

Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 345242		Ship To #: 3919703		Quote #:		Sales Order #: 0906144941					
Customer: NOBLE ENERGY INC-EBUS				Customer Rep: Tim Simkins							
Well Name: GUTTERSEN STATE			Well #: DD30-735			API/UWI #: 05-123-48668-00					
Field: WATTENBERG		City (SAP): ROGGEN		County/Parish: WELD			State: COLORADO				
Legal Description: SE SE-30-3N-63W-482FSL-892FEL											
Contractor: H & P DRLG					Rig/Platform Name/Num: H & P 321						
Job BOM: 7523 7523											
Well Type: HORIZONTAL OIL											
Sales Person: HALAMERICA\HB31357					Srvc Supervisor: Michael Loughran						
Job											
Formation Name											
Formation Depth (MD)		Top			Bottom						
Form Type											
BHST											
Job depth MD		17232ft			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	1923.6	0	1923.6	
Casing		5.5	4.892	17			0	17030	0	6752	
Open Hole Section			8.5				1923.6	17052		6752	
Tools and Accessories											
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make		
Guide Shoe	5.5					Top Plug	5.5	1	HES		
Float Shoe	5.5			17030		Bottom Plug	5.5	2	HES		
Float Collar	5.5					SSR plug set	5.5		HES		
Insert Float	5.5					Plug Container	5.5		HES		
Stage Tool	5.5					Centralizers	5.5		HES		
Fluid Data											
Stage/Plug #: 1											

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Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
1	Tuned Prime Spacer	SBM FDP-C1337-18 CEMENT SPACER SYS	120	bbl	11.5	3.87		7	
	1 lbm/bbl	FE-2, 2000 LB BAG - (1005549)							
	145.09 lbm/bbl	BARITE, BULK (100003681)							
	3.50 lbm/bbl	SEM-94P, 35 LB SACK - (1023987)							
	3.50 lbm/bbl	SEM-93P, 35 LB SACK - (1023977)							
	0.10 gal/bbl	D-AIR 3000L, 5 GAL PAIL (101007444)							

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
2	ElastiCem	ELASTICEM (TM) SYSTEM	140	sack	13.2	1.67		8	8.04
	8.03 Gal	FRESH WATER							
	0.40 %	SCR-100, 1200 LB BAG - (1126328)							

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
3	ElastiCem w/ SCBL	ELASTICEM (TM) SYSTEM	482	sack	13.2	1.67		8	8.04
	8.04 Gal	FRESH WATER							
	0.27 %	SCR-100, 1200 LB BAG - (1126328)							

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
4	NeoCem NT1	NeoCem TM	1137	sack	13.2	2.04		8	9.79
	0.08 %	FE-2, 2000 LB BAG - (1005549)							
	9.79 Gal	FRESH WATER							
	0.08 %	SCR-100, 1200 LB BAG - (1126328)							

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
5	Displacement	Displacement	394	bbl	8.33			8	

Cement Left In Pipe	Amount	50.1 ft	Reason	Shoe Joint
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Cementing Job Summary

Mix Water:	pH 7	Mix Water Chloride:	Less 200 ppm	Mix Water Temperature:	55°F
Cement Temperature:		Plug Displaced by:	8.33 lb/gal	Disp. Temperature:	
Plug Bumped?	Yes	Bump Pressure:	3100 psi	Floats Held?	Yes
Cement Returns:		Returns Density:		Returns Temperature:	
Comment Good returns throughout job. Floats held, 5 bbl. Back to pump truck. 8 bbl. Spacer to surface. Estimated tops TOTC 6934', TOLC 3420', TOPC 2399'					

2.0 Real-Time Job Summary

2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Comments
Event	1	Call Out	Call Out	12/2/2019	08:38:00	USER	Crew called out for on location time of 1500 hrs. 12/2/2019
Event	2	Crew Leave Yard	Crew Leave Yard	12/2/2019	13:00:00	USER	Crew Leaves Yard
Event	3	Arrive At Loc	Arrive At Loc	12/2/2019	14:30:00	USER	Arrive at location, Rig running casing, Meet with customer, TP 17030 17# P-110, TD 17052, 8.50 Hole, FC 16979.9, TVD 6752, PC 1923.6' 9.625 J-55 36#, WF 9.6 OBM, Top and 2 Bottom plug provided by customer, Water 55 Deg., PH 7, Chlorides and sulfates less than 200 ppm
Event	4	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	12/2/2019	15:00:00	USER	Pre rig up safety meeting
Event	5	Rig-Up Equipment	Rig-Up Equipment	12/2/2019	15:10:00	USER	Rig up all service lines and iron to buffer zone
Event	6	Pre-Job Safety Meeting	Pre-Job Safety Meeting	12/2/2019	23:30:00	USER	Discuss job procedures, Discuss job hazards and hazards of Halliburton Equipment.
Event	7	Start Job	Start Job	12/2/2019	23:52:24	COM4	Begin recording data, Rig circulated 10 bpm@900psi
Event	8	Drop Bottom Plug	Drop Bottom Plug	12/2/2019	23:53:48	COM4	Verified by Tim
Event	9	Test Lines	Test Lines	12/2/2019	23:54:37	COM4	Test lines to 4500 psi
Event	10	Test Lines	Test Lines	12/2/2019	23:58:05	COM4	Test lboop to 2500 psi

Event	11	Pump Spacer 1	Pump Spacer 1	12/3/2019	00:01:18	COM4	120 bbl. Tuned Prime spacer 11.5 ppg, 3.87 yield, 24.5 gal/sack
Event	12	Shutdown	Shutdown	12/3/2019	00:22:24	COM4	Shutdown to drop bottom plug
Event	13	Drop Bottom Plug	Drop Bottom Plug	12/3/2019	00:23:10	COM4	Verified by Tim
Event	14	Pump Cap Cement	Pump Cap Cement	12/3/2019	00:25:14	COM4	140 sacks ElastiCem, 41.64 bbl., 13.2ppg, 1.67 yield, 8.04 gal/sack
Event	15	Shutdown	Shutdown	12/3/2019	00:36:23	COM4	Shutdown due to turbo failure
Event	16	End Job	End Job	12/3/2019	01:23:57	USER	Stop recording data. Relief pump arrives 0345 hrs. 2 bulk trucks arrive at 0615 hrs., 1 bulk truck with lead cement arrives 0745 hrs. Wait on labs until 0930 hrs.
Event	17	Start Job	Start Job	12/3/2019	09:43:29	COM4	Begin recording data
Event	18	Test Lines	Test Lines	12/3/2019	09:51:25	COM4	Test lines 3800 psi
Event	19	Drop Bottom Plug	Drop Bottom Plug	12/3/2019	09:55:03	COM4	Verified by Dave
Event	20	Pump Spacer 1	Pump Spacer 1	12/3/2019	09:55:08	COM4	120 bbl. Tuned Prime Spacer. 11.5 ppg, 3.87 yield, 24.5 gal/sack
Event	21	Shutdown	Shutdown	12/3/2019	10:19:26	COM4	Shutdown to drop plug
Event	22	Drop Bottom Plug	Drop Bottom Plug	12/3/2019	10:20:11	COM4	Verified by Dave
Event	23	Pump Cap Cement	Pump Cap Cement	12/3/2019	10:21:16	COM4	140 sacks ElastiCem, 41.64 bbl., 13.2 ppg, 1.67 yield, 8.04 gal/sack
Event	24	Pump Lead Cement	Pump Lead Cement	12/3/2019	10:28:16	COM4	482 sacks ElastiCem, 143.36 bbl., 13.2 ppg, 1.67 yield, 8.04 gal/sack

Event	25	Pump Tail Cement	Pump Tail Cement	12/3/2019	10:52:49	COM4	1137 sacks NeoCem Tail Cement, 413.09 bbl., 13.2 ppg, 2.04 yield, 9.79 gal/sack
Event	26	Shutdown	Shutdown	12/3/2019	11:51:13	COM4	Shutdown to wash pumps and lines
Event	27	Drop Top Plug	Drop Top Plug	12/3/2019	12:00:27	COM4	Verified by Dave
Event	28	Pump Displacement	Pump Displacement	12/3/2019	12:00:30	COM4	394 bbl. fresh water displacement. First 20 bbl. has 10 gal micro matrix retarder, 6 Lbs. BE-3 throughout
Event	29	Bump Plug	Bump Plug	12/3/2019	12:54:44	COM4	FCP 2600 psi @ 3 BPM, Bump pressure 3100 psi
Event	30	Check Floats	Check Floats	12/3/2019	12:58:30	USER	Check Floats, Floats hold, 3 bbl. back, Approx. 8 bbl. spacer to surface. Calculated TOTC 6934', TOLC 3420', TOPC 2399'
Event	31	End Job	End Job	12/3/2019	13:00:42	COM4	Stop recording data
Event	32	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	12/3/2019	13:05:00	USER	JSA safe Rig-Down
Event	33	Rig-Down Equipment	Rig-Down Equipment	12/3/2019	13:10:00	USER	Rig down equipment
Event	34	Crew Leave Location	Crew Leave Location	12/3/2019	15:00:00	USER	Thanks for choosing Halliburton Energy Services!

3.0 Attachments

3.1 Job Chart

