

# HALLIBURTON

iCem<sup>®</sup> Service

**SRC ENERGY INC-EBUS**

Date: Thursday, January 25, 2018

**Goetzel 32C-30-M2 PRODUCTION**

Job Date: Friday, January 05, 2018

Sincerely,

**JULIA NICHOLS**

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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 **GOETZEL 32C-30-M2** 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 4 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 #: 359915	Ship To #: 3781551	Quote #:	Sales Order #: 0904545857							
Customer: SYNERGY RESOURCES CORPORATION		Customer Rep: Tony Pershall								
Well Name: GOETZEL	Well #: 32C-30-M2	API/UWI #: 05-123-44186-00								
Field: WATTENBERG	City (SAP): GREELEY	County/Parish: WELD	State: COLORADO							
Legal Description: NE SW-29-6N-66W-2317FSL-2053FWL										
Contractor:		Rig/Platform Name/Num: Precision 462								
Job BOM: 7523 7523										
Well Type: HORIZONTAL OIL										
Sales Person: HALAMERICA/HB41307		Srvc Supervisor: Nicholas Peterson								
Job										
Formation Name										
Formation Depth (MD)	Top	Bottom								
Form Type		BHST								
Job depth MD	15,929'	Job Depth TVD	7,087'							
Water Depth		Wk Ht Above Floor	5'							
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	1792	0	0
Casing		5.5	4.778	20		P-110	0	15929	0	0
Open Hole Section			8.5				1800	15940	0	0
Tools and Accessories										
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make	
Guide Shoe	5.5	1	WEATH	15,929		Top Plug	5.5	1	WEATH	
Float Shoe						Bottom Plug	5.5	1	WEATH	
Wet Shoe Sub	5.5	1	WEATH	15,818		SSR plug set				
Insert Float						Plug Container	5.5	1	HES	
Stage Tool						Centralizers	5.5	254	WEATH	
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	Tuned Spacer III	Tuned Spacer III	40	bbl	11.5	3.8	23.8	6	952	
35.10 gal/bbl FRESH WATER										
0.50 gal/bbl DUAL SPACER SURFACTANT B, 5 GAL PAIL (100003665)										
0.50 gal/bbl MUSOL A, 330 GAL TOTE - (790828)										
147.42 lbm/bbl BARITE, BULK (100003681)										

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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 Lead	ELASTICEM (TM) SYSTEM	1006	sack	13.2	1.57	7.54	8	7,585
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
3	NeoCem Tail	NeoCem TM	1091	sack	13.2	2.04	9.77	8	10,659
9.77 Gal		FRESH WATER							
0.08 %		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	MMCR Displacement	MMCR Displacement	10	bbl	8.34			10	420
0.50 gal/bbl		MICRO MATRIX CEMENT RETARDER, 5 GAL PAIL (100003781)							
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	Cla Web Displacement	Cla Web Displacement	341	bbl	8.33			10	
0.0570 gal/bbl		CLA-WEB - TOTE (101985045)							
Cement Left In Pipe	Amount	Reason							
Mix Water:	pH 7.0	Mix Water Chloride:	0 ppm	Mix Water Temperature:			72 °F		
Cement Temperature:	## °F	Plug Displaced by:	8.33 lb/gal	Disp. Temperature:			72 °F		
Plug Bumped?	Yes	Bump Pressure:	2,490 psi	Floats Held?			Yes		
Cement Returns:	4 bbl	Returns Density:	13.2 lb/gal	Returns Temperature:			## °F		
Comment: Pumped 40 bbls Tuned Spacer, 281 bbls Lead, 396 bbls Tail. Washed lines with 6 bbls Fresh water before dropping top plug. Dropped top plug and displaced 10 bbls MMCR, followed by 341 bbls Fresh water with ClayWeb and Biocide. Cement to surface @ 347 bbls away, 4 bbls cement to surface. Checked floats 2 bbls back to surface									

## 2.0 Real-Time Job Summary

## 2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Downhole Density (ppg)	Combined Pump Rate (bbl/min)	Driv-Side Pump Pressure (psi)	Comments
Event	1	Call Out	Call Out	1/5/2018	14:00:00	USER				CREW CALLED OUT AT 14:00, REQUESTED ON LOCATION 19:00. CREW PICKED UP CEMENT, CHEMICALS, AND PLUG CONTAINER FROM FT. LUPTON, CO. BULK 660 10867098, Bulk 660 10867415, AND PUMP 11189145.
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	1/5/2018	17:15:00	USER				CREW DISCUSSED ROUTES, HAZARDS, AND COMMUNICATION WITH CREW.
Event	3	Crew Leave Yard	Crew Leave Yard	1/5/2018	17:30:00	USER				STARTED JOURNEY MANAGEMENT.
Event	4	Arrive At Loc	Arrive At Loc	1/5/2018	19:15:00	USER				END JOURNEY MANAGEMENT. MEET WITH CO. MAN TO DISCUSS JOB; SURFACE CASING- 9.625" 36 LB/FT @ 1,800', 5.5" CASING: 20 LB/FT TOTAL 15,928.72', 8.5" HOLE, TD 15,940', 110.27 SHOE TRAC, TVD- 7,087'. PUMP FRESH WATER DISPLACEMENT WITH MMCR FIRST 10 BBLS. CASING LANDED @ 18:45 01/05/2018. RIG CIRCULATED 2 BOTTOMS UP.
Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	1/5/2018	19:20:00	USER				HAZARD HUNT. DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH LOCATION, RIG UP, AND WEATHER.
Event	6	Rig-Up Equipment	Rig-Up Equipment	1/5/2018	19:30:00	USER				CREW STAGED EQUIPMENT AND RIGGED UP BULK, IRON AND WATER HOSES TO PERFORM JOB.
Event	7	Rig-Up Completed	Rig-Up Completed	1/5/2018	20:30:00	USER	0.36	0.00	91.00	WAITED ON RIG TO FINISH CIRCULATING.
Event	8	Pre-Job Safety Meeting	Pre-Job Safety Meeting	1/5/2018	21:30:00	USER	8.45	0.00	16.00	SAFETY MEETING WITH HALLIBURTON, AND RIG PERSONNEL. CREW COMMUNICATED POTENTIAL SAFETY HAZARDS, AND JOB DETAILS.
Event	9	Start Job	Start Job	1/5/2018	21:59:56	COM5	0.85	0.00	-8.00	BEGIN RECORDING JOB DATA.
Event	10	Test Lines	Test Lines	1/5/2018	22:06:04	COM5	8.60	0.00	4952.00	PRESSURE TESTED IRON TO 4,800 PSI. KICKOUTS SET @ 500 PSI, KICKED OUT @ 1,700 PSI, 5TH GEAR STALL OUT @ 2,230 PSI.
Event	11	Pump Spacer 1	Pump Spacer 1	1/5/2018	22:19:17	COM5	11.53	4.00	259.00	PUMP 40 BBLS OF TUNED SPACER @ 11.5 LB/GAL, 10

GALLONS D-AIR, 20 GALS DUAL SPACER B, 20 GALS MUSOL A. DENSITY VERIFIED BY PRESSURIZED MUD SCALES. PUMP RATE 4 BBLS/MIN @ 340 PSI.

Event	12	Drop Bottom Plug	Drop Bottom Plug	1/5/2018	22:25:15	USER	11.78	4.70	328.00	PLUG LEFT CONTAINER, VERIFIED BY CO. MAN.
Event	13	Pump Lead Cement	Pump Lead Cement	1/5/2018	22:31:27	COM5	13.31	4.70	296.00	PUMPED 1,006 SKS OF ELASTICEM WITH CBL @ 13.2 LB/GAL, 1.57 FT3/SK, 7.54 GAL/SK. 281.29 BBLS, HOL CALCULATED @ 959', TOL CALCULATED @ SURFACE. DENSITY VERIFIED BY PRESSURIZED MUD SCALES. PUMP RATE 8 BBLS/MIN 670 PSI.
Event	14	Pump Tail Cement	Pump Tail Cement	1/5/2018	23:10:22	COM5	13.18	7.90	550.00	PUMP 1,091 SKS OF NEOCEM @ 13.2 LB/GAL, 2.04 FT3/SK, 9.77 GAL/SK, 396.38 BBLS. HOT CALCULATED @ 9,715.19', TOT CALCULATED @ 6,213.52'. DENSITY VERIFIED BY PRESSURIZED MUD SCALES. PUMP RATE 8 BBLS/MIN @ 1,300 PSI.
Event	15	Bump Plug	Bump Plug	1/5/2018	23:19:41	USER	13.18	7.90	708.00	BOTTOM PLUG RUPTURED.
Event	16	Clean Lines	Clean Lines	1/6/2018	00:07:28	USER	12.97	0.00	-20.00	CLEAN LINES WITH 8 BBLS WATER BEFORE DISPLACING PLUG.
Event	17	Drop Top Plug	Drop Top Plug	1/6/2018	00:13:39	COM5	6.33	0.00	-12.00	PLUG LEFT CONTAINER, VERIFIED BY CO. MAN.
Event	18	Pump Displacement	Pump Displacement	1/6/2018	00:15:36	COM5	8.23	5.70	1268.00	BEGIN CALCULATED DISPLACEMENT OF 351 BBLS WITH FRESH WATER. PUMPED THE FIRST 10 BBLS WITH MMCR, PUMPED 341 BBLS WITH BIOCID, AND CLAYWEB. CEMENT TO SURFACE 347 BBLS AWAY, 4 BBLS CEMENT TO SURFACE.
Event	19	Bump Plug	Bump Plug	1/6/2018	01:17:47	COM5	8.34	0.00	3634.00	PLUG BUMPED AT CALCULATED DISPLACEMENT. 2,453 PSI PRESSURED 500 PSI OVER BUMP.
Event	20	Shift Tool Lower	Shift Tool Lower	1/6/2018	01:21:06	USER	8.34	4.60	2822.00	SHIFTED WET SHOE SUB @ 4,963 PSI. FOLLOWED BY 6 BBLS WET SHOE @ 5 BBLS/MIN.
Event	21	Check Floats	Check Floats	1/6/2018	01:22:27	USER	8.32	0.00	2462.00	RELEASED PRESSURE, FLOATS HELD, 2 BBLS BACK.
Event	22	End Job	End Job	1/6/2018	01:24:04	COM5				STOP RECORDING JOB DATA.
Event	23	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	1/6/2018	01:30:00	USER	8.28	0.00	65.00	DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH WEATHER, LOCATION AND RIGGING DOWN IRON AND HOSES.
Event	24	Rig-Down Equipment	Rig-Down Equipment	1/6/2018	02:00:00	USER				RIG DOWN BULK AND MIXING EQUIPMENT.



Event	25	Rig-Down Completed	Rig-Down Completed	1/6/2018	03:00:00	USER	ALL HALLIBURTON ITEMS WERE STOWED FOR TRAVEL, AND LOCATION WAS CLEAN.
Event	26	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	1/6/2018	03:15:00	USER	CREW DISCUSSED ROUTES HAZARDS AND COMMUNICATION WITH CREW.
Event	27	Crew Leave Location	Crew Leave Location	1/6/2018	03:30:00	USER	THANK YOU FOR USING HALLIBURTON – NICK PETERSON AND CREW.

3.0 Attachments

3.1 Custom Results – Job Chart with Events



3.2 Custom Results – Job Chart without Events

