

HALLIBURTON

iCem[®] Service

EXTRACTION OIL & GAS-EBUS

Date: Friday, December 29, 2017

JESSER 3E-10-7N PRODUCTION

Job Date: Friday, December 15, 2017

Sincerely,

Julia Nichols

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1.0 Cementing Job Summary

1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **Jesser 3E-10-7N** cement **Production** 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 63 barrels 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]

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Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 369404		Ship To #: 3830818		Quote #:		Sales Order #: 0904502416					
Customer: EXTRACTION OIL & GAS				Customer Rep: Larry Siegel							
Well Name: JESSER			Well #: 3E-10-7N			API/UWI #: 05-123-45662-00					
Field: WATTENBERG		City (SAP): BERTHOUD		County/Parish: WELD		State: COLORADO					
Legal Description: NW SW-3-4N-88W-2314FSL-476FWL											
Contractor:				Rig/Platform Name/Num: Patterson 901							
Job BOM: 7523 7523											
Well Type: HORIZONTAL OIL											
Sales Person: HALAMERICA/HX38199				Srvc Supervisor: Bryce Muir							
Job											
Formation Name											
Formation Depth (MD)		Top			Bottom						
Form Type											
BHST											
Job depth MD		11863ft			Job Depth TVD		8970 FT				
Water Depth											
Wk Ht Above Floor 4 FT											
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		J-55	0	1596	0	0	
Casing	0	5.5	4.778	20		P-110	0	11863	0	0	
Open Hole Section			8.5				1596	11870	0	8970	
Tools and Accessories											
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make		
Guide Shoe	5.5					Top Plug	5.5	1	KLX		
Float Shoe	5.5	1	KLX	11863		Bottom Plug	5.5				
Float Collar	5.5	1	KLX	11858		SSR plug set	5.5				
Insert Float	5.5					Plug Container	5.5	1	HES		
Stage Tool	5.5					Centralizers	5.5	178	KLX		
Fluid Data											
Stage/Plug #: 1											
Fluid #	Stage Type	Fluid Name			Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
1	11.5 lb/gal Tuned Spacer III	Tuned Spacer III			50	bbl	11.5	3.73		6	
149.34 lbm/bbl		BARITE, BULK (100003681)									
35 gal/bbl		FRESH WATER									
0.50 gal/bbl		MUSOL A, 330 GAL TOTE - (790828)									
0.50 gal/bbl		DUAL SPACER SURFACTANT B, 5 GAL PAIL (100003665)									

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Cementing Job Summary

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	ElastiCem	ELASTICEM (TM) SYSTEM	2000	sack	13.2	1.57		5	7.53
0.40 %		SCR-100 (100003749)							
7.50 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	263	bbl	8.34				
Cement Left In Pipe	Amount	5 BBL WET SHOE		Reason	Shoe Joint				
<p>Comment: WE ARRIVED ON LOCATION AND SPOTTED IN EQUIPMENT AND BEGAN TO RIG UP OUR IRON. RIG CREW WAS RUNNING CASING. AFTER ALL CASING WAS RAN WE RIGGED UP OUR PLUG CONTAINER AND MANIFOLD SO THE RIG COULD CIRCULATE THE WELL. AS THE RIG WAS CIRCULATING WE HELD A SAFETY MEETING AND THEN STARTED OUR CEMENT JOB. WE PUMPED THE MATERIALS AND QUANTITIES STATED IN THE ABOVE TABLE. AFTER LANDING THE PLUG AND PUMPING A 5 BBL WET SHOE. WE HELD A SAFETY MEETING AND RIGGING DOWN OUR EQUIPMENT. JOB WAS COMPLETELY SAFELY BY BRYCE MUIR AND CREW.</p>									

2.0 Real-Time Job Summary

2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Driv-Side Pump Pressure (psi)	Downhole Density (ppg)	Combined Pump Rate (bbl/min)	Comments
Event	1	Call Out	Call Out	12/15/2017	14:30:00	USER				CREW CALLED OUT TO PERFORM A PRODUCTION JOB FOR EXTRACTION OIL AND GAS.
Event	2	Other	Other	12/15/2017	15:30:00	USER				DOWNLOAD ALL REQUIRED PAPERWORK FOR PRODUCTION JOB. LOAD UP AND CHECK ALL MATERIALS REQUIRED TO PERFORM JOB.
Event	3	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	12/15/2017	16:45:00	USER				DISCUSS HAZARDS ASSOCIATED WITH DRIVING TRUCKS TO LOCATION. IDENTIFY SAFEST ROUTE OF TRAVEL, CONVOY ORDER, AND PLACES TO PULL OVER IF NEEDED.
Event	4	Depart from Service Center or Other Site	Depart from Service Center or Other Site	12/15/2017	17:00:00	USER				
Event	5	Arrive at Location from Other Job or Site	Arrive at Location from Other Job or Site	12/15/2017	18:00:00	USER				
Event	6	Assessment Of Location Safety Meeting	Assessment Of Location Safety Meeting	12/15/2017	18:05:00	USER				ASSESS LOCATION TO IDENTIFY POTENTIAL HAZARDS. LOCATE CEMENT BINS AND WATER TANKS. DISCUSS BEST WAY TO SPOT PUMPING EQUIPMENT. SPOT EQUIPMENT.
Event	7	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	12/15/2017	18:15:00	USER				DISCUSS HAZARDS ASSOCIATED WITH RIGGING UP AND PACKING IRON ON LOCATION. POINT OUT SPECIFIC HAZARDS THAT WE WOULD BE WORKING AROUND DURING THE RIG UP PROCESS.
Event	8	Rig-Up Equipment	Rig-Up Equipment	12/15/2017	18:30:00	USER				
Event	9	Other	Other	12/15/2017	19:00:00	USER				DRILLING RIG RUNNING CASING.
Event	10	Rig-Up Equipment	Rig-Up Equipment	12/15/2017	20:15:00	USER	40.30	0.35	0.00	RIG ON BOTTOM WITH CASING AT 2010. WE RIGGED UP OUR PLUG CONTAINER AND PUMPING LINES ON THE RIG FLOOR SO THE RIG COULD FILL PIPE AND CIRCULATE WHILE WE FINISHED RIGGING UP IRON TO THE STAND PIPE.
Event	11	Pre-Job Safety Meeting	Pre-Job Safety Meeting	12/15/2017	20:45:00	USER	34.30	8.62	0.00	DISCUSS HES SAFETY AND JOB PROCEDURES WITH THE RIG CREW AND COMPANY MAN. IDENTIFY MUSTER AREAS,

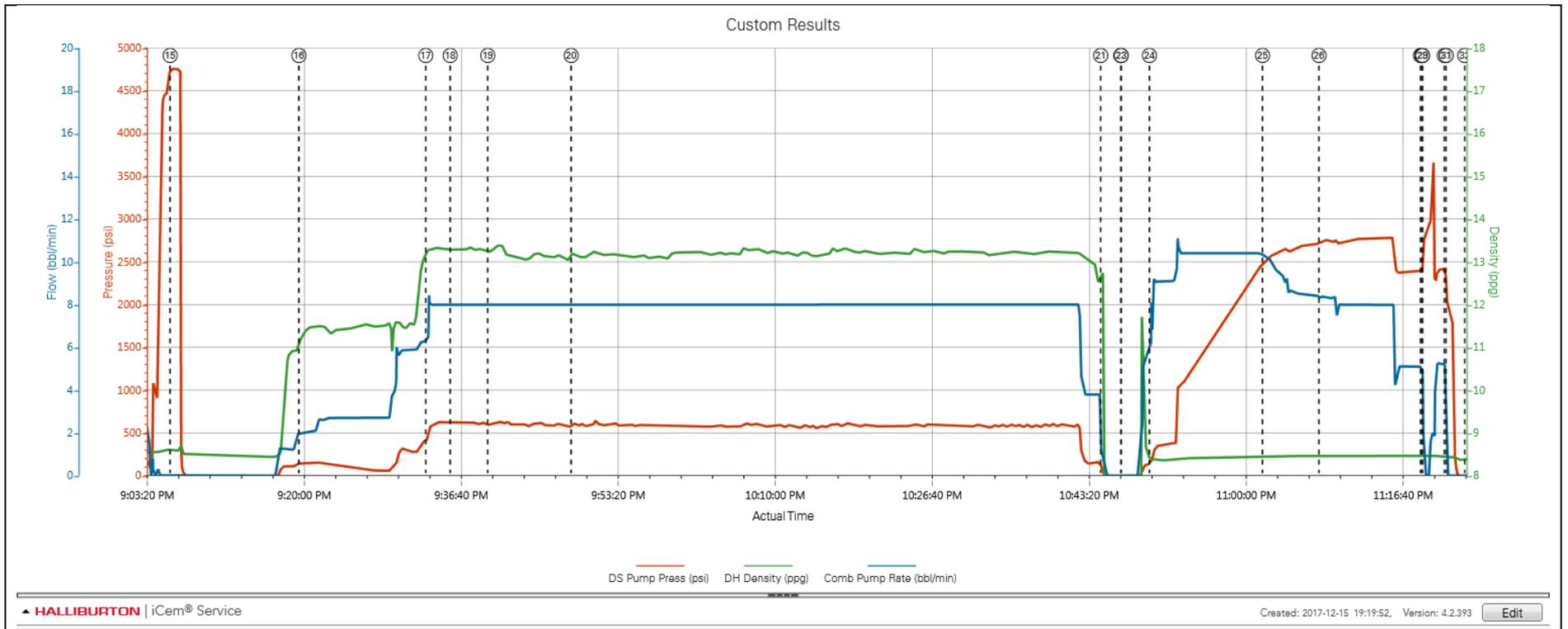
CLOSEST HOSPITALS, AND FIRST AID LOCATIONS. DISCUSS JOB ORDER OF OPERATION IN REGARDS TO WHAT WE WILL PUMP AND WHEN.

Event	12	Rig-Up Equipment	Rig-Up Equipment	12/15/2017	20:55:00	USER	-8.70	8.54	0.00	RIG UP PUMPING LINES TO STAND PIPE AND PLUG CONTAINER.
Event	13	Start Job	Start Job	12/15/2017	20:55:30	COM6	-14.70	8.54	0.00	
Event	14	Other	Other	12/15/2017	20:59:00	USER	-14.70	8.53	0.00	PUMP 3 BBLS FRESH WATER TO FILL PUMPS AND LINES.
Event	15	Test Lines	Test Lines	12/15/2017	21:06:01	COM6	4760.30	8.60	0.00	CONDUCT A LOW PRESSURE TEST TO 500 PSI TO TEST RCM PRESSURE KICKOUTS. WE ALSO CONDUCTED OUR HIGH PRESSURE TEST TO 4800 PSI TO TEST PUMPS AND LINES. MONITOR PRESSURE LOSS.
Event	16	Pump Spacer 1	Pump Spacer 1	12/15/2017	21:19:41	COM6	147.30	11.24	2.00	PUMPED 50 BBLS OF TUNED SPACER. 11.5#/GAL 3.73 CUFT/SK 23.4 GAL/SK. WE PUMPED SPACER AT 3 BPM SO WE COULD AND THE SPACER ADDITIVES ON THE FLY. INCREASED RATE TO 6 BPM WITH A CIRCULATING PRESSURE OF 290 PSI. WE HAD GOOD CIRCULATION.
Event	17	Pump Cement	Pump Cement	12/15/2017	21:33:09	COM6	432.30	13.29	6.50	PUMPED 559 BBLS OF PRIMARY CEMENT. 2000 SACKS @ 13.2 #/GAL 1.57 CUFT/SK 7.53 GAL/SK. WE PUMPED CEMENT AT 8 BPM WITH A CIRCULATING PRESSURE OF 570 PSI. WE HAD GOOD WELL CIRCULATION.
Event	18	Check Weight	Check weight	12/15/2017	21:35:46	COM6	612.30	13.30	8.00	CEMENT VERIFIED BY PRESSURIZED MUD BALANCE.
Event	19	Check Weight	Check weight	12/15/2017	21:39:45	COM6	607.30	13.23	8.00	CEMENT VERIFIED BY PRESSURIZED MUD BALANCE.
Event	20	Check Weight	Check weight	12/15/2017	21:48:36	COM6	645.30	13.20	8.00	CEMENT VERIFIED BY PRESSURIZED MUD BALANCE.
Event	21	Shutdown	Shutdown	12/15/2017	22:44:49	COM6	19.30	12.69	0.80	
Event	22	Drop Plug	Drop Plug	12/15/2017	22:46:57	COM6	-31.70	0.51	0.00	5.5" TOP PLUG WAS DROPPED BY BRYCE MUIR AND THE KLX REP. WE REMOVED THE TOP CAP AFTER WE SHUTDOWN AND LOADED THE PLUG.
Event	23	Pump Displacement	Pump Displacement	12/15/2017	22:47:00	COM6	-31.70	0.52	0.00	PUMPED 262 BBLS OF FRESH WATER DISPLACEMENT. WE PUMPED DISPLACEMENT AT 10.5 BPM WITH A CIRCULATING PRESSURE OF 1180 PSI.
Event	24	Displ Reached Cmnt	Displ Reached Cmnt	12/15/2017	22:50:00	USER	192.30	8.39	7.20	WE CAUGHT UP WITH THE PLUG AFTER PUMPING 26 BBLS OF DISPLACEMENT. CIRCULATING PRESSURE WENT FROM 430 PSI TO 1140 PSI.

Event	25	Other	Other	12/15/2017	23:02:00	USER	2501.30	8.45	10.10	WE GOT TUNED SPACER TO SURFACE AFTER PUMPING 150 BBLs OF DISPLACEMENT. WE GOT 50 BBLs OF TUNED SPACER TO SURFACE.
Event	26	Other	Other	12/15/2017	23:08:00	USER	2754.30	8.46	8.40	AT 200 BBLs OF DISPLACEMENT PUMPED WE GOT GOOD CEMENT TO SURFACE. WE GOT A TOTAL OF 63 BBLs OF CEMENT TO SURFACE. CALCULATED TO OF CEMENT IS AT SURFACE.
Event	27	Bump Plug	Bump Plug	12/15/2017	23:18:46	COM6	2622.30	8.44	4.20	WE LANDED THE PLUG AT 263 BBLs OF DISPLACEMENT PUMPED. WE SLOWED OUR RATE TO 5 BPM FOR THE LAST 20 BBLs OF DISPLACEMENT. PLUG WAS LANDED AT 2410 PSI AND WE PRESSURED UP TO 2887 PSI AND HELD FOR LESS THAN ONE MINUTE.
Event	28	Shutdown	Shutdown	12/15/2017	23:18:55	USER	2781.30	8.46	0.00	
Event	29	Other	Other	12/15/2017	23:19:00	USER	2835.30	8.46	0.00	KICK IN PUMPS TO RUPTURE DISK AND PUMP WET SHOE. WE PUMPED 2 BPM TO RUPTURE THE DISK. THE DISK RUPTURED AT 3691 PSI. WE INCREASED OUR RATE TO 5 BPM TO PUMP A 5 BBL WET SHOE.
Event	30	Shutdown	Shutdown	12/15/2017	23:21:18	COM6	2049.30	8.45	0.00	
Event	31	Check Floats	Check Floats	12/15/2017	23:21:30	USER	1942.30	8.44	0.00	FLOATS HELD. WE GOT 2 BBLs BACK TO THE RCM.
Event	32	End Job	End Job	12/15/2017	23:23:28	COM6	-44.70	8.40	0.00	
Event	33	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	12/15/2017	23:45:00	USER				DISCUSS HAZARDS ASSOCIATED WITH RIGGING DOWN AND PACKING IRON ON A DARK LOCATION. TOUCHED BASE ON CERTAIN HAZARDS THAT WE WERE WORKING AROUND.
Event	34	Rig-Down Equipment	Rig-Down Equipment	12/16/2017	00:00:00	USER				
Event	35	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	12/16/2017	01:15:00	USER				DISCUSS HAZARDS ASSOCIATED WITH DRIVING TRUCKS BACK TO THE SERVICE CENTER. DISCUSSED CONVOY ORDER, ROUTE OF TRAVEL, AND WHAT TO DO IF TOO TIRED TO DRIVE.
Event	36	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	12/16/2017	01:30:00	USER				JOB WAS COMPLETE SAFELY BY BRYCE MUIR AND CREW. THANK YOU FOR USING HALLIBURTON ENERGY SERVICES. STAY SAFE OUT HERE.

3.0 Attachments

3.1 Custom Results – Job Chart with Events



3.2 Custom Results – Job Chart without Events

