



Invoice #: 19120
Invoice Date: 7/10/2013

CHANUTE, KS 66720

(620) 431-9308

Bill To:
Pipeline Oil & Gas, LLC
c/o Carroll Energy, LLC
P.O. Box 766
Independence, KS 67301

Date	Description	Hours/Qty	Amount
7/8/2013	CARRA #P1 SEC. 4, T34S, R13E CHAUTAUQUA COUNTY, KANSAS GEOLOGICAL REPORT		250.00

THANK YOU. WE APPRECIATE YOUR BUSINESS!!

Total \$250.00

Balance Due \$250.00

Geological Report

Carra #P1

API#: 15-019-27323-00-00

360' FNL, 1192' FEL

S. 4, T34S, R13E

Chautauqua County, Kansas

7/8/2013

Operator: Pipeline Oil and Gas, LLC, 2375 E. Camelback Rd #600, Phoenix, AZ 85016

Drilling Contractor: Bart Lorenz, driller

Well-site Geologist: none

Dates Drilled: Spud: unknown
T.D.: unknown

Size Hole: 6 3/4" **Drilling Fluid:** Mud

Elevation: 930' **Total Depth:** 1743'

Surface Casing: 21' of 8 5/8" surface casing cemented to surface

Electric Logs Run: Density/neutron and dual induction logs

Formation Tops: Formation tops were picked from the density logs

Rock Color Desc.: GSA rock color chart (dry cuttings)

Status: OIL WELL

Oil Shows:	Redd Sandstone	704-751'	Poor oil show
	Weiser Sandstone	988-1010'	Trace oil show
	Mississippi	1630-1644'	Poor oil show

Canister Tests: Unknown

Notes: Well-site geologist was not present through the drilling of the well. All zones of interest were collected and bagged by the drillers. Cuttings were delivered to the geologist and examined in the laboratory with a binocular microscope and black-light.

LABORATORY SAMPLE EXAMINATION

0-704' Samples not examined

Top of the Redd Sandstone @ 704' (+226')

704-714' Redd Sandstone, light gray, very fine grained, silty, minor gray shale laminations, fair cementation (breaks but not easily), 12-14% porosity, light petroliferous odor, 80-100% mottled dull greenish-yellow hydrocarbon fluorescence

714-720' Redd Sandstone, light gray, very fine grained, medium gray shale laminations, moderately friable, 10-14% porosity, <5% of cuttings have a pale yellowish-brown oil stain, slight petroliferous odor, 50% of cuttings display heavily mottled to uniform greenish-yellow to medium yellow hydrocarbon fluorescence

720-728' Redd Sandstone, light gray, very fine grained, silty, very well cemented, 14+% porosity, few gray shale laminations, trace petroliferous odor, 40% speckled dull green hydrocarbon fluorescence

728-751' Redd Sandstone, light gray, very fine grained, silty, very well cemented, hard, 14-18% porosity, micaceous, moderate gray shale laminations, fair petroliferous odor, mottled dull greenish-yellow hydrocarbon fluorescence

751-988' Samples not examined

Top of the Weiser Sandstone @ 988' (-58')

988-1010' Sandstone, very fine grained, very well cemented, hard, 8-14% porosity, micaceous, moderate gray shale laminations, faint petroliferous odor, minor mottled dull yellowish-brown hydrocarbon fluorescence; 75% lime and shale

1010-1625' Samples not examined

Top of the Mississippi @ 1625' (-695')

1625-1630' Samples not examined

1630-1635' Chert, white/light gray/blue, 50/50 chalky/flinty, tight, hard, low vugular and inter-crystalline porosity, ~5% have a uniform dark yellowish-brown oil stain, slight petroliferous odor, 5+% uniform, bright yellow hydrocarbon fluorescence. Samples exhibited very slow, faint, even, pale blue oil cut in black light, no residual show in white light; after crushing and repeating the solvent test there is no change in the sample. Trace gray and black shale cuttings

1635-1638' Chert, same as above, with a higher percentage of oil stained cuttings at ~10%

1638-1644' Chert, white/light gray/blue, mostly chalky, minor flinty, tight, hard, poor porosity, <5% have a uniform dark yellowish-brown oil stain, slight petroliferous odor, 5% uniform, bright yellow hydrocarbon fluorescence. Samples exhibited very slow, faint, un-even, pale blue oil cut in black light, no residual show in white light; after crushing and repeating the solvent test there is no change in the sample. Trace limestone cuttings

1644-1700' Samples not examined

- 1700-1710' Limestone, dolomitic, dark gray, very fine grained, smooth, hard, tight, no petroliferous odor, no hydrocarbon show, no fluorescence
- 1710-1720' Dolomite, medium gray, very fine crystalline, rough, sandy texture, speckled with microscopic glauconite crystals, fossiliferous, no petroliferous odor, no hydrocarbon show, no fluorescence
- 1720-1743' Samples not examined

T.D. @ 1743'

Julie Shaffer
Geologist