

G K I Power Ranches No. 1

Spudded date 1-31-73

T.D. 9207 4-8-73

Fluid rate 3000-6000 gallons/min.

Permeability decreased below 9065' ; Bottom Hole Temp 325°F

5300'-9065' Lithic tuff - volcanic ash reservoir, porosity 30%

5400'-9000' - continuous geothermal zone = 3600'

3-10-73 drilling @ 6153' - unable to blow hole; Temp up 40° in last 30'
too much water to drill with air

CEMENTING

3-18-73 - drilling at 7050' - vol. - @ 15'/hr; splashes of steam and alot
of water.

3-21-73 - drilling at 8312' - 40'/hr

3-22-73 " " 8997' - 35'/hr, 800' in 23 hrs.

3-23-73 " " 9065' T.D.

3-24-73 waiting on logging equip

3-25-73 pumping water to cool hole

- hole completion, several days

4-8-73 - drilled to basement 9181, and thru 7 temp surveys

4-10-73 - 9207' T.D. perforated, 4 shots 8998' not enough fluid

4-11-73 - { 8148-8152 } " 8 shots " " "

{ 7752-7760 } " " "

{ 6167-6165 } " 2 " "

4-12-73 - Prefrate 6314-6322
 6140-6150
 6174-6184
 } blowing from 5490'

4-13-73 - blowing from 5470' alot of water and steam flashes T=160°

4-14-73 - blowing @ 5490' est. 150 gallons/minute.

4-15-73 - prefate 6154 2 6363

4-16-73 - blowed hole 4100-4140 - alot of water with steam flashes T=160°

Williams Air Force Base

Reservoir Estimates

$$\begin{aligned} \text{5 mile radius of Wells: } A &= \pi r^2 = 3.14(5)^2 = 78.54 \text{ mi}^2 \\ &= 50,265.6 \text{ acres} \end{aligned}$$

$$\begin{aligned} \text{Sedimentary } 6,800' - 1000' &\approx 5,800' \text{ thick} && \text{porosity} \\ \Rightarrow 291,540,480 \text{ acre feet} \times 20\% &\Rightarrow \\ 58,308,096 \text{ acre feet } H_2O & \\ \text{Assume } 50\% \text{ recovery} &\Rightarrow 29 \times 10^6 \text{ acre feet.} \end{aligned}$$

$$\begin{aligned} \text{Volcanics } 3,600' &\Rightarrow 180,956,160 \text{ acre feet} \times 5\% \Rightarrow \\ 9,047,808 \text{ acre feet } H_2O & \\ \text{Assume } 10\% \text{ recovery} &\Rightarrow 0.9 \text{ million acre feet,} \end{aligned}$$