HALLIBURTON

iCem® Service

BONANZA CREEK ENERGY RESOURCES, LLC

Date: Sunday, March 01, 2015

STATE SEVENTY HOLES F21-J24-4 HNB

Job Date: Tuesday, January 06, 2015

Sincerely,

Justin Lansdale

Legal Notice

Warning Disclaimer

Although the information contained in this report is based on sound engineering practices, the copyright owner(s) does (do) not accept any responsibility whatsoever, in negligence or otherwise, for any loss or damage arising from the possession or use of the report whether in terms of correctness or otherwise. The application, therefore, by the user of this report or any part thereof, is solely at the user's own risk.

Limitations of Liability

Except as expressly set forth herein, there are no representations or warranties by Halliburton, express or implied, including implied warranties of merchantability and/or fitness for a particular purpose. In no event will Halliburton or its suppliers be liable for consequential, incidental, special, punitive or exemplary damages (including, without limitation, loss of data, profits, use of hardware, or software). Customer accepts full responsibility for any investment made based on results from the Software. Any interpretations, analyses or modeling of any data, including, but not limited to Customer data, and any recommendation or decisions based upon such interpretations, analyses or modeling are opinions based upon inferences from measurements and empirical relationships and assumptions, which inferences and assumptions are not infallible, and with respect to which professional may differ. Accordingly, Halliburton cannot and does not warrant the accuracy, correctness or completeness of any such interpretation, recommendation, modeling or other products of the Software Product. As such, any interpretation, recommendation or modeling resulting from the Software for the purpose of any drilling, well treatment, production or financial decision will be at the sole risk of Customer. Under no circumstances will Halliburton or its suppliers be liable for any damages.

Table of Contents

1.0 Cementing Job Summary

1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **STATE SEVENTY HOLES F21-J24-4 HNB** 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 [Fort Lupton]

	Date	Time (24hr)
Callout:	6-Jan	630
On Location:	6-Jan	1145
Job Started:	6-Jan	1513
Job Completed:	6-Jan	1605
Departed Location:	6-Jan	1700
Verified Ticket With:	MIKE	

HALLIBURTON

Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 324725	**Ship To #:** 3463649	**Quote #:**	**Sales Order #:** 0902007776
Customer: BONANZA CREEK ENERGY		**Customer Rep:** KENNY	
Well Name: STATE SEVENTY HOLES	**Well #:** F21-J24-4 HNB		**API/UWI #:** 05-123-39212-00
Field: WATTENBERG	**City (SAP):** KERSEY	**County/Parish:** WELD	**State:** COLORADO
Legal Description: NE NW-4-4N-62W-330FNL-1384FWL			
Contractor: FRONTIER DRLG		**Rig/Platform Name/Num:** FRONTIER 04	
Job BOM: 7521			
Well Type: HORIZONTAL OIL			
Sales Person: HALAMERICA\HB21661		**Srvc Supervisor:** Brandon Nielson	

Job

Formation Name					
Formation Depth (MD)	Top		Bottom		
Form Type			BHST		
Job depth MD	458ft		Job Depth TVD		
Water Depth			Wk Ht Above Floor		
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	STC	J-55	0	447		0
Open Hole Section			13.5				0	458		0

Tools and Accessories

Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make
Guide Shoe	9.625			450		Top Plug	9.625		HES
Float Shoe	9.625					Bottom Plug	9.625		HES
Float Collar	9.625					SSR plug set	9.625		HES
Insert Float	9.625					Plug Container	9.625		HES
Stage Tool	9.625					Centralizers	9.625		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 ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
1	Fresh Water Spacer	Mud Flush III	20	bbl	8.4			6	
42 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

last updated on 1/6/2015 4:33:56 PM

Page 1 of 3

HALLIBURTON *Cementing Job Summary*

2	Lead Cement	SWIFTCEM (TM) SYSTEM	200	sack	13.5	1.75		6	9.25
9.25 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	Displacement	Displacement	31.2	bbl	8.33			6	

Cement Left In Pipe	Amount	40 ft	Reason		Shoe Joint
Mix Water:	pH ##	Mix Water Chloride:	## ppm	Mix Water Temperature:	## °F °C
Cement Temperature:	## °F °C	Plug Displaced by:	## lb/gal kg/m3 XXXX	Disp. Temperature:	## °F °C
Plug Bumped?	Yes/No	Bump Pressure:	#### psi MPa	Floats Held?	Yes/No
Cement Returns:	## bbl m3	Returns Density:	## lb/gal kg/m3	Returns Temperature:	## °F °C
Comment					

1.2 Job Overview

Job OverView

		Units	Description
1	Surface temperature at time of job	°F	46
2	Mud type (OBM, WBM, SBM, Water, Brine)	-	WBM
3	Actual mud density	lb/gal	8.6
4	Time circulated before job	HH:MM	:15
5	Mud volume circulated	bbls	
6	Rate at which well was circulated	bpm	
7	Pipe movement during circulation	Y/N	N
8	Rig pressure while circulating	psi	
9	Time from end mud circulation to start of job	HH:MM	:15
10	Pipe movement during cementing	Y/N	N
11	Calculated displacement	bbls	31.2
12	Job displaced by	Rig/HES	HES
13	Annular before Job	Y/N	Y
14	Annular flow after job	Y/N	N
15	Length of rat hole	ft	
16	Units of gas detected while circulating	Units	
17	Was lost circulation experienced at any time?	Y/N	N

1.3 Water Field Test

Cement Mix Water Requirements

Item	Recorded Test Value	Max Acceptable Limint	Potential Problems in Exceeding Limit
pH	7	5 to 8.5	Chemicals in water can cause severe retardation
Chlorides	0	3000 mg/L	Can accelerate the set time on cement 1% ~ 4800 mg/L
Sulfates	<200	1500 mg/L	Will greatly decrease its strength to the point where it may not set up at all
Total Hardness or Alkalinity		500 mg/L	Will retard cement and decrease its strength (only occurs @ pH ≥ 8.3)
Calcium		500 mg/L	High concentrations will accelerate the set of cement
Bicarbonates		1000 mg/L	Will greatly decrease its strength to the point where it may not set up at all
Iron	0	300 mg/L	High concentrations will accelerate the set of cement
Potassium		5000 ppm	High concentrations will accelerate the set of cement
Water Temp	47.4	50F to 80F	High temps will accelerate; Low temps may risk freezing in cold weather

2.0 Real-Time Job Summary

2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Combined Pump Rate (bbl/min)	Downhole Density (ppg)	Pass-Side Pump Pressure (psi)	Comments
Event	1	Call Out	Call Out	1/6/2015	06:30:00	USER				
Event	2	Crew Leave Yard	Crew Leave Yard	1/6/2015	09:30:00	USER				
Event	3	Arrive At Loc	Arrive At Loc	1/6/2015	11:45:00	USER				
Event	4	Rig-up Lines	Rig-up Lines	1/6/2015	14:00:00	USER				
Event	5	Rig-Up Completed	Rig-Up Completed	1/6/2015	14:30:00	USER	0.00	6.70	25.00	
Event	6	Pre-Job Safety Meeting	Pre-Job Safety Meeting	1/6/2015	14:45:00	USER	0.00	6.68	25.00	JSA WITH ALL INVOLVED PERSONS
Event	7	Start Job	Start Job	1/6/2015	15:18:18	COM5	0.00	6.82	26.00	
Event	8	Test Lines	Test Lines	1/6/2015	15:20:33	COM5	0.00	16.43	47.00	TESTED LINES TO 2500 PSI NO VISIBLE LEAKS
Event	9	Pump Spacer 1	Pump Spacer 1	1/6/2015	15:23:40	COM5	0.00	16.35	35.00	20 BBL FRESH WATER PUMPED AT 3 BPM AND 74 PSI
Event	10	Pump Cement	Pump Cement	1/6/2015	15:31:09	COM5	2.90	8.25	78.00	200 SKS OR 62.3 BBL SWIFTCEM MIXED @ 13.5 PPG WITH FRESH WATER. PUMPED AT 5.3 BPM AND 150 PSI
Event	11	Shutdown	Shutdown	1/6/2015	15:45:54	COM5	0.00	13.14	49.00	
Event	12	Drop Top Plug	Drop Top Plug	1/6/2015	15:49:14	COM5	0.00	12.98	41.00	PLUG PRE LOADED WITNESSED BY COMPANY REP.
Event	13	Pump Displacement	Pump Displacement	1/6/2015	15:49:21	COM5	0.00	13.01	41.00	31.2 BBL FRESH WATER PUMPED AT 2.5 BPM AND 121 PSI. CEMENT

										RETURNED TO SURFACE 13 BBL INTO LEAVING US WITH 18 BBL BACK.
Event	14	Bump Plug	Bump Plug	1/6/2015	16:03:13	COM5	0.00	7.97	724.00	PLUG LANDED AT 164 PSI ON CALCULATED
Event	15	End Job	End Job	1/6/2015	16:07:56	COM5	0.00	7.98	29.00	

2.2 Custom Graph