

*The Road to Excellence Starts with Safety*

<b>Sold To #:</b> 300466	<b>Ship To #:</b> 0003847977	<b>Quote #:</b> 0022443574	<b>Sales Order #:</b> 0904863957
<b>Customer:</b> ANADARKO PETROLEUM CORP-EBUS		<b>Customer Rep:</b> Carlton Cooley	
<b>Well Name:</b> AZUL		<b>Well #:</b> 13-19HZ	<b>API/UWI #:</b> 05-123-46101-00
<b>Field:</b> WATTENBERG	<b>City (SAP):</b> HUDSON	<b>County/Parish:</b> WELD	<b>State:</b> COLORADO
<b>Legal Description:</b> SE SW-13-1N-66W-777FSL-2326FWL			
<b>Contractor:</b> PRECISION DRLG		<b>Rig/Platform Name/Num:</b> PRECISION 464	
<b>Job BOM:</b> 7523 7523			
<b>Well Type:</b> HORIZONTAL GAS			
<b>Sales Person:</b> HALAMERICA\HX41066		<b>Srvc Supervisor:</b> Prince Perez	

Job			
<b>Job depth MD</b>	12,572'	<b>Job Depth TVD</b>	7,316'
		<b>Wk Ht Above Floor</b>	5'

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	1875	0	1875
Casing		5.5	4.892	17	LTC	HCP110	0	12572	0	7316
Open Hole Section			7.875				1875	12583	1875	7316

Tools and Accessories									
Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make	
Guide Shoe	5.5	1	HES	12,572	Top Plug	5.5	1	HES	
Float Shoe	5.5	1	HES	12,572	Bottom Plug	5.5	1	HES	
Float Collar	5.5	1	HES	12,560					
					Plug Container	5.5	1	HES	
					Centralizers	5.5	232	Scepter	

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	6.25	44.4	4	2,393	

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	GASSTOP (TM) SYSTEM	400	sack	13.2	1.6	7.68	6	1,032
3	Tail	ECONOCEM (TM) SYSTEM	710	sack	13.5	1.68	7.99	6	5,673
4	Displacement	Fresh water	291.4	bbl	8.34				
<b>Biocide throughout displacement</b>									
<b>Cement Left In Pipe</b>									
<b>Amount</b>		<b>Reason</b>							
Mix Water:	pH 8	Mix Water Chloride:	0 ppm	Mix Water Temperature:	55 °F				
Cement Temperature:	## °F	Plug Displaced by:	8.34 lb/gal	Disp. Temperature:	55 °F				
Plug Bumped?	Yes	Bump Pressure:	3020 psi	Floats Held?	Yes				
Cement Returns:	0 bbl	Returns Density:	9.2 lb/gal	Returns Temperature:	## °F				
<b>Comment</b> Pumped 60 bbls of Tuned Spacer III, 113.9 bbls of Gasstop cement, 212.44 bbls of Econocem, 291.39 bbls of displacement. Nothing back to surface.									

## 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	5/20/2018	00:00:00	USER	CREW CALLED OUT AT 00:00, REQUESTED ON LOCATION 6:00. CREW PICKED UP CEMENT, CHEMICALS, AND PLUG CONTAINER FROM FT. LUPTON, CO. BULK 660 10867439, AND PUMP 11189145.
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	5/20/2018	04:30:00	USER	CREW DISCUSSED ROUTES, HAZARDS, AND COMMUNICATION WITH CREW.
Event	3	Crew Leave Shop	Crew Leave Shop	5/20/2018	04:40:00	USER	STARTED JOURNEY MANAGEMENT.
Event	4	Arrive at Location from Service Center	Arrive at Location from Service Center	5/20/2018	05:00:00	USER	END JOURNEY MANAGEMENT. MEET WITH CO. MAN TO DISCUSS JOB; SURFACE CASING- 9.625" 36 LB/FT @ 1,875', 5.5" CASING: 17 LB/FT TOTAL 12,572', 7 7/8" HOLE, TD 12,583', 12' SHOE TRAC, TVD-7,316'. PUMP FRESH WATER DISPLACEMENT. CASING LANDED @ 08:15 05/20/2018.
Event	5	Safety Meeting - Assessment of Location	Safety Meeting - Assessment of Location	5/20/2018	05:10:00	USER	HAZARD HUNT. DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH LOCATION, RIG UP AND WEATHER.
Event	6	Rig-Up Equipment	Rig-Up Equipment	5/20/2018	05:20:00	USER	RIG UP BULK AND MIXING EQUIPMENT.
Event	7	Rig-Up Completed	Rig-Up Completed	5/20/2018	06:30:00	USER	WAITED ON RIG TO FINISH RUNNING CASING.
Event	8	Pre-Job Safety Meeting	Pre-Job Safety Meeting	5/20/2018	07:00:00	USER	MEETING WITH HALLIBURTON AND RIG PERSONNEL. COMMUNICATED POTENTIAL SAFETY HAZARDS AND JOB DETAILS.
Event	9	Start Job	Start Job	5/20/2018	10:13:21	COM4	BEGIN RECORDING JOB DATA.
Event	10	Test Lines	Test Lines	5/20/2018	10:19:31	COM4	PRESSURE TESTED IRON TO 6,500 PSI. KICKOUTS SET @ 500 PSI, KICKED OUT @ 1,000 PSI, 5TH GEAR STALL OUT @ 1,870 PSI. 6,500 PRESSURE TEST KICKED OUT @ 6,500

							PSI.
Event	11	Pump Spacer 1	Pump Spacer 1	5/20/2018	10:31:41	COM4	PUMP 60 BBLS OF TUNED SPACER III @ 10.5 LB/GAL, 20 GALS D-AIR. HOS CALCULATED @ 1,299.84'. TOS CALCULATED @ 1,166.6'. DENSITY VERIFIED BY PRESSURIZED MUD SCALES. PUMP RATE 4 BBLS/MIN @ 330 PSI.
Event	12	Shutdown	Shutdown	5/20/2018	10:39:27	USER	OPERATOR ERROR.
Event	13	Drop Bottom Plug	Drop Bottom Plug	5/20/2018	10:49:19	USER	PLUG LEFT CONTAINER, VERIFIED BY CO. MAN.
Event	14	Pump Lead Cement	Pump Lead Cement	5/20/2018	10:52:35	COM4	PUMPED 400 SKS OF GASSTOP CEMENT @ 13.2 LB/GAL, 1.6 FT3/SK, 7.68 GAL/SK. 113.98 BBLS, HOL CALCULATED @ 3,688.7', TOL CALCULATED @ 2,008.2'. DENSITY VERIFIED BY PRESSURIZED MUD SCALES. PUMP RATE 8 BBLS/MIN @ 660 PSI
Event	15	Pump Tail Cement	Pump Tail Cement	5/20/2018	11:07:44	COM4	PUMP 710 SKS OF ECONOCEM @ 13.5 LB/GAL, 1.68 FT3/SK, 7.99 GAL/SK, 212.14 BBLS. HOT CALCULATED @ 6,875.1', TOT CALCULATED @ 5,696.9'. DENSITY VERIFIED BY PRESSURIZED MUD SCALES. PUMP RATE 8 BBLS/MIN @ 850 PSI.
Event	16	Drop Top Plug	Drop Top Plug	5/20/2018	11:46:00	COM4	PLUG LEFT CONTAINER, VERIFIED BY CO. MAN.
Event	17	Pump Displacement	Pump Displacement	5/20/2018	11:48:08	COM4	BEGIN CALCULATED DISPLACEMENT OF 352.9 BBLS WITH FRESH WATER. PUMP RATE 5 BPM @ 2,600 PSI
Event	18	Shutdown	Shutdown	5/20/2018	12:11:00	USER	ELECTRONICALLY KICKED OUT.
Event	19	Shutdown	Shutdown	5/20/2018	12:15:00	USER	ELECTRONICALLY KICKED OUT.
Event	20	Shutdown	Shutdown	5/20/2018	12:19:00	USER	ELECTRONICALLY KICKED OUT.
Event	21	Shutdown	Shutdown	5/20/2018	12:29:00	USER	ELECTRONICALLY KICKED OUT.
Event	22	Bump Plug	Bump Plug	5/20/2018	12:52:49	COM4	PLUG BUMPED AT CALCULATED DISPLACEMENT. 2,553 PSI PRESSURED 500 PSI OVER BUMP.

Event	23	Check Floats	Check Floats	5/20/2018	12:57:58	USER	RELEASED PRESSURE, FLOATS HELD, 3 BBLS BACK.
Event	24	Pressure Up Well	Pressure Up Well	5/20/2018	13:01:45	COM4	PRESSURED UP TO 2,700 PSI FOR 15 MINUTES.
Event	25	Shift Tool - Lower	Shift Tool	5/20/2018	13:21:56	USER	RELEASED PRESSURE, FLOATS HELD, 1.5 BBLS BACK.
Event	26	Check Floats	Check Floats	5/20/2018	13:25:22	USER	RELEASED PRESSURE, FLOATS HELD, 1.5 BBLS BACK.
Event	27	End Job	End Job	5/20/2018	13:26:27	USER	STOP RECORDING JOB DATA.
Event	28	Post-Job Safety Meeting (Pre Rig-Down)	Post-Job Safety Meeting (Pre Rig-Down)	5/20/2018	13:40:00	USER	DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH WEATHER, LOCATION AND RIGGING DOWN IRON AND HOSES.
Event	29	Rig-Down Equipment	Rig-Down Equipment	5/20/2018	13:50:00	USER	RIG DOWN BULK AND MIXING EQUIPMENT.
Event	30	Rig-Down Completed	Rig-Down Completed	5/20/2018	15:00:00	USER	ALL HALLIBURTON ITEMS WERE STOWED FOR TRAVEL, AND LOCATION WAS CLEAN.
Event	31	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	5/20/2018	15:10:00	USER	CREW DISCUSSED ROUTES HAZARDS AND COMMUNICATION WITH CREW.

Event	32	Crew Leave Location	Crew Leave Location	5/20/2018	15:20:00	USER	THANK YOU FOR USING HALLIBURTON – PRINCE PEREZ AND CREW
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3.0 Attachments

3.1 Job Chart

