

HALLIBURTON

iCem[®] Service

EXTRACTION OIL & GAS

For: LARRY SIEGEL

Date: Thursday, November 13, 2014

12

DIAMOND VALLEY EAST

EXTRACTION DIAMOND VALLEY PRODUCTION LINER SO#0901807076

Sincerely,

Theodore Onuorah

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1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the Extraction Oil and Gas, Diamond Valley East #12 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 [Brighton]

Job Times			
	Date	Time	Time Zone
Called Out	11/12/14	11:00	MTN
On Location	11/12/14	15:15	MTN
Job Started	11/13/14	10:33	MTN
Job Completed	11/13/14	14:12	MTN
Departed Location	11/13/14	18:16	MTN

1.2 Cementing Job Summary

HALLIBURTON

The Road to Excellence Starts with Safety											
Sold To #: 369404			Ship To #: 3594481			Primary Sales Order #: 0901807076					
Customer: EXTRACTION OIL & GAS						Job Purpose: 7525 CMT PRODUCTION LINER BOM					
Well Name: DIAMOND VALLEY EAST						Well #: 12			API/UWI #: 05-123-40318-00		
Field: WATTENBERG			City: WINDSOR			Country/Parish: WELD			State/Prov: COLORADO		
Legal Description:											
Rig Name & Number / Phone Number: FRONTIER 10 / 720-245-4546									Location: LAND		
myCem id# : 111476			Job Criticality Status: YELLOW				iFacts Request id #: 2183794				
Contacts											
Type		Name			Email			Phone			
Account Rep		Kurry Mangold			Kurry.Mangold@halliburton.com			+13036554782			
Service Coordinator		Jonathan Snyder			Jonathan.Snyder@Halliburton.com			+17203830979			
Company Man											
PPE, Safety Huddles, JSA's, HOC & Near Miss Reporting, BBP Observations											
Distance/Mileage(1 way)		50 mile			Distance/Mileage(1 way) Mtls:		50 mile				
Srvcs:					Rqstd Job Start Date/Time:		11/05/2014				
HSE Information											
H2S Present:		Unknown			CO2 Present:		Unknown				
Drive Safely. Lights On for Safety. Wear Seat Belts. Observe all HES / Customer Safety Policies.											
Directions:											
East of Windsor on Eastman Park Dr and 257, go .9 miles East on Eastman Park Dr.											
Instruction											
Bring 100# of Sugar and 10 Gal MMCR											
General Equipment											
3rd Party / Inventory Items											
SAP Number		Description			Quantity		UoM		Pricing Enabled		
Job Info / Well Data											
Job Depth (MD) ft		Job Depth (TVD) ft		Well Fluid Type		Well Fluid Weight lbm/gal		Displacement Fluid		Displ Fluid Weight lbm/gal	
16785								Displacement		8.33	
BHST degF		BHCT degF		Log Temp degF		Time Since Circ Stopped HH:MM:SS					
Job Tubulars/Tools											
Description	Size in	Weight lbm/ft	ID in	Thread	Grade	Top MD ft	Btm MD ft	Top TVD ft	Btm TVD ft	Shoe Jnt ft	% Excess

7" Casing	7	29	6.184		L-80	0	7335				
6" Open Hole			6			7335	16785				15
4" Drill Pipe	4	14	3.34			0	7250				
4.5" Liner	4.5	11.6	4		L-80	7250	16785				

Mud conditioning plan

The condition of the drilling fluid is one of the most important variables in achieving a cement barrier. Prior to cementing, circulate the mud at the planned highest displacement rate for the cement job for at least 2 bottoms-up until the well is clean, mud is free of gas and pump pressures have stabilized.

Materials

Stage/Plug #: 1

Fluid #	Fluid Name	Package/SBM/Material Name	Rqstd Del Qty	UOM	Density lbm/gal	Yield ft3/sack	Water Req Gal/sack	Rate bbl/min	Total Mix Fluid Gal/sack	Surface Batch Mixing Time
1	11.5 lb/gal Tuned Spacer III		40	bbl	11.5	3.73	24	6		
149.45 lbm/bbl		Barite								
iFacts Test id #										

Fluid #	Fluid Name	Package/SBM/Material Name	Rqstd Del Qty	UOM	Density lbm/gal	Yield ft3/sack	Water Req Gal/sack	Rate bbl/min	Total Mix Fluid Gal/sack	Surface Batch Mixing Time hr
2	Lead Cement	ECONOCEM (TM) SYSTEM	807	sack	13.8	1.4	6.46	6	6.46	
6.46 Gal		FRESH WATER Mix-On-Fly to Slurry								
iFacts Test id #		2188512								

Fluid #	Fluid Name	Package/SBM/Material Name	Rqstd Del Qty	UOM	Density lbm/gal	Yield ft3/sack	Water Req Gal/sack	Rate bbl/min	Total Mix Fluid Gal/sack	Surface Batch Mixing Time
3	Displacement		151.7	bbl	8.33					
iFacts Test id #										

Caution: Displacement quantities and densities are estimates ONLY! Do not use them for the actual job.

Packaged Materials

SAP #	Material	Qty	UOM	Comments
100003681	Barite	5978	lbm	
	FRESH WATER	6656.8	Gal	

Casing Equipment

Pre-Job Customer Review Risk Assessment for Call Sheet:
The following risks must be reviewed and discussed with the Customer Representative before the job. If all of the steps of the listed Mitigation Plans or Contingency Plans cannot be followed, conducting a Management of Change (reference ST-GL-HAL-HMS-712) invoking your Stop Work Authority (reference ST-GL-HAL-HSE-0612) may be appropriate. Contact the Halliburton office to discuss how to resolve any issues, including whether Contingency Plans can be applied or whether you should exercise your Stop Work Authority so that any changes can be managed with the Customer. **Reminder: You are empowered to exercise Stop Work Authority any time (reference ST-GL-HAL-HSE-0612), even before contacting the Halliburton office.**

Note: This pre-job customer review risk assessment does not replace the need to complete and review the job specific JSA's.

1.3 Planned Pumping Schedule

1. Fill Lines with Water

- a. Density = 8.33
- b. Volume = 2bbl.

2. Pressure Test Lines to 4500psi

3. Pump X Spacer

- a. Density = 11.5 lb/gal
- b. Volume = 40 bbl
- c. Rate = 5 bpm

4. Pump X (Tail)

- a. Density = 13.8
- b. Yield = 1.4
- c. Water Requirement = 6.46
- d. Volume = 807sks (201bbls)
- e. Rate = 4.5 bpm

5. Drop Top Plug

6. Start Displacement

7. Pump Displacement Water

- a. Density = 8.33lb/gal
 - b. Volume = 250bbls
 - c. Rate = 5 bpm
-

1.4 Job Event Log

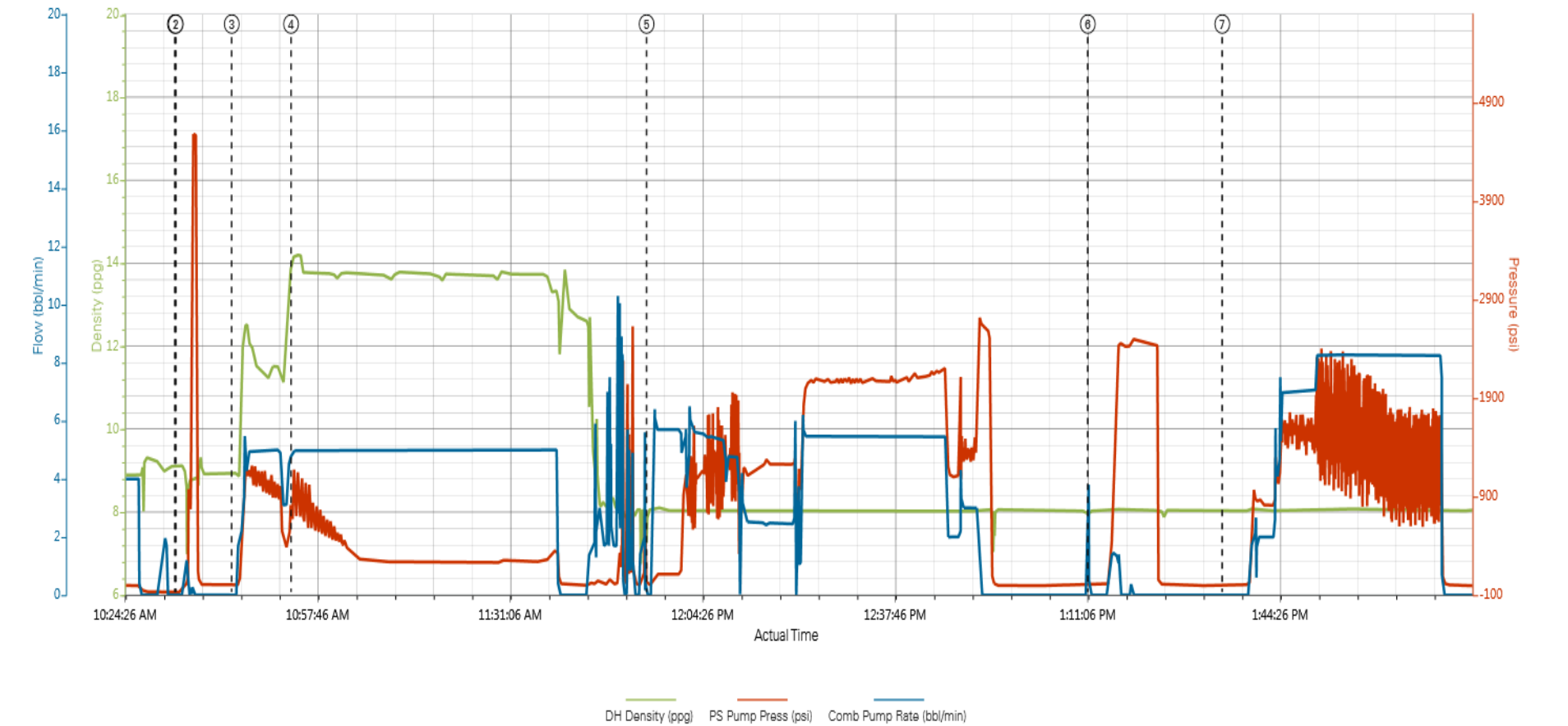
Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Comb Pump Rate (bbl/min)	DH Density (ppg)	DS Pump Press (psi)	Comment
Event	1	Casing on Bottom	Casing on Bottom	11/12/2014	06:00:00	USER				Casing on Bottom, Rig Gonna Pump Ball Down And Seat it and Expand it, And Circulate Well
Event	2	Other	Other	11/12/2014	06:15:00	USER				Thawing out Elite, Restarting 4 Tier Bin and 660
Event	3	Other	Other	11/12/2014	08:50:00	USER				All Equipment Ready to Perform Job
Event	4	Call Out	Call Out	11/12/2014	10:00:00	USER				Called out @ 1000 to Be on Location @ 1500 in Windsor, Co
Event	5	Other	Load Equipment	11/12/2014	11:00:00	USER				Load all Equipment for Job
Event	6	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	11/12/2014	13:45:00	USER				Discussed Route of Travel, Weather, WildLife
Event	7	Depart from Service Center or Other Site	Depart from Service Center or Other Site	11/12/2014	14:00:00	USER				Departed Service Center, Notified Journey Management
Event	8	Arrive at Location from Service Center	Arrive at Location from Service Center	11/12/2014	15:15:00	USER				Arrived on Location, Notified Journey Management Rig Having Problems Due to Weather, Discussed Job Procedure with Customer and Tool Operator
Event	9	Safety Meeting - Pre Rig-Up	Safety Meeting - Pre Rig-Up	11/12/2014	16:00:00	USER				Discussed Hammer Swings, Line of Fire, Eyes on Path, Pinch Points
Event	10	Rig-Up Equipment	Rig-Up Equipment	11/12/2014	16:15:00	USER				Rig Up All Equipment
Event	11	Rig-Up Completed	Rig-Up Completed	11/12/2014	20:15:00	USER				Rig Up Complete, Rig Having Trouble, Weather
Event	12	Pre-Job Safety Meeting	Pre-Job Safety Meeting	11/13/2014	10:00:00	USER	11.40	8.84	-92.00	Discussed Job Procedure with Crew, Water Requirements, Red Zones,

Event	13	Start Job	Start Job	11/13/2014	10:33:24	COM6	0.00	9.13	-189.00	
Event	14	Test Lines	Test Lines	11/13/2014	10:33:33	COM6	0.00	9.13	-189.00	Test Lines @ 4500 psi
Event	15	Pump Spacer 1	Pump Spacer 1	11/13/2014	10:43:14	COM6	0.00	8.94	-1.00	Pump 40 bbls of Tuned Spacer @ 11.5 ppg
Event	16	Pump Lead Cement	Pump Lead Cement	11/13/2014	10:53:30	COM6	4.90	14.12	880.00	Pump 201 bbls of Cement @ 13.8 ppg(807sks)(1.4ft3/sk)
Event	17	Shutdown	Shutdown	11/13/2014	11:40:23	USER	0.00	13.89	37.00	Shutdown, Wash Up into Half Pit
Event	18	Drop Plug	Drop Plug	11/13/2014	11:53:09	USER	0.00	8.07	35.00	Stuff Dart
Event	19	Pump Displacement	Pump Displacement	11/13/2014	11:55:04	COM6	0.00	8.06	39.00	Pump 224.7 bbls of Fresh Water Displacement
Event	20	Displ Reached Cmnt	Displ Reached Cmnt	11/13/2014	12:00:35	USER	5.60	8.03	167.00	Displacement Reached Cement 25 bbls out
Event	21	Slow Rate	Slow Rate	11/13/2014	12:10:31	USER	4.70	8.05	1622.00	Slow Rate to Shear Pin
Event	22	Other	Increase Rate	11/13/2014	12:20:06	USER	2.50	8.04	1263.00	Did Not Shear Pin, Increased Rate
Event	23	Slow Rate	Slow Rate	11/13/2014	12:46:41	USER	2.00	8.03	1333.00	Slow Rate 210 bbls out on displacement to Bump Plug
Event	24	Bump Plug	Bump Plug	11/13/2014	12:51:39	USER	3.00	8.04	1325.00	Bump Plug 215 bbls out, 9 bbls Early From Calculated Displacement
Event	25	Check Floats	Check Floats	11/13/2014	12:54:51	USER	0.00	7.71	38.00	Checked Floats, Floats Held, 2bbls Back
Event	26	Other	Other	11/13/2014	13:16:47	COM6	0.00	8.07	2473.00	Test Backside to 2500 psi
Event	27	Other	Bleed Pressure Off	11/13/2014	13:23:55	USER	0.00	8.03	42.00	Bleed Pressure off The Backside
Event	28	Other	Circulate The Well	11/13/2014	13:39:22	COM6	1.70	8.10	304.00	Applied 950 psi, Establish Circulation, Circulate Well
Event	29	Spacer Returns to Surface	Spacer Returns to Surface	11/13/2014	14:04:08	USER	8.30	8.04	914.00	130 bbls out on Circulating, Spacer back to Surface
Event	30	Other	Fresh Water to Surface	11/13/2014	14:09:02	USER	8.30	8.09	739.00	Fresh Water to Surface, 35 bbls of Tuned Spacer to Surface
Event	31	Other	Circulation Complete	11/13/2014	14:12:51	USER	0.00	8.04	71.00	Pump a Total of 250 bbls of

										Fresh Water to Circulate
Event	32	Post-Job Safety Meeting (Pre Rig-Down)	Post-Job Safety Meeting (Pre Rig-Down)	11/13/2014	14:15:00	USER	0.00	8.04	59.00	Discussed Job Outcome with Crew, Discussed Job Procedure about Rigging Down Equipment, Hammer Swings, Redzone, Line of Fire, Eyes on Path
Event	33	Rig-Down Equipment	Rig-Down Equipment	11/13/2014	14:30:00	USER				Rig Down all Equipment
Event	34	Rig-Down Completed	Rig-Down Completed	11/13/2014	18:00:00	USER				Rig Down Complete
Event	35	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	11/13/2014	18:01:00	USER				Pre Convoy Safety Meeting, Discussed Route of Travel, Weather, Wildlife, Traffic
Event	36	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	11/13/2014	18:15:00	USER				Depart Location For Service Center, Notified Jpourney Management
Event	37	Other	Other	11/13/2014	18:16:00	USER				Thank You for Using Halliburton Energy Services, Edur Duran and Crew

2.0 Custom Graphs

Custom Results



- ① Start Job 9.13;-71;0
- ② Test Lines 9.13;-71;0
- ③ Pump Spacer 1 8.94;-4;0
- ④ Pump Lead Cement 14.12;885;4.9
- ⑤ Pump Displacement 8.06;3;0
- ⑥ Other 8.03;12;0
- ⑦ Other 8.03;3;0

3.0 Appendix
