

HALLIBURTON

iCem[®] Service

EXTRACTION OIL & GAS

For: Larry Siegal

Date: Wednesday, October 08, 2014

2-19-19

EXTRACTION GP-EVANS WELL#2-19-19 SURFACE CASING SO#091722941

Sincerely,

Edur Duran



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1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **GP-JEvens 2-19-19** 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.

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 Brighton

Job Times

	Date	Time	Time Zone
Called Out	10/5/14	1130	MST
On Location		1530	MST
Job Started	10/6/14	0258	MST
Job Completed		0600	MST
Departed Location		0615	MST

1.2 Cementing Job Summary

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Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 369404		Ship To #: 3594484		Quote #:		Sales Order #: 0901722941				
Customer: EXTRACTION OIL & GAS				Customer Rep:						
Well Name: GP-JEVANS		Well #: 2-19-19		API/UWI #: 05-123-40310-00						
Field: WATTENBERG		City (SAP): GREELEY		County/Parish: WELD		State: COLORADO				
Legal Description: NE NE-20-5N-85W-574FNL-1305FEL										
Contractor:				Rig/Platform Name/Num: Xtreme 15						
Job BOM: 7521										
Well Type: HORIZONTAL OIL										
Sales Person: HALAMERICA\HB21661				Srvc Supervisor: Edur Duran						
Job										
Formation Name										
Formation Depth (MD)		Top		Bottom						
Form Type				BHST						
Job depth MD		1120ft		Job Depth TVD						
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	1097		0
Open Hole Section			13.5				0	1120		0
Tools and Accessories										
Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make		
Guide Shoe	9.625	1		1097	Top Plug	9.625	1	HES		
Float Shoe	9.625	1			Bottom Plug	9.625		HES		
Float Collar	9.625	1			SSR plug set	9.625		HES		
Insert Float	9.625	1			Plug Container	9.625		HES		
Stage Tool	9.625	1			Centralizers	9.625	1	HES		
Miscellaneous Materials										
Gelling Agt	Conc		Surfactant	Conc	Acid Type	Qty	Conc			
Treatment Fld	Conc		Inhibitor	Conc	Sand Type	Size	Qty			
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	Fresh Water Spacer	Mud Flush	10	bbl	8.33			6		
Stage/Plug #: 2										
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	Lead Cement	SWIFCEM (TM) SYSTEM	420	sack	14.2	1.54		6	7.64	

last updated on 10/6/2014 4:42:51 AM

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Cementing Job Summary

7.64 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	81.5	bbl	8.33			6	
Cement Left in Pipe		Amount	45 ft			Reason		Shoe Joint	
Comment									

1.3 Planned Pumping Schedule

- 1. Fill Lines with Water**
 - a. Density = 8.33ppg
 - b. Volume = 2bbl
- 2. Pressure Test Lines to 3000psi**
- 3. Pump Mud Flush Spacer**
 - a. Density = 8.4 lb/gal
 - b. Volume = 10 bbl
 - c. Rate = X bpm
- 4. Pump SwiftCem (Lead)**
 - a. Density =14.2
 - b. Yield = 1.54
 - c. Water Requirement = 7.64
 - d. Volume = 420 sks (115 bbls)
 - e. Rate = X bpm
- 5. Drop Top Plug**
- 6. Start Displacement**
- 7. Pump Displacement Water**
 - a. Density = 8.33 lb/gal
 - b. Volume = 81.5 bbls
 - c. Rate = X bpm
- 8. Land Plug – Anticipated Final Circulation Pressure 303 psi**

Calculated Total Displacement = 81.5 bbls

1.4 Job Overview

		Units	Description
1	Surface temperature at time of job	°F	
2	Mud type (OBM, WBM, SBM, Water, Brine)	-	
3	Actual mud density	lb/gal	
4	Time circulated before job	HH:MM	
5	Mud volume circulated	Bbls	
6	Rate at which well was circulated	Bpm	
7	Pipe movement during hole circulation	Y/N	
8	Rig pressure while circulating	Psi	
9	Time from end mud circulation to start of job	HH:MM	
10	Pipe movement during cementing	Y/N	
11	Calculated displacement	Bbls	
12	Job displaced by	Rig/HES	
13	Annular before job)?	Y/N	
14	Annular flow after job	Y/N	
15	Length of rat hole	Ft	
16	Units of gas detected while circulating	Units	
17	Was lost circulation experienced at any time ?	Y/N	

1.5 Water Field Test

Item	Recorded Test Value	Units	Max. Acceptable Limit	Potential Problems in Exceeding Limit
pH		----	6.0 - 8.0	Chemicals in the water can cause severe retardation
Chlorides		ppm	3000 ppm	Can shorten thickening time of cement
Sulfates		ppm	1500 ppm	Will greatly decrease the strength of cement
Total Hardness		ppm	500 mg/L	High concentrations will accelerate the set of the cement
Calcium		ppm	500 ppm	High concentrations will accelerate the set of the cement
Total Alkalinity		ppm	1000 ppm	Cement is greatly retarded to the point where it may not set up at all (typically occurs @ pH ≥ 8.3).
Bicarbonates		ppm	1000 ppm	Cement is greatly retarded to the point where it may not set up at all
Potassium		ppm	5000 ppm	High concentrations will shorten the pump time of cement (indicates the presence of chlorides, therefore if Potassium levels are measured as high, so should the chlorides)
Iron		ppm	300 ppm	High concentrations will accelerate the set of the cement
Temperature		°F	50-80 °F	High temps will accelerate; Low temps may risk freezing in cold weather

Submitted Respectfully by: _____

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1.6 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Comb Pump Rate (bbl/min)	DH Density (ppg)	DS Pump Press (psi)	Comment
Event	1	Call Out	Call Out	10/5/2014	11:30:00	USER				Called out @ 1130 to be on Location @ 1600 in Greely, Co
Event	2	Other	Other	10/5/2014	12:00:00	USER				Load all Equipment for Job
Event	3	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	10/5/2014	13:45:00	USER				Discussed Route of Travel, Wildlife, Traffic, Weather
Event	4	Depart from Service Center or Other Site	Depart from Service Center for Location	10/5/2014	14:00:00	USER				Departed Service Center for Location, Notified Journey Management
Event	5	Arrive at Location from Service Center	Arrive at Location from Service Center	10/5/2014	15:30:00	USER				Arrive on Location, Rig Drilling, Notified Journey Management Upon Arrival, Discussed Job Procedure with Customer, Got Number From Customer, Tested Water, Water Tested Good, Notified Customer
Event	6	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	10/5/2014	16:30:00	USER				Discussed Line of Fire, Eyes on Path, Hammer Swings, Pinch Points, Red Zone, Spotting of all Equipment, Using 2 Spotters at all Times
Event	7	Rig-Up Equipment	Rig-Up Equipment	10/5/2014	16:45:00	USER				Rig up All Equipment
Event	8	Rig-Up Completed	Rig-Up Completed	10/5/2014	17:45:00	USER				Rig up All Complete
Event	9	Other	Other	10/5/2014	18:30:00	USER				Rig Broke Down
Event	10	Other	Other	10/5/2014	20:00:00	USER				Rig back up Continued Drilling
Event	11	Other	Other	10/5/2014	21:00:00	USER				Rig on Bottom, Rig Begins Pulling Stands
Event	12	Other	Other	10/5/2014	22:30:00	USER				Rig out of Hole

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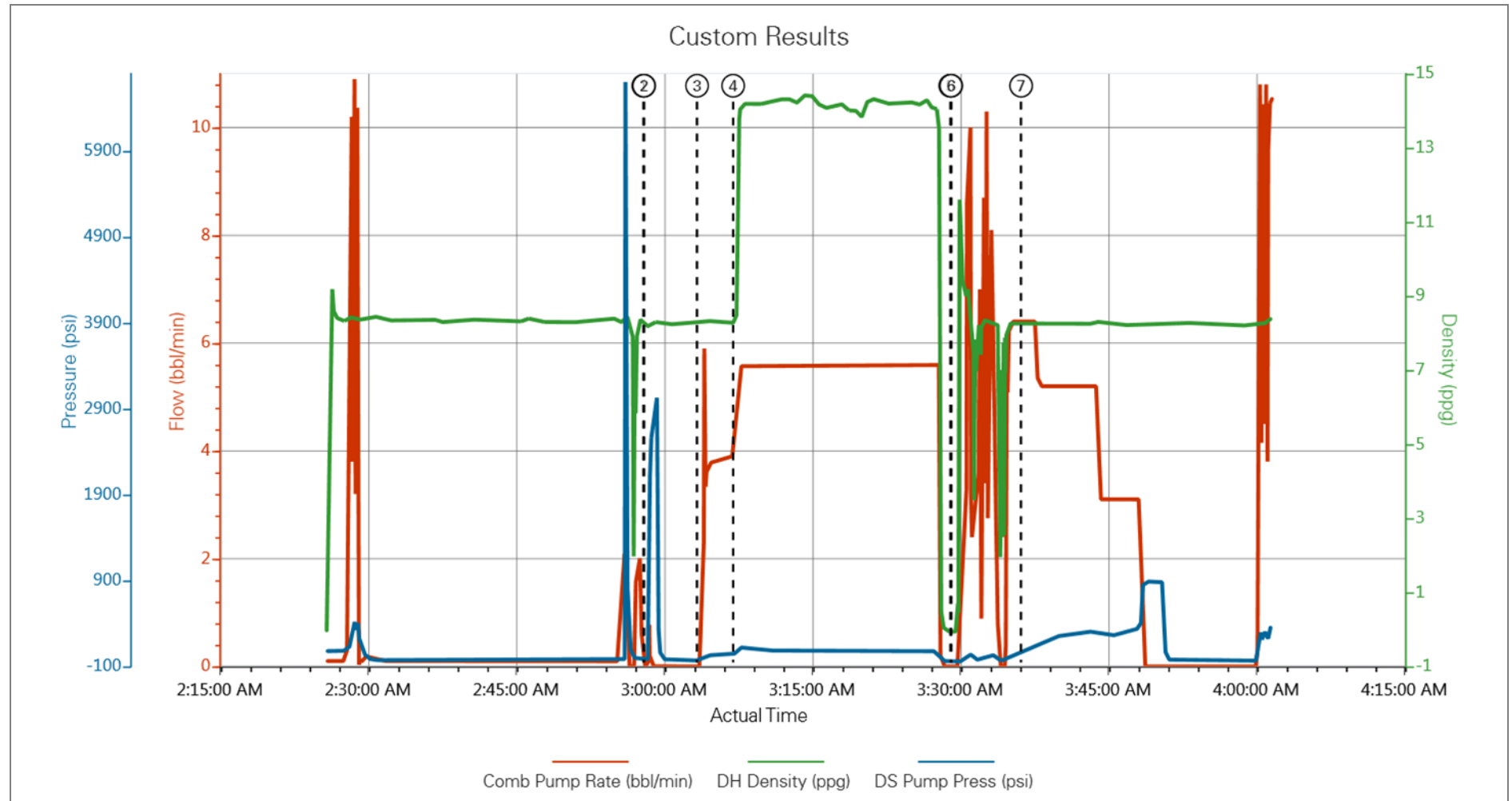
Event	13	Other	Other	10/5/2014	23:35:00	USER				Rig begins Running Casing
Event	14	Other	Other	10/6/2014	02:00:00	USER				Casing on Bottom
Event	15	Pre-Job Safety Meeting	Pre-Job Safety Meeting	10/6/2014	02:30:00	USER	0.20	8.37	-14.00	Discussed Job Procedure with Crew, Red Zones, Muster Areas, Water Requirement
Event	16	Start Job	Start Job	10/6/2014	02:58:12	COM6	0.00	8.12	-17.00	
Event	17	Test Lines	Test Lines	10/6/2014	02:58:17	COM6	0.00	8.19	-17.00	Test Lines @ 3000 psi
Event	18	Pump Spacer 1	Pump Spacer 1	10/6/2014	03:03:39	COM6	0.80	8.28	-30.00	Pump 10 bbls of Mud Flush
Event	19	Pump Lead Cement	Pump Lead Cement	10/6/2014	03:07:18	COM6	4.70	10.12	59.00	Pump 115 bbls of Cement @ 14.2 ppg
Event	20	Shutdown	Shutdown	10/6/2014	03:27:49	USER	5.60	3.84	32.00	Shutdown
Event	21	Drop Top Plug	Drop Top Plug	10/6/2014	03:29:18	COM6	0.00	-0.07	-49.00	Drop Top Plug
Event	22	Pump Displacement	Pump Displacement	10/6/2014	03:30:00	COM6	1.90	10.22	-40.00	Pump 81.5 bbls of Fresh Water Displacement
Event	23	Displ Reached Crmt	Displ Reached Crmt	10/6/2014	03:36:29	COM6	6.40	8.26	89.00	Displacement Reached Cement 30 bbls out
Event	24	Slow Rate	Slow Rate	10/6/2014	03:43:52	USER	4.70	8.29	299.00	Slow Rate to Bump
Event	25	Spacer Returns to Surface	Spacer Returns to Surface	10/6/2014	03:47:09	USER	3.10	8.20	306.00	Mud Flush to Surface, 75 bbls out on Displacement
Event	26	Bump Plug	Bump Plug	10/6/2014	03:48:33	USER	0.00	8.26	875.00	Bumped @ 303 psi-871 psi
Event	27	Check Floats	Check Floats	10/6/2014	03:50:43	USER	0.00	8.22	63.00	Checked Float, Floats Held, 1/2 bbls back, Calculated 6 bbls of Mud Flush to Surface, No Cement to Surface, Customer Satisfied with Job
Event	28	Post-Job Safety Meeting (Pre Rig-Down)	Post-Job Safety Meeting (Pre Rig-Down)	10/6/2014	03:55:00	USER	0.00	8.15	-37.00	Discussed Hammer Swings, Pinch Points, Line of Fire, Eyes on Path
Event	29	Rig-Down Equipment	Rig-Down Equipment	10/6/2014	04:10:00	USER				Rig Down all Equipment
Event	30	Rig-Down Completed	Rig-Down Completed	10/6/2014	06:00:00	USER				Rig Down Completed
Event	31	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	10/6/2014	06:01:00	USER				Preconvoy Safety Meeting, Discussed Route of Travel,

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							Traffic, Weather, Wildlife
Event	32	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	10/6/2014	06:15:00	USER	Departed Location For Service Center, Notified Journey Management
Event	33	Other	Thank You	10/6/2014	06:16:00	USER	Thank You for Using Halliburton Energy Services, Edur Duran and Crew

2.0 Custom Graphs

2.1 Custom Graph



3.0 Appendix
