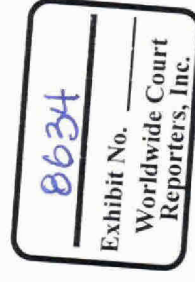
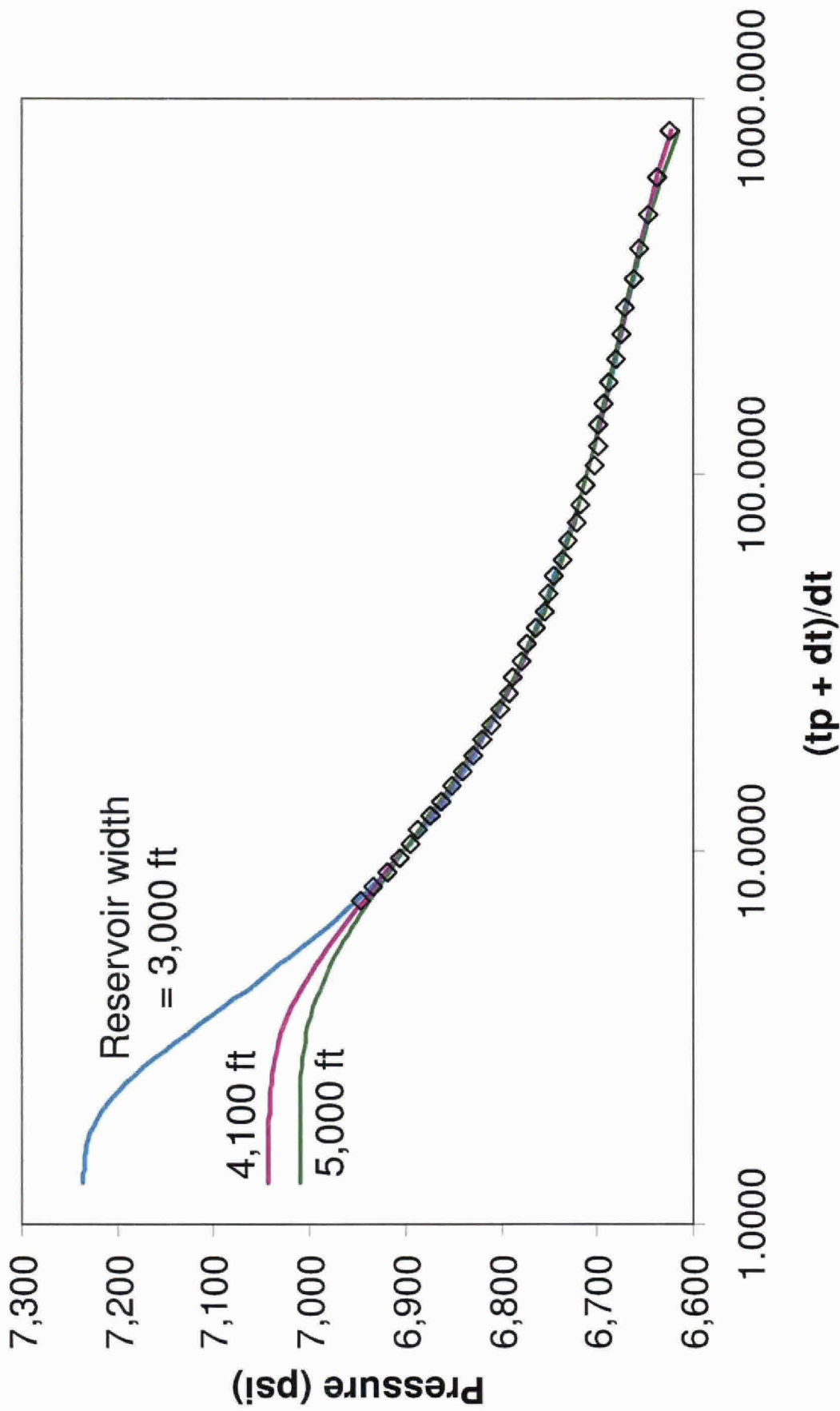


# Analysis of shut-in pressure through July 29, 2010

Paul Hsieh, USGS






# Horner Plot



Flow rate = 50,000 stb/day

No aquifer support

Flow rate = 50,000 stb/day  
 No aquifer support

Length (ft)	28,444	20,642	17,066
Width (ft)	3,000	4,134	5,000
Aspect ratio	~ 9:1	~ 5:1	~ 3:1
Well location (ft)	 $x_w = 5,345$ $y_w = 1,500$	 $x_w = 2,817$ $y_w = 1,234$	 $x_w = 2,014$ $y_w = 2,470$
k (md)	510	513	42 )
$c_r$ ( $10^{-6}$ psi <sup>-1</sup> )	14.1	10.4	9.9
$\bar{p}$ (psi)	7,200	7,042	7,010
SSR (psi <sup>2</sup> )	220	160	8

# Summary

Updated analysis uses shut-in pressure data through 10:00 am, July 29, 2010.

Shut-in data can be well matched by a reservoir model with:

- Rectangular area of length = ~20,600 ft and width = ~4,100 ft (aspect ratio ~ 5:1).
- No aquifer support
- No casing leak (well has integrity)
- Permeability and rock compressibility within expected range
- Assumed flow rate = 50,000 stb/d

Projected final shut-in pressure ~7,040 psi