

# Casing Cementing



Company: SHELL ROCKIES  
Well Name: Dawson Creeek 1-25  
Field: WFU/Swan  
County: Moffatt  
State: CO

Date: 9/18/2012  
Well Location:  
Well Number (API): API # 05-107-06242  
Proposal Number: 1  
Contact: Keith Smelker  
Made By: Pyeboone Arunakul  
Service from District: SWY - RockSprings  
District Phone: 1-307-352-5000  
Objective: Cement intermediate casing with 80% excess

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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 **\$ 103,332.76**. 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.

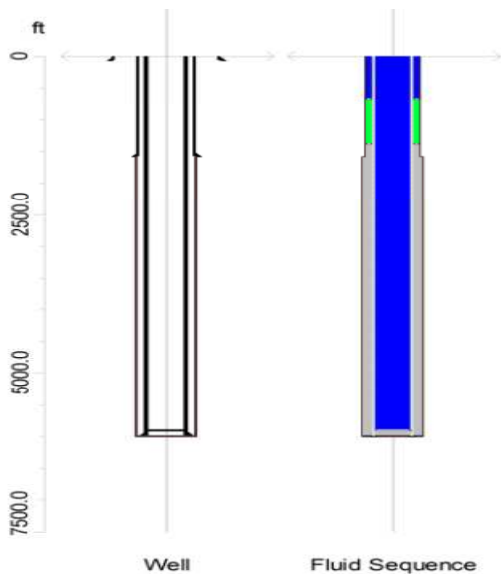
Thank you for considering Schlumberger.  
Please do not hesitate to contact me with any questions or concerns.

Sincerely,

Pyeboone Arunakul  
1-720-412-0375  
PArunakul@slb.com



## WELL DATA



### 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.

Fluid Placement			
Fluid Name	Volume bbl	Density lb/gal	Top of Fluid ft
9.0 ppg MudPUSH OBM	30.0	9.00	679.5
9.47 LiteCRETE	314.9	9.47	1400.0
Water	271.8	8.32	0.0

Total Liquid Volume : 616.8 bbl

Well Data	
Job Type :	Casing Cementing
Total Depth (Measured) :	6000.0 ft
True Vertical Depth (TVD) :	5993.9 ft
BHST (Tubular Bottom Static Temperature) :	146 degF
BHCT (Tubular Bottom Circulating Temperature) :	125 degF

Open Hole		
Mean Diameter without Excess	Bottom Depth	Annular Excess
9.875 in	6000.0 ft	80.00 %

Previous Casing					
OD	Weight	Grade	Thread	Inner Capacity	Bottom Depth
10 3/4 in	40.5 lb/ft	H-40	STC	0.55 ft3/ft	1600.0 ft

Casing					
OD	Weight	Grade	Thread	Inner Capacity	Bottom Depth
7 5/8 in	29.7 lb/ft	P-110	LTC	0.26 ft3/ft	6000.0 ft

Annular Capacity (without Excess) : Casing Bottom / Open Hole : 0.21 ft3/ft  
 Annular Capacity (without Excess) : Previous Casing Bottom / Casing : 0.23 ft3/ft



## FLUID SYSTEMS

9.0 ppg MudPUSH OBM			
<b>System</b>	MUDPUSH II		
<b>Density</b>	9.00 lb/gal		
<b>Total Volume</b>	30.0 bbl		
<b>Additives</b>	<b>Code</b>	<b>Description</b>	<b>Concentration</b>
	F110	EZEFL0 F110 Surfactant	0.50 gal/bbl of Spacer
	U066	FREFLO EB Miscible Solvent	1.00 gal/bbl of Spacer
	D031	Weighting Agent	866.8 lb/mgal

9.47 LiteCRETE (743 sacks, 100 lb per sack of Blend)			
<b>System</b>	LiteCRETE		
<b>Density</b>	9.47 lb/gal		
<b>Yield</b>	2.38 ft <sup>3</sup> /sk		
<b>Mixed Water</b>	8.155 gal/sk		
<b>Mixed Fluid</b>	8.155 gal/sk		
<b>Total Volume</b>	314.9 bbl		
<b>Expected Thickening Time</b>	70 Bc at 04:50 hr:mn		
<b>Additives</b>	<b>Code</b>	<b>Description</b>	<b>Concentration</b>
	D124	Extender	46.54 lb/sk WBWOB
	D065	Dispersant	0.50 % BWOB
	D046	Anti Foam	0.20 % BWOB
	D167	Fluid loss	0.20 % BWOB

Water			
<b>System</b>	Water		
<b>Density</b>	8.32 lb/gal		
<b>Total Volume</b>	271.8 bbl		
<b>Additives</b>	<b>Code</b>	<b>Description</b>	<b>Concentration</b>

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. Volumes Loaded will vary 3% to 5% based on dead volumes of bulk units.
2. Arrive on location and check in with company man
3. MI (Move in) Schlumberger equipment.
4. Confirm all procedures, volumes and calculations with company man before or after rig up
5. Conduct Rig-up, Prime-up and pressure test safety meeting.
6. RU (Rig up) Schlumberger equipment and pressure test to customer master valve.
7. Conduct pre-job safety meeting and review pump schedule with all crews to inform them of job details
8. (pump rates, pressure, volumes and wash up procedures as location rig up allows)
9. Perform treatment per design pumping schedule and instructions of client representative.
10. Conduct post job rig down meeting.
11. Rig down Schlumberger equipment.
12. Conduct convoy meeting and move out Schlumberger equipment.



## PRICE ESTIMATE

Equipment and Services						
Code	Standard Description	Quantity	Unit List Price	Total List Price \$	Discount Rate	Discounted Price \$
48019000	Cement Bulk Unitfirst 4 hrs	4 HR	107.50	430.00	42 %	249.40
48019000	Cement Bulk Unit after 4 hrs	1 HR	107.50	107.50	25 %	80.63
48020000	Pumps by unit, additional time	1 HR	570.00	570.00	25 %	427.50
48021000	Silo Setup	2 EA	570.00	1,140.00	42 %	661.20
48601000	Cementing Well Head Hardware	1 JOB	520.00	520.00	42 %	301.60
49100000	Cement Service Charge	9 CF	2.27	20.43	42 %	11.85
49100001	CemCRETE Service Charge	2233 CF	3.13	6,989.29	42 %	4,053.79
49102000	Cement Transport	7426 MI	2.02	15,000.52	42 %	8,700.30
56702075	Cementing Plugs	1 EA	316.50	316.50	42 %	183.57
58498000	Safety Restrain System	1 JOB	812.50	812.50	0 %	812.50
59200002	Pump Truck/ Silo mover Mileage	1950 MI	5.52	10,764.00	42 %	6,243.12
59200005	Car/PU Mileage	390 MI	3.24	1,263.60	42 %	732.89
59697004	Job Monitoring	1 JOB	880.00	880.00	42 %	510.40
102476000	Personnel: Field Specialist/Field Engineer after base hrs	1 HR	105.00	105.00	25 %	78.75
102476001	Personnel: Operator/Technician after base hrs	4 HR	85.00	340.00	25 %	255.00
102871060	Pumps by unit, depth charge	1 EA	3,500.00	3,500.00	42 %	2,030.00
102946002	Fuel Surcharge	5 EA	575.00	2,875.00	0 %	2,875.00
107264001	DOT Vehicle Charge	6 EA	341.00	2,046.00	0 %	2,046.00

**Subtotals: \$ 47,680.34**

**\$ 30,253.50**

The charges above are given for 5 hrs on location. 4hrs of base charges and 1 hr of overtime for reference at 25% discount



**Volumes Loaded will vary 3% to 5% based on dead volumes of bulk units**

Materials						
Code	Standard Description	Quantity	Unit List Price	Total List Price \$	Discount Rate	Discounted Price \$
D031	Weighting Agent	11 CW	38.61	424.71	42 %	246.33
D046	Anti Foam	149 LB	4.75	707.75	42 %	410.50
D065	Dispersant	372 LB	7.35	2,734.20	42 %	1,585.84
D124	Extender	34546 LB	1.64	56,655.44	15 %	48,157.12
D167	Fluid loss	149 LB	42.50	6,332.50	42 %	3,672.85
D961	LiteCRETE	39691 LB	0.28	11,113.48	0 %	11,113.48
D970	MUDPUSH II	30 BBL	116.00	3,480.00	42 %	2,018.40
D974	CemNET Conversion	150 BBL	57.50	8,625.00	42 %	5,002.50
F110	EZEFLO F110 Surfactant	15 GA	40.00	600.00	42 %	348.00
U066	FREFLO EB Miscible Solvent	30 GA	30.13	903.90	42 %	524.26

**Subtotals:                   \$ 91,576.98                   \$ 73,079.28**

Total Discount:	\$	35,924.56
<b>Job Price Estimate*:</b>	<b>\$</b>	<b>103,332.76</b>