

**ENSIGN UNITED STATES DRILLING EBUSI  
PO BOX 17805 - DO NOT MAIL  
DENVER, Colorado**

Phelps 12-32NHZ

Ensign 17

## **Post Job Summary** **Cement Intermediate Casing**

Date Prepared: 12/24/2013  
Version: 1

Service Supervisor: BARRAS, JOSEPH

Submitted by: TRIER, DEREK

**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	
Casing	9-5/8" Surface Casing	9.63	8.921	36.00	0.00	1,193.00			0.00
Casing	7" Casing	7.00	6.276	26.00	0.00	7,838.00	0.00	7,478.00	90.00
Open Hole Section	8-3/4" Hole		8.750		1,193.00	7,838.00	1,193.00	7,478.00	

# HALLIBURTON

## ***Pumping Schedule***

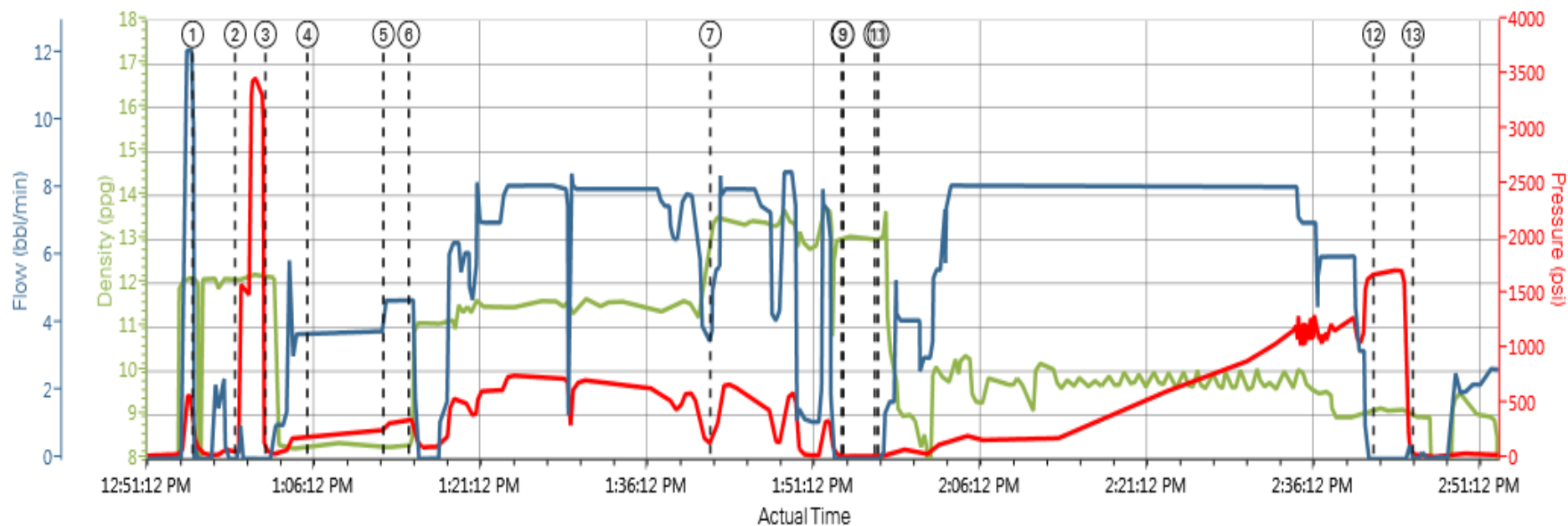
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Stage /Plug #	Fluid #	Fluid Type	Fluid Name	Surface Density lbm/gal	Avg Rate bbl/min	Surface Volume	Downhole Volume
1	1	Spacer	Water Spacer	8.33	4.00	10.0 bbl	10.0 bbl
1	2	Spacer	MUD FLUSH III	8.40	5.00	24.0 bbl	24.0 bbl
1	3	Spacer	Water Spacer	8.33	5.00	10.0 bbl	10.0 bbl
1	4	Cement Slurry	ExtendaCem B2	11.50	8.00	350.0 sacks	350.0 sacks
1	5	Cement Slurry	FracCem B2	13.50	7.00	226.0 sacks	226.0 sacks

# HALLIBURTON

## Data Acquisition

### Ensign Phelps 12-32NHZ Intermediate



DH Density (ppg) PS Pump Press (psi) Comb Pump Rate (bbl/min)

① Start Job 12.08;131;0	④ Pump Spacer 2 8.3;216;3.7	⑦ Pump Tail Cement 13.55;213;5.6	⑩ Bump Plug 13;22;0	⑬ End Job 8.95;24;0
② Test Lines 12.1;61;0	⑤ Pump Spacer 2 8.3;316;4.7	⑧ Drop Bottom Plug 13.05;23;0	⑪ Pump Displacement 13.04;21.41;0	
③ Pump Spacer 1 12.19;52;0	⑥ Pump Lead Cement 8.31;353;4.7	⑨ Drop Top Plug 13.04;23;0	⑫ Bump Plug 9.14;1690;0	

# HALLIBURTON

## Service Supervisor Reports

### Job Log

Date/Time	Chart #	Activity Code	Pump Rate	Cum Vol	Pump	Pressure (psig)	Comments
12/06/2013 04:00		Arrive at Location from Service Center					rig running casing
12/06/2013 08:00		Rig-Up Equipment					spot HES into position for job
12/06/2013 09:15		Rig-Up Completed					
12/06/2013 11:30		Safety Meeting - Pre Job					with HES and rig crew
12/06/2013 12:55		Start Job					
12/06/2013 12:59		Test Lines					test to 3500 psi no visible leaks
12/06/2013 13:01		Pump Spacer 1	4	10		169.0	rig water
12/06/2013 13:05		Pump Spacer 2	5	24		258.0	rig water with mud flush
12/06/2013 13:12		Pump Spacer 1	5	10		327.0	rig water
12/06/2013 13:14		Drop Bottom Plug					PRELOADED AND WITNESSED BY COMPANYMAN
12/06/2013 13:15		Pump Lead Cement	8	144		798.0	350 sks of econocem @ 11.5 ppg /2.31 yield / 12.99 gal/sk
12/06/2013 13:42		Pump Tail Cement	7	70		608.0	226 sks of fraccem @ 13.5 ppg /1.74 yield /8.30 gal/sk
12/06/2013 13:54		Shutdown					
12/06/2013 13:54		Drop Top Plug					preloaded and witnessed by companyman
12/06/2013 13:57		Pump Displacement	7	296		1098.0	rig mud @ 10.1 ppg /with mudflush to surface @ 279 bbl into disllacing
12/06/2013 14:41		Bump Plug	3			1710.0	
12/06/2013 14:44		Check Floats					with 2 bbl back to truck / floats held
12/06/2013 14:45		End Job					
12/06/2013 15:00		Rig-Down Equipment					
12/06/2013 16:00		Return to Service Center from Job					

## The Road to Excellence Starts with Safety

Sold To #: 301256	Ship To #: 3117317	Quote #:	Sales Order #: 900951966
Customer: ENSIGN UNITED STATES DRILLING EBUSI		Customer Rep: Martinez, Mike	
Well Name: Phelps		Well #: 12-32NHZ	API/UWI #:
Field: WATTENBURG	City (SAP): LOCHBUIE	County/Parish: Weld	State: Colorado
Contractor: Ensign		Rig/Platform Name/Num: Ensign 17	
Job Purpose: Cement Intermediate Casing			
Well Type: Development Well		Job Type: Cement Intermediate Casing	
Sales Person: PLIENESS, RYAN		Srv Supervisor: BARRAS, JOSEPH	MBU ID Emp #: 405168

### Job Personnel

HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #
BANUELOS, GUADALUPE	0.0	372277	BARRAS, JOSEPH Corey	0.0	405168			

### Equipment

HES Unit #	Distance-1 way	HES Unit #	Distance-1 way	HES Unit #	Distance-1 way	HES Unit #	Distance-1 way
10977079C	5 mile	11019824C	5 mile	11410470C	5 mile	11562544C	5 mile

### Job

Formation Name	Formation Depth (MD)	Top	Bottom	Form Type	Job depth MD	Job Depth TVD	Water Depth	Perforation Depth (MD)	From	To
				BHST	7838. ft	7478. ft				

### Job Times

Called Out	Date	Time	Time Zone
06 - Dec - 2013	00:00	MST	
06 - Dec - 2013	04:00	MST	
06 - Dec - 2013	12:55	MST	
06 - Dec - 2013	14:45	MST	
06 - Dec - 2013	16:00	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
8-3/4" Hole				8.75				1193.	7838.	1193.	7478.
7" Casing	Mixed		7.	6.276	26.			.	7838.	.	7478.
9-5/8" Surface Casing	Unknown		9.625	8.921	36.			.	1193.		

### Fluid Data

#### Stage/Plug #: 1

Fluid #	Stage Type	Fluid Name	Qty	Qty uom	Mixing Density lbm/gal	Yield ft3/sk	Mix Fluid Gal/sk	Rate bbl/min	Total Mix Fluid Gal/sk
1	Water Spacer		10.00	bbl	8.33			4.0	
2	MUD FLUSH III	MUD FLUSH III - SBM (528788)	24.00	bbl	8.4			5.0	
3	Water Spacer		10.00	bbl	8.33			5.0	
4	ExtendaCem B2	EXTENDACEM (TM) SYSTEM (452981)	350.0	sacks	11.5	2.31	12.99	8.0	12.99
		12.99 Gal FRESH WATER							
5	FracCem B2	FRACCEN (TM) SYSTEM (452963)	226.0	sacks	13.5	1.74	8.3	7.0	8.3
		8.3 Gal FRESH WATER							

#### Calculated Values

#### Pressures

#### Volumes

Displacement	296	Shut In: Instant		Lost Returns		Cement Slurry		Pad	
Top Of Cement		5 Min		Cement Returns	0	Actual Displacement	296	Treatment	

**HALLIBURTON*****Cementing Job Summary***

<b>Frac Gradient</b>		<b>15 Min</b>		<b>Spacers</b>	YES	<b>Load and Breakdown</b>		<b>Total Job</b>	
<b>Rates</b>									
<b>Circulating</b>		<b>Mixing</b>		<b>Displacement</b>		<b>Avg. Job</b>			
<b>Cement Left In Pipe</b>	<b>Amount</b>	<b>90 ft</b>	<b>Reason</b>	<b>Shoe Joint</b>					
<b>Frac Ring # 1 @</b>	<b>ID</b>		<b>Frac ring # 2 @</b>	<b>ID</b>		<b>Frac Ring # 3 @</b>	<b>ID</b>		<b>Frac Ring # 4 @</b>
<b>The Information Stated Herein Is Correct</b>				<b>Customer Representative Signature</b>					

