

The Road to Excellence Starts with Safety

Sold To #: 345242	Ship To #: 3918988	Quote #:	Sales Order #: 0906383596
Customer: NOBLE ENERGY INC-EBUS		Customer Rep: Jim Turner	
Well Name: GUTTERSEN		Well #: D34-769	API/UWI #: 05-123-48553-00
Field: WATTENBERG	City (SAP): KEENESBURG	County/Parish: WELD	State: COLORADO
Legal Description: SE SW-22-3N-64W-1015FSL-1478FWL			
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	17413ft		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	1955	0	1955
Casing		5.5	4.892	17			0	17413	0	6870
Open Hole Section			8.5				1955	17435	1955	6870

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			17413	Bottom Plug	5.5	2	HES
Float Collar	5.5			17366	SSR plug set	5.5		
Insert Float	5.5				Plug Container	5.5	1	HES
Stage Tool	5.5				Centralizers	5.5		

Fluid Data

Stage/Plug #: 1

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		8	
	1 lbm/bbl	FE-2, 2000 LB BAG - (1005549)							
	3.50 lbm/bbl	SEM-94P, 35 LB SACK - (1023987)							
	3.50 lbm/bbl	SEM-93P, 35 LB SACK - (1023977)							
	145.2420 lbm/bbl	BARITE, BULK (100003681)							
	0.10 gal/bbl	D-AIR 3000L, 5 GAL PAIL (101007444)							

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	1.65		8	8.4	
0.30 %		SCR-100, 1200 LB BAG - (1126328)								
8.40 Gal		FRESH WATER								
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	489	sack	13.2	1.67		8	8.05	
0.18 %		SCR-100, 1200 LB BAG - (1126328)								
8.05 Gal		FRESH WATER								
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	1173	sack	13.2	2.04		8	9.79	
0.08 %		SCR-100, 1200 LB BAG - (1126328)								
0.08 %		FE-2, 2000 LB BAG - (1005549)								
9.79 Gal		FRESH WATER								
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	MMCR Displacement	MMCR Displacement	20	bbl	8.34			10		
0.50 gal/bbl		MICRO MATRIX CEMENT RETARDER, 5 GAL PAIL (100003781)								
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	
6	Displacement	Displacement	383	bbl	8.33			10		
Cement Left In Pipe		Amount	46.7 ft		Reason			Shoe Joint		
Mix Water:		pH 7	Mix Water Chloride: Less 200 ppm			Mix Water Temperature: 60 °F				
Cement Temperature:			Plug Displaced by: 8.33 lb/gal			Disp. Temperature:				
Plug Bumped? Yes		Bump Pressure: 2575 psi			Floats Held? Yes					
Cement Returns:		Returns Density:			Returns Temperature:					
Comment Good returns throughout job. Approx. 13 bbl spacer/obm interface to surface. Estimated TOTC=6993'. TOLC3429', TOCC 2420'										

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	3/17/2020	19:30:00	USER	Crew called out for on location time of 0130 hrs. 3/18/2020
Event	2	Crew Leave Yard	Crew Leave Yard	3/17/2020	21:00:00	USER	Crew leaves yard
Event	3	Arrive At Loc	Arrive At Loc	3/18/2020	00:30:00	USER	Arrive at location, Rig running casing, Meet with customer, TP 17413 17# P-110, TD 17435, 8.50 Hole, FC 17366.3, TVD 6870, PC 1955' 9.625 J-55 36#, WF 9.7 OBM, Top and Bottom plug provided by customer, Water 60 Deg., PH 7, Chlorides and sulfates less than 200 ppm
Event	4	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	3/18/2020	00:40:00	USER	Pre rig up safety meeting
Event	5	Rig-Up Equipment	Rig-Up Equipment	3/18/2020	00:45:00	USER	Rig up all service lines and iron to buffer zone
Event	6	Pre-Job Safety Meeting	Pre-Job Safety Meeting	3/18/2020	06:15:00	USER	Discuss job procedures, Discuss job hazards and hazards of Halliburton Equipment.
Event	7	Start Job	Start Job	3/18/2020	06:50:27	COM5	Begin recording data
Event	8	Drop Bottom Plug	Drop Bottom Plug	3/18/2020	06:50:36	COM5	Verified by Jim
Event	9	Test Lines	Test Lines	3/18/2020	06:52:23	COM5	Test lines to 4500 psi
Event	10	Pump Spacer 1	Pump Spacer 1	3/18/2020	06:58:39	COM5	120 bbl. Tuned Prime spacer. 11.5 ppg, 3.87 yield, 24.42 gal/sack
Event	11	Shutdown	Shutdown	3/18/2020	07:16:35	COM5	Shutdown to drop plug
Event	12	Drop Bottom Plug	Drop Bottom Plug	3/18/2020	07:19:18	COM5	Verified by Jim
Event	13	Pump Cap Cement	Pump Cap Cement	3/18/2020	07:19:22	COM5	140 sacks ElastiCem Cap cement. 41.14 bbl. 13.2 ppg, 1.65 yield, 8.4 gal/sack
Event	14	Pump Lead Cement	Pump Lead Cement	3/18/2020	07:25:37	COM5	489 sacks Elasticem Lead Cement. 145.44 bbl. 13.2 ppg, 1.67 yield, 8.05 gal/sack
Event	15	Pump Tail Cement	Pump Tail Cement	3/18/2020	07:46:28	COM5	1173 sacks NeoCem Tail Cement. 426.18 bbl. 13.2 ppg, 2.04 yield, 9.79 gal/sack
Event	16	Shutdown	Shutdown	3/18/2020	08:48:05	USER	Shutdown to wash pumps and lines
Event	17	Drop Top Plug	Drop Top Plug	3/18/2020	08:56:09	COM5	Verified by Jim

Event	18	Pump Displacement	Pump Displacement	3/18/2020	08:56:56	COM5	403 bbl. water displacement. 10 gallons Micro Matrix Retarder in first 20 bbl. 6# BE-3 throughout displacement
Event	19	Bump Plug	Bump Plug	3/18/2020	09:45:39	COM5	Bump pressure 2575 psi, Final circ pressure 2075 psi. 13 bbl. spacer/OBM interface. Approx. TOTC=6993', TOLC=3429', TOCC=2420'
Event	20	Check Floats	Check Floats	3/18/2020	09:51:22	USER	4.7 bbl. back. Floats hold
Event	21	End Job	End Job	3/18/2020	09:54:08	COM5	Stop recording data.
Event	22	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	3/18/2020	09:55:00	USER	JSA safe Rig-Down
Event	23	Rig-Down Equipment	Rig-Down Equipment	3/18/2020	10:00:00	USER	Rig down equipment
Event	24	Crew Leave Location	Crew Leave Location	3/18/2020	11:30:00	USER	Thanks for choosing Halliburton Energy Services!

3.0 Attachments

3.1 Job Chart

