

HALLIBURTON

iCem[®] Service

ANADARKO PETROLEUM CORP - EBUS

For: TOBY YATES

Date: Thursday, July 03, 2014

VOGL STATE 38N-36HZ

Surface

Sincerely,

AARON SMITH

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1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **VOGL STATE 38N-36HZ** cement **Surface** 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 [Brighton]

1.2 Cementing Job Summary

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Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 300466		Ship To #: 3541377		Quote #:		Sales Order #: 0901480309					
Customer: ANADARKO PETROLEUM CORP - EBUS				Customer Rep: TOBY YATES							
Well Name: VOGL STATE			Well #: 38N-36HZ			API/UWI #: 05-123-39681-00					
Field: WATTENBERG		City (SAP): MEAD		County/Parish: WELD			State: COLORADO				
Legal Description: SW SW-36-3N-68W-497FSL-708FWL											
Contractor:						Rig/Platform Name/Num:					
Job BOM: 7521											
Well Type: HORIZONTAL GAS											
Sales Person: HALAMERICA\HB47901						Srvc Supervisor: Aaron Smith					
Job											
Formation Name											
Formation Depth (MD)		Top			Bottom						
Form Type					BHST						
Job depth MD		1129ft			Job Depth TVD						
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	0	9.625	8.921	36		J-55	0	1129	0	1129	
Open Hole Section			13.5				0	1129	0	1129	
Tools and Accessories											
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make		
Guide Shoe	9.625					Top Plug	9.625	1	HES		
Float Shoe	9.625	1	SSII	1129		Bottom Plug	9.625		HES		
Float Collar	9.625	1	SSII	1087		SSR plug set	9.625		HES		
Insert Float	9.625					Plug Container	9.625	1	HES		
Stage Tool	9.625					Centralizers	9.625	9	HES		
Miscellaneous Materials											
Gelling Agt	Conc		Surfactant	Conc		Acid Type		Qty	Conc		
Treatment Fld	Conc		Inhibitor	Conc		Sand Type		Size	Qty		
Fluid Data											
Stage/Plug #: 1											
Fluid #	Stage Type	Fluid Name			Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
1	Mud Flush III (Powder)	Mud Flush III			12	bbl	8.4				
42 gal/bbl		FRESH WATER									
Fluid #	Stage Type	Fluid Name			Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal

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Cementing Job Summary

2	Lead Cement	SWIFTCEM (TM) SYSTEM	440	sack	14.2	1.54		6	7.64
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft³/sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
3	Displacement	Displacement	84	bbl	8.33				
Cement Left In Pipe	Amount	42 ft		Reason	Shoe Joint				
Comment									

1.3 Planned Pumping Schedule

Description	Stage No.	Density (ppg)	Rate (bbl/min)	Yield (ft ³ /sk)	Water Req. (gal/sk94)	Volume (bbl)	Bulk Cement (94lb sacks)	Duration (min)
Anadarko Surface Mud	1	8.50	5.00			0.00		0.00
Water	2	8.33	6.00			10.00		1.67
Mud Flush	3	8.40	6.00			12.00		2.00
Water	4	8.33	6.00			10.00		1.67
Anadarko 14.2 ppg Surface SwiftCem	5-1	14.20	6.00	1.5380	7.650	115.05	420.00	19.17
Shutdown	5-2			1.5380	7.650		0.00	10.00
Top Plug/Start Displacement								
Water	6	8.33	6.00			60.00		10.00
Water	7	8.33	2.00			26.36		13.18
Total:						233.40		57.69

1.4 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Comb Pump Rate (bbl/min)	DH Density (ppg)	PS Pump Press (psi)	Comment
Event	1	Call Out	Call Out	7/2/2014	18:30:00	USER				CALLED OUT BY ARC FOR O/L @ 2300
Event	2	Depart Yard Safety Meeting	Depart Yard Safety Meeting	7/2/2014	20:10:00	USER				
Event	3	Depart from Service Center or Other Site	Depart from Service Center or Other Site	7/2/2014	20:20:00	USER				SUPERVISOR LEFT YARD BEFORE CREW TO RUN FLOATS EQUIPMENT TO LOCATION
Event	4	Arrive at Location from Service Center	Arrive at Location from Service Center	7/2/2014	20:40:00	USER				SUPERVISOR ARRIVED ON LOCATION @ 2040, THE REST OF HES CREW ARRIVED AT 2240 WITH ALL EQUIPMENT AND MATERIALS
Event	5	Pre-Job Safety Meeting	Pre-Job Safety Meeting	7/2/2014	21:46:56	USER				WITH CUSTOMER REP AND RIG CREW
Event	6	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	7/2/2014	22:45:00	USER				RIG-UP JSA WITH HES CREW
Event	7	Rig-Up Equipment	Rig-Up Equipment	7/2/2014	22:50:00	USER				
Event	8	Rig-Up Completed	Rig-Up Completed	7/2/2014	23:05:00	USER				
Event	9	Start Job	Start Job	7/3/2014	01:44:21	COM2	0.00	12.84	6.00	
Event	10	Test Lines	Test Lines	7/3/2014	01:46:48	COM2	0.00	12.83	97.00	@2500 PSI
Event	11	Pump Spacer 1	Pump Spacer 1	7/3/2014	01:51:02	COM2	0.00	12.86	11.00	10 BBLS FRESH WATER
Event	12	Pump Spacer 2	Pump Spacer 2	7/3/2014	01:56:45	COM2	3.00	12.84	59.00	12 BBLS MUD FLUSH
Event	13	Pump Spacer 2	Pump Spacer 1	7/3/2014	02:01:05	COM2	0.00	8.30	50.00	10 BBLS FRESH WATER
Event	14	Pump Cement	Pump Cement	7/3/2014	02:05:07	COM2	0.00	8.30	33.00	120 BBLS, 440 SKS, 1.54 YIELD, 7.66 GAL/SK
Event	15	Shutdown	Shutdown	7/3/2014	02:32:03	COM2	0.00	-9.52	8.00	
Event	16	Drop Top Plug	Drop Top Plug	7/3/2014	02:33:42	COM2	0.00	-11.13	8.00	PRE-LOADED HWE TOP PLUG IN PLUG CONTAINER VERIFIED BY CUSTOMER

										REP
Event	17	Pump Displacement	Pump Displacement	7/3/2014	02:33:50	COM2	0.00	-11.31	8.00	84 BBLS FRESH WATER
Event	18	Other	Spacer Returns to Surface	7/3/2014	02:45:22	COM2	5.00	8.23	157.00	@42 BBLS DISPLACEMENT 32 BBLS TO SURFACE
Event	19	Other	Cement Returns to Surface	7/3/2014	02:56:23	COM2				@74 BBLS DISPLACEMENT, 10 BBLS TO SURFACE
Event	20	Bump Plug	Bump Plug	7/3/2014	03:00:48	COM2	0.00	8.28	1453.00	FINAL CIRCULATING PRESSURE 460 PSI, FINAL BUMP1487 PSI
Event	21	Check Floats	Check Floats	7/3/2014	03:06:43	USER	0.00	8.31	929.00	1BBL BACK, FLOATS HELD
Event	22	End Job	End Job	7/3/2014	03:11:57	COM2				
Event	23	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	7/3/2014	03:15:00	USER	0.00	8.27	62.00	RIG-DOWN JSA WITH HES CREW
Event	24	Rig-Down Equipment	Rig-Down Equipment	7/3/2014	03:20:00	USER	2.40	8.27	22.00	
Event	25	Rig-Down Completed	Rig-Down Completed	7/3/2014	03:30:00	USER				
Event	26	Depart Location Safety Meeting	Depart Location Safety Meeting	7/3/2014	03:40:00	USER				JOURNEY MANAGMENT MEETING PRIOR TO DEPARTURE
Event	27	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	7/3/2014	03:50:00	USER				

2.0 Custom Graphs

2.1 Custom Graph



