The Road to Excellence Starts with Safety

Sold To #: 345242	**Ship To #:** 3919131	**Quote #:**	**Sales Order #:** 0906486553
Customer: NOBLE ENERGY INC-EBUS		**Customer Rep:**	
Well Name: GUTTERSEN	**Well #:** D34-729		**API/UWI #:** 05-123-48575-00
Field: WATTENBERG	**City (SAP):** KEENESBURG	**County/Parish:** WELD	**State:** COLORADO
Legal Description: SWSE-22-3N-64W-1015FSL-1375FEL			
Contractor: H & P DRLG		**Rig/Platform Name/Num:** H & P 517	
Job BOM: 7523 7523			
Well Type: HORIZONTAL OIL			
Sales Person: HALAMERICA\HX41066		**Srvc Supervisor:**	

Job

Formation Name				
Formation Depth (MD)	**Top**		**Bottom**	
Form Type			**BHST**	
Job depth MD	17444ft		**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	1914	0	1914
Casing		5.5	4.892	17			0	17424	0	6874
Open Hole Section			8.5				1914	17444	1914	6874

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			17424		**Bottom Plug**	5.5	2	HES
Float Collar	5.5			17376		**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

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
1	Tuned Prime Spacer	SBM FDP-C1337-18 CEMENT SPACER SYS	120	bbl	11.5	3.87			
0.33 gal/bbl		**D-AIR 3000L, 5 GAL PAIL (101007444)**							
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)**

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
0.35 %		**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	494	sack	13.2	1.67		8	8.05
0.20 %		**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	1166	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	Displacement	Displacement	403	bbl	8.33				

Cement Left In Pipe	**Amount**	42 ft	Reason	**Shoe Joint**	
Mix Water:	pH 7	**Mix Water Chloride:**	<300 ppm	Mix Water Temperature:	**60 °F**
Cement Temperature:		**Plug Displaced by:**	8.4 ppg Packer Fluid	Disp. Temperature:	**60 °F**
Plug Bumped?	Yes	**Bump Pressure:**	2200 to 2700 psi	Floats Held?	**Yes**
Spacer Returns:	6 bbl	**Returns Density:**	11.5 lb/gal	Returns Temperature:	

Comment:

Estimated tops:

Tail Cement – 7057’

Lead – 3454’

Cap – 2449’

Spacer – 6 bbl to surface

2.0 Real-Time Job Summary

2.1 Job Event Log

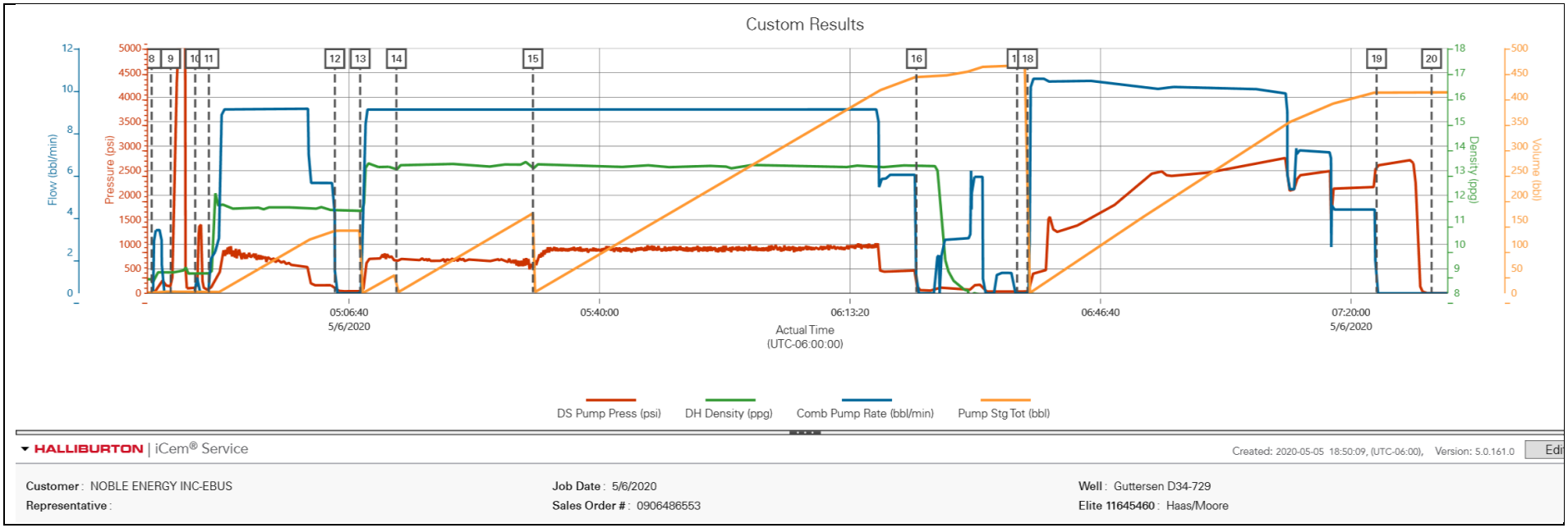
Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DS Pump Press (psi)	DH Density (ppg)	Comb Pump Rate (bbl/min)	Pump Stg Tot (bbl)	Comments
Event	1	Call Out	Call Out	5/5/2020	16:00:00	USER					Requested on location 22:00. Pump Elite: 12644845/11645460.
Event	2	Crew Leave Yard	Crew Leave Yard	5/5/2020	20:00:00	USER					Crew depart from yard for location
Event	3	Arrive At Loc	Arrive At Loc	5/5/2020	21:00:00	USER					End journey management. Meet with company representative to discuss job: Surface Casing: 9.625" 36# @ 1914', Casing: 5.5" 17# @ 17424', 42' Shoe Joint, 8.5" Open Hole TD 17444', TVD @ 6874', 9.9 PPG Well Fluid, Packer fluid/biocide displacement with MMCR in first 20 bbl. Well Issues discussed: RSI tool at 17280' requires thorough washup from rig floor. Ran HES washup line to clean out all cement behind plug.
Event	4	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	5/6/2020	02:00:00	USER					Hazard hunt. Discussed possible hazards associated with location, rig up, job performance, and weather.
Event	5	Rig-Up Equipment	Rig-Up Equipment	5/6/2020	02:10:00	USER					Crew staged equipment and rigged up bulk equipment, iron, and water hoses to perform job.

Event	6	Rig-Up Completed	Rig-Up Completed	5/6/2020	03:00:00	USER					Rigged up complete / Rigged up to a edge of red zone
Event	7	Pre-Job Safety Meeting	Pre-Job Safety Meeting	5/6/2020	04:00:00	USER	0.00	8.59	0.00	8.10	Meeting with Halliburton and rig personnel. Communicated potential safety hazard and job details.
Event	8	Start Job	Start Job	5/6/2020	04:40:24	COM5	0.00	8.58	0.00	0.00	Drop 1st bottom plug and Fill lines 3 bbl of water
Event	9	Test Lines	Test Lines	5/6/2020	04:42:56	COM5	139.00	8.85	0.00	3.40	Pressure test HES iron to 4800 psi with 500 psi kickout test.
Event	10	Test Lines	Test Lines	5/6/2020	04:46:12	COM5	108.00	8.79	0.00	3.40	Pressure test iBOP to 1500 psi
Event	11	Pump Spacer 1	Pump Spacer 1	5/6/2020	04:48:01	COM5	70.00	8.81	0.00	3.70	120 bbl tuned prime 11.5 ppg 3.87 ft3/sk 24.42 gal/sk
Event	12	Shutdown	Shutdown	5/6/2020	05:04:47	COM5	136.00	11.42	1.10	127.80	Drop 2nd bottom plug
Event	13	Pump Cap Cement	Pump Cap Cement	5/6/2020	05:08:09	COM5	42.00	11.36	0.00	127.80	140 sks/41 bbl Cap cement 13.2 ppg 1.65 ft3/sk 8.4 gal/sk
Event	14	Pump Lead Cement	Pump Lead Cement	5/6/2020	05:12:58	COM5	630.00	12.98	9.00	0.10	494 sks/147 bbl Lead cement 13.2 ppg 1.67 ft3/sk 8.4 gal/sk
Event	15	Pump Tail Cement	Pump Tail Cement	5/6/2020	05:31:08	COM5	650.00	13.02	9.00	0.10	1166 sks/424 bbl NeoCem Tail 13.2 ppg 2.04 ft3/sk 9.79 gal/sk
Event	16	Shutdown	Shutdown	5/6/2020	06:22:10	COM5	203.00	13.20	0.00	441.70	Wash pumps and lines through rig CRT/Kelly hose with clean water. Charged lines with displacement fluid to make sure to cover the RSI.

Event	17	Drop Top Plug	Drop Top Plug	5/6/2020	06:35:34	COM5	31.00	7.86	0.00	464.70	Halliburton HWE top plug witnessed by company rep.
Event	18	Pump Displacement	Pump Displacement	5/6/2020	06:36:57	COM5	30.00	7.86	0.00	0.00	403 bbl of treated displacement fluid from upright on location. MMCR in the first 20 bbl. Switched to fresh water for last 50 bbl to clear surface lines.
Event	19	Bump Plug	Bump Plug	5/6/2020	07:23:24	COM5	2592.00	7.97	0.00	409.90	2200 psi final circulating pressure at 4 bpm. Pressured up to 2700 psi and held 5 minute casing test.
Event	20	End Job	End Job	5/6/2020	07:30:43	COM5	3.00	7.92	0.00	409.90	Checked floats, floats held. 5 bbl back to surface.
Event	21	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	5/6/2020	07:35:00	USER	3.00	7.89	0.00	409.90	Discussed possible hazards associated with weather, location and rigging down iron and hoses.
Event	22	Rig-Down Equipment	Rig-Down Equipment	5/6/2020	07:40:00	USER	1.00	-0.36	0.00	409.90	Supervisor rigged down rig floor, Operator washed up and racked back pump, crew rigged down bulk equipment, iron, and water hose in order to depart from location.
Event	23	Rig-Down Completed	Rig-Down Completed	5/6/2020	08:23:06	USER					All Halliburton items were secured for travel.
Event	24	Safety Meeting - Departing Location	Safety Meeting - Departing Location	5/6/2020	09:15:00	USER					Discussed routes hazards and communication with crew.

3.0 Attachments

3.1 Case 1-Custom Results (1).png



4.0 Custom Graphs

4.1 Custom Graph