



**Proposal No:** 653850179A

**Carrizo Oil & Gas  
WICKSTROM 5-44-5-60**

Cade #22 Rig  
API # 05-087-08161-0000  
WILDCAT Field  
5-5N-60W  
Morgan County, Colorado  
July 7, 2011

**9 5/8" Surface Pipe @ 1,450 ft  
Cementing Proposal**

**Prepared for:**

Ryan Dornak  
Drilling & Completions Engineer  
Carrizo Oil & Gas  
Bus Phone: 713-358-6448  
Email: ryan.dornak@crzo.net  
Mobile: 713-492-4072

**Prepared by:**

Charles R Moore  
Region Engineer  
Houston, Texas  
Bus Phone: 713-879-1677  
Email: Charles.Moore2@bakerhughes.com  
Mobile: 281-610-2981



**Service Point:**

Brighton  
Bus Phone: (303) 659-5853  
Fax: (303) 659-5806

**Service Representatives:**

Mark McIntyre  
Senior Account Manager  
Houston, Texas  
Email: mark.mcintyre@bakerhughes.com  
Mobile: 713-553-5084

**Operator Name:** Carrizo Oil & Gas  
**Well Name:** WICKSTROM 5-44-5-60  
**Job Description:** 9 5/8" Surface Pipe @ 1,450 ft  
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## **JOB AT A GLANCE**

<b>Depth (TVD)</b>	1,450 ft
<b>Depth (MD)</b>	1,450 ft
<b>Hole Size</b>	12.25 in
<b>Casing Size/Weight</b>	9 5/8 in, 36 lbs/ft
<b>Pump Via</b>	9 5/8" O.D. (8.921" I.D.) 36
<b>Total Mix Water Required</b>	4,655 gals
<b>Spacer</b>	
<b>Fresh Water + 2 lbs Red Dye</b>	15 bbls
<b>Density</b>	8.3 ppg
<b>Lead Slurry</b>	
<b>Premium Lite Cement + Addis</b>	398 sacks
<b>Density</b>	13.0 ppg
<b>Yield</b>	1.77 cf/sack
<b>Tail Slurry</b>	
<b>Type III + additives</b>	146 sacks
<b>Density</b>	14.5 ppg
<b>Yield</b>	1.40 cf/sack
<b>Displacement</b>	
<b>Fresh Water</b>	109 bbls
<b>Density</b>	8.3 ppg

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## WELL DATA

### ANNULAR GEOMETRY

ANNULAR I.D. (in)	DEPTH(ft)	
	MEASURED	TRUE VERTICAL
19.000 CASING	80	80
12.250 HOLE	1,450	1,450

### SUSPENDED PIPES

DIAMETER (in)		WEIGHT (lbs/ft)	DEPTH(ft)	
O.D.	I.D.		MEASURED	TRUE VERTICAL
9.625	8.921	36	1,450	1,450

**Float Collar set @** 1,410 ft  
**Mud Density** 8.80 ppg  
**Mud Type** Water Based  
**Est. Static Temp.** 109 ° F  
**Est. Circ. Temp.** 85 ° F

### VOLUME CALCULATIONS

80 ft	x	1.4637 cf/ft	with	0 % excess	=	117.1 cf
1,040 ft	x	0.3132 cf/ft	with	80 % excess	=	586.3 cf
330 ft	x	0.3132 cf/ft	with	80 % excess	=	186.0 cf
40 ft	x	0.4341 cf/ft	with	0 % excess	=	17.4 cf (inside pipe)
<b>TOTAL SLURRY VOLUME</b>					=	906.8 cf
					=	162 bbls

### NOTES:

Run (2) lbs of Red Dye in the 15 bbls of Fresh Water pre-flush.

Before starting the job; confirm tubular information with the Customer Rep. on location.

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## **FLUID SPECIFICATIONS**

Spacer 15.0 bbls Fresh Water + 2 lbs Red Dye @ 8.34 ppg

<b>FLUID</b>	<b>VOLUME CU-FT</b>	<b>VOLUME FACTOR</b>	<b>AMOUNT AND TYPE OF CEMENT</b>
Lead Slurry	703	/ 1.77	= 398 sacks Premium Lite Cement + 0.08% bwoc Static Free + 3% bwoc Calcium Chloride + 0.25 lbs/sack Cello Flake + 6% bwoc Bentonite + 88.2% Fresh Water
Tail Slurry	203	/ 1.4	= 146 sacks Type III Cement + 0.08 lbs/sack Static Free + 1% bwoc Calcium Chloride + 0.25 lbs/sack Cello Flake + 60.4% Fresh Water
Displacement			109.0 bbls Fresh Water @ 8.34 ppg

## **CEMENT PROPERTIES**

	<b>SLURRY NO.1</b>	<b>SLURRY NO.2</b>
Slurry Weight (ppg)	13.00	14.50
Slurry Yield (cf/sack)	1.77	1.40
Amount of Mix Water (gps)	9.20	6.81
Estimated Pumping Time - 70 BC (HH:MM)		1:30

## **NOTES:**

Temperature is estimated from a Wattenburg Field Temp. gradient map.

Thickening Time Tests are estimates only.

Slurries may change based on test results from the Rocky Mountain Region Lab.

Slurry volumes are based on parameters given at the time this proposal was written.

Slurry volumes may change if these parameters are changed prior to the job.

Please document how long the well is circulated prior to cementing.

Also; all other pertinent issues should be recorded on the Cement Report.

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## PRICE ESTIMATE

### Product Material

QTY	UNIT	PRODUCT DESCRIPTION	UNIT PRICE	GROSS AMOUNT	DISC (%)	NET AMOUNT
1177	lbs	Calcium Chloride	1.22	1,435.94	55.0	646.17
2078	lbs	Bentonite	0.50	1,039.00	55.0	467.55
136	lbs	Cello Flake	4.85	659.60	55.0	296.82
1	ea	Cement Plug, Rubber, Top 9-5/8 in	384.00	384.00	55.0	172.80
398	87lbs	Premium Lite Cement	24.05	9,571.90	55.0	4,307.36
100	lbs	Granulated Sugar	3.49	349.00	55.0	157.05
40	lbs	Static Free	38.70	1,548.00	55.0	696.60
146	94lbs	Type III Cement	29.60	4,321.60	55.0	1,944.72
Product Material Subtotal:				\$19,309.04		\$8,689.07

### Service Charges

QTY	UNIT	PRODUCT DESCRIPTION	UNIT PRICE	GROSS AMOUNT	DISC (%)	NET AMOUNT
1	ea	Personnel Per Diem Chrg - Cement Svc	161.50	161.50	0.0	161.50
616	cu ft	Bulk Materials Service Charge	4.17	2,568.72	55.0	1,155.92
1	job	Automatic Density System	1,530.00	1,530.00	55.0	688.50
Service Charges Subtotal:				\$4,260.22		\$2,005.92

### Equipment

QTY	UNIT	PRODUCT DESCRIPTION	UNIT PRICE	GROSS AMOUNT	DISC (%)	NET AMOUNT
1	4hrs	Cement Pumping, 1001 - 2000 ft	4,050.00	4,050.00	55.0	1,822.50
2	hrs	Cement Pumping, Additional hrs	750.00	1,500.00	55.0	675.00
12	pump/hr	Fuel per pump charge - cement	61.00	732.00	0.0	732.00
1	job	Cement Head	635.00	635.00	55.0	285.75
1	job	Data Acquisition, Cement, Standard	1,635.00	1,635.00	55.0	735.75
300	miles	Mileage, Heavy Vehicle	9.10	2,730.00	55.0	1,228.50
300	miles	Mileage, Auto, Pick-Up or Treating Van	5.15	1,545.00	55.0	695.25
Equipment Subtotal:				\$12,827.00		\$6,174.75

Customer will be charged for all 'SPECIAL PROPPANTS' delivered to location, whether they are pumped or not. All proppants other than standard grade frac sand are considered 'SPECIAL PROPPANTS'.

The technical data contained in this proposal is based on the best information available at the time of writing and is subject to further analysis and testing. The pricing data contained in this proposal are estimates only and may vary depending on the work actually performed. Pricing does not include federal, state and local taxes or royalties.

This quotation is based on BJ Services Company being awarded the work on a first call basis and within thirty (30) days of the proposal date. These prices will be subject to review if the work is done after thirty (30) days from the proposal date, or on a second or third call basis.

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### PRICE ESTIMATE

#### Freight/Delivery Charges

QTY	UNIT	PRODUCT DESCRIPTION	UNIT PRICE	GROSS AMOUNT	DISC (%)	NET AMOUNT
3883	tonmi	Bulk Delivery, Dry Products	3.03	11,765.49	55.0	5,294.47
Freight/Delivery Charges Subtotal:				\$11,765.49		\$5,294.47
<b>TOTAL:</b>				<b>\$48,161.75</b>		<b>\$22,164.21</b>

#### NOTES:

Mileage is estimated. Actual mileage will be charged.

Fuel Surcharge per Pump is priced at 0% discount.

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## CONDITIONS

**BJ Services' performance of services and sale of materials is expressly conditioned upon the applicability of the Terms and Conditions contained in the current BJ Services Price Book.** The Terms and Conditions include, among other things, an indemnity in favor of BJ Services from Customer for damage to the well bore, reservoir damage, loss of the hole, blowouts and loss of control of the well, even if caused by the negligence or other fault of BJ Services. The Terms and Conditions also limit the warranties provided by the BJ Services and the remedies to which Customer may be entitled in the event of a breach of warranty by BJ Services. For these reasons, we strongly recommend that you carefully review a copy of the Terms and Conditions. **If you do not have a copy of the BJ Services Price Book, you can view the Terms and Conditions on BJ Services Web Site, [www.bjservices.com](http://www.bjservices.com).** By requesting that BJ Services perform the services described herein, Customer acknowledges that such Terms and Conditions are applicable to the services. Further, by requesting the services, Customer warrants that its representative on the well location or other service site will be fully authorized to acknowledge such Terms and Conditions by executing a Field Receipt or other document presented by BJ Services containing such Terms and Conditions.

In the event that Customer and BJ Services have executed a Master Services Agreement covering the work to be performed, such Master Services Agreement shall govern in place of the Terms and Conditions. If you are interested in entering into Master Services Agreement with BJ Services, please contact us through the "Go BJ" button on the BJ Services Web Site.

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## **PRODUCT DESCRIPTIONS**

### **Bentonite**

Commonly called gel, it is a clay material used as a cement extender and to control excessive free water.

### **Calcium Chloride**

A powdered, flaked or pelletized material used to decrease thickening time and increase the rate of strength development.

### **Cello Flake**

Graded (3/8 to 3/4 inch) cellophane flakes used as a lost circulation material.

### **Premium Lite Cement**

Premium Lite is a high-yield, cost effective lightweight cement blend that provides exceptional compressive strength and reduced permeability when mixed at low slurry weights.

### **Static Free**

An anti-static additive used to prevent air entrainment due to agglomerated particles. Can be used in Cementing and Fracturing operations to aid in the flow of dry materials.



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**End of Report**