

HALLIBURTON

iCem[®] Service

EXTRACTION OIL & GAS-EBUS

Ft. Lupton District, COLORADO

INTERCHANGE B S22-30-19C

WELD, INTERCHANGE B S22-30-19C
Surface

Sincerely,

Andrew McIntosh

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 INTERCHANGE B S22-30-19C 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.

Approximately 22 bbls of cement were returned to surface.

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 #: 3901286	Quote #:	Sales Order #: 0905978695
Customer: EXTRACTION OIL & GAS -		Customer Rep: EXTRACTION REP	
Well Name: INTERCHANGE B		Well #: S22-30-19C	API/UWI #: 05-014-20778-00
Field: WATTENBERG	City (SAP): BROOMFIELD	County/Parish: BROOMFIELD	State: COLORADO
Legal Description: NE SW-10-1S-68W-2218FSL-1758FWL			
Contractor: ENSIGN DRLG		Rig/Platform Name/Num: ENSIGN 147	
Job BOM: 7521 7521			
Well Type: HORIZONTAL OIL			
Sales Person: HALAMERICA/HX38199		Srvc Supervisor: Kyle Bath	

Job

Formation Name			
Formation Depth (MD)	Top		Bottom
Form Type			BHST
Job depth MD	1671ft		Job Depth TVD 1671 ft
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	0	9.625	8.921	36			0	1671	0	1671
OH		13.5					0	1676	0	1676

Tools and Accessories

Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make
Guide Shoe	9.625			1671	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

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 Spacer	Red Dye Spacer	0	bbl	8.33				

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		5	9.17
9.17 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	Fresh Water	Fresh Water	0	bbl	8.33				
Cement Left In Pipe									
Amount		42 ft			Reason			Shoe Joint	
Mix Water:		pH 7	Mix Water Chloride: 0 ppm			Mix Water Temperature:		65 °F	
Cement Temperature:		## °F °C	Plug Displaced by: 8.4 lb/gal kg/m3 XXXX			Disp. Temperature:		65 °F	
Plug Bumped?		Yes	Bump Pressure: 500 psi			Floats Held?		Yes	
Cement Returns:		22 bbl	Returns Density: ## lb/gal kg/m3			Returns Temperature:		## °F °C	
Comment RECEIVED 22 BBLs CEMENT TO SURFACE									

2.0 Real-Time Job Summary

2.1 Job Event Log

Type	Seq. No.	Activity	Date	Time	Comb Pump Rate <i>(bbl/min)</i>	DS Pump Press <i>(psi)</i>	DH Density <i>(ppg)</i>	Pump Stg Tot <i>(bbl)</i>	Comments
Event	1	Check Floats	9/15/2019	07:30:00					DISCUSS ROUTE AND HAZARDS
Event	2	Crew Leave Yard	9/15/2019	07:45:00					CREW DEPART YARD
Event	3	Arrive at Location from Service Center	9/15/2019	09:00:00					ARRIVE ON LOCATION, RIG UPON HES ARRIVAL
Event	4	Assessment Of Location Safety Meeting	9/15/2019	09:15:00					DISCUSS LOCATION HAZARDS AND HOW TO MITIGATE THEM
Event	5	Safety Meeting - Pre Rig-Up	9/15/2019	09:30:00					DISCUSS HAZARDS AND WAYS TO MITIGATE THEM
Event	6	Call Out	9/15/2019	10:00:00					CREW CALLED OUT, TRUCKS
Event	7	Safety Meeting - Pre Job	9/15/2019	15:30:00					PRE JOB SAFETY MEETING WITH RIG CREW AND CO REP
Event	8	Start Job	9/15/2019	15:49:03					START RECORDING DATA
Event	9	Test Lines	9/15/2019	15:52:55					TEST LINES TO 4050 PSI
Event	10	Pump Spacer 1	9/15/2019	15:59:37					PUMP 10 BBLS FRESH WATER SPACER 2 BPM 25 PSI
Event	11	Pump Lead Cement	9/15/2019	16:07:28					MIX AND PUMP 550 SKS 170 BBLS 13.5 PPG, 1.74 FT3/SK, 9.17 GAL/SK 7.5 BPM 320 PSI, CALCULATED TOC SURFACE
Event	12	Drop Top Plug	9/15/2019	16:37:15					LAUNCH TOP PLUG

Event	13	Pump Displacement	9/15/2019	16:37:42	PUMPO 126 BBLs FRESH WATER DISPLACEMENT 10 BPM 550 PSI, RECEIVED 22 BBLs CEMENT TO SURFACE
Event	14	Bump Plug	9/15/2019	16:56:22	BUMP PLUG AT 500 PSI TOOK TO 1180 PSI
Event	15	Check Floats	9/15/2019	16:58:53	FLOATS HELD TOOK 1 BBL BACK
Event	16	End Job	9/15/2019	16:59:01	
Event	17	Crew Leave Location	9/15/2019	23:00:00	THANK YOU FOR USING HALLIBURTON, KYLE BATH AND CREW
Event	18	Depart Location Safety Meeting	9/15/2019	23:01:00	DISCUSS HAZARDS AND ROUTE
Event	19	Safety Meeting - Pre Rig-Down	9/15/2019	23:02:00	DISCUSS HAZARDS AND WAYS TO MITIGATE THEM

3.0 Attachments

3.1 JOB CHART.png

