

HALLIBURTON

Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 345242	Ship To #: 3754883	Quote #:	Sales Order #: 0903637124							
Customer: NOBLE ENERGY INC - EBUS		Customer Rep: JW Irwin								
Well Name: RILEY	Well #: LD19-745	API/UWI #: 05-123-43518-00								
Field: WILDCAT	City (SAP): RAYMER	County/Parish: WELD	State: COLORADO							
Legal Description: SW SE-19-9N-58W-380FSL-1570FEL										
Contractor: H & P DRLG		Rig/Platform Name/Num: H & P 524								
Job BOM: 7523										
Well Type: DIRECTIONAL OIL										
Sales Person: HALAMERICA/HB61755		Srv Supervisor: Bradley Hinkle								
Job										
Formation Name										
Formation Depth (MD)	Top	Bottom								
Form Type		BHST	230 degF							
Job depth MD	10832.03ft	Job Depth TVD	5900ft							
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	1918	0	0
Casing		5.5	4.778	20			0	10832.03	0	0
Open Hole Section			8.5				1918	10872	0	0
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	1	HES	10832.03	Bottom Plug	5.5	2	HES		
Float Collar	5.5	1	HES	10784.61	SSR plug set	5.5		HFS		
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	Spacer 1	Tuned Spacer III	40	bbl	11.5	3.78		5		

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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	Spacer 2	Tuned Spacer III	40	bbl	11.5	3.79		6	
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 Lead w/o CBL	ELASTICEM (TM) SYSTEM	150	sack	13.2	1.57		6	7.54
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/min	Total Mix Fluid Gal
4	ElastiCem Lead W/ CBL	ELASTICEM (TM) SYSTEM	490	sack	13.2	1.6	7.69	8	
7.69 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	EconoCem Tail	ECONOCEM (TM) SYSTEM	675	sack	13.5	1.68	7.99	8	
7.99 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
6	Displacement	Fresh Water	240	bbl	8.33			10	
Cement Left In Pipe		Amount	47.42 ft		Reason			Shoe Joint	
Mix Water: pH ##		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/No		Bump Pressure: #### psi MPa			Floats Held? Yes/No				
Cement Returns: ## bbl m3		Returns Density: ## lb/gal kg/m3			Returns Temperature: ## °F °C				
Comment 2 bbls of Tuned Spacer back to surface. Top of tail cement at 6014 feet. Top of lead cement at 1628 feet.									

iCem® Service

(v. 4.3.44)

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	11/3/2016	14:00:00	USER	Crew called for an on location of 2000. Crew was Bradley Hinkle, Luke Kosakewich, William Mix and Roger Contin.
Event	2	Depart Shop for Location	Depart Shop for Location	11/3/2016	17:00:00	USER	Pre-journey safety meeting.
Event	3	Arrive at Location from Service Center	Arrive at Location from Service Center	11/4/2016	19:45:00	USER	Sign in and check-in with safety personnel. Perform a site assessment and pre rig-up safety meeting. Approximately 1500 feet of casing to run.
Event	4	Other	Check-in With Customer	11/4/2016	19:50:00	USER	Check in and get numbers. TD: 10872. TP: 10832.03. FC: 10784.61; 5.5" Casing in a 8.5" OH. 20% excess on lead and 5% excess on tail. Surface casing set at 1918; 9.625" 36#.
Event	5	Safety Meeting	Safety Meeting	11/4/2016	22:30:00	USER	Pre-job safety meeting with all personnel on location.
Event	6	Start Job	Start Job	11/4/2016	22:45:29	COM5	
Event	7	Test Lines	Test Lines	11/4/2016	22:49:29	COM5	Pressure test lines to manual valve in CRT with at 500 PSI EKO test.
Event	8	Drop Bottom Plug	Drop Bottom Plug	11/4/2016	23:00:00	USER	Bottom plug dropped directly into casing.
Event	9	Pump Spacer 1	Pump Spacer 1	11/4/2016	23:02:10	COM5	Pump 40 bbls Tuned Spacer with surfactants added mixed at 11.5 ppg. Density verified with pressurized scales.
Event	10	Pump Spacer 2	Pump Spacer 2	11/4/2016	23:11:55	COM5	Pump 40 bbls Tuned Spacer mixed at 11.5 ppg. Density verified by pressurized scales.
Event	11	Drop Bottom Plug	Drop Bottom Plug	11/4/2016	23:21:54	COM5	Bottom plug dropped directly into casing.
Event	12	Pump Lead Cement	Pump Lead Cement	11/4/2016	23:23:45	COM5	Pump 42 bbls (150 sacks) ElastiCem without Super CBL mixed at 13.2 ppg. Density verified by pressurized scales.
Event	13	Pump Lead Cement	Pump Lead Cement	11/4/2016	23:31:27	COM5	Pump 139 bbls (490 sacks) ElastiCem with Super CBL mixed at 13.2 ppg. Density verified by pressurized scales.
Event	14	Check Weight	Check weight	11/4/2016	23:35:29	COM5	Cement weighed at 13.5 ppg.
Event	15	Check Weight	Check weight	11/4/2016	23:38:53	COM5	Cement weighed at 13.55 ppg.
Event	16	Check Weight	Check weight	11/4/2016	00:12:22	COM5	Cement weighed at 13.6 ppg.

Event	17	Shutdown	Shutdown	11/4/2016	00:19:02	COM5	
Event	18	Clean Lines	Clean Lines	11/4/2016	00:21:34	COM5	Rig blew down lines. Then HES washed pumps and lines until clean.
Event	19	Drop Top Plug	Drop Top Plug	11/4/2016	00:33:36	COM5	Top plug loaded directly into casing.
Event	20	Pump Displacement	Pump Displacement	11/4/2016	00:34:06	COM5	Pump 240 bbls fresh water. MMCR added in first 20 bbls. Good returns throughout.
Event	21	Bump Plug	Bump Plug	11/4/2016	00:58:45	USER	Bump plug at 2410 PSI and truck kicked out. Pressured back up onto plug and kicked out at 3280 PSI. Held for 5 minutes.
Event	22	Check Floats	Check Floats	11/4/2016	01:07:56	USER	Floats held. 4 bbls back.
Event	23	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	11/4/2016	01:15:00	USER	Pre rig-down safety meeting.
Event	24	End Job	End Job	11/4/2016	01:29:33	COM5	
Event	25	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	11/4/2016	03:00:00	USER	Pre-journey safety meeting.