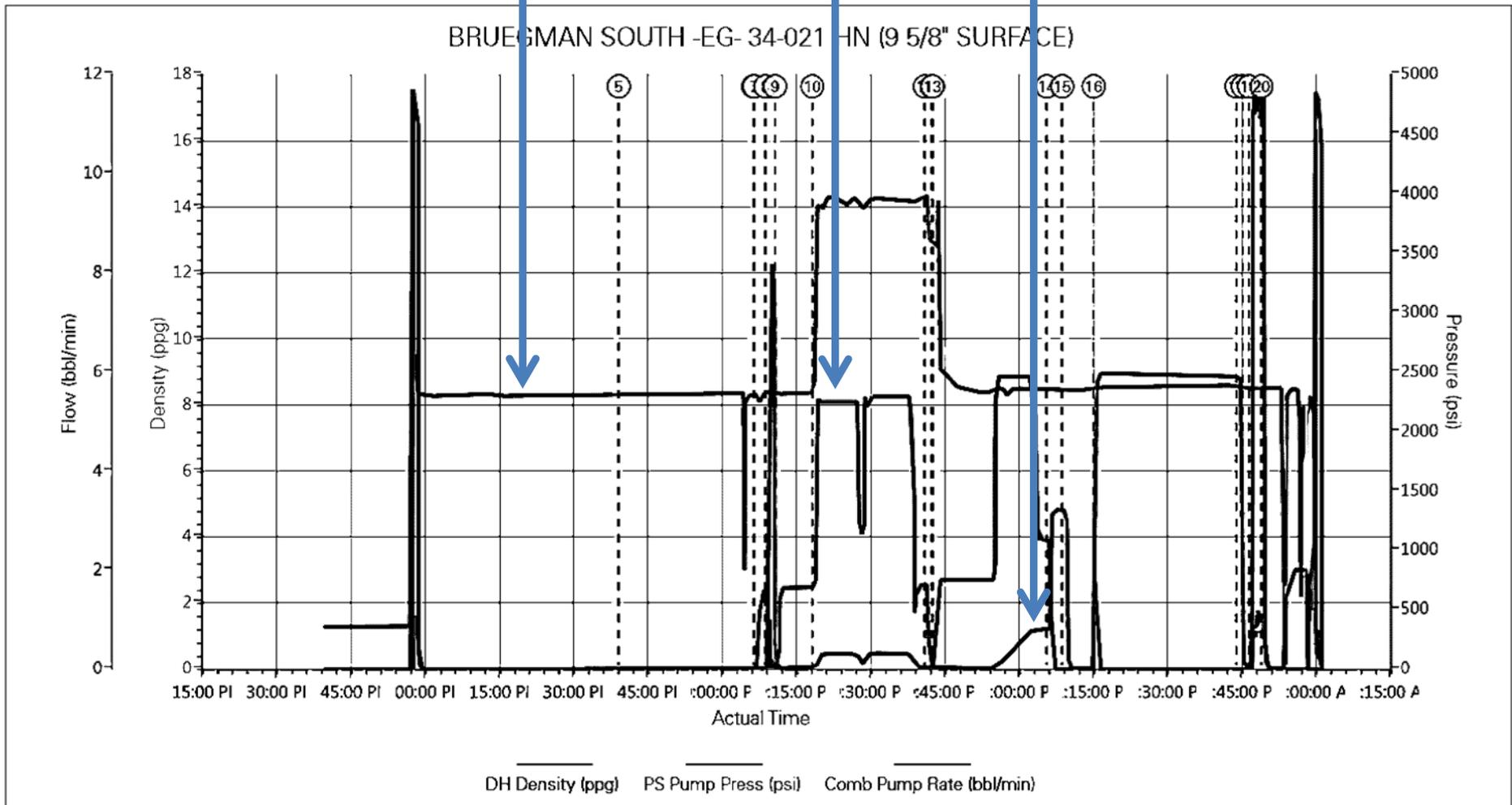
Rate (bpm)

Pressure (psi)

2.0 Attachments

3.0 Custom Graphs

3.1 Custom Graph





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## Post Job Report

**Great Western Oil & Gas LLC - EBUS**

**For:**

Date: Sunday, June 01, 2014

**Bruegman South EG 34-021 HN Intermediate**

GREAT WESTERN BRUEGMAN SOUTH EG

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 **Bruegman South EG 34-021HN** cement **Intermediate** 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>Requested Time On Location</b>	05/11	0000	MST
<b>Called Out</b>	05/11	2000	
<b>On Location</b>	05/11	0000	
<b>Job Started</b>	05/11	0746	
<b>Job Completed</b>	05/11	1008	
<b>Departed Location</b>	05/11	1130	

1.2 Cementing Job Summary

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Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 348459		Ship To #: 3282194		Quote #: 0021860799		Sales Order #: 0901325212				
Customer: GREAT WESTERN OIL & GAS LLC - eBUS				Customer Rep:						
Well Name: BRUEGMAN SOUTH -EG-		Well #: 34-021 HN		API/UWI #: 05-123-38842-00						
Field: WATTENBERG		City (SAP): EAT		County/Parish: WELD		State: COLORADO				
Legal Description: SW SW-34-7N-64W-440FSL-343FVL										
Contractor: XTREME DRLG				Rig/Platform Name/Num: XTREME 17						
Job BOM: 7522										
Well Type: HORIZONTAL OIL										
Sales Person: HALAMERICA\HX46524				Srvc Supervisor: Joseph Fantasia						
Job										
Formation Name										
Formation Depth (MD)		Top		Bottom						
Form Type				BHST						
Job depth MD		7368ft		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			0	1048	0	1048
Casing		7	6.276	26		P-110	0	7368	0	0
Open Hole Section			8.75				1048	7365		0
Tools and Accessories										
Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make		
Guide Shoe	7			7368	Top Plug	7		HES		
Float Shoe	7				Bottom Plug	7		HES		
Float Collar	7				SSR plug set	7		HES		
Insert Float	7				Plug Container	7		HES		
Stage Tool	7				Centralizers	7		HES		
Miscellaneous Materials										
Gelling Agt		Conc		Surfactant		Conc	Acid Type	Qty	Conc	
Treatment Flid		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 <sup>3</sup> /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal	
1	11.5 lb/gal Tuned Spacer III	Tuned Spacer III	30	bbl	11.5	7.17		5		
36 gal/bbl		FRESH WATER								
148.73 lbm/bbl		BARITE, BULK (100003681)								

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*Cementing Job Summary*

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
2	Lead Cement	ECONOCEM (TM) SYSTEM	545	sack	12.5	1.91		7	10.34
10.34 Gal		FRESH WATER							
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
3	Tail Cement	EXPANDACEM (TM) SYSTEM	110	sack	13.5	1.81		6	8.52
8.52 Gal		FRESH WATER							
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
4	Displacement	Displacement	280	bbl	10			8	
Cement Left in Pipe		Amount	Reason						
		42 ft	Shoe Joint						
Comment									

**1.3 Planned Pumping Schedule**

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Stage /Plug #	Fluid #	Fluid Type	Fluid Name	Surface Density lbm/gal	Avg Rate bbl/min	Surface Volume	Downhole Volume
1	1	Spacer	TunedSpacer III	11.50	5.00	30.0 bbl	30.0 bbl
1	5	Cement Slurry	Lead Cement	12.50	7.00	545.0 sacks	545.0 sacks
1	3	Spacer	Tail Cement	13.50	6.00	110.0 sacks	110.0 sacks

1.4 Job Event Log

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GREAT WESTERN OIL & GAS LLC  
GREAT WESTERN BRUEGMAN SOUTH 34-021HN  
GREAT WESTERN BRUEGMAN SOUTH 34-021HN

1.6 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Combined Pump Rate (bbl/min)	Downhole Density (ppg)	Pass-Side Pump Pressure (psi)	Comment
Event	1	Arrive at Location from Service Center	Arrive at Location from Service Center	5/11/2014	00:00:00	USER				ARRIVE AT LOCATION. RIG RUNNING CASING. APPROX 15 JOINTS LEFT. PERFORM SITE ASSESSMENT.
Event	2	Rig-up Lines	Rig-up Lines	5/11/2014	04:00:00	USER				CASING ON BOTTOM AT 0400. PERFORM RIG UP SAFETY MEETING WITH CREW.
Event	3	Test Lines	Test Lines	5/11/2014	07:46:05	COM4	0.00	8.44	5767.00	PRESSURE TEST LINES TO 5000 PSI.
Event	4	Pump Spacer 1	Pump Spacer 1	5/11/2014	07:48:53	COM4	2.00	11.45	114.00	PUMP 30 BBLs TUNED SPACER MIXED AT 11.5 PPG USING RIG WATER.
Event	5	Pump Lead Cement	Pump Lead Cement	5/11/2014	07:59:22	COM4	5.30	12.44	285.00	PUMP 185 BBLs ECONOCEM MIXED AT 12.5 PPG (545 SKS / 1.91 YIELD / 10.34 GAL-SACK)
Event	6	Pump Tail Cement	Pump Tail Cement	5/11/2014	08:27:40	COM4	2.90	13.58	22.00	PUMP 35 BBLs EXPANDACEM MIXED @ 13.8 PPG (110 SKS / 1.81 YIELD / 8.52 GAL-SACK)
Event	7	Shutdown	Shutdown	5/11/2014	08:37:03	COM4	2.50	13.59	10.00	
Event	8	Drop Top Plug	Drop Top Plug	5/11/2014	08:37:49	COM4	0.00	13.53	-32.00	TOP PLUG PRELOADED
Event	9	Pump Displacement	Pump Displacement	5/11/2014	08:38:46	COM4	0.00	13.57	-32.00	GOOD RETURNS THROUGHOUT. SPACER TO SURFACE AT 250 BBLs INTO 280 BBLs TOTAL DISPLACEMENT. APPROX 30 BBLs SPACER TO SURFACE. SIGNS OF CEMENT TO SURFACE WHEN PLUG BUMPED.
Event	10	Bump Plug	Bump Plug	5/11/2014	09:30:00	COM4	3.00	8.20	1032.00	PLUG LANDED AT 1030 PSI.

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GREAT WESTERN OIL & GAS LLC  
 GREAT WESTERN BRUEGMAN SOUTH 34-021HN  
 GREAT WESTERN BRUEGMAN SOUTH 34-021HN

											PRESSURE BROUGHT TO 1500 PSI AND HELD 1 MIN.
Event	11	Check Floats	Check Floats	5/11/2014	09:31:44	USER	0.00	8.30	1821.00		FLOATS HELD.
Event	12	Pressure Test	Pressure Test	5/11/2014	09:34:55	USER	0.00	8.26	2365.00		PRESSURE UP ON CASING TO 2500 PSI AND HOLD 30 MIN. FOR CASING PRESSURE TEST.
Event	13	Check Floats	Check Floats	5/11/2014	10:08:12	USER	0.00	8.32	2779.00		FLOATS HELD
Event	14	Rig-Down Equipment	Rig-Down Equipment	5/11/2014	10:17:48	USER					PERFORM RIG DOWN SAFETY MEETING PRIOR TO RIGGING DOWN EQUIPMENT.
Event	15	Depart Location	Depart Location	5/11/2014	11:30:00	USER					JOURNEY MGMT TO LEAVE LOCATION.

