

# Plug Cementing



**Company:** ENCANA USA - PARACHUTE FIELD OFC (EDI)

**Well Name:** Federal 31-2CC #0631265799

**Field:** Parachute

**County:** Garfield

**State:** CO

**Date:** 10/25/2013

**Well Location:** PF31

**Well Number (API):**

**Proposal Number:** 4

**Contact:** Gage Soehner

**Made By:** Jeff Eulberg

**Service from District:** Grand Junction, CO

**District Phone:** 303-486-3245

**Objective:** Set P&A as per Client

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# Schlumberger



## EXECUTIVE SUMMARY

Enclosed are our recommendations for Schlumberger intervention on the referenced well. The proposal includes well data, design data, materials and resources requirements and cost estimates. The purpose of our services is to perform a Casing Cementing treatment.

Schlumberger has established a safety policy to which all Schlumberger personnel must adhere. A pre-job safety meeting will be held with customer representatives and other on location personnel to familiarize everyone with existing hazards and safety procedures. We would appreciate close cooperation between the customer representative and the Schlumberger representative to ensure a safe operation.

The estimated total cost of our services is **\$ 40,705.63**. All costs are estimates only. Actual costs will be determined by time, material and equipment used during treatment. Taxes are not included. All work will be subject to Schlumberger then-current General Terms and Conditions or to the terms and conditions of a Master Service Agreement if one is in force between Schlumberger and Customer. This quote is valid for a period of thirty (30) days from the date submitted.

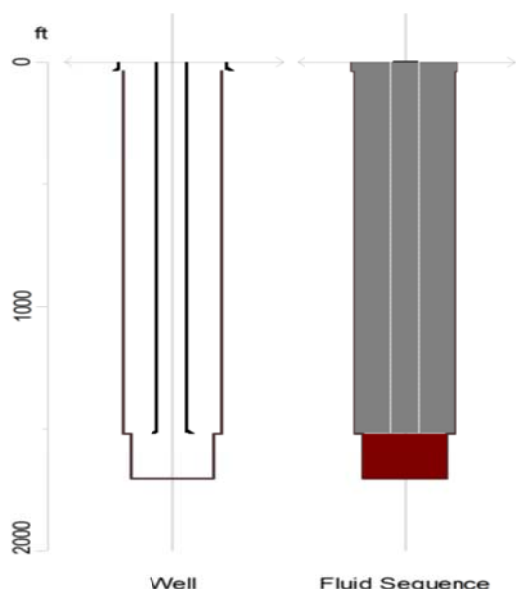
Thank you for considering Schlumberger.  
Please do not hesitate to contact me with any questions or concerns.

Sincerely,

Jeff Eulberg  
(303)808-3503  
JEulberg@slb.com



## WELL DATA



Well Data	
Job Type :	Casing Cementing
Total Depth (Measured) :	1710.0 ft
True Vertical Depth (TVD) :	1574.9 ft
BHST (Tubular Bottom Static Temperature) :	93 degF
BHCT (Tubular Bottom Circulating Temperature) :	81 degF

Open Hole		
Mean Diameter without Excess	Bottom Depth	Annular Excess
12.250 in	1710.0 ft	50.00 %

Previous Casing					
OD	Weight	Grade	Thread	Inner Capacity	Bottom Depth
16 in	65.0 lb/ft			1.27 ft3/ft	40.0 ft

Drill Pipe					
OD	Weight	Grade	Thread	Inner Capacity	Bottom Depth
4 1/2 in	16.6 lb/ft	S-135		0.08 ft3/ft	1521.0 ft

### IMPORTANT:

The well data shown on this page is based on information available when this treatment program was prepared. This data must be confirmed on location with the wellsite supervisor prior to the treatment. Any changes in the well data need to be reviewed for their impact on the treatment design.

Annular Capacity (without Excess) : Casing Bottom / Open Hole : 0.71 ft3/ft

Annular Capacity (without Excess) : Previous Casing Bottom / Casing : 1.16 ft3/ft

Fluid Placement			
Fluid Name	Volume bbl	Density lb/gal	Top of Fluid ft
Water	20.0	8.32	0.0
15.8ppg P&A	310.0	15.80	0.0
15.8ppg G Neat Top Out	62.2	15.80	0.0

Total Liquid Volume : 392.2 bbl



## FLUID SYSTEMS

15.8ppg G Neat (302 sacks, 94.0 lb per sack of Blend) <b>Bring S001 on the Side</b>			
<b>System</b>	Conventional		
<b>Density</b>	15.80 lb/gal		
<b>Yield</b>	1.16 ft <sup>3</sup> /sk		
<b>Mix Water</b>	5.133 gal/sk		
<b>Mix Fluid</b>	5.133 gal/sk		
<b>Total Volume</b>	62.2 bbl		
Additives	Code	Description	Concentration
	G	Cement	94.00 lb/sk WBWOB
	<b>S001</b>	<b>CaCl<sub>2</sub></b>	<b>1.00% BWOB</b>

Water	
<b>System</b>	Water
<b>Density</b>	8.32 lb/gal
<b>Total Volume</b>	20.0 bbl

15.8ppg P&A (1505 sacks, 94.0 lb per sack of Blend)			
<b>System</b>	Conventional		
<b>Density</b>	15.80 lb/gal		
<b>Yield</b>	1.16 ft <sup>3</sup> /sk		
<b>Mix Water</b>	5.129 gal/sk		
<b>Mix Fluid</b>	5.129 gal/sk		
<b>Total Volume</b>	310.0 bbl		
Additives	Code	Description	Concentration
	G	Cement	94.00 lb/sk WBWOB
	D065	Dispersant	0.10 % BWOB

Some of the chemicals specified in this program may have toxic properties. All personnel should be familiar with the inherent dangers and appropriate safeguards to prevent accidental injury. Use of the chemicals may be governed by certain laws and regulations and should only be used in accordance with such. Please refer to the MSDS sheets for the recommended safety precautions and required minimum personal protective equipment.



## PROCEDURES

1. Rig-Up, Prime-Up & Pressure-Test (2.5% variance in 1 minute) per Standard 5
2. Confirm design with Client Representative
3. Perform Water Quality test prior to job.
4. Pump P&A per Client of 15.8ppg w/ .1% D065
5. Top Out with 15.8 Neat G until cement to surface



## PRICE ESTIMATE

Equipment and Services						
Code	FTL Description	Quantity	Unit List Price	Total List Price \$	Discount Rate	Discounted Price \$
48019000	Bulk Unit, Cement Add Hr	16 HR	107.50	1,720.00	45.2 %	942.56
49100000	Cement Blending Charge	1809 CF	2.27	4,106.43	45.2 %	2,250.32
49102000	Transportation, Cement Ton-mile	6373 MI	2.02	12,873.46	45.2 %	7,054.66
58498000	Taxes, 3.9% of Materials	1 JOB	893.00	893.00	0 %	893.00
59200002	Transportation, Mileage Heavy Vehicles	450 MI	5.52	2,484.00	45.2 %	1,361.23
59200005	Transportation, Mileage Light Vehicles	150 MI	3.24	486.00	45.2 %	266.33
59697004	CemCAT Monitoring System	1 JOB	880.00	880.00	45.2 %	482.24
102872020	Pump, Liner/Sqz/Plug 0-2000 ft	1 EA	2,800.00	2,800.00	45.2 %	1,534.40
107182000	Swedge, HP Integral	1 JOB	108.50	108.50	45.2 %	59.46
107264001	Regulatory Conformance Charge	7 EA	341.00	2,387.00	0 %	2,387.00

**Subtotals: \$ 29,258.39 \$ 17,516.16**

Materials						
Code	FTL Description	Quantity	Unit List Price	Total List Price \$	Discount Rate	Discounted Price \$
D065	TIC Dispersant	142 LB	7.35	1,043.70	45.2 %	571.95
D907	Cement, Class G	1807 CF	22.55	40,747.85	45.2 %	22,329.82
S001	Calcium Chloride 77pct concentration	500 LB	1.05	525.00	45.2 %	287.70

**Subtotals: \$ 42,316.55 \$ 23,189.47**

Total Discount:	\$	30,869.31
<b>Job Price Estimate*:</b>	<b>\$</b>	<b>40,705.63</b>