

# HALLIBURTON

iCem<sup>®</sup> Service

## **SANDRIDGE ENERGY INC**

Date: Saturday, April 23, 2016

### **Hebron 0780 4-7H**

Production

Job Date: Monday, April 18, 2016

Sincerely,  
Lauren Roberts

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## 1.0 Cementing Job Summary

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### 1.1 Executive Summary

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Halliburton appreciates the opportunity to perform the cementing services on the **Hebron 0780 4-7H** 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.

**3 bbl. of cement 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 [Ft. Lupton]**

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## Cementing Job Summary

## The Road to Excellence Starts with Safety

Sold To #: 305021	Ship To #: 3722530	Quote #: 0022171520	Sales Order #: 0903235231							
Customer: SANDRIDGE ENERGY INC - E-BUS		Customer Rep: SAM								
Well Name: HEBRON	Well #: 0780 4-7H	API/UWI #: 05-057-06545-00								
Field:	City (SAP): COALMONT	County/Parish: JACKSON	State: COLORADO							
Legal Description: NW NW-17-7N-80W-37FNL-554FWL										
Contractor: XTREME DRLG		Rig/Platform Name/Num: XTREME 20								
Job BOM: 7523										
Well Type: HORIZONTAL OIL										
Sales Person: HALAMERICA/HX41066		Srv Supervisor: Joseph Scileppi								
Job										
Formation Name										
Formation Depth (MD)	Top 0	Bottom	12084							
Form Type	BHST									
Job depth MD	12070ft	Job Depth TVD	7060							
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	8.921	36	LTC	J-55	0	2395	0	2395
Casing		5.5	4.778	20		P-110	0	12070	0	7060
Open Hole Section			8.75				2395	12084	2395	7060
Tools and Accessories										
Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make		
Guide Shoe	5.5			12070	Top Plug	5.5				
Float Shoe	5.5				Bottom Plug	5.5				
Float Collar	5.5				SSR plug set	5.5				
Insert Float	5.5				Plug Container	5.5	1	HES		
Stage Tool	5.5				Centralizers	5.5				
Fluid Data										
Stage/Plug #: 1										
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft <sup>3</sup> /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal	
1	10.6 lb/gal Tuned Spacer III	Tuned Spacer III	40	bbl	10.6	5.59				
1 lbm/bbl		PHENO SEAL MEDIUM, 40 LB BAG (101307743)								
100.79 lbm/bbl		BARITE, BULK (100003681)								
0.25 gal/bbl		MUSOL A, 330 GAL TOTE - (790828)								
0.25 gal/bbl		DUAL SPACER SURFACTANT B, 5 GAL PAIL (100003665)								
37.10 gal/bbl		FRESH WATER								
0.61 lbm/bbl		POLY-E-FLAKE (101216940)								

last updated on 4/19/2016 3:58:23 PM

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(v. 4.2.393)

Created: Saturday, April 23, 2016

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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	Tergovis I	CMT PKG TERGOVIS I	50	bbl	10.6	3.59			
89.98 lbm/bbl		ENHANCER 923, BULK (101894003)							
0.25 lbm/bbl		POLY-E-FLAKE (101216940)							
0.1560 lbm/bbl		TUF FIBER 594, 15 LB BOX (101350514)							
0.81 lbm/bbl		SA-1015, 50 LB SACK (102077046)							
2 lbm/bbl		PHENO SEAL MEDIUM, 40 LB BAG (101307743)							
66.61 lbm/bbl		BARITE, BULK (100003681)							
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	NeoCem	NeoCem TM	535	sack	12	2.299		5	12.56
12.56 Gal		FRESH WATER							
0.15 %		FE-2 (100001615)							
0.10 %		SCR-100 (100003749)							
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	EconoCem	ECONOCER (TM) SYSTEM	1136	sack	13.5	1.65		5	7.87
47 lbm		CMT - PREMIUM - CLASS G REG OR TYPE V, BULK (100003685)							
35 lbm		POZMIX A FLYASH (100003690)							
0.20 %		HR-5, 50 LB SK (100005050)							
7.87 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
5	Displacement Fluid	Displacement Fluid	267	bbl	8.4				
Cement Left In Pipe		Amount	46 ft		Reason			Shoe Joint	
Mix Water:pH ##		Mix Water:## ppm Chloride:			Mix Water Temperature:## °F °C				
Cement Temperature:## °F °C		Plug Displaced by:## lb/gal kg/m3 XXXX			Disp. Temperature:## °F °C				
Plug Bumped?Yes/No		Bump Pressure:#### psi MPa			Floats Held?Yes/No				
Cement Returns:## bbl m3		Returns Density:## lb/gal kg/m3			Returns Temperature:## °F °C				
Comment GOT 3 BBLs OF CMT TO SURFACE									

## 2.0 Real-Time Job Summary

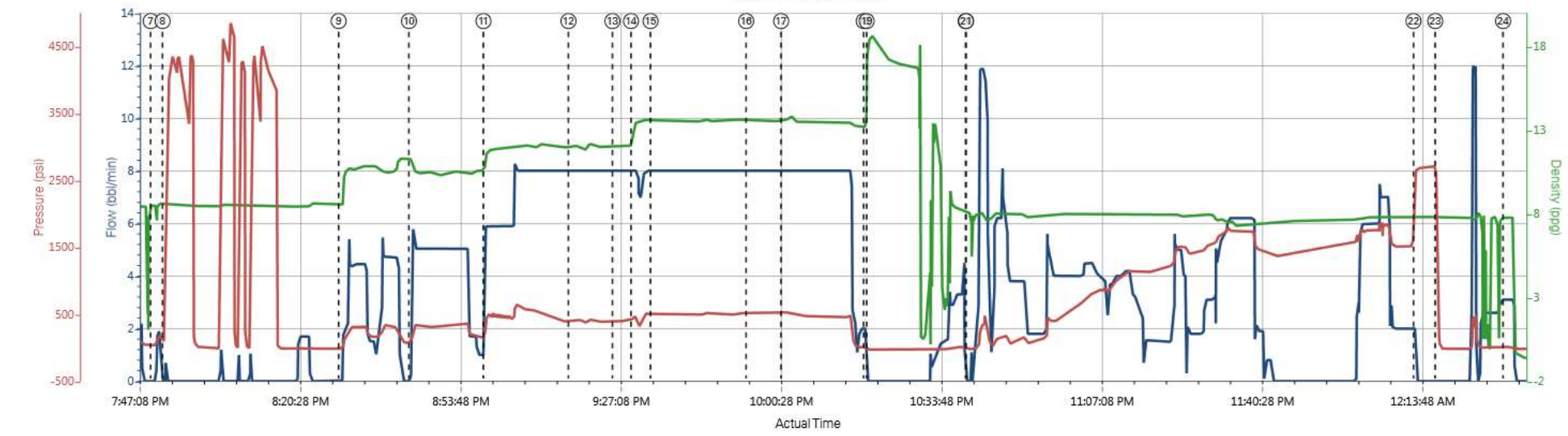
## 2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Comb Pump Rate (bbl/min)	DH Density (ppg)	PS Pump Press (psi)	Comments
Event	1	Call Out	Call Out	4/18/2016	03:30:00	USER				CALLOUT FOR ON LOCATION AT 1300
Event	2	Crew Leave Yard	Crew Leave Yard	4/18/2016	08:00:00	USER				PRE JOURNEY JSA W/ CREW
Event	3	Arrive At Loc	Arrive At Loc	4/18/2016	13:00:00	USER				UPON ARRIVAL RIG HAD 3000' OF CASING TO RUN, MET W/ COMPANY REP TO DISCUSS JOB PROCEDURE
Event	4	Rig-Up Equipment	Rig-Up Equipment	4/18/2016	17:00:00	USER				PRE RIG UP HAZARD HUNT JSA W/ CREW
Event	5	Other	Other	4/18/2016	17:30:00	USER				FIELD MIX WATER ANALYSIS: TEMP-80, PH-7, CHLORIDES-0, IRON-0
Event	6	Pre-Job Safety Meeting	Pre-Job Safety Meeting	4/18/2016	19:30:00	USER				JSA W/ ALL INVOLVED PERSONNEL
Event	7	Start Job	Start Job	4/18/2016	19:49:50	COM5				
Event	8	Test Lines	Test Lines	4/18/2016	19:52:18	COM5	0.00	8.57	96.00	TESTED LINES TO 4500, PRESSURE WASN'T HOLDING WE TESTED BACK TO GROUND MANIFOLD THEN BACK TO TRUCK AND FOUND THAT PACKING ON HT WAS LEAKING WE TIGHTENED PACKING AND PROCEEDED W/ JOB
Event	9	Pump Spacer 1	Pump Spacer 1	4/18/2016	20:28:54	COM5	0.00	8.56	-14.00	PUMPED 40 BBLS OF 10.6 TUNED SPACER III AT 5 BPM AND 310 PSI, WITH 8 GAL OF MUSOL A AND 8 GAL OF DUAL SPACER B MIXED ON FLY
Event	10	Pump Spacer 2	Pump Spacer 2	4/18/2016	20:43:31	COM5	1.90	11.26	120.00	PUMPED 50 BBLS OF 10.6 TERGOVIS AT 5 BPM AND 310 PSI W/ TUFF FIBER THROUGHOUT
Event	11	Pump Lead Cement	Pump Lead Cement	4/18/2016	20:59:00	COM5	5.90	11.61	327.00	PUMPED 535 SKS OR 218.1 BBLS OF 12 PPG LEAD CMT AT 8 BPM AND 628 PSI W/ TUFF FIBER THROUGHOUT
Event	12	Check Weight	Check weight	4/18/2016	21:16:41	COM5	8.00	12.07	403.00	WEIGHT VERIFIED BY MUD SCALES
Event	13	Check Weight	Check weight	4/18/2016	21:25:50	COM5	8.00	12.07	409.00	WEIGHT VERIFIED BY MUD SCALES
Event	14	Pump Tail Cement	Pump Tail Cement	4/18/2016	21:29:42	COM5	8.00	13.15	480.00	PUMPED 1136 SKS OR 333.8 BBLS OF 13.5 TAIL CMT AT 8 BPM AND 511 PSI

Event	15	Check Weight	Check weight	4/18/2016	21:33:45	COM5	8.00	13.51	494.00	WEIGHT VERIFIED BY MUD SCALES
Event	16	Check Weight	Check weight	4/18/2016	21:53:38	COM5	8.00	13.62	520.00	WEIGHT VERIFIED BY MUD SCALES
Event	17	Check Weight	Check weight	4/18/2016	22:00:54	COM5	8.00	13.63	536.00	WEIGHT VERIFIED BY MUD SCALES
Event	18	Shutdown	Shutdown	4/18/2016	22:18:04	COM5	0.00	13.78	-7.00	
Event	19	Other	Other	4/18/2016	22:18:41	COM5	0.00	18.35	-29.00	WASHED PUMPS AND LINES
Event	20	Drop Top Plug	Drop Top Plug	4/18/2016	22:39:16	COM5	0.00	8.10	-21.00	PLUG PRE LOADED AND WITNESSED BY COMPANY REP
Event	21	Pump Displacement	Pump Displacement	4/18/2016	22:39:21	COM5	0.00	8.09	-21.00	PUMPED 267 BBLS OF H2O W/ MMCR IN FIRST 20 BBLS AND CLAY WEB THROUGHOUT AT 5 BPM AND 1541 PSI, HAD ISSUES W/ GETTING WATER DEBRIS FROM TANK CAUSED US TO HAVE TO SHUTDOWN, GOT 3 BBLS OF CMT TO SURFACE
Event	22	Bump Plug	Bump Plug	4/19/2016	00:12:23	COM5	0.00	7.82	2660.00	FINAL CIRCULATING PRESSURE WAS 1531 PSI AND PLUG BUMPED AT 2536 PSI
Event	23	Other	Other	4/19/2016	00:16:54	COM5	0.00	7.83	1147.00	CHECKED FLOATS, THEY HELD AND GOT 2.5 BBLS BACK TO TRUCK
Event	24	End Job	End Job	4/19/2016	00:31:00	COM5				



HEBRON 0780 4-7H



Comb Pump Rate (bbl/min)				DH Density (ppg)		PS Pump Press (psi)	
① Call Out n/a;n/a;n/a	④ Rig-Up Equipment n/a;n/a;n/a	⑦ Start Job 0;8.47;37	⑩ Pump Spacer 2 1.9;11.26;120	⑬ Check weight 8;12.07;409	⑯ Check weight 8;13.62;520	⑳ Other 0;18.35;-29	22 Bump Plug 0;7.82;2660
② Craw Leave Yard n/a;n/a;n/a	⑤ Other n/a;n/a;n/a	⑧ Test Lines 0;8.57;96	⑪ Pump Lead Cement 5.9;11.61;327	⑭ Pump Tail Cement 8;13.15;480	⑰ Check weight 8;13.63;536	20 Drop Top Plug 0;8.1;-21	23 Other 0;7.83;1147
③ Arrive At Loc n/a;n/a;n/a	⑥ Pre-Job Safety Meeting 0;0;34	⑨ Pump Spacer 1 0;8.56;-14	⑫ Check weight 8;12.07;403	⑮ Check weight 8;13.51;494	⑱ Shutdown 0;13.78;-7	21 Pump Displacement 0;8.09;-21	24 End Job 3.1;7.77;11

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