

HALLIBURTON

iCem® Service

CATAMOUNT ENERGY PARTNERS LLC-EBUS

United States of America, COLORADO

For: Brett Houston

Date: Monday, July 09, 2018

Jaques #10

LA PLATA, Jaques #10

Catamount, Jaques #10, Surface

Job Date: Monday, July 09, 2018

Sincerely,

Jacob Ayers

Legal Notice

Disclaimer:

All information in this report is provided subject to the terms and conditions which govern the services provided by Halliburton. Halliburton personnel use their best efforts in gathering information and their best judgment in interpreting it, but any interpretation, research, analysis or recommendation furnished by Halliburton are opinions based upon inferences from measurements and empirical relationships and assumptions, which inferences and empirical relationships and assumptions are not infallible, and with respect to which professionals in the industry may differ. iCem 3D Displacement results are used to understand how fluids intermix during a cement job. Simulation and 3D displacement results are not intended as and should not be used as a replacement for bond logs in determining top of cement. Current 3D model calculations are known to model more volume than the input volume for standard cases due to known calculation improvements required. For rotational cases, the modeled volume will be impacted by the same calculations impacting the standard cases, as well as additional constraints imposed to make the calculation time required operationally feasible. Therefore, until further notice, 3D displacement results should not be used for replacement of a bond log, or used as an identifier of top of cement. HALLIBURTON IS UNABLE TO GUARANTEE THE ACCURACY OF ANY CHART INTERPRETATION, RESEARCH ANALYSIS, OR JOB RECOMMENDATION and any interpretation or recommendation is not for use of or reliance upon by any third party. The customer has full responsibility for any of its decisions which are based on the information provided in this report.

Table of Contents

1.0	Job Design	4
1.1	Pump Schedule	4
2.0	Real-Time Job Summary	5
2.1	Job Event Log	5
3.0	Attachments.....	7
3.1	Catamount, Jaques #10, Surface -Custom Results.png	7

1.0 Job Design

1.1 Pump Schedule

Description	Stage No.	Density (ppg)	Rate (bbl/min)	Yield (ft ³ /sack)	Water Req. (gal/sack)	Volume (bbl)	Bulk Cement (sacks)	Duration (min)
Spud Mud	1	8.40	4.00			0.00		0.00
Fresh Water	2	8.33	4.00			10.00		2.50
Surface Blend 2334018	3	15.80	4.50	1.1745	5.156	61.71	295.00	13.71
Top Plug/Start Displacement								
Fresh Water	4-1	8.33	5.00			20.00		4.00
Fresh Water	4-2	8.33	2.00			3.10		1.55
Total:						94.81		21.76

**Pump schedule may include additional rows for displacement if "Automatic Rate Adjustment" was enabled and ECDs approached the fracture gradient.*

2.0 Real-Time Job Summary

2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	PS Pump Press (psi)	DH Density (ppg)	PS Pump Rate (bbl/min)	PS Pmp Stg Tot (bbl)	Recirc Density (ppg)	Comments
Event	1	Call Out	Call Out	7/9/2018	00:00:01	USER						Job Called out @00:00
Event	2	Safety Meeting	Safety Meeting	7/9/2018	02:20:00	USER						Pre convoy safety meeting with crew
Event	3	Depart Home for Location	Depart Home for Location	7/9/2018	02:30:26	USER						Departed from the yard @ 0230
Event	4	Other	Well Info	7/9/2018	04:17:35	USER						OH- 409' 12 1/4 Surface 8 5/8" 24# 395' SJ- 46' Mud wt. 8,6#
Event	5	Other	Other	7/9/2018	04:19:12	USER						
Event	6	Other	Other	7/9/2018	04:19:15	USER						
Event	7	Arrive at Rig	Arrive at Rig	7/9/2018	06:00:00	USER						Arrived on location@ 0600 rig was drilling
Event	8	Safety Meeting - Pre Rig-Up	Safety Meeting - Pre Rig-Up	7/9/2018	06:05:00	USER						Pre rig up safety meeting with crew
Event	9	Safety Meeting - Pre Job	Safety Meeting - Pre Job	7/9/2018	07:00:00	USER						Safety meeting held with all affected personnel on location
Event	10	Start Job	Start Job	7/9/2018	12:21:27	COM4	-48.00	8.18	0.00	0.00	0.00	
Event	11	Test Lines	Test Lines	7/9/2018	12:31:55	COM4	2708.00	8.21	0.00	2.10	7.94	test pumps and lines to 2500
Event	12	Pump Spacer 1	Pump Spacer 1	7/9/2018	12:38:51	COM4	-50.00	8.10	0.50	0.10	15.81	pump 10 bbl fresh water spacer
Event	13	Pump Cement	Pump Cement	7/9/2018	12:41:14	USER	7.00	8.33	3.70	8.00	15.82	295 sks 1.18 yield 5.24 wrq = 61.99 bbl cmt @15.8#
Event	14	Check Weight	Check Weight	7/9/2018	12:46:40	USER	79.00	15.85	4.20	18.60	15.80	checked weight and auto called down hole

Event	15	Cement Returns to Surface	Cement Returns to Surface	7/9/2018	12:55:40	USER	169.00	15.90	5.10	57.40	16.16	calculated 29 bbl cmt back 25 bbl actually returned to surface
Event	16	Drop Plug	Drop Plug	7/9/2018	12:56:40	USER	-22.00	16.11	0.00	60.30	0.20	shut down dropped plug
Event	17	Pump Displacement	Pump Displacement	7/9/2018	12:58:30	USER	109.00	9.25	5.10	1.40	9.50	calculated 22.2 bbl to land plug
Event	18	Bump Plug	Bump Plug	7/9/2018	13:03:46	USER	669.00	8.00	0.00	22.70	8.95	calculated 136 psi to land plug actually landed @ 180psi
Event	19	Check Floats	Check Floats	7/9/2018	13:07:57	USER	742.00	8.05	0.00	22.70	9.17	.25 bbl back floats held
Event	20	End Job	End Job	7/9/2018	13:40:42	USER						End Job left head for 4 hrs

3.0 Attachments

3.1 Catamount, Jaques #10, Surface -Custom Results.png

