

HALLIBURTON

iCem[®] Service

ANADARKO PETROLEUM CORP-EBUS

Date: Friday, September 07, 2018

Zelda 25-5HZ KOP

Job Date: Monday, August 27, 2018

Sincerely,

Justin Lansdale

Legal Notice

Disclaimer:

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1.0 Cementing Job Summary

1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **Zelda 25-5HZ** cement **KOP** casing job. A pre-job safety meeting was held before the job where details of the job were discussed, potential safety hazards were reviewed, and environmental compliance procedures were outlined.

Halliburton maintains a continuous quality improvement process and appreciates any comments or suggestions that you may have. Halliburton again thanks you for the opportunity to perform service work on this well. We hope to be your solutions provider for future projects.

Respectfully,

Halliburton [Fort Lupton]

The Road to Excellence Starts with Safety

Sold To #: 300466	Ship To #: 3860239	Quote #: 0022483987	Sales Order #: 0905094935
Customer: ANADARKO PETROLEUM CORP-EBUS		Customer Rep: Albert Bryan	
Well Name: ZELDA		Well #: 25-5HZ	API/UWI #: 05-123-46393-00
Field: WATTENBERG	City (SAP): HUDSON	County/Parish: WELD	State: COLORADO
Legal Description: NW NW-25-2N-65W-373FNL-1219FWL			
Contractor:		Rig/Platform Name/Num: Workover	
Job BOM: 7529 7529			
Well Type: HORIZONTAL GAS			
Sales Person: HALAMERICA\HX41066		Srvc Supervisor: Thomas Haas	

Job

Formation Name			
Formation Depth (MD)	Top	Bottom	
Form Type		BHST	
Job depth MD	5009ft	Job Depth TVD	5009
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	1834		
Drill Pipe		5	4.276	19.5			0	3886		
Open Hole Section			7.875				1834	5017		
Tubing		2.875	2.441	6.4			3886	5009		

Tools and Accessories

Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make
Guide Shoe	2.875				Top Plug	2.875		
Float Shoe	2.875				Bottom Plug	2.875		
Float Collar	2.875				SSR plug set	2.875		
Insert Float	2.875				Plug Container	2.875		
Stage Tool	2.875				Centralizers	2.875		

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	30	bbl	10.5	6.96	44.4	5	1075	
79.92 lbm/bbl		BARITE, BULK (100003681)								
37.58 gal/bbl		FRESH WATER								

0.70 gal/bbl		DUAL SPACER SURFACTANT B, 5 GAL PAIL (100003665)							
0.70 gal/bbl		MUSOL A, 330 GAL TOTE - (790828)							
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	GraniteCem	GRANITECEM (TM) SYSTEM	51	sack	17	0.99	3.72	5	190
0.30 %		HR-5, 50 LB SK (100005050)							
3.73 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
3	Tuned Spacer III	Tuned Spacer III	10	bbl	10.5	6.96	44.4	5	358
79.92 lbm/bbl		BARITE, BULK (100003681)							
0.70 gal/bbl		DUAL SPACER SURFACTANT B, 5 GAL PAIL (100003665)							
0.70 gal/bbl		MUSOL A, 330 GAL TOTE - (790828)							
37.58 gal/bbl		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	OBM Displacement		60	bbl	9.5				
Cement Left In Pipe	Amount	ft	Reason			Shoe Joint			
Mix Water:	pH 7	Mix Water Chloride:	<300 ppm			Mix Water Temperature:	67°F		
Comment Pumped 30 bbl spacer, 51 bbl cmt, 10 bbl spacer, 60 bbl obm, opened release line well was on a vacume.									

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	8/26/2018	16:30:00	USER	CREW CALLED OUT AT 16:30 8/26/2018, REQUESTED ON LOCATION 21:30 8/26/2018. CREW PICKED UP CEMENT, CHEMICALS (25 GAL MUSOL, 25 GAL DUAL SPACER B, 5 GAL D-AIR), 100 LBS SUGAR, AND PLUG CONTAINER FROM FORT LUPTON,CO. BULK 660: 11255351/11689672 BODY LOAD: 10248062, RED TIGER 12645760
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	8/26/2018	21:45:00	USER	DISCUSSED ROUTES HAZARDS AND COMMUNICATION WITH CREW.
Event	3	Crew Leave Yard	Crew Leave Yard	8/26/2018	22:00:00	USER	STARTED JOURNEY MANAGEMENT.
Event	4	Arrive At Loc	Arrive At Loc	8/26/2018	22:30:00	USER	END JOURNEY MANAGEMENT. MEET WITH CO. MAN TO DISCUSS JOB; SURFACE CASING: 9.625" 36# @ 1834', PIPE AT 5009', 1123' 2 7/8" TUBING ID 2.44", 5" DRILL PIPE ABOVE 19.5 LBS/FT, OPEN HOLE SIZE 7 7/8".
Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	8/26/2018	22:45:00	USER	HAZARD HUNT. DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH LOCATION, RIG UP AND WEATHER.
Event	6	Rig-Up Equipment	Rig-Up Equipment	8/26/2018	23:00:00	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	8/27/2018	00:00:00	USER	MEETING WITH HALLIBURTON AND RIG PERSONNEL. COMMUNICATED POTENTIAL SAFETY HAZARDS AND JOB DETAILS.
Event	8	Start Job	Start Job	8/27/2018	00:36:54	COM4	START JOB DATA RECORDING.
Event	9	Test Lines	Test Lines	8/27/2018	00:38:51	USER	PRESSURE TESTED IRON TO 2500 PSI, 500

							PSI KICK OUT AT 399 PSI.
Event	10	Pump Spacer 1	Pump Spacer 1	8/27/2018	00:51:13	COM4	PUMP 30 BBL TUNED SPACER III AT 10.5 PPG, 25 GAL DUAL SPACER B, 25 GAL MUSOL-A, 5 GAL D-AIR ADDED, WEIGHT VERIFIED BY PRESSURIZED MUD SCALES.
Event	11	Pump Cement	Pump Cement	8/27/2018	01:05:39	COM4	PUMP 51 BBL GRANITE CEM CEMENT AT 17 PPG, .99 YIELD, 3.73 GAL/SK, CALCULATED TOP OF CEMENT PIPE OUT AT 4162', WIEGHT VERIFIED BY PRESSURIZED MUD SCALES.
Event	12	Pump Spacer 2	Pump Spacer 2	8/27/2018	01:17:56	COM4	PUMP 10 BBL TUNED SPACER III AT 10.5 PPG, WEIGHT VERIFIED BY PRESSURIZED MUD SCALES.
Event	13	Shutdown	Shutdown	8/27/2018	01:21:51	COM4	SHUTDOWN TO PULL OIL BASED MUD ONTO TRUCK FOR DISPLACEMENT.
Event	14	Pump Displacement	Pump Displacement	8/27/2018	01:23:21	COM4	PUMPED 60 BBL OF WELL FLUID FOR DISPLACEMENT.
Event	15	Shutdown	Shutdown	8/27/2018	01:39:59	COM4	END OF DISPLACEMENT.
Event	16	End Job	End Job	8/27/2018	01:52:16	COM4	END JOB DATA RECORDING.
Event	17	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	8/27/2018	02:00:00	USER	DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH WEATHER, LOCATION AND RIGGING DOWN IRON AND HOSES.
Event	18	Rig-Down Completed	Rig-Down Completed	8/27/2018	03:00:00	USER	ALL HALLIBURTON ITEMS WERE STOWED FOR TRAVEL.
Event	19	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	8/27/2018	03:15:00	USER	DISCUSSED ROUTES, HAZARDS, AND COMMUNICATION WITH CREW
Event	20	Crew Leave Location	Crew Leave Location	8/27/2018	03:30:00	USER	THANK YOU FOR USING HALLIBURTON - THOMAS HAAS AND CREW.

3.0 Attachments

3.1 Job Chart



