

# HALLIBURTON

iCem® Service

## CONOCOPHILLIPS

**For:**

Date: Saturday, July 08, 2017

**B&D LAND 4-64 4-5 4BH Production**

Job Date: Saturday, July 08, 2017

Sincerely,

**Bryan Kraft and Crew**

## Legal Notice

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## Table of Contents

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1.0	Cementing Job Summary.....	4
1.1	Executive Summary .....	4
2.0	Real-Time Job Summary .....	5
2.1	Job Event Log .....	5
3.0	Appendix.....	9
3.1	Job Chart.....	9
3.2	Events .....	10

## 1.0 Cementing Job Summary

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### 1.1 Executive Summary

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# HALLIBURTON

Customer: CONOCOPHILLIPS  
Job: Conocophillips B&D LAND 4-64 4-5 4BH Production  
Case: Case 2

## 2.0 Real-Time Job Summary

### 2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DH Density (ppg)	Pump Stg Tot (bbl)	PS Pump Press (psi)	Comb Pump Rate (bbl/min)	Comments
Event	1	Safety Meeting - Pre Job	Safety Meeting - Pre Job	7/7/2017	01:15:00	USER					MEETING WITH HALLIBURTON AND RIG PERSONNEL. COMMUNICATED POTENTIAL SAFETY HAZARDS AND JOB DETAILS.
Event	2	Call Out	Call Out	7/7/2017	10:00:00	USER					CREW CALLED OUT AT 08:00 7/7/2017, REQUESTED ON LOCATION 18:00 7/7/2017. CREW PICKED UP CEMENT, CHEMICALS (12GAL MUSOL A, 12 GAL DUAL SPACER B, 10 GAL D-AIR, 20 GAL MMCR), 100 LBS OF SUGAR, AND PLUG CONTAINER FROM FORT LUPTON.CO. BULK 660: 10897917/11764054, BULK 660: 11764737/11566182, PUMP ELITE: 11644701/11645460.
Event	3	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	7/7/2017	14:30:00	USER					DISCUSSED ROUTES, HAZARDS, AND COMMUNICATION WITH CREW.
Event	4	Crew Leave Yard	Crew Leave Yard	7/7/2017	15:00:00	USER					STARTED JOURNEY MANAGEMENT.
Event	5	Arrive at Location from Service Center	Arrive at Location from Service Center	7/7/2017	18:00:00	USER					END JOURNEY MANAGEMENT. MEET WITH CO. MAN TO DISCUSS JOB SURFACE CASING: 36# 9.625" @ 1970', CASING: 23# 5.5" HCP-110 @ 15323',

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(v. 4.4.18)

92.55' SHOE JOINT, 8.5"  
OPEN HOLE, TYD @ 7651',  
9.6 PPG WELL FLUID, FRESH  
WATER DISPLACEMENT.  
CASING LANDED @ 00:01  
7/8/2017.

Event	6	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	7/7/2017	18:30:00	USER														HAZARD HUNT. DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH LOCATION, RIG UP AND WEATHER.
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Event	7	Rig-Up Equipment	Rig-Up Equipment	7/7/2017	19:00:00	USER														CREW STAGED EQUIPMENT AND RIGGED UP BULK, IRON, AND WATER HOSES TO PERFORM JOB
Event	8	Start Job	Start Job	7/8/2017	02:07:06	COMS	0.07	0.00	-1.00	0.00										PRESSURE TESTED IRON TO 5000 PSI. KICKOUTS SET @ 500 PSI, KICKED OUT @ 1020PSI, 5TH GEAR STALL OUT @ 1800 PSI.

Event	9	Test Lines	Test Lines	7/8/2017	02:10:47	COMS	8.69	3.00	80.00	0.00										PUMP 60 BBLs OF TUNED SPACER @ 10.5 LB/GAL, ADDED 12 GAL MUSOL A, 12 GAL DUAL SPACER B, 10 GAL D-AIR, DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
Stage	2	Next Stage	10.5 ppg TSIII - 2388825 .2	7/8/2017	02:24:50	USER	8.61	3.00	9.00	0.00										

Event	10	Drop Bottom Plug	Drop Bottom Plug	7/8/2017	02:43:06	COMS														DROPPED PLUG 40 BBLs INTO SPACER. PLUG LEFT CONTAINER, VERIFIED BY COMPANY MAN.
Stage	3	Next Stage	13.2ppg Conoco Elasticem	7/8/2017	02:48:42	USER	12.11	52.00	132.00	2.80										PUMP 830 SKS OF ELASTICEM @ 13.2 LB/GAL, 1.57 YIELD, 7.55 GAL/SK, 232 BBLs, CALCULATED TOL



Customer: CONOCOPHILLIPS

Job: ConocoPhillips B&D LAND 4-64 4-5 4BH Production

**@ 580', DENSITY VERIFIED  
BY PRESSURIZED MUD  
SCALES.**

PUMP 1195 SKS OF  
ECONOCEM@ 13.5 LB/GAL,  
1.79 YIELD, 8.74 GAL/SK,  
380 BBLs, CALCULATED TOTAL  
@ 6029', DENSITY VERIFIED  
BY PRESSURIZED MUD  
SCALES.

[illegible]

Event	16	Bump Plug		Bump Plug	7/8/2017	05:04:06	USER	7.88	326.90	3599.00	0.00	PLUG BUMPED @ CALCULATED DISPLACEMENT. PRESSURED 500 PSI OVER FINAL CIRCULATING PRESSURE OF 2490 PSI. HOLD PRESSURE ON CASING FOR 5 MIN
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PLUG BUMPED @  
CALCULATED  
DISPLACEMENT.  
PRESSURED 500 PSI OVER  
FINAL CIRCULATING  
PRESSURE OF 2490 PSI.  
HOLD PRESSURE ON CASING  
FOR 5 MIN

# HALLIBURTON

Customer: CONOCOPHILLIPS

Job: ConocoPhillips B&D LAND 4-64 4-5 4BH Production

Case: Case 2

Event	17	Check Floats	Check Floats	7/8/2017	05:10:33	USER	7.84	326.90	139.00	0.00	RELEASED PRESSURE, FLOATS HELD, 4 BBL BACK.
Event	18	End Job	End Job	7/8/2017	05:12:17	COM5					STOP RECORDING JOB DATA.
Event	19	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	7/8/2017	05:45:18	USER					DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH WEATHER, LOCATION AND RIGGING DOWN IRON AND HOSES
Event	20	Rig-Down Completed	Rig-Down Completed	7/8/2017	07:00:00	USER					Rig-Down Completed
Event	21	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	7/8/2017	07:30:00	USER					DISCUSSED ROUTES HAZARDS AND COMMUNICATION WITH CREW.
Event	22	Depart Location	Depart Location	7/8/2017	08:00:00	USER					THANK YOU FOR USING HALLIBURTON - BRYAN KRAFT AND CREW.

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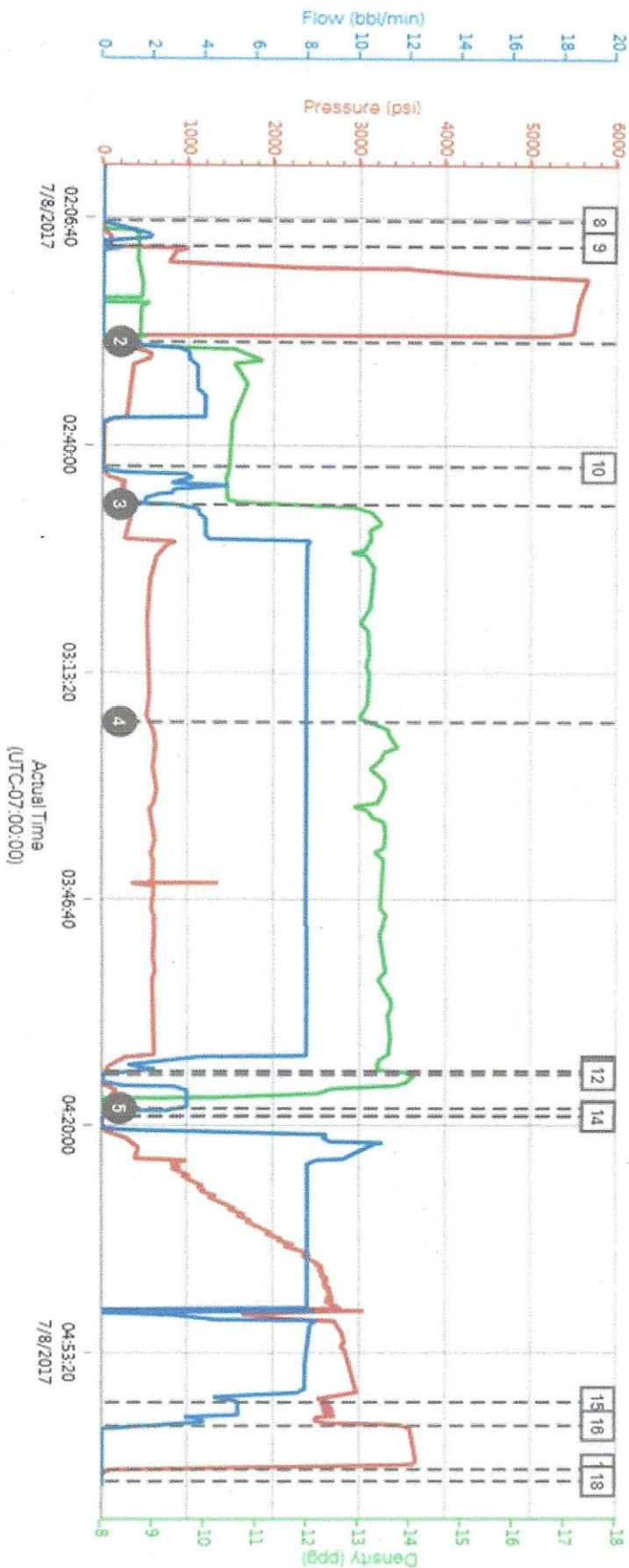
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## 3.0 Appendix

### 3.1 Job Chart

#### Custom Results



PS Pump Press (psi) - 7 DH Density (ppg) 7.78 Comb Pump Rate (bbl/min) 0

# HALLIBURTON

Customer: CONOCOPHILLIPS  
Job: ConocoPhillips B&D LAND 4-64 4-5 4BH Production  
Case: Case 2

## 3.2 Events

Description	Actual Time (UTC-07:00:00)	PS Pump Press (psi)	DH Density (ppg)	Comb Pump Rate (bbl/min)
8 Start Job	02:07:06	-1.00	0.07	0.00
9 Test Lines	02:10:47	80.00	8.69	0.00
2 10.5 ppg TSM - 238825.2	02:24:50	9.00	8.61	0.00
10 Drop Bottom Plug	02:43:06	7.00	10.47	0.00
3 13.2ppg Conoco Elasticem	02:48:42	132.00	12.11	2.80
4 13.5ppg Conoco EconoCem	03:20:33	516.00	13.13	8.00
11 Shutdown	04:12:05	71.46	13.53	0.00
12 Clean Lines	04:12:38	5.00	14.16	0.00
5 Water	04:17:32	44.00	7.73	3.30
13 Drop Top Plug	04:18:37	-6.00	-0.62	0.00
14 Pump Displacement	04:18:44	-6.00	-0.63	0.00
15 Spacer Returns to Surface	05:00:38	2693.00	7.85	5.30
16 Bump Plug	05:04:06	3599.00	7.88	0.00
17 Check Floats	05:10:33	139.00	7.84	0.00
18 End Job	05:12:17	-8.00	7.79	0.00

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Edit



*The Road to Excellence Starts with Safety*

Sold To #: 352431	Ship To #: 352431	Quote #: 0022317171	Sales Order #: 0904140035
Customer: CONOCO/PHILLIPS COMPANY-EBUS		Customer Rep: Mike Johnson	
Well Name: B&D LAND 4-64 4-5	Well #: 4BH	API/UWI #: 05-005-07245-00	
Field:	City (SAP): WATKINS	County/Parish: ARAPAHOE	State: COLORADO
<b>Legal Description:</b>			
Contractor: H & P DRLG		Rig/Platform Name/Num: H & P 448	
Job BOM: 7523 7523			
Well Type: HORIZONTAL OIL			
Sales Person: HALAMERICA\HB41307		Srv Supervisor: Bryan Kraft	
<b>Job</b>			

Formation Name			
Formation Depth (MD)	Top		Bottom
Form Type			BHST
Job depth MD	15323ft	Job Depth TVD	7565ft
Water Depth		Wk Ht Above Floor	5ft
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	1970	0	1970
Casing		5.5	4.67	23	TXP-BTC	P-110	0	15323	0	7565
Open Hole Section			8.5				1970	6034	1970	6034
Open Hole Section			8.5				6034	15323	6034	7565

**Tools and Accessories**

Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make
Guide Shoe					Top Plug	5.5	1	Antelope
Float Shoe	5.5	1	Antelope	15323	Bottom Plug	5.5	1	Antelope
Float Collar	5.5	1	Antelope	15230	SSR plug set			
Insert Float					Plug Container	5.5	1	HES
Stage Tool					Centralizers			

**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	Spacer	TUNED SPACER III	60	bbl	10.5	6.4	42.2	6	2221
	0.10 gal/bbl	D-AIR 3000L, 5 GAL PAIL (101007444)							
	0.20 gal/bbl	MUSOL A, 330 GAL TOTE - (790828)							
	37.58 gal/bbl	FRESH WATER							
	87.48 lbm/bbl	BARITE, BULK (100003681)							
	0.20 gal/bbl	DUAL SPACER SURFACTANT B, 5 GAL PAIL (100003665)							



Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal	
2	Lead Cement	ELASTICEM	830	sack	13.2	1.57	7.54	8	6258	
24.50 lbm		POZMIX A FLYASH (100003690)								
0.20 %		HALAD(R)-344, 50 LB (100003670)								
61.10 lbm		TYPE I / II CEMENT, BULK (101439798)								
0.10 %		SA-1015, 50 LB SACK (102077046)								
7.54 Gal		FRESH WATER								
0.20 %		SCR-100 (100003749)								
5 lbm		WELLIFE 708 - 2000 LB BAG (807637)								
1 lbm		SILICALITE, COMPACTED - 2200 LB (870283)								
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal	
3	Tail Cement	ECONOCEM	1195	sack	13.5	1.79	8.74	8	10468	
0.25 %		HR-5, 50 LB SK (100005050)								
8.72 Gal		FRESH WATER								
0.80 %		HALAD(R)-344, 50 LB (100003670)								
25 %		SS-200 - BULK (102240841)								
24.50 lbm		POZMIX A FLYASH (100003690)								
0.10 %		SA-1015, 50 LB SACK (102077046)								
61.10 lbm		TYPE I / II CEMENT, BULK (101439798)								
0.20 %		HALAD(R)-413, 50 LB (100003738)								
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal	
4	Displacement	MMCR FRESH WATER	40	bbl	8.33			8	1680	
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/mi n	Total Mix Fluid Gal	
5	Displacement	FRESH WATER	282	bbl	8.33			8	11844	
Cement Left In Pipe		Amount	93 ft		Reason			Shoe Joint		
Mix Water:		pH 7.0	Mix Water		<100 ppm		Mix Water Temperature:		55 °F	
			Chloride:							
Cement Temperature:		N/A	Plug Displaced by:			8.3 lb/gal Fresh Water		Disp. Temperature:		55 °F
Plug Bumped?		Yes	Bump Pressure:			2490 psi		Floats Held?		Yes
Cement Returns:		N/A	Returns Density:			N/A		Returns Temperature:		N/A
Comment: Plug Bumped @ calculated displacement @ 2490 PSI. Floats Held and received 4 BBLS back to the truck. 15 BBLS of spacer returned to surface.										