

HALLIBURTON

iCem[®] Service

EXTRACTION OIL & GAS-EBUS

Interchange A S22-30-7C Surface

Sincerely,
Meghan Jacobs

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 A S22-30-7C** 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 20 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 #: 3901401		Quote #:		Sales Order #: 0905995016					
Customer: EXTRACTION OIL & GAS -						Customer Rep: HANS CARY					
Well Name: INTERCHANGE A				Well #: S22-30-7C		API/UWI #: 05-014-20768-00					
Field: WATTENBERG		City (SAP): BROOMFIELD		County/Parish: BROOMFIELD		State: COLORADO					
Legal Description: SW NW-10-1S-68W-2310FNL-1138FWL											
Contractor: ENSIGN DRLG					Rig/Platform Name/Num: ENSIGN 147						
Job BOM: 7521 7521											
Well Type: HORIZONTAL OIL											
Sales Person: HALAMERICA\HX38199					Srv Supervisor: Vitali Neverdasov						
Job											
Formation Name											
Formation Depth (MD)		Top		Bottom							
Form Type				BHST							
Job depth MD		1629		Job Depth TVD		1629					
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	1629	0	1629	
OH		13.5					0	1634	0	1634	
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					Bottom Plug	9.625				
Float Collar	9.625	1	NA	1629		SSR plug set	9.625				
Insert Float	9.625	1	NA	1585		Plug Container	9.625	1	HES		
Stage Tool	9.625					Centralizers	9.625	3	NA		
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			10	bbl	8.33			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	9.17	8	9.17

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	122	bbl	8.33			8	

Cement Left In Pipe		Amount	44 ft	Reason				Shoe Joint	

Comment : 20 BBLS OF CEMENT BACK TO SURFACE.

2.0 Real-Time Job Summary

2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Comb Pump Rate (bbl/min)	PS Pump Press (psi)	Pump Stg Tot (bbl)	Recirc Density (ppg)	Comments
Event	1	Arrive at Location from Service Center	Arrive at Location from Service Center	9/23/2019	02:45:00	USER					24 MILES. BULK TRUCKS ARRIVED RELOADED.
Event	2	Other	Veryfied cement and water	9/23/2019	03:00:00	USER					VERYFIED CEMENT AND WATER VOLUMES ON LOCATION.
Event	3	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	9/23/2019	09:00:00	USER					JSA PRIOR RIGGING UP.
Event	4	Other	RIG UP	9/23/2019	09:05:00	USER					CONNECT HARD IRON TO THE STAND PIPE.
Event	5	Casing on Bottom	Casing on Bottom	9/23/2019	10:30:00	USER	0.00	22.00	23.00	8.25	CASING LANDED. RIG UP CEMENT HEAD AND MANIFOLD FOR RIG TO CIRCULATE. VERYFIED RATE AND PRESSURE WITH DRILLER. 275 PSI @ 8 BPM.
Event	6	Pre-Job Safety Meeting	Pre-Job Safety Meeting	9/23/2019	10:40:00	USER	0.00	22.00	23.00	8.26	DISCUSS HAZARDS, JOB PROCEDURE AND CONTINGENCY PLAN WITH ALL PERSONAL INVOLVED.
Event	7	Start Job	Start Job	9/23/2019	10:48:32	COM4	0.00	22.00	23.00	8.26	
Event	8	Pressure Test	Pressure Test	9/23/2019	10:57:00	USER	0.00	3019.00	27.30	13.68	LOAD LINE WITH 3 BBLS OF FRESH WATER AND TEST TO 3017 PSI.
Event	9	Pump Spacer	Pump Spacer	9/23/2019	11:01:00	USER	1.70	52.00	27.40	13.45	PUMP 10 BBLS OF DYE WATER 5 BPM/ 120 PSI
Event	10	Pump Lead Cement	Pump Lead Cement	9/23/2019	11:05:00	USER	1.30	67.00	13.00	14.26	BATCH/ WEIGHT/PUMP 550 SKS (170.4 BBLS) OF SWIFTCM @ 13.5 PPG. 8.0 BPM/ 228 PSI.
Event	11	Check Weight	Check Weight	9/23/2019	11:06:12	COM4	1.30	108.00	0.00	13.30	
Event	12	Shutdown	Shutdown	9/23/2019	11:36:00	USER	3.00	58.00	190.10	0.17	FINISHED PUMPING CEMENT.
Event	13	Drop Top Plug	Drop Top Plug	9/23/2019	11:39:00	USER	0.00	28.00	190.40	0.17	DROP TOP PLUG VERYFYED BY CUSTOMER.

Event	14	Pump Displacement	Pump Displacement	9/23/2019	11:40:00	USER	1.80	43.00	192.30	7.48	122.5 BBLS OF FRESH WATER DISPLACEMENT.
Event	15	Bump Plug	Bump Plug	9/23/2019	11:59:00	USER	4.00	517.00	326.70	8.04	BUMP PLUG @ 1085 PSI 500 OVER FINAL LIFT PRESSURE OF 467 PSI.
Event	16	Check Floats	Check Floats	9/23/2019	12:01:00	USER	0.00	65.00	328.90	6.99	FLOATS HELD. 0.5 BBLS BACK.
Event	17	End Job	End Job	9/23/2019	12:01:19	COM4	0.00	14.00	0.00	6.85	
Event	18	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	9/23/2019	12:05:00	USER	8.00	1.00	16.70	6.98	HELD JSA PRIOR TO RIG DOWN WITH CEMENT CREW.

3.0 Attachments

3.1 Interchange A S22-30-7C Surface – Job Chart

