

# HALLIBURTON

iCem<sup>®</sup> Service

## **EXTRACTION OIL & GAS**

United States of America

Date: Saturday, March 04, 2017

### **TC Country Club West 4-9-11**

Job Date: Saturday, February 18, 2017

Sincerely,

**Justin Lansdale**

## Legal Notice

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## 1.0 Cementing Job Summary

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### 1.1 Executive Summary

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Halliburton appreciates the opportunity to perform the cementing services on the **TC Country Club West 4-9-11** 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 #: 3754152	Quote #:	Sales Order #: 0903848539
Customer: EXTRACTION OIL & GAS		Customer Rep: Hans Cary	
Well Name: TC COUNTRY CLUB WEST		Well #: 4-9-11	API/UWI #: 05-123-43505-00
Field: WATTENBERG	City (SAP): GREELEY	County/Parish: WELD	State: COLORADO
Legal Description: SE NE-8-5N-66W-2494FNL-1194FEL			
Contractor: PATTERSON-UTI ENERGY		Rig/Platform Name/Num: PATTERSON 341	
Job BOM: 7521			
Well Type: HORIZONTAL OIL			
Sales Person: HALAMERICA\HX38199		Srvc Supervisor: Nicholas Roles	

**Job**

Formation Name			
Formation Depth (MD)	Top		Bottom
Form Type	BHST		
Job depth MD	1587ft	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			0	1587		1587
Open Hole Section			13.5				0	1597		1597

**Tools and Accessories**

Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make
Guide Shoe	9.625				Top Plug	9.625		HES
Float Shoe	9.625			1587	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

**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			5		

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		8	9.2
94 lbm		<b>TYPE I / II CEMENT, BULK (101439798)</b>							
9.20 Gal		<b>FRESH WATER</b>							
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	119	bbl	8.34			8	
Cement Left In Pipe		<b>Amount</b>	42 ft		<b>Reason</b>			<b>Shoe Joint</b>	
<b>Comment</b> Got 45bbbs 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	2/18/2017	17:00:00	USER	Crew call out for o/l at 2330
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	2/18/2017	19:45:00	USER	All crew aware of hazards and directions. All fit to drive.
Event	3	Depart from Service Center or Other Site	Depart from Service Center or Other Site	2/18/2017	20:00:00	USER	Started journey management.
Event	4	Arrive at Location from Service Center	Arrive at Location from Service Center	2/18/2017	21:00:00	USER	Met with company man to discuss job details and procedure. Performed hazard hunt and site assessment.
Event	5	Other	Other	2/18/2017	21:30:00	USER	Water Test- PH-6 Chlo-0 Temp-60 Cement temp-70
Event	6	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	2/18/2017	22:00:00	USER	All hse present. Discussed bulk and iron placement and all red zone areas. Caution taped high pressure zones.
Event	7	Safety Meeting - Pre Job	Safety Meeting - Pre Job	2/18/2017	00:30:00	USER	Discussed job associated hazards, contingencies and job procedure with all job associated personnel.
Event	8	Start Job	Start Job	2/18/2017	00:51:32	COM1	TD-1597', TP-1587' 9.625" 36#, FC-1545', OH-13.5", MUD-9.5#

Event	9	Test Lines	Test Lines	2/18/2017	00:55:10	COM1	Pumped 5bbls to fill lines, established circulation, shutdown and closed manifold, performed 500psi k/o function test, proceeded to bring pressure to 3000psi. Held good no leaks.
Event	10	Pump Spacer 1	Pump Spacer 1	2/18/2017	01:00:46	COM1	Pumped 20bbls fresh water with 2# Red Dye at 5bpm 45psi.
Event	11	Check Weight	Check Weight	2/18/2017	01:07:42	COM1	Weight verified with pressurized mud scales.
Event	12	Pump Cement	Pump Cement	2/18/2017	01:09:06	COM1	Pumped 550skts or 170.4bbls 13.5# 1.74y 9.2g/s Swiftcem at 8bpm 333psi.
Event	13	Check Weight	Check Weight	2/18/2017	01:23:47	COM1	Weight verified with pressurized mud scales.
Event	14	Check Weight	Check Weight	2/18/2017	01:32:13	COM1	Weight verified with pressurized mud scales.
Event	15	Drop Top Plug	Drop Top Plug	2/18/2017	01:39:42	COM1	Dropped by HES supervisor, witnessed by company man.
Event	16	Pump Displacement	Pump Displacement	2/18/2017	01:40:14	COM1	Pumped 119.4bbls of fresh water at 8.5bpm 500psi.
Event	17	Bump Plug	Bump Plug	2/18/2017	02:03:12	COM1	Slowed down to 3bpm at 110bbls away, final circulating pressure - 500psi, Bumped at 900psi.
Event	18	Pressure Up Well	Pressure Up Well	2/18/2017	02:04:28	COM1	Pressured up well to 1500psi, held for 15min.

Event	19	Check Floats	Check Floats	2/18/2017	02:17:14	USER	Released pressure, got 1bbls fresh water.
Event	20	End Job	End Job	2/18/2017	02:18:08	COM1	Got 45bbls cement to surface.
Event	21	Safety Meeting - Pre Rig-Down	Safety Meeting - Pre Rig-Down	2/18/2017	02:20:00	USER	All HSE present. Discussed red zone areas and trapped pressure hazards. Watch for suspended loads and rig down procedures, including hand placement, lifting techniques, and swing radius.
Event	22	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	2/18/2017	05:45:00	USER	All HSE present and fit to drive. Aware of directions and hazards.
Event	23	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	2/18/2017	06:00:00	USER	Pre journey managment prior to departure.

2.2 Custom Graph

