HALLIBURTON

Cementing

ENCANA OIL & GAS (USA) INC. - EBUS

NP WF 04D-B04-596

Workover

Post Job Summary
Cement Perforation Squeeze

Date Prepared: 05/24/2014
Job Date: 05/16/2014

Submitted by: Kory Hugentobler – Grand Junction Cement Engineer

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Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 340078	**Ship To #:** 2780019	**Quote #:**	**Sales Order #:** 0901352273
Customer: ENCANA OIL & GAS (USA) INC. - EBUS		**Customer Rep:**	
Well Name: N PARACHUTE	**Well #:** NP WF 04D-B04 596		**API/UWI #:** 05-045-18877-00
Field:	**City (SAP):** PAR	**County/Parish:** GARFIELD	**State:** COLORADO
Legal Description:			
Contractor:		**Rig/Platform Name/Num:**	
Job BOM: 7526			
Well Type: GAS			
Sales Person: HALAMERICA\HAL7171		**Srvc Supervisor:**	

Job

Formation Name				
Formation Depth (MD)	**Top**		**Bottom**	
Form Type			**BHST**	
Job depth MD	5142.75ft		**Job Depth TVD**	
Water Depth			**Wk Ht Above Floor**	3
Perforation Depth (MD)	**From**	5116	**To**	4960

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
Tubing		2.375	1.995	4.7			0	5142.75		

Tools and Accessories

Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make
Guide Shoe						**Top Plug**			
Float Shoe						**Bottom Plug**			
Float Collar						**SSR plug set**			
Insert Float						**Plug Container**			
Stage Tool						**Centralizers**			

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 ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
1	SqueezeCem	Premium Cement	40	sack	15.8	1.15			4.97
94 lbm		CMT - PREMIUM - CLASS G REG OR TYPE V, BULK (100003685)							
		HR-800, 50 LB SACK (101619742)							
		HALAD(R)-344, 50 LB (100003670)							
		CFR-3, W/O DEFOAMER, 50 LB SK (100003653)							
		HALAD(R)-413, 50 LB (100003738)							
4.96 Gal		FRESH WATER							

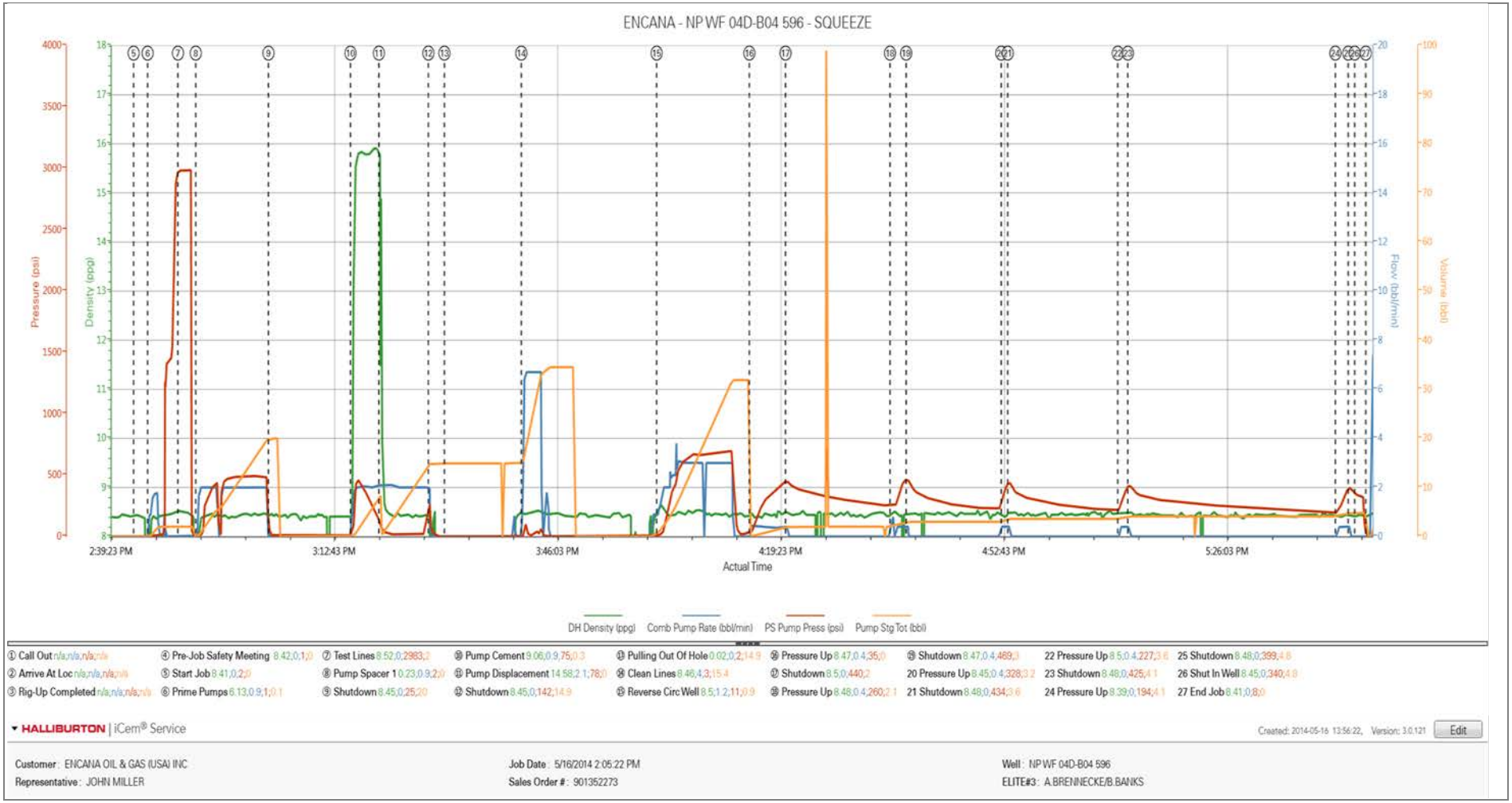
1.1 Job Event Log

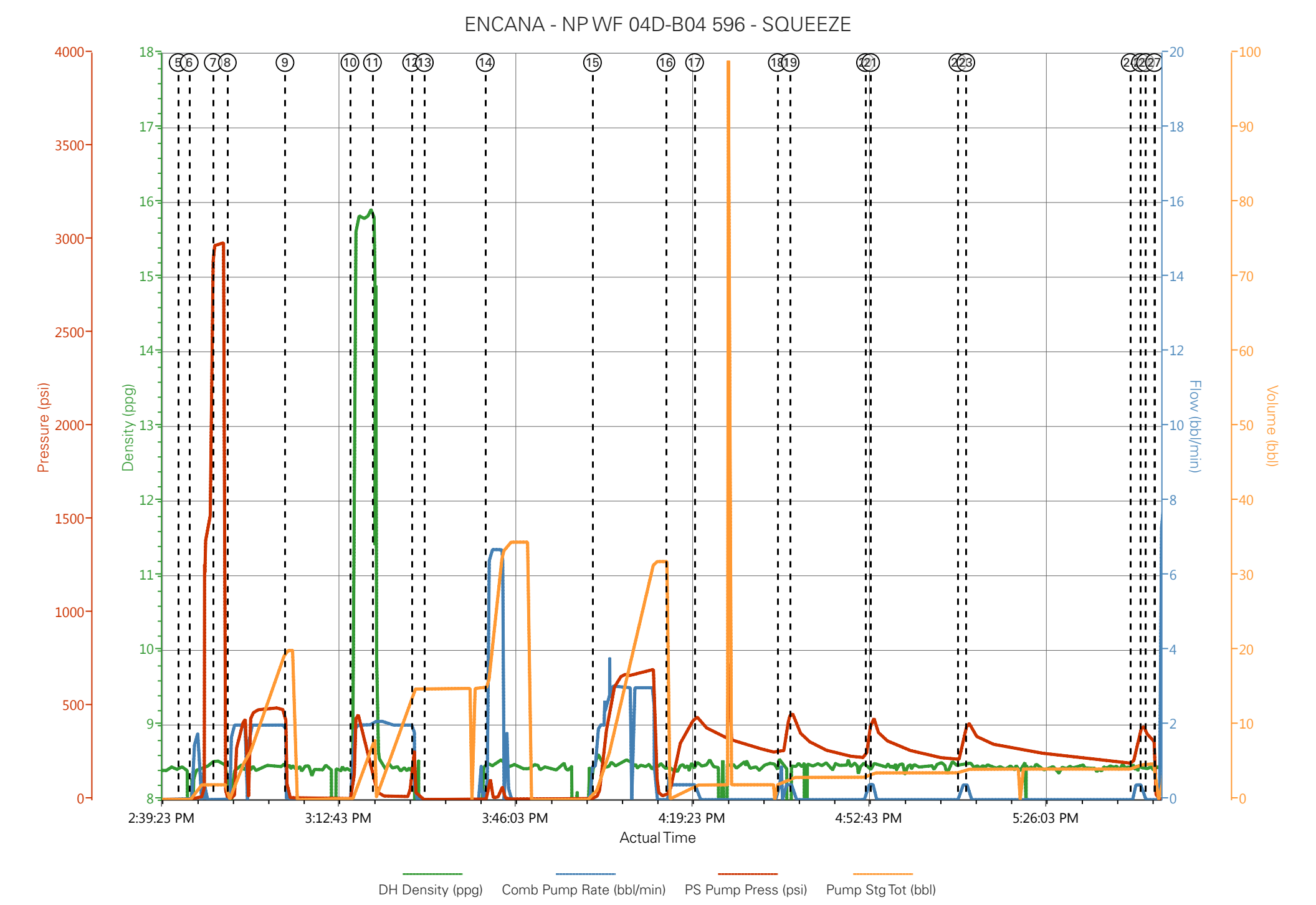
Type	Seq. No.	Graph Label/Activity	Date	Time	Source	DH Density (ppg)	Comb Pump Rate (bbl/min)	PS Pump Press (psi)	Pump Stg Tot (bbl)	Comment
Event	1	Call Out	5/16/2014	06:00:00	USER					CREW IN THE FIELD
Event	2	Arrive At Loc	5/16/2014	13:00:00	USER					RIG READY
Event	3	Rig-Up Completed	5/16/2014	14:00:00	USER					1-ELITE, 1-660 BULK, 2'' IRON, SQUEEZE MANIFOLD
Event	4	Pre-Job Safety Meeting	5/16/2014	14:30:00	USER	8.35	0.00	1.00	0.0	ALL HES AND RIG CREW PRESENT
Event	5	Start Job	5/16/2014	14:43:00	COM5	8.33	0.00	2.00	0.0	TB-5142.75' 2.375'', 4.7#, CSG-4.5'', 11.6#, PERF-5116-4960, PLUG- 7411'
Event	6	Prime Pumps	5/16/2014	14:45:05	USER	8.34	2.00	1.00	2.0	FRESH WATER
Event	7	Test Lines	5/16/2014	14:49:37	USER	8.52	0.00	2983.00	2.0	PRESSURE HELD AT 2983 PSI
Event	8	Pump Spacer 1	5/16/2014	14:52:16	COM5	8.34	2.00	493.00	20.0	FRESH WATER
Event	9	Shutdown	5/16/2014	15:03:08	USER	8.33	0.00	27.00	20.0	SHUTDOWN TO MIX CEMENT
Event	10	Pump Cement	5/16/2014	15:15:22	COM5	15.8	2.00	378.00	8.2	40SKS, 15.8PPG, 1.15FT3/SK, 4.97GAL/SK
Event	11	Pump Displacement	5/16/2014	15:19:37	COM5	8.45	2.10	73.00	17.0	FRESH WATER WELL WENT ON A SUCK.
Event	12	Shutdown	5/16/2014	15:27:00	USER	8.45	0.00	20.00	17.0	
Event	13	Pulling Out Of Hole	5/16/2014	15:29:24	USER	0.02	0.00	2.00	0.0	
Event	14	Clean Lines	5/16/2014	15:40:53	USER	8.45	2.70	3.00	15.3	WASHED PUMP
Event	15	Reverse Circ Well	5/16/2014	16:01:05	COM5	8.50	3.00	680.00	32.0	REVERSED 2X TUBE CAPACITY
Event	16	Pressure Up	5/16/2014	16:14:56	USER	8.48	0.40	33.00	0.0	
Event	17	Shutdown	5/16/2014	16:20:20	USER	8.50	0.00	459.00	2.0	SHUT DOWN AT 459PSI, HESITATE 15 MINS
Event	18	Pressure Up	5/16/2014	16:35:56	USER	8.48	0.40	260.00	2.1	PRESSURE AT 260 PSI
Event	19	Shutdown	5/16/2014	16:38:21	USER	8.45	0.40	468.00	3.0	SHUT DOWN AT 469PSI, HESITATE 15 MINS
Event	20	Pressure Up	5/16/2014	16:52:33	USER	8.44	0.40	225.00	3.0	PRESSURE AT 225PSI
Event	21	Shutdown	5/16/2014	16:53:31	USER	8.48	0.00	453.00	3.5	SHUT DOWN AT 453PSI, HESITATE 15 MINS
Event	22	Pressure Up	5/16/2014	17:09:57	USER	8.52	0.40	229.00	3.6	PRESSURE AT 229PSI
Event	23	Shutdown	5/16/2014	17:11:27	USER	8.48	0.00	425.00	4.1	SHUT DOWN AT 426PSI, HESITATE 30 MINS

Event	24	Pressure Up	5/16/2014	17:42:26	USER	8.40	0.40	194.00	4.1	PRESSURE AT 194 PSI
Event	25	Shutdown	5/16/2014	17:44:21	USER	8.48	0.00	409.00	4.8	SHUTDOWN AT 409PSI
Event	26	Shut In Well	5/16/2014	17:45:20	USER	8.45	0.00	340.00	4.8	SHUT IN WELL 340 PSI ON IT
Event	27	End Job	5/16/2014	17:46:59	COM5	8.43	0.00	8.00	0.0	

2.0 Attachments

2.1 Case 1-Custom Results.png





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Created: 2014-05-16 13:56:22, Version: 3.0.121 Edit

Customer : ENCANA OIL & GAS (USA) INC
Representative : JOHN MILLER

Job Date : 5/16/2014 2:05:22 PM
Sales Order # : 901352273

Well : NP WF 04D-B04 596
ELITE#3 : A.BRENNECKE/B.BANKS

HALLIBURTON

Water Analysis Report

Company:	**ENCANA**	**Date:**	**5/16/2014**
Submitted by:	**A.BRENNECKE**	**Date Rec.:**	**5/16/2014**
Attention:	**C.ROSS**	**S.O.#**	**901352273**
Lease	**NP WF**	**Job Type:**	**SQUEEZE**
Well #	**04D-B04 596**		

Specific Gravity	***MAX***	**1**	
pH	***8***	**7.9**	
Potassium (K)	***5000***	**200**	**Mg / L**
Calcium (Ca)	***500***	**120**	**Mg / L**
Iron (FE2)	***300***	**0**	**Mg / L**
Chlorides (Cl)	***3000***	**0**	**Mg / L**
Sulfates (SO_4)	***1500***	**<200**	**Mg / L**
Chlorine (Cl_2)		**0**	**Mg / L**
Temp	***40-80***	**48**	**Deg**
Total Dissolved Solids		**380**	**Mg / L**

Respectfully: **A.BRENNECKE**

Title: **CEMENTING SUPERVISOR**

Location: **Grand Junction, CO**

HALLIBURTON

CUSTOMER SURVEY

Sales Order #:	**Line Item:**	**Survey Conducted Date:**
0901352273	10	5/16/2014
Customer:		**Job Type (BOM):**
ENCANA OIL & GAS (USA) INC. - EBUS		CMT SQUEEZE PERFORATIONS BOM
Customer Representative:		**API / UWI: (leave blank if unknown)**
		05-045-18877-00
Well Name:		**Well Number:**
N PARACHUTE		0080228805
Well Type:	**Well Country:**	
GAS	USA	
H2S Present:	**Well State:**	**Well County:**
No	COLORADO	GARFIELD

Dear Customer,

We hope that you were satisfied with the service quality of this job performed by Halliburton. It is the aim of our management and service personnel to deliver equipment and service of a standard unmatched in the service sector of the energy industry.

Please take the time to let us know if our performance met with your satisfaction. Please be as critical as possible to ensure we constantly improve our service. Your comments are of great value to us and are intended for the exclusive use of Halliburton.

CUSTOMER SATISFACTION SURVEY

CATEGORY	CUSTOMER SATISFACTION RESPONSE	
Survey Conducted Date	**The date the survey was conducted**	**5/16/2014**
Survey Interviewer	**The survey interviewer is the person who initiated the survey.**	**HB58348**
Customer Participation	**Did the customer partipcipate in this survey? (Y/N)**	**No**
Customer Representative	**Enter the Customer representative name**	
HSE	**Was our HSE performance satisfactory? Circle Y or N**	
Equipment	**Were you satisfied with our Equipment? Circle Y or N**	
Personnel	**Were you satisfied with our people? Circle Y or N**	
Customer Comment	**Customer's Comment**	

CUSTOMER SIGNATURE

HALLIBURTON

CUSTOMER SURVEY

Sales Order #:	**Line Item:**	**Survey Conducted Date:**
0901352273	10	5/16/2014
Customer:		**Job Type (BOM):**
ENCANA OIL & GAS (USA) INC. - EBUS		CMT SQUEEZE PERFORATIONS BOM
Customer Representative:		**API / UWI: (leave blank if unknown)**
		05-045-18877-00
Well Name:		**Well Number:**
N PARACHUTE		0080228805
Well Type:	**Well Country:**	
GAS	USA	
H2S Present:	**Well State:**	**Well County:**
No	COLORADO	GARFIELD

KEY PERFORMANCE INDICATORS

General	
Survey Conducted Date The date the survey was conducted	5/16/2014

Cementing KPI Survey	
Type of Job Select the type of job. (Cementing or Non-Cementing)	0
Select the Maximum Deviation range for this Job What is the highest deviation for the job you just completed? This may not be the maximum well deviation.	Vertical
Total Operating Time (hours) Total Operating Hours Including Rig-up, Pumping, Rig-down. Enter in decimal format.	4
HSE Incident, Accident, Injury HSE Incident, Accident, Injury. This should be recordable incidents only.	No
Was the job purpose achieved? Was the job delivered correctly as per customer agreed design?	Yes
Operating Hours (Pumping Hours) Total number of hours pumping fluid on this job. Enter in decimal format.	2
Customer Non-Productive Rig Time (hrs) Lost time due to Halliburton in the start, execution, or completion of an ordered service or product, or delays in a follow-on service. Enter in decimal format. 0 if none.	0
Type of Rig Classification Job Was Performed Type Of Rig (classification) Job Was Performed On	Drilling Rig (Portable)
Number Of JSAs Performed Number Of Jsas Performed	5
Number of Unplanned Shutdowns Unplanned shutdown is when injection stops for any period of time.	0
Was this a Primary Cement Job (Yes / No)	No

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ENCANA OIL & GAS (USA) INC. - EBUS		CMT SQUEEZE PERFORATIONS BOM
Customer Representative:		**API / UWI: (leave blank if unknown)**
		05-045-18877-00
Well Name:		**Well Number:**
N PARACHUTE		0080228805
Well Type:	**Well Country:**	
GAS	USA	
H2S Present:	**Well State:**	**Well County:**
No	COLORADO	GARFIELD

Primary Cement Job= Casing job, Liner job, or Tie-back job.	
Was this a Plug or a Squeeze Job? Please select the appropriate choice	No
Was this a Primary or a Remedial Job? Kick off plug, Plug to Abadon, LCM plug or Planed Liner Top Squeeze, Squeeze of existing perforations, Squeeze of casing leak	No
Mixing Density of Job Stayed in Designed Density Range (0-100%) Density Range defined as +/- .20 ppg. Calculation: Total BBLs cment mixed at designed density divided by total BBLs of cement multiplied by 100	98
Was Automated Density Control Used? Was Automated Density Control (ADC) Used ?	Yes
Pump Rate (percent) of Job Stayed At Designed Pump Rate Pump Rate range defined as +/- 1bbl/min. Calculation: Total BBLs of fluid pumped at the designed rate divided by Total BBLs of fluid pumped, multiplied by 100	2
Nbr of Remedial Sqz Jobs Rqd - Competition Number Of Remedial Squeeze Jobs Required After Primary Job Performed By Competition	0
Nbr of Remedial Plug Jobs Rqd - HES Number Of Remedial Plug Jobs Needed After Primary Plug Pumped By HES	0
Nbr of Remedial Sqz Jobs Rqd - HES Number Of Remedial Squeeze Jobs Required After Primary Job Performed By HES	0