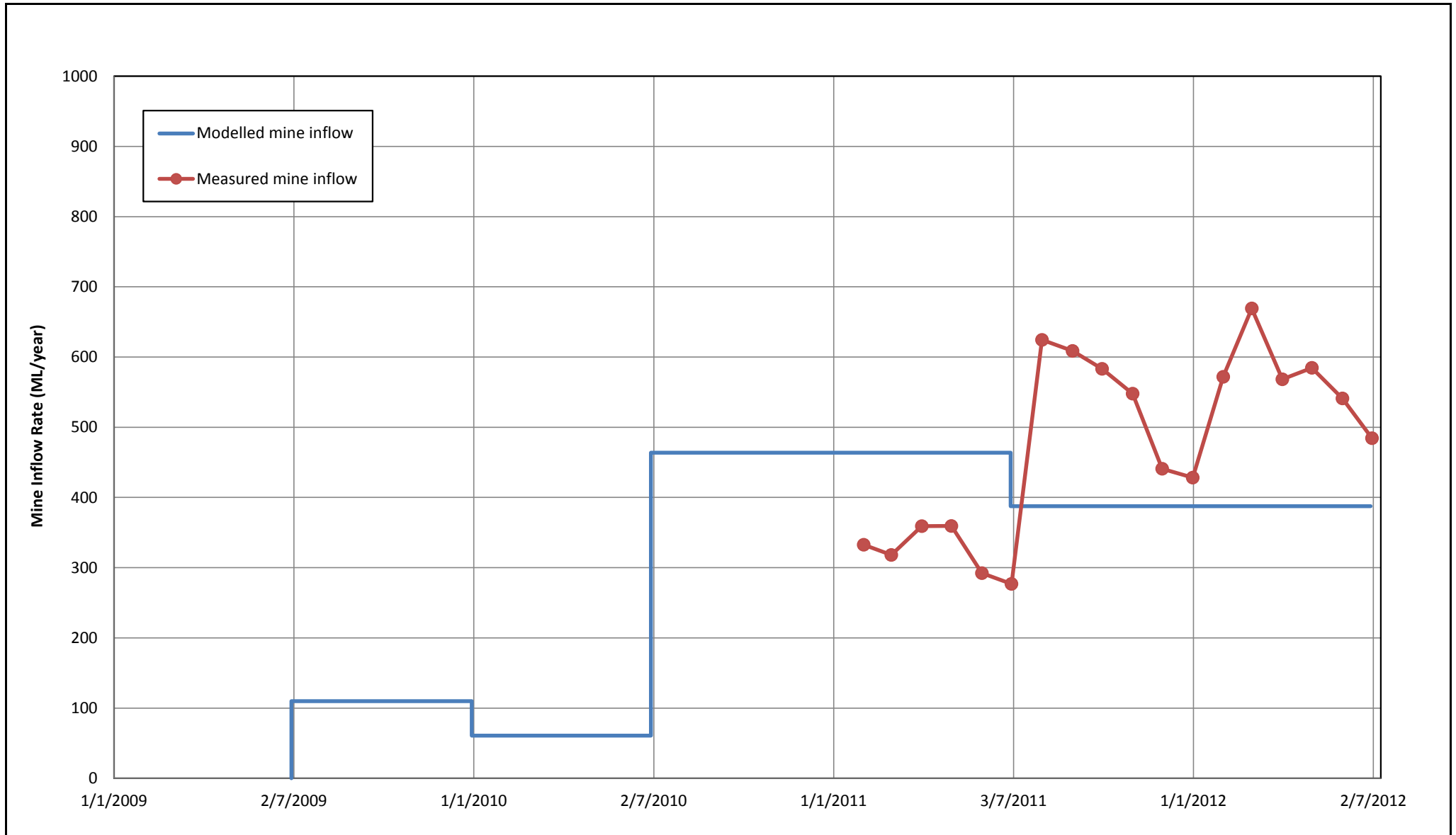


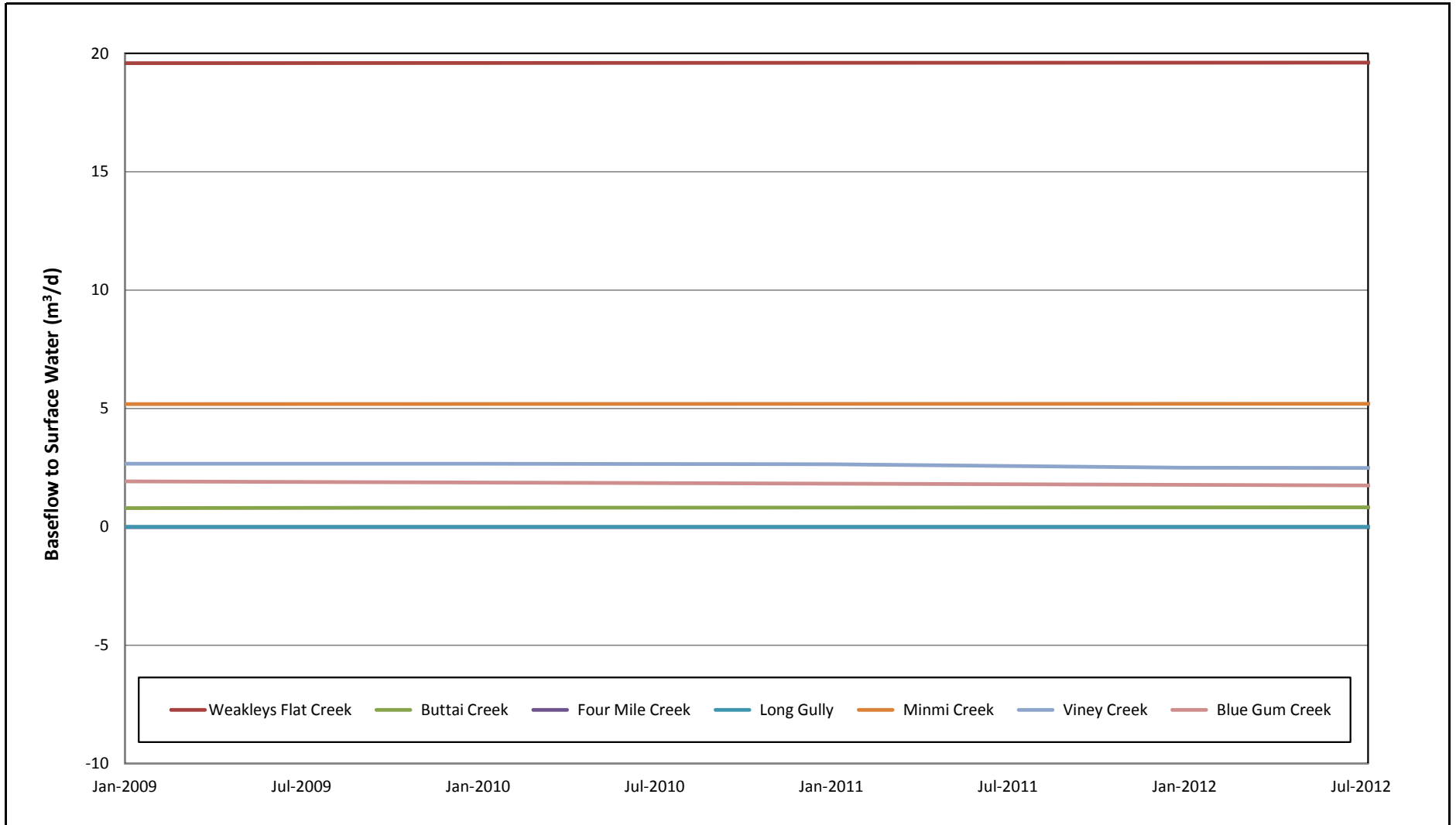
Disclaimer: While all reasonable care has been taken to ensure the information contained on this map is up to date and accurate, no guarantee is given that the information portrayed is free from error or omission. Please verify the accuracy of all information prior to use.  
 Note: The information shown on this map is a copyright of RPS Aquaterra Australia 2012

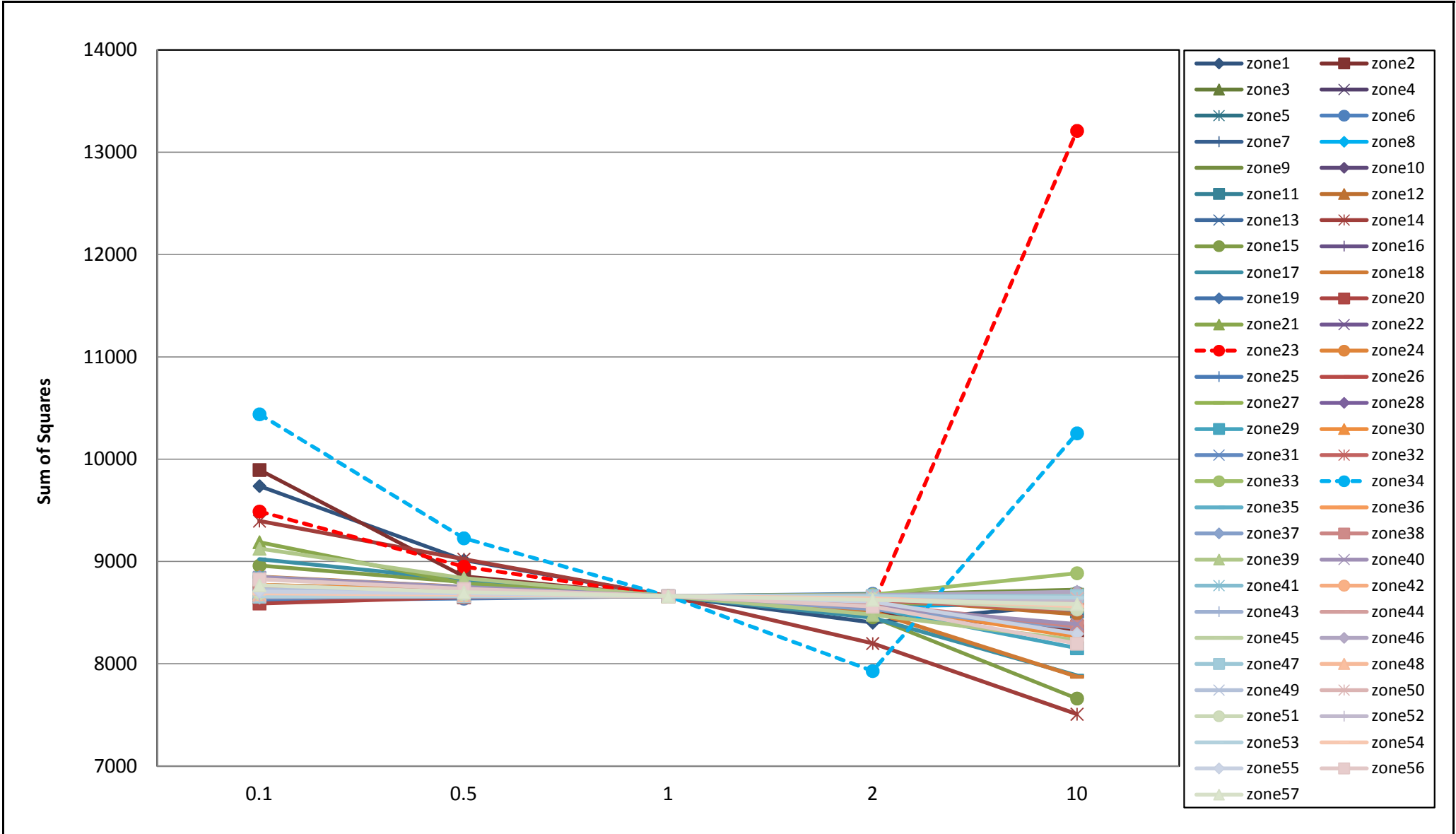
**RPS Aquaterra**

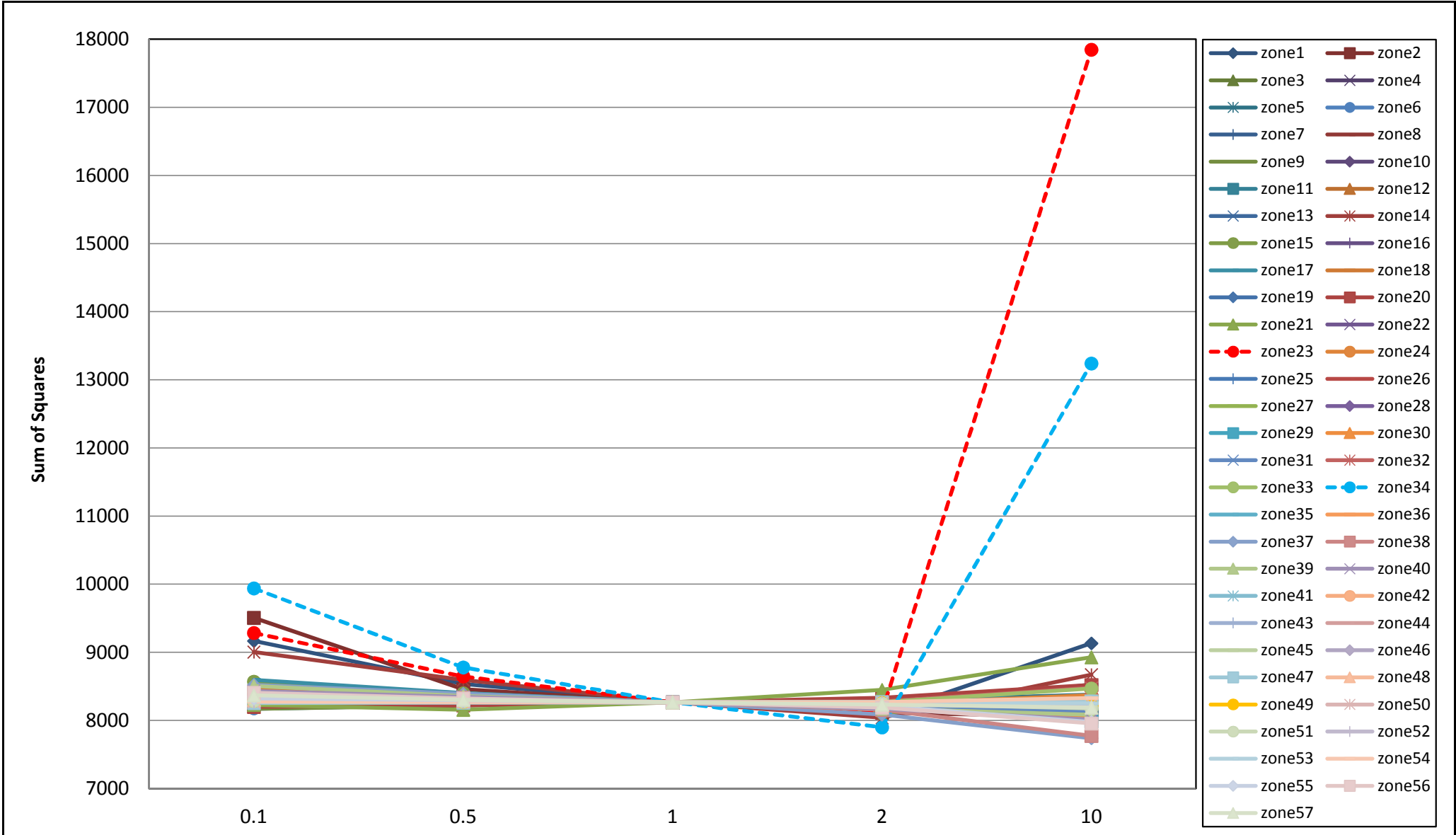
FIGURE 7.11

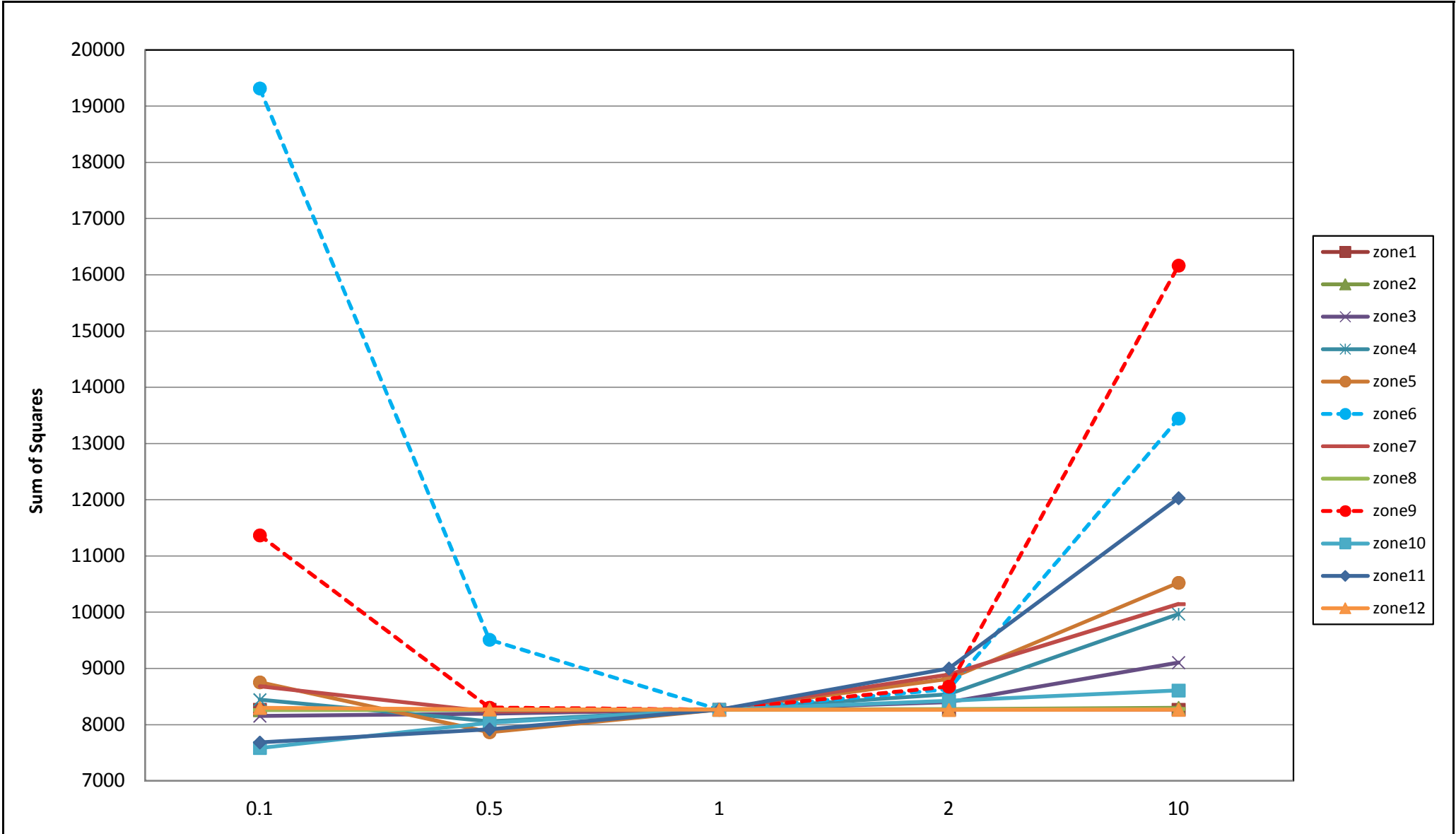
Steady State Water Pressure Head  
 Along Easting 369825 (Column 225)







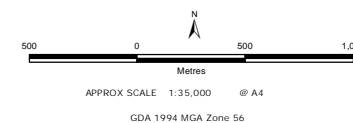






LEGEND

- Upper Donaldson
- Lower Donaldson
- Development Workings
- Year 1 - 2
- Year 3 - 4
- Year 5 - 6
- Year 7 - 10
- Year 11 - 15
- Year 16 - 20

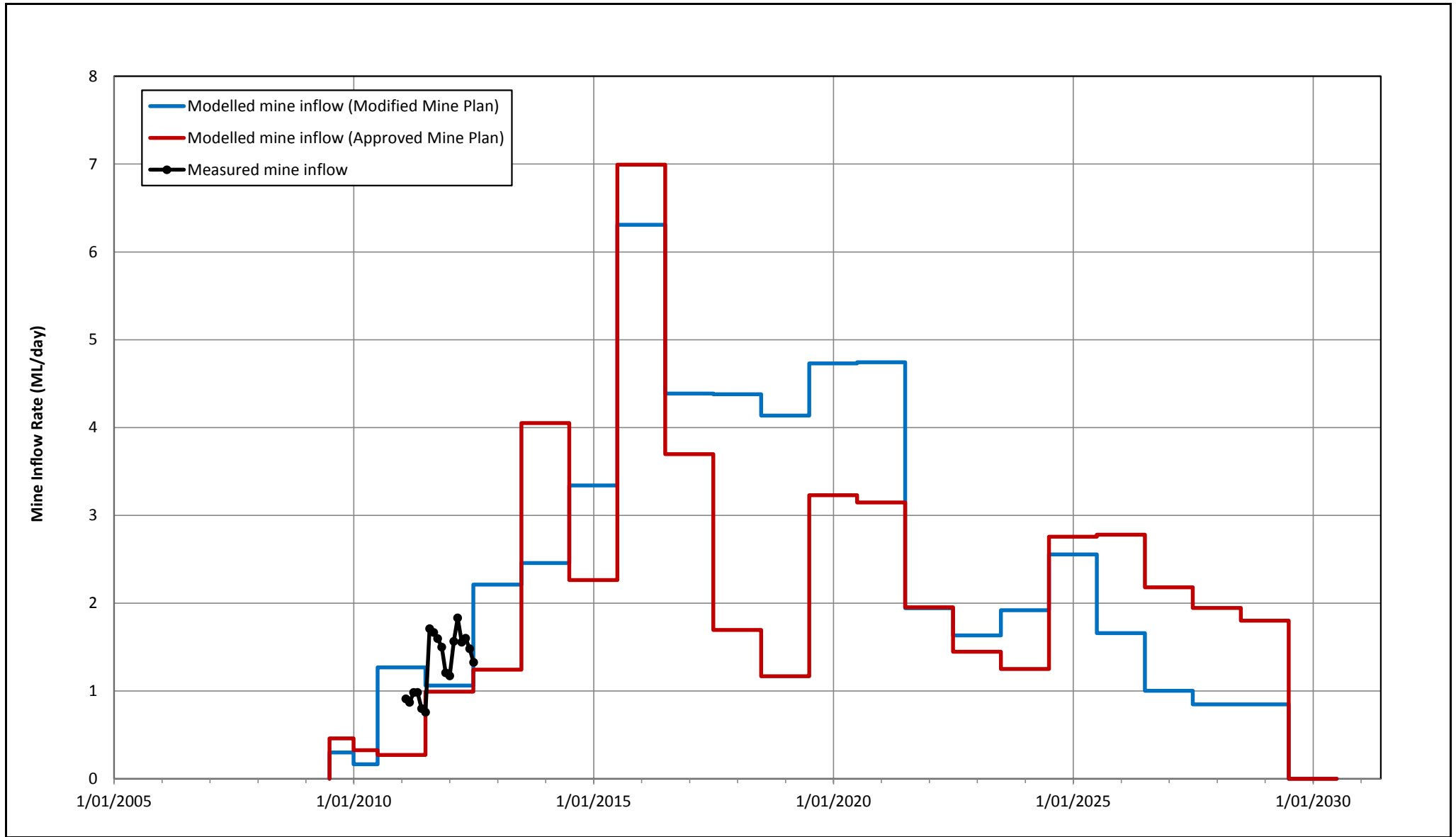


Disclaimer: While all reasonable care has been taken to ensure the information contained on this map is up to date and accurate, no guarantee is given that the information portrayed is free from error or omission. Please verify the accuracy of all information prior to use.  
 Note: The information shown on this map is a copyright of RPS Aquaterra Australia 2012

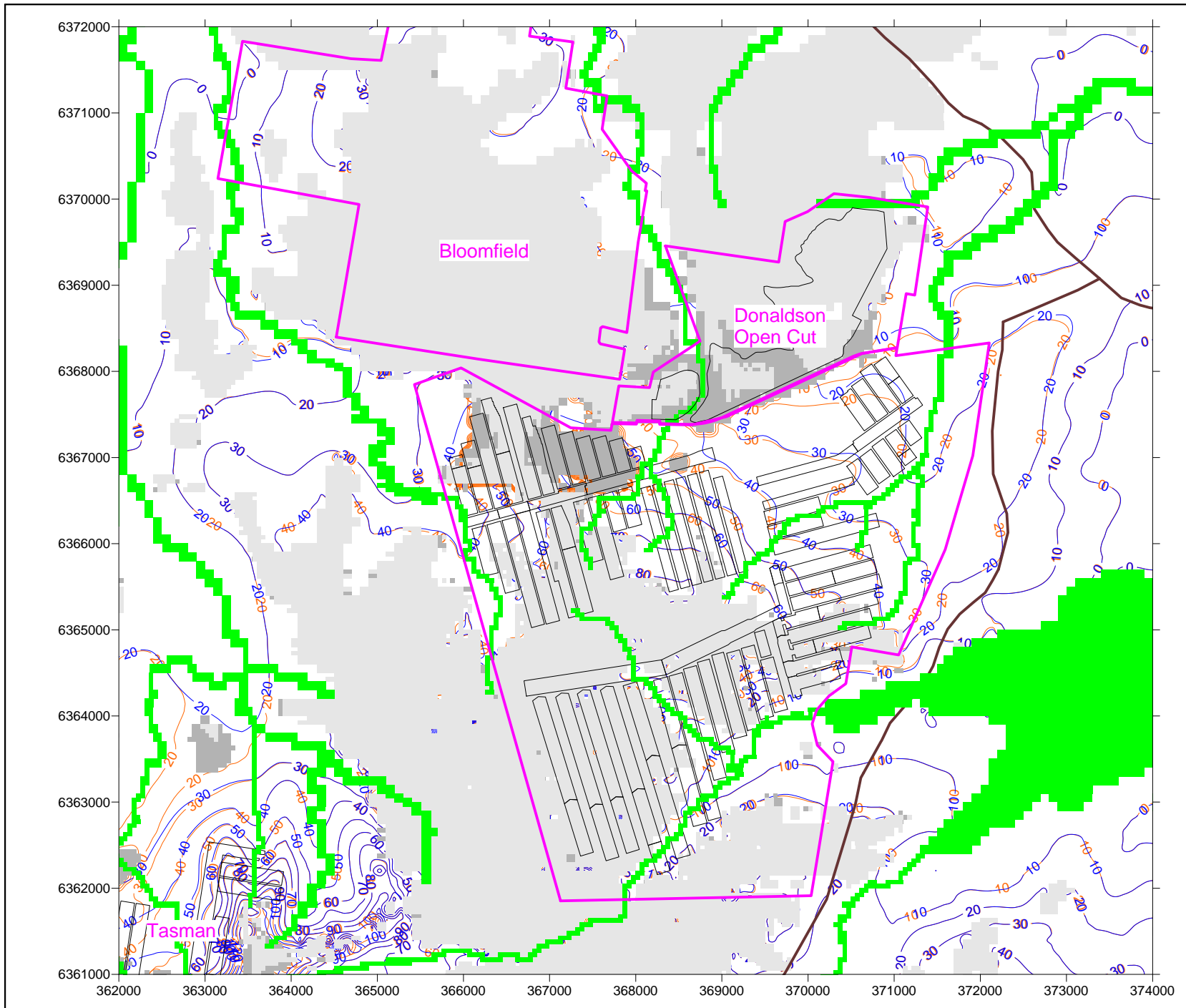
**RPS Aquaterra**

FIGURE 7.17

Abel Underground  
 Approved Mining Schedule







- LEGEND**
- █ River or Lake
  - Mine Plan
  - Mine Lease
  - Main Road
  - Dry Cells at 2009
  - Dry Cells at 2028
  - ~ 50 Predicted Groundwater Levels (mAHD)
  - ~ Water Level at 2009
  - ~ Water Level at 2028

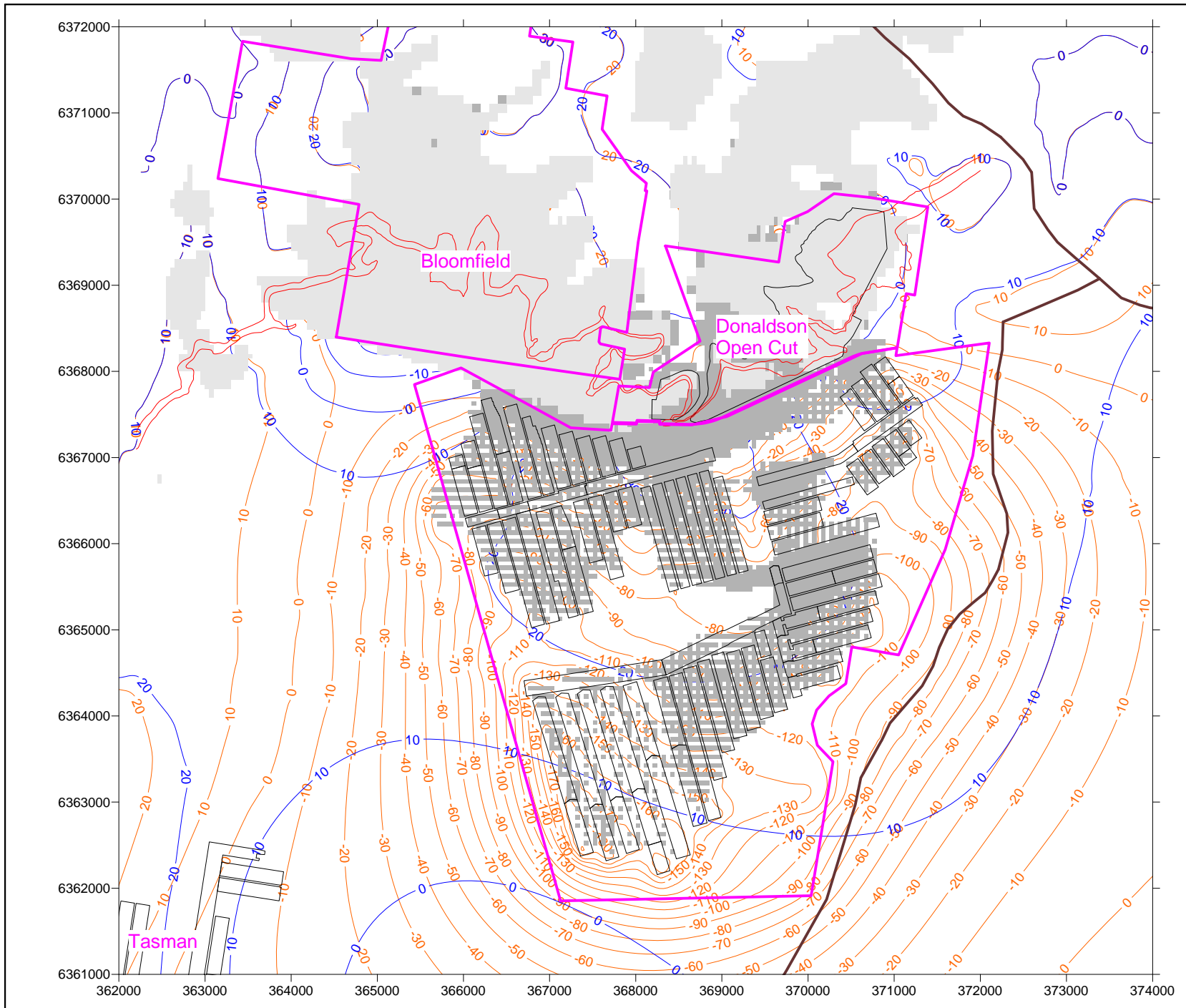


Disclaimer: While all reasonable care has been taken to ensure the information contained on this map is up to date and accurate, no guarantee is given that the information portrayed is free from error or omission. Please verify the accuracy of all information prior to use.  
 Note: The information shown on this map is a copyright of RPS Aquaterra Australia 2012

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**FIGURE 7.19**

**Predicted Groundwater Level in the Alluvium and Regolith (Layer 1) at Start (2009) and End (2028) of Mining - Modified Mine Plan**



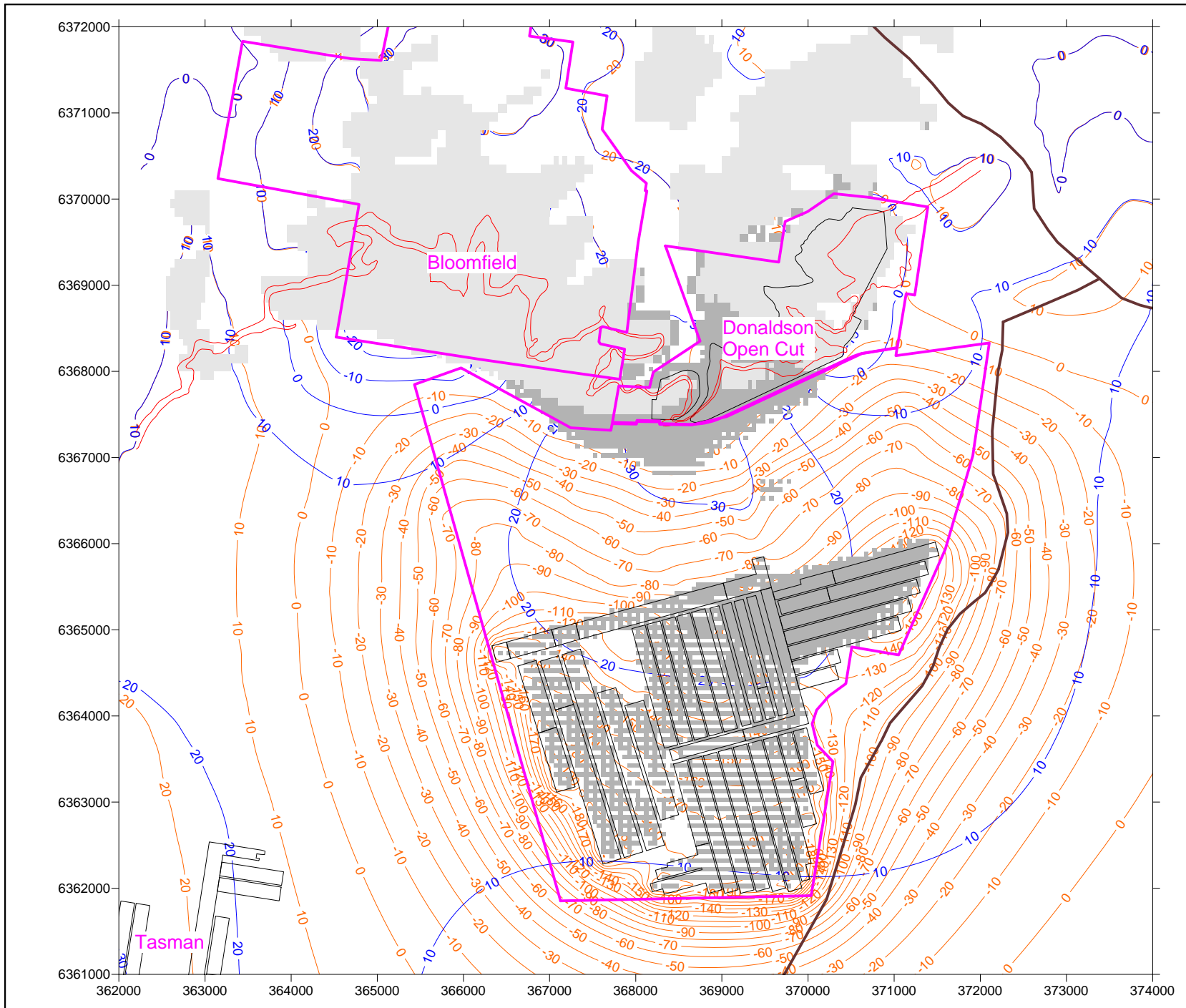
- LEGEND**
- Mine Lease
  - Mine Plan
  - Main Road
  - Dry Cells at 2009
  - Dry Cells at 2028
  - ~ Predicted Groundwater Levels (mAH/D)
  - ~ Water Level at 2009
  - ~ Water Level at 2028
  - ~ Boundary of Donaldson Seam



Disclaimer: While all reasonable care has been taken to ensure the information contained on this map is up to date and accurate, no guarantee is given that the information portrayed is free from error or omission. Please verify the accuracy of all information prior to use.  
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**FIGURE 7.20**  
**Predicted Groundwater Level in the Upper Donaldson Seam (Layer 13) at Start (2009) and End (2028) of Mining - Modified Mine Plan**



- LEGEND**
- Mine Lease
  - Mine Plan
  - Main Road
  - Dry Cells at 2009
  - Dry Cells at 2028
  - ~ 50 Predicted Groundwater Levels (mAHd)
  - ~ Water Level at 2009
  - ~ Water Level at 2028
  - ~ Boundary of Donaldson Seam

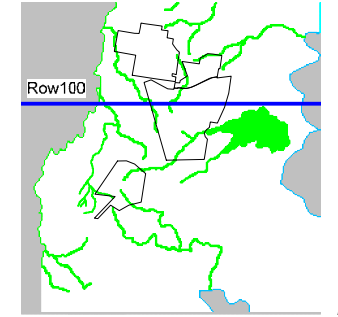
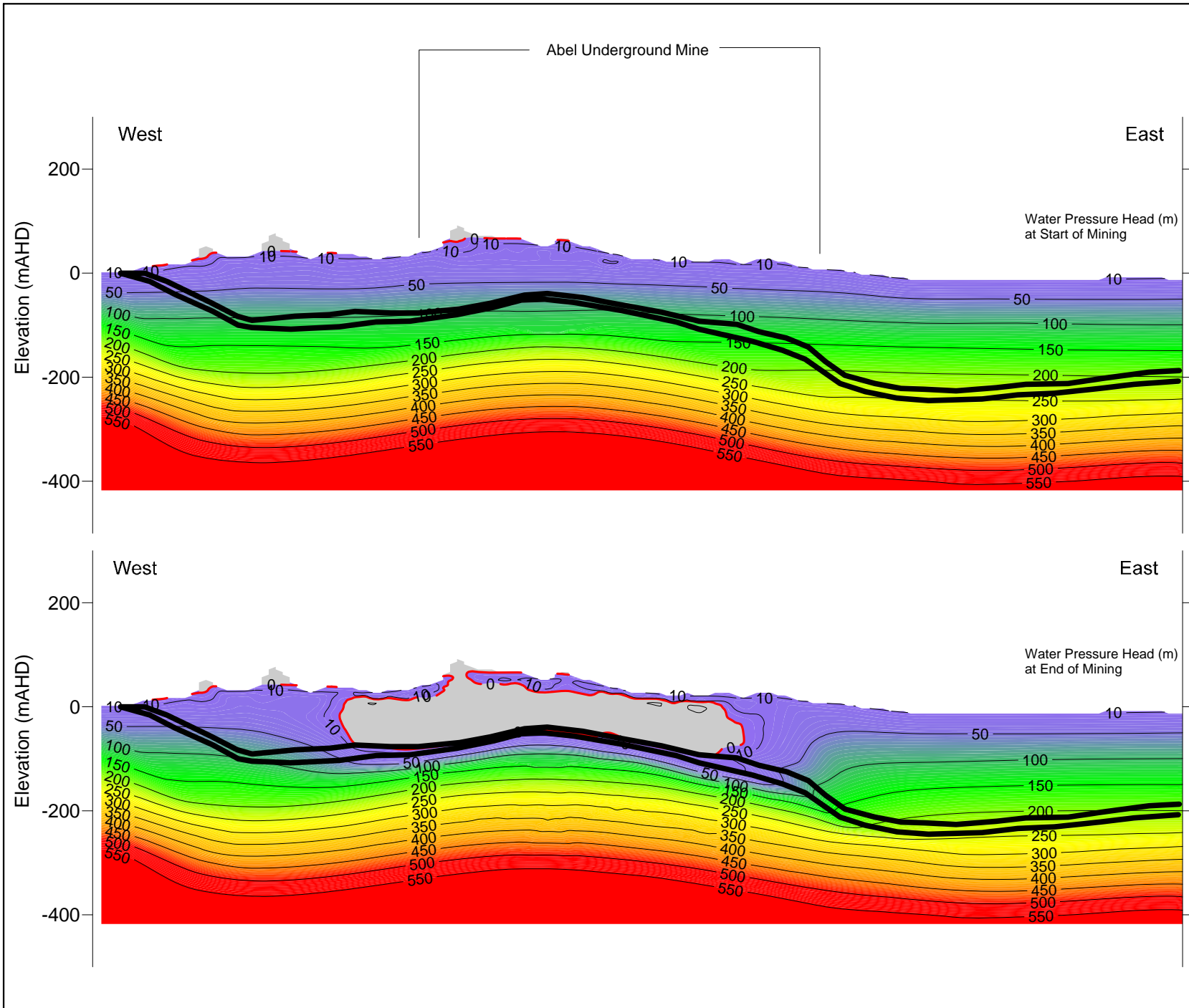


Disclaimer: While all reasonable care has been taken to ensure the information contained on this map is up to date and accurate, no guarantee is given that the information portrayed is free from error or omission. Please verify the accuracy of all information prior to use.  
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**FIGURE 7.21**

**Predicted Groundwater Level in the Lower Donaldson Seam (Layer 15) at Start (2009) and End (2028) of Mining - Modified Mine Plan**



**LEGEND**

- Inset**
- Rivers or Creeks
  - No Flow
  - General Head Boundary
- Cross Section**
- <sup>60</sup> Water Pressure Head (m)
  - Donaldson Seam

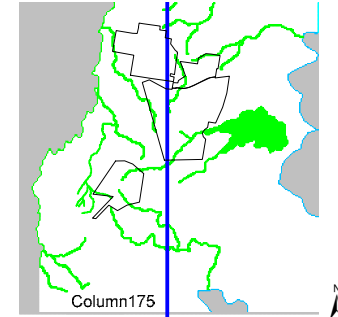
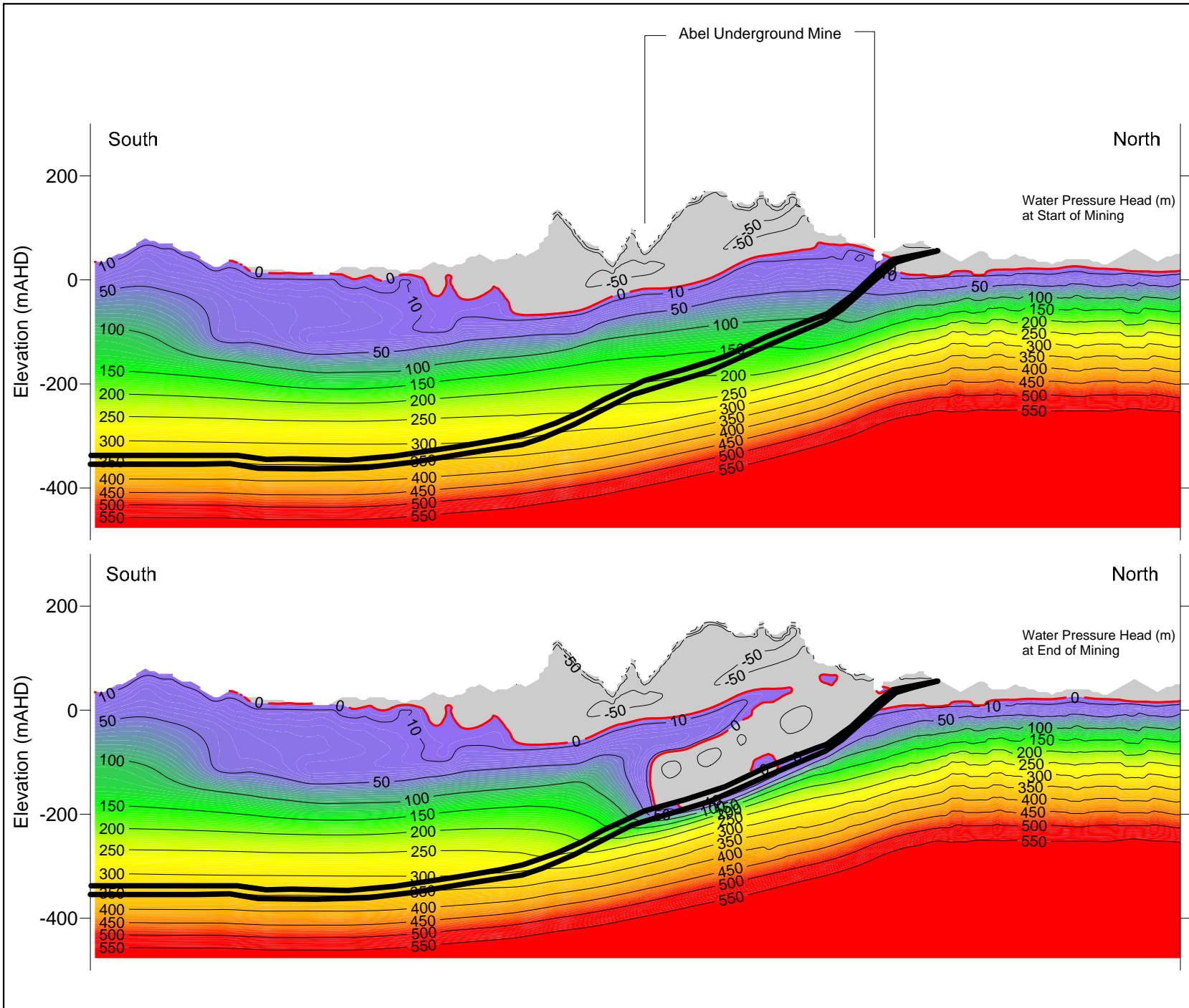
Disclaimer: While all reasonable care has been taken to ensure the information contained on this map is up to date and accurate, no guarantee is given that the information portrayed is free from error or omission. Please verify the accuracy of all information prior to use.  
 Note: The information shown on this map is a copyright of RPS Aquaterra Australia 2012

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**FIGURE 7.22**

**Water Pressure Head Along Northing 6366225 (Row 100) at Start and End of Mining - Modified Mine Plan**





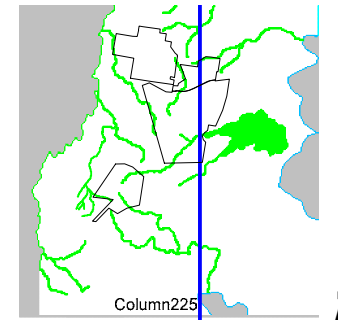
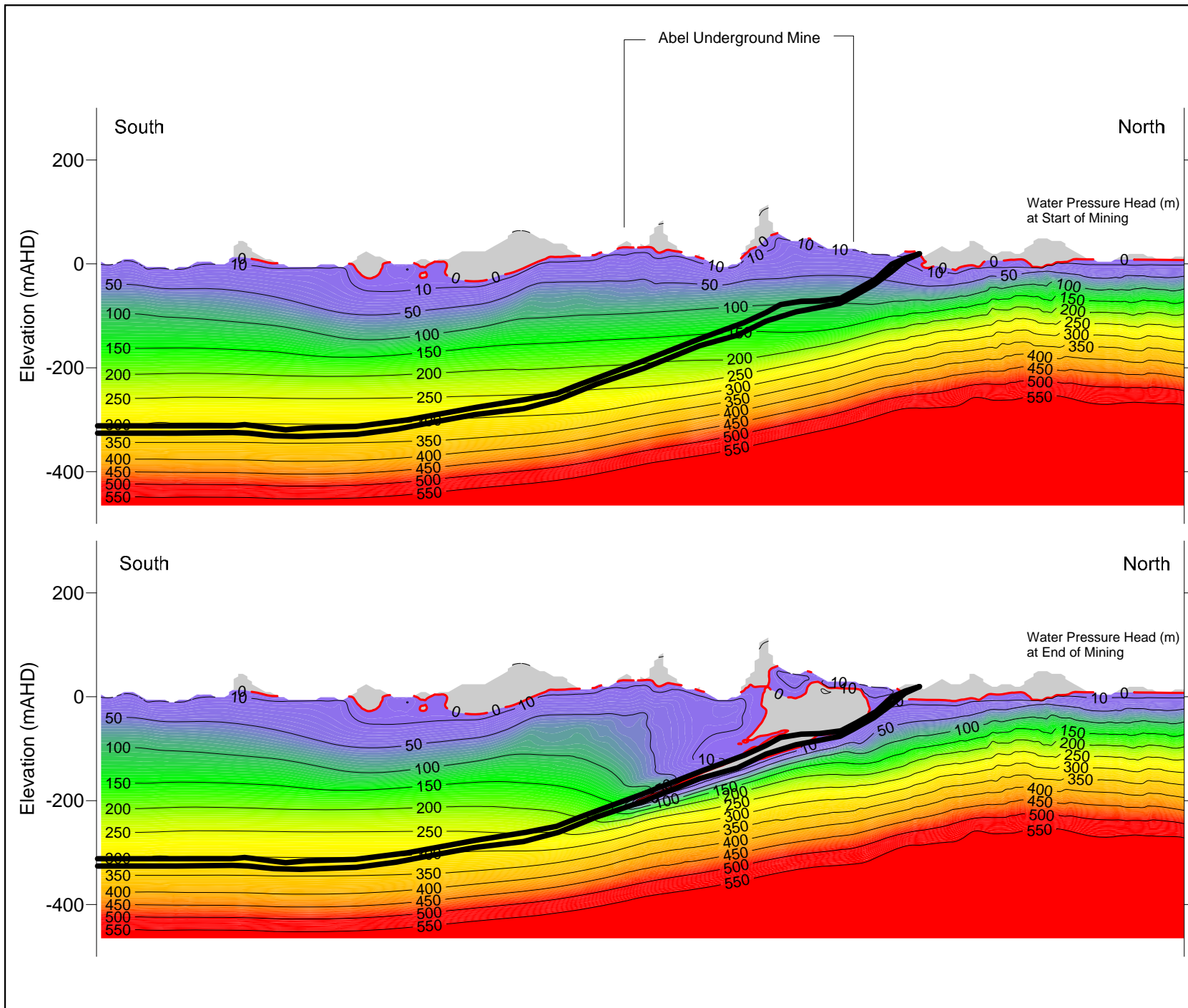
- LEGEND**
- Inset**
- Rivers or Creeks
  - No Flow
  - General Head Boundary
- Cross Section**
- $\nabla^{50}$  Water Pressure Head (m)
  - Donaldson Seam

Disclaimer: While all reasonable care has been taken to ensure the information contained on this map is up to date and accurate, no guarantee is given that the information portrayed is free from error or omission. Please verify the accuracy of all information prior to use.  
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**FIGURE 7.23**

**Water Pressure Head  
 Along Easting 367325 (Column 175)  
 at Start and End of Mining - Modified Mine Plan**



**LEGEND**

**Inset**

- Rivers or Creeks
- No Flow
- General Head Boundary

**Cross Section**

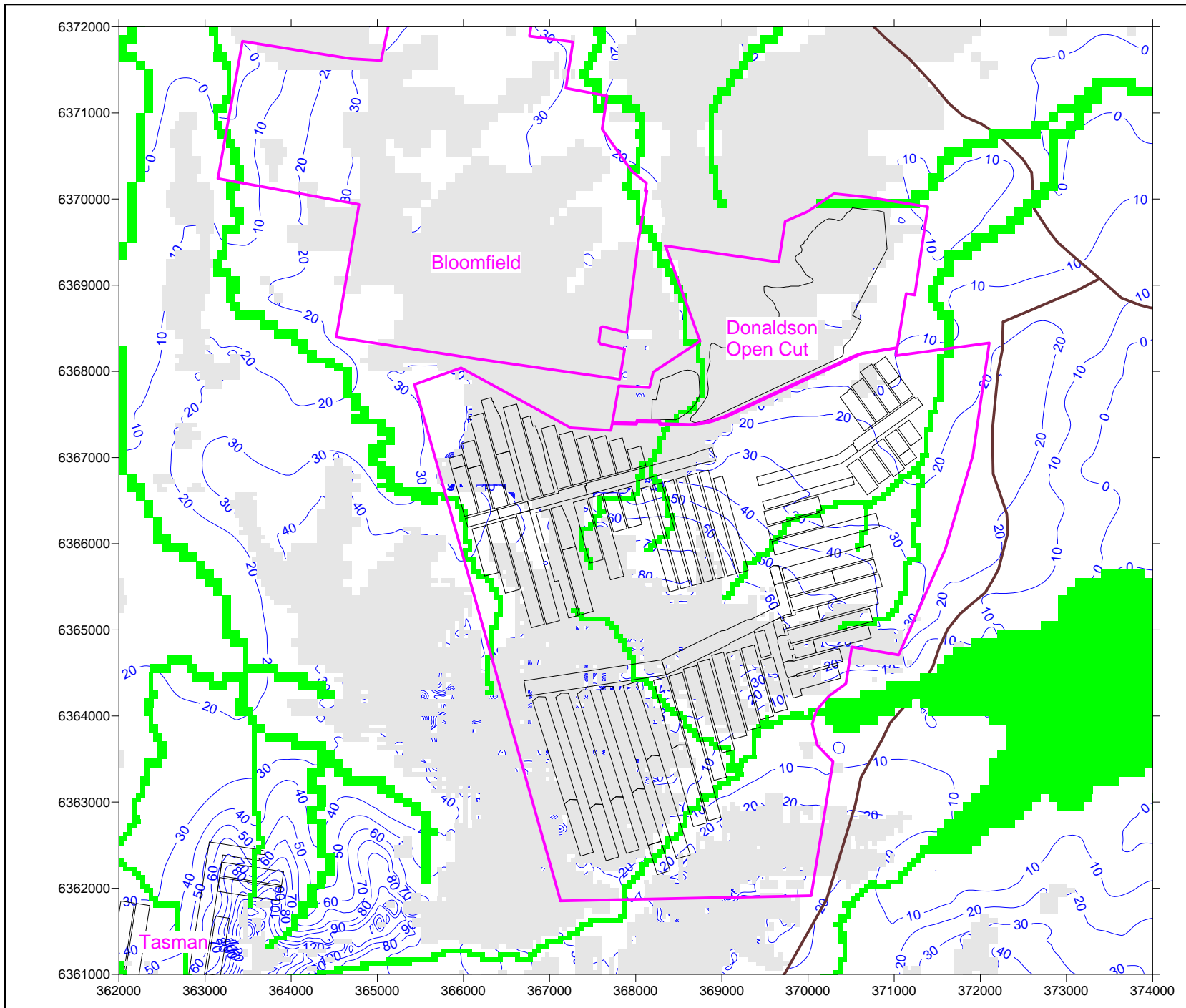
- <sup>60</sup> Water Pressure Head (m)
- Donaldson Seam

Disclaimer: While all reasonable care has been taken to ensure the information contained on this map is up to date and accurate, no guarantee is given that the information portrayed is free from error or omission. Please verify the accuracy of all information prior to use.  
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FIGURE 7.24

**Water Pressure Head  
 Along Easting 369825 (Column 225)  
 at Start and End of Mining - Modified Mine Plan**



- LEGEND**
- █ River or Lake
  - Mine Lease
  - Mine Plan
  - Main Road
  - Dry Cells
  - ~<sup>50</sup> Groundwater Levels (mAH)

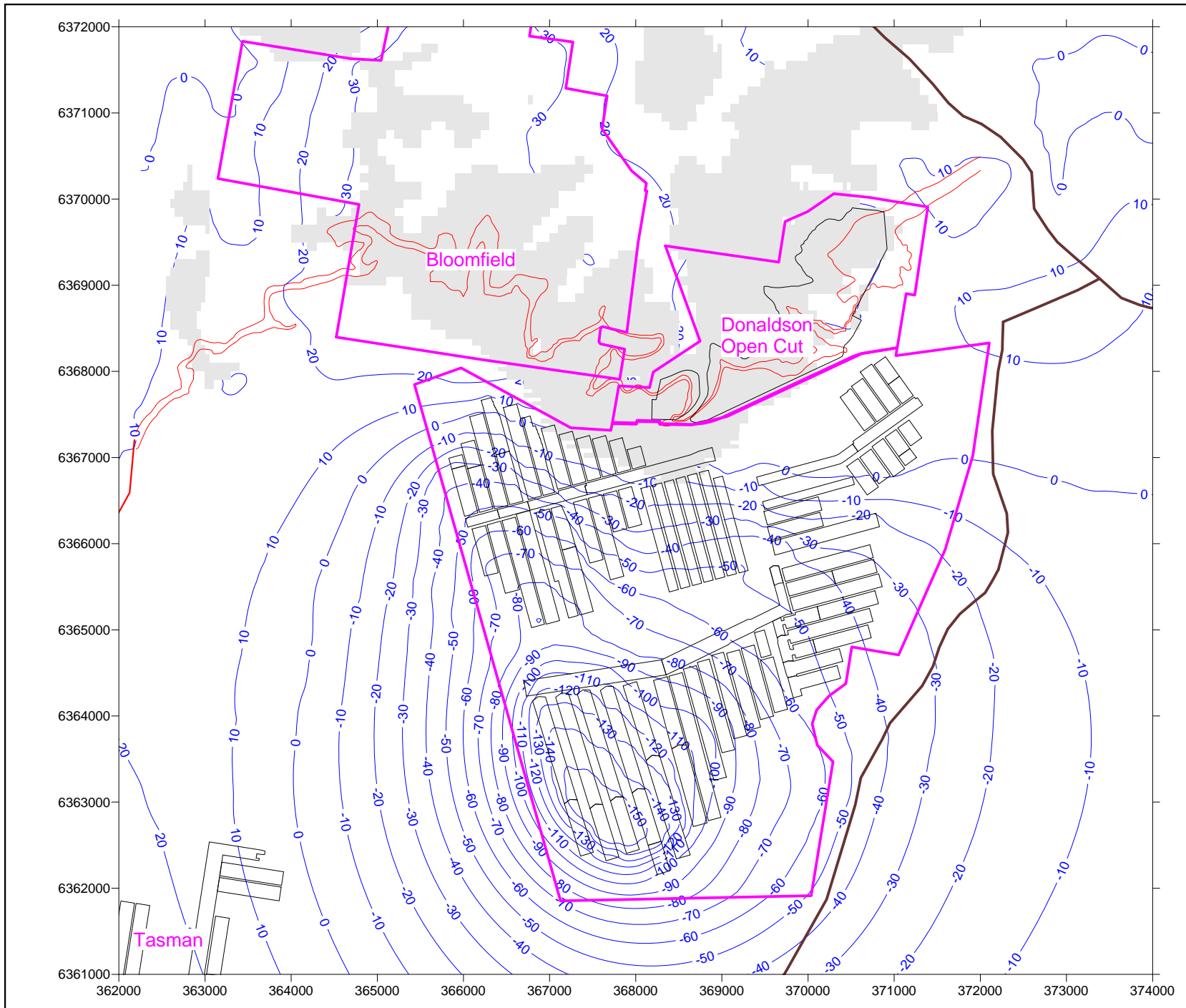


Disclaimer: While all reasonable care has been taken to ensure the information contained on this map is up to date and accurate, no guarantee is given that the information portrayed is free from error or omission. Please verify the accuracy of all information prior to use.  
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**FIGURE 7.25**

**Predicted Groundwater Level in the Alluvium and Regolith (Layer 1) at 100 Years Recovery - Modified Mine Plan**



- LEGEND**
- Mine Lease
  - Mine Plan
  - Main Road
  - Dry Cells
  - ~<sup>50</sup> Groundwater Levels (mAHD)
  - ~ Boundary of Donaldson Seam



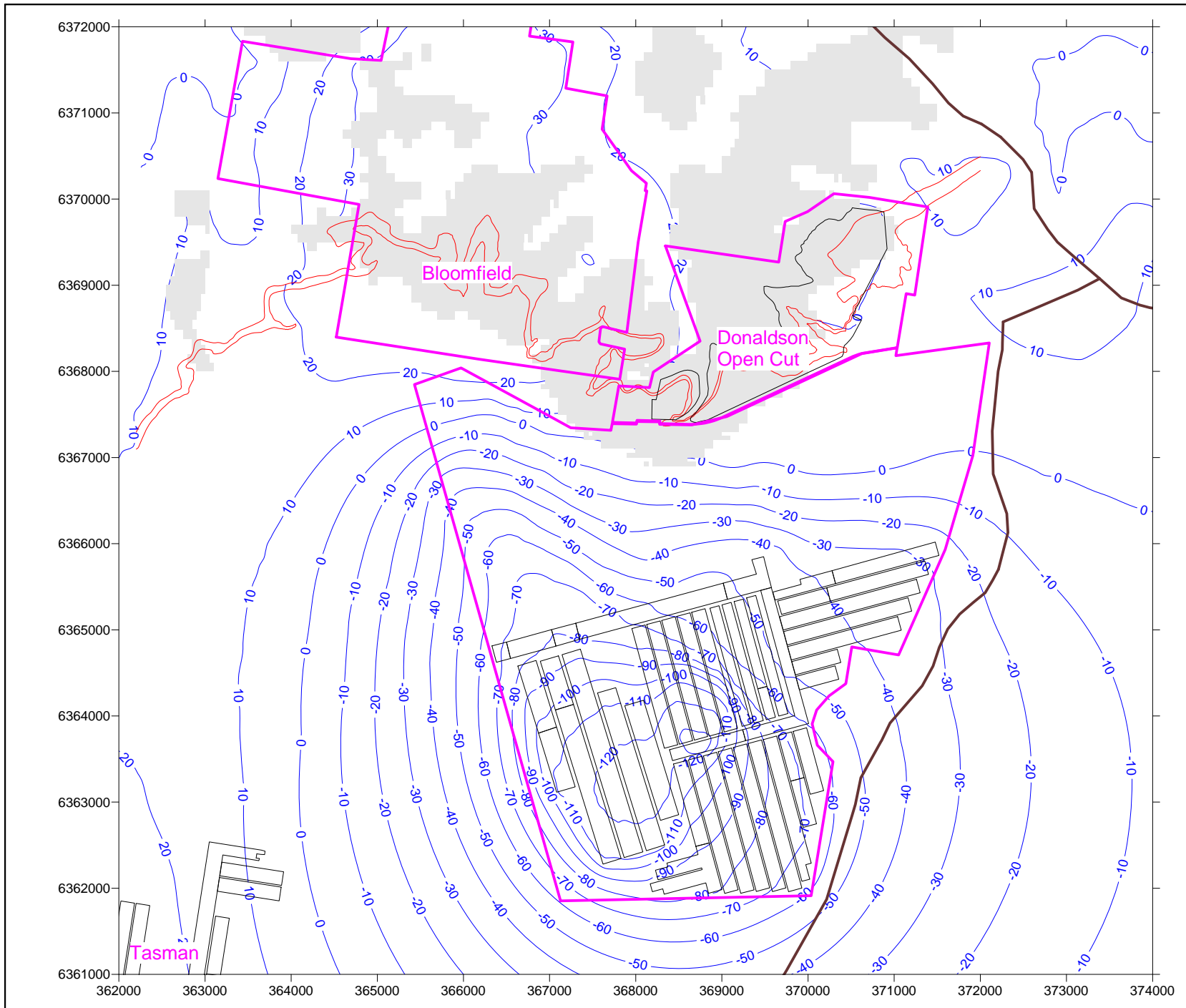
Disclaimer: While all reasonable care has been taken to ensure the information contained on this map is up to date and accurate, no guarantee is given that the information portrayed is free from error or omission. Please verify the accuracy of all information prior to use.  
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**FIGURE 7.26**

**Predicted Groundwater Level in Upper Donaldson Seam (Layer 13) at 100 Years Recovery - Modified Mine Plan**





- LEGEND**
- Mine Lease
  - Mine Plan
  - Main Road
  - Dry Cells
  - ~<sup>50</sup> Groundwater Levels (mAHd)
  - ~ Boundary of Donaldson Seam

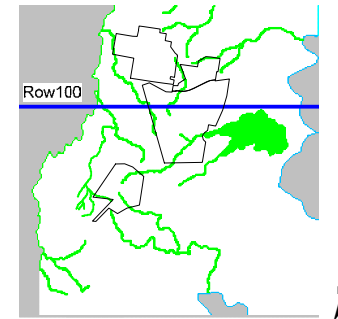
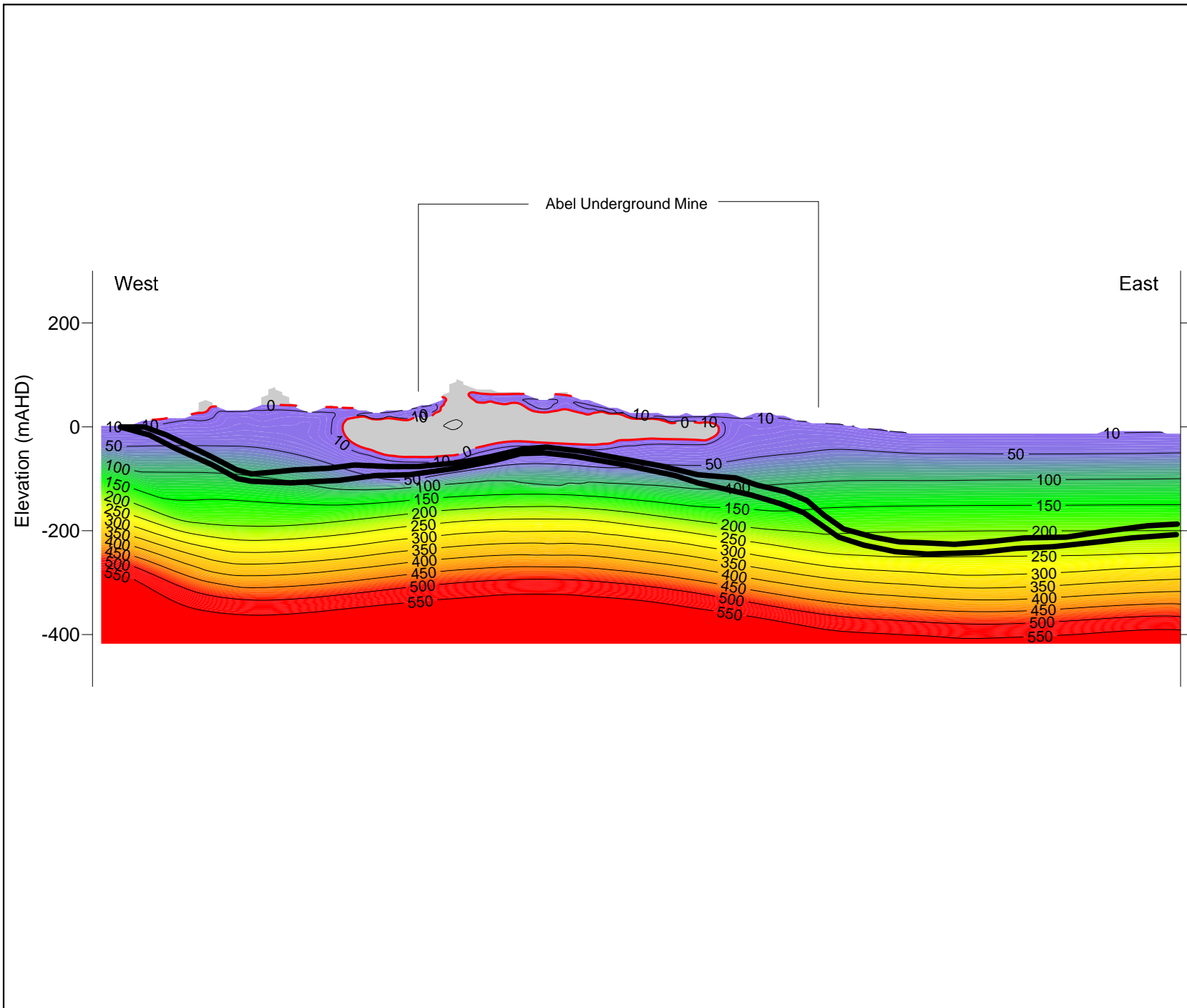


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**FIGURE 7.27**

**Predicted Groundwater Level  
 in Lower Donaldson Seam (Layer 15)  
 at 100 Years Recovery - Modified Mine Plan**



**LEGEND**

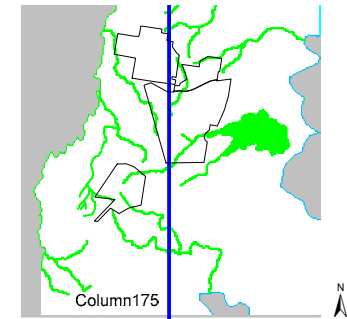
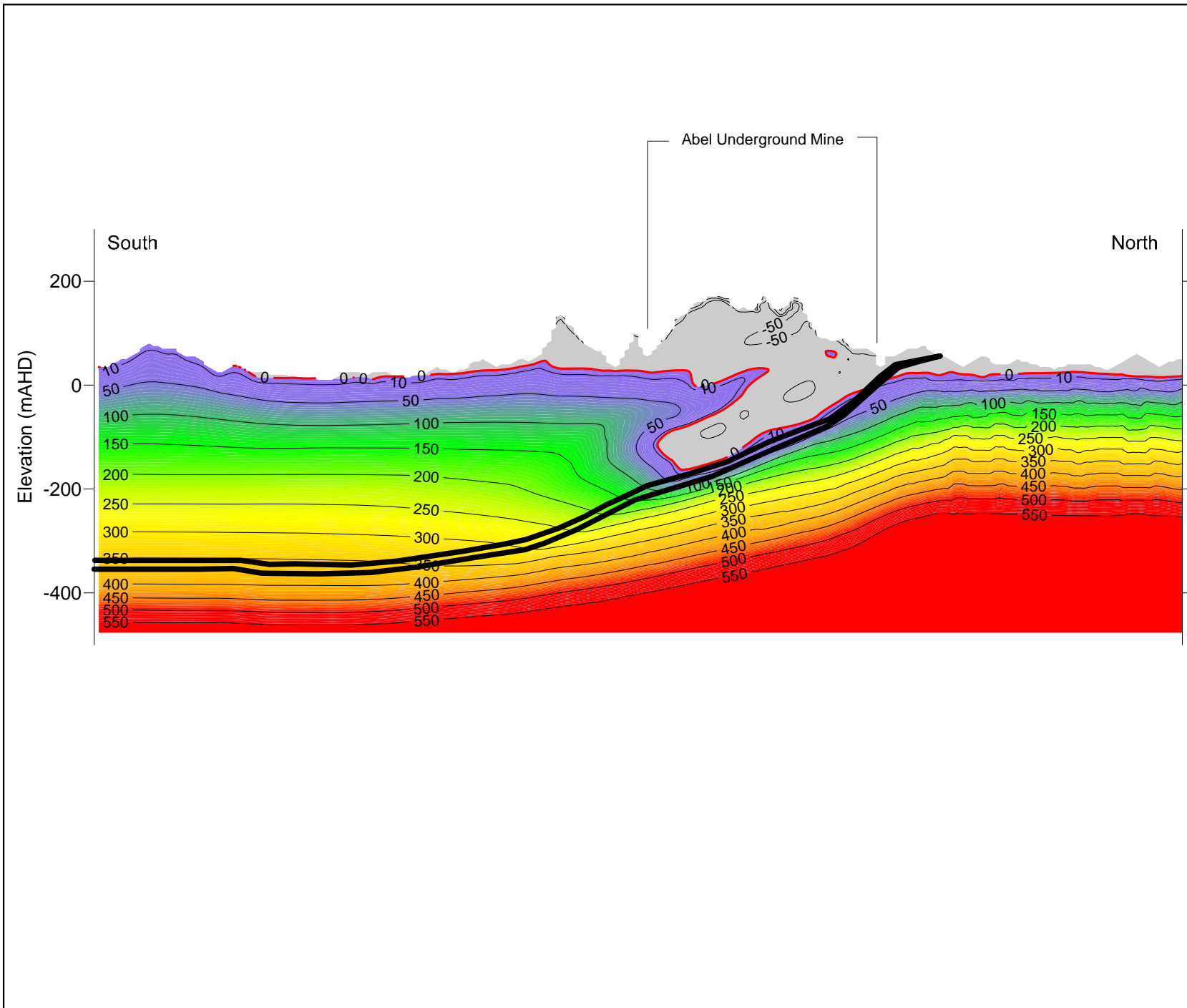
- Inset**
- █ Rivers or Creeks
  - █ No Flow
  - █ General Head Boundary
- Cross Section**
- $\nabla^{60}$  Water Pressure Head (m)
  - Donaldson Seam

Disclaimer: While all reasonable care has been taken to ensure the information contained on this map is up to date and accurate, no guarantee is given that the information portrayed is free from error or omission. Please verify the accuracy of all information prior to use.  
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**FIGURE 7.28**

**Water Pressure Head  
 Along Northing 6366225 (Row 100)  
 at 100 Years Recovery - Modified Mine Plan**



**LEGEND**

- Inset**
- Rivers or Creeks
  - No Flow
  - General Head Boundary
- Cross Section**
- 50 Water Pressure Head (m)
  - Donaldson Seam

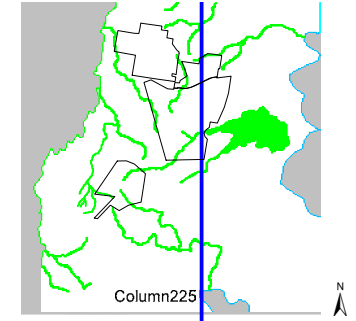
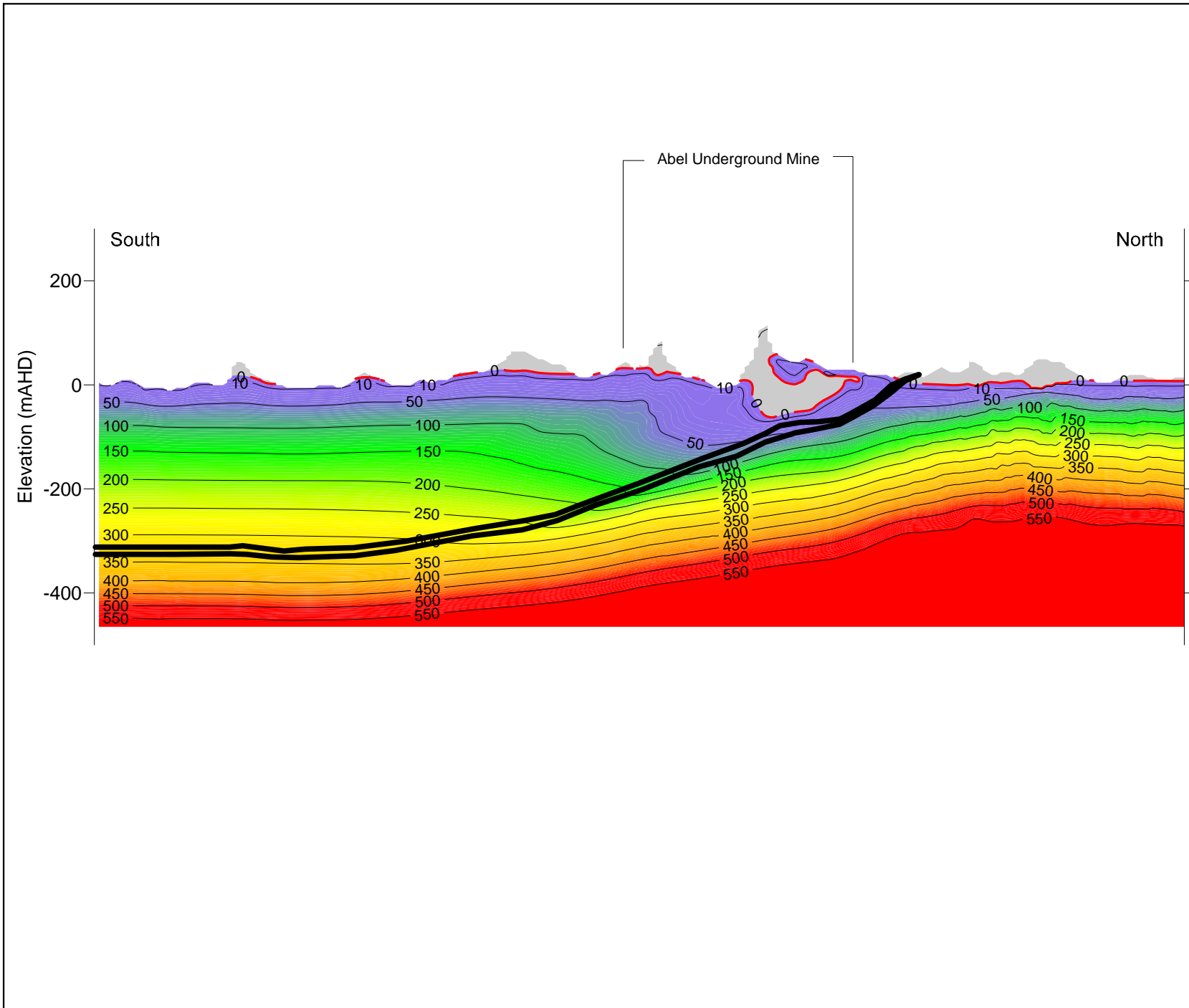
Disclaimer: While all reasonable care has been taken to ensure the information contained on this map is up to date and accurate, no guarantee is given that the information portrayed is free from error or omission. Please verify the accuracy of all information prior to use.

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**FIGURE 7.29**

**Water Pressure Head  
Along Easting 367325 (Column 175)  
at 100 Years Recovery - Modified Mine Plan**



**LEGEND**

**Inset**

- █ Rivers or Creeks
- █ No Flow
- █ General Head Boundary

**Cross Section**

- <sup>60</sup> Water Pressure Head (m)
- Donaldson Seam

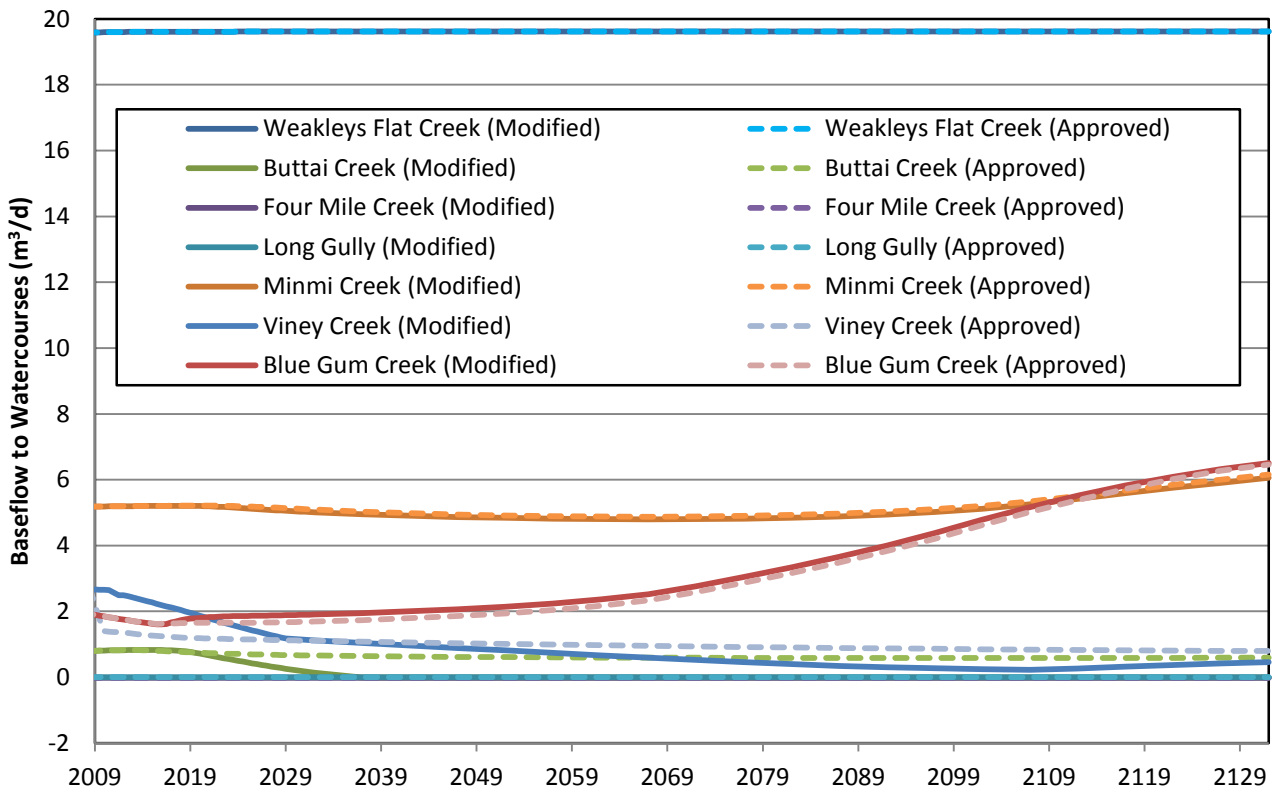
Disclaimer: While all reasonable care has been taken to ensure the information contained on this map is up to date and accurate, no guarantee is given that the information portrayed is free from error or omission. Please verify the accuracy of all information prior to use.  
 Note: The information shown on this map is a copyright of RPS Aquaterra Australia 2012

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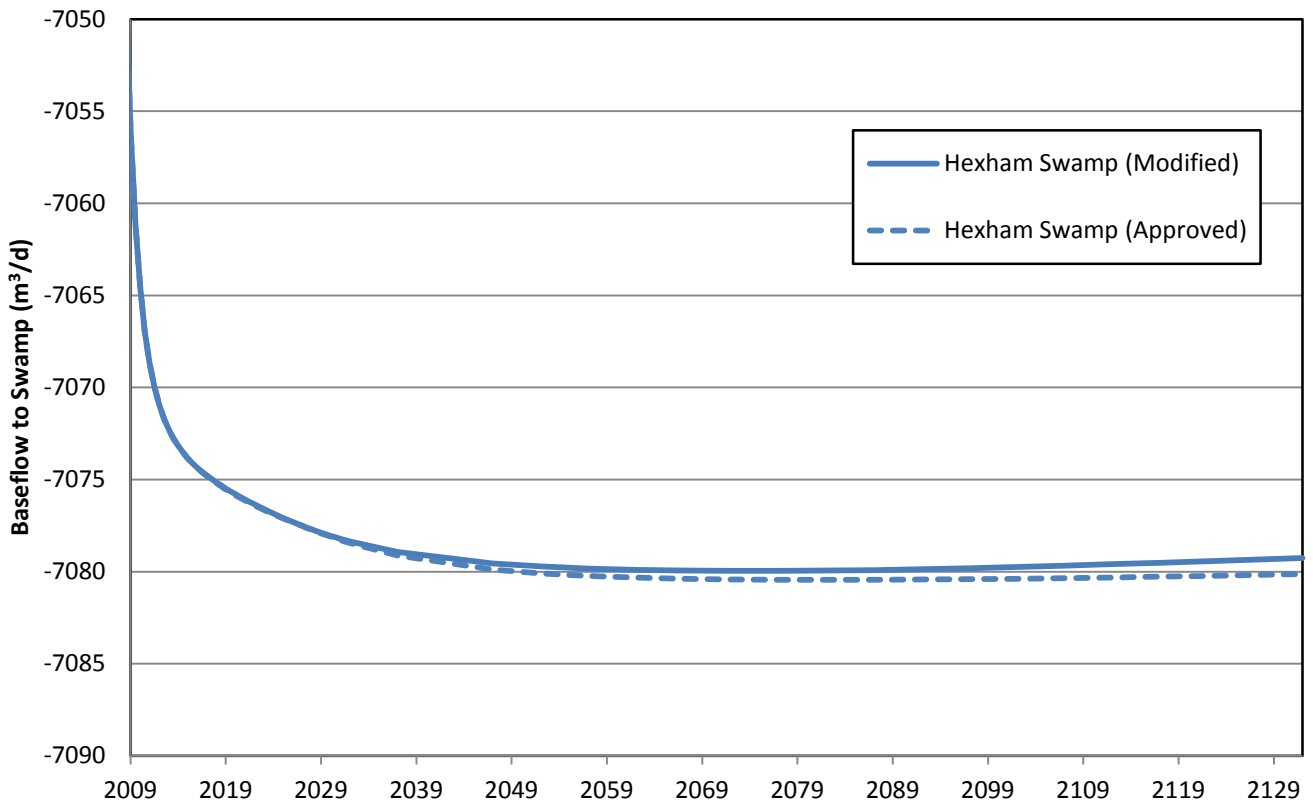
**FIGURE 7.30**

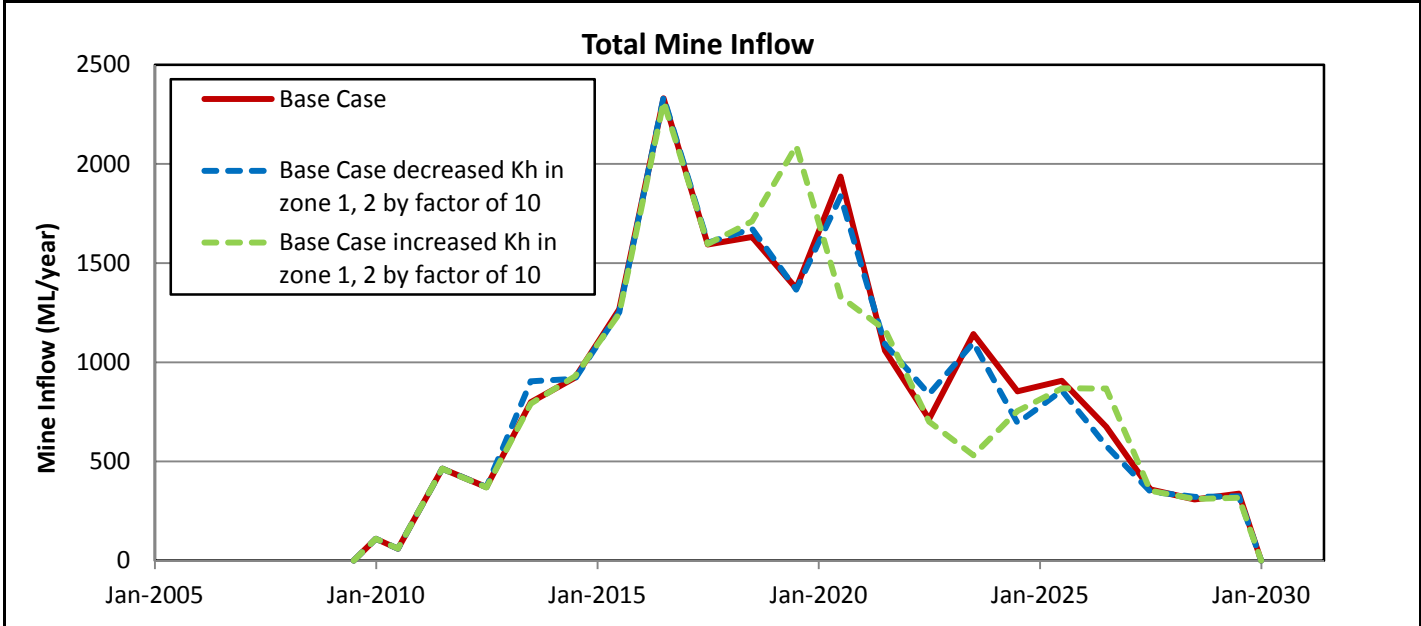
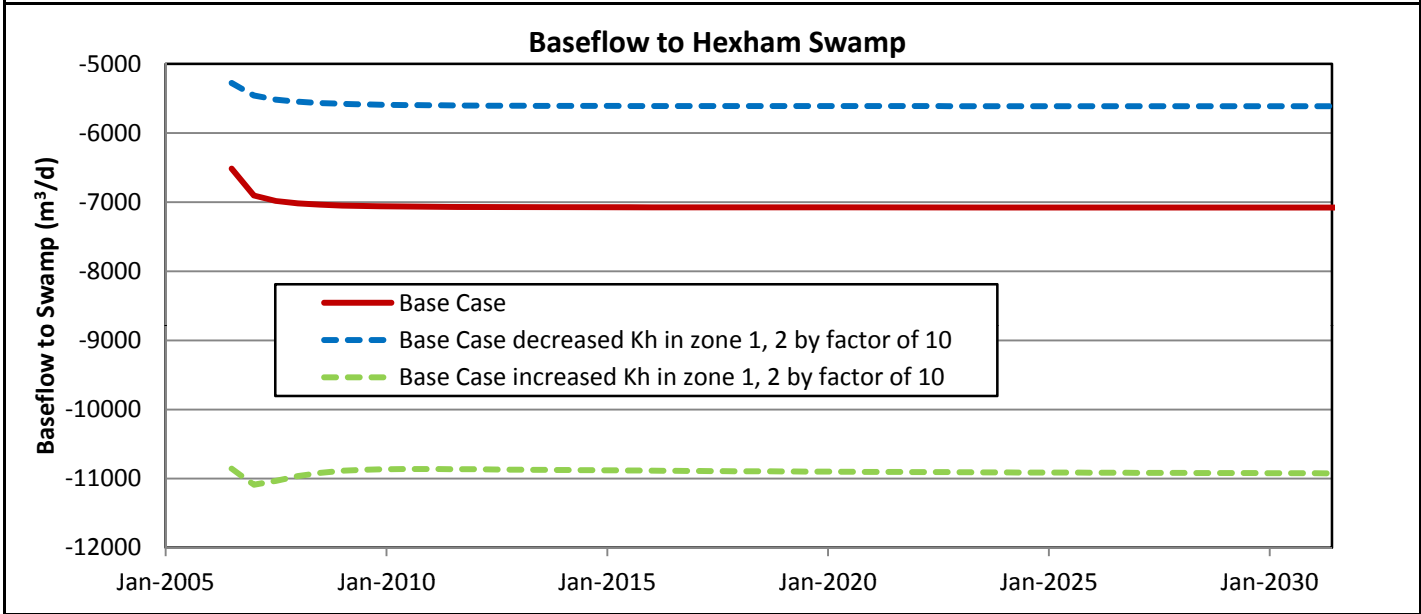
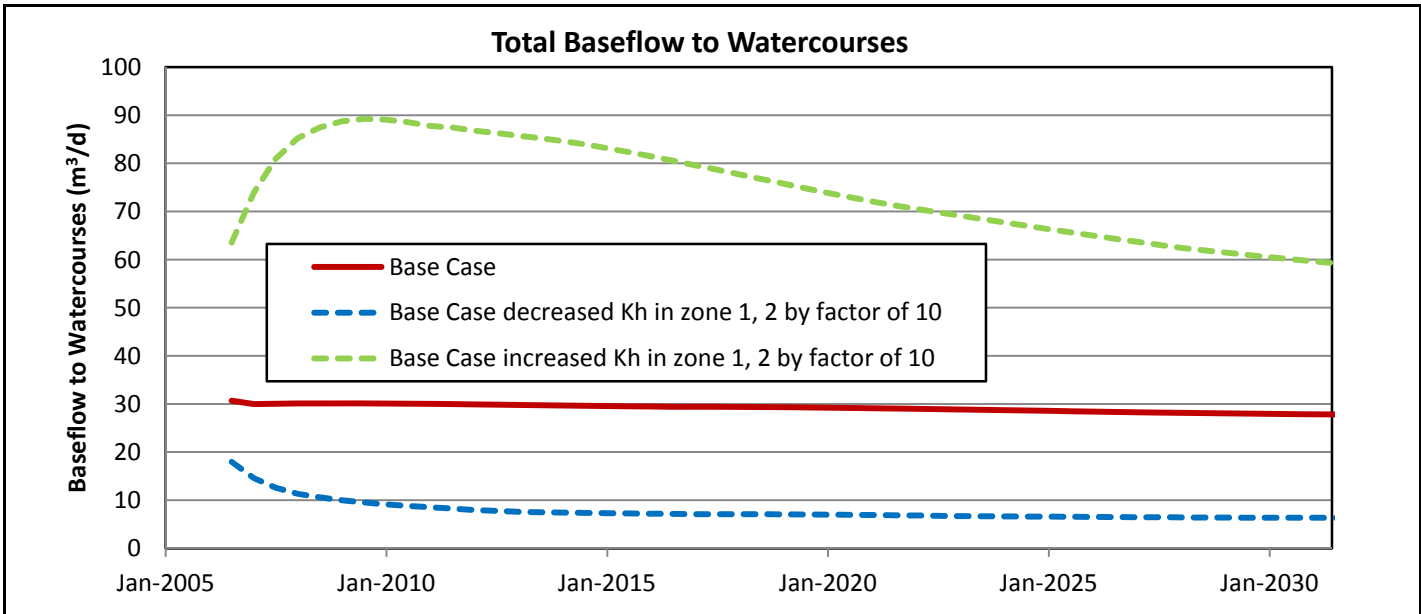
**Water Pressure Head  
 Along Easting 369825 (Column 225)  
 at 100 Years Recovery - Modified Mine Plan**

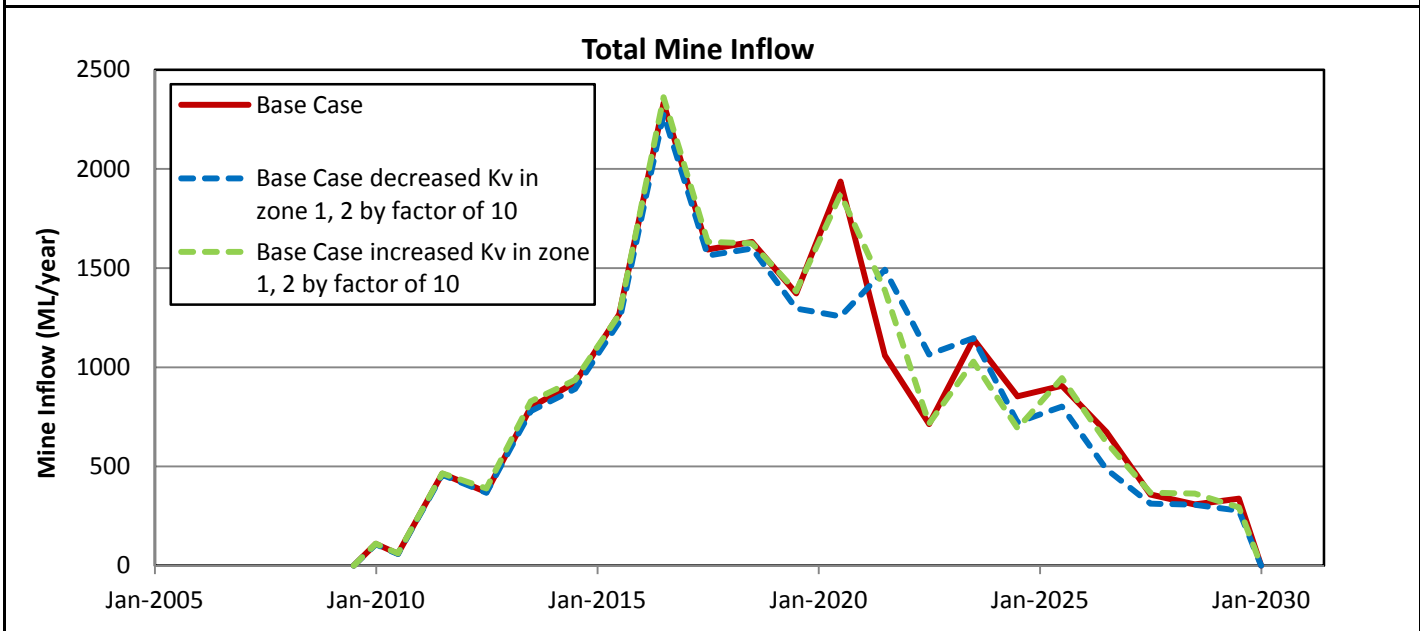
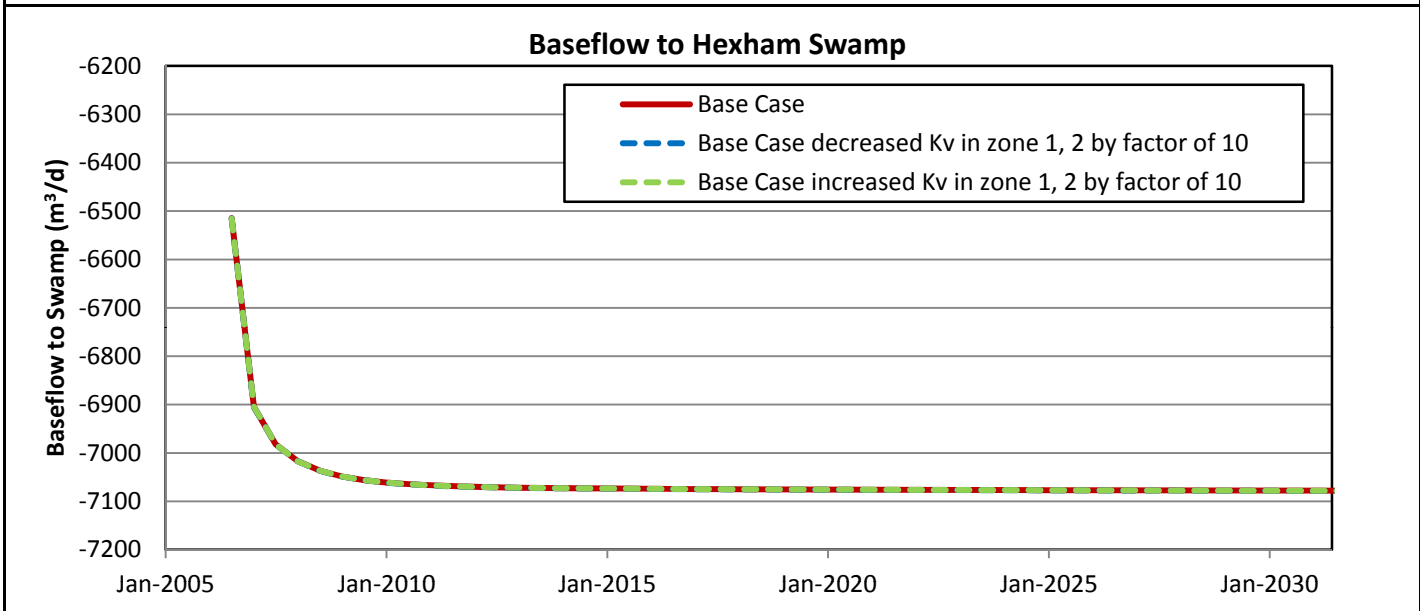
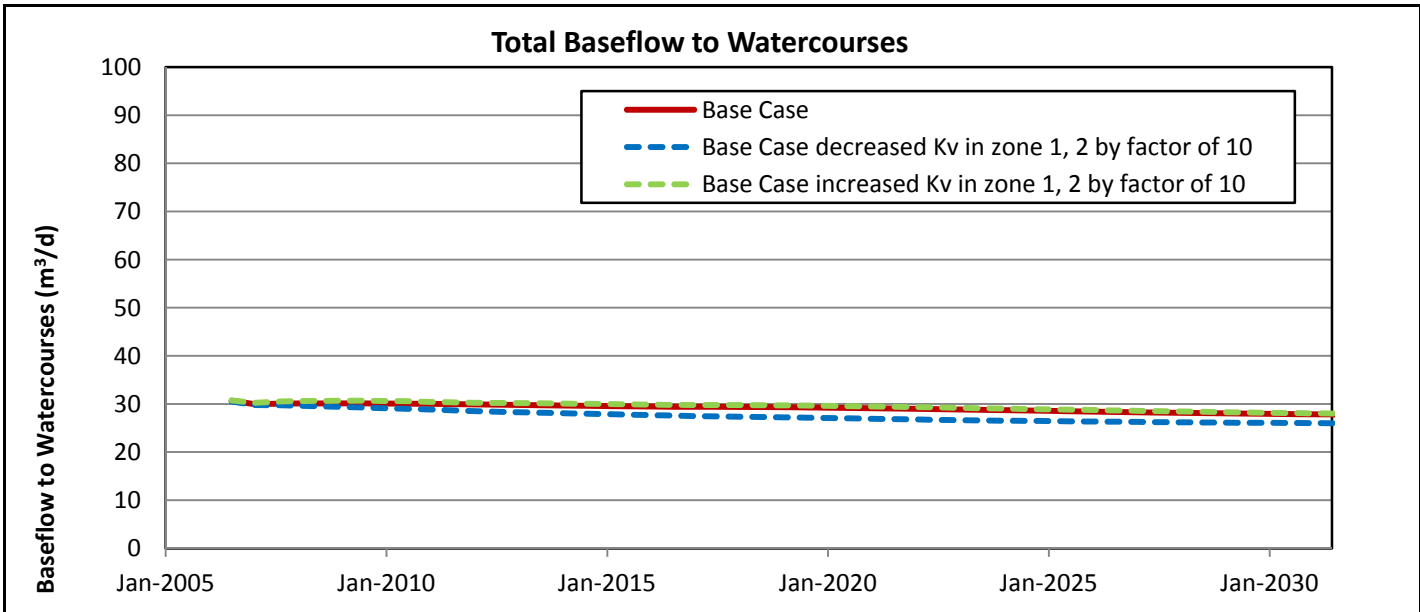
### Watercourses



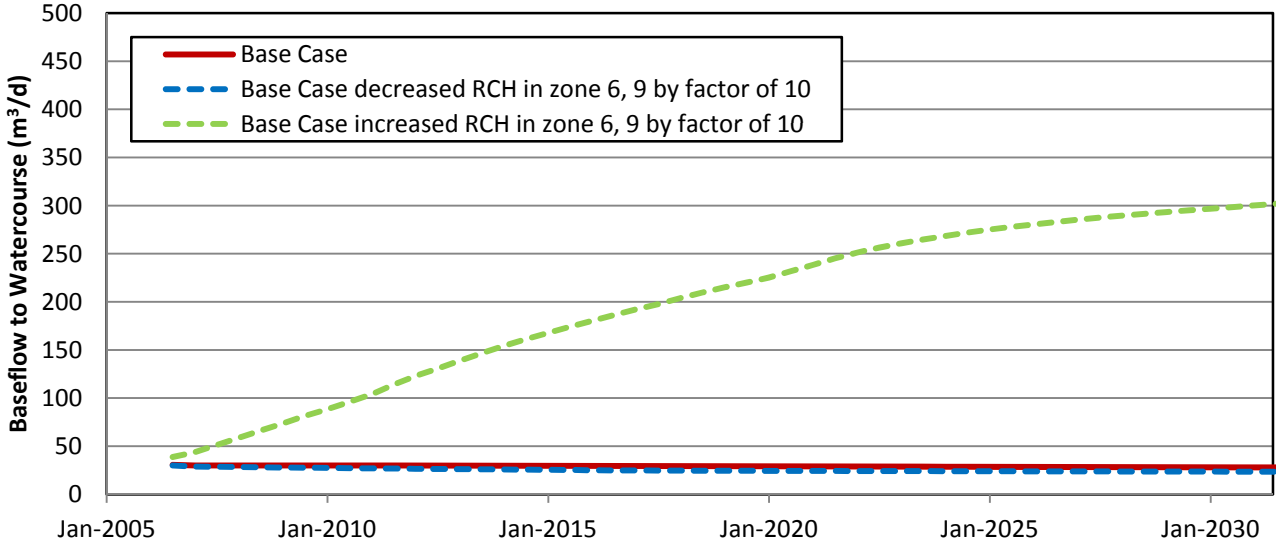
### Hexham Swamp



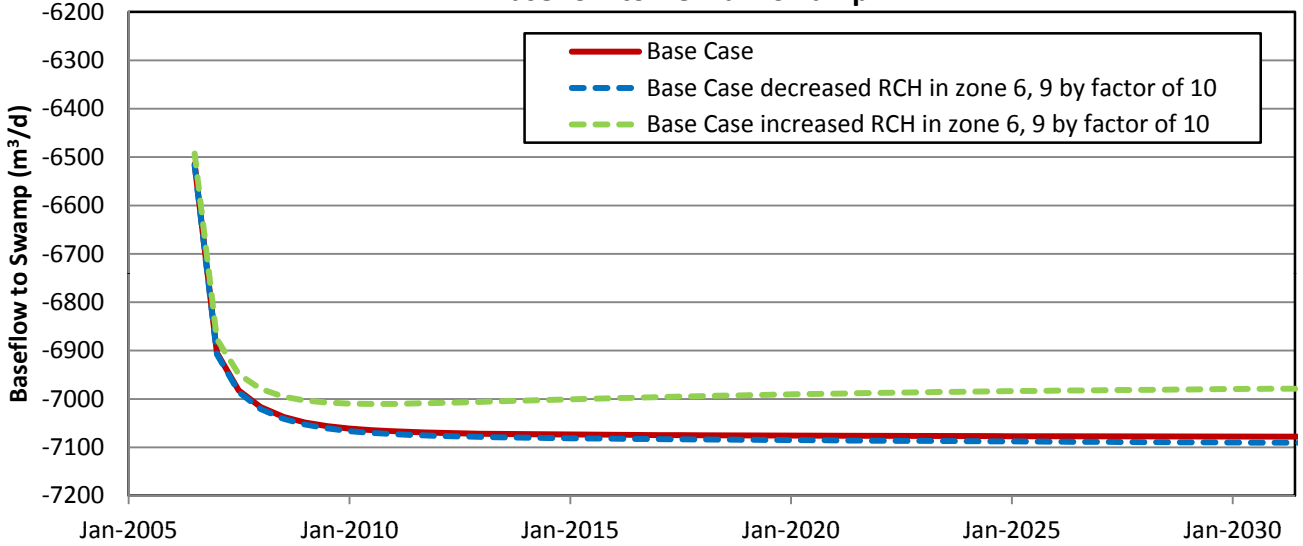




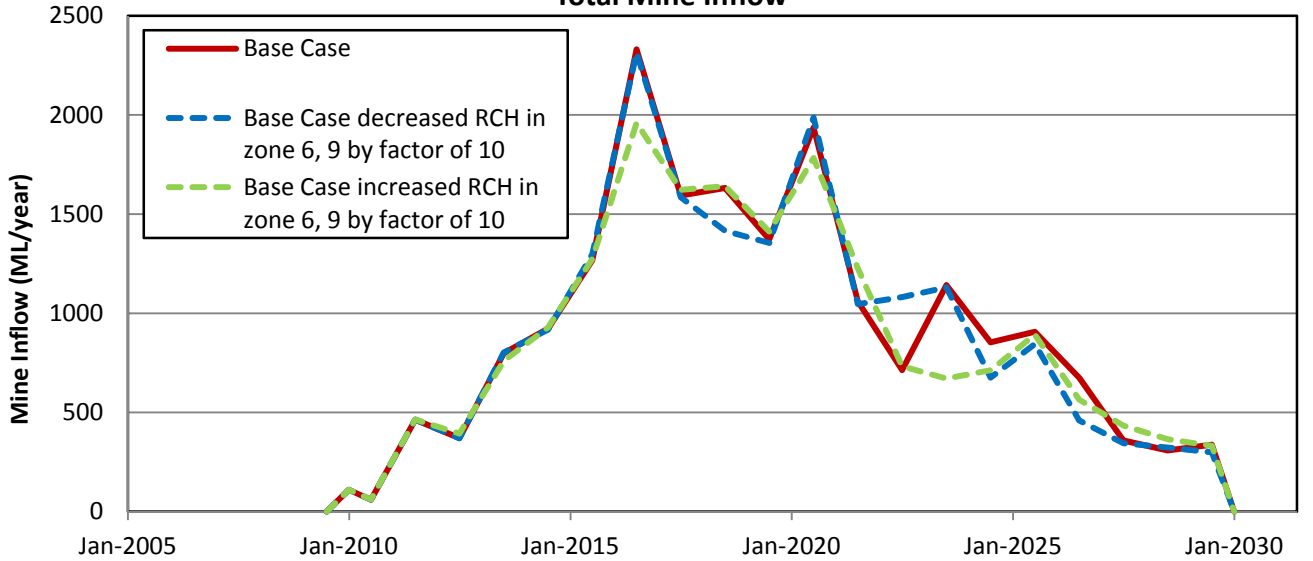
**Total Baseflow to Watercourses**



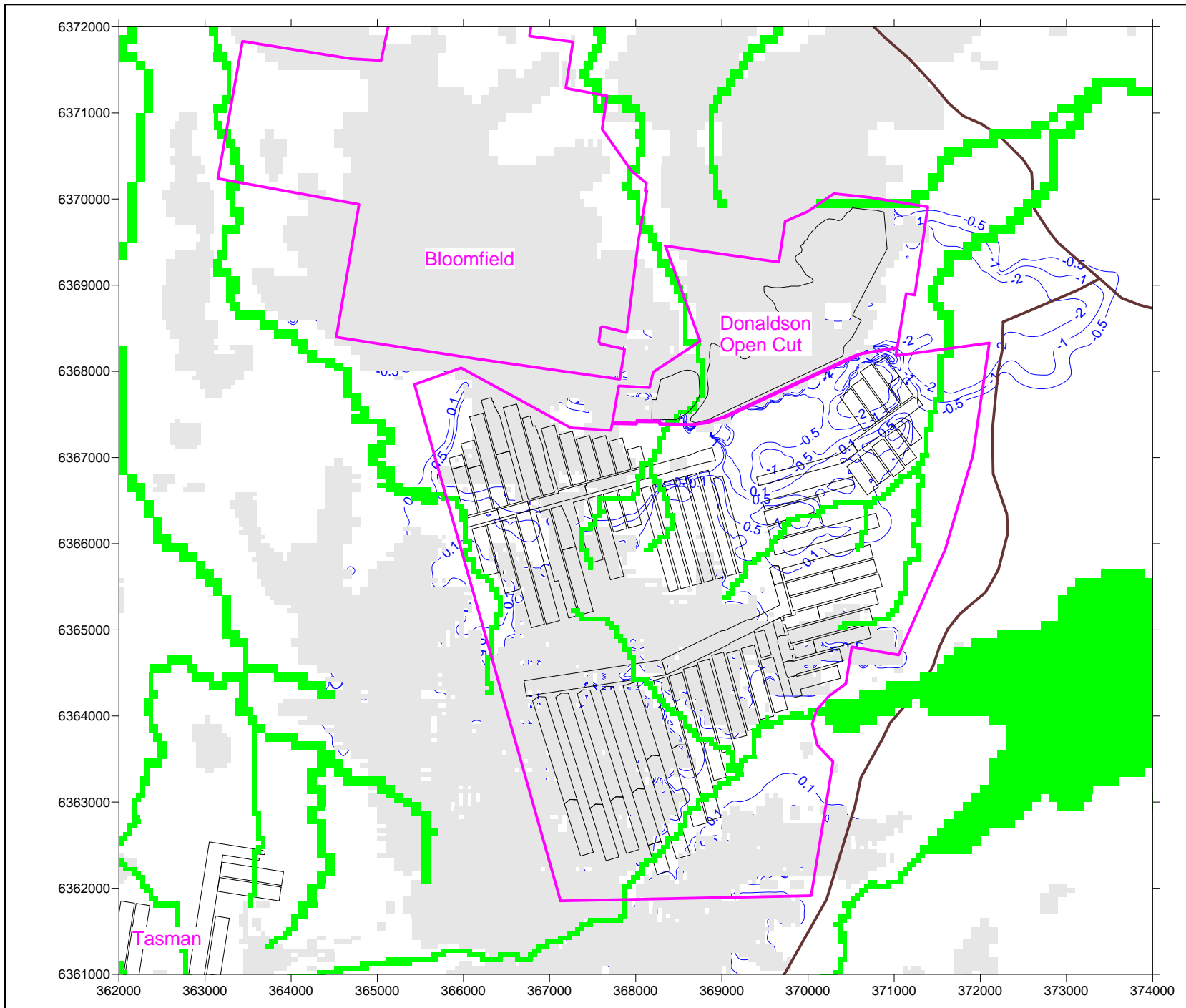
**Baseflow to Hexham Swamp**



**Total Mine Inflow**







**LEGEND**

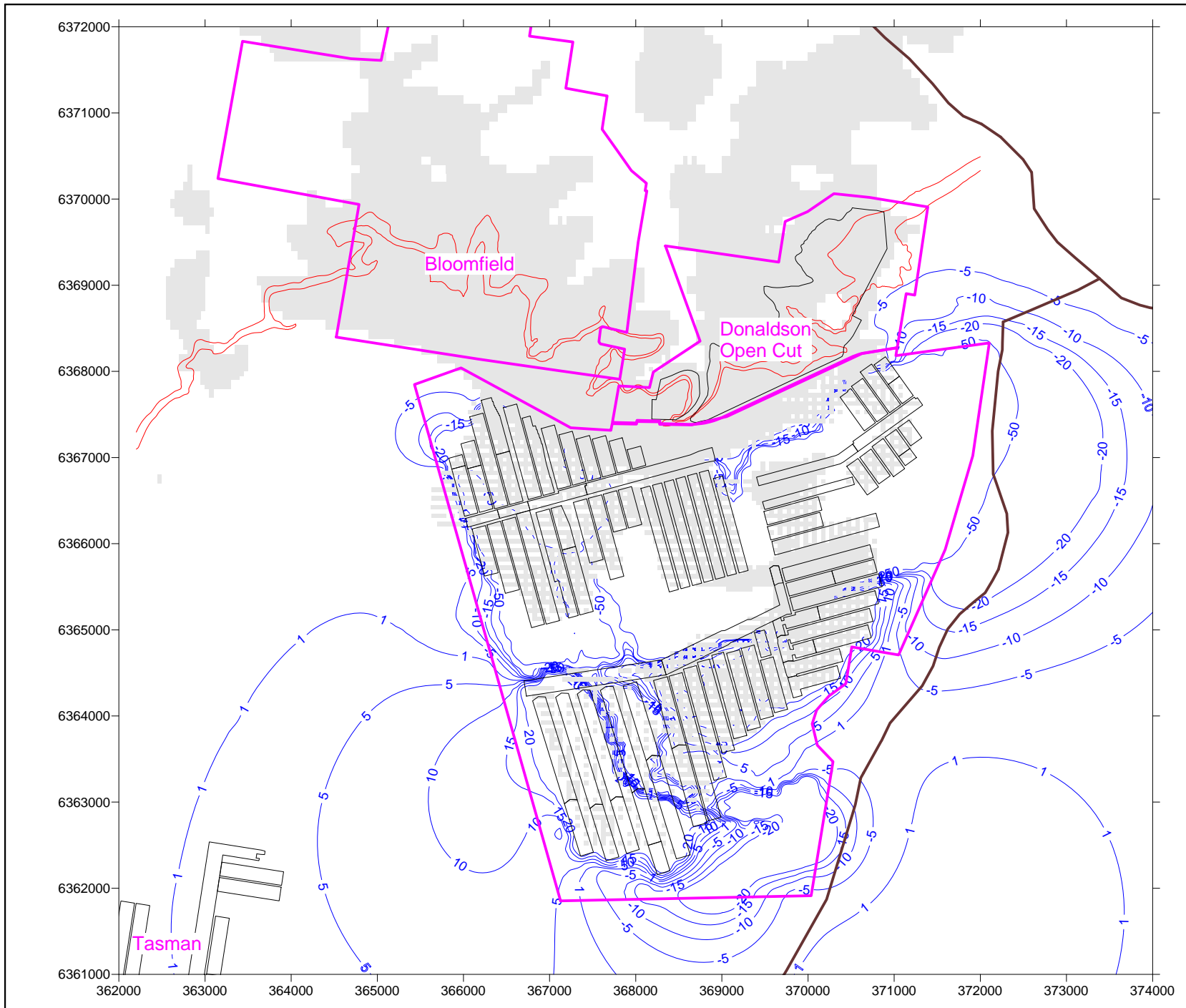
- River or Lake
- Mine Plan
- Mine Lease
- Main Road
- Dry Cells
- ~<sup>60</sup> Difference in Drawdown (m)  
(Modified - Approved)

Disclaimer: While all reasonable care has been taken to ensure the information contained on this map is up to date and accurate, no guarantee is given that the information portrayed is free from error or omission. Please verify the accuracy of all information prior to use.  
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**FIGURE 8.1**

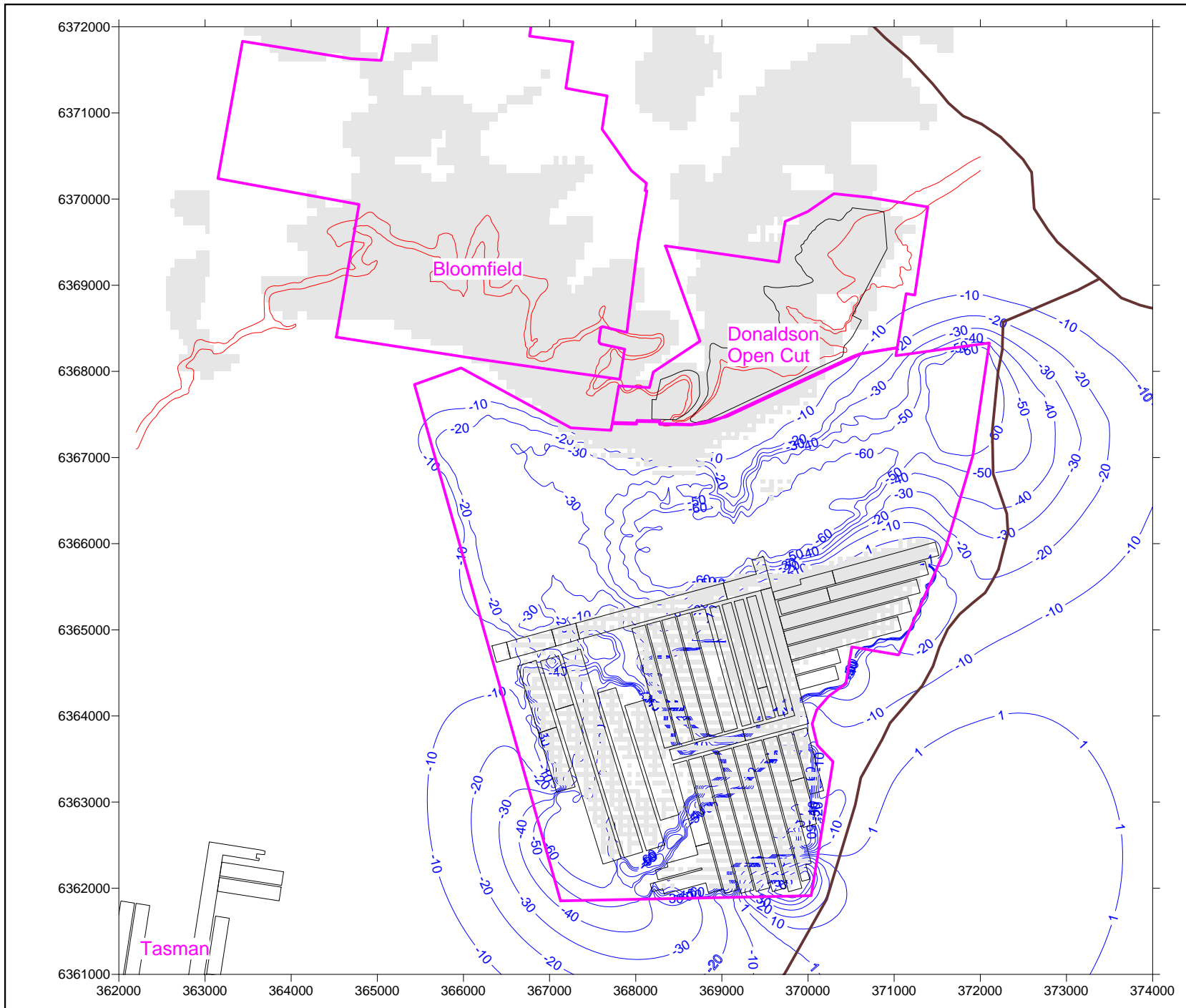
**Predicted Difference in Drawdown Between Modified and Approved Mine Plan from Commencement (2009) to Completion (2028) in the Alluvium and Regolith (Layer 1)**



- LEGEND**
- Mine Plan
  - Mine Lease
  - Main Road
  - Dry Cells
  - <sup>60</sup> Difference in Drawdown (m)  
(Modified - Approved)
  - Boundary of Donaldson Seam

Disclaimer: While all reasonable care has been taken to ensure the information contained on this map is up to date and accurate, no guarantee is given that the information portrayed is free from error or omission. Please verify the accuracy of all information prior to use.  
 Note: The information shown on this map is a copyright of RPS Aquaterra Australia 2012

**RPS Aquaterra**  
**FIGURE 8.2**  
**Predicted Difference in Drawdown**  
**Between Modified and Approved Mine Plan**  
**from Commencement (2009) to Completion (2028)**  
**in the Upper Donaldson Seam (Layer 13)**



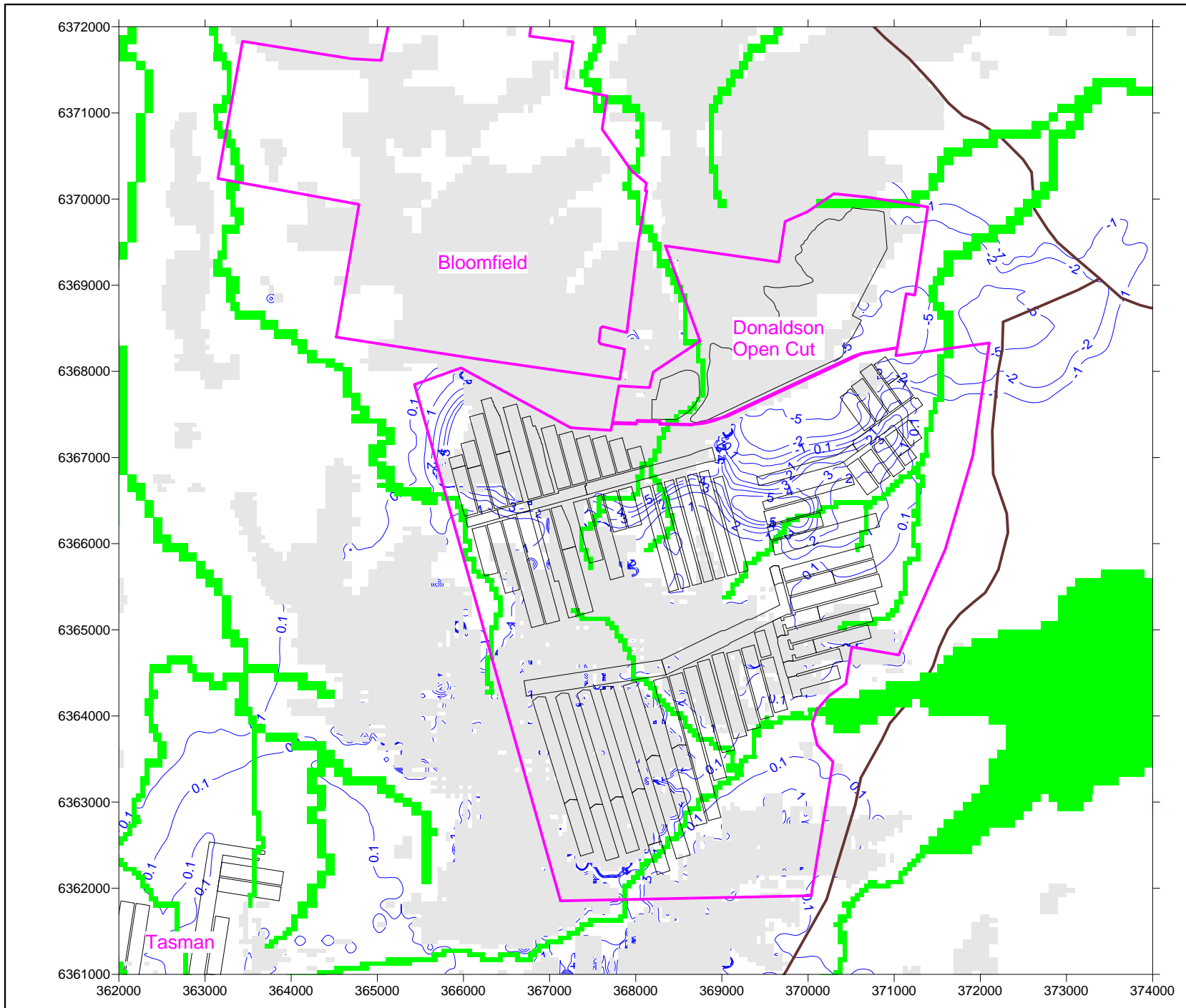
- LEGEND**
- Mine Plan
  - Mine Lease
  - Main Road
  - Dry Cells
  - Difference in Drawdown (m) (Modified - Approved)
  - Boundary of Donaldson Seam

Disclaimer: While all reasonable care has been taken to ensure the information contained on this map is up to date and accurate, no guarantee is given that the information portrayed is free from error or omission. Please verify the accuracy of all information prior to use.  
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**FIGURE 8.3**

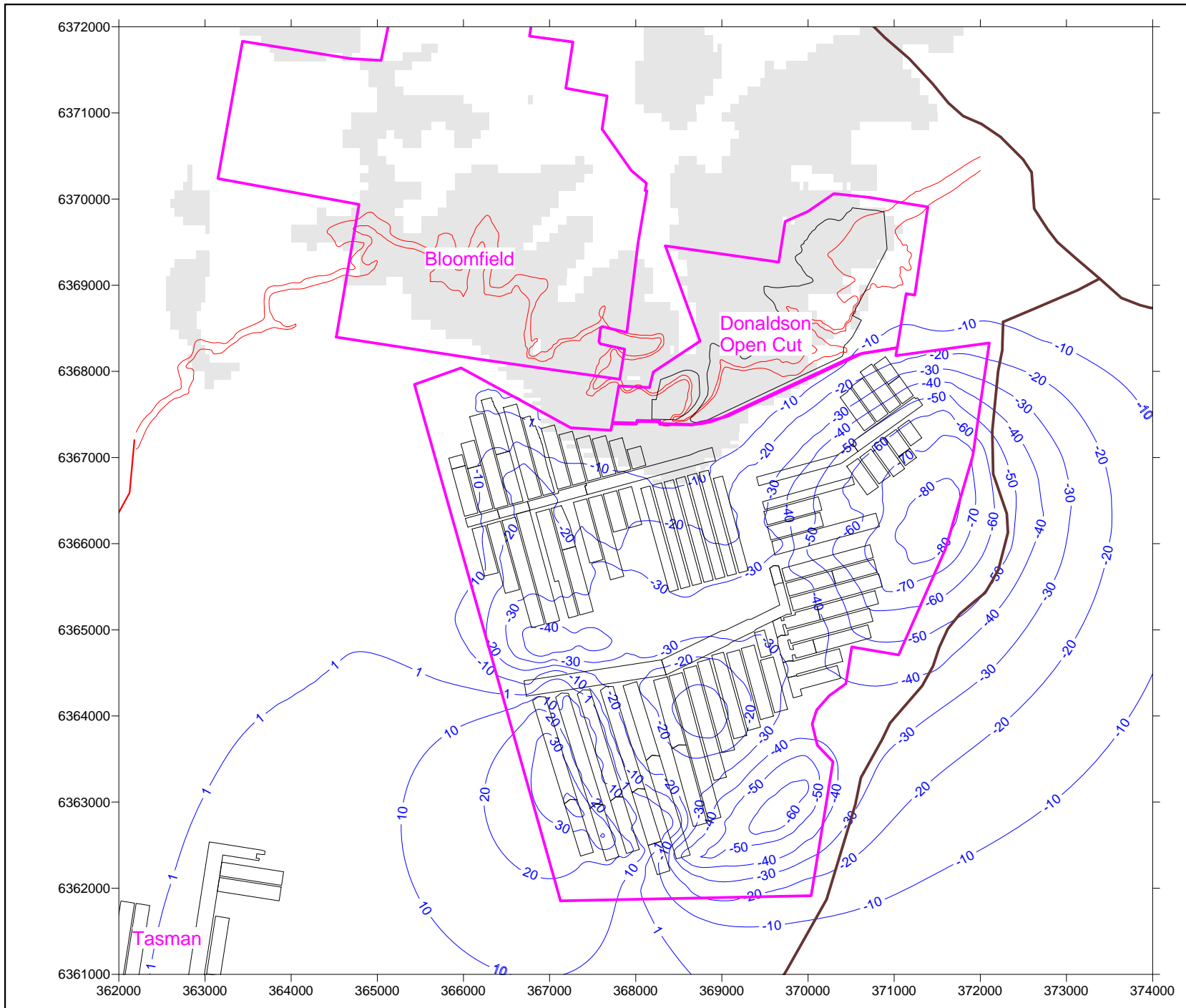
**Predicted Difference in Drawdown Between Modified and Approved Mine Plan from Commencement (2009) to Completion (2028) in the Lower Donaldson Seam (Layer 15)**



- LEGEND**
- River or Lake
  - Mine Lease
  - Mine Plan
  - Main Road
  - Dry Cells
  - Difference in Drawdown (m) (Modified - Approved)

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**FIGURE 8.4**  
**Predicted Difference in Drawdown Between Modified and Approved Mine Plan at 100Years Recovery in the Alluvium and Regolith (Layer 1)**



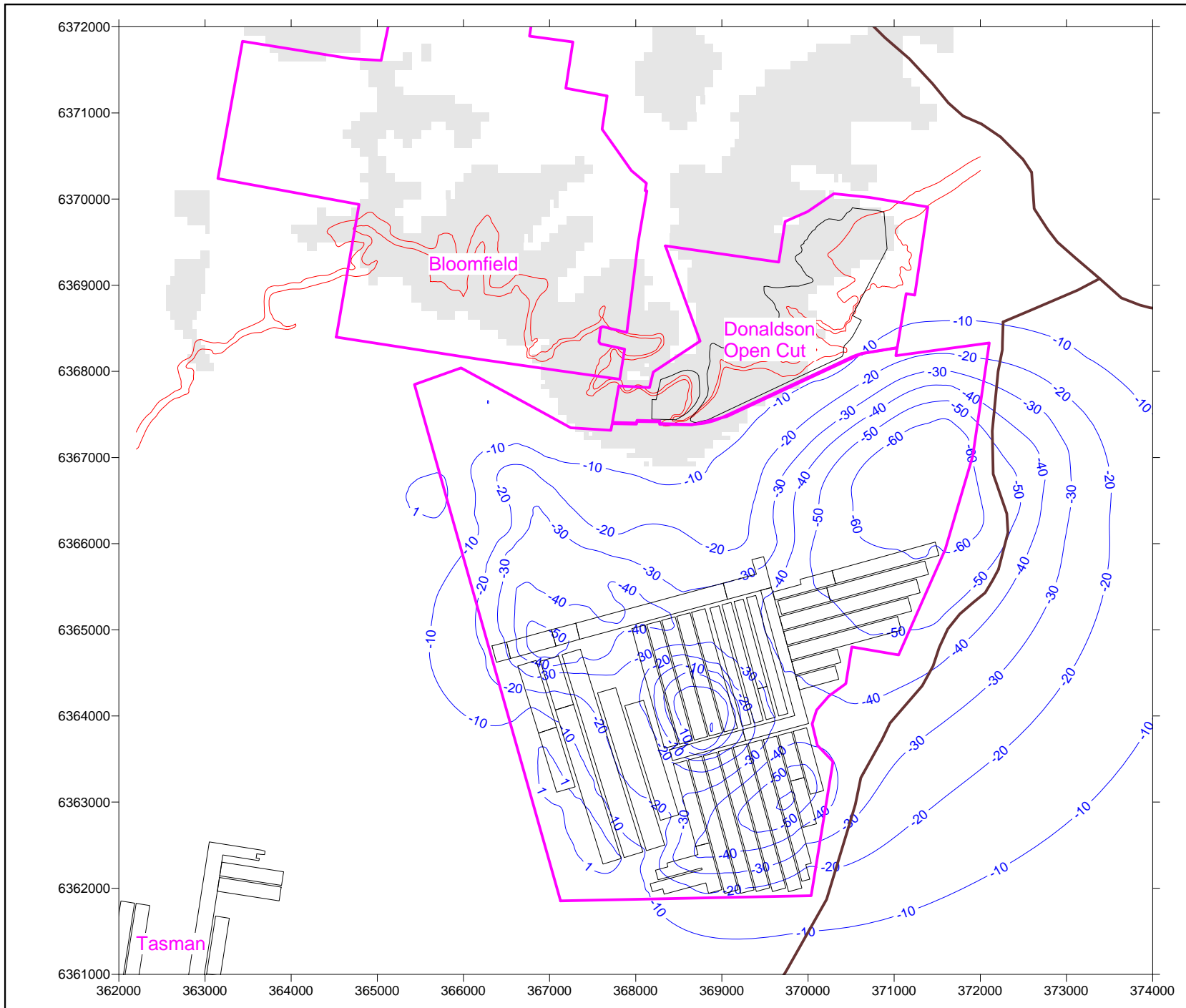
- LEGEND**
- Mine Lease
  - Mine Plan
  - Main Road
  - Dry Cells
  - ~<sup>50</sup> Difference in Drawdown (m) (Modified - Approved)
  - ~ Boundary of Donaldson Seam

Disclaimer: While all reasonable care has been taken to ensure the information contained on this map is up to date and accurate, no guarantee is given that the information portrayed is free from error or omission. Please verify the accuracy of all information prior to use.  
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**FIGURE 8.5**

**Predicted Difference in Drawdown Between Modified and Approved Mine Plan at 100Years Recovery in Upper Donaldson Seam (Layer 13)**



- LEGEND**
- Mine Lease
  - Mine Plan
  - Main Road
  - Dry Cells
  - ~<sup>50</sup> Difference in Drawdown (m) (Modified - Approved)
  - ~ Boundary of Donaldson Seam

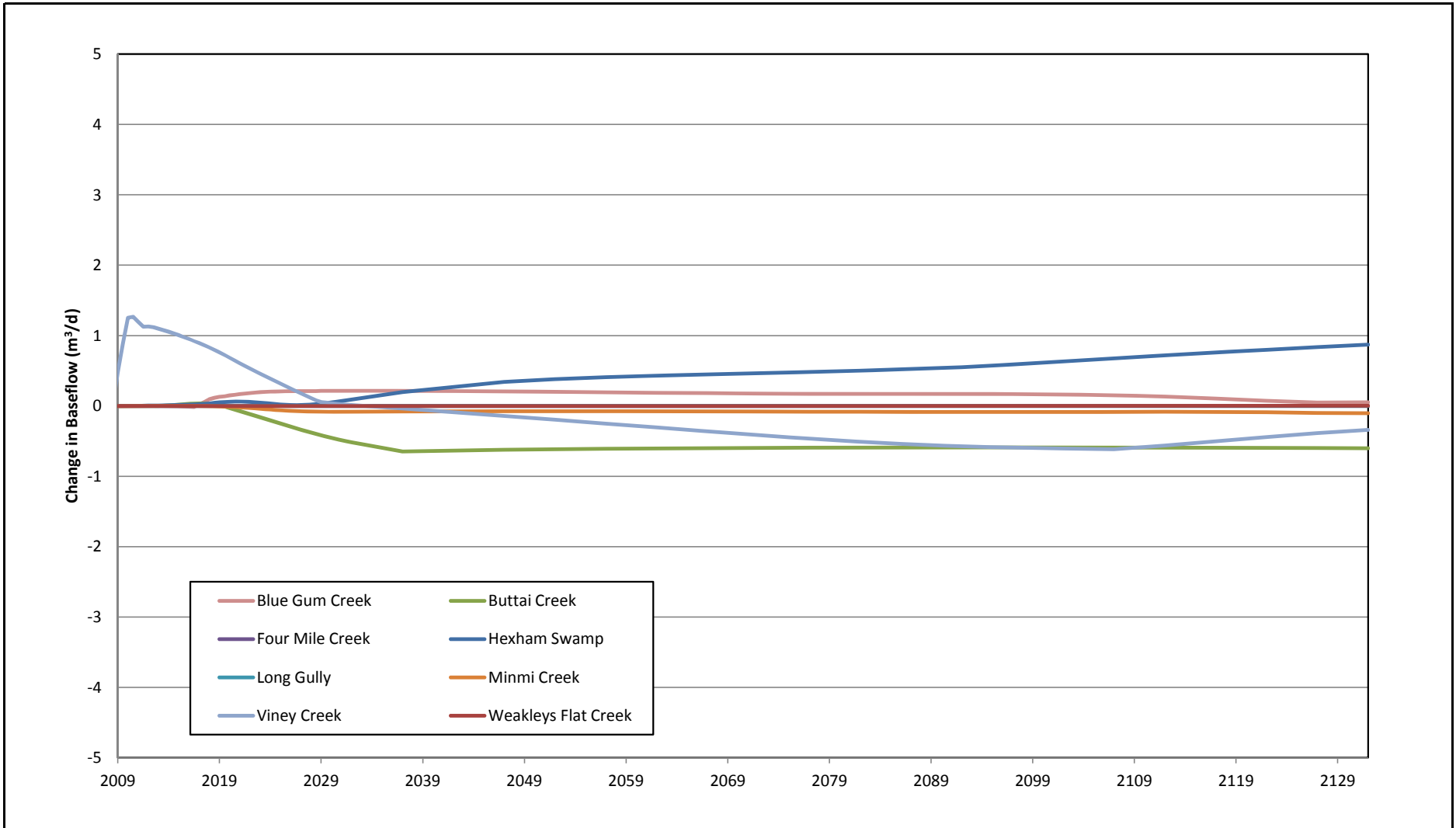


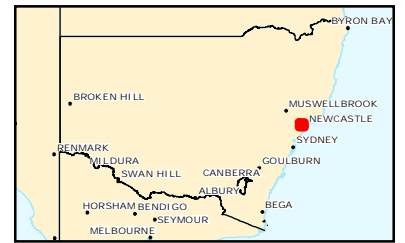
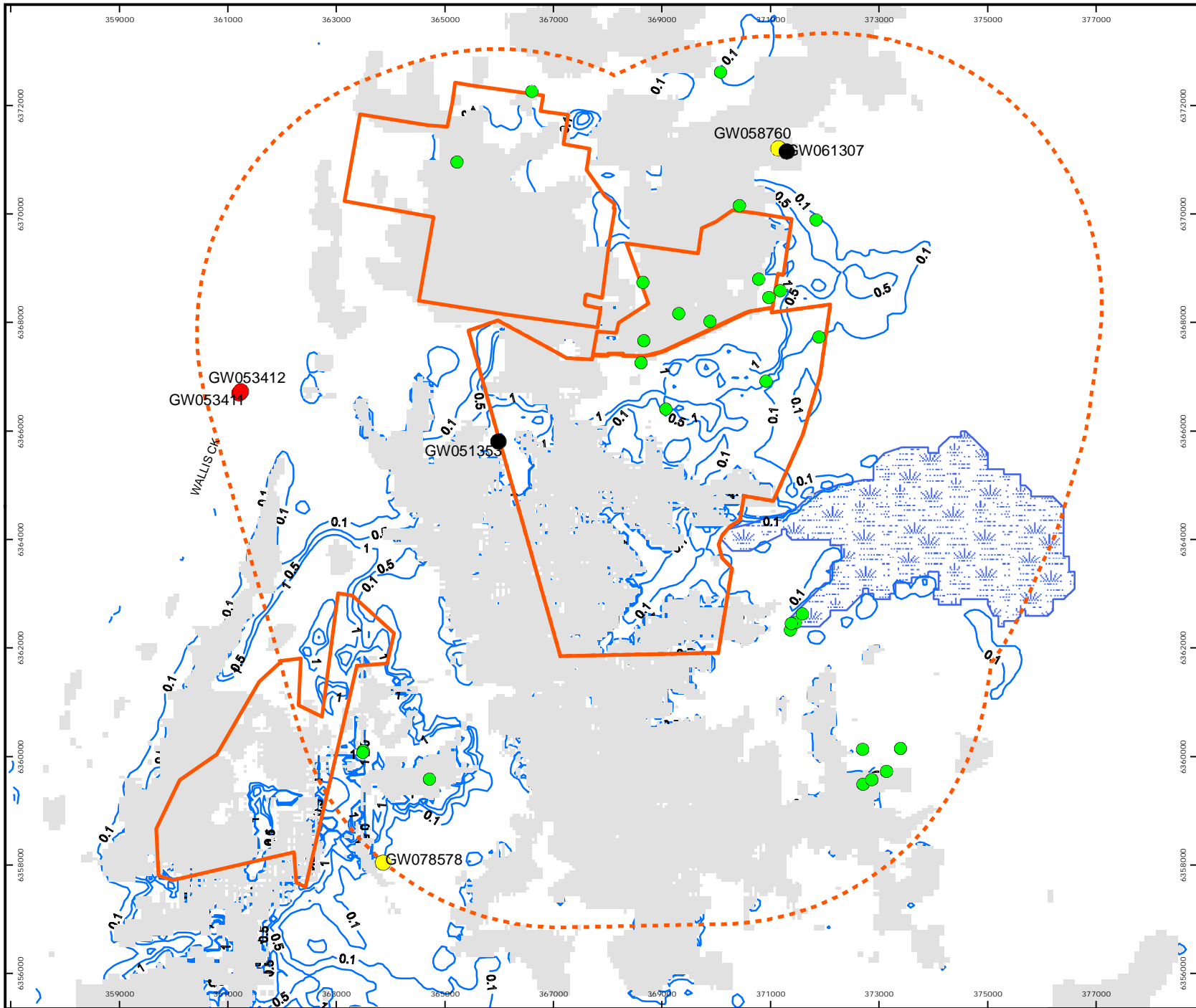
Disclaimer: While all reasonable care has been taken to ensure the information contained on this map is up to date and accurate, no guarantee is given that the information portrayed is free from error or omission. Please verify the accuracy of all information prior to use.  
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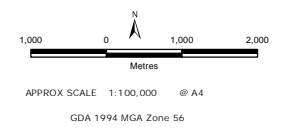
**FIGURE 8.6**

**Predicted Difference in Drawdown Between Modified and Approved Mine Plan at 100Years Recovery in Lower Donaldson Seam (Layer 15)**





- LEGEND**
- Monitoring / Test Bore
  - Domestic/stock
  - Farming
  - Irrigation
  - Mine Lease
  - 5 km Radius from Abel
  - Dry Area
  - Predicted Drawdown (m)
  - Hexham Swamp

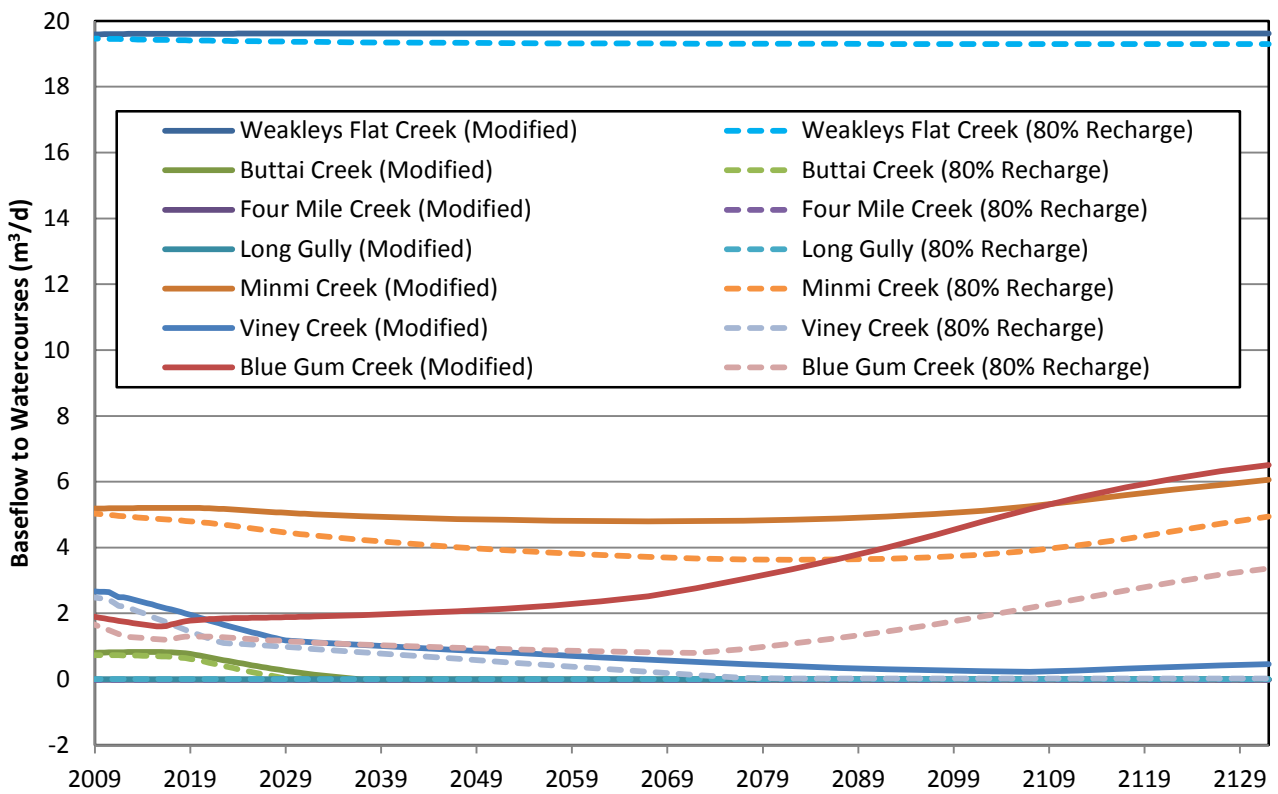


Disclaimer: While all reasonable care has been taken to ensure the information contained on this map is up to date and accurate, no guarantee is given that the information portrayed is free from error or omission. Please verify the accuracy of all information prior to use.  
 Note: The information shown on this map is a copyright of RPS Aquaterra Australia 2012

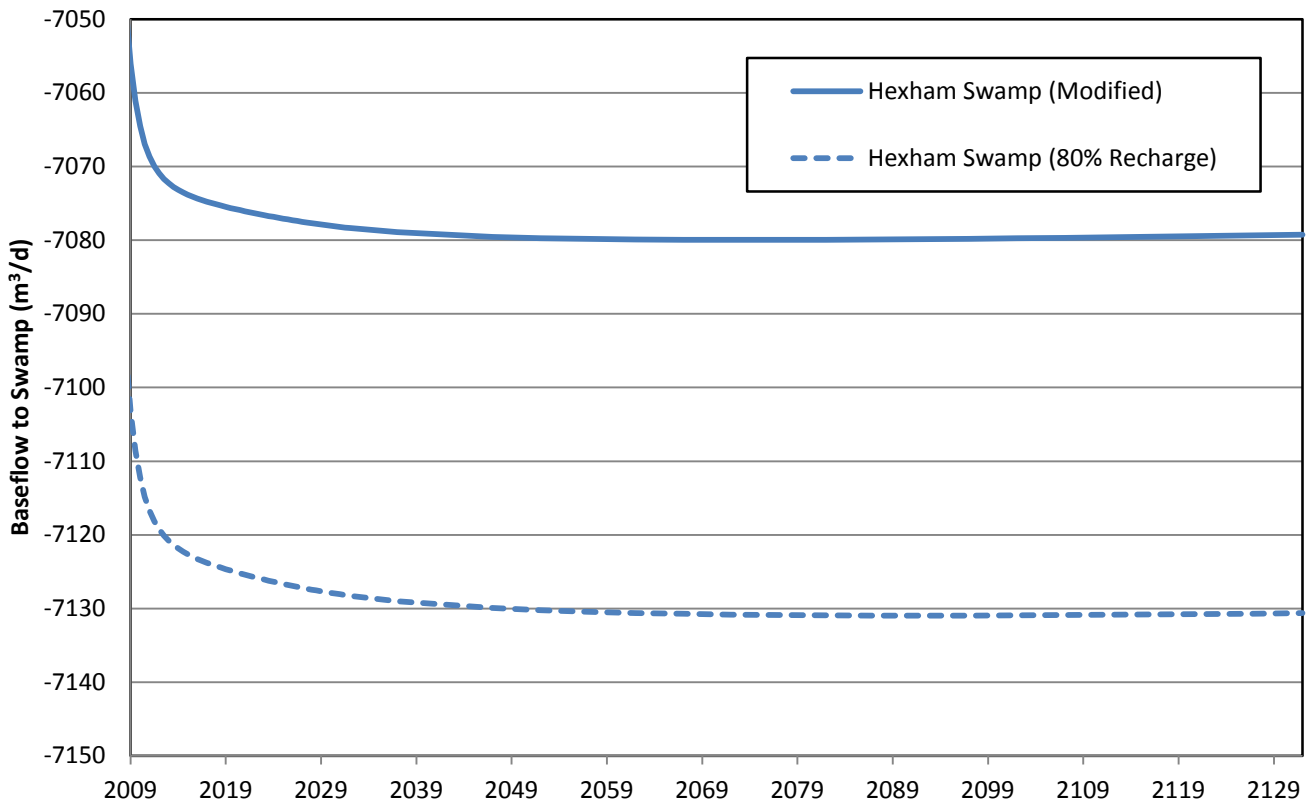
**RPS Aquaterra**  
**FIGURE 8.8**  
 Predicted Drawdown in  
 Alluvium / Regolith (Layer 1) with  
 Existing Licensed Groundwater Bores



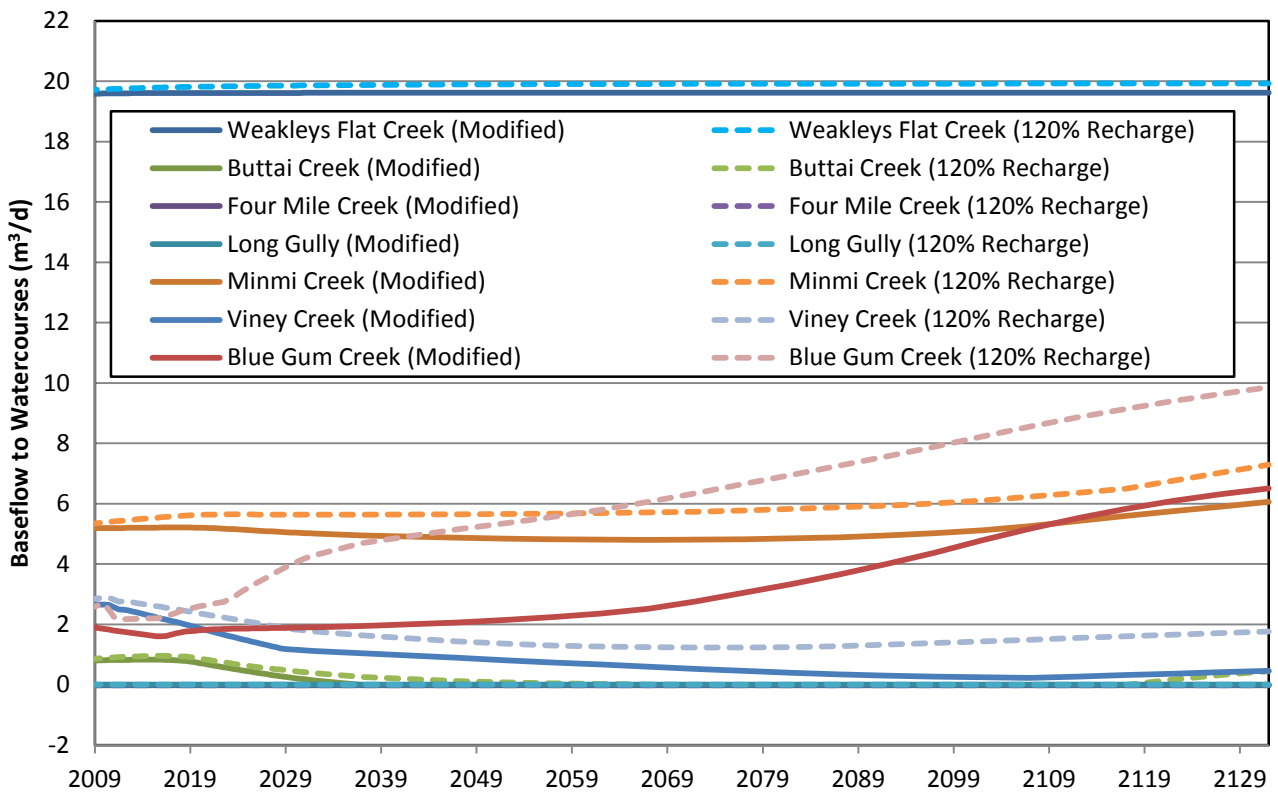
### Watercourses



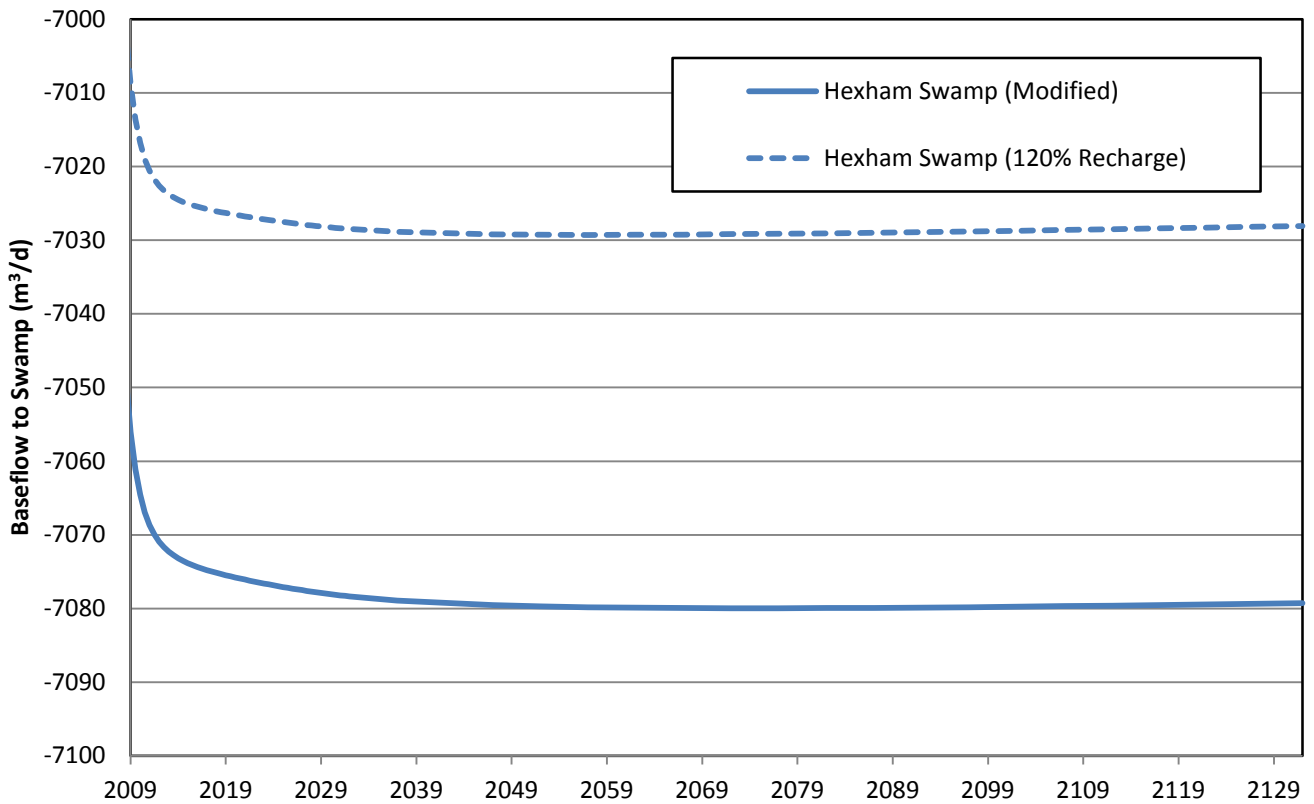
### Hexham Swamp



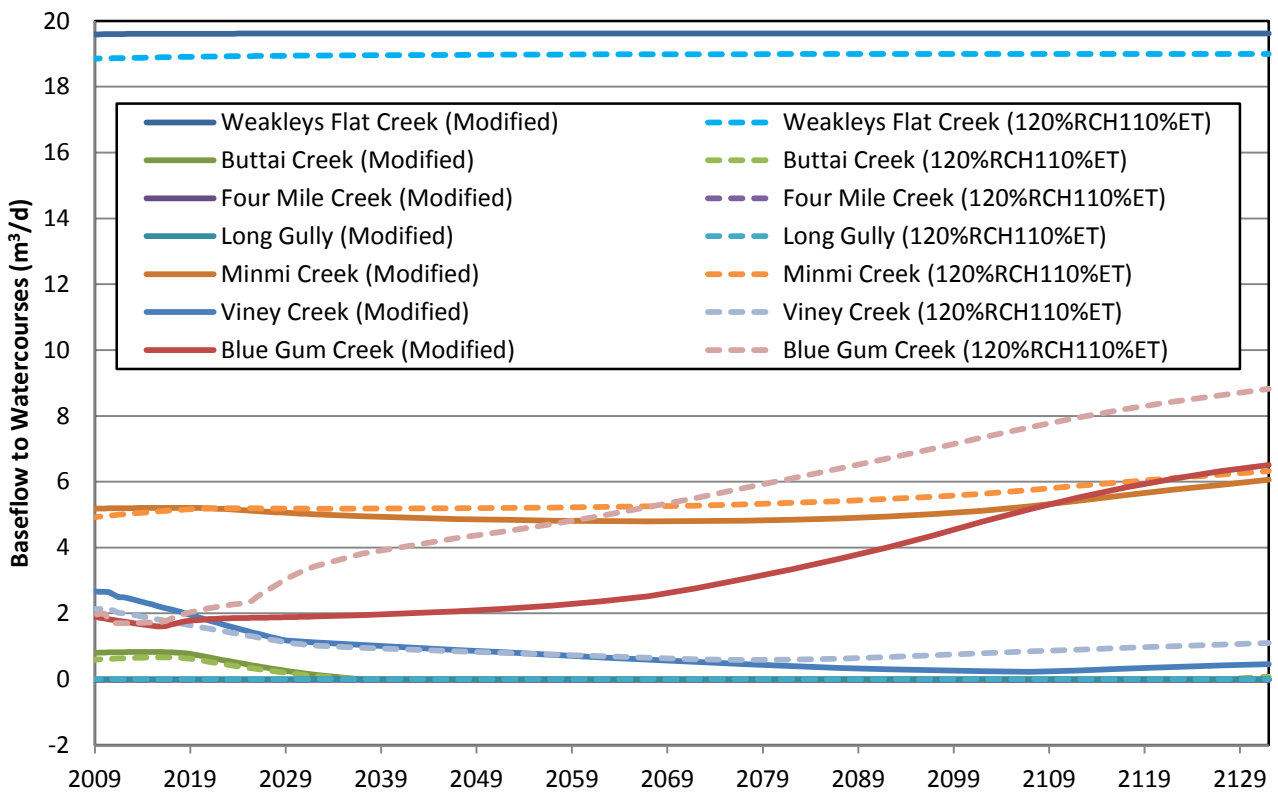
### Watercourses



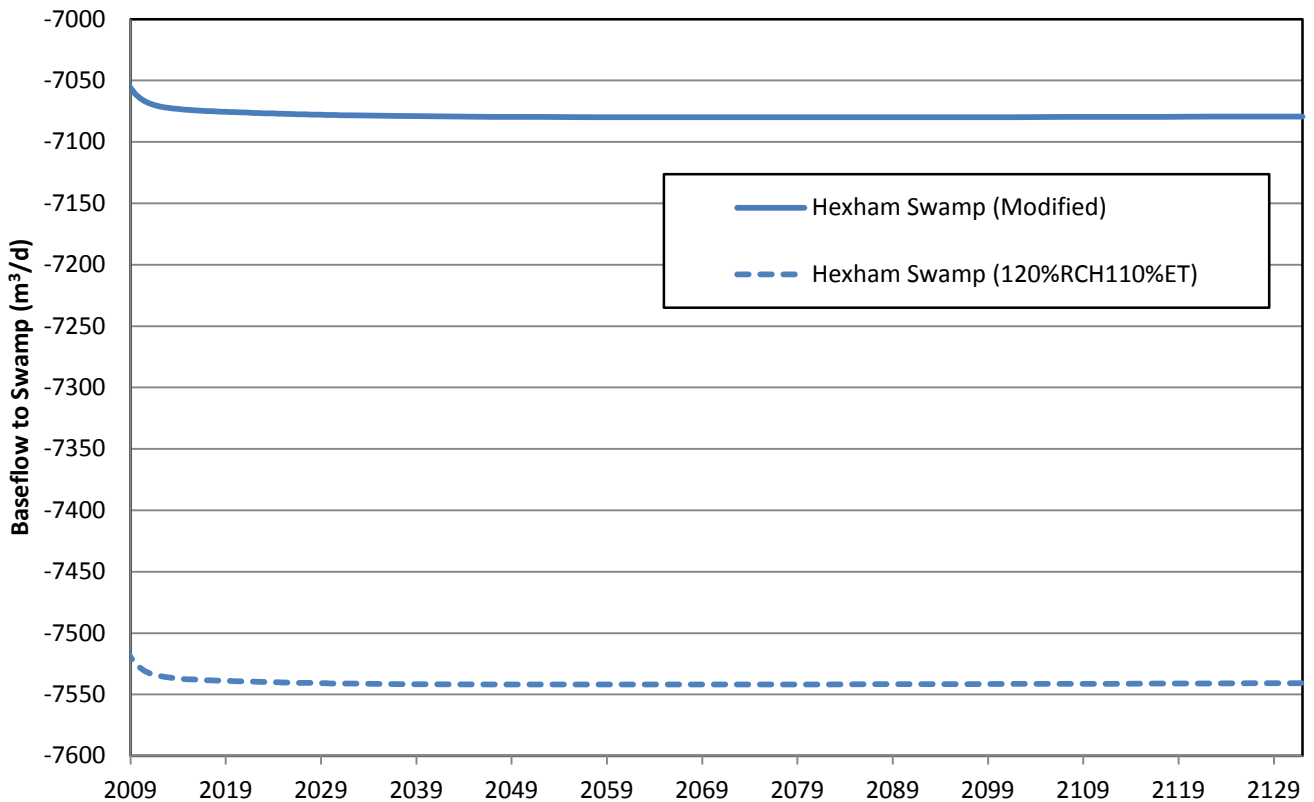
### Hexham Swamp

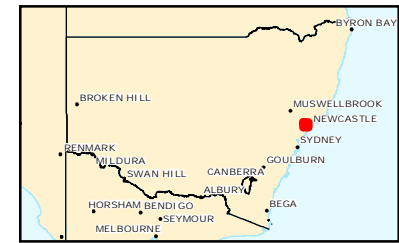
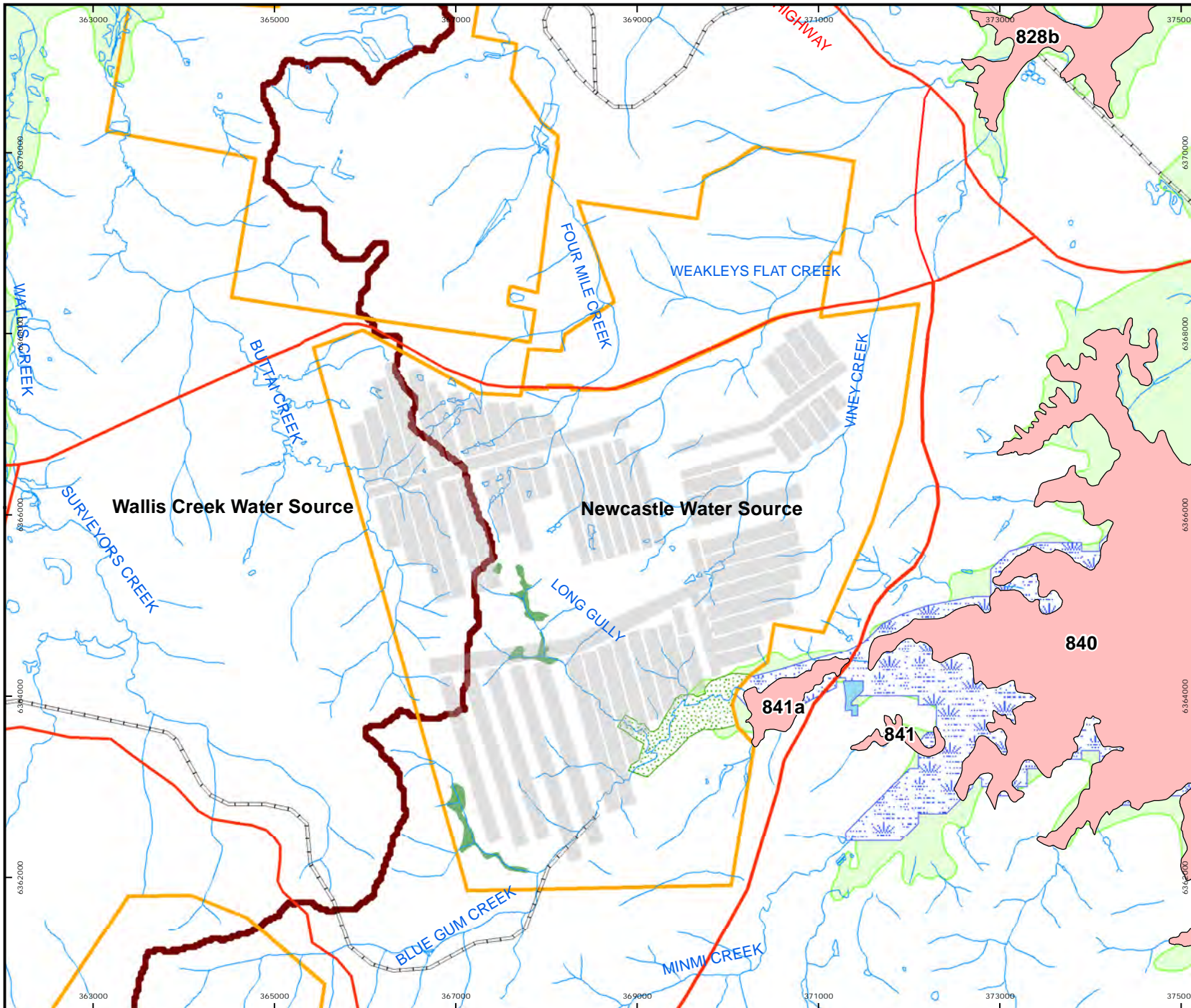


### Watercourses



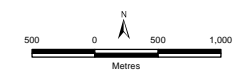
### Hexham Swamp





LEGEND

- High Priority GDEs
- Abel Underground Mine Plan
- Railway
- Freeway
- Principal Road
- Secondary Road
- Lake or River
- River or Creek
- Mine Lease
- Hexham Swamp
- Rainforest
- Alluvium- Blue Gum
- Alluvium
- Water Source Boundary



APPROX SCALE 1:60,000 @ A4  
GDA 1994 MGA Zone 56

Disclaimer: While all reasonable care has been taken to ensure the information contained on this map is up to date and accurate, no guarantee is given that the information portrayed is free from error or omission. Please verify the accuracy of all information prior to use.  
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FIGURE 9.1  
Water Source Boundaries  
and High Priority GDEs