



# "Nonconventional" geothermal power



- Unique and successful set of project developments:
  - utilization of co-produced fluids
  - geo-pressured hybrid technology

"Un-separated mixed hydrocarbons"



# "Un-separated mixed hydrocarbons"



**Physical Data**  
BTU cu.ft. ideal =  
BTU cu.ft. real =  
BTU/lb, ideal =  
(Density) Sp. Gr. Ideal =  
(Density) Sp. Gr. Real =  
Density lbm/(1000 ft<sup>3</sup>) =

**Dew Point (Water Content) Calculation.**  
**ASTM D 1142**  
(14.7 psia 60°F Base)

"Un-separated mixed hydrocarbons"



"Un-separated mixed hydrocarbons"



"Un-separated mixed hydrocarbons"



"Un-separated mixed hydrocarbons"





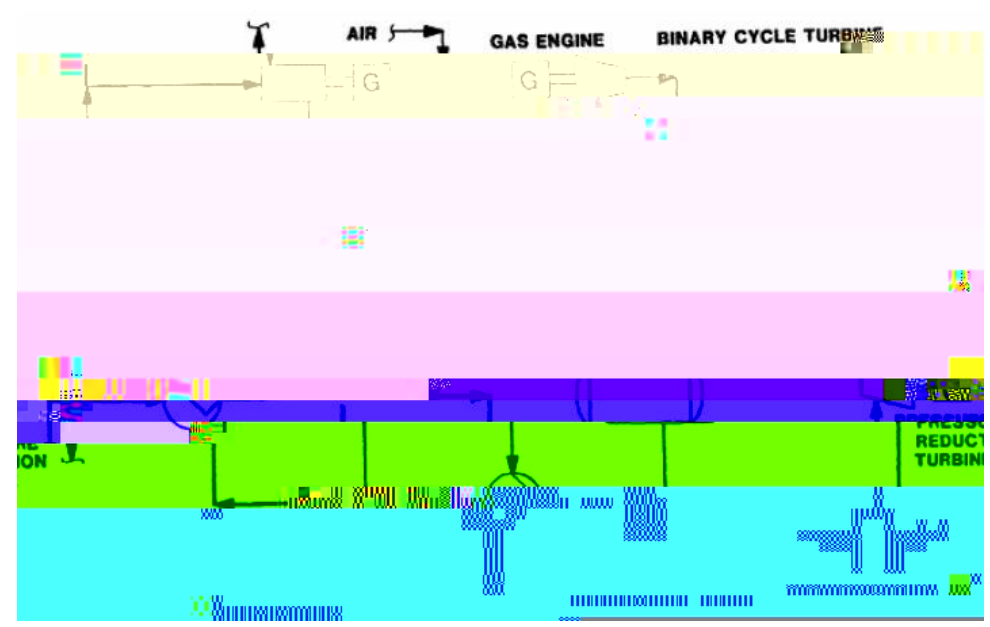
# "Geopressured Hybrid"



- Been there – Done that...
  - Late 1980s, Ben Holt Co. designed, built, and operated a demo plant
  - Pleasant Bayou geopressured resource
- The power plant operated successfully...
  - Electricity could be generated from geopressured resources
  -



# "Geopressured Hybrid"



# "Geopressured Integrated Hybrid"



TAS ENERGY – Developments in the Gulf Coast Region...

- Binary w/ "Un-separated mixed hydrocarbons" HEX
- Recover waste heat from engine exhaust & jacket water
- Substantial efficiency improvements
- Nominal 3.5 MW Integrated Hybrid Cycle (25,000 BPD)

Generating electricity from multiple energy streams

- Reduces overall project expenses
- Reduces or eliminates CO<sub>2</sub> emissions
- Decreases operator dependency on the local grid
-

# Questions



