



ORR ENERGY GROUP
AUSTIN, TEXAS

Gas Condensate + Geothermal Play

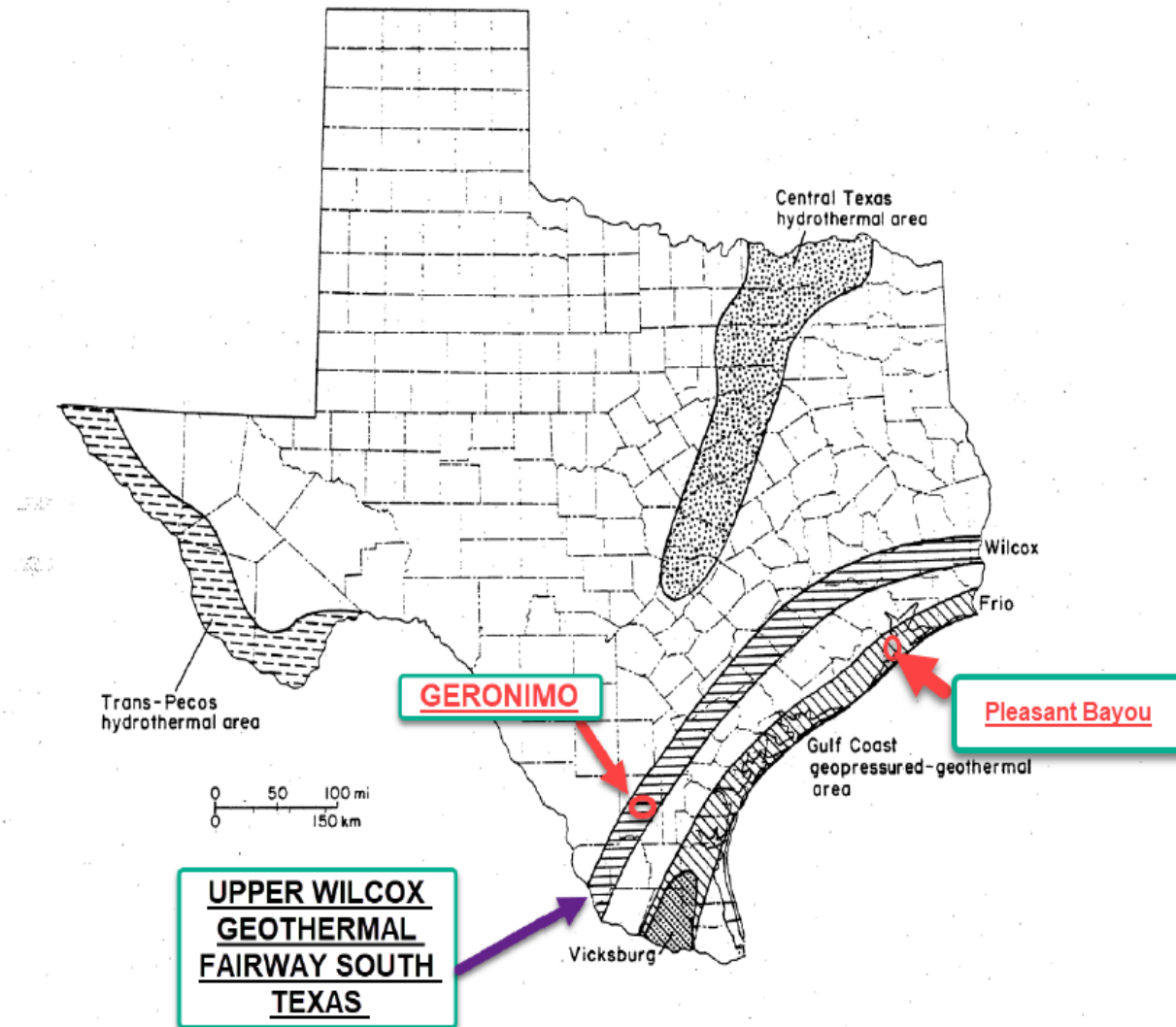


Figure 1. Map of areas containing geothermal resources in Texas and geopressured-geothermal corridors along the Texas Gulf Coast (Bebout and others, 1978, 1982; Gregory and others, 1980; Woodruff and others, 1982).

Agenda



THE GERONIMO PLAY IS A WINNING
COMBINATION WILCOX 300 BCFG + 3
MMBBL CONDENSATE PLUS GEOTHERMAL
PROSPECT IN THE HEART OF SOUTH
TEXAS

Pleasant Bayou Geothermal Project

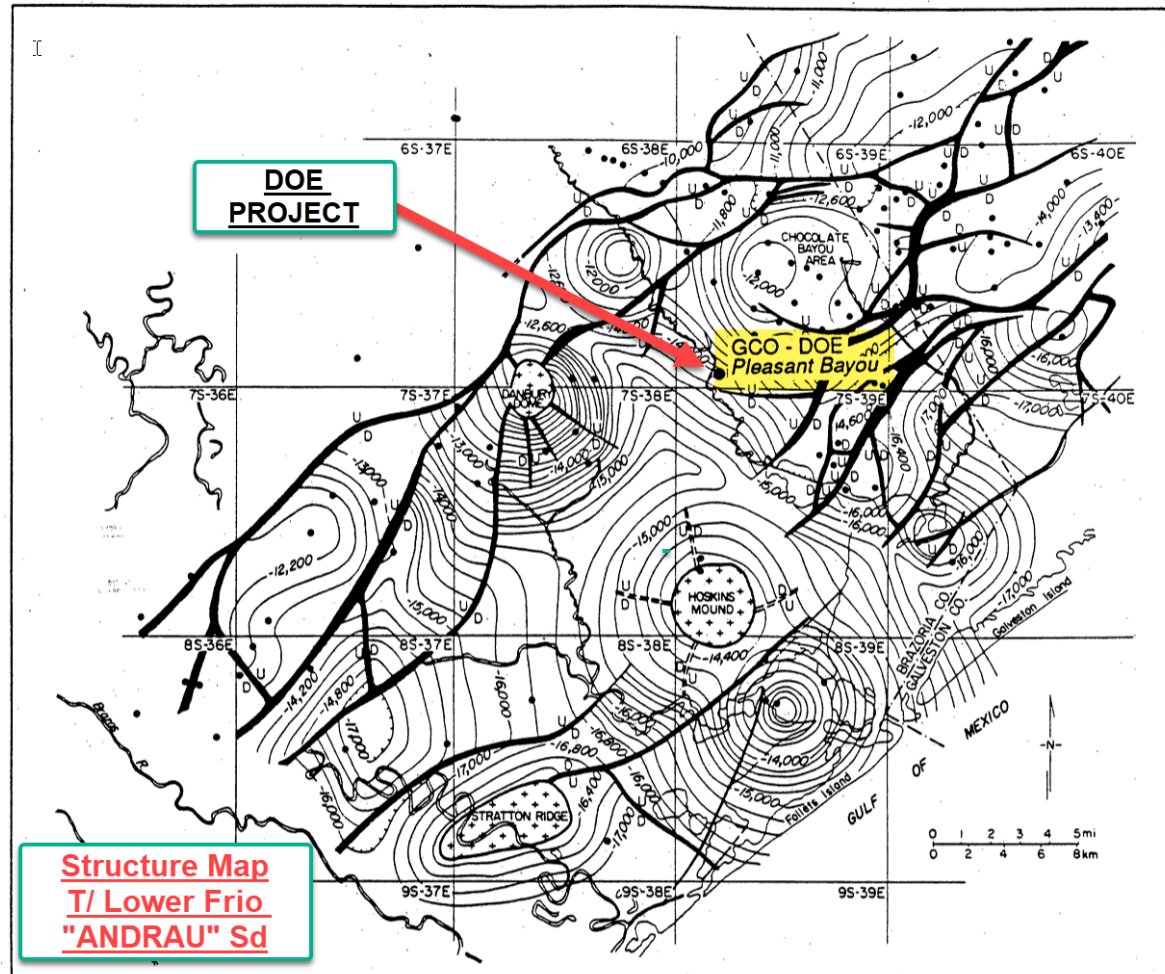
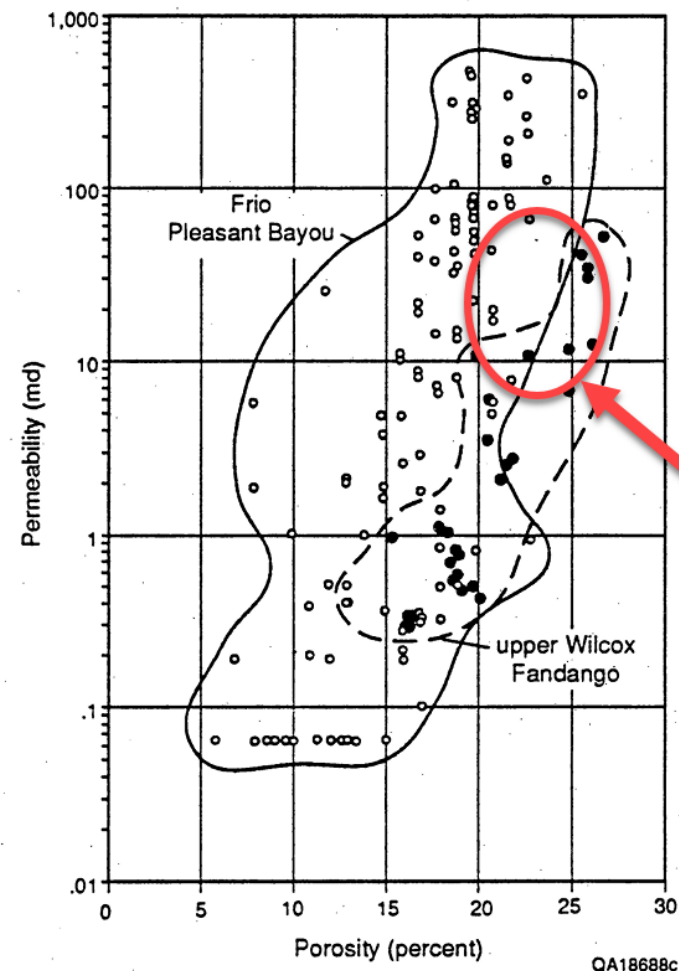


Figure 7. Location of General Crude Oil/DOE Pleasant Bayou Nos. 1 and 2 geopressured-geothermal test wells and structure on T5 marker (Morton and others, 1983).



Strategy for Success



Expected
Porosity/Perm
Range for Geronimo
UW-17 Reservoir

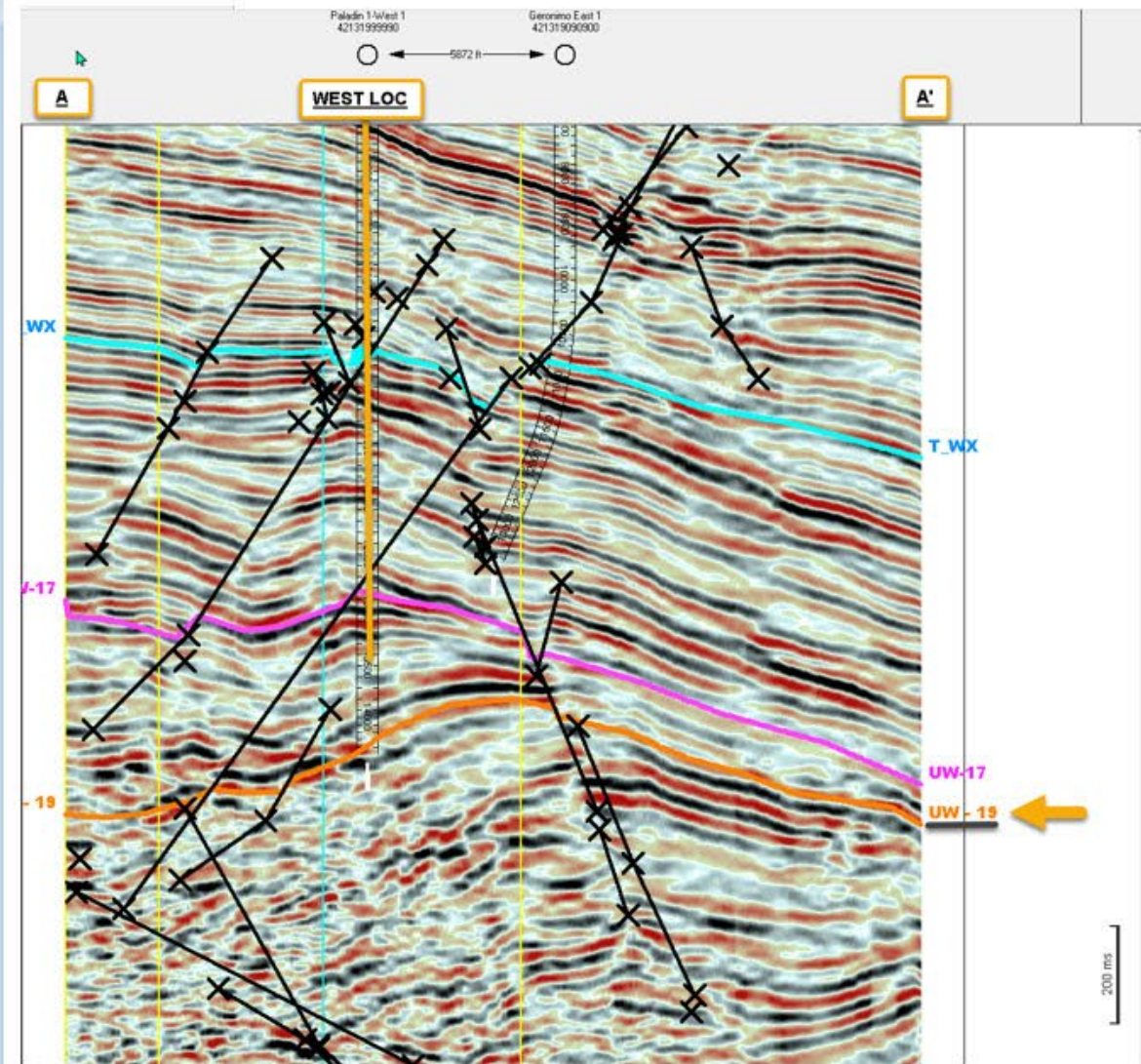
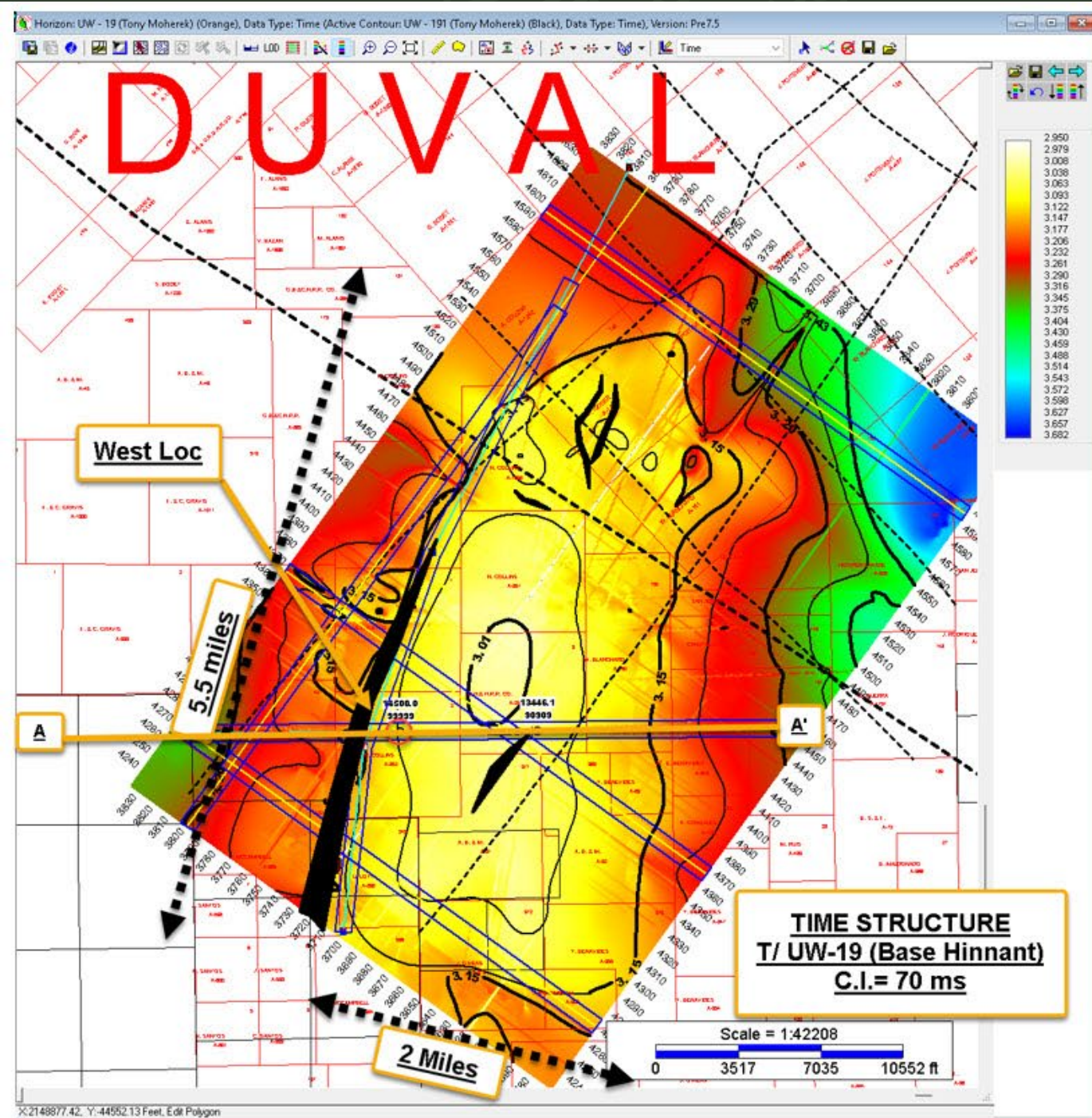
Figure 11. Permeability (unstressed air permeability) versus porosity, Frio Chocolate Bayou field, Brazoria County, Texas (Phillips No. 1 JJ), and upper Wilcox Fandango field (Shell Muzza No. 2 and Garza No. 2).

ROCK PROPERTIES FOR GEOTHERMAL PRODUCTION

The DOE's **Pleasant Bayou #2 geopressured-geothermal well** in Brazoria County is still one of the best real-world case studies for identifying the geologic parameters required for successful geothermal development in the Texas Gulf Coast.

Key Geologic Parameters Observed at Pleasant Bayou

Parameter	Pleasant Bayou Value	Why It Matters
Reservoir Formation	Frio Formation sandstone	Thick, laterally extensive aquifer
Depth	~14,000–17,000 ft	Provides high temperature and geopressure
Temperature	300–350°F (149–177°C)	Minimum threshold for economic power generation in Gulf Coast brines
Pressure	10,000–15,000 psi	Supplies hydraulic energy and keeps methane dissolved
Permeability	20–150+ md (153 md measured in test interval)	Controls achievable flow rate OSTL.gov +1
Porosity	Typically 20–30%	Large fluid storage volume
Net Sand Thickness	250–300 ft cumulative	Supports sustained production archives.datapa...
Reservoir Volume	>3 cubic miles target	Required for long-term energy recovery archives.datapa... +1
Salinity	50,000–80,000 ppm TDS	Typical Gulf Coast geopressured brines OSTL.gov +1
Gas Content	~22–40 scf methane/bbl brine	Significant supplemental energy source OSTL.gov +1



Time Structure @ UW-19 or Base of Hinnant
Section : **Note 750 ft of anticlinal relief
across 11 Sq. miles



Geronimo Prospect is expected to have very similar rock properties to the Pleasant Bayou Study for commercial geothermal production in the Upper Wilcox geopressured reservoirs