

# HALLIBURTON

iCem<sup>®</sup> Service

## **CATAMOUNT ENERGY PARTNERS LLC-EBUS**

**For: Reed Fischer**

Date: Wednesday, November 29, 2017

**IGS #148**

IGS #148

CATAMOUNT

Job Date: Wednesday, November 29, 2017

Sincerely,

**Farmington Cement Engineering**

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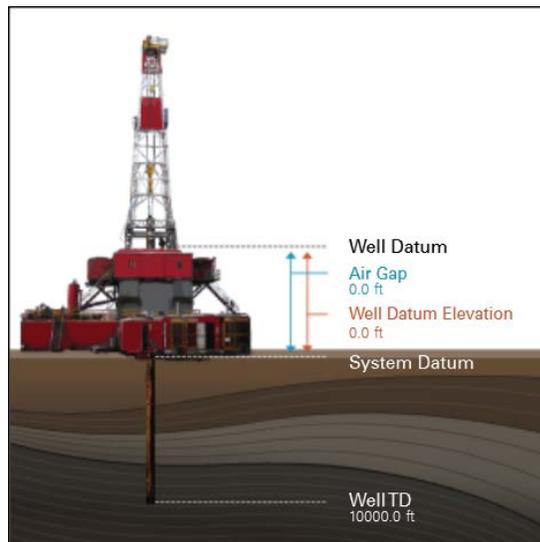
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## 1.0 Job Design

### 1.1 Overview

<b>Job Type</b>	Primary Cement Job
<b>Injection Path</b>	Casing/Conventional
<b>Foam Job</b>	No

#### Well Snapshot



#### Simulations Performed

### 1.2 Pump Schedule

Description	Stage No.	Density (ppg)	Rate (bbl/min)	Yield (ft <sup>3</sup> /sack)	Water Req. (gal/sack)	Volume (bbl)	Bulk Cement (sacks)	Duration (min)
Int Mud	1	9.20	4.00			0.00		0.00
Tuned Spacer	2	11.50	5.00			20.00		4.00
PRB Lead 2334020/1	3	12.30	5.00	2.4347	13.641	41.19	95.00	8.24
PRB Lead 2334020/1 w/CBL	4	12.30	5.00	2.4347	13.641	67.21	155.00	13.44
PRB Tail 2334025/1	5-1	13.50	5.00	1.8690	9.406	39.95	120.00	7.99
Shutdown	5-2			1.8690	9.406		0.00	10.00
Top Plug/Start Displacement								
Fresh Water	6-1	8.33	5.00			55.00		11.00
Fresh Water	6-2	8.33	4.00			20.00		5.00
Fresh Water	6-3	8.33	2.00			8.11		4.05
<b>Total:</b>						<b>251.46</b>		<b>63.73</b>

\*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.	Graph Label	Date	Time	Source	Pass-Side Pump Pressure (psi)	Downhole Density (ppg)	Pass-Side Pump Rate (bbl/min)	PS Pmp Stg Tot (bbl)	Comments
Event	1	Call Out	11/29/2017	05:00:00	USER					CEMENT CREW CALLED OUT
Event	2	Depart Yard Safety Meeting	11/29/2017	09:00:00	USER					SAFETY MEETING HELD WITH CEMENT CREW
Event	3	Depart Home for Location	11/29/2017	09:30:00	USER					1-PICKUP 11583927, 1- RED TIGER 12638114, 2 - BULK TRUCKS 10897805 - 10025104, 12613578 - 12631617
Event	4	Arrive At Loc	11/29/2017	11:00:00	USER					CEMENT CREW ARRIVES ON LOCATION
Event	5	Comment	11/29/2017	11:05:00	USER					RIG CREW AND CASING CREW ARE RUNNING IN HOLE WITH CASING AT TIME OF ARRIVAL
Event	6	Tubulars	11/29/2017	11:10:00	USER					TD = 3612 FT, TP = 5 1/2 15.5# 3602 FT, OH = 7 7/8", SJ = 45.2 FT, SURFACE = 8 5/8" 24# SET @ 609 FT
Event	7	Water Test	11/29/2017	11:15:00	USER					TEMPERATURE = 53 DEGREES, CHLORIDES = 0, PH = 7
Event	8	Pre-Rig Up Safety Meeting	11/29/2017	14:00:00	USER					SAFETY MEETING HELD WITH CEMENT CREW
Event	9	Rig-Up Equipment	11/29/2017	14:10:00	USER					CEMENT CREW RIGS UP EQUIPMENT
Event	10	Start Job	11/29/2017	14:56:07	COM5					
Event	11	Pre-Job Safety Meeting	11/29/2017	15:00:00	USER	29.00	8.34	0.00	0.0	SAFETY MEETING HELD WITH EVERYONE ON LOCATION
Event	12	Pressure Test	11/29/2017	15:11:51	USER	3834.00	8.35	0.00	2.2	PRESSURE TEST GOOD TO 3700 PSI
Event	13	Check weight	11/29/2017	15:16:14	COM5	3674.00	8.42	0.00	2.2	CHECK CEMENT WEIGHT = 11.5#

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Event	14	Pump Spacer 1	11/29/2017	15:17:47	USER	206.00	8.36	5.00	2.5	PUMPED 10 BBLS H2O
Event	15	Pump Tuned Spacer III	11/29/2017	15:19:39	USER	236.00	11.21	5.10	1.3	PUMPED 20 BBLS TUNED SPACER @ 11.5#
Event	16	Pump 1st Lead Cement	11/29/2017	15:23:35	USER	135.00	12.41	5.10	1.4	95 SKS 2.43 CUFT/SK 13.61 GAL/SK = 41 BBLS @ 12.3# 31 BBLS H2O REQ
Event	17	Check weight	11/29/2017	15:25:37	COM5					CHECK CEMENT WEIGHT = 12.3#
Event	18	Pump 2nd Lead Cement	11/29/2017	15:31:26	USER	105.00	12.42	5.10	0.5	155 SKS 2.43 CUFT/SK 13.64 GAL/SK = 67 BBLS @ 12.3# 50 BBLS H2O REQ
Event	19	Check weight	11/29/2017	15:38:33	COM5					CHECK CEMENT WEIGHT = 12.3#
Event	20	Pump Tail Cement	11/29/2017	15:49:01	USER	109.00	13.26	5.10	1.4	120 SKS 1.87 CUFT/SK 9.4 GAL/SK = 40 BBLS @ 13.5# 27 BBLS H2O REQ
Event	21	Check weight	11/29/2017	15:51:00	COM5					CHECK CEMENT WEIGHT = 13.5#
Event	22	Shutdown	11/29/2017	15:59:35	USER	75.00	16.01	0.00	0.0	SHUTDOWN WASH PUMPS AND LINES DROP PLUG
Event	23	Pump Displacement	11/29/2017	16:04:13	USER	99.00	8.22	5.50	2.8	CALCULATED 85 BBLS TO DISPLACE CEMENT, ACTUALLY PUMPED 84 BBLS TANK TO TANK MARK TO MARK
Event	24	Cement Returns to Surface	11/29/2017	16:14:27	USER	711.00	8.24	5.50	59.0	CALCULATED 33 BBLS OF CEMENT BACK TO SURFACE, ACTUALLY CIRCULATED 25 BBLS OF CEMENT BACK TO SURFACE
Event	25	Bump Plug	11/29/2017	16:19:17	USER	1195.00	8.25	3.10	85.2	CALCULATED 809 PSI TO LAND PLUG, PLUG BUMPED @ 1120 PSI PRESSURED UP TO 1500 PSI
Event	26	Check Floats	11/29/2017	16:24:03	USER	37.00	8.24	0.00	85.4	CHECK FLOATS, FLOATS HELD 1/4 BBLS BACK
Event	27	Shutdown	11/29/2017	16:25:39	USER	47.00	7.40	2.40	2.3	SHUTDOWN END JOB, THANK YOU FOR CHOOSING HALLIBURTON LEMONT JOJOLA AND CREW

Event	28	Pre-Rig Down Safety Meeting	11/29/2017	16:29:08	USER	34.00	8.58	2.40	10.5	SAFETY MEETING HELD WITH CEMENT CREW
Event	29	Rig-Down Equipment	11/29/2017	16:35:24	USER	103.00	8.24	0.00	38.5	CEMENT CREW RIGS DOWN EQUIPMENT
Event	30	Depart Location Safety Meeting	11/29/2017	16:54:26	USER					SAFETY MEETING HELD WITH CEMENT CREW
Event	31	Depart Location for Home	11/29/2017	17:05:59	USER					CEMENT CREW DEPARTS LOCATION

3.0 Attachments

3.1 CATAMOUNT IGS #148 PRODUCTION-Custom Results.png

