

*The Road to Excellence Starts with Safety*

Sold To #: 300466	Ship To #: 3847980	Quote #: 0022421600	Sales Order #: 0904730111
Customer: ANADARKO PETROLEUM CORP-EBUS		Customer Rep: Levi	
Well Name: AZUL		Well #: 13-26HZ	API/UWI #: 05-123-46105-00
Field: WATTENBERG	City (SAP): HUDSON	County/Parish: WELD	State: COLORADO
Legal Description: SE SW-13-1N-66W-865FSL-2447FWL			
Contractor: PRECISION DRLG		Rig/Platform Name/Num: PRECISION 464	
Job BOM: 7523 7523			
Well Type: HORIZONTAL GAS			
Sales Person: HALAMERICA\HX41066		Srvc Supervisor: Bryan Kraft	

**Job**

Formation Name			
Formation Depth (MD)	Top		Bottom
Form Type	BHST		
Job depth MD	12956ft	Job Depth TVD	7331ft
Water Depth		Wk Ht Above Floor	4ft
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	1891	0	1891
Casing		5.5	4.892	17	LTC	HCP110	0	12956	0	7331
Open Hole Section			7.875				1891	12966	1891	7331

**Tools and Accessories**

Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make
Guide Shoe					Top Plug	5.5	1	WF
Float Shoe	5.5	1	WF	12956	Bottom Plug	5.5	1	WF
Float Collar	5.5	1	WF	12942	SSR plug set			
Insert Float					Plug Container	5.5	1	HES
Stage Tool					Centralizers			

**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	Spacer	TUNED SPACER III	60	bbl	10.5	6.43	41.3	4	2164	
	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	Lead Cement	ELASTICEM (TM) SYSTEM	540	sack	13.2	1.57	7.53	8	4066	
0.10 %		<b>SUPER CBL, 50 LB PAIL (100003668)</b>								
0.40 %		<b>SCR-100 (100003749)</b>								
7.53 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	Tail Cement	ECONOCEM (TM) SYSTEM	760	sack	13.5	1.68	7.99	8	6072	
7.99 Gal		<b>FRESH WATER</b>								
0.36 %		<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	Displacement	FRESH WATER	300	bbl	8.33			8	12600	
0.50 gal/bbl		<b>MICRO MATRIX CEMENT RETARDER, 5 GAL PAIL (100003781)</b>								
Cement Left In Pipe		Amount	0 ft			Reason		Wet Shoe Joint		
Mix Water:		pH 7	Mix Water Chloride: <300 ppm			Mix Water Temperature:		65 °F		
Cement Temperature:		N/A	Plug Displaced by: 8.33lb/gal Fresh Water			Disp. Temperature:		65 °F		
Plug Bumped?:		Yes	Bump Pressure: 2300 psi			Floats Held?:		Yes		
Cement Returns:		N/A	Returns Density: N/A			Returns Temperature:		N/A		
<p><b>Comment:</b> The plug bumped @ calculated displacement @ 2300 PSI. Shutdown for 1 minute @ 2900 PSI. Held a 3000 PSI casing pressure test for 15 minutes. The sleeve opened @ 5314 PSI and pumped a 5 BBL wet shoe. The floats held and received 2 BBLs back to the truck. Total of 5 BBLs spacer returned to surface.</p>										

## 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	3/23/2018	11:00:00	USER	CREW CALLED OUT AT 11:00 3/23/2018, REQUESTED ON LOCATION 16:00 3/23/2018. CREW PICKED UP CEMENT, CHEMICALS (40 GAL MUSOL A, 40 GAL DUAL SPACER B, 20 GAL D-AIR, 10 GAL MMCR), 200 LBS SUGAR, PLUG CONTAINER AND MANIFOLD FROM FORT LUPTON, CO. BULK 660: 11562546/10867439, BACKUP AIR 660: 11062238/10866489, PUMP ELITE 11897034/11645460.
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	3/23/2018	14:15:00	USER	DISCUSSED ROUTES, HAZARDS, AND COMMUNICATION WITH CREW.
Event	3	Crew Leave Yard	Crew Leave Yard	3/23/2018	14:30:00	USER	STARTED JOURNEY MANAGEMENT.
Event	4	Arrive At Loc	Arrive At Loc	3/23/2018	15:00:00	USER	END JOURNEY MANAGEMENT. MEET WITH CO. MAN TO DISCUSS JOB; SURFACE CASING: 9.625" 36# J-55 @ 1891', 5.5" CASING: 17# P-110 @ 12956', 13.69' SHOE JOINT, 7.875" OPEN HOLE, TVD @ 7331', 9.0 PPG WELL FLUID, FRESH WATER DISPLACEMENT.
Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	3/23/2018	15:10:00	USER	HAZARD HUNT. DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH LOCATION, RIG UP AND WEATHER.
Event	6	Rig-Up Equipment	Rig-Up Equipment	3/23/2018	15:20:00	USER	CREW STAGED EQUIPMENT AND RIGGED UP BULK, IRON, AND WATER HOSES TO PERFORM JOB.
Event	7	Pre-Job Safety Meeting	Pre-Job Safety Meeting	3/23/2018	17:50:00	USER	MEETING WITH HALLIBURTON AND RIG PERSONNEL. COMMUNICATED POTENTIAL SAFETY HAZARDS AND JOB DETAILS.
Event	8	Start Job	Start Job	3/23/2018	18:10:40	COM6	BEGIN REOCRDNIG JOB DATA.

Event	9	Test Lines	Test Lines	3/23/2018	18:13:11	COM6	PRESSURE TESTED IRON TO 6000 PSI. KICKOUTS SET @ 500 PSI, KICKED OUT @ 1057 PSI, 5TH GEAR STALL OUT @ 1800 PSI.
Event	10	Pump Spacer 1	Pump Spacer @ 10.5 ppg	3/23/2018	18:20:21	COM6	PUMP 60 BBLS OF TUNED SPACER @ 10.5 LB/GAL, ADDED 40 GAL MUSOL A, 40 GAL DUAL SPACER B, 20 GAL D-AIR, DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
Event	11	Drop Bottom Plug	Drop Bottom Plug	3/23/2018	18:32:29	COM6	PLUG LEFT CONTAINER, VERIFIED BY CO. MAN.
Event	12	Pump Lead Cement	Pump Lead Cement @ 13.2 ppg	3/23/2018	18:34:19	COM6	PUMP 540 SKS OF ELASTICEM @ 13.2 LB/GAL, 1.57 YIELD, 7.53 GAL/SK, 151 BBLS, CALCULATED TOT @ 1144', DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
Event	13	Pump Tail Cement	Pump Tail Cement @ 13.5 ppg	3/23/2018	18:56:53	COM6	PUMP 760 SKS OF ECONOCEM @ 13.5 LB/GAL, 1.68 YIELD, 7.99 GAL/SK, 227 BBLS, CALCULATED TOT @ 5619', DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
Event	14	Shutdown	Shutdown	3/23/2018	19:33:56	COM6	SHUTDOWN TO WASH PUMPS/LINES AND DROP TOP PLUG.
Event	15	Drop Top Plug	Drop Top Plug	3/23/2018	19:41:53	COM6	PLUG LEFT CONTAINER, VERIFIED BY CO. MAN.
Event	16	Pump Displacement	Pump Fresh Water Displacement	3/23/2018	19:43:55	USER	BEGIN CALCULATED DISPLACEMENT OF 300 BBLS WITH FRESH WATER. MMCR AND BIOCIDES ADDED TO 1ST 20 BBLS. BIOCIDES ADDED THROUGH REST OF DISPLACEMENT.
Event	17	Spacer Returns to Surface	Spacer Returns to Surface	3/23/2018	20:18:00	USER	SPACER RETURNED TO SURFACE @ 295 BBLS INTO DISPLACEMENT. TOTAL AMOUNT OF 5 BBLS SPACER TO SURFACE.
Event	18	Bump Plug	Bump Plug	3/23/2018	20:21:35	COM6	PLUG BUMPED AT CALCULATED DISPLACEMENT. FINAL CIRCULATING PRESSURE OF 2300 PSI.
Event	19	Shutdown	Shutdown	3/23/2018	20:21:48	USER	SHUTDOWN FOR 1 MINUTE @ 2900 PSI.
Event	20	Pressure Up Well	Casing Pressure Test	3/23/2018	20:23:25	COM6	CASING PRESSURE TEST, 3000 PSI FOR 15 MINUTES.

Event	21	Other	Open Sleeve	3/23/2018	20:39:41	COM6	PRESSURE UP TO OPEN SLEEVE. SLEEVE OPENED @ 5314 PSI.
Event	22	Pump Displacement	Pump Wet Shoe	3/23/2018	20:39:53	USER	PUMP 5 BBLS OF FRESH WATER FOR A WET SHOE.
Event	23	Check Floats	Check Floats	3/23/2018	20:41:02	USER	RELEASED PRESSURE, FLOATS HELD, 2 BBLS BACK.
Event	24	End Job	End Job	3/23/2018	20:42:23	COM6	STOP RECORDING JOB DATA.
Event	25	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	3/23/2018	20:45:00	USER	DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH WEATHER, LOCATION AND RIGGING DOWN IRON AND HOSES.
Event	26	Rig-Down Completed	Rig-Down Completed	3/23/2018	22:00:00	USER	ALL HALLIBURTON ITEMS WERE STOWED FOR TRAVEL, AND LOCATION WAS CLEAN.
Event	27	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	3/23/2018	22:15:00	USER	DISCUSSED ROUTES HAZARDS AND COMMUNICATION WITH CREW.
Event	28	Crew Leave Location	Crew Leave Location	3/23/2018	22:30:00	USER	THANK YOU FOR USING HALLIBURTON - BRYAN KRAFT AND CREW.

3.0 Attachments

3.1 Job Chart

