

HALLIBURTON

iCem[®] Service

EXTRACTION OIL & GAS-EBUS

Date: Sunday, October 22, 2017

Silverback 25N-20-3N Production

Job Date: Tuesday, October 03, 2017

Sincerely,

Justin Lansdale

Legal Notice

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Table of Contents

1.0	Cementing Job Summary	4
1.1	Executive Summary	4
2.0	Real-Time Job Summary	7
2.1	Job Event Log	7
3.0	Attachments.....	9
3.1	Job Chart.....	9

1.0 Cementing Job Summary

1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **Silverback 25N-20-3N** 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.

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 #: 3697990	Quote #:	Sales Order #: 0904336538
Customer: EXTRACTION OIL & GAS		Customer Rep: SHANE HACKFORD	
Well Name: SILVERBACK	Well #: 25N-20-3N	API/UWI #: 05-123-42282-00	
Field: WILDCAT	City (SAP): KEOTA	County/Parish: WELD	State: COLORADO
Legal Description: NE NW-36-12N-62W-300FNL-1463FWL			
Contractor: PATTERSON-UTI ENERGY		Rig/Platform Name/Num: PATTERSON 346	
Job BOM: 7523 7523			
Well Type: HORIZONTAL OIL			
Sales Person: HALAMERICA\HX38199		Srvc Supervisor: Vitali Neverdasov	

Job

Formation Name			
Formation Depth (MD)	Top		Bottom
Form Type	BHST		
Job depth MD	16452ft	Job Depth TVD	7090 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	3	9.625	8.921	36		J-55	0	1580	0	1580
Casing	0	5.5	4.778	20		P-110	0	16452	0	7090
Open Hole Section			8.5				1580	16460	0	7090

Tools and Accessories

Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make
Guide Shoe	5.5				Top Plug	5.5	1	NA
Float Shoe	5.5	1	NA	16452	Bottom Plug	5.5	0	NA
Float Collar	5.5	1	NA	16449	SSR plug set	5.5		
Insert Float	5.5				Plug Container	5.5	1	HES
Stage Tool	5.5				Centralizers	5.5	120	N/A

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	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)								
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 Lead	ELASTICEM (TM) SYSTEM	2150	sack	13.2	1.57		5	7.53	
0.35 %		SCR-100 (100003749)								
7.53 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	ElastiCem TAIL	ELASTICEM (TM) SYSTEM	500	sack	13.2	1.57		5	7.54	
0.30 %		SCR-100 (100003749)								
7.54 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	
4	Displacement	Displacement	365.9	bbl	8.34					
Cement Left In Pipe		Amount	0 FT		Reason			WET SHOE		
Comment : 60 BBLS OF CEMENT BACK TO SURFACE. FINAL CIRCULATING PRESSURE 2617 PSI @ 5 BPM.										

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	10/3/2017	16:00:00	USER	CUSTOMER REQUESTED CREW ON LOCATION @ 23:00
Event	2	Depart Yard Safety Meeting	Depart Yard Safety Meeting	10/3/2017	19:10:00	USER	HELD JSA PRIOR LEAVING THE YARD
Event	3	Depart Shop for Location	Depart Shop for Location	10/3/2017	19:25:00	USER	CALLED JORNEY
Event	4	Arrive at Location from Service Center	Arrive at Location from Service Center	10/3/2017	21:47:00	USER	ARRIVED TO LOCATION, 85 MILES. DISCUSS NUMBERS AND JOB PROCEDURE WITH CUSTOMER. RIG IS RUNNING CASING
Event	5	Other	SPOT TRUCKS	10/3/2017	21:55:00	USER	SPOT TRUCKS
Event	6	Safety Meeting - Pre Rig-Up	Safety Meeting - Pre Rig-Up	10/3/2017	22:00:00	USER	HELD PRE RIG UP SAFETY MEETING
Event	7	Rig-up Lines	Rig-up Lines	10/3/2017	22:30:00	USER	RIG UP ALL SURFACE LINES TO THE BUFFER ZONE. CEMENT CREW IS ON STANDBY
Event	8	Cement At Bottom	Cement At Bottom	10/4/2017	01:31:00	USER	CASING LANDED. RIG IS CIRCULATING 12 BPM/ 1686 PSI
Event	9	Safety Meeting - Pre Job	Safety Meeting - Pre Job	10/4/2017	02:01:00	USER	HELD SAFETY MEETING WITH ALL PERSONAL INVOLVED
Event	10	Start Job	Start Job	10/4/2017	02:13:02	COM4	
Event	11	Other	Other	10/4/2017	02:33:00	USER	RIG FINISHED CIRCULATING
Event	12	Pressure Test	Pressure Test	10/4/2017	02:48:00	USER	LOAD LINE WITH 2 BBLS OF WATER AND TESTED LINES TO 4556 PSI
Event	13	Pump Spacer 1	Pump Spacer 1	10/4/2017	02:53:20	COM4	BATCH/WEIGH/PUMP 50 BBLS OF SPACER WITH SURFACTANS @ 11.5 PPG
Event	14	Pump Cement	Pump Cement	10/4/2017	03:06:53	COM4	BATCH/WEIGH/PUMP 2650 SKS (741 BBLS) OF ELASTICEM @ 13.2 PPG

Event	15	Shutdown	Shutdown	10/4/2017	04:58:42	COM4	FINISHED PUMPING CEMENT
Event	16	Clean Lines	Clean Lines	10/4/2017	05:04:24	COM4	WASH PUMPS AND LINES
Event	17	Drop Top Plug	Drop Top Plug	10/4/2017	05:10:57	COM4	OPENED TOP CAP AND DROP PLUG
Event	18	Pump Displacement	Pump Displacement	10/4/2017	05:11:12	COM4	PUMP 365 BBLS OF WATER. GOT CEMENT BACK TO SURFACE @ 305 BBLS AWAY. 60 BBLS OF CEMENT BACK TO SURFACE
Event	19	Bump Plug	Bump Plug	10/4/2017	05:53:00	USER	BUMP PLUG WITH FINAL CIRCULATING PRESSURE OF 2617 PSI
Event	20	Other	Other	10/4/2017	05:54:00	USER	BURST DISC @ AND PUMP 5 BBLS WET SHOE
Event	21	Shutdown	Shutdown	10/4/2017	05:55:00	USER	
Event	22	Check Floats	Check Floats	10/4/2017	05:56:00	USER	FLOATS HELD
Event	23	End Job	End Job	10/4/2017	05:59:37	COM4	
Event	24	Safety Meeting - Pre Rig-Down	Safety Meeting - Pre Rig-Down	10/4/2017	06:05:00	USER	JELD PRE RIG DOWN JSA
Event	25	Depart Location Safety Meeting	Depart Location Safety Meeting	10/4/2017	07:25:00	USER	HELD JSA PRIOR LEAVING LOCATION

3.0 Attachments

3.1 Job Chart



