

GEOLOGICAL REPORT**McKee #1-8**

2310' FNL, 2310' FEL, Sec. 8, T35S-R19E

Labette Co., Kansas

Operator: STP Cherokee, Inc. , Delaware, Okla. 74027

Drilling Contractor: Well Refined Drilling, Jeff Kephart, Driller
Schramm Air Rotary drill rig with auxiliary air compressor

Wellsite Geologist: Michael L. Ebers – On location from 234 to T.D.

Dates Drilled: Dec. 10, 2002

Size Hole: 6¾"

Total Depth: 883'

Elevation: 990' (Surveyed)

Drilling Fluid: Compressed air with injected water

Surface Casing: 20' of 8 5/8" surface casing cemented to the surface

Electric Logs Run: Gamma ray, neutron, and density logs

Formation Tops: Formation tops were picked from the gamma ray, neutron, and density logs

Rock Color Descr: GSA Rock Color Chart

Status: **Dry Hole** - The gas show in the Summit Shale is considered uneconomic due to the low gas content in the Summit Shale determined by desorption canister work in the area (4 to 9 scf/ton, see e-mail dated 12/4/02). The gas show in the Rowe Coal is also considered uneconomic due to the thinness of the Rowe Coal (<1 foot, see density log).

Gas Shows	Summit Shale	272-276'	12.4 mcf/day
	Cattleman Sand	478-485'	1 to 2 mcf/day
	Rowe Coal	794-795'	20 mcf/day

Oil Shows: **Cattleman Sand** **478-485'** **fairly good oil show**

Water Encountered: 15 to 20 gpm @ 662-696'

Canister Tests: No desorption canisters were collected for this well.

Notes: Well cuttings were examined at the drill rig and discarded. Select samples of coal and zones of interest were saved and examined in the laboratory with a binocular microscope and blacklight.

FIELD AND LABORATORY SAMPLE EXAMINATION

0-234' Samples not examined

Top of Oswego Limestone at 234' (+756')

234-272' Limestone

272-276' Summit Shale

276-308' Limestone

GAS CHECK @ 283' -- 12 in. on 3/8" choke = 12.4 mcf/day (all from the Summit Shale)

308-310' Mulky Shale

310-324' Limestone

324-377' Shale, medium dark gray

GAS CHECK @ 343' -- 9 in. on 3/8" choke = 10.7 mcf/day (all from the Summit Shale)

377-378' Croweburg Coal

378-379' Shale, dark gray, locally black, trace coal

379-382' Sandstone, very fine grained

GAS CHECK @ 383' -- 6 in. on 3/8" choke = 8.7 mcf/day (all from the Summit Shale)

382-405' Shale, medium dark gray

405-407' Limestone, medium brown

407-412' Shale, dark gray to grayish black, no coal

412-442' Shale, dark gray and light gray, locally clayey

442-444' Limestone, brown

444-454' Shale, medium gray

454-455½' Coal, blocky, vitreous

455½-478' Shale, medium gray

478-485' Cattleman Sandstone, yellowish gray, fine grained, very silty and micaceous, poor porosity, estimate 6 to 8% porosity, uniform medium dull yellow fluorescence, rainbow on cuttings, light oil show, rainbow and light oil show on pit. (oil odor @ each joint change from 485' to T.D. from Cattleman Sand)

GAS CHECK @ 483' -- 11 in. on 3/8" choke = 11.9 mcf/day (~1 mcf/day from Cattleman Sandstone @ 478-485')

- 485-561' Shale, medium light gray and medium gray, locally greenish gray and maroon, no Weir Coal
- 561-575' Bartlesville Sandstone, fine grained, medium light gray and medium gray, very silty and micaceous, thinly laminated with abundant shale, only about 20% sand, very poor porosity, no show or odor, no fluorescence
- 575-586' Laminated siltstone and shale
- 586-610' Sandstone, tan, laminated with shale, no odor
- 610-632' Sandstone, light gray, subrounded, fine grained, fair sorting, silty and micaceous, estimate 8 to 10% porosity, no fluorescence
- 632-651' Sandstone, medium light gray, no odor
- 651-662' Shale
- 662-698' Sandstone, light gray, subrounded, silty and micaceous, fairly good sorting, estimate 16 to 18% porosity, no fluorescence, picked up 15-20 gpm
- 698-704' Limestone, light olive gray to olive gray, medium to coarse grained, fossiliferous, no visible porosity, no fluorescence
- 704-723' Shale, laminated with siltstone
- 723-794' Shale, medium dark gray, 1' coal @ 766-767'
- 794-795' Rowe Coal (not enough coal sample for a canister)
- 795-851' Shale, dark gray

GAS CHECK @ 799' -- 26 in. on ½" choke = 31.9 mcf/day (20 mcf/day from Rowe Coal)

Top of the Mississippian at 851' (+139')

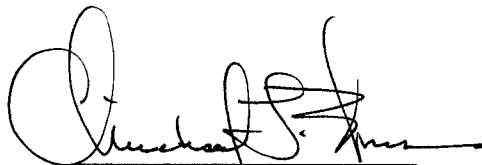
- 851-860' Limestone, light olive gray, medium grained, speckled/pelletal, 20% mottled brown heavy oil staining, and 50% chert, white and light bluish gray, spicular, chalky to flinty, scattered pinpoint vuggy and intergranular porosity (est. 4 to 6%), speckled and mottled medium bright yellow fluorescence throughout, no odor or show
- 860-870' Limestone, speckled, pelletal, light olive gray, medium grained, 6 to 8% intergranular porosity, overall speckled medium yellow fluorescence throughout, very faint odor, seen on a few cuttings

GAS CHECK @ 863' -- 23 in. on ½" choke = 30 mcf/day (all from the Summit Shale and Rowe Coal)

870-883' Limestone, light olive gray, medium grained and 40% chert, very light gray, abundant fossil hash and spicules, flinty, scattered pinpoint porosity with dark brown heavy oil (est. 2 to 3% porosity), 60% speckled and mottled medium yellow fluorescence, very faint odor grading down to no odor

GAS CHECK @ 883' -- 21 in. on ½" choke = 29 mcf/day (all from the Summit Shale and Rowe Coal)

T.D. @ 883'

A handwritten signature in black ink, appearing to read "Michael L. Ebers", written over a horizontal line.

**Michael L. Ebers, PG, CPGS
Petroleum Geologist**

Walter Yuras

December 17, 2002

Jerry Cash
STP, Inc.
OKC, OK 73127

Jerry:

**RE:Casing and Completion
Recommendation:**
Edna Hollow Project
McKee #1-8
SWSWNE-Section 8-35S-19E
Labette County, KS

The captioned well was spud 12/9/02 and was drilled as a Weir development well to a total depth of 883'; formation at TD is Mississippian.

No Weir Coal was encountered at this location; this should serve to define the local northeast coal limit. As you recall, we had deferred additional drilling to the north, pending the outcome of this test.

A 12 mcf show was noted after drilling the Summit at 272'; this shale is underlain by an additional six feet of porous limestone which is probably analogous to the historical "Oswego" production zone in the county.

This well also encountered six feet of what is locally called Cattleman Sand (Skinner in Oklahoma) at 478'. Drillers log reports a 37 mcf gas increase after drilling the sand and the show persisted to TD with slight decline. This sand is present and correlative over an area of several square miles and exhibits attractive log characteristics: 17% porosity with GE, 26 ohms, and 20%SW with $R_w 0.04(?)$. I believe this sand merits testing considering proximity to pipeline, aerial extent and offset potential.

I have requested that Land obtain an extension of term for the north offset McKee lease pending a production test of this Cattleman Sand.

Recommendation:

-Set casing to 550' for Cattleman Sand completion

-Perforate: Cattleman Sand: 478-484'

Although clean up the Cattleman perms will probably be necessary, I have no local knowledge of potential clay sensitivities for this sand. I recommend we attempt as 'natural' a completion as possible and include clay stabilizers if acid is required.