

# HALLIBURTON

iCem<sup>®</sup> Service

## CONOCOPHILLIPS

Date: Saturday, July 29, 2017

### Little Rush 4-65 28 1V Surface

Job Date: Friday, July 14, 2017

Sincerely,

**Justin Lansdale**

## Legal Notice

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### Disclaimer:

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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 **Little Rush 4-65 28 1V** 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 [Fort Lupton]**

*The Road to Excellence Starts with Safety*

<b>Sold To #:</b> 352431		<b>Ship To #:</b> 3791999		<b>Quote #:</b> 0022325514		<b>Sales Order #:</b> 0904155234				
<b>Customer:</b> CONOCO/PHILLIPS COMPANY-EBUS				<b>Customer Rep:</b> Richard Perez						
<b>Well Name:</b> LITTLE RUSH 4-65 28			<b>Well #:</b> 1V		<b>API/UWI #:</b> 05-005-07270-00					
<b>Field:</b> WILDCAT		<b>City (SAP):</b> AURORA		<b>County/Parish:</b> ARAPAHOE		<b>State:</b> COLORADO				
<b>Legal Description:</b> NW SW-28-4S-65W-1531FSL-422FWL										
<b>Contractor:</b> H & P DRLG				<b>Rig/Platform Name/Num:</b> H & P 448						
<b>Job BOM:</b> 7521 7521										
<b>Well Type:</b> DIRECTIONAL OIL										
<b>Sales Person:</b> HALAMERICA\HB41307				<b>Srv Supervisor:</b> Vaughn Oteri						
<b>Job</b>										
<b>Formation Name</b>										
<b>Formation Depth (MD)</b>		<b>Top</b>				<b>Bottom</b>				
<b>Form Type</b>						<b>BHST</b>				
<b>Job depth MD</b>		2219ft				<b>Job Depth TVD</b>				
<b>Water Depth</b>						<b>Wk Ht Above Floor</b>				
<b>Perforation Depth (MD)</b>		<b>From</b>				<b>To</b>				
<b>Well Data</b>										
<b>Description</b>	<b>New / Used</b>	<b>Size in</b>	<b>ID in</b>	<b>Weight lbm/ft</b>	<b>Thread</b>	<b>Grade</b>	<b>Top MD ft</b>	<b>Bottom MD ft</b>	<b>Top TVD ft</b>	<b>Bottom TVD ft</b>
Open Hole Section			12.25				0	2256		
Casing		9.625	8.921	36	LTC	J-55	0	2246		
<b>Tools and Accessories</b>										
<b>Type</b>	<b>Size in</b>	<b>Qty</b>	<b>Make</b>	<b>Depth ft</b>		<b>Type</b>	<b>Size in</b>	<b>Qty</b>	<b>Make</b>	
Guide Shoe	9.625					Top Plug	9.625	1	Weatherford	
Float Shoe	9.625			2246		Bottom Plug	9.625	1	Weatherford	
Float Collar	9.625			2198		SSR plug set	9.625			
Insert Float	9.625					Plug Container	9.625	1	HES	
Stage Tool	9.625					Centralizers	9.625			
<b>Fluid Data</b>										
<b>Stage/Plug #: 1</b>										
<b>Fluid #</b>	<b>Stage Type</b>	<b>Fluid Name</b>	<b>Qty</b>	<b>Qty UoM</b>	<b>Mixing Density lbm/gal</b>	<b>Yield ft3/sack</b>	<b>Mix Fluid Gal</b>	<b>Rate bbl/min</b>	<b>Total Mix Fluid Gal</b>	
1	10 lb/gal Tuned Spacer III	Tuned Spacer III	50	bbl	10	8.82		4		
<b>Fluid #</b>	<b>Stage Type</b>	<b>Fluid Name</b>	<b>Qty</b>	<b>Qty UoM</b>	<b>Mixing Density lbm/gal</b>	<b>Yield ft3/sack</b>	<b>Mix Fluid Gal</b>	<b>Rate bbl/min</b>	<b>Total Mix Fluid Gal</b>	
2	SwiftCem	SWIFTCM (TM) SYSTEM	370	sack	12	2.56		8	15.11	

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	SwiftCem	SWIFTCEM (TM) SYSTEM		165	sack	14.2	1.59		8	7.89
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	Displacement	Displacement		173	bbl	8.33			6	
Cement Left In Pipe		Amount	45 ft			Reason			Shoe Joint	
Comment 100bbl of cement back to surface										

## 2.0 Real-Time Job Summary

### 2.1 Job Event Log

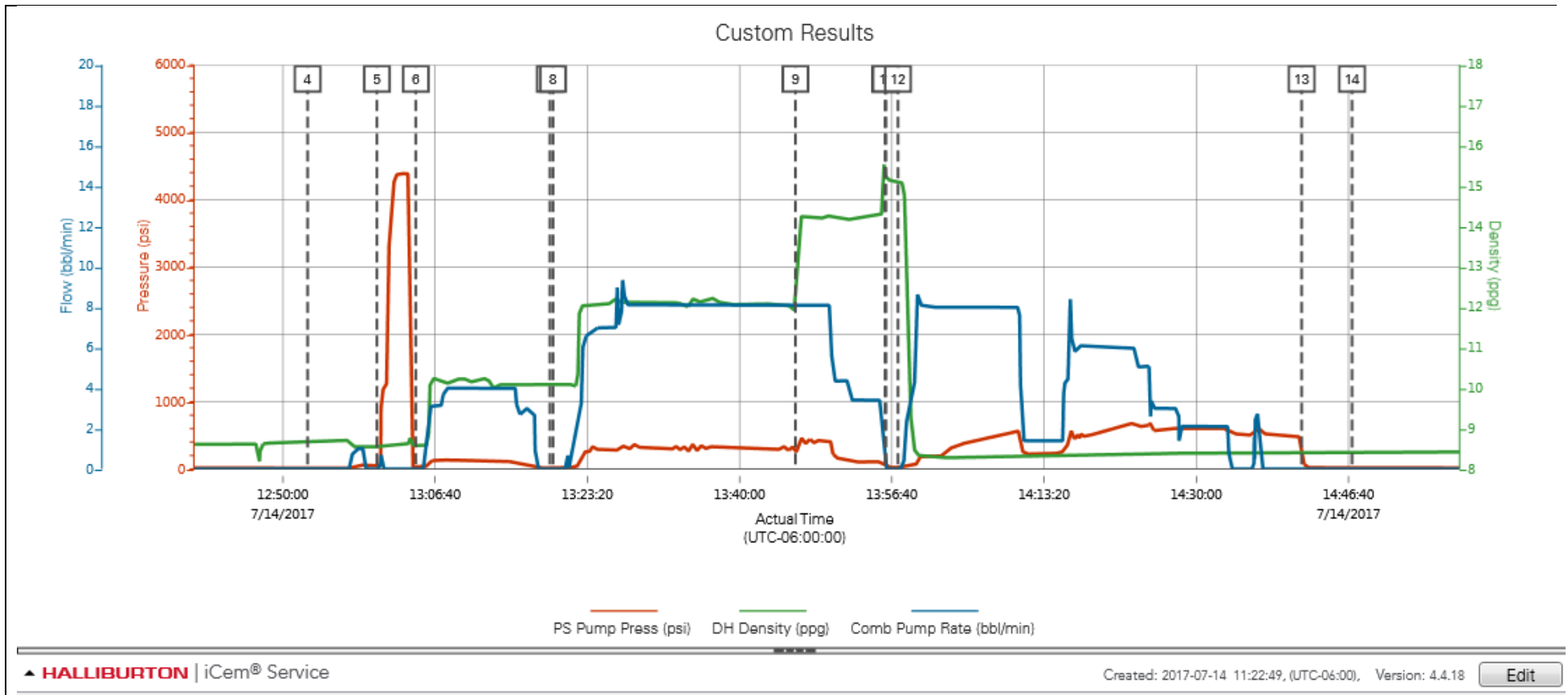
Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Comments
Event	1	Call Out	Call Out	7/14/2017	04:00:00	USER	Call out from ARC hub
Event	2	Arrive At Loc	Arrive At Loc	7/14/2017	10:00:00	USER	Arrived on location at 1000 met with company rep to discuss job process and concerns
Event	3	Other	Other	7/14/2017	10:10:10	USER	TD-2256 TP-2246 FC-2198 Casing 9.658 36#
Event	4	Start Job	Start Job	7/14/2017	12:52:42	COM4	Held pre-job safety meeting with all hands on location to discuss job process and hazards
Event	5	Test Lines	Test Lines	7/14/2017	13:00:18	COM4	Pressure tested pumps and lines with fresh water 4420psi
Event	6	Pump Spacer 1	Pump Spacer 1	7/14/2017	13:04:33	COM4	Mixed 50bbl of 10.0ppg Tuned spacer III at 4.0bpm 119psi
Event	7	Drop Bottom Plug	Drop Bottom Plug	7/14/2017	13:19:14	COM4	Released plug witnessed by company rep
Event	8	Pump Lead Cement	Pump Lead Cement	7/14/2017	13:19:34	COM4	Mixed 370sks or 168bbl of 12.0ppg Y-2.56 G/sk-15.11 Swiftcem at 8.0bpm 305psi
Event	9	Pump Tail Cement	Pump Tail Cement	7/14/2017	13:46:07	COM4	Mixed 165sks or 46bbl of 14.2ppg Y-1.59 G/sk-7.89 Swiftcem at 8.0bpm 470psi
Event	10	Shutdown	Shutdown	7/14/2017	13:55:55	COM4	
Event	11	Drop Top Plug	Drop Top Plug	7/14/2017	13:56:01	COM4	released plug witnessed by company rep

Event	12	Pump Displacement	Pump Displacement	7/14/2017	13:57:21	COM4	Pumped 173bbl of fresh water to displace cement,pumped 3bbl over due to not bumping
Event	13	Other	Other	7/14/2017	14:41:32	COM4	Did not bump plug, released pressure back to pump truck to check floats, floats held good .5bbl back
Event	14	End Job	End Job	7/14/2017	14:47:03	COM4	100bbl of cement back to surface



## 3.0 Attachments

### 3.1 Job Chart





# HALLIBURTON

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## **CONOCOPHILLIPS COMPANY - EBUS**

Date: Wednesday, August 09, 2017

### **Little Rush 4-65 28 1V Production**

Job Date: Monday, July 31, 2017

Sincerely,

**Julia Nichols**

## Legal Notice

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### Disclaimer:

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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 **Little Rush 4-65 28 1V** 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.

**No cement or spacer to surface as per design.**

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 [Ft. Lupton]**

*The Road to Excellence Starts with Safety*

<b>Sold To #:</b> 352431		<b>Ship To #:</b> 3791999		<b>Quote #:</b> 0022325248		<b>Sales Order #:</b> 0904189338					
<b>Customer:</b> CONOCO/PHILLIPS COMPANY-EBUS				<b>Customer Rep:</b> Clint Valentine							
<b>Well Name:</b> LITTLE RUSH 4-65 28			<b>Well #:</b> 1V		<b>API/UWI #:</b> 05-005-07270-00						
<b>Field:</b> WILDCAT		<b>City (SAP):</b> AURORA		<b>County/Parish:</b> ARAPAHOE		<b>State:</b> COLORADO					
<b>Legal Description:</b> NW SW-28-4S-65W-1531FSL-422FWL											
<b>Contractor:</b> H & P DRLG				<b>Rig/Platform Name/Num:</b> H & P 448							
<b>Job BOM:</b> 7523 7523											
<b>Well Type:</b> DIRECTIONAL OIL											
<b>Sales Person:</b> HALAMERICA\HB41307				<b>Srvc Supervisor:</b> Steven Markovich							
<b>Job</b>											
<b>Formation Name</b>											
<b>Formation Depth (MD)</b>		<b>Top</b>				<b>Bottom</b>					
<b>Form Type</b>						<b>BHST</b>					
<b>Job depth MD</b>		8553ft				<b>Job Depth TVD</b>					
<b>Water Depth</b>						<b>Wk Ht Above Floor</b>					
<b>Perforation Depth (MD)</b>		<b>From</b>				<b>To</b>					
<b>Well Data</b>											
<b>Description</b>	<b>New / Used</b>	<b>Size in</b>	<b>ID in</b>	<b>Weight lbm/ft</b>	<b>Thread</b>	<b>Grade</b>	<b>Top MD ft</b>	<b>Bottom MD ft</b>	<b>Top TVD ft</b>	<b>Bottom TVD ft</b>	
Casing		9.625	8.921	36	LTC	J-55	0	2246			
Casing		5.5	4.67	23	TXP-BTC	P-110	0	8553	0		
Open Hole Section			8.5				2246	7311			
Open Hole Section			8.5				7311	8553			
<b>Tools and Accessories</b>											
<b>Type</b>	<b>Size in</b>	<b>Qty</b>	<b>Make</b>	<b>Depth ft</b>		<b>Type</b>	<b>Size in</b>	<b>Qty</b>	<b>Make</b>		
<b>Guide Shoe</b>	5.5			8693		<b>Top Plug</b>	5.5		HES		
<b>Float Shoe</b>	5.5					<b>Bottom Plug</b>	5.5		HES		
<b>Float Collar</b>	5.5					<b>SSR plug set</b>	5.5		HES		
<b>Insert Float</b>	5.5					<b>Plug Container</b>	5.5		HES		
<b>Stage Tool</b>	5.5					<b>Centralizers</b>	5.5		HES		
<b>Fluid Data</b>											
<b>Stage/Plug #: 1</b>											
<b>Fluid #</b>	<b>Stage Type</b>	<b>Fluid Name</b>			<b>Qty</b>	<b>Qty UoM</b>	<b>Mixing Density lbm/gal</b>	<b>Yield ft3/sack</b>	<b>Mix Fluid Gal</b>	<b>Rate bbl/min</b>	<b>Total Mix Fluid Gal</b>
1	10.5 lb/gal Tuned Spacer III	Tuned Spacer III			60	bbl	10.5	6.4			
0.10 gal/bbl		<b>D-AIR 3000L, 5 GAL PAIL (101007444)</b>									

0.20 gal/bbl	MUSOL A, 330 GAL TOTE - (790828)								
36.90 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/min	Total Mix Fluid Gal
2	ElastiCem	ELASTICEM (TM) SYSTEM	1085	sack	13.2	1.57		5	7.53
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)								
7.55 Gal	FRESH WATER								
5 lbm	WELLIFE 708 - 2000 LB BAG (807637)								
1 lbm	SILICALITE, COMPACTED - 2200 LB (870283)								
0.30 %	HR-5, 50 LB SK (100005050)								
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	MMCR Displacement	MMCR Displacement	40	bbl	8.34				
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
4	Water	Water	138.4	bbl	8.33				
Comment Estimated top of Cement 7227' Estimted top of Spacer 8479.6'									



## 2.0 Real-Time Job Summary

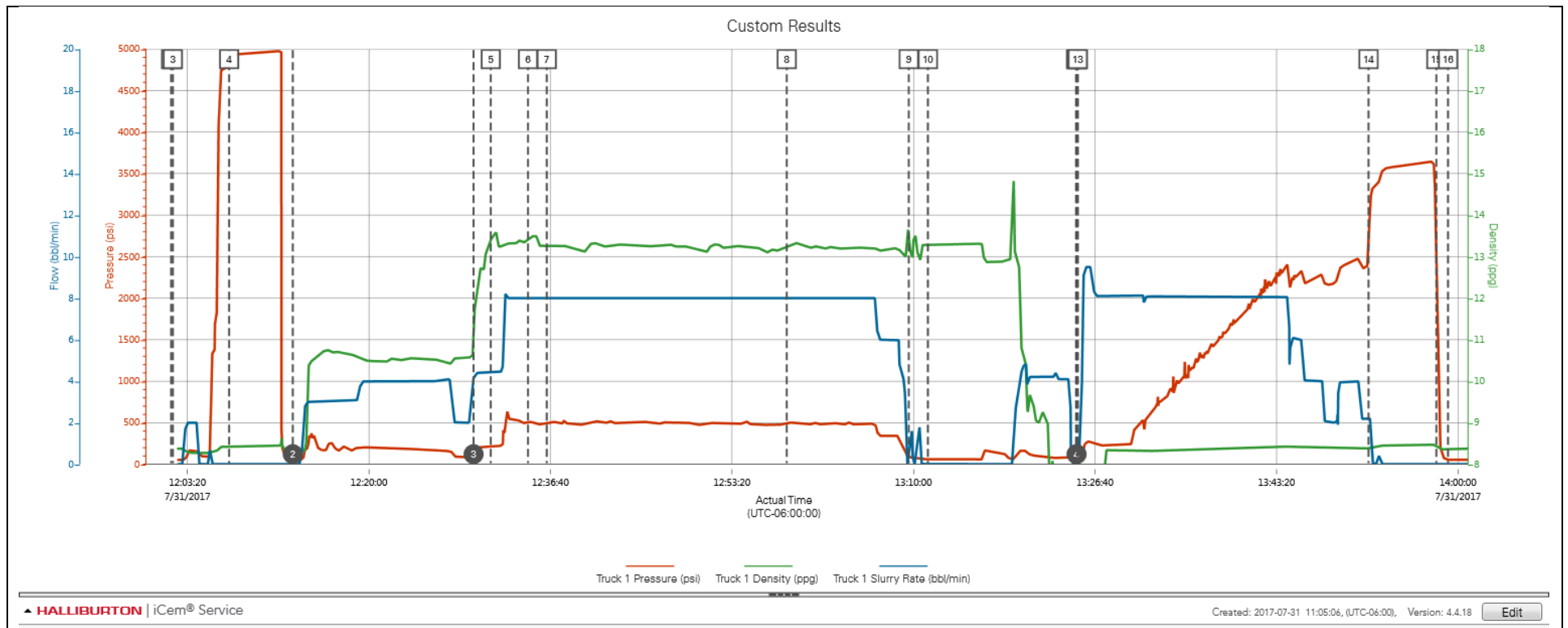
## 2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Truck 1 Pressure (psi)	Truck 1 Density (ppg)	Truck 1 Slurry Rate (bbl/min)	Comments
Event	1	Call Out	Call Out	7/31/2017	01:00:00	USER				Job called out at 03:30 with an on location time of 8:30. Arrived on location rig was still running casing had approx 2000' to run.
Event	2	Start Job	Start Job	7/31/2017	12:01:50	COM5				TD 8562' TP 8551' FC 8457' 5 1/2 23# csg 8 3/4" oph 9 5/8 36# sur csg 2256'
Event	3	Check Weight	Check Weight	7/31/2017	12:02:00	USER				Weight verified with pressurized scales.
Event	4	Test Lines	Test Lines	7/31/2017	12:07:09	COM5	4814.00	8.43	0.00	Set kick outs to 500psi and perform kick out test. Then bring pressure up to 4900 psi and hold for 3 mins
Stage	2	Next Stage	CoP TSIII 2388825/2	7/31/2017	12:13:00	USER	53.00	8.36	0.00	Pump 60 bbls of 10.5ppg 6.4 yield Tuned Spacer. Added 12 gallons of Dual Spacer B and Musol A on the fly. Pumped at 4bbl/min 300psi
Stage	3	Next Stage	CoP Vertical ElastiCem	7/31/2017	12:29:36	USER	105.00	11.20	4.10	Pump 303.4 bbls (1085 sks) of 13.2 ppg 1.57 yield Cement. Pumped at 8 bbl/min 440 psi
Event	5	Check Weight	Check Weight	7/31/2017	12:31:11	COM5	214.00	13.41	4.40	
Event	6	Check Weight	Check Weight	7/31/2017	12:34:36	COM5	491.00	13.39	8.00	
Event	7	Check Weight	Check Weight	7/31/2017	12:36:19	COM5	482.00	13.23	8.00	
Event	8	Check Weight	Check Weight	7/31/2017	12:58:21	COM5	485.00	13.24	8.00	
Event	9	Open Wellhead Bypass	Wash lines on	7/31/2017	13:09:34	USER	78.00	13.69	0.70	
Event	10	Shutdown	Shutdown	7/31/2017	13:11:19	COM5	60.00	13.30	0.00	
Event	11	Close Wellhead Bypass	Wash lines off	7/31/2017	13:24:56	USER	41.00	7.57	0.00	
Stage	4	Next Stage	Water	7/31/2017	13:24:58	USER	41.00	7.58	0.00	
Event	12	Drop Top Plug	Drop Top Plug	7/31/2017	13:25:03	COM5	43.00	7.58	0.00	
Event	13	Pump Displacement	Pump Displacement	7/31/2017	13:25:05	COM5	43.00	7.58	0.00	Pump 179 bbls of H2O. First 40 bbls with MMCR added.

Event	14	Bump Plug	Bump Plug	7/31/2017	13:51:47	COM5	2547.00	8.38	2.20	Bumped plug at calculated displacement. Final lifting pressure was 2500 psi. Took 1000 psi and held. No spacer to surface, calculated TOC 1337'
Event	15	Check Floats	Check Floats	7/31/2017	13:58:00	USER	2773.00	8.46	0.00	Floats held, got back 2.25 bbls
Event	16	End Job	End Job	7/31/2017	13:59:05	COM5	53.00	8.35	0.00	

## 3.0 Attachments

### 3.1 Custom Results – Job Chart with Events



## 3.2 Custom Results – Job Chart without Events

