

*The Road to Excellence Starts with Safety*

Sold To #: 300466	Ship To #: 3848087	Quote #: 0022433484	Sales Order #: 0904800595
Customer: ANADARKO PETROLEUM CORP-EBUS		Customer Rep: Anadarko Rep.	
Well Name: AZUL		Well #: 13-34HZ	API/UWI #: 05-123-46113-00
Field: WATTENBERG	City (SAP): HUDSON	County/Parish: WELD	State: COLORADO
Legal Description: SE SW-13-1N-66W-685FSL-2446FWL			
Contractor: PRECISION DRLG		Rig/Platform Name/Num: PRECISION 464	
Job BOM: 7523 7523			
Well Type: HORIZONTAL GAS			
Sales Person: HALAMERICA\HX41066		Srvc Supervisor: Ryan Stevens	

**Job**

Formation Name			
Formation Depth (MD)	Top		Bottom
Form Type	BHST		
Job depth MD	12803ft	Job Depth TVD	7,420
Water Depth		Wk Ht Above Floor	5'
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	1883	0	1883
Casing	New	5.5	4.892	17	LTC	HCP110	0	12803	0	0
Open Hole Section			7.875				1883	12815	1883	7420

**Tools and Accessories**

Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make
Guide Shoe	5.5				Top Plug	5.5	1	Weath
Float Shoe	5.5	1	Weath	12803	Bottom Plug	5.5	1	Weath
Float Collar	5.5	1	Weath	12802	SSR plug set	5.5		
Insert Float	5.5				Plug Container	5.5	1	HES
Stage Tool	5.5				Centralizers	5.5		

**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 Spacer III	Tuned Spacer III	60	bbl	10.5	6.43	41.3	4	2,142	
37.58 gal/bbl		<b>FRESH WATER</b>								
0.70 gal/bbl		<b>DUAL SPACER SURFACTANT B, 5 GAL PAIL (100003665)</b>								
0.70 gal/bbl		<b>MUSOL A, 330 GAL TOTE - (790828)</b>								

86.45 lbm/bbl		<b>BARITE, BULK (100003681)</b>							
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	Gasstop B1	GASSTOP (TM) SYSTEM	400	sack	13.2	1.59	5.09	6	2,036
0.10 %		<b>FE-2 (100001615)</b>							
0.40 %		<b>SCR-100 (100003749)</b>							
5.09 Gal		<b>FRESH WATER</b>							
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	EconoCem	ECONOCEM (TM) SYSTEM	740	sack	13.5	1.68	7.99	6	5,912
0.20 %		<b>SA-1015, 50 LB SACK (102077046)</b>							
7.99 Gal		<b>FRESH WATER</b>							
0.35 %		<b>HR-5, 50 LB SK (100005050)</b>							
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	Biocide Water and MMCR	Biocide Water and MMCR	20	bbl	8.34			8	
0.50 gal/bbl		<b>MICRO MATRIX CEMENT RETARDER, 5 GAL PAIL (100003781)</b>							
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	Biocide Water	277	bbl	8.34			8	
Cement Left In Pipe		Amount	0			Reason		<b>WET SHOE</b>	
Mix Water:		pH 7	Mix Water Chloride: 0 ppm			Mix Water Temperature:		68 °F	
Cement Temperature:			Plug Displaced by: 8.33 lb/gal			Disp. Temperature:		68	
Plug Bumped?		Yes	Bump Pressure: 2607 psi			Floats Held?		Yes	
Cement Returns:		0 bbL	Returns Density:			Returns Temperature:			
<b>Comment</b> TOP OF LEAD CALCULATED @ 1,841'									
TOP OF TAIL CALCULATED @ 5,628'									
TOP OF SPACER @ 632'									

## 2.0 Real-Time Job Summary

### 2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Comments
Event	1	Crew Leave Location	Crew Leave Location	4/22/2018	05:00:00	USER	THANKS RYAN STEVENS AND CREW
Event	2	Call Out	Call Out	4/22/2018	18:00:00	USER	CREW CALLED OUT AT 18:00, REQUESTED ON LOCATION ASAP. CREW PICKED UP CEMENT, CHEMICALS, AND PLUG CONTAINER FROM FT. LUPTON, CO., AND PUMP 11512092.
Event	3	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	4/22/2018	21:00:00	USER	CREW DISCUSSED ROUTES, HAZARDS, AND COMMUNICATION WITH CREW
Event	4	Crew Leave Yard	Crew Leave Yard	4/22/2018	21:15:00	USER	START JOURNEY MANAGMENT
Event	5	Arrive At Loc	Arrive At Loc	4/22/2018	21:30:00	USER	END JOURNEY MANAGEMENT. MEET WITH CO. MAN TO DISCUSS JOB; SURFACE CASING- 9.625" 36 LB/FT @ 1883', 5.5" CASING: 17 LB/FT TOTAL 12,803', 7 7/8 @ 12,815" TO TD, 1 SHOE TRAC, TVD- 7,420'. PUMP FRESH WATER DISPLACEMENT WITH MMCR, AND BIOCID
Event	6	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	4/22/2018	21:40:00	USER	HAZARD HUNT. DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH LOCATION, RIG UP, AND WEATHER.
Event	7	Rig-Up Equipment	Rig-Up Equipment	4/22/2018	21:45:00	USER	CREW STAGED EQUIPMENT AND RIGGED UP BULK, IRON AND WATER HOSES TO PERFORM JOB.
Event	8	Pre-Job Safety Meeting	Pre-Job Safety Meeting	4/22/2018	23:17:40	USER	SAFETY MEETING WITH HALLIBURTON, AND RIG PERSONNEL. CREW COMMUNICATED POTENTIAL SAFETY HAZARDS, AND JOB DETAILS.
Event	9	Start Job	Start Job	4/23/2018	00:19:41	COM4	START RECORDING JOB DATA

Event	10	Test Lines	Test Lines	4/23/2018	00:26:18	COM4	PRESSURE TEST LINES TO 6,303. SET KICK OUT @ 500 KICKED OUT @ 1302 5TH GEAR STALL @ 2305
Event	11	Pump Spacer 1	Pump Spacer 1	4/23/2018	00:32:36	COM4	PUMP 60 BBLS OF TUNED SPACER @ 10.5 PPG DENSITY VERIFIED BY PRESSURE SIZED MUD SCALES
Event	12	Pump Lead Cement	Pump Lead Cement	4/23/2018	00:51:53	COM4	PUMPED 400 SKS OF GASSTOP CEMENT @ 13.2 LB/GAL, 1.59 FT3/SK, 5.09 GAL/SK. 113 BBLS, TOT CALCULATED @ 1,841. DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
Event	13	Pump Tail Cement	Pump Tail Cement	4/23/2018	01:09:42	COM4	PUMP 740 SKS OF ECONOCEM @ 13.5 LB/GAL, 1.68 FT3/SK, 7.99 GAL/SK, 221.4 BBLS, TOT CALCULATED @ 5,628'. DENSITY VERIFIED BY PRESSURE SIZED MUD SCALES.
Event	14	Shutdown	Shutdown	4/23/2018	01:46:09	COM4	SHUT DOWN TO WASH PUMPS AND LINES
Event	15	Drop Top Plug	Drop Top Plug	4/23/2018	01:56:39	COM4	VERIFIED BY COMPANY REP
Event	16	Pump Displacement	Pump Displacement	4/23/2018	01:58:19	COM4	PUMP CALCULATED DISPLACEMENT OF 297 BBLS FIRST 20 BBLS WITH MMCR AND BIOCIDES THROUGH OUT THE REST.
Event	17	Bump Plug	Bump Plug	4/23/2018	02:44:31	COM4	BUMP PLUG @ CALCULATED DISPLACEMENT OF 297 BBLS. NO CEMENT TO SURFACE. FINAL CIRCULATING PRESSURE WAS 2657. BUMP PRESSURE IS 3167. HOLD FOR 15 MINS FOR A CASING TEST.
Event	18	Check Floats	Check Floats	4/23/2018	02:58:00	USER	CHECK FLOATS 2 BBLS BACK
Event	19	Open Valve Downhole	Open Valve Downhole	4/23/2018	03:00:00	USER	BURST PLUG PUMP 3 BBLS WET SHOE.
Event	20	End Job	End Job	4/23/2018	03:03:19	COM4	STOP RECORDING JOB DATA
Event	21	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	4/23/2018	03:30:00	USER	CREW DISCUSSED ROUTES HAZARDS AND COMMUNICATION WITH CREW.

Event	22	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	4/23/2018	03:40:00	USER	DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH WEATHER, LOCATION AND RIGGING DOWN IRON AND HOSES.
Event	23	Rig-Down Completed	Rig-Down Completed	4/23/2018	04:40:00	USER	ALL HALLIBURTON ITEMS WERE STOWED FOR TRAVEL, AND LOCATION WAS CLEAN.
Event	24	Crew Leave Location	Crew Leave Location	4/23/2018	05:00:00	USER	THANKS FOR CHOOSING HALLIBURTON - RYAN STEVENS, NICK KORNAFELL AND CREW

3.0 Attachments

3.1 Job Chart

