



Proposal No: 651850065A

**Berry Petroleum Co
M-15 Pad General Well**

Garfield County, Colorado
July 15, 2010

Cement Recommendation

Prepared for:
Steve Schmitz
Berry Petroleum

Prepared by:
JARROD C SMITH
Fluid Technician II
Grand Junction, Colorado



Service Point:
Grand Junction
Bus Phone: (970) 241-0592
Fax: (970) 241-2144

Service Representatives:
Steve Phillips
Senior District Sales Supv.
Grand Junction, Colorado

Dave Hencke
Senior Account Manager
Denver, Colorado

Operator Name: Berry Petroleum Co
Well Name: M-15 Pad General Well
Job Description: 4.5" Prod Casing @ 12500 ft.
Date: July 15, 2010



Proposal No: 651850065A

JOB AT A GLANCE

Depth (TVD)	12,500 ft
Depth (MD)	12,500 ft
Hole Size	7.875 in 8.75 in
Casing Size/Weight :	4 1/2 in, 11.6 lbs/ft
Pump Via	4 1/2" O.D. (4.000" I.D) 11.6
Total Mix Water Required	15,016 gals
Spacer	
Surfactant Wash	20 bbls
Density	8.3 ppg
Spacer	
Mud Clean I	30 bbls
Density	8.3 ppg
Spacer	
Surfactant Wash	20 bbls
Density	8.3 ppg
Cement Slurry	
Premium Lite High Strength	1,142 sacks
Density	12.5 ppg
Yield	2.51 cf/sack
Displacement	
Claytreat Water	194 bbls
Density	8.3 ppg

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WELL DATA

ANNULAR GEOMETRY

ANNULAR I.D. (in)	DEPTH(ft)	
	MEASURED	TRUE VERTICAL
8.921 CASING	2,500	2,500
8.750 HOLE	7,500	7,500
7.875 HOLE	12,500	12,500

SUSPENDED PIPES

DIAMETER (in)		WEIGHT (lbs/ft)	DEPTH(ft)	
O.D.	I.D.		MEASURED	TRUE VERTICAL
4.500	4.000	11.6	12,500	12,500

Float Collar set @ 12,460 ft
Mud Density 9.00 ppg
Mud Type Water Based
Est. Static Temp. 283 ° F
Est. Circ. Temp. 219 ° F

VOLUME CALCULATIONS

2,500 ft x 0.3071 cf/ft with 50 % excess = 1151.8 cf
 5,000 ft x 0.2278 cf/ft with 50 % excess = 1708.5 cf
 40 ft x 0.0873 cf/ft with 0 % excess = 3.5 cf (inside pipe)
TOTAL SLURRY VOLUME = 2863.7 cf
 = 510 bbls

Wellbore is estimated, verify exact well configuration with customer representative.

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FLUID SPECIFICATIONS

Spacer 20.0 bbls Surfactant Wash + 1 gpt Claytreat 3C (tote) + 5 gpt InFlo 250W + 1 gpt NE-118, 330 gal tote @ 8.34 ppg
 Spacer 30.0 bbls Mud Clean I + 1 gpt Claytreat 3C (tote) @ 8.34 ppg
 Spacer 20.0 bbls Surfactant Wash + 1 gpt Claytreat 3C (tote) + 5 gpt InFlo 250W + 1 gpt NE-118, 330 gal tote @ 8.34 ppg

<u>FLUID</u>	<u>VOLUME CU-FT</u>	<u>VOLUME FACTOR</u>	<u>AMOUNT AND TYPE OF CEMENT</u>
Cement Slurry	2864	/ 2.5	= 1142 sacks (35:65) Poz (Fly Ash):Type III Cement + 0.04 lbs/sack Static Free + 0.5% bwoc R-3 + 0.25 lbs/sack Cello Flake + 0.5% bwoc CD-32 + 3 lbs/sack Kol Seal + 0.75 gals/100 sack FP-6L + 0.2% bwoc Sodium Metasilicate + 20% bwoc Silica Flour + 0.3% bwoc BA-59 + 10 lbs/sack CSE-2 + 0.7% bwoc FL-52A + 6% bwoc Bentonite II +

Displacement 193.7 bbls Claytreat Water @ 8.34 ppg

CEMENT PROPERTIES

	SLURRY NO. 1
Slurry Weight (ppg)	12.50
Slurry Yield (cf/sack)	2.51
Amount of Mix Water (gps)	13.15
Amount of Mix Fluid (gps)	13.16
Free Water (mls) @ 180 ° F @ 90 ° angle	0.0
Fluid Loss (cc/30min) at 1000 psi and 180 ° F	188.0
COMPRESSIVE STRENGTH 24 hrs @ 251 ° F (psi)	1223

RHEOLOGIES

<u>FLUID</u>	<u>TEMP</u>	<u>600</u>	<u>300</u>	<u>200</u>	<u>100</u>	<u>6</u>	<u>3</u>
Cement Slurry	@ 80 ° F	77	44	32	20	8	7
Cement Slurry	@ 180 ° F	98	56	38	27	10	8

Run Claytreat 3C at 1 gpt, InFlo-250W at 5 gpt, and NE-118 at 1 gpt in BOTH water spacers.
Run Claytreat 3C at 1 gpt during displacement.

Slurry will be tested in Grand Junction Laboratory, design may change based on results.

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PRICE ESTIMATE

Product Material

QTY	UNIT	PRODUCT DESCRIPTION	UNIT PRICE	GROSS AMOUNT	DISC (%)	NET AMOUNT
19871	lbs	Silica Flour	0.50	9,935.50	72.0	2,781.94
199	lbs	Sodium Metasilicate	3.67	730.33	72.0	204.49
497	lbs	R-3	3.29	1,635.13	72.0	457.84
286	lbs	Cello Flake	4.57	1,307.02	72.0	365.97
400	74lbs	Poz (Fly Ash)	18.50	7,400.00	72.0	2,072.00
1260	gals	Mud Clean I	1.51	1,902.60	72.0	532.73
696	lbs	FL-52A	24.10	16,773.60	72.0	4,696.61
2	gals	NE-118, 330 gal tote	95.00	190.00	72.0	53.20
299	lbs	BA-59	32.20	9,627.80	72.0	2,695.78
497	lbs	CD-32	11.90	5,914.30	72.0	1,656.00
9	gals	FP-6L	93.50	841.50	72.0	235.62
12	gals	Claytreat 3C (tote)	130.00	1,560.00	72.0	436.80
11420	lbs	CSE-2	1.51	17,244.20	72.0	4,828.38
9	gals	InFlo 250W	89.00	801.00	72.0	224.28
5962	lbs	Bentonite II	0.47	2,802.14	72.0	784.60
3426	lbs	Kol Seal	1.06	3,631.56	72.0	1,016.84
46	lbs	Static Free	35.80	1,646.80	72.0	461.10
743	94lbs	Type III Cement	44.10	32,766.30	72.0	9,174.56
1	ea	4-1/2" Top Cem Plug, Nitrile cvr, Phen	135.00	135.00	72.0	37.80
Product Material Subtotal:				\$116,844.78		\$32,716.54

Service Charges

QTY	UNIT	PRODUCT DESCRIPTION	UNIT PRICE	GROSS AMOUNT	DISC (%)	NET AMOUNT
1	ea	Personnel Surcharge - Cement Svc	152.00	152.00	0.0	152.00
2016	cu ft	Bulk Materials Service Charge	3.93	7,922.88	72.0	2,218.41
1	job	Automatic Density System	1,440.00	1,440.00	72.0	403.20
Service Charges Subtotal:				\$9,514.88		\$2,773.61

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

Equipment

QTY	UNIT	PRODUCT DESCRIPTION	UNIT PRICE	GROSS AMOUNT	DISC (%)	NET AMOUNT
1	8hrs	Cement Pump Casing, 12001 - 13000 ft	21,300.00	21,300.00	72.0	5,964.00
1	job	Fas-Lok Cement Head	595.00	595.00	72.0	166.60
1	job	Data Acquisition, Cement, Standard	1,540.00	1,540.00	72.0	431.20
1	job	Densimeter	1,540.00	1,540.00	72.0	431.20
140	miles	Mileage, Heavy Vehicle	8.55	1,197.00	72.0	335.16
140	miles	Mileage, Auto, Pick-Up or Treating Van	4.83	676.20	72.0	189.34
1	job	Field Storage Bin	1,195.00	1,195.00	72.0	334.60
Equipment Subtotal:				\$28,043.20		\$7,852.10

Freight/Delivery Charges

QTY	UNIT	PRODUCT DESCRIPTION	UNIT PRICE	GROSS AMOUNT	DISC (%)	NET AMOUNT
4989	tonmi	Bulk Delivery, Dry Products	2.85	14,218.65	72.0	3,981.22
Freight/Delivery Charges Subtotal:				\$14,218.65		\$3,981.22
TOTAL:				\$168,621.51		\$47,323.47

Notes

Mileage is estimated, actual mileage will be charged.

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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.** 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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End of Report