

*The Road to Excellence Starts with Safety*

<b>Sold To #:</b> 345242		<b>Ship To #:</b> 3900220		<b>Quote #:</b>		<b>Sales Order #:</b> 0905285652					
<b>Customer:</b> NOBLE ENERGY INC-EBUS						<b>Customer Rep:</b> Jlm Turner					
<b>Well Name:</b> DOROTHY STATE				<b>Well #:</b> LG16-757		<b>API/UWI #:</b> 05-123-47612-00					
<b>Field:</b> WATTENBERG		<b>City (SAP):</b> RAYMER		<b>County/Parish:</b> WELD		<b>State:</b> COLORADO					
<b>Legal Description:</b> NE NW-9-8N-59W-335FNL-1433FWL											
<b>Contractor:</b> H & P DRLG				<b>Rig/Platform Name/Num:</b> H & P 321							
<b>Job BOM:</b> 7523 7523											
<b>Well Type:</b> HORIZONTAL OIL											
<b>Sales Person:</b> HALAMERICA\HB70026				<b>Srv Supervisor:</b> Luke Kosakewich							
<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>		230 degF					
<b>Job depth MD</b>		16692ft		<b>Job Depth TVD</b>		6100ft					
<b>Water Depth</b>				<b>Wk Ht Above Floor</b>							
<b>Perforation Depth (MD)</b>		<b>From</b>		<b>To</b>							
<b>Well Data</b>											
<b>Description</b>	<b>New / Used</b>	<b>Size in</b>	<b>ID in</b>	<b>Weight lbm/ft</b>	<b>Thread</b>	<b>Grade</b>	<b>Top MD ft</b>	<b>Bottom MD ft</b>	<b>Top TVD ft</b>	<b>Bottom TVD ft</b>	
Casing	0	9.625	8.921	36			0	1934	0	1934	
Casing	0	5.5	4.778	20			0	16679	0	6100	
Open Hole Section			8.5				2478	5743	2478	5743	
Open Hole Section			8.5				5743	16692	5743	6100	
<b>Tools and Accessories</b>											
<b>Type</b>	<b>Size in</b>	<b>Qty</b>	<b>Make</b>	<b>Depth ft</b>		<b>Type</b>	<b>Size in</b>	<b>Qty</b>	<b>Make</b>		
<b>Guide Shoe</b>						<b>Top Plug</b>	5.5	1	HES		
<b>Float Shoe</b>	5.5	1	HES	16679		<b>Bottom Plug</b>	5.5	2	HES		
<b>Float Collar</b>	5.5	1	HES	16631		<b>SSR plug set</b>					
<b>Insert Float</b>						<b>Plug Container</b>					
<b>Stage Tool</b>						<b>Centralizers</b>					
<b>Fluid Data</b>											
<b>Stage/Plug #:</b> 1											
<b>Fluid #</b>	<b>Stage Type</b>	<b>Fluid Name</b>			<b>Qty</b>	<b>Qty UoM</b>	<b>Mixing Density lbm/gal</b>	<b>Yield ft3/sack</b>	<b>Mix Fluid Gal</b>	<b>Rate bbl/min</b>	<b>Total Mix Fluid Gal</b>
1	11.5 lb/gal Tuned Spacer III w/ Chems	Tuned Spacer III			120	bbl	11.5	3.78	23.5	5	

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	140	sack	13.2	1.67		6	8.06	
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	ElastiCem w/ SCBL	ELASTICEM (TM) SYSTEM	306	sack	13.2	1.68		8	8.06	
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	NeoCem NT1	NeoCem TM	1231	sack	13.2	2.04		8	9.75	
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	Displacement	Displacement	368.9	bbl	8.33			8		
Cement Left In Pipe		Amount	48 ft		Reason			Shoe Joint		
Mix Water:		pH 7	Mix Water Chloride:			0 ppm		Mix Water Temperature:		61 °F
Plug Bumped?		Yes	Bump Pressure:			2,000 psi		Floats Held?		Yes
<b>Comment</b> Bumped the plug 500 psi. over 1,500 psi. at 3 bpm. Final pressure was 2,000 psi. Held for 5 minutes. Pressure held. Bled off pressure. We checked floats. Floats held. Got 4 bbls. of fluid back to the truck. Circulated no spacer or cement to surface. Estimated tops of cement based on pressure and a calculated hole are TOT at 5,743', TOL 3,499', TOC 2,478', and TOS 0'.										

## 2.0 Real-Time Job Summary

## 2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DS Pump Press (psi)	Comb Pump Rate (bbl/min)	DH Density (ppg)	Comments
Event	1	Call Out	Call Out	11/19/2018	23:00:00	USER				Crew was called out at 23:00 for an on location time of 05:00.
Event	2	Depart Yard Safety Meeting	Depart Yard Safety Meeting	11/20/2018	02:00:00	USER				Crew held a pre journey safety meeting and JSA.
Event	3	Depart Shop for Location	Depart Shop for Location	11/20/2018	02:15:00	USER				Started journey management with dispatch and left location.
Event	4	Arrive at Location from Service Center	Arrive at Location from Service Center	11/20/2018	04:20:00	USER				Crew performed a site assessment, safety meeting and hazard hunt on location. Checked in with the customer and discussed the job procedures, rig up and well bore schematics. The rig was running casing.
Event	5	Other	Other	11/20/2018	04:30:00	USER				Well bore: MD: 16,692', TP: 5.5" 20# set at 16,679', FC: 16,631', TVD: 6,100', SC: 9.625" 36 # set at 1,934'. OH: 8.5". Mud # 9.5 ppg. Water test: PH: 7, Chlorides: 0, Temp: 70 Degrees.
Event	6	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	11/20/2018	11:00:00	USER				Held a pre rig up safety meeting with my crew.
Event	7	Rig-Up Equipment	Rig-Up Equipment	11/20/2018	11:15:00	USER				The crew rigged up all lines, hoses and equipment for the job.
Event	8	Safety Meeting	Safety Meeting	11/20/2018	16:00:00	USER				Halliburton cement crew held a pre cement job safety meeting and JSA with third party personnel and rig crew.
Event	9	Start Job	Start Job	11/20/2018	16:41:25	COM5				
Event	10	Test Lines	Test Lines	11/20/2018	16:44:32	COM5	4868.00		8.64	Pressure tested lines to 4,800 psi. with a 500 psi. electronic kick out test.
Event	11	Test Lines	Test Lines	11/20/2018	16:49:42	COM5	2314.00		8.61	Pressure tested lbop to 2,500 psi. with a 500 psi. electronic kick out test.
Event	12	Drop Bottom Plug	Drop Bottom Plug	11/20/2018	17:02:01	COM5				Loaded and dropped the bottom plug, which was witnessed by the customer.
Event	13	Pump Spacer 1	Pump Spacer 1	11/20/2018	17:04:52	COM5	305.00	3.00	11.50	Pumped 120 bbls. of Tuned Spacer III with surfactants mixed at

11.5 ppg.,Yield: 3.78 ft3/sks, 23.5 gal/sks. Density was verified by pressurized scales.

Event	14	Drop Bottom Plug	Drop Bottom Plug	11/20/2018	17:29:43	COM5				Loaded and dropped the bottom plug, which was witnessed by the customer.
Event	15	Pump Cap Cement	Pump Cap Cement	11/20/2018	17:32:01	COM5	246.00	3.20	13.22	Pumped 42 bbls. (140 sks.) of Elasticem W/O Super CBL mixed at 13.2 ppg.,Yield: 1.67 ft3/sks, 8.06 gal/sks. Density was verified by pressurized scales.
Event	16	Pump Lead Cement	Pump Lead Cement	11/20/2018	17:40:22	COM5	571.81	6.06	13.13	Pumped 92 bbls. (306 sks.) of Elasticem mixed at 13.2 ppg.,Yield: 1.68 ft3/sks, 8.06 gal/sks. Density was verified by pressurized scales.
Event	17	Pump Tail Cement	Pump Tail Cement	11/20/2018	17:54:11	COM5	695.00	8.00	13.13	Pumped 447 bbls. (1231 sks.) of Neocem mixed at 13.2 ppg. Yield: 2.04 ft3/sks, 9.75 gal/sks. Density was verified by pressurized scales.
Event	18	Shutdown	Shutdown	11/20/2018	18:58:38	COM5				Mixed and pumped all cement away.
Event	19	Clean Lines	Clean Lines	11/20/2018	19:00:00	USER				Washed and blew down pumps and lines until clean.
Event	20	Drop Top Plug	Drop Top Plug	11/20/2018	19:12:46	COM5				Halliburton dropped the top plug, which was witnessed by the customer.
Event	21	Pump Displacement	Pump Displacement	11/20/2018	19:12:50	COM5	730.00	10.10	8.36	Pumped 368.9 bbls. of fresh water with MMCR in the first 20 bbls. Biocide was added throughout the rest of displacement.
Event	22	Bump Plug	Bump Plug	11/20/2018	19:54:53	COM5	1555.00	2.90	8.39	Bumped the plug 500 psi. over 1,500 psi. at 3 bpm. Final pressure was 2,000 psi. Held for 5 minutes. Pressure held. Circulated no spacer or cement to surface. Estimated tops of cement based on pressure and a calculated hole are TOT at 5,743', TOL 3,499', TOC 2,478', and TOS 0'.
Event	23	Check Floats	Check Floats	11/20/2018	19:58:09	USER				Bled off pressure and checked floats. Floats held. Got 4 bbls. of fluid back to the truck.
Event	24	End Job	End Job	11/20/2018	19:58:57	USER				Washed and blew down all pumps lines and hoses.
Event	25	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	11/20/2018	20:00:00	USER				Halliburton cement crew held a pre rig down safety meeting and JSA.
Event	26	Rig-Down Equipment	Rig-Down Equipment	11/20/2018	20:10:00	USER				Rigged down all lines, hoses and equipment.
Event	27	Safety Meeting - Departing Location	Safety Meeting - Departing Location	11/20/2018	21:50:00	USER				Held a pre journey safety meeting with the crew.

3.0 Attachments

3.1 Dorothy State LG16-757-Custom Results.png

