

1738 Wynkoop St., Ste. 102
Denver, Colorado 80202
Phone: 303-296-3010
Fax: 303-298-8143
E-mail: bisonoil1@qwestoffice.net

Nº 12519

WELL NO. AND FARM 70 Ranch #4 4841C#		COUNTY Weld	STATE Co	DATE 11/3/13
CHARGE TO Bill Barrett		WELL LOCATION SEC. TWP. RANGE		CONTRACTOR Major
		DELIVERED TO 34/69		LOCATION 1 Shop CODE
		SHIPPED VIA 3103, 4017, 119		LOCATION 2 34/69 CODE
		TYPE AND PURPOSE OF JOB SURFACE		LOCATION 3 Shop CODE
				WELL TYPE ARK CODE

[illegible]

If this account is not paid within 30 days of invoice date a **FINANCE CHARGE** will be made. Computed at a single monthly rate of 1½% which is equal to an **ANNUAL PERCENTAGE RATE OF 18%**.

TAX REFERENCES

"TAXES WILL BE ADDED AT CORPORATE OFFICE"

TOTAL

SUBJECT TO CORRECTION

Customer or His Agent

Bison Oil Well Cementing, Inc. Representative

Customers hereby acknowledges and specifically agrees to the terms and conditions on this work order, including, without limitation, the provisions on the reverse side hereof which include the release and indemnity.



Bison Oil Well Cementing Single Cement Surface Pipe

Invoice # 12519

API#

Foreman: JH

Customer: BILL BARRETT

Well Name: 70 RANCH #4 4841CH

County: Weld County

State: Colorado

Sec: 36

Twp: 7N

Range: 63W

Consultant: CASEY

Rig Name & Number: MAJOR

Distance To Location: 60 MIN

Units On Location: 3103, 4017, 119

Time Requested: 23:00

Time Arrived On Location: 22:00

Time Left Location: 1:00 AM

WELL DATA

Casing Size OD (in) : 9.6250
Casing Weight (lb) : 36
Casing Depth (ft.) : 800
Total Depth (ft) : 805
Open Hole Diameter (in.) : 13.50
Conductor Length (ft) : 0
Conductor ID : 0
Shoe Joint Length (ft) : 34
Landing Joint (ft) : 0

Max Rate: 6
Max Pressure: 1500

Cement Data

Cement Name: BFN III
Cement Density (lb/gal) : 15.2
Cement Yield (cuft) : 1.27
Gallons Per Sack: 5.89
% Excess: 0%
Displacement Fluid lb/gal: 8.3
BBL to Pit:
Fluid Ahead (bbls):
H2O Wash Up (bbls): 20.0

Spacer Ahead Makeup

10, 10 DYE, 40

Casing ID

8.921

Casing Grade

J-55 only used

Calculated Results

cuft of Shoe 14.76 cuft

(Casing ID Squared) X (.005454) X (Shoe Joint ft)

cuft of Conductor 0.00 cuft

(Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)

cuft of Casing 390.98 cuft

(Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)

Total Slurry Volume 405.74 cuft

(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

bbls of Slurry 72.26 bbls

(Total Slurry Volume) X (.1781) X (% Excess Cement)

Sacks Needed 319 sk

(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

Mix Water 44.80 bbls

(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 59.22 bbls

(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)

Pressure of cement in annulus

Hydrostatic Pressure: 631.68 PSI

Pressure of the fluids inside casing

Displacement: 330.28 psi

Shoe Joint: 26.85 psi

Total 357.13 psi

Differential Pressure: 274.55 psi

Collapse PSI: 2020.00 psi

Burst PSI: 3520.00 psi

Total Water Needed: 64.80 bbls

x Casey Lane
Authorization To Proceed

Customers hereby acknowledges and specifically agrees to the terms and condition on this work order, including, without limitation, the provisions on this work order.