

Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 300466		Ship To #: 3973841		Quote #: 0022638675		Sales Order #: 0906039531				
Customer: ANADARKO PETROLEUM CORP-EBUS				Customer Rep: Josh Sheppard						
Well Name: FARLEY			Well #: 23-5HZ			API/UWI #: 05-123-50193-00				
Field: WATTENBERG		City (SAP): PLATTEVILLE		County/Parish: WELD		State: COLORADO				
Legal Description: SW SW-23-3N-66W-686FSL-492FWL										
Contractor: AKITA DRLG				Rig/Platform Name/Num: AKITA 522						
Job BOM: 7523 7523										
Well Type: HORIZONTAL GAS										
Sales Person: HALAMERICA\HX41066				Srvc Supervisor: Michael Loughran						
Job										
Formation Name										
Formation Depth (MD)		Top				Bottom				
Form Type						BHST				
Job depth MD		13030.85ft				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		J-55	0	1899	0	1899
Casing		5.5	4.892	17	LTC	HCP110	0	13030.85	0	7278
Open Hole Section			7.875				1899	13041	1899	7278
Tools and Accessories										
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make	
Guide Shoe	5.5					Top Plug	5.5	1	3rd	
Float Shoe	5.5			13022.57		Bottom Plug	5.5	1	3rd	
Float Collar	5.5					SSR plug set	5.5		HES	
Insert Float	5.5					Plug Container	5.5	1	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 ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
1	Tuned Prime	TUNED PRIME CEMENT SPACER SYS	60	bbl	10.5	6.17		6	
	1 lbm/bbl	FE-2, 2000 LB BAG - (1005549)							
	90.94 lbm/bbl	BARITE, BULK (100003681)							
	0.75 gal/bbl	MUSOL(R) A, 5 GAL PAIL (100064220)							
	0.25 gal/bbl	D-AIR 3000L, 5 GAL PAIL (101007444)							
	0.75 gal/bbl	DUAL SPACER SURFACTANT B, 5 GAL PAIL (100003665)							
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	Tuned Prime (No Surfactants)	TUNED PRIME CEMENT SPACER SYS	55	bbl	10.5	6.19		6	
	1 lbm/bbl	FE-2, 2000 LB BAG - (1005549)							
	90.63 lbm/bbl	BARITE, BULK (100003681)							
	0.25 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
3	Gasstop B1	GASSTOP (TM) SYSTEM	640	sack	13.2	1.56		8	7.61
	0.45 %	SCR-100, 2000 LB BAG - (1005967)							
	5.23 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	EconoCem	ECONOCER (TM) SYSTEM	550	sack	13.5	1.69		8	8.07
	0.10 %	SA-1015, 50 LB SACK (102077046)							
	7.99 Gal	FRESH WATER							
	0.42 %	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/min	Total Mix Fluid Gal
5	Biocide Water and MMCR	Biocide Water and MMCR	20	bbl	8.34			8	
	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	Biocide Water	Biocide Water	282	bbl	8.34			8	

Cementing Job Summary

Cement Left In Pipe	Amount	0 ft	Reason		Wet Shoe Joint
Mix Water:	pH 7	Mix Water Chloride:	Less 200 ppm	Mix Water Temperature:	58 °F
Cement Temperature:		Plug Displaced by:	8.33 lb/gal	Disp. Temperature:	
Plug Bumped?	Yes	Bump Pressure:	2650 psi	Floats Held?	Yes
Cement Returns:		Returns Density:		Returns Temperature:	
Comment Good returns throughout job, Plug bumped, final circ psi 2080 @ 2 bpm, 15 min casing test 3000 psi, 3 bbl wet shoe, Approx 23 bbl spacer/Obm interface to surface. Calculated top of Lead 1925', Top tail 7679' calculations with no excess					

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	10/16/2019	14:30:00	USER	Crew called out for on location time of 1630 hrs. 10/16/2019
Event	2	Crew Leave Yard	Crew Leave Yard	10/16/2019	17:30:00	USER	Crew Leaves Yard
Event	3	Arrive At Loc	Arrive At Loc	10/16/2019	18:20:00	USER	Arrive at location, Rig running casing, Meet with customer, TP 13031.85 17# HCP-110, TD 13041, 7.825 Hole, WSS 13022.57, TVD 7278, PC 1899' 9.625 J-55 36#, WF 9.3 OBM, Top and Bottom plug provided by customer, Water 58 Deg., PH 7, Chlorides and sulfates less than 200 ppm
Event	4	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	10/16/2019	18:30:00	USER	Pre rig up safety meeting
Event	5	Rig-Up Equipment	Rig-Up Equipment	10/16/2019	18:40:00	USER	Rig up all service lines and iron to buffer zone
Event	6	Pre-Job Safety Meeting	Pre-Job Safety Meeting	10/16/2019	22:00:00	USER	Discuss job procedures, Discuss job hazards and hazards of Halliburton Equipment.
Event	7	Start Job	Start Job	10/16/2019	23:35:54	COM4	Begin recording data
Event	8	Test Lines	Test Lines	10/16/2019	23:39:04	COM4	Test lines to 6500 psi

Event	9	Pump Spacer 1	Pump Spacer 1	10/16/2019	23:46:32	COM4	60 bbl. Tuned Prime w/surfactants. 10.5ppg, 6.17 yield, 39.6 gal/sack, 45 gal Musol, 45 gal Dual spacer B, D-Air
Event	10	Pump Spacer 2	Pump Spacer 2	10/16/2019	23:56:39	COM4	55 bbl. Tuned Prime spacer / no surfactants. 10.5 ppg, 6.19 yield, 41.4 gal/sack
Event	11	Drop Bottom Plug	Drop Bottom Plug	10/17/2019	00:06:30	COM4	Drop bottom plug
Event	12	Pump Lead Cement	Pump Lead Cement	10/17/2019	00:08:37	COM4	640 sacks GasStop lead, 177.82 bbl., 13.2 ppg, 1.56 yield, 7.61 gal/sack, 1600 gallon Latex
Event	13	Pump Tail Cement	Pump Tail Cement	10/17/2019	00:32:59	COM4	550 sacks EconoCem Tail, 165.54 bbl., 13.5 ppg, 1.69 yield, 8.07 gal/sack
Event	14	Shutdown	Shutdown	10/17/2019	00:57:17	COM4	Shutdown to wash pumps and Lines
Event	15	Drop Top Plug	Drop Top Plug	10/17/2019	01:07:20	COM4	Drop top plug
Event	16	Pump Displacement	Pump Displacement	10/17/2019	01:08:01	COM4	302 bbl. fresh water displacement. 1st 20 bbl. add 10 gal Micro Matrix retarder and Biocide throughout
Event	17	Bump Plug	Bump Plug	10/17/2019	01:55:52	COM4	500 psi over fcp of 2080 psi @ 2 bbl./min. Bump pressure 2650 psi. Hold pressure 15 minutes. See approx. 23 bbl. spacer/obm interface to surface. Estimated top lead cement 1925', estimated top tail cement 7679', (Calculations with no excess)

Event	18	Pressure Up Well	Pressure Up Well	10/17/2019	02:21:20	COM4	4680 psi Wet shoe sleeve shifts, Pump 3 bbl. wet shoe
Event	19	Other	Other	10/17/2019	02:24:38	COM4	Check floats, Floats hold, 2 bbl. back
Event	20	End Job	End Job	10/17/2019	02:26:04	COM4	Stop recording data
Event	21	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	10/17/2019	02:29:03	USER	JSA safe Rig-Down
Event	22	Rig-Down Equipment	Rig-Down Equipment	10/17/2019	02:35:43	USER	Rig down equipment
Event	23	Crew Leave Location	Crew Leave Location	10/17/2019	04:00:00	USER	Thanks for choosing Halliburton Energy Services!

3.0 Attachments

3.1 Job Chart



