Comparison of predictions and findings in the Straight Creek Tunnel pilot bore, Colorado

<table>
<thead>
<tr>
<th>Rock type (percentage of tunnel length):</th>
<th>Predicted</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Granite</td>
<td>75.0</td>
<td>75.4</td>
</tr>
<tr>
<td>Metasedimentary rock</td>
<td>25</td>
<td>23.8</td>
</tr>
<tr>
<td>Diorite dikes</td>
<td>2</td>
<td>.8</td>
</tr>
</tbody>
</table>

Fracture density (percentage of tunnel length):
- <0.1 ft - 0.5 ft: 40.1
- 0.5 ft - 1 ft: 49.3
- >1 ft: 10.6

Faults and shear zones (percentage of tunnel length):
- N.E. 45° E., N. 20° E.
- N.E. 40°-45° E.
- N. 10°-60° E.
- 10°-50° E.

Faults, principal ranges in trend or attitude:
- Strike: 75° W. or SE.
- Dip: 75° W. or 40°-40° SE.

Joints, principal range and average attitude:
- Strike: 180°
- Dip: 45°-90°
- Average dip: 45°

Pollution, principal range:
- Strike: N.-N. 20° E.
- Dip: 60°-90° SE. or NW.

Statistical maxima:
- Strike: 15° E.
- Dip: 65° SE. or 70° NW.
- Strike: 30° E.
- Dip: 75° NW.
- Average dip: 60°

Rock loads (psf):
- Predictions calculated from Terasaki (1945) on 10.5 x 11.5-ft tunnel: 5900
- Predictions recalculated from Terasaki (1945) on 13 x 13-ft tunnel: 6970
- Calculate maximum stable geologic rock load from measurements in pilot bore, 13 x 13 ft: 6300
- Average final swell pressure (psf) of altered rock and gouge: 2/2233
- 2/1727

Ground water:
- Maximum initial flow from any section: 1000
- Maximum flow from portal: .300
- Flow at portal 2 weeks after completion of pilot bore: .300
- 100

Engineering measures:
- Predictions based on length of 8050; findings based on length of 8350

Set spacing (percent of tunnel length):
- 1-ft centers: 1.6
- 2-ft centers: 23
- 3-ft centers: 40
- 5-ft centers: 35
- Invert struts: 1.4
- Total number of sets: 2691
- Total number of invert: 113

Legging and blocking (percentage of tunnel length):
- 100-67: 1731
- 66-44: 3659
- 33-0: 2640
- Feeler holes (linear feet): 2905
- Groat (linear feet of tunnel): 403

Cost:
- BID of Mid Valley, Inc.: $1,300,000 (rounded)
- Actual cost: $1,400,000 (rounded)