

HALLIBURTON

iCem[®] Service

EXTRACTION OIL & GAS

United States of America, COLORADO

Date: Sunday, March 05, 2017

TC Hiland Knolls 3-9-11

Surface

Job Date: Friday, February 24, 2017

Sincerely,

Justin Lansdale

Legal Notice

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1.0 Cementing Job Summary

1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **TC Hiland Knolls 3-9-11** 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]

The Road to Excellence Starts with Safety

Sold To #: 369404	Ship To #: 3754137	Quote #:	Sales Order #: 0903850436
Customer: EXTRACTION OIL & GAS		Customer Rep: Larry Siegel	
Well Name: TC HILAND KNOLLS		Well #: 3-9-11	API/UWI #: 05-123-43516-00
Field: WATTENBERG	City (SAP): GREELEY	County/Parish: WELD	State: COLORADO
Legal Description: NE SE-8-5N-66W-2616FSL-1190FEL			
Contractor: PATTERSON-UTI ENERGY		Rig/Platform Name/Num: PATTERSON 341	
Job BOM: 7521			
Well Type: HORIZONTAL OIL			
Sales Person: HALAMERICA/HX38199		Srvc Supervisor: Michael Loughran	

Job

Formation Name				
Formation Depth (MD)	Top	0	Bottom	1635
Form Type	BHST			
Job depth MD	1603ft	Job Depth TVD	1603	
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		9.625	8.921	36			0	1603		0
Open Hole Section			13.5				0	1635		0

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		1603	Bottom Plug	9.625		HES
Float Collar	9.625	1		1560	SSR plug set	9.625		HES
Insert Float	9.625				Plug Container	9.625	1	HES
Stage Tool	9.625				Centralizers	9.625		HES

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	Red Dye Water Spacer	Red Dye Water Spacer	20	bbl	8.34			2		

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
2	SwiftCem	SWIFTCEM (TM) SYSTEM	550	sack	13.5	1.74		6.5	9.2
94 lbm		TYPE I / II CEMENT, BULK (101439798)							
9.20 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	120	bbl	8.34			7	
Cement Left In Pipe		Amount	43ft	Reason			Shoe Joint		
Mix Water:		pH 7	Mix Water Chloride:	0 ppm	Mix Water Temperature:		50 °F °C		
Comment 27 BBLS CEMENT TO SURFACE									

2.0 Real-Time Job Summary

2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Comments
Event	1	Call Out	Call Out	2/24/2017	00:01:00	USER	Callout for on loc. time 0700
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	2/24/2017	04:45:00	USER	Discuss route, Safe driving, start JM
Event	3	Crew Leave Yard	Crew Leave Yard	2/24/2017	05:00:00	USER	
Event	4	Arrive At Loc	Arrive At Loc	2/24/2017	06:00:00	USER	Meet with customer to discuss job. Rig running casing
Event	5	Safety Meeting - Assessment of Location	Safety Meeting - Assessment of Location	2/24/2017	06:05:00	USER	hazard hunt, discuss where to spot trucks
Event	6	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	2/24/2017	06:30:00	USER	JSA safe rig up
Event	7	Pre-Job Safety Meeting	Pre-Job Safety Meeting	2/24/2017	09:45:00	USER	With all associated personnel. Discuss hazards of our equipment, iron, pressure
Event	8	Rig-Up Equipment	Rig-Up Equipment	2/24/2017	09:50:00	USER	rig up all surface lines and iron to buffer zone
Event	9	Start Job	Start Job	2/24/2017	09:58:38	COM1	BEGIN RECORDING DATA
Event	10	Test Lines	Test lines	2/24/2017	10:04:44	USER	HMS PRESSURE TEST TO 3000
Event	11	Pump Spacer 1	Pump Spacer 1	2/24/2017	10:10:10	COM1	20 BBLS FRESH WATER WITH RED DYE IN FIRST 10 BBLS
Event	12	Pump Lead Cement	Pump Lead Cement	2/24/2017	10:22:09	COM1	550 SACKS SWIFTCEM, 170.44 BBLS, 13.5 PPG, 1.74 YIELD, 9.2 GAL/SACK
Event	13	Shutdown	Shutdown	2/24/2017	10:58:40	COM1	
Event	14	Drop Top Plug	Drop Top Plug	2/24/2017	11:00:12	COM1	WITNESSED BY CUSTOMER
Event	15	Pump Displacement	Pump Displacement	2/24/2017	11:01:14	COM1	120 BBLS FRESH WATER, SEE CEMENT AT 93 BBLS INTO DISPLACEMENT, 27 BBLS CEMENT TO SURFACE

Event	16	Bump Plug	Bump Plug	2/24/2017	11:28:15	COM1	500 PSI OVER FINAL CIRCULATING PRESSURE
Event	17	Pressure Up	Pressure Up	2/24/2017	11:29:30	COM1	CASING TEST TO 1500 PSI
Event	18	Check Floats	Check Floats	2/24/2017	11:31:46	USER	RELEASE PRESSURE, FLOATS HOLD, 1 BBL BACK TO TRUCK
Event	19	End Job	End Job	2/24/2017	11:36:54	COM1	STOP RECORDING DATA
Event	20	Post-Job Safety Meeting (Pre Rig-Down)	Post-Job Safety Meeting (Pre Rig-Down)	2/24/2017	11:40:00	USER	JSA safe rig down
Event	21	Rig Down Lines	Rig Down Lines	2/24/2017	11:45:00	USER	
Event	22	Crew Leave Location	Crew Leave Location	2/24/2017	12:30:00	USER	Start JM. Thanks for choosing Halliburton!

2.2 Custom Graph

