

HALLIBURTON

iCem[®] Service

ADVANCED EXTRACTION TECHNOLOGIES

For:

Date: Monday, December 29, 2014

EXTRACTION OIL AND GAS DIAMOND VALLEY EAST 2

EXTRACTION DIAMOND VALLEY EAST 2 INTER

Sincerely,
Sheldon Cotts

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1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **Diamond Valley East #2** cement **Intermediate** 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
On Location	10/19	0300	MST
Job Started	10/20	1402	MST
Job Completed	10/20	1730	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 #: 3537223		Quote #:		Sales Order #: 0901752954				
Customer: EXTRACTION OIL & GAS				Customer Rep:						
Well Name: DIAMOND VALLEY EAST			Well #: 2			API/UWI #: 05-123-38566-00				
Field: WATTENBERG		City (SAP): WINDSOR		County/Parish: WELD		State: COLORADO				
Legal Description: SW SW-23-6N-67W-816FSL-155FWL										
Contractor:				Rig/Platform Name/Num: Frontier 10						
Job BOM: 7522										
Well Type: HORIZONTAL OIL										
Sales Person: HALAMERICA\H117930				Srv Supervisor: Joseph Fantasia						
Job										
Formation Name										
Formation Depth (MD)		Top			Bottom					
Form Type					BHST		225 degF			
Job depth MD		7345ft			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	0	9.625	8.921	36	BTC	J-55	0	804	0	0
Casing	0	7	6.276	26	BTC	P-110	0	7345	0	0
Open Hole Section			8.75				804	7348	0	0
Tools and Accessories										
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make	
Guide Shoe	7	1		7345		Top Plug	7	1	HES	
Float Shoe	7	1				Bottom Plug	7	1	HES	
Float Collar	7	1				SSR plug set	7	1	HES	
Insert Float	7	1				Plug Container	7	1	HES	
Stage Tool	7	1				Centralizers	7	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 ft ³ /sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal	
1	11.5 lb/gal Tuned Spacer III	Tuned Spacer III	20	bbl	11.5	3.75	24.2	5		
148.73 lbm/bbl		BARITE, BULK (100003681)								
24.20 gal/bbl		FRESH WATER								
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal	
2	Lead Cement	ECONOCEM (TM) SYSTEM	478	sack	12.7	1.89	7.71	7	9.97	
9.97 Gal		FRESH WATER								
61.10 lbm		TYPE I / II CEMENT, BULK (101439798)								
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal	
3	Tail Cement	EXPANDACEM (TM) SYSTEM	270	sack	13.8	1.67		7	7.71	
0.10 %		HR-5, 50 LB SK (100005050)								
7.71 Gal		FRESH WATER								
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal	
4	Displacement	Displacement	279	bbl	10.3					
Cement Left In Pipe		Amount	42 ft		Reason			Shoe Joint		
Comment APPROX 20 BBLs SPACER AND 49 BBLs CEMENT TO SURFACE										

1.3 Planned Pumping Schedule

- 1. Fill Lines with Water**
 - a. Density = 8.33 lb/gal
 - b. Volume = 2 bbls
- 2. Pressure Test Lines to 4000 psi**
- 3. Pump Tuned Spacer III**
 - a. Density = 11.5 lb/gal
 - b. Volume = 20 bbl
 - c. Rate = 3 bpm
- 4. Pump EconoCem (Lead)**
 - a. Density = 12.7 lb/gal
 - b. Yield = 1.89 ft³/sk
 - c. Water Requirement = 9.97 gal/sk
 - d. Volume = 478 sks (160 bbls)
 - e. Rate = 6 bpm
- 5. Pump ExpandaCem (Tail)**
 - a. Density = 13.8 lb/gal
 - b. Yield = 1.67 ft³/sk
 - c. Water Requirement = 7.71 gal/sk
 - d. Volume = 270 sks (80 bbls)
 - e. Rate = 7 bpm
- 6. Drop Top Plug**
- 7. Start Displacement**
- 8. Pump Displacement Mud**
 - a. Density = 10.3 lb/gal
 - b. Volume = 279 bbls
 - c. Rate = 6 bpm
9. Land Plug – Anticipated Final Circulation Pressure 1589 psi

Calculated Total Displacement = 279 bbls

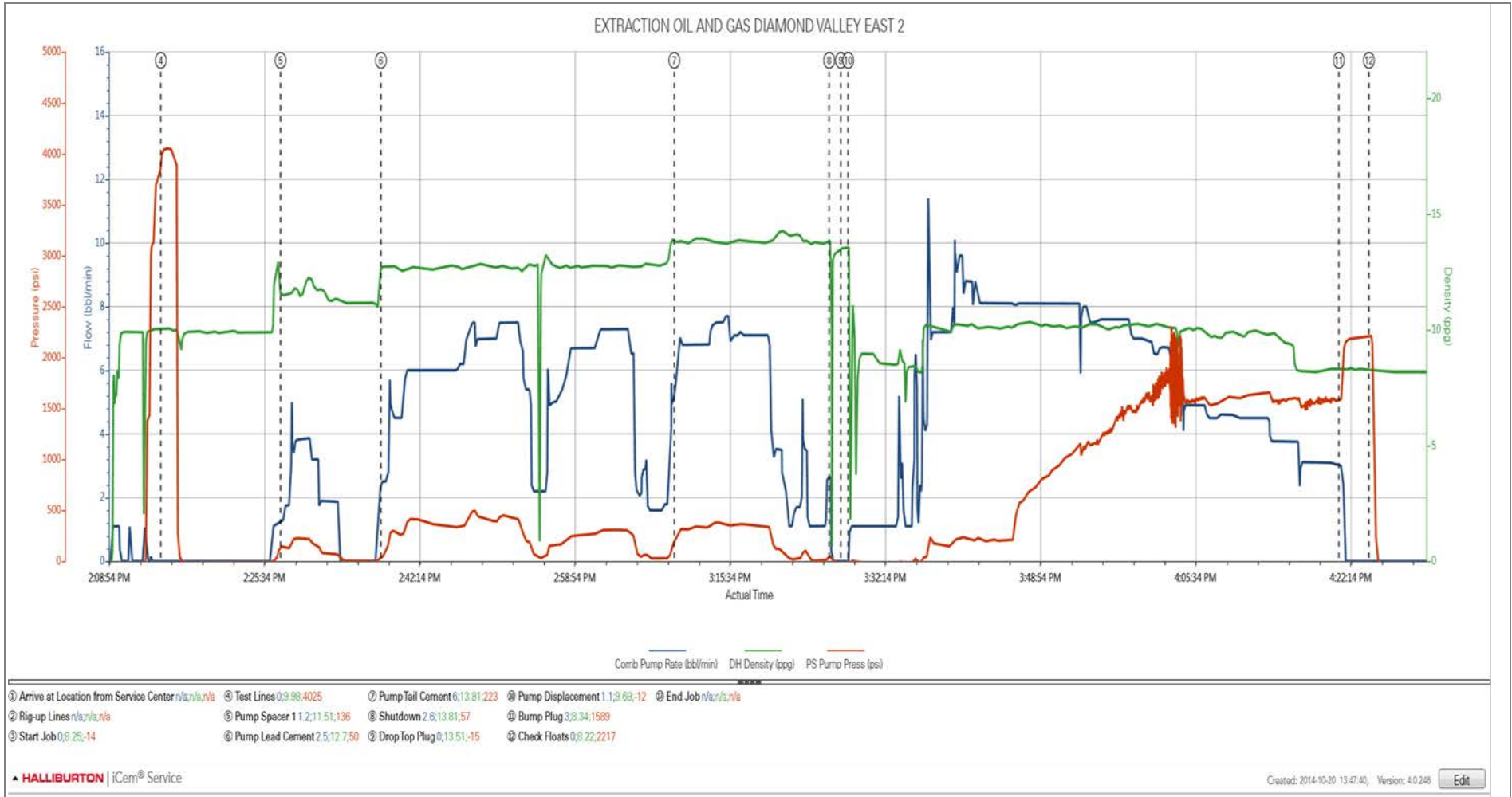
1.4 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Combined Pump Rate (bbl/min)	Downhole Density (ppg)	Pass-Side Pump Pressure (psi)	Comment
Event	1	Arrive at Location from Service Center	Arrive at Location from Service Center	10/19/2014	03:00:00	USER				ARRIVE AT LOCATION @ 0300. PERFORM SITE ASSESSMENT WITH CREW. RIG RUNNING CASING.
Event	2	Rig-up Lines	Rig-up Lines	10/20/2014	10:00:00	USER				PRE RIG UP SAFETY MEETING PRIOR TO RIGGING DOWN LINES.
Event	3	Start Job	Start Job	10/20/2014	14:02:35	COM4	0.00	8.25	-14.00	PERFORM PRE JOB SAFETY MEETING WITH ALL PRESENT PERSONELL.
Event	4	Test Lines	Test Lines	10/20/2014	14:14:38	USER	0.00	9.98	4025.00	PRESSURE TEST LINES TO 4000 PSI.
Event	5	Pump Spacer 1	Pump Spacer 1	10/20/2014	14:27:29	COM4	1.20	11.51	136.00	PUMP 20 BBLS TUNED SPACER MIXED AT 11.5 PPG USING SUPPLIED WATER. DENSITY VERIFIED BY SCALE.
Event	6	Pump Lead Cement	Pump Lead Cement	10/20/2014	14:38:16	COM4	2.50	12.70	50.00	PUMP 160 BBLS (478 SKS) ECONOCEM MIXED AT 12.7 PPG USING SUPPLIED WATER. DENSITY VERIFIED BY SCALE.
Event	7	Pump Tail Cement	Pump Tail Cement	10/20/2014	15:09:46	COM4	6.00	13.81	223.00	PUMP 80 BBLS (270 SKS) EXPANDACEM MIXED AT 13.8 PPG USING SUPPLIED WATER. DENSITY VERIFIED BY SCALE.
Event	8	Shutdown	Shutdown	10/20/2014	15:26:24	COM4	2.60	13.81	57.00	
Event	9	Drop Top Plug	Drop Top Plug	10/20/2014	15:27:39	COM4	0.00	13.51	-15.00	TOP PLUG PRELOADED.
Event	10	Pump Displacement	Pump Displacement	10/20/2014	15:28:27	COM4	1.10	9.69	-12.00	GOOD RETURNS THROUGHOUT. SPACER TO SURFACE AT 210 BBLS INTO 279 BBLS TOTAL

										DISPLACEMENT. APPROX 20 BBLS SPACER AND 49 BBLS CEMENT TO SURFACE. RIG OVERBOARD/DIVERT LINE WAS PLUGGED OFF AND COULD NOT DIVERT CEMENT TO PIT.
Event	11	Bump Plug	Bump Plug	10/20/2014	16:21:08	USER	3.00	8.34	1589.00	PLUG LANDED AT 1589 PSI. PRESSURE BROUGHT TO 2300 PSI AND HELD 5 MIN.
Event	12	Check Floats	Check Floats	10/20/2014	16:24:22	USER	0.00	8.22	2217.00	FLOATS HELD. 1.5 BBLS BACK.
Event	13	End Job	End Job	10/20/2014	17:30:00	USER				PRE RIG DOWN SAFETY MEETING PRIOR TO RIGGING DOWN LINES AND EQUIPMENT.

2.0 Attachments

2.1 Case 1-Custom Results.png



3.0 Appendix

Insert Planned Pump Schedule from Proposal or actual Job Procedure built for job