

HALLIBURTON

iCem[®] Service

EXTRACTION OIL & GAS

Interchange A S22-30-6N 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 S22-30-6N** 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 25 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 #: 3901212		Quote #:		Sales Order #: 0905995008					
Customer: EXTRACTION OIL & GAS -				Customer Rep: HANS CARY							
Well Name: INTERCHANGE A			Well #: S22-30-6N		API/UWI #: 05-014-20761-00						
Field: WATTENBERG		City (SAP): BROOMFIELD		County/Parish: BROOMFIELD		State: COLORADO					
Legal Description: SW NW-10-1S-68W-2326FNL-1129FWL											
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		1631ft		Job Depth TVD		1631					
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		36			0	1631	0	1631	
OH		13.5					0	1636	0	1636	
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	NA	1631		Bottom Plug	9.625				
Float Collar	9.625	1	NA	1587		SSR plug set	9.625		HES		
Insert Float	9.625					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	SWIFTCEN (TM) SYSTEM	550	sack	13.5	1.74	9.17	5	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	122.7	bbl	8.33			8	
Cement Left In Pipe		Amount	44 ft		Reason			Shoe Joint	
Comment : 25 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	DS Pump Press (psi)	Comb Pump Rate (bbl/min)	Recirc Density (ppg)	Pump Stg Tot (bbl)	Comments
Event	1	Call Out	Call Out	9/22/2019	13:00:00	USER					ON LOCATION @ 19:00.
Event	2	Depart from Service Center or Other Site	Depart from Service Center or Other Site	9/22/2019	17:45:00	USER					
Event	3	Arrive at Location from Service Center	Arrive at Location from Service Center	9/22/2019	18:20:00	USER					24 MILES. RIG IS RUNNING CASING. DISCUSS NUMBERS AND JOB PROCEDURE WITH CUSTOMER.
Event	4	Other	SPOT TRUCKS	9/22/2019	18:30:00	USER					SPOT TRUCKS
Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	9/22/2019	18:35:00	USER					JSA PRIOR SPOTTING EQUIPMENT AND RIGGING UP
Event	6	Other	RIG UP	9/22/2019	18:40:00	USER					RIG UP ALL SURFACE LINES AND BULK . PRIME UP CEMENT PUMP TRUCK.
Event	7	Other	Verified cement and water	9/22/2019	18:55:00	USER					VERYFIED CEMENT AND WATER VOLUMES ON LOCATION.
Event	8	Casing on Bottom	Casing on Bottom	9/22/2019	21:30:00	USER					CASING LANDED. RIG UP CEMENT HEAD AND MANIFOLD FOR RIG TO CIRCULATE. VERYFIED RATE AND PRESSURE WITH DRILLER. 250 PSI @8 BPM.
Event	9	Pre-Job Safety Meeting	Pre-Job Safety Meeting	9/22/2019	21:38:00	USER					DISCUSS HAZARDS, JOB PROCEDURE AND CONTINGENCY PLAN WITH ALL PERSONAL INVOLVED.

Event	10	Start Job	Start Job	9/22/2019	21:48:00	USER					
Event	11	Pressure Test	Pressure Test	9/22/2019	21:55:00	USER					LOAD LINE WITH 3 BBLS OF FRESH WATER AND TEST TO 3130 PSI.
Event	12	Pump Spacer	Pump Spacer	9/22/2019	21:58:00	USER					PUMP 10 BBLS DYE WATER
Event	27	Pump Tail Cement	Pump Tail Cement	9/22/2019	22:03:00	USER	23.74	1.69	14.54	9.74	WEIGHT/ PUMP 550 SKS (170.4 BBLS) OF SWIFTCEM @ 13.5 PPG. 230 PSI @ 8.0 BPM.
Event	34	Check Weight	Check Weight	9/22/2019	22:05:00	USER	204.61	3.38	13.37	3.97	
Event	103	Shutdown	Shutdown	9/22/2019	22:35:00	USER	4.80	0.00	0.14	191.59	FINISHED PUMPING CEMENT.
Event	121	Drop Top Plug	Drop Top Plug	9/22/2019	22:38:00	USER	1.96	2.28	5.89	4.25	DROP TOP PLUG VERYFYED BY CUSTOMER.
Event	126	Pump Displacement	Pump Displacement	9/22/2019	22:39:00	USER	7.64	2.28	0.14	6.54	122.7 BBLS OF FRESH WATER DISPLACEMENT.
Event	153	Bump Plug	Bump Plug	9/22/2019	23:03:00	USER	-5.62	0.00	0.14	134.67	BUMP PLUG @ 1030 PSI 500 OVER FINAL LIFT PRESSURE OF 533 PSI.
Event	156	Check Floats	Check Floats	9/22/2019	23:06:00	USER					FLOATS HELD. 0.5 BBLS BACK.
Event	157	End Job	End Job	9/22/2019	23:08:00	USER					
Event	158	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	9/22/2019	23:11:00	USER					HELD JSA PRIOR TO RIG DOWN WITH CEMENT CREW.

3.0 Attachments

3.1 INTERCHANCE A S22-30-6N.png

