Aquifer Parameters in Layer 1

Figure 4.4

Aquifer Unit

<table>
<thead>
<tr>
<th>KEY</th>
<th>Aquifer Unit</th>
<th>Horizontal Hydraulic Conductivity (m/d)</th>
<th>Vertical Hydraulic Conductivity (m/d)</th>
<th>Specific Yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcrete</td>
<td>10</td>
<td>1</td>
<td>0.1</td>
<td></td>
</tr>
<tr>
<td>Alluvials</td>
<td>5</td>
<td>0.5</td>
<td>0.1</td>
<td></td>
</tr>
<tr>
<td>BIF</td>
<td>0.01</td>
<td>0.01</td>
<td>0.005</td>
<td></td>
</tr>
<tr>
<td>Felsic</td>
<td>0.05</td>
<td>0.05</td>
<td>0.005</td>
<td></td>
</tr>
<tr>
<td>Basalt</td>
<td>0.01</td>
<td>0.01</td>
<td>0.005</td>
<td></td>
</tr>
<tr>
<td>Ultramafic</td>
<td>0.0001</td>
<td>0.0001</td>
<td>0.001</td>
<td></td>
</tr>
<tr>
<td>Granite</td>
<td>0.011</td>
<td>0.011</td>
<td>0.005</td>
<td></td>
</tr>
<tr>
<td>Faults</td>
<td>0.1</td>
<td>0.1</td>
<td>0.005</td>
<td></td>
</tr>
</tbody>
</table>
Aquifer Parameters in Layer 2

Figure 4.5

KEY

<table>
<thead>
<tr>
<th>Aquifer Unit</th>
<th>Horizontal Hydraulic Conductivity (m/d)</th>
<th>Vertical Hydraulic Conductivity (m/d)</th>
<th>Specific Yield</th>
<th>Specific Storage</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIF</td>
<td>0.01</td>
<td>0.01</td>
<td>0.005</td>
<td>$1.5 \times 10^{-7}$</td>
</tr>
<tr>
<td>Felsic</td>
<td>0.05</td>
<td>0.05</td>
<td>0.005</td>
<td>$1.5 \times 10^{-7}$</td>
</tr>
<tr>
<td>Basalt</td>
<td>0.01</td>
<td>0.01</td>
<td>0.005</td>
<td>$1.5 \times 10^{-7}$</td>
</tr>
<tr>
<td>Ultramafic</td>
<td>0.0001</td>
<td>0.0001</td>
<td>0.001</td>
<td>$1.5 \times 10^{-7}$</td>
</tr>
<tr>
<td>Granite</td>
<td>0.011</td>
<td>0.011</td>
<td>0.005</td>
<td>$1.5 \times 10^{-7}$</td>
</tr>
<tr>
<td>Faults</td>
<td>0.1</td>
<td>0.1</td>
<td>0.005</td>
<td>$1.5 \times 10^{-7}$</td>
</tr>
</tbody>
</table>
### Aquifer Parameters in Layers 3 to 8

**Figure 4.6**

<table>
<thead>
<tr>
<th>KEY</th>
<th>Aquifer Unit</th>
<th>Horizontal Hydraulic Conductivity (m/d)</th>
<th>Vertical Hydraulic Conductivity (m/d)</th>
<th>Specific Yield</th>
<th>Specific Storage</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIF</td>
<td>0.001</td>
<td>0.001</td>
<td></td>
<td>0.001</td>
<td>$2.5 \times 10^{-8}$</td>
</tr>
<tr>
<td>Felsic</td>
<td>0.0011</td>
<td>0.0011</td>
<td></td>
<td>0.001</td>
<td>$2.5 \times 10^{-8}$</td>
</tr>
<tr>
<td>Basalt</td>
<td>0.001</td>
<td>0.001</td>
<td></td>
<td>0.001</td>
<td>$2.5 \times 10^{-8}$</td>
</tr>
<tr>
<td>Ultramafic</td>
<td>0.0001</td>
<td>0.0001</td>
<td></td>
<td>0.001</td>
<td>$2.5 \times 10^{-8}$</td>
</tr>
<tr>
<td>Granite</td>
<td>0.011</td>
<td>0.011</td>
<td></td>
<td>0.005</td>
<td>$2.5 \times 10^{-8}$</td>
</tr>
</tbody>
</table>
Figure 4.7 Calibration Hydrographs

 SRC1

 SRC2

 SRC3

 SRC4
Figure 4.8: Calibration Hydrographs

SRD50

SRD62

SRD55

SRD65

Water Level (mAHD)

Jan-06  Mar-06  May-06  Jul-06  Sep-06  Nov-06  Jan-07

measured  predicted

measured  predicted

measured  predicted

measured  predicted
Figure 4.9

Calibration Hydrographs

SRD75

SRD77

SRD76

SRD79

Water Level (mAHD)

measured  predicted

Jan-06 Mar-06 May-06 Jul-06 Sep-06 Nov-06 Jan-07

Jan-06 Mar-06 May-06 Jul-06 Sep-06 Nov-06 Jan-07

Jan-06 Mar-06 May-06 Jul-06 Sep-06 Nov-06 Jan-07

Jan-06 Mar-06 May-06 Jul-06 Sep-06 Nov-06 Jan-07
Calibration Hydrographs

Figure 4.10
Predicted Dewatering Rates: Average, Drought and High Rainfall Conditions

Figure 4.12
Coppin Gap Predicted Water Levels

Figure 4.13

- Base Case Recharge Northern End of Coppin Gap No Mine
- Base Case Recharge Centre of Coppin Gap No Mine
- Base Case Recharge Southern End of Coppin Gap No Mine
- Base Case Recharge Northern End of Coppin Gap With Mine
- Base Case Recharge Centre of Coppin Gap With Mine
- Base Case Recharge Southern End of Coppin Gap With Mine
- Drought Conditions Northern End of Coppin Gap No Mine
- Drought Conditions Centre of Coppin Gap No Mine
- Drought Conditions Southern End of Coppin Gap No Mine
- Drought Conditions Northern End of Coppin Gap With Mine
- Drought Conditions Centre of Coppin Gap With Mine
- Drought Conditions Southern End of Coppin Gap With Mine
Ten Fold Increase In Kh of Basement Rocks (Layers 3 to 8) and Average Recharge

Ten Fold Increase In Kh of Weathered Basement Rocks (Layer 2) and Average Recharge

Five Fold Increase in Specific Yield of Basement Rocks (Layer 3 to 8) and Average Recharge

Sensitivity Analysis
Figure 4.14
Sensitivity Analysis

Figure 4.15

Five Fold Increase in Specific Yield of Weathered Basement Rocks (Layer 2) and Average Recharge

Rate (L/s) | Cumulative Volume (ML)
---|---
2008 | 0
2009 | 500
2010 | 1000
2011 | 1500
2012 | 2000
2013 | 2500
2014 | 3000
Figure 4.18

Schematic Void Model Setup

Layer 1: Runoff From Pit Catchment
Layer 2: Incident Rainfall to Void Lake
Layer 3: Evaporation from Void Lake Surface
Layer 4: Groundwater Inflow
Layer 5: Groundwater Inflow
Layer 6: Basement Rock
Layer 7: Mine Void Lake
Layer 8: Basement Rock

RL Base of Layer: 140 to 270
Weathered Basement Rock: 74 to 200
Incident Rainfall to Void Lake: 0
Evaporation from Void Lake Surface: -60
Groundwater Inflow: -120
Groundwater Inflow: -180
Groundwater Inflow: -240
Groundwater Inflow: -300
Predicted Post Closure Water Levels at Coppin Gap

Figure 4.19
Predicted Post Closure Water Level Contours:
(a) without flow barriers (b) with flow barriers installed

Figure 4.20

LEGEND

140.

Water level contours in the absence of mining

140.

Predicted post-closure water level contours

Coppin Gap hydrograph observation point

Pit outlines

Outside modelled area

Flow Barriers
Figure 5.1 Location Of Anticipated Flows Into Pit

Western Australia
Spinifex Ridge Project

Zones Of Higher Inflow

LEGEND

This map is copyright 2006, of Moly Mines Ltd.