

HALLIBURTON

Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 345242		Ship To #: 3746165		Quote #:		Sales Order #: 0903562808					
Customer: NOBLE ENERGY INC - EBUS				Customer Rep: John Drahole							
Well Name: ELLIE		Well #: LD26-625		API/UWI #: 05-123-43322-00							
Field: WILDCAT		City (SAP): RAYMER		County/Parish: WELD		State: COLORADO					
Legal Description: SE SE-28-9N-58W-1245FSL-330FEL											
Contractor: H & P DRLG				Rig/Platform Name/Num: H & P 517							
Job BOM: 7523											
Well Type: HORIZONTAL OIL											
Sales Person: HALAMERICA\HB61755				Srvc Supervisor: Brandon Parker							
Job											
Formation Name											
Formation Depth (MD)		Top			Bottom						
Form Type					BHST		230 degF				
Job depth MD		15969ft			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	1931	0	1931
Casing			5.5	4.778	20			0	15970	0	5750
Open Hole Section				8.5				1931	15970	1931	5750
Tools and Accessories											
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make		
Guide Shoe	5.5			15970		Top Plug	5.5	1			
Float Shoe	5.5					Bottom Plug	5.5	1			
Float Collar	5.5			15927		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 ft ³ /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
1	11.5 lb/gal Tuned Spacer III	Tuned Spacer III			40	bbl	11.5	3.78		4	
35.10 gal/bbl		FRESH WATER									
0.40 gal/bbl		DUAL SPACER SURFACTANT B, 5 GAL PAIL (100003665)									
147.42 lbm/bbl		BARITE, BULK (100003681)									
0.40 gal/bbl		MUSOL A, 330 GAL TOTE - (790828)									

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Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal	
2	11.5 lb/gal Tuned Spacer III	Tuned Spacer III	40	bbl	11.5	3.79		4		
35.90 gal/bbl		FRESH WATER								
147.42 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/mi n	Total Mix Fluid Gal	
3	Elasticem Lead w/o CBL	ELASTICEM (TM) SYSTEM	42	150sack	13.2	1.57		6	7.53	
7.53 Gal		FRESH WATER								
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal	
4	ElastiCem Lead W/ CBL	ELASTICEM (TM) SYSTEM	127	443sack	13.2	1.61		6	7.68	
7.68 Gal		FRESH WATER								
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal	
5	EconoCem Tail	ECONOCEM (TM) SYSTEM	429	sack	13.5	1.68		7	7.98	
7.98 Gal		FRESH WATER								
0.40 %		HR-5, 50 LB SK (100005050)								
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal	
6	Displacement	Displacement	352	bbl	8.33			10		
Cement Left in Pipe		Amount	43 ft		Reason			Shoe Joint		
Mix Water: pH ##7		Mix Water Chloride: ## ppm			Mix Water Temperature: ## °F °C					
Cement Temperature: ## °F °C		Plug Displaced by: ## lb/gal kg/m3 XXXX			Disp. Temperature: ## °F °C					
Plug Bumped? Yes		Bump Pressure: #### psi MPa			Floats Held? Yes					
Cement Returns: ## bbl m3		Returns Density: ## lb/gal kg/m3			Returns Temperature: ## °F °C					
Comment										

2.0 Real-Time Job Summary

2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Driv-Side Pump Pressure (psi)	Downhole Density (ppg)	Combined Pump Rate (bbl/min)	Comments
Event	1	Call Out	Call Out	9/28/2016	01:00:00	USER				crew called out to 5.5" production for Noble
Event	2	Depart from Service Center or Other Site	Depart from Service Center or Other Site	9/28/2016	02:00:00	USER				
Event	3	Arrive at Location from Service Center	Arrive at Location from Service Center	9/28/2016	06:30:00	USER				met with Noble company rep and went over job numbers
Event	4	Assessment Of Location Safety Meeting	Assessment Of Location Safety Meeting	9/28/2016	06:31:00	USER				water temp 68, ph 7 sul <200, chlo 0. td 15980, tp 15970, sj 43, fc 15927, sp 1931, ko5243, land 6115, wf 9.7, 5.5" casing 20#
Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	9/28/2016	06:45:00	USER				meeting with all personnel to discuss safety and hazards associated with rigging up equipment
Event	6	Rig-Up Equipment	Rig-Up Equipment	9/28/2016	07:00:00	USER				
Event	7	Casing on Bottom	Casing on Bottom	9/28/2016	07:30:00	USER				rig started circulating
Event	8	Post-Job Safety Meeting (Pre Rig-Down)	Post-Job Safety Meeting (Pre Rig-Down)	9/28/2016	09:00:00	USER	-1.00	8.32	0.00	meeting with all personnel on location to discuss safety issues/hazards associated with job in hand, also covered job procedures
Event	9	Start Job	Start Job	9/28/2016	09:28:00	COM7	-10.00	8.35	0.00	
Event	10	Drop Bottom Plug	Drop Bottom Plug	9/28/2016	09:28:33	USER	-10.00	8.34	0.00	loaded bottom orange plug, Noble company rep loaded plug, witnessed by driller, company rep and HES supervisor
Event	11	Prime Pumps	Fill Lines FW	9/28/2016	09:29:46	USER	0.00	8.34	0.80	prime pumps
Event	12	Test Lines	Test Lines	9/28/2016	09:32:47	USER	726.00	8.35	0.00	test kick-outs, 5th gear stall out, test high pressure to 4240, pressure held great
Event	13	Test Lines	Test IBop	9/28/2016	09:40:20	USER	1525.00	8.29	1.40	test bop to 3143 pressure held great
Event	14	Pump Spacer	Pump Spacer	9/28/2016	09:44:44	USER	10.00	8.34	1.90	pumped a total of 80BBL's of tuned spacer at 11.5ppg., the first 40 bbl of tuned spacer had 16 gallons of musol, 16 gallons of dual b and d-air. dry samples left on location,

weight confirmed by HES supervisor. calculated 12.5bbbls of tuned to surface on a true hole. pumped at 4bpm and average psi was 170psi

pumped a total of 169bbbls of lead cmt at 13.2 ppg, 42bbbls with-out cbl and 127bbbls with cbl. pumped at 6.5bpm and average pressure was 420psi. wet and dry samples left on location, weight confirmed using high pressure mud scales. weight was confirmed by noble company rep. calculated tot at 1409ft

weight confirmed by HES supervisor

pumped 429bbbls of tail cmt at 13.5 ppg, 1.68 yield, 1436 sks, pumped at 6.6bpm and average pressure was 750psi. wet and dry samples left on location. weight confirmed using high pressure mud scales, weight confirmed by noble company rep. calculated tot at 5461ft.

weight confirmed by noble company rep

blew lines down to holding tank, clan elite pump to holding tank

plug loaded by noble company rep, witnessed by driller and HES supervisor

HES calculated 352bbbls of total displacement, pumped at 10bpm per company man request

slow rate to 3BPM to land plug , psi at 10bpm was 2422 and at 3bpm psi was 1550

took back 8bbbls of tuned spacer to surface

floats held 3.5bbbl's back to the pumping unit

meeting with all personnel to discuss safety/hazards associated with rigging down

Event	15	Pump Lead Cement	Pump Lead Cement	9/28/2016	10:05:00	USER	180.00	12.90	4.00	weight confirmed by HES supervisor. calculated 12.5bbbls of tuned to surface on a true hole. pumped at 4bpm and average psi was 170psi
Event	16	Check Weight	Check weight	9/28/2016	10:06:58	COM7	211.00	13.40	4.00	weight confirmed by HES supervisor
Event	17	Pump Tail Cement	Pump Tail Cement	9/28/2016	10:33:33	USER	526.00	13.24	6.60	pumped 429bbbls of tail cmt at 13.5 ppg, 1.68 yield, 1436 sks, pumped at 6.6bpm and average pressure was 750psi. wet and dry samples left on location. weight confirmed using high pressure mud scales, weight confirmed by noble company rep. calculated tot at 5461ft.
Event	18	Check Weight	Check weight	9/28/2016	10:38:38	COM7	488.00	13.31	6.00	weight confirmed by noble company rep
Event	19	Shutdown	Shutdown	9/28/2016	11:34:07	USER	29.00	12.30	0.00	
Event	20	Clean Lines	Clean Lines	9/28/2016	11:41:54	USER	37.00	12.36	0.00	blew lines down to holding tank, clan elite pump to holding tank
Event	21	Drop Plug	Drop Plug	9/28/2016	11:50:18	USER	-12.00	8.00	0.00	plug loaded by noble company rep, witnessed by driller and HES supervisor
Event	22	Pump Displacement	Pump FW Displacement MMCR	9/28/2016	11:51:54	USER	158.00	8.30	8.00	HES calculated 352bbbls of total displacement, pumped at 10bpm per company man request
Event	23	Slow Rate	Slow Rate	9/28/2016	12:26:12	USER	1565.00	8.38	3.00	slow rate to 3BPM to land plug , psi at 10bpm was 2422 and at 3bpm psi was 1550
Event	24	Returns To Surface	Returns to Surface	9/28/2016	12:29:00	USER	1627.00	8.38	3.00	took back 8bbbls of tuned spacer to surface
Event	25	Bump Plug	Bump Plug	9/28/2016	12:33:00	USER	2131.00	8.41	0.00	
Event	26	Check Floats	Check Floats	9/28/2016	12:39:31	USER	-3.00	8.35	0.00	floats held 3.5bbbl's back to the pumping unit
Event	27	End Job	End Job	9/28/2016	12:42:20	COM7				
Event	28	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	9/28/2016	12:45:00	USER	-14.00	8.39	0.00	meeting with all personnel to discuss safety/hazards associated with rigging down

Event	29	Rig-Down Equipment	Rig-Down Equipment	9/28/2016	12:50:00	USER	153.00	8.41	9.30	
Event	30	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	9/28/2016	13:50:00	USER				meeting with all personnel to discuss safety/hazards associated with traveling
Event	31	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	9/28/2016	14:00:00	USER				
Event	32	Other	Other	9/28/2016	14:01:00	USER				Thank You for Choosing Halliburton Cement. Parker and Crew (713)703-3283