



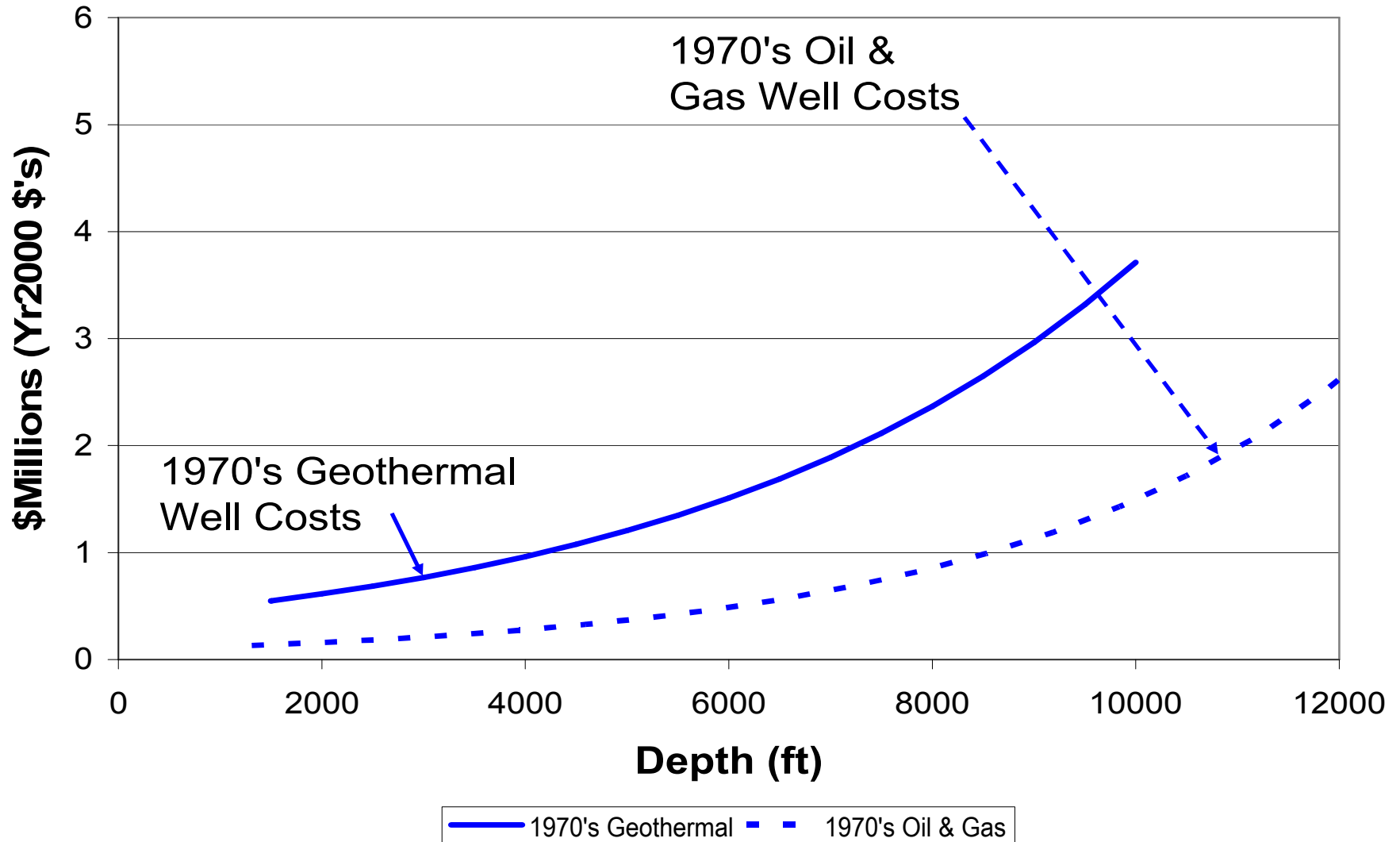
# Geothermal Well Cost Analyses 2006



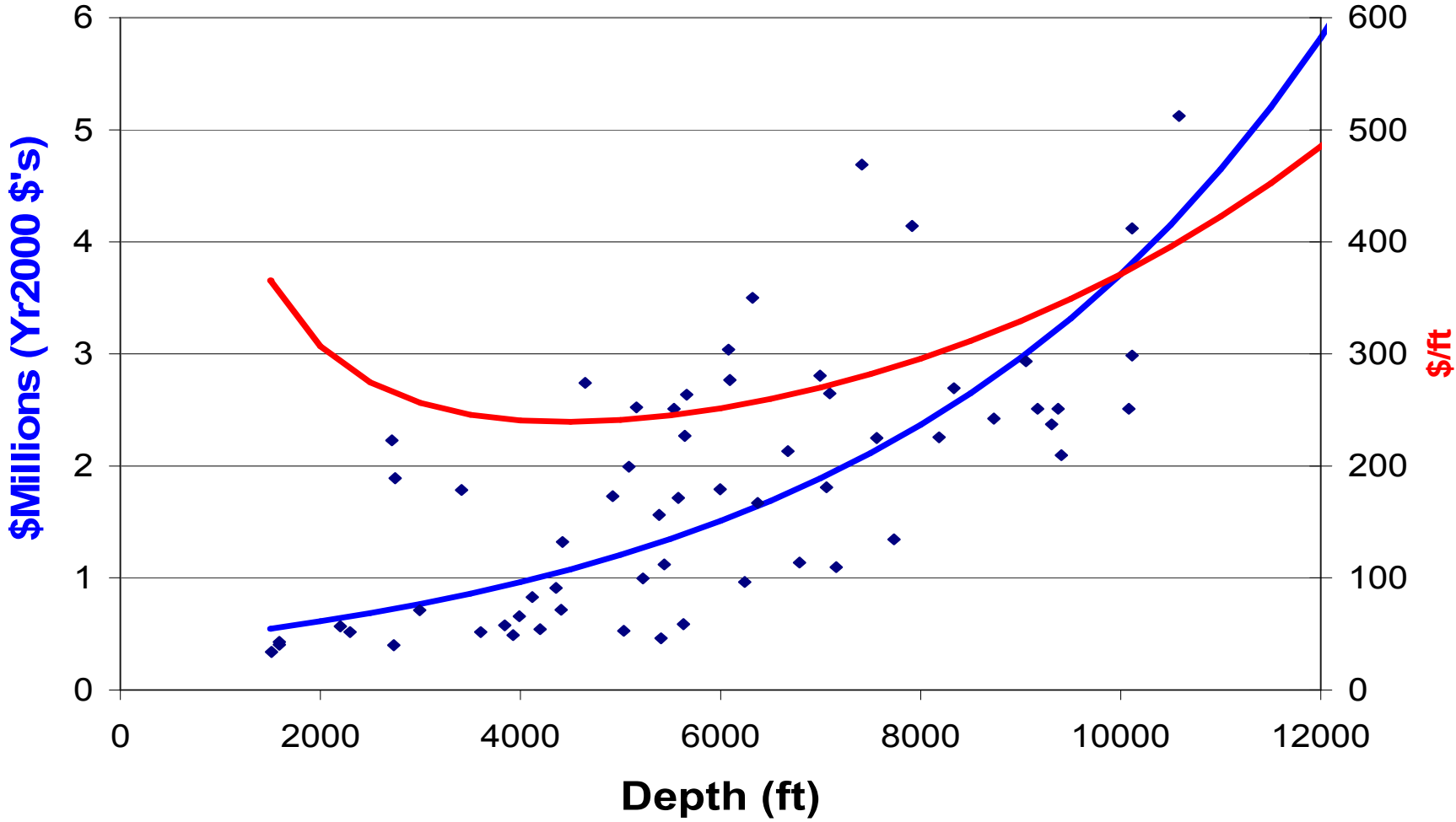
A.J. Mansure, S. J. Bauer  
B.J. Livesay, S. Petty

GRC, 2006

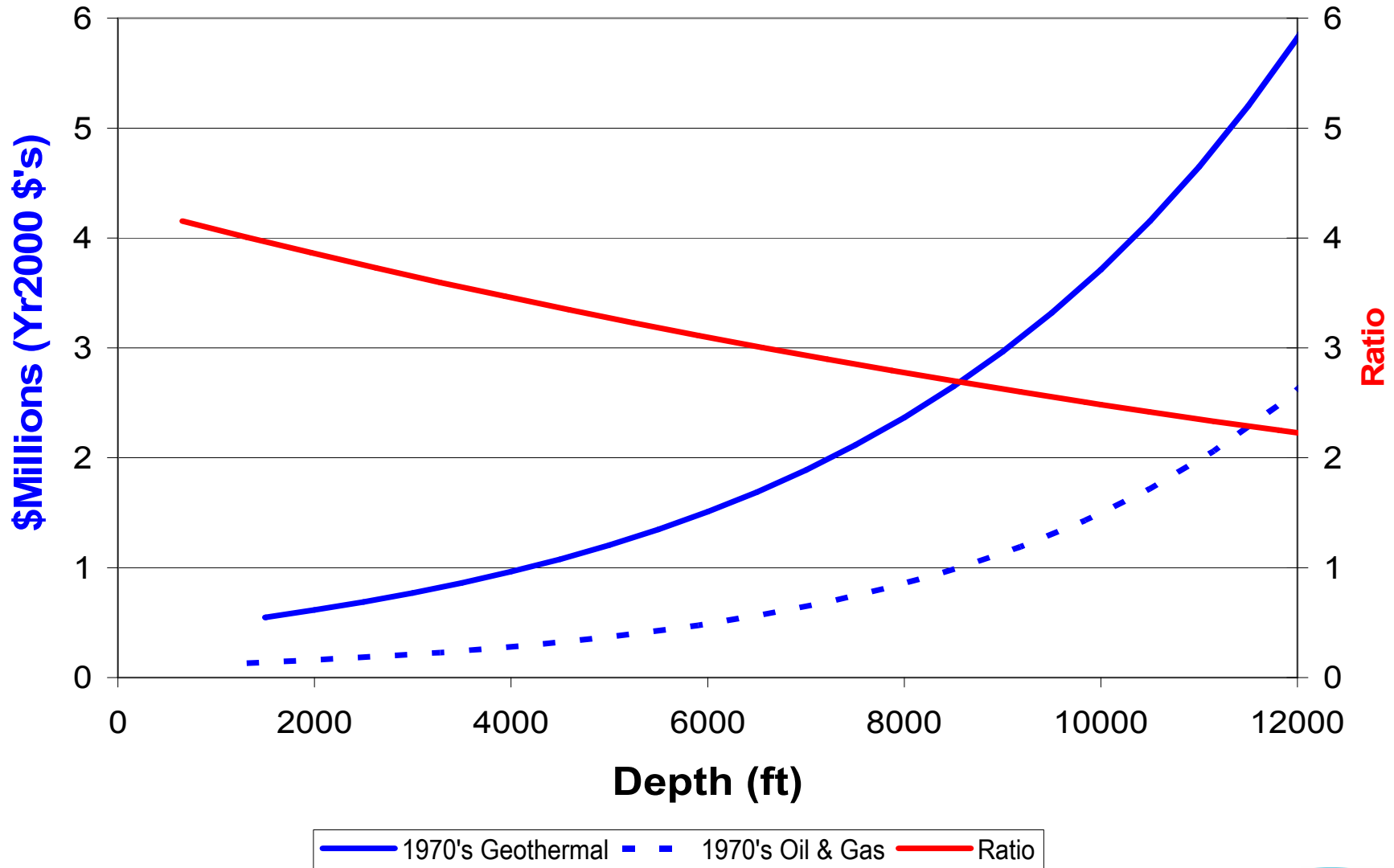
# 1970's understanding of well cost



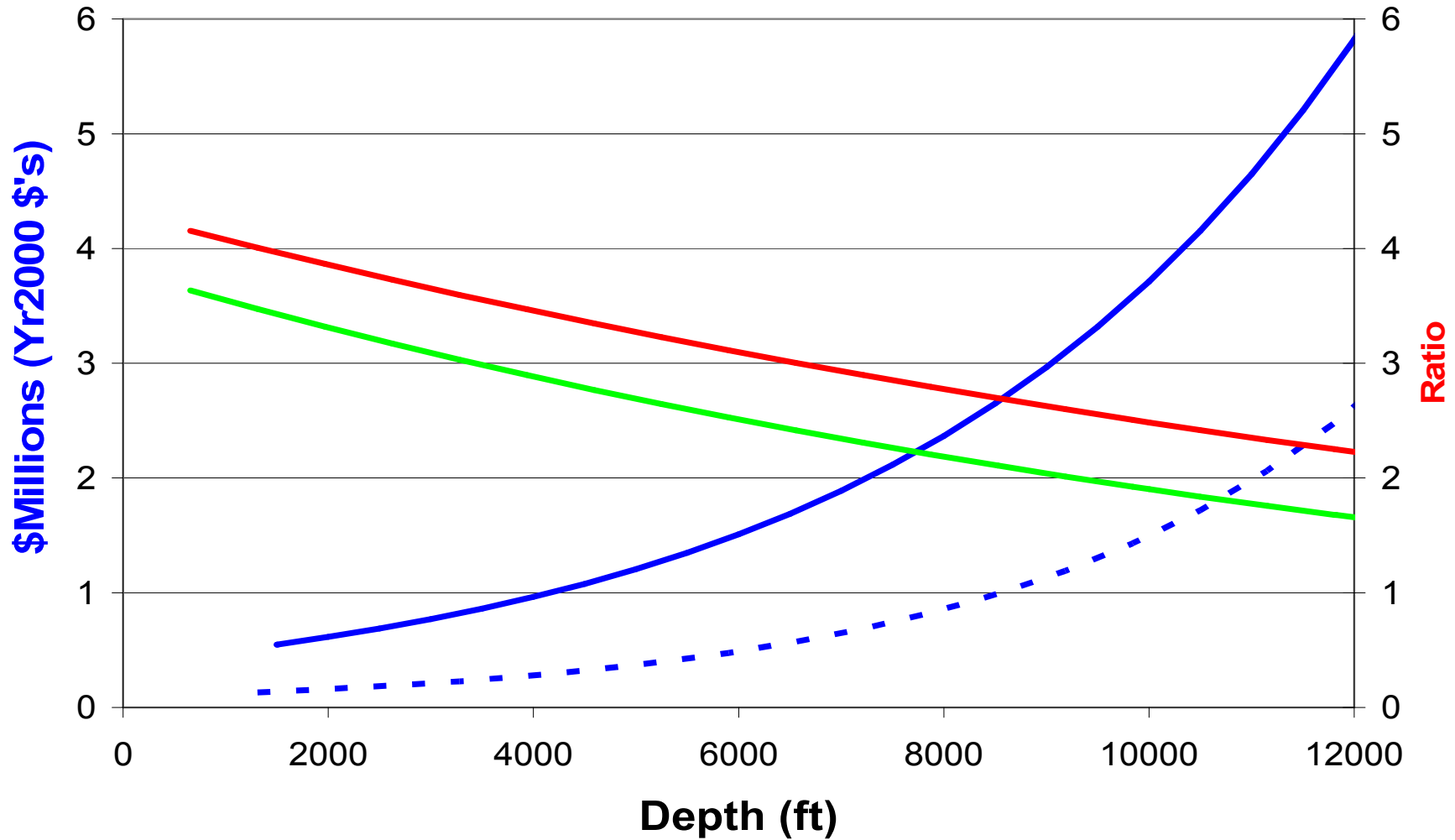
# Myth: \$/ft



# Myth: constant ratio

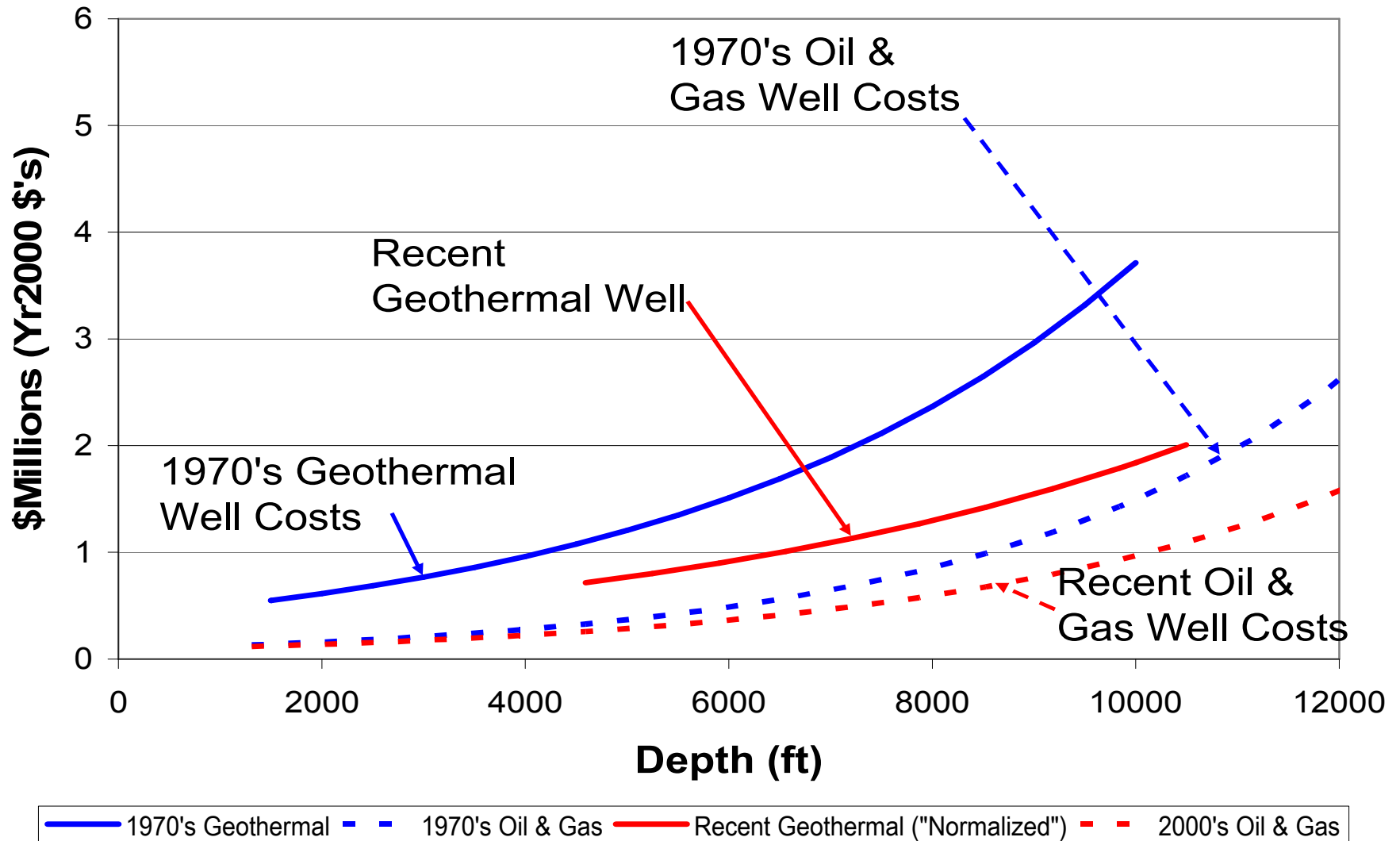


# Myth: constant ratio

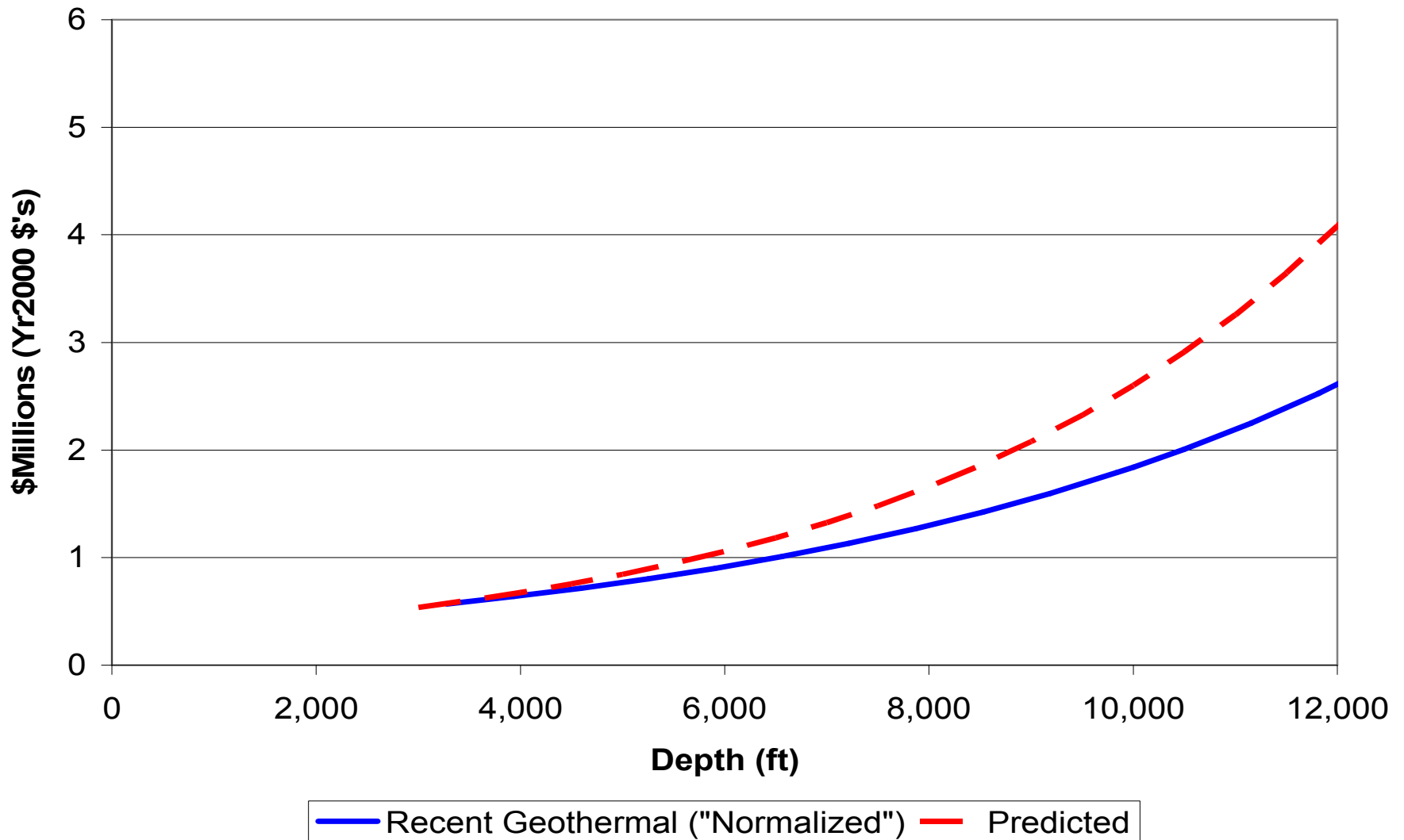


— 1970's Geothermal - - 1970's Oil & Gas — 1970's Ratio — Current Ratio

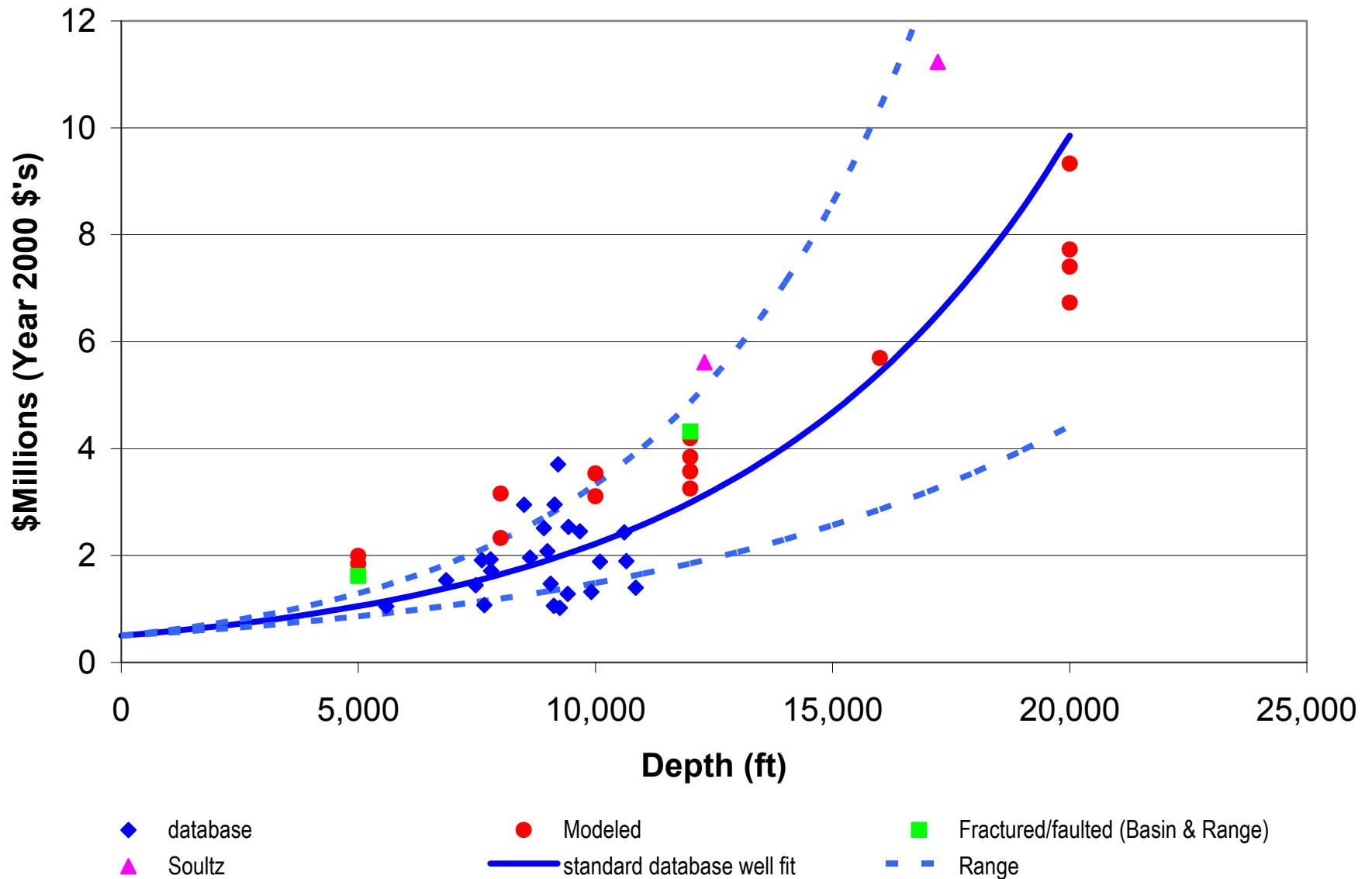
# Reduction in Drilling Costs (Geothermal vs. Oil & Gas)



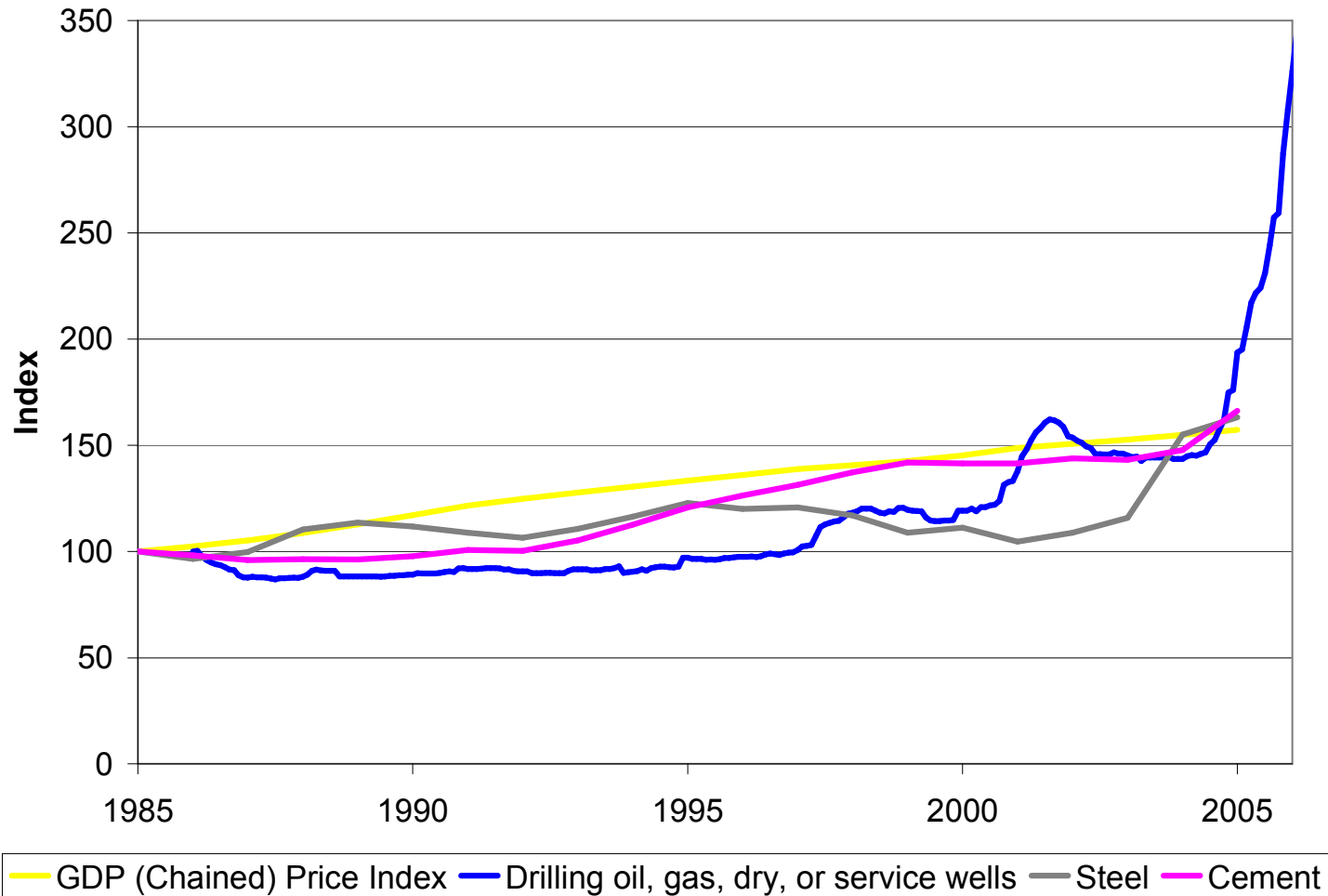
# Reduction in drilling costs in constant year \$'s isn't just a correction for inflation



# Geothermal Well Costs Since 1985

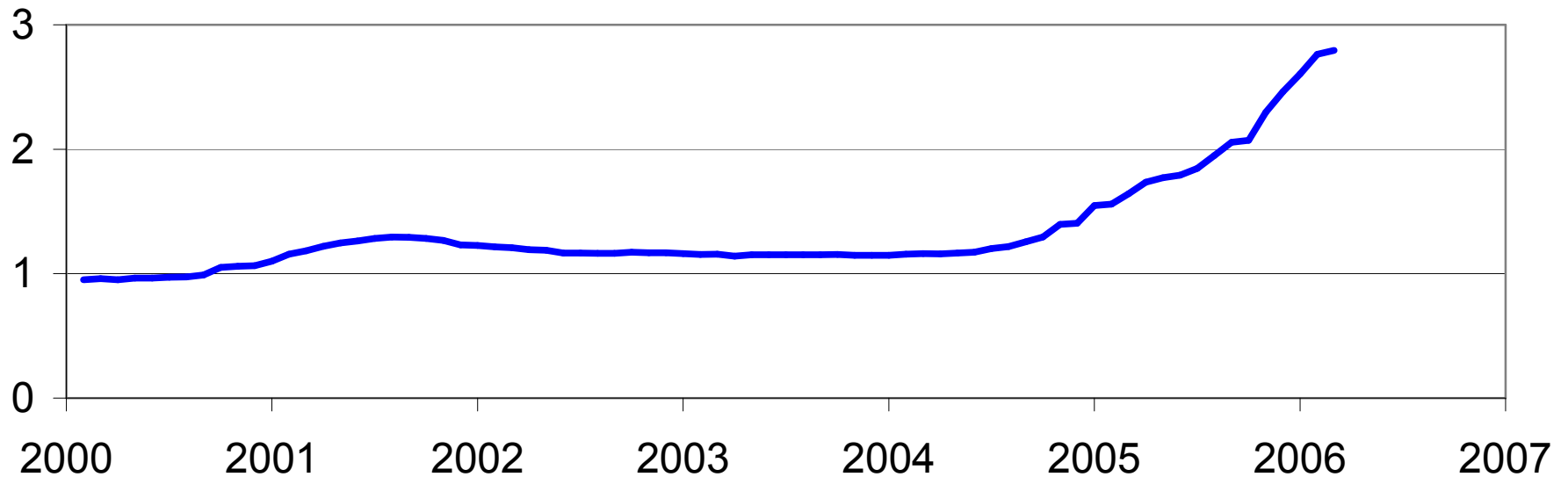


# Changing cost of drilling



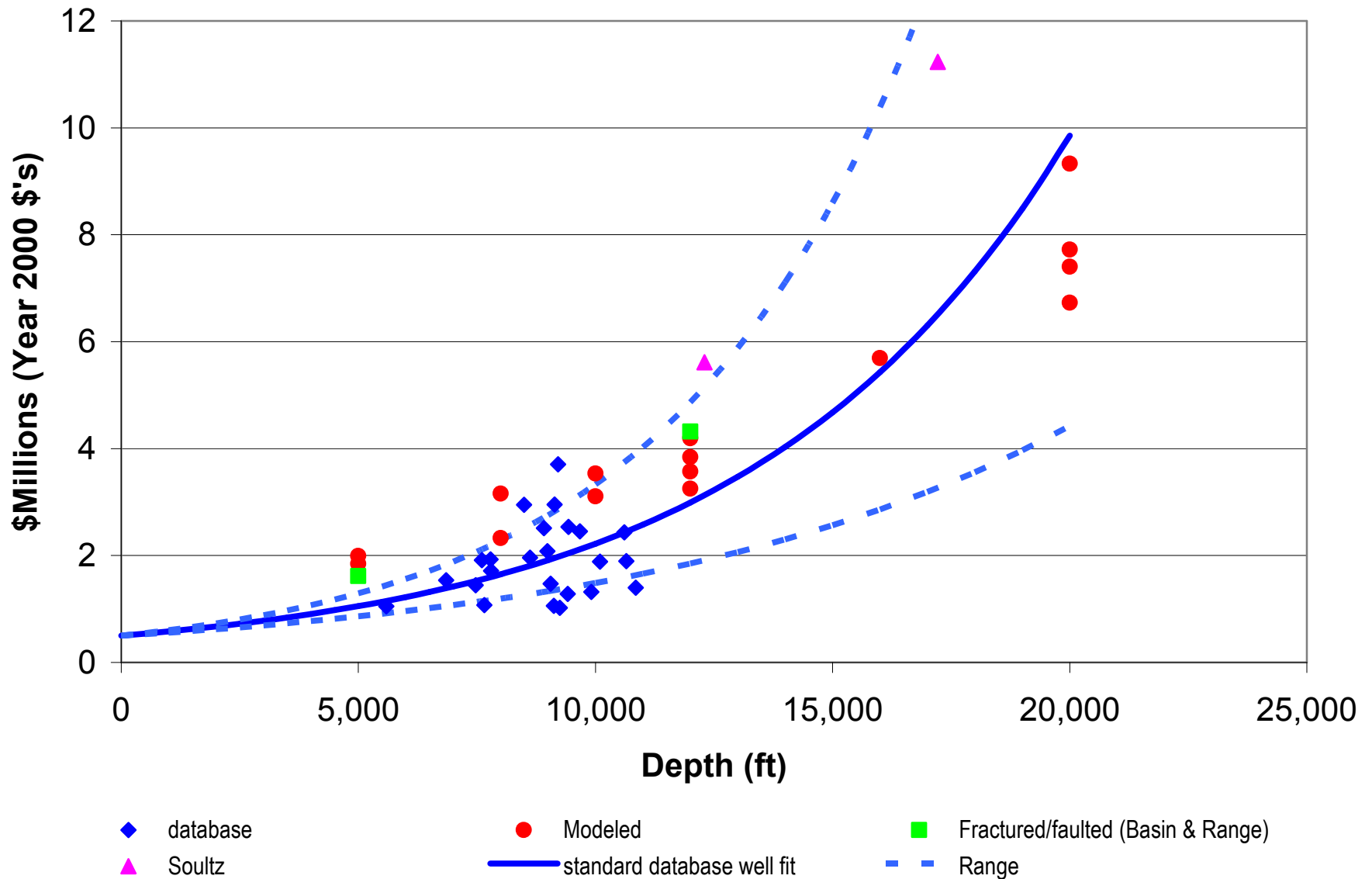
# Predicting deep Basin & Range Well Costs

$$\$750ke^{0.000125depth(ft)}$$

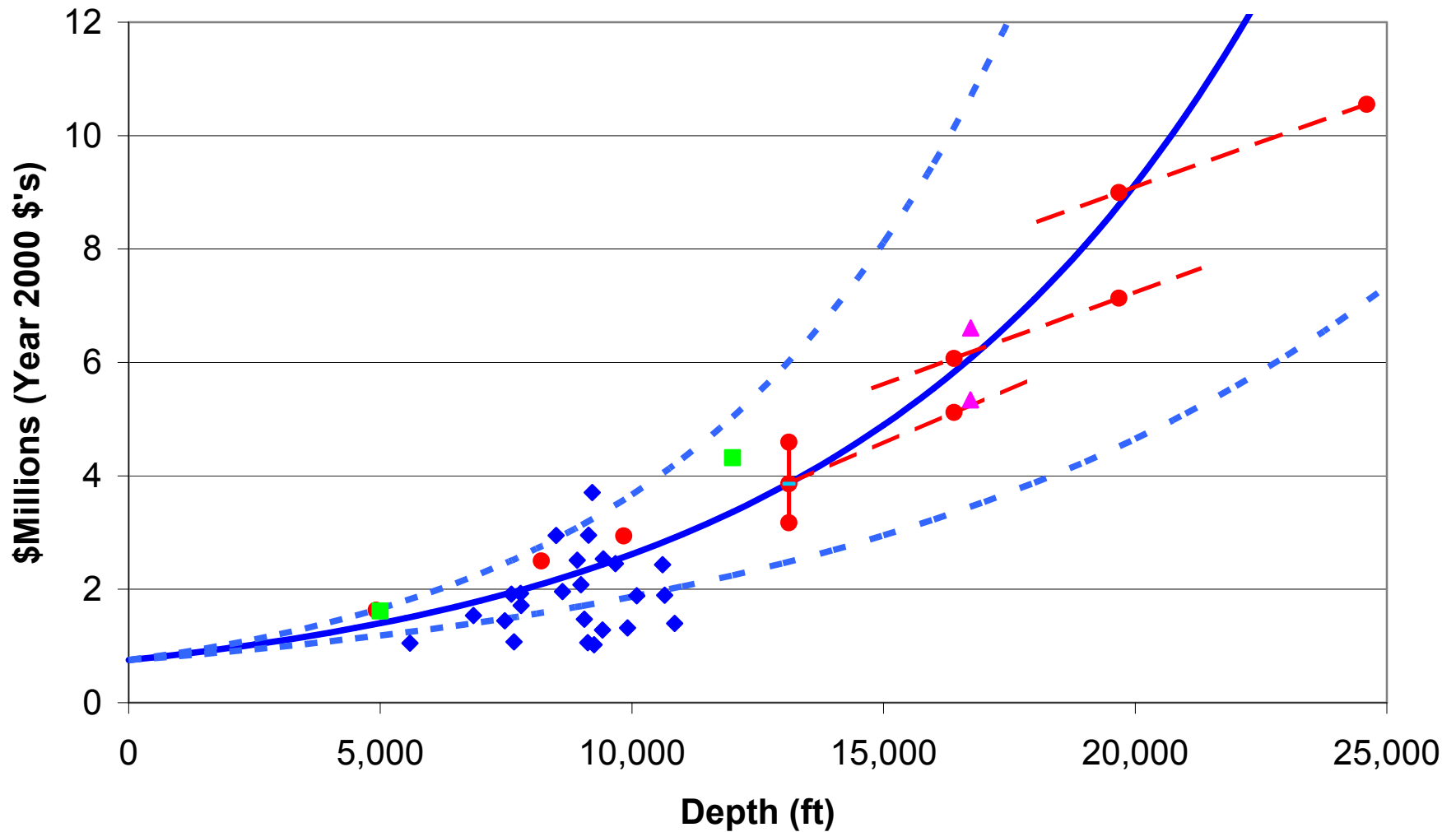


Year	2000	2001	2002	2003	2004	2004 3Q	2005
Multiplier	1.000	1.246	1.177	1.150	1.261	1.365	1.980
Intercept	\$750k	\$935k	\$883k	\$863k	\$946k	\$1024k	\$1485k

# Geothermal Well Costs Since 1985



# Geothermal Well Costs Since 1985

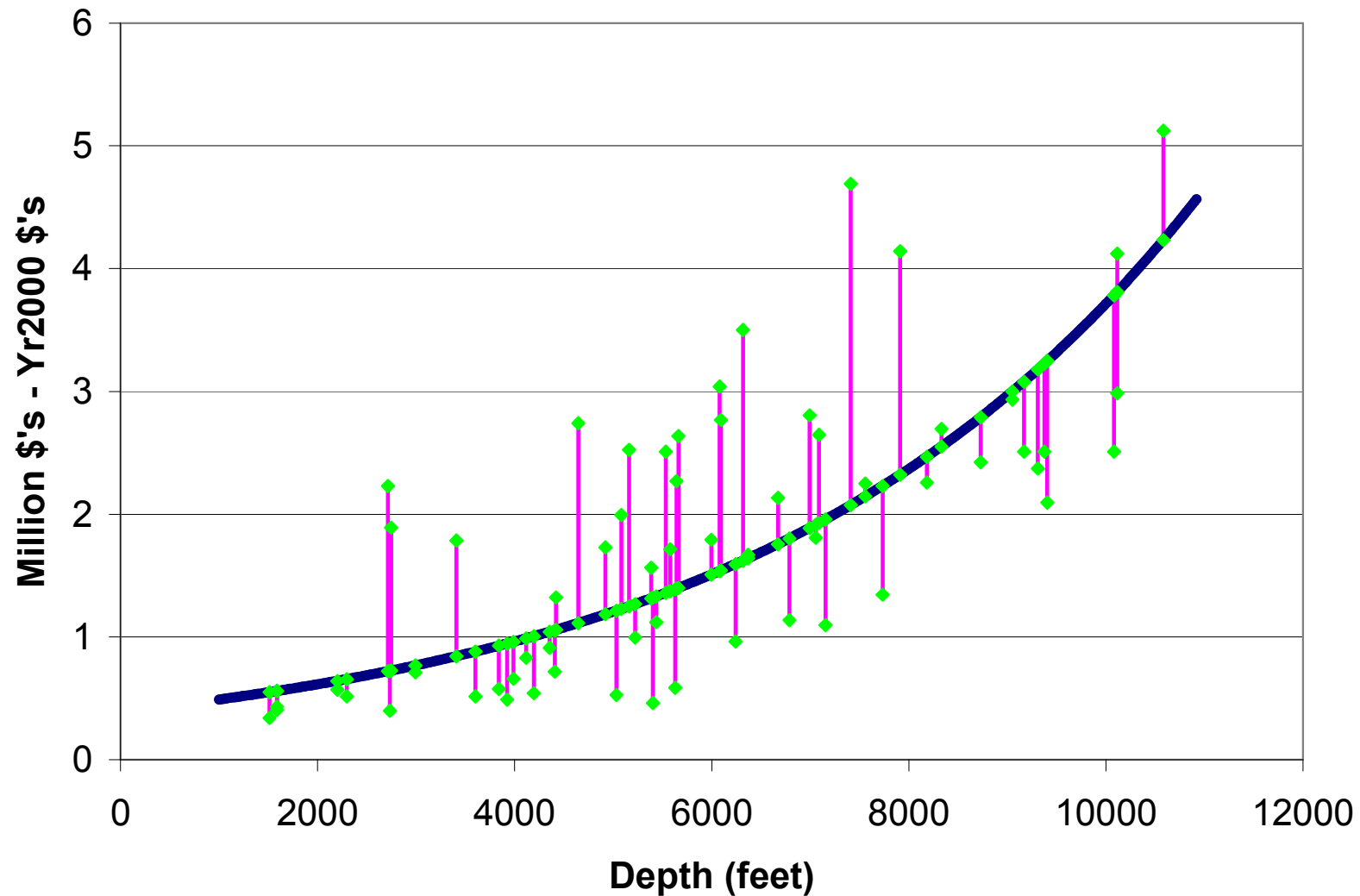


◆ database  
▲ Soultz

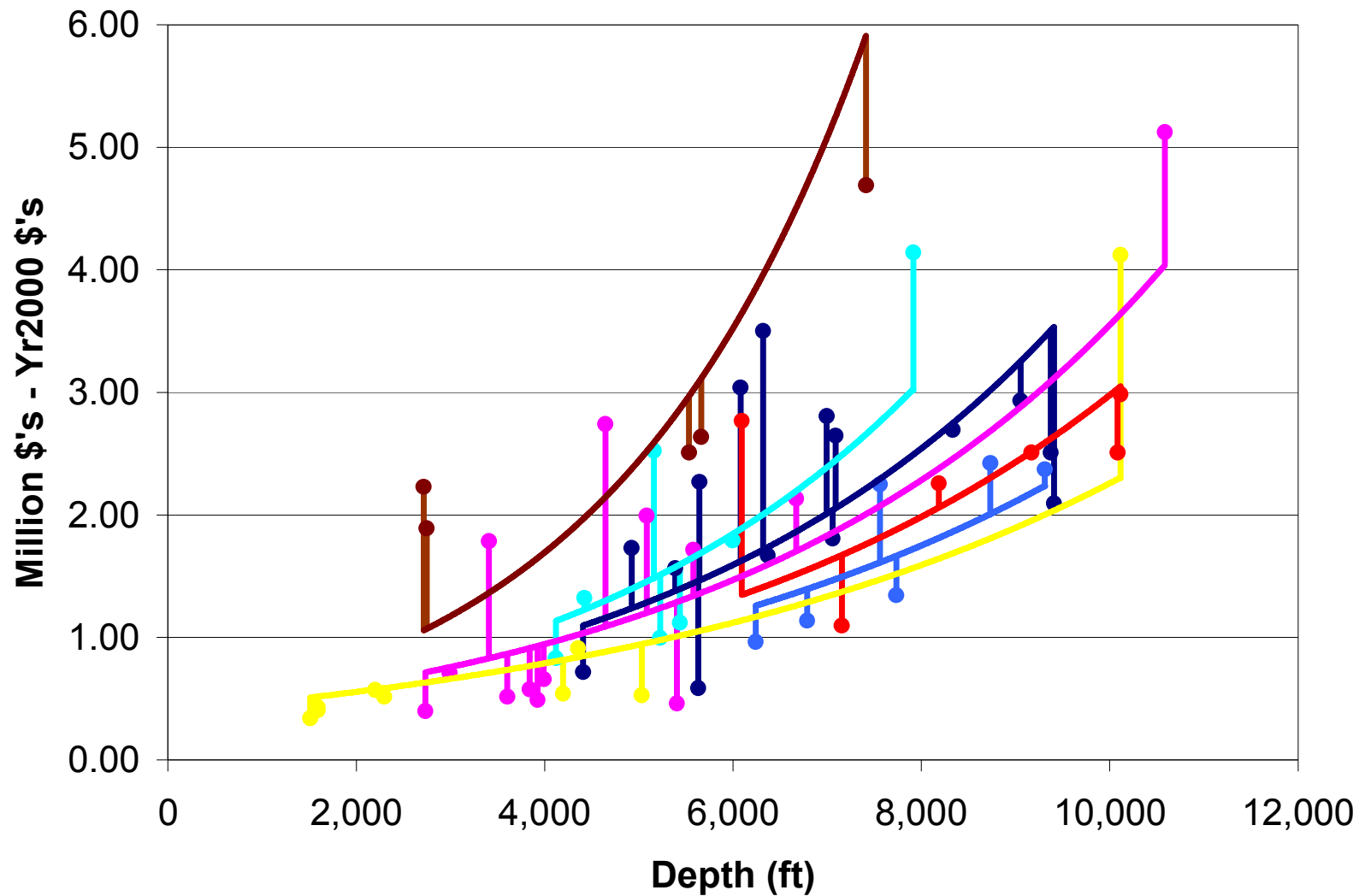
● Modeled  
— standard database well fit

■ Fractured/faulted (Basin & Range)  
- - Range

# What is the significance of all this variability in drilling costs



# Variability by field



# Variability within a given field is significant

