Barbara Hofer #1
47-091-0397

SAMPLE DESCRIPTION:

*Big Lime at 1312'-1375'
Limestone, light tan, 5% to 20% grey shale.

*Keener at 1375'-1410'
Sandstone - very fine grain to medium grain (10% medium grain) limestone (10%)
Shale break - red to brown

*Big Injun at 1414'-1472'
Sandstone - fine to coarse grain, rounded, clear, limey 0% to 50%, shaley 10%

Interbedded - shale/siltstone 1472'-1783'

*Gantz at 1784'-1820' Sandstone
1780'-1800': Sandstone - white to clear, fine to very fine grain, sub-rounded. Siltstone - light grey, 5%. Very slight floure-scence.

1800'-1810': Sandstone - clear to white, very fine grain, sub-rounded. Slight mineral flourescence. Siltstone - light grey, 7%. Shale - grey, 8%.

1810'-1820': Siltstone - grey to light grey. Sandstone 20%. Trace of pyrite.

Interbedded - siltstone/shale

*50 Foot at 1847'-1902'
Sandstone - white to clear, sub-rounded, medium to very fine grained. Shale - grey, 10%. Siltstone - grey, 2%. Slight mineral fluorescence.

Shale - dark grey shale

*30 Foot at 1918'-1958'
Sandstone - clean, clear, fine to very fine grain, sub-rounded. Trace of shale, siltstone glauconite and pyrite.

Siltstone - Brown to red, trace of shale.

*Gordon Stray at 2001'-1017' Sandstone
2000'-2010': Sandstone - cloudy to white, fine to very fine grain, sub-angular. Shale - grey, 10%. Trace of glauconite.

2010'-2020': Sandstone - clean, clear, very fine grain, rounded. Shale - black to grey, 2%. Trace of glauconite.

Shale - light grey and red.

*Gordon at 2057'-2075'
Sandstone - very fine grained, clear, rounded. Siltstone - 30%. Trace of pyrite.

Geologic Memorandum
Barbara Hofer #1
47-091-0397

SAMPLE DESCRIPTION:

Interbedded - shale/siltstone/sandstone

*4th Sand at 2230'-2260' Sandstone
2230'-2250': Sandstone - white to clear, very fine grain, sub-rounded. Trace of glauconite and red shale.

2250'-2260': Sandstone - light brown to clear, very very fine grain, sub-angular. Siltstone - brown to light brown, 30%.

Siltstone - Brown, trace of very fine grain sandstone.

*5th Sand at 2290'-2356' Sandstone
2290'-2300': Siltstone - grey to brown. Trace of very fine grain sandstone.

2300'-2320': Sandstone - very fine grain, calcitic cement, rusty.

2320'-2330': Sandstone - very fine grain, calcitic cement, rusty. 20% siltstone - red to brown.

2330'-2360': Sandstone - very fine grain, calcitic cement. Trace of dead oil.

Interbedded - siltstone/shale

*Speechly at 2950'-(top)
Interbedded - shale/siltstone/sandstone

Potential Pay Zone at 3000'-3010': Siltstone - tan to light brown, 50%. Shale - grey, 50%.

*Balltown at 3167' (top)
Interbedded - siltstone/shale/sandstone.

*Bradford at 3466' (top)
silty shale

*Riley at 3903' (top)
silty shale

*Benson at 4287'-4310'
4290'-4300': Siltstone - tan, very fine to fine grain.

4300'-4310': Siltstone - tan, fine grain, trace of dead oil.

Grey Shale to TD

*Electric Log Tops

GEOLOGIC MEMORANDUM

BARBARA HOFER #1
47-091-0397
FLEMINGTON DISTRICT
TAYLOR COUNTY, WV

GL:1165' KB:1175'
TD:4446'

MARCH 1, 1984
PREPARED BY: Norman DeRosa

097-397

GEOLOGICAL RATIONALE
BARBARA HOFER #1
FLEMINGTON DISTRICT, TAYLOR COUNTY
WEST VIRGINIA

We propose drilling the Barbara Hofer #1 on the 56 acre Hofer leasehold to an approximate depth of 4500 feet. Turbiditic Benson Sands of the Upper Devonian Chemung Group are the primary objectives in this well. Seven other potential Upper Devonian pays are secondary objectives; Balltown, Speechley, Fourth Sand, Gordon, Thirty Foot Sand, Fifty Foot Sand and Gantz. Other secondary targets are the Mississippian Big Injun and Keener Sands. All of these zones are potentially gas bearing. Eastern American Energy will currently purchase all the gas from this lease through a nearby pipeline. We expect no delays in hook-ups nor any production curtailments. Gas price is approximately $3.00/MCF.

The proposed well is in the center of a well defined Benson channel. Production from the Benson depends soley on porosity development in a fine grain sand. Structally it lies on the eastern flank of the Chestnut Ridge anticline, but structure has little or no effect on reservoir development.

The closest well to the proposed location is Union Drilling's Sinsel #1 (Tay-121) located 1900 feet to the east. This well was completed in the Benson formation and had an IP of 1 MMCF/D. Union Drilling's Pepper #2 (Tay-120) located 1950 feet to the southeast was also completed in the Benson and had an IP of 2.2 MMCF/D. Union Drilling's Lawson #1 (Tay-108) located 2300 feet to the southwest was a Benson completion with an IP of 750 MCF/D. The Lawson #2 (Tay-116) was also drilled by Union Drilling's approximately 2400 feet south of the proposed location. The Lawson #2 was completed in the Fifth Sand formation and had an IP of 900 MCF/D. J and J Enterprizes's Rubey #1 (Har-2741) located 4500 feet to the northwest. This well was a dual completion in the Benson and Fifth Sand which had an IP of 492 MCF/D. Petroleum Development Corporation's Moore #1 (Har-2960) drilled in December 1983, is located 6100 feet to the west. This well was completed in the Benson with an IP of 850 MCF/D and is currently delivering 235 MCF/D. Petroleum Development Corporation's Joseph #1 (Har-2184) located 4800 feet to the southwest was a natural in the Fifth Sand with an IP of 650 MCF/D. It was recently completed in December 1983 in the Benson with an IP of 1.1 MMCF/D and is currently delivering 285 MCF/D.

The proposed location has an available gas market, a nearby existing pipeline system, proven offsetting production and an excellent geologic location.

Geologic Memorandum
Barbara Hofer #1
47-091-0397

Drilling began on the Barbara Hofer #1 well on February 24, 1984. The target zone was the Benson formation of the Chemung Group - Late Devonian. Surface casing (8-5/8 inch) was set at 856 feet with the top of the Benson at 4300 feet. Gas checks with significant shows were at: 2061 feet with 189 mcf, 2780 feet with 198 mcf, TD with 189 mcf. The open hole log done by Allegheny Nuclear Surveys included: Density, Neutron, Gamma Ray, Dual Spaced Induction, Temperature and Caliper. Production casing (4-1/2 inch) was set at 4390 feet with cement top estimated at 1500 feet.

Potentially Productive Zones are:

Benson: 4287'-4310' Lenticular, very fine grained sandstone in siltstone matrix. This ten foot section shows a pronounced deflection in the Gradient and Differential Temperature logs, also the Neutron log shows good gas effect.
Avg. Paramaters:
4300'-4310' Porosity 8%, Sg 21%, So 52%, Sw 27%

Speechley: 2950'-3034' Stringer Siltstone. Siltstone to very find grained sand. Zone at 3006'-3010' (4 ft. zone). Neutron log shows gas effect.
Avg. Parameters:
3006'-3010' Porosity 11%, Sg 38%, So 43%, Sw 19%

5th Sand: 2291'-2356' Sandstone interbedded with siltstone. With Neutron gas effect.
Avg. Parameters:
2292'-2296' Porosity 11%, Sg 66%, So 11%, Sw 23%, slight temperature deflection.
2328'-2330' Porosity 9%, Sg 21%, So 39%, Sw 40%
2339'-2344' Porosity 8%, Sg 35%, So 20%, Sw 45%
2351'-2356' Porosity 11%, Sg 45%, So 33%, Sw 22%

Gordon Stray: 2002'-2016' Sandstone, very fine grain, clean to 40% stilstone with neutron gas effect and slight fluorescence.
Avg. Parameters:
2004'-2012' Porosity 12%, Sg 52%, So 22%, Sw 26%

Gantz: 1783'-1820' Sandstone, very fine grain, clean to 15% siltstone/shale. Very slight fluorescence. Neutron gas effect. Good temperature deflection.
Avg. Parameters:
1783'-1788' Porosity 13%, Sg 71%, So 13%, Sw 16%
1788'-1903' Porosity 8%, Sg 71%, So 13%, Sw 16%