HALLIBURTON

iCem® Service

CONOCO/PHILLIPS COMPANY EBUSINESS

EOWR

Property Reserve 4-65 3-4 2BH

Sincerely,

Fort Lupton Cement Engineering

Legal Notice

Disclaimer:

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1.0 Cementing Job Summary – Surface Casing

1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **Property Reserve 4-65 3-4 2BH** 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.

Approximately 0 bbls of cement were returned to surface.

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

Sold To #: 352431	**Ship To #:** 3898669	**Quote #:** 0022508347	**Sales Order #:** 0905254447
Customer: CONOCO/PHILLIPS COMPANY-EBUS		**Customer Rep:** AARON NEGUSSEN	
Well Name: PROPERTY RESERVE 4-65 3-4	**Well #:** 2BH		**API/UWI #:** 05-005-07379-00
Field: WILDCAT	**City (SAP):** WATKINS	**County/Parish:** ARAPAHOE	**State:** COLORADO
Legal Description: SE NE-3-4S-65W-2308FNL-505FEL			
Contractor:		**Rig/Platform Name/Num:** Nabors B16	
Job BOM: 7521 7521			
Well Type: HORIZONTAL OIL			
Sales Person: HALAMERICA\HB41307		**Srvc Supervisor:** Vitali Neverdasov	

Job

Formation Name				
Formation Depth (MD)	**Top**		**Bottom**	
Form Type			**BHST**	
Job depth MD	2195ft		**Job Depth TVD**	2205
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		16	15.25				0	100		
Casing	0	9.625	8.921	36	STC	J-55	0	2195	0	2195
Open Hole Section			13.5				100	2205	0	2205

Tools and Accessories

Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make
Guide Shoe	9.625					**Top Plug**	9.625	1	HES
Float Shoe	9.625	1	N/A	2195		**Bottom Plug**	9.625	1	HES
Float Collar	9.625	1	N/A	2153		**SSR plug set**	9.625		
Insert Float	9.625					**Plug Container**	9.625	1	HES
Stage Tool	9.625					**Centralizers**	9.625	18	N/A

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	10 lb/gal Tuned Spacer III	Tuned Spacer III	50	bbl	10	8.97		4	
38.40 gal/bbl		**FRESH WATER**							
62.54 lbm/bbl		**BARITE, BULK (100003681)**							

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	SwiftCem	SWIFTCEM (TM) SYSTEM	490	sack	12	2.57		8	15.14

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	255	sack	14.2	1.59		6	7.9

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	166	bbl	8.33			6	

Cement Left In Pipe	**Amount**	42 ft	Reason	**Shoe Joint**

Comment : DID NOT GET ANY SPACER OR CEMENT BACK TO SURFACE. ESTIMATED AMOUNT OF CEMENT BACK WAS 100 BBLS. TOP OF LEAD IS N/A. HAD RETURNS DURING THE JOB.

HALLIBURTON

Rockies, Brighton

Lab Results- Lead

Job Information

Request/Slurry	2515999/4	**Rig Name**	Nabors B16	**Date**	18/NOV/2018
Submitted By	Meghan Jacobs	**Job Type**	Production Casing	**Bulk Plant**	Brighton
Customer	ConocoPhillips	**Location**	Weld	**Well**	Property Reserve 4-65 3-4 2BH

Well Information

Casing/Liner Size	5.5 in	**Depth MD**	18038 ft	**BHST**	104°C / 219°F
Hole Size	8.5 in	**Depth TVD**	7332 ft	**BHCT**	104°C / 219°F
Pressure	4554 psi				

Cement Information - Lead Design

Conc	UOM	Cement/Additive
100	% BWOC	Cement Blend
7.53	gal/sack	Field (Fresh) Water
5	lb/sk	WellLife 708 (PB)
0.1	% BWOC	SA-1015 (PB)
0.45	% BWOC	SCR-100 (PB)
1	lb/sk	Silicalite - Compacted
0.2	% BWOC	HALAD-344 (PB)

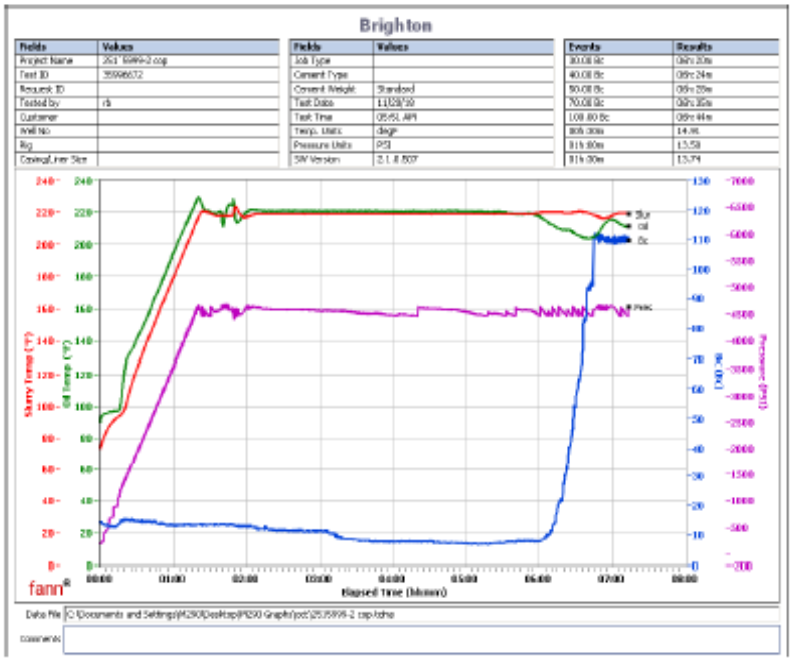
Cement Properties

Slurry Density	13.2	lbm/gal
Slurry Yield	1.57	ft3/sack
Water Requirement	7.535	gal/sack
Total Mix Fluid	7.535	gal/sack

Operation Test Results Request ID 2515999/2

Thickening Time - ON-OFF-ON — 20/NOV/2018

Test Temp (degF)	Pressure (psi)	Reached in (min)	30 Bc (hh:min)	50 Bc (hh:min)	70 Bc (hh:min)	100 Bc (hh:min)	Start Bc	Stirring before stop (mins)	Static Period (min)	Peak reading (BC)
219	4554	80	6:20	6:28	6:35	6:44	14	99	10	12



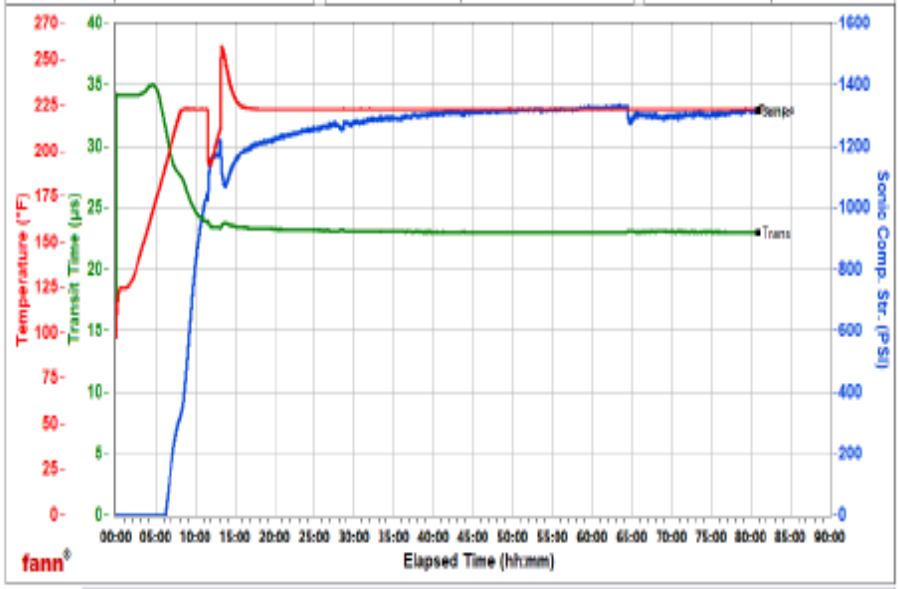
Operation Test Results Request ID 2515999/1

UCA Comp. Strength 23/NOV/2018

End Temp (degF)	Pressure (psi)	50 psi (hh:mm)	100 psi (hh:mm)	500 psi (hh:mm)	1000 psi(hh:mm)	8hr CS (psi)	12 hr CS (psi)	16 hr CS (psi)	24 hr CS (psi)	48 hr CS (psi)	End CS (psi)	End Time (hrs)
223	800	6:25	6:38	8:56	10:59	309	1154	1186	1250	1312	1312	80

Brighton Lab

Fields	Values	Fields	Values	Events	Results
Project Name	25159990-1 COP	Job Type		50.00 PSI	06h:25m
Test ID	35991471	Cement Type		100.00 PSI	06h:38m
Request ID		Cement Weight	Light Weight	500.00 PSI	08h:56m
Tested by	RB	Test Date	11/20/2018	1000.00 PSI	10h:59m
Customer		Test Time	1:22 AM	08h:00m	309.99
Well No		Temp. Units	degF	12h:00m	1154.35
Rig		Pressure Units	PSI	24h:00m	1250.11



Data File D:\25159990-1 COP.tdms

Comments

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Rockies, Brighton

Lab Results- Tail

Job Information

Request/Slurry	2516000/3	**Rig Name**	Nabors B16	**Date**	18/NOV/2018
Submitted By	Meghan Jacobs	**Job Type**	Production Casing	**Bulk Plant**	Brighton
Customer	ConocoPhillips	**Location**	Weld	**Well**	Property Reserve 4-65 3-4 2BH

Well Information

Casing/Liner Size	5.5 in	**Depth MD**	18038 ft	**BHST**	104°C / 219°F
Hole Size	8.5 in	**Depth TVD**	7332 ft	**BHCT**	104°C / 219°F
Pressure	4554 psi				

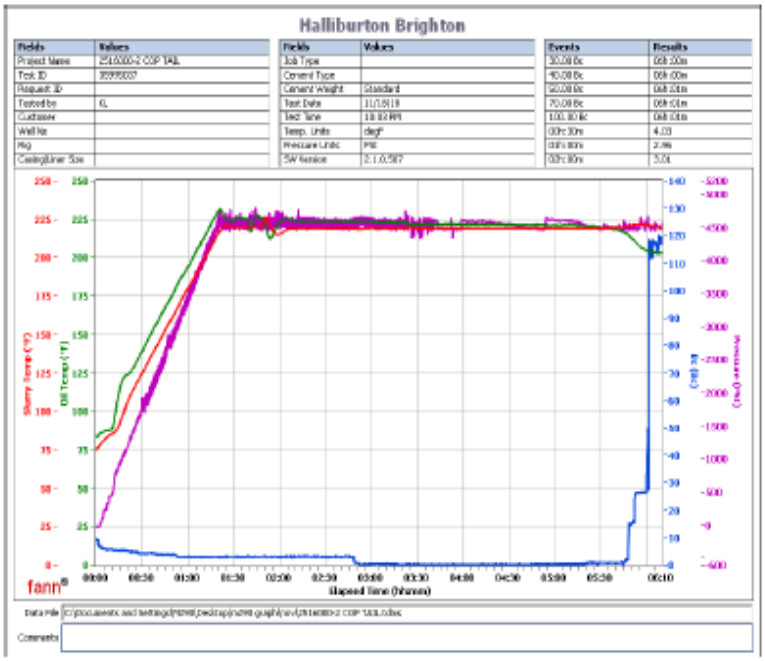
Cement Information - Tail Design

Conc	UOM	Cement/Additive	Sample Type	Sample Date	Lot No.	Cement Properties		
100	% BWOC	Cement Blend				Slurry Density	13.5	lbm/gal
8.73	gal/sack	Field (Fresh) Water	Lab	09.10.18	8/19/2018	Slurry Yield	1.791	ft3/sack
25	% BWOC	SS-200 silica flour	Bulk Blend	19.11.18		Water Requirement	8.731	gal/sack
0.1	% BWOC	SA-1015 (PB)	Bulk Blend	19.11.18	8e3445w	Total Mix Fluid	8.731	gal/sack
0.3	% BWOC	HR-5 (PB)	Bulk Blend	19.11.18	1180115			
0.8	% BWOC	HALAD-344 (PB)	Bulk Blend	19.11.18	20180858			
0.2	% BWOC	HALAD-413 (PB)	Bulk Blend	19.11.18				

Operation Test Results Request ID 2516000/2

Thickening Time - ON-OFF-ON — 19/NOV/2018

Test Temp (degF)	Pressure (psi)	Reached in (min)	30 Bc (hh:min)	50 Bc (hh:min)	70 Bc (hh:min)	100 Bc (hh:min)	Start Bc	Stirring before stop (mins)	Static Period (min)	Peak reading (BC)
219	4554	80	6:00	6:01	6:01	6:01	10	99	10	10



Operation Test Results Request ID 2516000/1

UCA Comp. Strength 23/NOV/2018

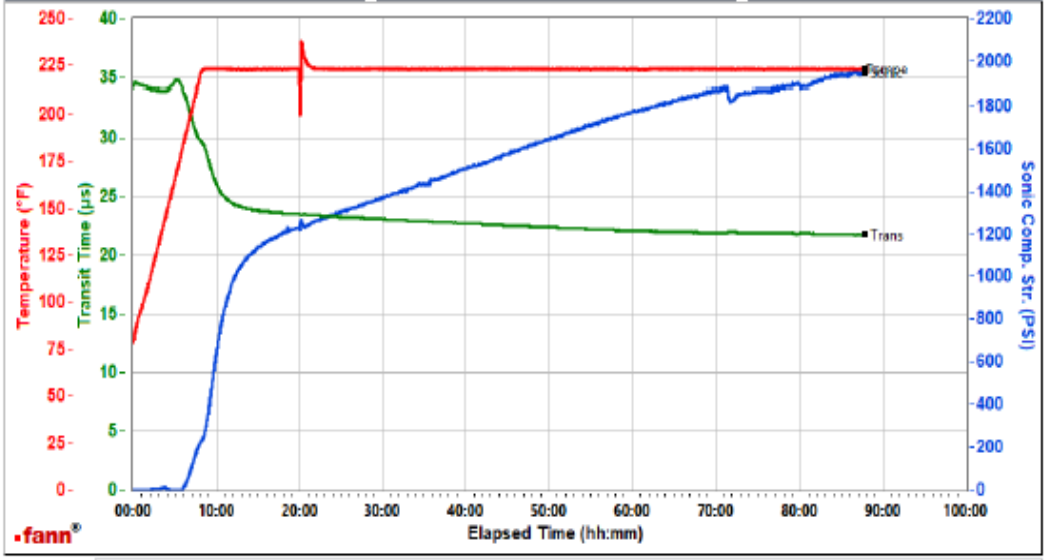
End Temp (degF)	Pressure (psi)	50 psi (hh:mm)	100 psi (hh:mm)	500 psi (hh:mm)	1000 psi(hh:mm)	8hr CS (psi)	12 hr CS (psi)	16 hr CS (psi)	24 hr CS (psi)	48 hr CS (psi)	End CS (psi)	End Time (hrs)
223	800	6:32	6:58	9:30	12:12	219	981	1166	1290	1617	1951	87

Brighton Lab

Fields	Values
Project Name	2516000-1 COP TAIL UCA
Test ID	35991474
Request ID	
Tested by	KL
Customer	
Well No	
Rig	

Fields	Values
Job Type	
Cement Type	
Cement Weight	Light Weight
Test Date	11/19/2018
Test Time	6:25 PM
Temp. Units	degF
Pressure Units	PSI

Events	Results



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Comments

The Road to Excellence Starts with Safety

Sold To #: 343521	**Ship To #:** 3898669	**Quote #:** 0022513789	**Sales Order #:** 0905283945
Customer: CONOCOPHILLIPS - NON OLA-EBUS		**Customer Rep:** JASON BEACH	
Well Name: PROPERTY RESERVE 4-65 3-4	**Well #:** 2BH		**API/UWI #:** 05-005-07379-00
Field: WILDCAT	**City (SAP):** WATKINS	**County/Parish:** ARAPAHOE	**State:** COLORADO
Legal Description: SE NE-3-4S-65W-2308FNL-505FEL			
Contractor:		**Rig/Platform Name/Num:** Nabors B16	
Job BOM: 14141 14141			
Well Type: HORIZONTAL OIL			
Sales Person: HALAMERICA\HB41307		**Srvc Supervisor:** Vitali Neverdasov	

Job

Formation Name				
Formation Depth (MD)	**Top**		**Bottom**	
Form Type			**BHST**	
Job depth MD	260ft		**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	2220		

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	Top Out Cement	Premium Cement	170	sack	15.8	1.174		1	5.15
94 lbm		**CMT - PREMIUM - CLASS G REG OR TYPE V, BULK (100003685)**							
5.15 Gal		**FRESH WATER**							
2 %		**CALCIUM CHLORIDE, PELLET, 50 LB (101509387)**							

Cement Left In Pipe	**Amount**		Reason	**Shoe Joint**

Comment : APPX 170 SKS TO BRING CEMENT TO SURFACE. WHILE SPOTTING PUMP TRUCK , TRACTOR ENGINE SHUT OFF. BATTERIES WAS NOT GHARGING. HAD TO SWAP BATTERIES FROM ANOTHER TRUCK . CALLED MECHANICS.

2.0 Real-Time Job Summary – Surface Casing

2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DH Density (ppg)	Comb Pump Rate (bbl/min)	PS Pump Press (psi)	Comments
Event	1	Check Floats	Check Floats	11/8/2018	00:02:00	USER				Floats held. 0.5 bbls back
Event	2	Depart from Service Center or Other Site	Depart from Service Center or Other Site	11/8/2018	01:00:00	USER				Crew left the yard to stage up near location. Called Journey
Event	3	Call Out	Call Out	11/8/2018	05:00:00	USER				For Location @ 14:00
Event	4	Arrive at Location from Service Center	Arrive at Location from Service Center	11/8/2018	15:27:00	USER				31 MILES. DISCUSS NUMBERS AND PROCEDURE WITH CUSTOMER. RIG IS RUNNING CASING. CUSTOMER CHANGE ON LOCATION TIME @ 16:00
Event	5	Safety Meeting - Pre Rig-Up	Safety Meeting - Pre Rig-Up	11/8/2018	15:50:00	USER				JSA to discuss the hazards of rig-up
Event	6	Rig-Up Equipment	Rig-Up Equipment	11/8/2018	15:55:00	USER				Rig-up all surface lines and equipmnet up to the Buffer zone
Event	7	Casing on Bottom	Casing on Bottom	11/8/2018	19:20:00	USER				Landing joint brought to floor and landed
Event	8	Circulate Well	Circulate Well	11/8/2018	19:30:00	USER				RIG UP CEMENT HEAD AND MANIFOLD FOR RIG TO CIRCULATE.
Event	9	Pre-Job Safety Meeting	Pre-Job Safety Meeting	11/8/2018	20:57:00	USER	-0.01	0.00	269.00	With all Personall, to discuss the hazards of pumping the job, and pump schedule.
Event	10	Start Job	Start Job	11/8/2018	21:57:30	COM4	8.45	0.00	-5.00	
Event	11	Test Lines	Test Lines	11/8/2018	21:58:00	USER	8.48	0.00	1329.00	Load and Test line @ 3160 psi

Event	12	Pump Spacer	Pump Spacer	11/8/2018	22:08:46	USER	8.37	0.00	-29.00	BATCH/ WEIGHT/ PUMP 50 BBLS OF SPACER @ 10 PPG.
Event	13	Drop Bottom Plug	Drop Bottom Plug	11/8/2018	22:19:00	USER	10.01	2.90	52.00	PLUG WAS PRE LOADED. VERYFIED BY CUSTOMER.
Event	14	Pump Lead Cement	Pump Lead Cement	11/8/2018	22:23:16	USER	10.30	3.40	28.00	BATCH/ WEIGHT/PUMP 490 sks(224.3 bbls) of Lead Swiftcem @ 12.0 ppg, verified with pressurized scales
Event	15	Pump Tail Cement	Pump Tail Cement	11/8/2018	22:58:52	USER	12.45	5.90	168.00	BATCH/WEIGHT/PUMP 255 SKS (72.2 BBLS) OF TAIL CEMENT @ 14.2 PPG.
Event	16	Shutdown	Shutdown	11/8/2018	23:13:42	USER	14.15	1.70	-20.00	Finished pumping cement
Event	17	Drop Top Plug	Drop Top Plug	11/8/2018	23:16:00	USER	14.48	0.00	-50.00	Pre-loaded top plug in plug container verified by customer rep.
Event	18	Pump Displacement - Start	Pump Displacement - Start	11/8/2018	23:19:13	USER	14.43	0.00	-48.00	166.4 bbls fresh water. Washing up on top of the plug.
Event	19	Bump Plug	Bump Plug	11/8/2018	23:55:27	USER	8.19	2.00	468.00	@500 psi over final circulating pressure of 582 psi
Event	20	Event	Event	11/9/2018	00:08:07	USER	8.24	0.00	1727.00	PRESSURE UP 1800 PSI FOR 30 MIN CASING TEST.
Event	21	Event	Event	11/9/2018	00:38:51	USER	8.22	0.00	1360.00	BLEED OFF PRESSURE.
Event	22	End Job	End Job	11/9/2018	00:39:58	COM4	8.19	0.00	-48.00	
Event	23	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	11/9/2018	00:45:00	USER				JSA to discuss the hazards of rig-down

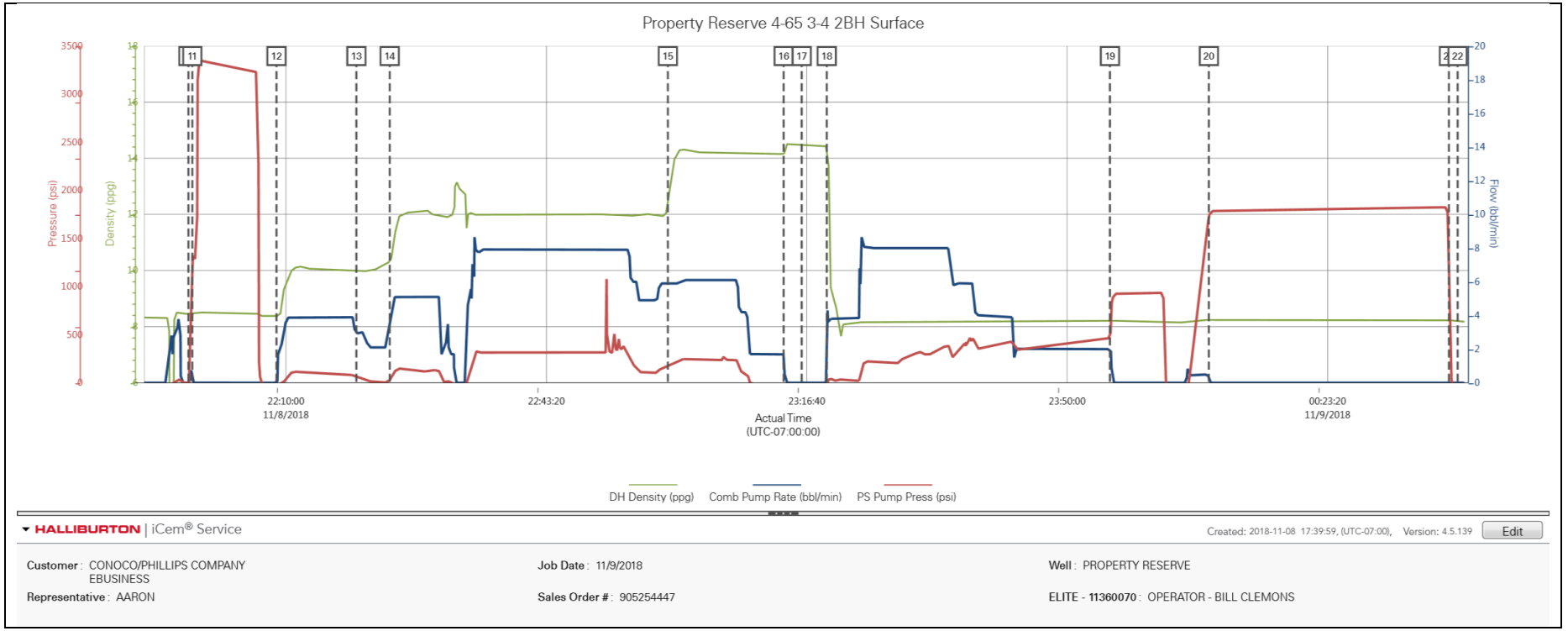
2.2 Job Event Log – Top Out

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DH Density (ppg)	Comb Pump Rate (bbl/min)	PS Pump Press (psi)	Comments
Event	1	Call Out	Call Out	11/16/2018	22:00:00	USER				ON LOCATION @ 03:00
Event	2	Depart from Service Center or Other Site	Depart from Service Center or Other Site	11/17/2018	01:25:00	USER				Called Journey
Event	3	Arrive at Location from Service Center	Arrive at Location from Service Center	11/17/2018	02:20:00	USER				34 MILES. Disscussed numbers and job procedures with Customer
Event	4	Safety Meeting - Pre Rig-Up	Safety Meeting - Pre Rig-Up	11/17/2018	04:20:00	USER				JSA to discuss the hazards of rig-up
Event	5	Rig-Up Equipment	Rig-Up Equipment	11/17/2018	04:30:00	USER				Rig-up all surface lines and equipmnet.
Event	6	Pre-Job Safety Meeting	Pre-Job Safety Meeting	11/17/2018	06:00:00	USER	8.39	0.00	4.00	With all HES personnel, to discuss the hazards of pumping the job, and pump schedule.
Event	7	Start Job	Start Job	11/17/2018	06:22:26	COM4	8.25	0.00	-21.00	
Event	8	Pump Spacer Ahead	Pump Spacer Ahead	11/17/2018	06:24:00	USER	8.50	0.00	-1.00	LOAD LINE WITH 2 BBLS OF WATER
Event	9	Test Lines	Test Lines	11/17/2018	06:25:00	USER	8.49	0.00	-26.00	Test lines @ 425 psi
Event	10	Pump Cement - Start	Pump Cement - Start	11/17/2018	06:36:21	USER	0.00	0.40	-29.00	BATCH/ WEIGHT/ PUMP 170 SKS OF TOP OUT CEMENT @ 15.8 PPG.
Event	11	Shutdown	Shutdown	11/17/2018	07:11:00	USER	15.71	0.00	19.00	JOB IS COMPLETE
Event	12	End Job	End Job	11/17/2018	07:34:25	COM4	8.22	0.00	-40.00	

Event	13	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	11/17/2018	07:36:00	USER	0.27	0.00	-39.00	JSA to discuss the hazards of rig-down

3.0 Attachments – Surface Casing

3.1 Job Chart – Surface Casing primary cement job



3.2 Job Chart – Surface Casing Top up cement

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Created: 2018-11-17 00:39:14, (UTC-07:00), Version: 4.5.139 Edit

Customer: CONOCO/PHILLIPS COMPANY EBUSINESS	**Job Date**: 11/17/2018	**Well**: PROPERTY RESERVE
Representative: JASON BEACH	**Sales Order #**: 905283945	**ELITE - 11360070**: OPERATOR - BILL CLEMONS

4.0 Cementing Job Summary – Production Casing

4.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **Property Reserve 4-65 3-4 2BH** 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.

Approximately 29 bbls of spacer were returned to surface.

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

HALLIBURTON

Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 352431	**Ship To #:** 3898669	**Quote #:** 0022508536	**Sales Order #:** 0905291606
Customer: CONOCO/PHILLIPS COMPANY-EBUS		**Customer Rep:** Erich O.	
Well Name: PROPERTY RESERVE 4-65 3-4	**Well #:** 2BH		**API/UWI #:** 05-005-07379-00
Field: WILDCAT	**City (SAP):** WATKINS	**County/Parish:** ARAPAHOE	**State:** COLORADO
Legal Description: SE NE-3-4S-65W-2308FNL-505FEL			
Contractor:		**Rig/Platform Name/Num:** Nabors B16	
Job BOM: 7523 7523			
Well Type: HORIZONTAL OIL			
Sales Person: HALAMERICA\HB41307		**Srvc Supervisor:** Prince Perez	

Job

Formation Depth (MD)	**Top**	0'	**Bottom**	17,915'	
Job depth MD	17,898'		**Job Depth TVD**	8,353'	
			Wk Ht Above Floor	5'	

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	STC	J-55	0	2195	0	2195
Casing		5.5	4.67	23	TXP-BTC	P-110	0	17898	0	8353
Open Hole Section			8.5				2195	17915	2195	8353

Tools and Accessories

Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make
Guide Shoe	5.5	1		17,898		Top Plug	5.5	1	ATLP
						Bottom Plug	5.5	1	ATLP
Float Collar	5.5	1		17,807					
						Plug Container	5.5	1	HES
						Centralizers	5.5	420	SNTX

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	Spacer	Tuned Spacer III	60	bbl	10.5	6.7	42.8	4	2,152

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	ELASTICEM (TM) SYSTEM	835	sack	13.2	1.57	7.54	8	6,296

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Cementing Job Summary

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	Tail	ECONOCEM (TM) SYSTEM	1,515	sack	13.5	1.79	8.73	6.5	13,226

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	MMCR Displacement	40	bbl	8.34			8	

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
5	Displacement	Water	335.7	bbl	8.33			8	

Cement Left In Pipe	Amount	91 ft	Reason		Shoe Joint
Mix Water:	pH 7	Mix Water Chloride:	<300 ppm	Mix Water Temperature:	59 °F
Cement Temperature:	## °F	Plug Displaced by:	8.34 lb/gal	Disp. Temperature:	59 °F
Plug Bumped?	Yes	Bump Pressure:	2,865 psi	Floats Held?	Yes
Cement Returns:	0 bbl	Returns Density:	## lb/gal	Returns Temperature:	##

Comment

Pumped 60 bbls of Tuned Spacer III with 40 gallons of Dual B, 40 gallons of Musol A, and 10 gallons of D air.
Pumped 233.48 bbls of Elasticem.
Pumped 482.98 bbls of Econocem.
Pumped 375.73 bbls of fresh water Displacement with 40 bbls of MMCR in the first 40 bbls and Biocide and Aldacide throughout.
29 bbls of spacer back.
5 bbls back on the floats.

HALLIBURTON

Rockies, Brighton

Lab Results- Lead

Job Information

Request/Slurry	2515999/4	**Rig Name**	Nabors B16	**Date**	18/NOV/2018
Submitted By	Meghan Jacobs	**Job Type**	Production Casing	**Bulk Plant**	Brighton
Customer	ConocoPhillips	**Location**	Weld	**Well**	Property Reserve 4-65 3-4 2BH

Well Information

Casing/Liner Size	5.5 in	**Depth MD**	18038 ft	**BHST**	104°C / 219°F
Hole Size	8.5 in	**Depth TVD**	7332 ft	**BHCT**	104°C / 219°F
Pressure	4554 psi				

Cement Information - Lead Design

Conc	UOM	Cement/Additive
100	% BWOC	Cement Blend
7.53	gal/sack	Field (Fresh) Water
5	lb/sk	WellLife 708 (PB)
0.1	% BWOC	SA-1015 (PB)
0.45	% BWOC	SCR-100 (PB)
1	lb/sk	Silicalite - Compacted
0.2	% BWOC	HALAD-344 (PB)

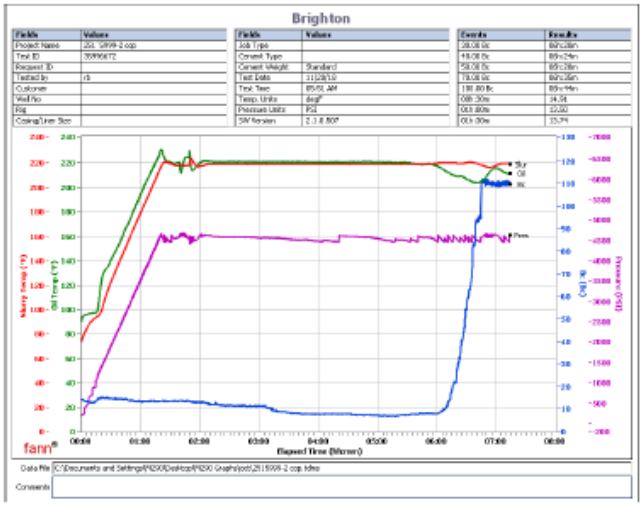
Cement Properties

Slurry Density	13.2	lbm/gal
Slurry Yield	1.57	ft3/sack
Water Requirement	7.535	gal/sack
Total Mix Fluid	7.535	gal/sack

Operation Test Results Request ID 2515999/2

Thickening Time - ON-OFF-ON — 20/NOV/2018

Test Temp (degF)	Pressure (psi)	Reached in (min)	30 Bc (hh:min)	50 Bc (hh:min)	70 Bc (hh:min)	100 Bc (hh:min)	Start Bc	Stirring before stop (mins)	Static Period (min)	Peak reading (BC)
219	4554	80	6:20	6:28	6:35	6:44	14	99	10	12



Operation Test Results Request ID 2515999/1

UCA Comp. Strength 23/NOV/2018

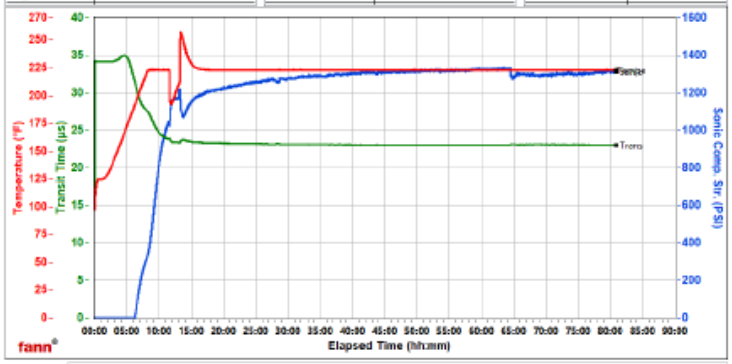
End Temp (degF)	Pressure (psi)	50 psi (hh:mm)	100 psi (hh:mm)	500 psi (hh:mm)	1000 psi(hh:mm)	8hr CS (psi)	12 hr CS (psi)	16 hr CS (psi)	24 hr CS (psi)	48 hr CS (psi)	End CS (psi)	End Time (hrs)
223	800	6:25	6:38	8:56	10:59	309	1154	1186	1250	1312	1312	80

Brighton Lab

Fields	Values
Project Name	25159990-1 COP
Test ID	35991471
Request ID	
Tested by	RB
Customer	
Well No	
Rig	

Fields	Values
Job Type	
Cement Type	
Cement Weight	Light Weight
Test Date	11/20/2018
Test Time	1:22 AM
Temp. Units	degF
Pressure Units	PSI

Events	Results
50.00 PSI	06h:25m
100.00 PSI	06h:38m
500.00 PSI	08h:56m
1000.00 PSI	10h:59m
08h:00m	309.99
12h:00m	1154.35
24h:00m	1250.11



Data File D:\25159990-1 COP.tdms

Comments

HALLIBURTON

Rockies, Brighton

Lab Results- Tail

Job Information

Request/Slurry	2516000/3	**Rig Name**	Nabors B16	**Date**	18/NOV/2018
Submitted By	Meghan Jacobs	**Job Type**	Production Casing	**Bulk Plant**	Brighton
Customer	ConocoPhillips	**Location**	Weld	**Well**	Property Reserve 4-65 3-4 2BH

Well Information

Casing/Liner Size	5.5 in	**Depth MD**	18038 ft	**BHST**	104°C / 219°F
Hole Size	8.5 in	**Depth TVD**	7332 ft	**BHCT**	104°C / 219°F
Pressure	4554 psi				

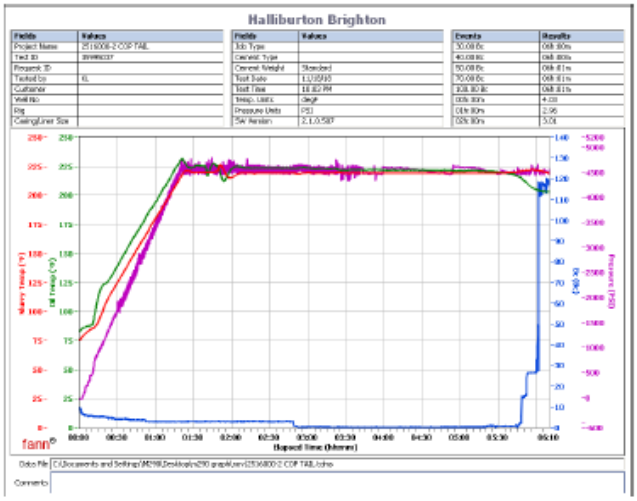
Cement Information - Tail Design

Conc	UOM	Cement/Additive	Sample Type	Sample Date	Lot No.	Cement Properties		
100	% BWOC	Cement Blend				Slurry Density	13.5	lbm/gal
8.73	gal/sack	Field (Fresh) Water	Lab	09.10.18	8/19/2018	Slurry Yield	1.791	ft3/sack
25	% BWOC	SS-200 silica flour	Bulk Blend	19.11.18		Water Requirement	8.731	gal/sack
0.1	% BWOC	SA-1015 (PB)	Bulk Blend	19.11.18	8e3445w	Total Mix Fluid	8.731	gal/sack
0.3	% BWOC	HR-5 (PB)	Bulk Blend	19.11.18	1180115			
0.8	% BWOC	HALAD-344 (PB)	Bulk Blend	19.11.18	20180858			
0.2	% BWOC	HALAD-413 (PB)	Bulk Blend	19.11.18				

Operation Test Results Request ID 2516000/2

Thickening Time - ON-OFF-ON — 19/NOV/2018

Test Temp (degF)	Pressure (psi)	Reached in (min)	30 Bc (hh:min)	50 Bc (hh:min)	70 Bc (hh:min)	100 Bc (hh:min)	Start Bc	Stirring before stop (mins)	Static Period (min)	Peak reading (BC)
219	4554	80	6:00	6:01	6:01	6:01	10	99	10	10



Operation Test Results Request ID 2516000/1

UCA Comp. Strength 23/NOV/2018

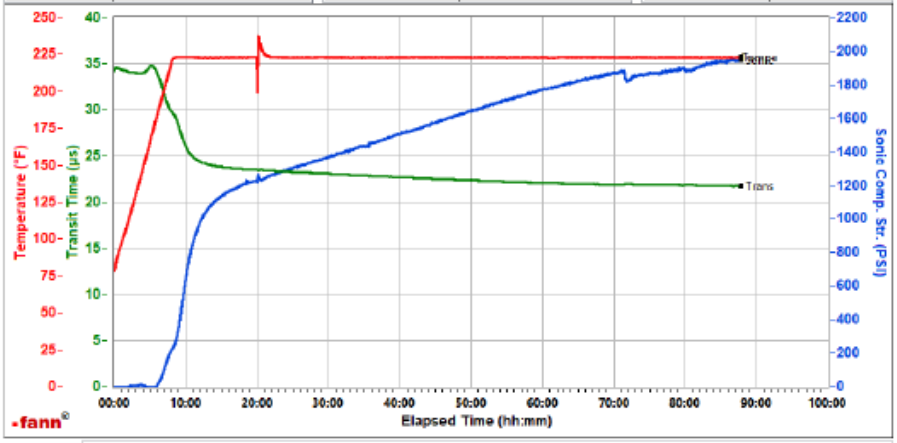
End Temp (degF)	Pressure (psi)	50 psi (hh:mm)	100 psi (hh:mm)	500 psi (hh:mm)	1000 psi(hh:mm)	8hr CS (psi)	12 hr CS (psi)	16 hr CS (psi)	24 hr CS (psi)	48 hr CS (psi)	End CS (psi)	End Time (hrs)
223	800	6:32	6:58	9:30	12:12	219	981	1166	1290	1617	1951	87

Brighton Lab

Fields	Values
Project Name	2516000-1 COP TAIL UCA
Test ID	35991474
Request ID	
Tested by	KL
Customer	
Well No	
Rig	

Fields	Values
Job Type	
Cement Type	
Cement Weight	Light Weight
Test Date	11/19/2018
Test Time	6:25 PM
Temp. Units	degF
Pressure Units	PSI

Events	Results



Data File D:\2516000-1 COP TAIL UCA.tdms

Comments

5.0 Real-Time Job Summary – Production Casing

5.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DH Density (ppg)	Comb Pump Rate (bbl/min)	PS Pump Press (psi)	Comments
Event	1	Call Out	Call Out	11/22/2018	19:00:00	USER				CREW CALLED OUT AT 19:00, REQUESTED ON LOCATION 01:30. CREW PICKED UP CEMENT, CHEMICALS, AND PLUG CONTAINER FROM FT. LUPTON, CO. BULK 660 10991603, AND PUMP 11189145.
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	11/22/2018	23:10:00	USER				CREW DISCUSSED ROUTES, HAZARDS, AND COMMUNICATION WITH CREW.
Event	3	Crew Leave Shop	Crew Leave Shop	11/22/2018	23:15:00	USER				STARTED JOURNEY MANAGEMENT.
Event	4	Arrive at Location from Service Center	Arrive at Location from Service Center	11/23/2018	00:00:00	USER				END JOURNEY MANAGEMENT. MEET WITH CO. MAN TO DISCUSS JOB; SURFACE CASING- 9.625” 36 LB/FT @ 2,195', 5.5" CASING: 23 LB/FT TOTAL 17,898’, 8 1/2" HOLE, TD 17,915', 91’ SHOE TRAC, TVD- 8,353’. PUMP FRESH WATER DISPLACEMENT. CASING LANDED @ 00:30 11/23/2018.
Event	5	Safety Meeting - Assessment of Location	Safety Meeting - Assessment of Location	11/23/2018	00:10:00	USER				HAZARD HUNT. DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH LOCATION, RIG UP AND WEATHER.
Event	6	Rig-Up Equipment	Rig-Up Equipment	11/23/2018	00:20:00	USER				RIG UP BULK AND MIXING EQUIPMENT.
Event	7	Rig-Up Completed	Rig-Up Completed	11/23/2018	02:30:00	USER	0.00	0.20	8.00	
Event	8	Pre-Job Safety Meeting	Pre-Job Safety Meeting	11/23/2018	03:30:00	USER	8.19	10.40	404.00	MEETING WITH HALLIBURTON AND RIG PERSONNEL. COMMUNICATED POTENTIAL SAFETY HAZARDS AND JOB DETAILS.
Event	9	Start Job	Start Job	11/23/2018	03:40:28	COM4	0.02	0.00	-5.00	BEGIN RECORDING JOB DATA.
Event	10	Test Lines	Test Lines	11/23/2018	03:45:42	COM4	8.23	0.00	217.00	PRESSURE TESTED IRON TO 5,000 PSI. KICKOUTS SET @ 500 PSI, KICKED OUT @ 600 PSI, 5TH GEAR STALL OUT

										@ 2,000 PSI. 5,000 PRESSURE TEST KICKED OUT @ 5,000 PSI
Event	11	Pump Spacer 1	Pump Spacer 1	11/23/2018	03:59:28	COM4	8.16	0.00	4.00	PUMP 60 BBLS OF TUNED SPACER III @ 10.5 LB/GAL, 6.7 CUFT/SK, 42.8 GALL/SK. 10 GALS D-AIR, 40 GALS DUAL B, 40 GALS OF MUSOL A. 28.7 BBLS CALCULATED TO RETURN TO SURFACE. DENSITY VERIFIED BY PRESSURIZED MUD SCALES. PUMP RATE 4 BBLS/MIN @ 400 PSI.
Event	12	Shutdown	Shutdown	11/23/2018	04:17:15	COM4	10.58	0.80	134.00	SHUTDOWN TO DROP PLUG.
Event	13	Drop Bottom Plug	Drop Bottom Plug	11/23/2018	04:17:51	COM4	10.55	0.00	66.00	PLUG LEFT CONTAINER, VERIFIED BY CO. MAN.
Event	14	Pump Lead Cement	Pump Lead Cement	11/23/2018	04:23:24	COM4	10.41	0.00	25.00	PUMPED 835 SKS OF ELASTICEM @ 13.2 LB/GAL, 1.57 FT3/SK, 7.54 GAL/SK. 233.48 BBLS, HOL CALCULATED @ 5,454.3', TOL CALCULATED @ 643'. DENSITY VERIFIED BY PRESSURIZED MUD SCALES. PUMP RATE 8 BBLS/MIN @ 610 PSI
Event	15	Pump Tail Cement	Pump Tail Cement	11/23/2018	04:56:20	COM4	13.25	8.10	596.00	PUMP 1,515 SKS OF ECONOCEM @ 13.5 LB/GAL, 1.79 FT3/SK, 8.73 GAL/SK, 482.98 BBLS. HOT CALCULATED @ 11,790.7', TOT CALCULATED @ 6,107.3'. DENSITY VERIFIED BY PRESSURIZED MUD SCALES. PUMP RATE 6.5 BBLS/MIN @ 400 PSI.
Event	16	Drop Top Plug	Drop Top Plug	11/23/2018	06:59:00	COM4	-0.49	0.00	56.00	PLUG LEFT CONTAINER, VERIFIED BY CO. MAN.
Event	17	Pump Displacement	Pump Displacement	11/23/2018	06:59:04	COM4	-0.49	0.00	56.00	BEGIN CALCULATED DISPLACEMENT OF 375.7 BBLS WITH FRESH WATER. MMCR IN THE FIRST 40 BBLS AND BIOCIDE/ALDACIDE THROUGHOUT. PUMP RATE 6.5 BPM @ 2,700 PSI. CAUGHT CEMENT @ 50 BBLS INTO DISPLACEMENT. SPACER TO SURFACE @ 247 BBLS INTO DISPLACEMENT. 29 BBLS OF TUNED SPACER TO SURFACE. SLOW RATE TO 4 BPM @ 356 BBLS INTO DISPLACEMENT.
Event	18	Bump Plug	Bump Plug	11/23/2018	08:00:52	COM4	7.79	0.00	3865.00	PLUG BUMPED AT CALCULATED DISPLACEMENT. 2,865 PSI PRESSURED 1,000 PSI OVER BUMP. SHUTDOWN FOR 5 MINUTES.
Event	19	Check Floats	Check Floats	11/23/201	08:06:23	USER	7.72	0.00	106.00	RELEASED PRESSURE, FLOATS HELD, 5 BBLS BACK.

				8						
Event	20	End Job	End Job	11/23/2018	08:07:46	COM4	7.69	0.00	25.00	STOP RECORDING JOB DATA.
Event	21	Post-Job Safety Meeting (Pre Rig-Down)	Post-Job Safety Meeting (Pre Rig-Down)	11/23/2018	08:10:00	USER				DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH WEATHER, LOCATION AND RIGGING DOWN IRON AND HOSES.
Event	22	Rig-Down Equipment	Rig-Down Equipment	11/23/2018	08:20:00	USER				RIG DOWN BULK AND MIXING EQUIPMENT.
Event	23	Rig-Down Completed	Rig-Down Completed	11/23/2018	10:40:00	USER				
Event	24	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	11/23/2018	10:50:00	USER				CREW DISCUSSED ROUTES, HAZARDS, AND COMMUNICATION WITH CREW.
Event	25	Crew Leave Location	Crew Leave Location	11/23/2018	11:00:00	USER				THANK YOU FOR USING HALLIBURTON – PRINCE PEREZ AND CREW.

6.0 Attachments- Production Casing

6.1 Property Reserve 4-65 3-4 2BH Production – Job Chart with Events

6.2 Property Reserve 4-65 3-4 2BH Production – Job Chart without Events