

Cementing Job Summary

The Road to Excellence Starts with Safely

Sold To 300466		Ship To 3847979		Quote 0022448344		ales Order 0904891376				
Customer: ANADARKO PETROLEUM CORP-EBUS				Customer Rep: Josh Johnson/ Luke Rains						
Well Name: AZUL			139.3HZ			PI/UWI 05-123-46099-00				
Field: WATTENBERG		City (SAP): HUDSON		County/Parish: WELD		tate: COLORADO				
Legal Description: SE SW-13-1 N-66W-687FSL-2326FWL										
Contractor: PRECISION DRLG				Rig/Platform Name/Num: PRECISION 464						
Job BOM: 7523 7523										
ell Type: HORIZONTAL GAS										
ales Person: HALAMERICA\HX41066				rvc Supervisor: Kamereon White						
Job										
Formation Name										
Formation Depth (MD)		op		Bottom						
Form Type				Bi-IST						
Ob depth MD		12690 ft		Ob Depth TVD		7558				
ater Depth				k Ht Above Floor		7'				
Perforation Depth (MD)		From		O						
Well Data										
Description	New I 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	o	1850	o	1850
Casin		5.5	4.892	17	LTC	HCPIIO	o	12679	o	7558
O en Hole Section			7.875				1850	12690	1850	7558
Tools and Accessories										
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make	
	5.5	1	HES	12,679'		o Plu	5.5 5.5	1	HES HES	
Float Shoe Float Collar	5.5	1	HES	12,667'		Bottom Plu				
						Plu Container	5.5		HES	

Fluid Data									
Stage/Plug #:									
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield 31sack	Mix Fluid Gal	Rate bbl/rmin	Total Mix Fluid Gal
1	Tuned Spacer	Tuned Spacer III	60	bbl	10.5	6.96	44.4	5	
0.70 gal/bbl		MUSOL(R) A, 5 GAL PAIL (100064220)							
37.58 gal/bbl		FRESH WATER							
0.70 gal/bbl		DUAL SPACER SURFACTANT B, 5 GAL PAIL (100003665)							
0.50 gal/bbl		D-AIR 3000L, 5 GAL PAIL (101007444)							
79.92 lbm/bbl		BARITE, BULK (100003681)							

HALLIBURTON

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Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield 31sack	Mix Fluid Gal	Rate bbl/rmin	Total Mix Fluid Gal
2	Gasstop Bl	GASSTOP (TM) SYSTEM	400	sack	13.2	1.6			7.6
0.10 0/0		(100001615)							
0.45 0/0		SCR-100 (100003749)							
5.09 Gal		FRESH WATER							
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield 31sack	Mix Fluid Gal	Rate bbl/rmin	Total Mix Fluid Gal
3	EconoCem	ECONOCEM (TM) SYSTEM	720	sack	13.5	1.68			7.99
0.20 0/0		SA-1015, 50 LB SACK (102077046)							
7.99 Gal		FRESH WATER							
0.35 0/0		HR-5, 50 LB SK (100005050)							
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield 31sack	Mix Fluid Gal	Rate bbl/rmin	Total Mix Fluid Gal
4	Biocide Water and	Biocide Water and MMCR	40	bbl	8.33			8.5	

iCem® Service

(v. 4.5.139)

	MMCR								
0.50 gal/bbl		MICRO MATRIX CEMENT RETARDER, 5 GAL PAIL (100003781)							

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	6/1/2018	10:00:00	USER	Crew Was Called Out
Event	2	Depart from Service Center or Other Site	Depart from Service Center or Other Site	6/1/2018	13:15:00	USER	Crew did a pre journey safety meeting and discussed the the route of travel and supervisor called in a journey management.
Event	3	Arrive at Location from Service Center	Arrive at Location from Service Center	6/1/2018	13:25:00	USER	Crew arrived on location early and the crew and supervisor discussed the rig up procedures.
Event	4	Assessment Of Location Safety Meeting	Assessment Of Location Safety Meeting	6/1/2018	13:30:00	USER	Crew helped put down the containment and spotted trucks in.
Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	6/1/2018	13:35:00	USER	Reviewed rig up procedure and signed the handwritten JSA.
Event	6	Other	Rig Up Equipment	6/1/2018	13:40:00	USER	Rigged up all HES and equipment And Lines
Event	7	Other	On Location	6/1/2018	14:00:00	USER	Crew was requested by the customer to be on location at this time.
Event	8	Other	Start Mixing Up Latex	6/1/2018	15:25:00	USER	Sent 35 bbls of fresh water to the upright tank , then added 1000 gal of latex and 75 gal D air Liquid and started to roll the tank before the job began.
Event	9	Other	Rig Up Completed	6/1/2018	17:00:00	USER	All HES equipment and lines rigged up safely.
Event	10	Safety Meeting - Pre Job	Safety Meeting - Pre Job	6/1/2018	17:20:00	USER	Discussed the job procedure and pressure's for the cement job, with the rig crew, Co.Man , and HES Personell
Event	11	Start Job	Start Job	6/1/2018	17:34:00	COM5	Start Job
Event	12	Other	Fill Lines	6/1/2018	17:35:00	USER	Fill Lines with 3 bbls of fresh water 3bpm 300 psi
Event	13	Test Lines	Test Lines	6/1/2018	17:48:48	COM5	Tested lines to 500 psi for a low psi test and

							performed a high pressure test to 6500 psi and held for 2 min no leaks.
Event	14	Pump Spacer 1	Pump Spacer 1	6/1/2018	17:54:50	COM5	Pumped 60 bbls of tuned spacer III @ 10.5 ppg 6.96. Yield, 44.4 Gal/sk (48.4 sks) 5 bpm 550 psi.
Event	15	Drop Plug	Drop Plug	6/1/2018	17:55:00	USER	Dropped the plug on the fly as per co.man
Event	16	Pump Lead Cement	Pump Lead Cement	6/1/2018	18:08:12	COM5	Pumped 114 bbls of lead cement with Latex added throughout our mix water , 13.2ppg, 1.6 yield, 7.6 gal/sk (400 sks) 8 bpm 780 psi ,
Event	17	Check Weight	Check Weight	6/1/2018	18:19:20	COM5	checked the weight of the lead cement with pressurized mud scales scaled @ 13.2 ppg
Event	18	Pump Tail Cement	Pump Tail Cement	6/1/2018	18:24:02	COM5	Pumped 215 bbls of tail cement @ 13.5 ppg 1.68 yield 7.99 gal/sk (720 sks) 8 bpm 750 psi
Event	19	Check Weight	Check Weight	6/1/2018	18:25:40	COM5	checked the weight of the Tail cement with pressurized mud scales scaled @ 13.5 ppg.
Event	20	Check Weight	Check Weight	6/1/2018	18:48:46	COM5	checked the weight of the Tail cement with pressurized mud scales scaled @ 13.5 ppg
Event	21	Shutdown	Shutdown	6/1/2018	18:53:44	COM5	Shutdown to swap over, to wash pumps and lines to the half rack tank and to blow down the iron from the rig floor to the wash up tank to get all the cement out of the lines going to the rig floor.
Event	22	Pump Displacement	Pump Displacement	6/1/2018	19:05:00	COM5	Pumped 294 bbls of fresh water with the first 40 bbls of MMCR and Biocide added ,then biocide for the remainder, and left the last 100 bbls just fresh water that way when we broke our lines loose there was no chemicals on the ground.
Event	23	Drop Plug	Drop Plug	6/1/2018	19:06:12	COM5	Dropped the plug Co.man witnessed
Event	24	Displ Reached Cement	Displ Reached Cement	6/1/2018	19:11:45	COM5	37 bbls into displ we caught the plug maintained 8.5 bpm since the water tanks were far away and was maintaining

							displacement to keep up.
Event	25	Bump Plug	Bump Plug	6/1/2018	19:49:00	COM5	Bumped the plug on calculated displ. Final circulating psi was 3200 psi and took 500 psi over to 3700 psi and shutdown the pumps.
Event	26	Test Lines	Test Lines	6/1/2018	19:51:05	COM5	Held the final circulating psi on the lines to do a casing test for 15 min as per customers request , by the time 15 min was up it had gained psi to 3980 psi .
Event	27	Other	Psi Up To Rupture Disk	6/1/2018	20:03:08	COM5	After 15 min casing test we psi right up on it to rupture the dis, the disk ruptured @ 5400 psi , then was asked to pump a 3 bbl wet shoe as per customer's request .
Event	28	Shutdown	Shutdown	6/1/2018	20:04:41	COM5	shutdown after we pumped our 3 bbls wet shoe
Event	29	Check Floats	Check Floats	6/1/2018	20:04:48	COM5	waited 1 min and checked the floats , the floats held ,got 2 bbls back .
Event	30	End Job	End Job	6/1/2018	20:05:00	USER	Job Complete
Event	31	Safety Meeting - Pre Rig-Down	Safety Meeting - Pre Rig-Down	6/1/2018	20:06:00	USER	discussed rig down procedures and safety.
Event	32	Rig Down Lines	Rig Down Lines	6/1/2018	20:10:00	USER	Rigged down all HES equipment and lines.
Event	33	Rig-Down Completed	Rig-Down Completed	6/1/2018	21:15:00	USER	All HES equipment and lines rigged down safely.
Event	34	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	6/1/2018	21:30:00	USER	Kamereon White and crew would like to thank you for your business and choosing Halliburton cement , Please give us a call if you have any questions.

3.0 Attachments

3.1 Job Chart

