

HALLIBURTON

iCem[®] Service

CATAMOUNT EXPLORATION LLC

For: Reed Fischer

Date: Thursday, November 09, 2017

IGS-145B

IGS-145

CATAMOUNT - IGS-145B - SURFACE

Job Date: Thursday, November 09, 2017

Sincerely,

Farmington Cement Engineering

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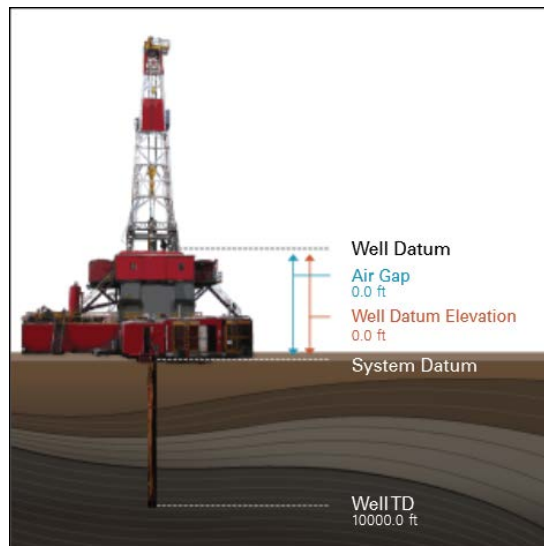
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1.0 Job Design

1.1 Overview

Job Type	Primary Cement Job
Injection Path	Casing/Conventional
Foam Job	No

Well Snapshot



Simulations Performed

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	8.50	5.00			0.00		0.00
Fresh Water	2	8.33	4.00			20.00		5.00
Surface Cement 2334018/1	3	15.80	4.50	1.1745	5.156	56.48	270.00	12.55
Top Plug/Start Displacement								
Fresh Water	4-1	8.33	4.50			30.00		6.67
Fresh Water	4-2	8.33	2.00			0.34		0.17
Total:						106.82		24.39

*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

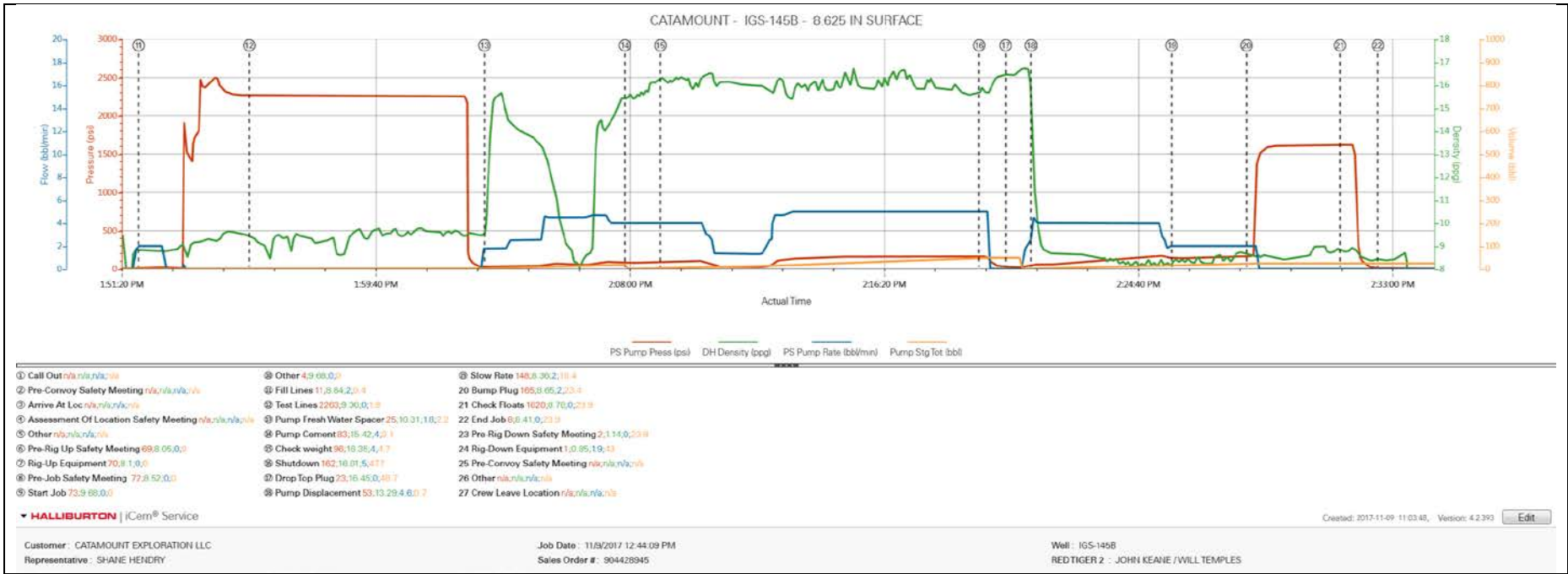
2.1 Job Event Log

Type	Seq. No.	Graph Label	Date	Time	Source	Pass-Side Pump Pressure (psi)	Downhole Density (ppg)	Pass-Side Pump Rate (bbl/min)	Pump Stage Total (bbl)	Comments
Event	1	Call Out	11/9/2017	05:00:00	USER					REQUESTED ON LOCATION TIME 10:000
Event	2	Pre-Convoy Safety Meeting	11/9/2017	07:30:00	USER					WITH HES, 1 F-450, 1 RED TIGER CEMENTING UNIT, 1 660 BULK TRUCK, JSA COMPLETED
Event	3	Arrive At Loc	11/9/2017	09:30:00	USER					RIG RUNNING CASING UPON HES ARRIVAL
Event	4	Assessment Of Location Safety Meeting	11/9/2017	10:00:00	USER					WITH HES, JSA COMPLETED, SDS OFFERED FOR ALL HES MATERIALS
Event	5	Other	11/9/2017	10:15:00	USER					WATER TEST: CHLOR 0, PH 7.3, TEMP 54 DEG F
Event	6	Pre-Rig Up Safety Meeting	11/9/2017	13:00:00	USER	69.00	8.05	0.00	0.0	WITH HES, JSA COMPLETED
Event	7	Rig-Up Equipment	11/9/2017	13:10:00	USER	70.00	8.10	0.00	0.0	1 LINE RAN TO THE FLOOR, 1 LINE RAN TO THE PIT, 1 8.625 IN. PLUG CONTAINER
Event	8	Pre-Job Safety Meeting	11/9/2017	13:30:00	USER	72.00	8.74	0.00	0.0	WITH HES, CATAMOUNT, AND D&J 3
Event	9	Start Job	11/9/2017	13:45:00	USER	73.00	9.67	0.00	0.0	
Event	10	Other	11/9/2017	13:50:00	USER	4.00	9.69	0.00	0.0	TD 410 FT, TP 406.87 FT, SET AT 399 FT, CSG 8.625 IN 24 LB/FT J-55, HOLE 12.25 IN, SHOE 45.45 FT, MWT 8.8 LB/GAL WBM
Event	11	Fill Lines	11/9/2017	13:51:57	USER	11.00	8.83	2.00	0.4	FILL LINES, 2 BBL FRESH WATER
Event	12	Test Lines	11/9/2017	13:55:35	USER	2263.00	9.38	0.00	1.9	LOW TEST AT 1850 PSI, HIGH TEST AT 2263 PSI, PRESSURE HOLDING
Event	13	Pump Fresh Water Spacer	11/9/2017	14:03:17	USER	25.00	10.31	1.80	2.2	FRESH WATER 15 BBL, RETURNS AT 2 BBL AWAY
Event	14	Pump Cement	11/9/2017	14:07:53	COM4	83.00	15.80	4.00	0.0	MIXED AT 15.8 LB/GAL, 1.18 FT3/SK, 5.24 GAL/SK, DENSITY VERIFIED USING PRESSURIZED MUD SCALES
Event	15	Check weight	11/9/2017	14:09:03	COM4	95.00	15.80	4.00	4.7	DENSITY VERIFIED USING PRESSURIZED MUD SCALES

Event	16	Shutdown	11/9/2017	14:19:30	USER	162.00	16.01	5.00	57.0	
Event	17	Drop Top Plug	11/9/2017	14:20:23	USER	23.00	16.45	0.00	0.0	PLUG LAUNCHED, CUSTOMER WITNESSED
Event	18	Pump Displacement	11/9/2017	14:21:13	USER	53.00	13.29	4.60	0.7	FRESH WATER
Event	19	Slow Rate	11/9/2017	14:25:49	USER	148.00	8.36	2.00	18.4	SLOWED AT 14 BBL AWAY TO 2 BBL/MIN, RIG HAD TROUBLE TRANSFERRING CEMENT RETURNS
Event	20	Bump Plug	11/9/2017	14:28:17	USER	165.00	8.65	2.00	22.8	PLUG BUMPED AT CALCULATED DISPLACEMENT
Event	21	Check Floats	11/9/2017	14:31:21	USER	1620.00	8.78	0.00	22.8	FLOATS HOLDING
Event	22	End Job	11/9/2017	14:32:35	COM4					NO-ADD HOURS, RIG SUPPLIED TOP PLUG, RIG USED 100 LBS SUGAR
Event	23	Pre-Rig Down Safety Meeting	11/9/2017	14:40:00	USER					WITH HES, JSA COMPLETED
Event	24	Rig-Down Equipment	11/9/2017	14:50:00	USER					
Event	25	Pre-Convoy Safety Meeting	11/9/2017	15:10:00	USER					WITH HES, JSA COMPLETED
Event	26	Other	11/9/2017	15:26:42	USER					SPACER 15 BBL FRESH WATER, CEMENT 57.8 BBL, FINAL DISPLACEMENT 22.8 BBL, 18 BBL CEMENT CIRCULATED TO SURFACE
Event	27	Crew Leave Location	11/9/2017	15:40:00	USER					THANKS FOR USING HALLIBURTON, JOHN KEANE AND CREW

3.0 Attachments

3.1 CATAMOUNT - IGS-145B - SURFACE-Custom Results.png



3.2 CATAMOUNT - IGS-145B - SURFACE-Custom Results (1).png

