Software manual prepared by Panday, S., Langevin, C.D., Niswonger, R.G., Ibaraki, M and J.D. Hughes for the United States Geological Survey. Reference No. Techniques and Methods 6-A45, dated 2013.

Watermark Numerical Computing, 2024. *PEST Model-Independent Parameter Estimation*. Software manual prepared by Watermark Numerical Computing. Reference No. 7th Edition (Version 18.27), dated October 2024.

Watermark Numerical Computing, 2025. *PEST for Highly Parallelized Computing Environments*. Software manual prepared by Watermark Numerical Computing. Reference No. Version 18.46, dated January 2025.

Appendix A Mine Schedule for 918 Panel

Appendix A

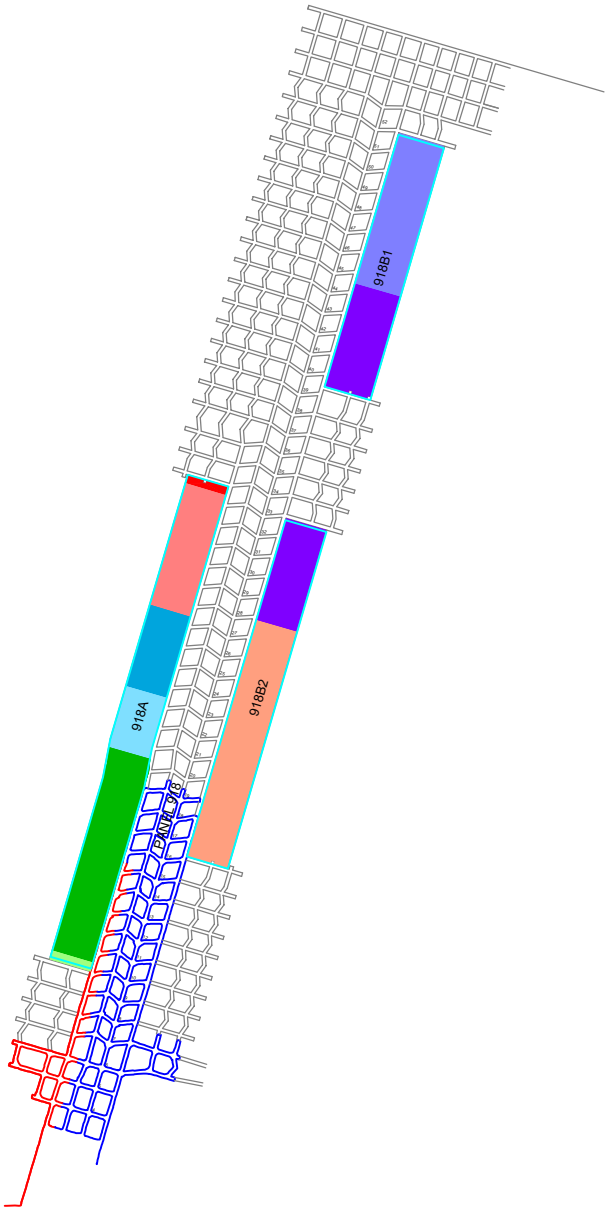
A1. Mine Schedule for 918 Panel

This mine schedule was provided by Clarence for the purpose of modelling.

As noted in **Section** 1.2, the assumptions used in the numerical groundwater model, such as the mine schedule, are relevant to its intent, which is to calculate modelled change to groundwater elevation, change to groundwater contribution to surface water and change to mine dewatering rate. As such, some assumptions may be more conservative, such as timing of various project elements, than that presented in the Extraction Plan for 918 Panel.

Legend

- October–2026
- November–2026
- December–2026
- January–2027
- February–2027
- March–2027
- September–2027
- October–2027
- November–2027



Appendix B Aquifer Interference Assessment Framework

Appendix B

It is noted that the Extraction Plan for 918 Panel is not a modification to consent. Accordingly, an update to the estimated licensable take is not provided in this document, instead reference is made to the last relevant modification to consent. Notwithstanding, from **Section 6.1** the estimated change to modelled dewatering rate is small and will not lead to a significant change to licensable table, with **Table 2-6** presenting current WALs held by Clarence Colliery. Furthermore, in accordance with Figure 7 of NSW DCCEEW (2022b), due to watercourses in the vicinity of Clarence Colliery being gaining watercourses (demonstrated by the presence of groundwater dependent ecosystems), any calculated reduction in groundwater contribution to surface water will be allocated to groundwater take.

Department of Primary Industries
Office of Water

AQUIFER INTERFERENCE ASSESSMENT FRAMEWORK

Assessing a proposal against the NSW Aquifer Interference Policy – step by step guide

Note for proponents

This is the basic framework which the NSW Office of Water uses to assess project proposals against the **NSW Aquifer Interference Policy (AIP).**

The NSW Aquifer Interference Policy can be downloaded from the NSW Office of Water website (www.water.nsw.gov.au under Water management > Law and policy > Key policies > Aquifer interference).

While you are not required to use this framework, you may find it a useful tool to aid the development of a proposal or an **Environmental Impact Statement (EIS).**

We suggest that you summarise your response to each AIP requirement in the tables following and provide a reference to the section of your EIS that addresses that particular requirement. Using this tool can help to ensure that all necessary factors are considered, and will help you understand the requirements of the AIP.

Table 1. Does the activity require detailed assessment under the AIP?

	Consideration	Response
1	Is the activity defined as an aquifer interference activity?	If **NO,** then no assessment is required under the AIP. If **YES,** continue to Question 2.
2	Is the activity a defined minimal impact aquifer interference activity according to section 3.3 of the AIP?	If **YES**, then no further assessment against this policy is required. Volumetric licensing still required for any water taken, unless exempt. If **NO**, then continue on for a full assessment of the activity.

Note for proponents

Section 3.2 of the AIP defines the framework for assessing impacts. These are addressed here under the following headings:

1. Accounting for or preventing the take of water
2. Addressing the minimal impact considerations
3. Proposed remedial actions where impacts are greater than predicted.

1. Accounting for, or preventing the take of water

Where a proposed activity will take water, adequate arrangements must be in place to account for this water. It is the proponent's responsibility to ensure that the necessary licences are held. These requirements are detailed in Section 2 of the AIP, with the specific considerations in Section 2.1 addressed systematically below.

Where a proponent is unable to demonstrate that they will be able to meet the requirements for the licensing of the take of water, consideration should be given to modification of the proposal to prevent the take of water.

Table 2. Has the proponent:

	AIP requirement	Proponent response	NSW Office of Water comment
1	Described the water source(s) the activity will take water from?	Yes, Sydney Basin West Groundwater Source (see Section 2.3.2)	
2	Predicted the total amount of water that will be taken from each connected groundwater or surface water source on an annual basis as a result of the activity?	N/A. Not presented at this stage, as this is an Extraction Plan and not a modification to consent. Model predictions indicated small to negligible change in modelled dewatering rate due to development and extraction of 918 Panel. Existing WAL holdings presented in Table 2.5 will be sufficient for implementation of this Extraction Plan.	
3	Predicted the total amount of water that will be taken from each connected groundwater or surface water source after the closure of the activity?	N/A. Not presented at this stage, as this is an Extraction Plan and not a modification to consent. Change to modelled groundwater take	
4	Made these predictions in accordance with Section 3.2.3 of the AIP? (refer to Table 3, below)	Yes. Clarence Colliery comprises and underground coal mine and surface works, therefore requires a complex model. A complex model was developed and will be used to present licensable take.	
5	Described how and in what proportions this take will be assigned to the affected aquifers and connected surface water sources?	N/A The basis of calculation of licensable take from the Sydney Basin West Groundwater Source will be presented at a subsequent stage.	
6	Described how any licence exemptions might apply?	N/A. Mining requires sufficient WALs to be held.	

	AIP requirement	Proponent response	NSW Office of Water comment
7	Described the characteristics of the water requirements?	Yes, aquifer interferance activity, comprising direct take of groundwater and indirect take from connected surface water. For surface water take, in accordance with Figure 7 of NSW DCCEEW (2022b), as watercourses in the vicinity of Clarence Colliery are gaining watercourses, estimated licensable take will be assigned to groundwater source.	
8	Determined if there are sufficient water entitlements and water allocations that are able to be obtained for the activity?	Yes. Existing WAL holdings presented in Table 2.5 will be sufficient for implementation of this Extraction Plan.	
9	Considered the rules of the relevant water sharing plan and if it can meet these rules?	N/A, since aquifer interference activity.	
10	Determined how it will obtain the required water?	Yes. Clarence Colliery already hold the required WALs.	
11	Considered the effect that activation of existing entitlement may have on future available water determinations?	Yes. Current WALs are sufficient for implementation of the Extraction Plan for 918 Panel as well as other existing mining activties at Clarence Colliery.	
12	Considered actions required both during and post-closure to minimize the risk of inflows to a mine void as a result of flooding?	N/A, as not an open cut mine.	
13	Developed a strategy to account for any water taken beyond the life of the operation of the project?	Yes. Current WALs held by Clarence Colliery will be sufficient for take beyond the end of mining at Clarence.	
Will uncertainty in the predicted inflows have a significant impact on the environment or other authorised water users? If **YES,** items 14-16 must be addressed.			
14	Considered any potential for causing or enhancing hydraulic connections, and quantified the risk?	Yes. Complex model incorporates change to modelled hydraulic properties due to subsidence. Complex model includes stochastic simulation (randomised values of parameter fields).	

	AIP requirement	Proponent response	NSW Office of Water comment
15	Quantified any other uncertainties in the groundwater or surface water impact modelling conducted for the activity?	Yes. Complex model presents model output incorporating predictive uncertainty via a stochastic method.	
16	Considered strategies for monitoring actual and reassessing any predicted take of water throughout the life of the project, and how these requirements will be accounted for?	Yes. Observed mine dewatering rates determined via cumulative pumped volumes throughout the underground workings. Further detail presented in the Site and Salt Water Balance attached to the Water Management Plan as part of the Extraction Plan for 918 Panel.	

Table 3. Determining water predictions in accordance with Section 3.2.3 (complete one row only – consider both during and following completion of activity)

	AIP requirement	Proponent response	NSW Office of Water comment
1	**For the Gateway process**, is the estimate based on a simple modelling platform, using suitable baseline data, that is, fit-for-purpose?	N/A	
2	**For State Significant Development or mining or coal seam gas production**, is the estimate based on a complex modelling platform that is: • Calibrated against suitable baseline data, and in the case of a **reliable water source,** over at least two years? • Consistent with the Australian Modelling Guidelines? • Independently reviewed, robust and reliable, and deemed fit-for-purpose?	Yes. Model is calibrated against an observation dataset that exceeds two years. Yes. The model has been completed in accordance with the AGMG (Class 2). Refer to Table 4.1. Yes. The model has been subject to 3rd party review. That review is in the process of being finalised and will be submitted as an accompanient to the Extraction Plan.	
3	In all other processes, estimate based on a desk-top analysis that is: • Developed using the available baseline data that has been collected at an appropriate frequency and scale; and • Fit-for-purpose?	N/A	

Other requirements to be reported on under Section 3.2.3

Table 4. Has the proponent provided details on:

	AIP requirement	Proponent response	NSW Office of Water comment
1	Establishment of baseline groundwater conditions?	Yes. Extensive groundwater monitoring network is installed at Clarence Colliery.	
2	A strategy for complying with any water access rules?	N/A, as an aquifer interference activity.	
3	Potential water level, quality or pressure drawdown impacts on nearby basic landholder rights water users?	Yes, but no impact on basic landholder rights will occur.	
4	Potential water level, quality or pressure drawdown impacts on nearby licensed water users in connected groundwater and surface water sources?	Yes, but no impact to other licensed water users in groundwater or surface water uses will occur due to implementation of the Extraction Plan for 918 Panel.	
5	Potential water level, quality or pressure drawdown impacts on groundwater dependent ecosystems?	Yes, complex model used to predict change to groundwater elevation beneath THPSS (listed under the relevant schedule of the Water Sharing Plan), including consideration of predictive uncertainty.	
6	Potential for increased saline or contaminated water inflows to aquifers and highly connected river systems?	N/A, there will be no change to groundwater or surface water quality due to implementation of the Extraction Plan for 918 Panel.	
7	Potential to cause or enhance hydraulic connection between aquifers?	Yes, consideration of subsidence-induced change to hydraulic properties incorporated into the numerical groundwater model.	
8	Potential for river bank instability, or high wall instability or failure to occur?	N/A, Clarence Colliery comprises an underground coal mine and surface works.	
9	Details of the method for disposing of extracted activities (for coal seam gas activities)?	Yes, groundwater extracted for the purpose of depressurisation the target coal seam (Katoomba Seam) prior to development and extraction is treated and discharged via an EPL at LDP002 at Clarence.	

2. Addressing the minimal impact considerations

Note for proponents

Section 3.2.1 of the AIP describes how aquifer impact assessment should be undertaken.

1. Identify all water sources that will be impacted, referring to the water sources defined in the relevant water sharing plan(s). Assessment against the minimal impact considerations of the AIP should be undertaken for each ground water source.
2. Determine if each water source is defined as 'highly productive' or 'less productive'. If the water source is named in then it is defined as highly productive, all other water sources are defined as less productive.
3. With reference to pages 13-14 of the Aquifer Interference Policy, determine the sub-grouping of each water source (eg alluvial, porous rock, fractured rock, coastal sands).
4. Determine whether the predicted impacts fall within Level 1 or Level 2 of the minimal impact considerations defined in Table 1 of the AIP, for each water source, for each of water table, water pressure, and water quality attributes. The tables below may assist with the assessment. There is a separate table for each sub-grouping of water source – only use the tables that apply to the water source(s) you are assessing, and delete the others.
5. If unable to determine any of these impacts, identify what further information will be required to make this assessment.
6. Where the assessment determines that the impacts fall within the Level 1 impacts, the assessment should be 'Level 1 – Acceptable'
7. Where the assessment falls outside the Level 1 impacts, the assessment should be 'Level 2'. The assessment should further note the reasons the assessment is Level 2, and any additional requirements that are triggered by falling into Level 2.
8. If water table or water pressure assessment is not applicable due to the nature of the water source, the assessment should be recorded as 'N/A – reason for N/A'.

Aquifer	Porous Rock – except Great Artesian Basin
Category	Highly Productive

Level 1 Minimal Impact Consideration	Assessment
Water table Less than or equal to a 10% cumulative variation in the water table, allowing for typical climatic 'post-water sharing plan' variations, 40 metres from any: • high priority groundwater dependent ecosystem or • high priority culturally significant site listed in the schedule of the relevant water sharing plan. **OR** A maximum of a 2 metre water table decline cumulatively at any water supply work.	For THPSS, modelling indicates that implementation of the Extraction Plan for 918 Panel will not exceed the Level 1 Impact Consideration in the Lower Nine Mile Hanging and Shrub Swamps and Paddys Creek Hanging and Shrub Swamps. Whilst modelling indicated there would be transitory exceedances of the Level 1 Impact Consideration in the Lower Nine Mile Shrub Swamp mapped directly above 918 Panel, these are considered to be insignificant as they are transitory and do not lead to long-term change to groundwater elevation. Given the above it is considered that the impact of implementation of the Extraction Plan for 918 Panel on Lower Nine Mile Hanging and Shrub Swamps and Paddys Creek Hanging and Shrub Swamps, will be insignificant. There do not exist any groundwater supply works within 2km of 918 Panel, other than dewatering works owned and operated by Clarence Colliery or Springvale Mine. Groundwater supply works are installed into the Banks Wall Sandstone. Implementation of the Extraction Plan of 918 Panel will not lead to a decline in elevation of the water table at those non-Centennial groundwater supply works.
Water pressure A cumulative pressure head decline of not more than a 2 metre decline, at any water supply work.	There do not exist any groundwater supply works within 2km of 918 Panel, other than observation and dewatering works owned and operated by Clarence Colliery or Springvale Mine. Implementation of the Extraction Plan of 918 Panel will not lead to a decline in groundwater elevation at groundwater supply works.
Water quality Any change in the groundwater quality should not lower the beneficial use category of the groundwater source beyond 40 metres from the activity.	Implementation of the Extraction Plan for 918 Panel will not lead to a change to the beneficial use category of groundwater, therefore is compliant.

3. Proposed remedial actions where impacts are greater than predicted.

Note for proponents

Point 3 of section 3.2 of the AIP provides a basic framework for considerations to consider when assessing a proponent's proposed remedial actions.

Table 6. Has the proponent:

	AIP requirement	Proponent response	NSW Office of Water comment
1	Considered types, scale, and likelihood of unforeseen impacts *during operation*?	Yes. Experience in the impacts due to depressurisastion of target coal seams and subsidence-induced change in hydraulic properties has evolved over the last decade, leading to amendment to mining method, in this case to use the PPPE method, which is a low subsidence method.	
2	Considered types, scale, and likelihood of unforeseen impacts *post closure*?	Yes. WALs will be maintained, post-mining, to accommodate the long-term take. Post-mining management will consistent of controlled recovery of groundwater elevation in the target coal seams, which will reduce the vertical hydraulic gradient (which was increased due to depressurisation of the deep groundwater system). Subsidence-related change, due to extraction will be stable in the long-term, by design.	
3	Proposed mitigation, prevention or avoidance strategies for each of these potential impacts?	Yes. Adaptive management has influenced mine design at Clarence, as well as at the adjacent operations at Springvale Mine and Angus Place Colliery (currently on Care and Maintenance, but has informed selected future mining methods). At Clarence, for 918 Panel, in response to comments received from CTH DCCEEW on an earlier mine plan (918-920 Panel Area), extraction will now no longer occur directly underneath THPSS.	
4	Proposed remedial actions should the risk minimization strategies fail?	Yes. Future use of PPPE method (outside of 918 Panel) depends on confirmation of subsidence assesment, with respect to the target of 100mm subsidence at ground surface. If it is not confirmed that PPPE is a low-subsidence method, as per its design, then alternative, lower potential subsidence mining methods will have to be considered	

AIP requirement		Proponent response	NSW Office of Water comment
		and, potentially adopted.	
5	Considered what further mitigation, prevention, avoidance or remedial actions might be required?	Yes. Impact is due to subsidence-induced changes to hydraulic properties. Subsidence assessment (SCT, 2025) indicates that the PPPE is low-subsidence, by design, with structually significant Burra-Moko Head Sandstone being important. The representation of this process in the numerical groundwater model is conservative, with some change to hydraulic properties near to ground surface assumed. Remedial action (since surface cracking is not predicted) will not be required.	
6	Considered what conditions might be appropriate?	Yes. Continuous review of subsidence performance is part of current Annual Environmental Management Review.	

4. Other considerations

Note for proponents

These considerations are not included in the assessment framework outlined within the AIP, however are discussed elsewhere in the document and are useful considerations when assessing a proposal.

Table 7: Has the proponent:

	AIP requirement	Proponent response	NSW Office of Water comment
1	Addressed how it will measure and monitor volumetric take? (page 4 of the AIP)	Yes. Management of groundwater inflows to underground workings at Clarence is complex. There are multiple underground water storage areas and there is transfer (metered) between these, prior to extraction for treatment and disposal to the Wollangambee River via EPL LDP002 (metered). It is noted that at Clarance Colliery, there is minimal consumption of water by site processes and, essentially, all groundwater inflow to underground workings is eventually discharged to surface water via LDP002.	
2	Outlined a reporting framework for volumetric take? (page 4 of the AIP)	Yes. Annual returns are currently provided since WALs are held by Clarence Colliery.	

More information

www.water.nsw.gov.au

Published by the NSW Department of Primary Industries.

Reference 12279

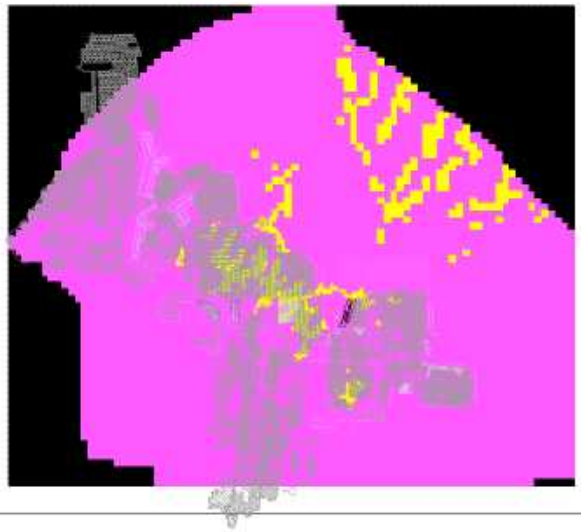
Appendix C Model Boundary Conditions

Appendix C

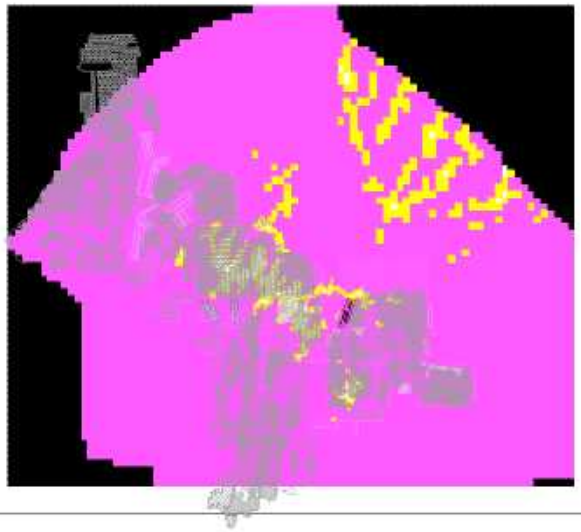
C1. Distribution of Model Boundary Conditions – Whole Model

This appendix presents boundary conditions in each model layer at the following:

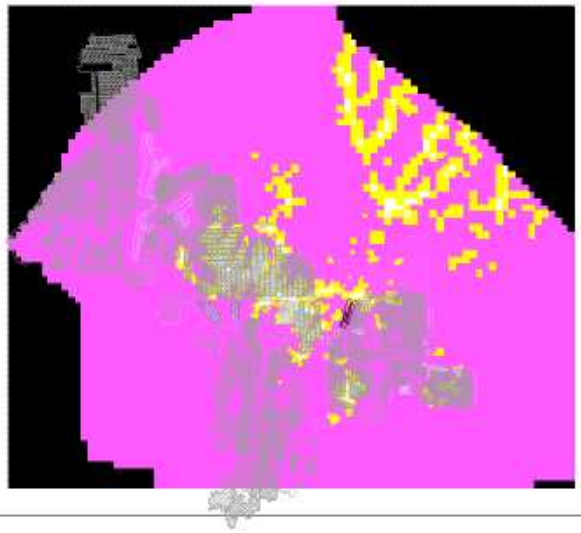
- Steady-State (SP001)
- end of 918 Panel, 31 March 2028 (SP154).



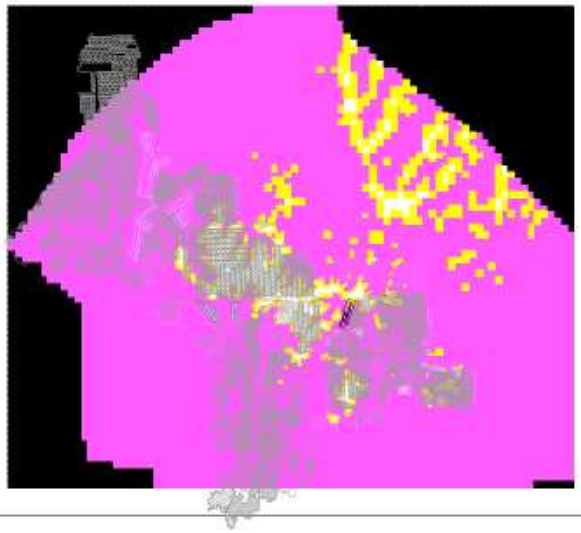
Layer 01



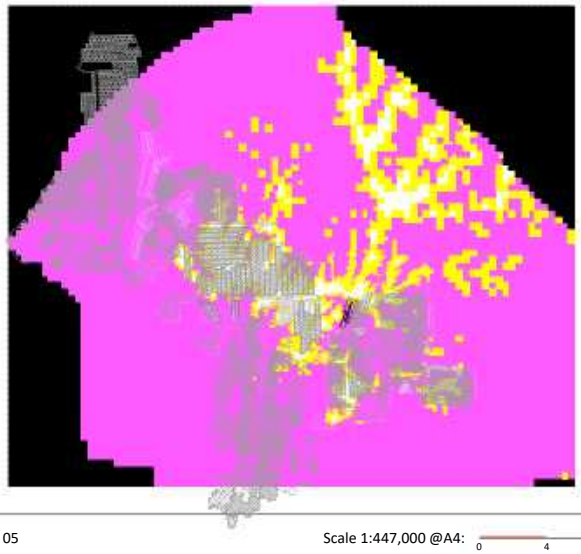
Layer 02



Layer 03

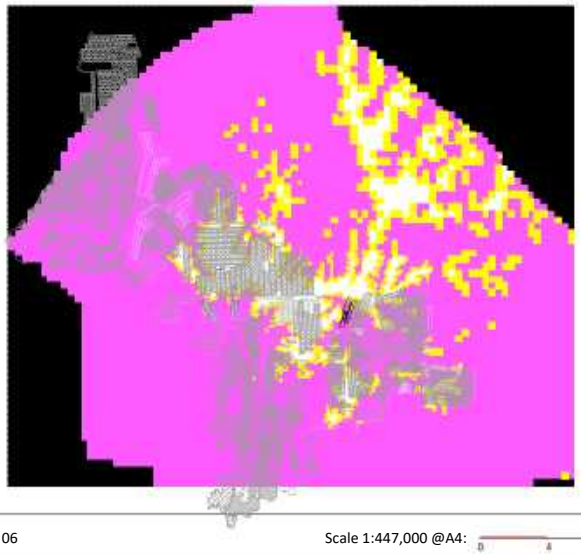


Layer 04



Layer 05

Scale 1:447,000 @A4: 0 4 8km



Layer 06

Scale 1:447,000 @A4:

Legend

Mining Methods:
- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:
- Approved
- Existing
- Proposed
- Other Proposed

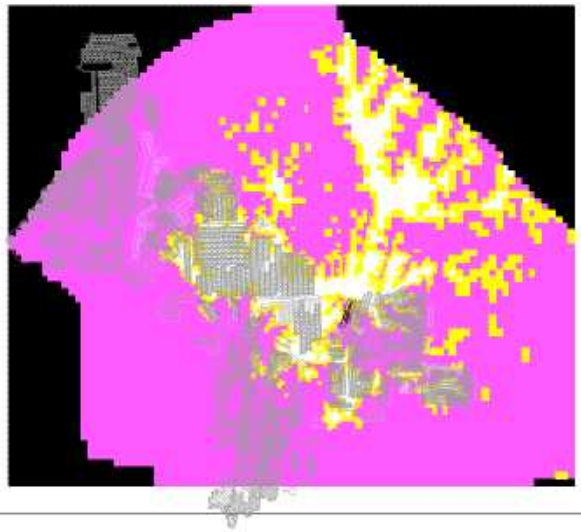
Model Cell Type:
- 'Pinched-Out' Cells

Model Boundary Conditions:
- Drain (DRN) Cells
- River (RIV) Cells
- General Head Boundary (GHB) Cells
- Well (WEL) Cells
- Constant Head (CHD) Cells
- No Flow Boundary (NFB) Cells

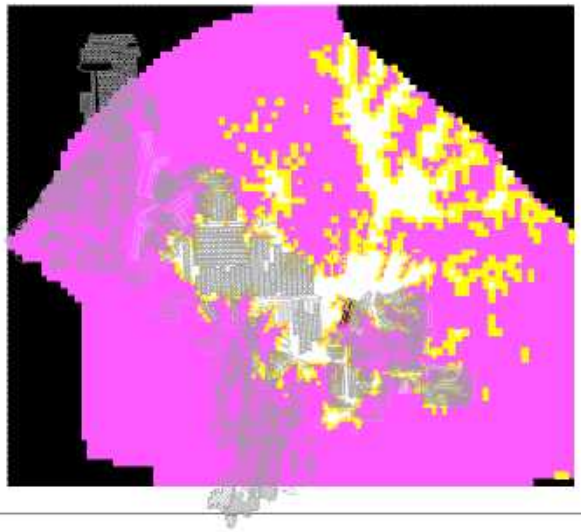
Job No.: 68229		**Layout of Boundary Conditions**
Client: Clarence Colliery Pty Ltd		Steady-State (SP001) - Layer 01 to Layer 06
Version: R01RevA	Date: 06/11/2025	
Drawn By: DAW	Checked By: JRWB	**Figure C-01a** JBS&G

File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D055_LayoutofBCs\68229_R01RevA_D055a_LayoutOfBCs_L01_L06.grf

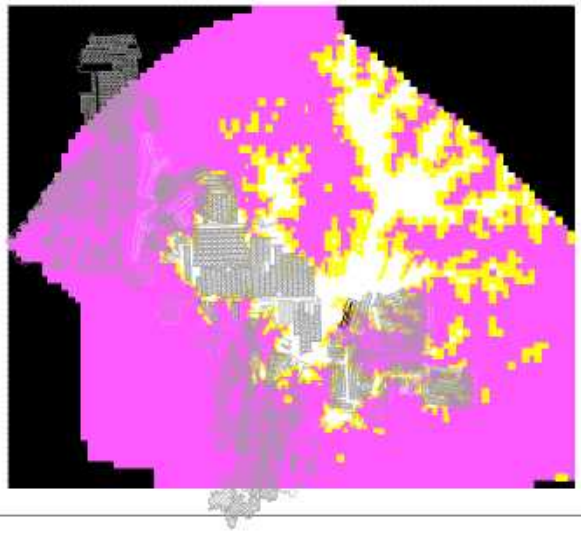
Reference: 68229_R01RevA_PRO_02a



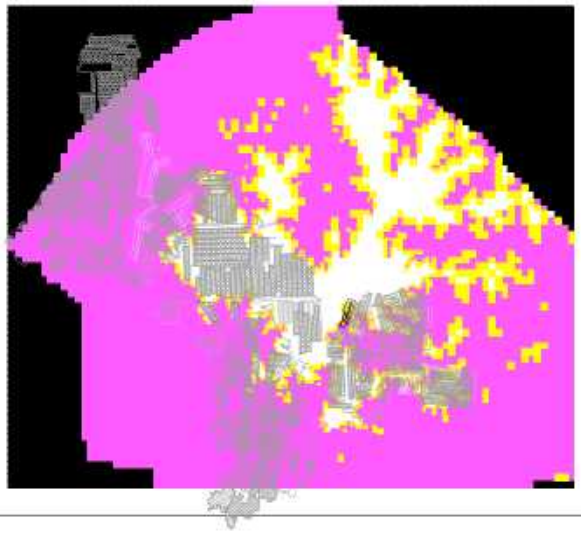
Layer 07



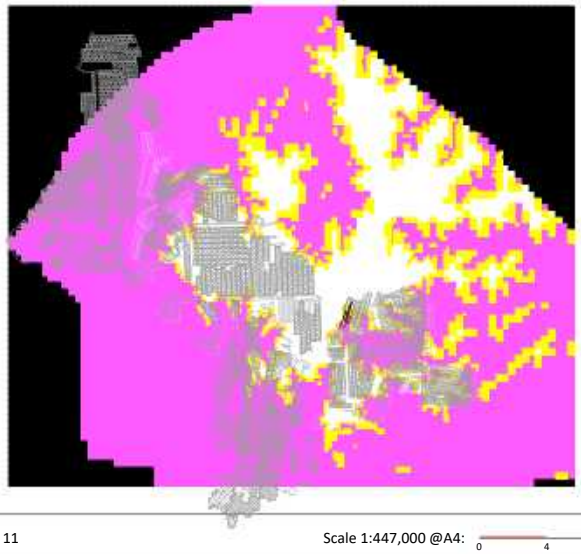
Layer 08



Layer 09

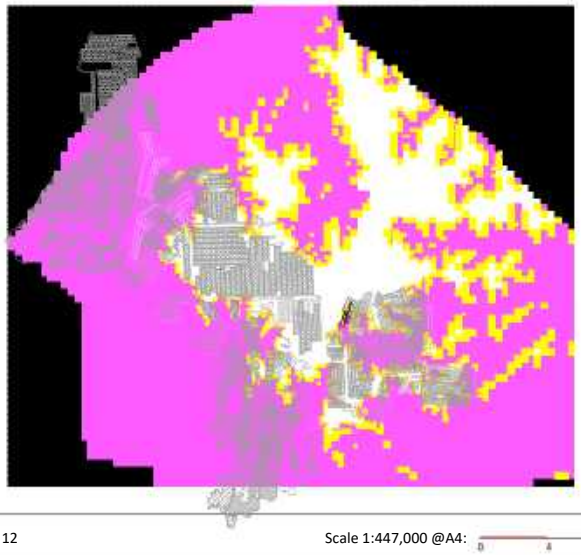


Layer 10



Layer 11

Scale 1:447,000 @A4: 0 4 8km



Layer 12

Scale 1:447,000 @A4:

Legend

Mining Methods:
- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:
- Approved
- Existing
- Proposed
- Other Proposed

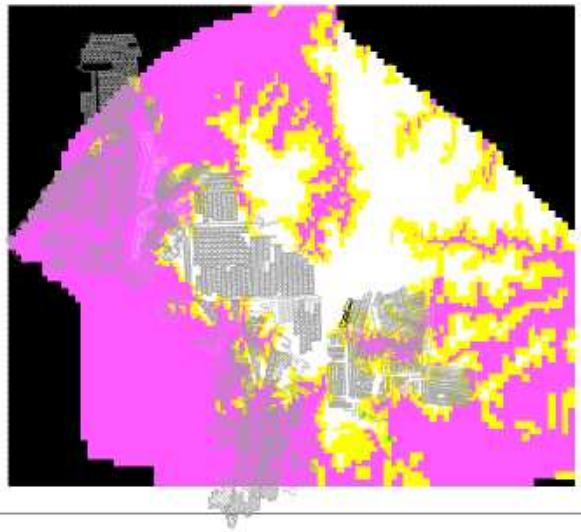
Model Cell Type:
- 'Pinched-Out' Cells

Model Boundary Conditions:
- Drain (DRN) Cells
- River (RIV) Cells
- General Head Boundary (GHB) Cells
- Well (WEL) Cells
- Constant Head (CHD) Cells
- No Flow Boundary (NFB) Cells

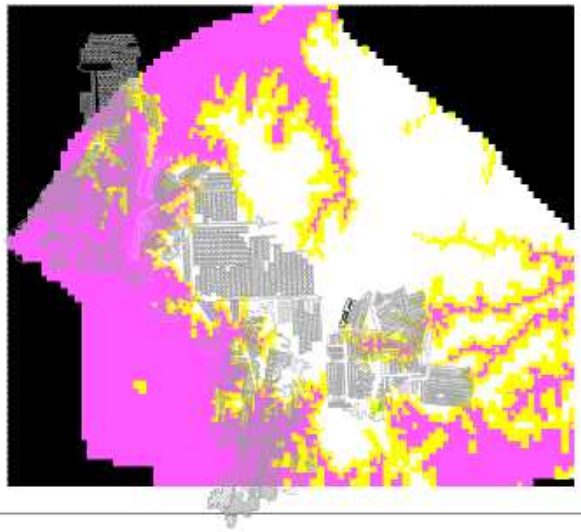
Job No.: 68229		**Layout of Boundary Conditions** Steady-State (SP001) - Layer 07 to Layer 12
Client: Clarence Colliery Pty Ltd		
Version: R01RevA	Date: 06/11/2025	
Drawn By: DAW	Checked By: JRWB	**Figure C-01b** JBS&G

File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D055_LayoutofBCs\68229_R01RevA_D055b_LayoutOfBCs_L07_L12.grf

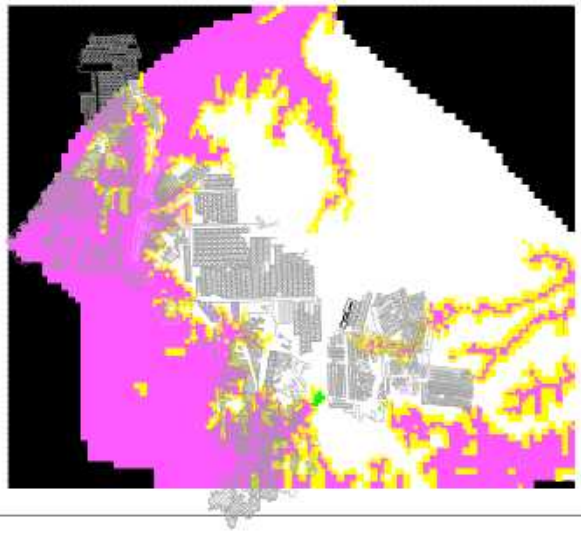
Reference: 68229_R01RevA_PRO_02a



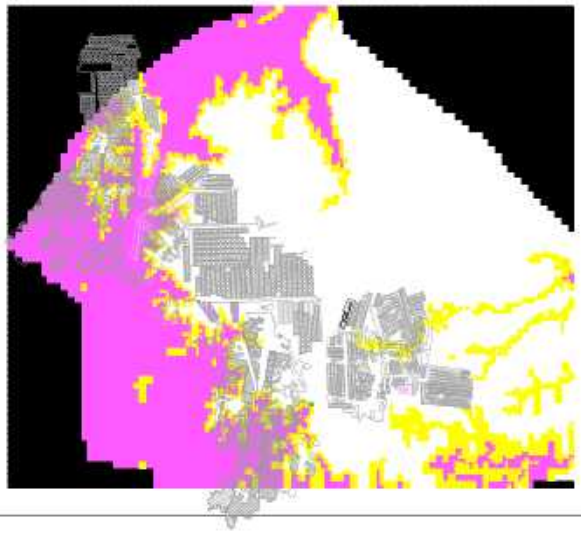
Layer 13



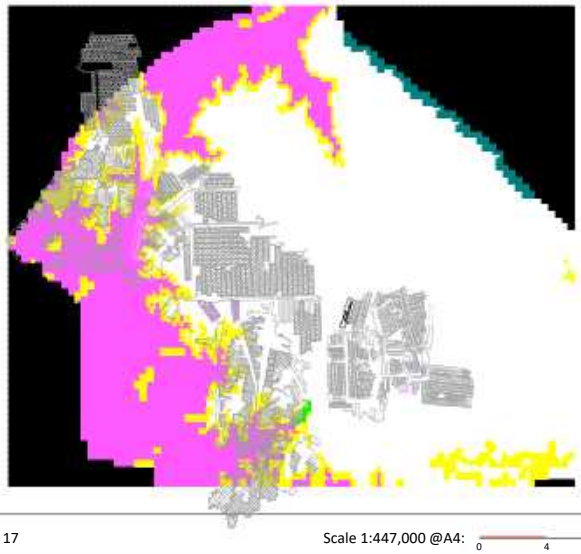
Layer 14



Layer 15

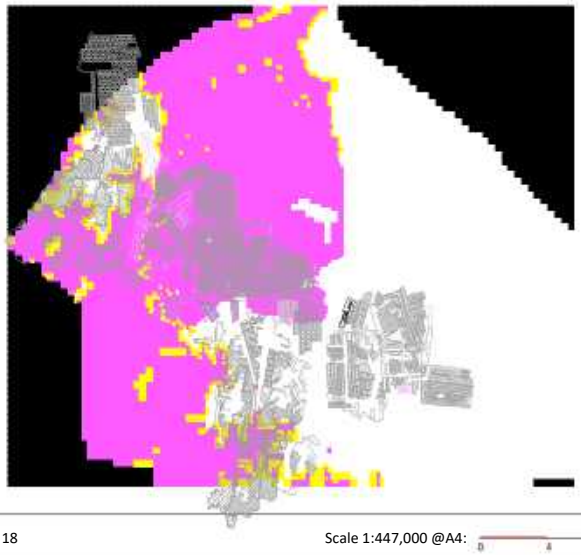


Layer 16



Layer 17

Scale 1:447,000 @A4: 0 4 8km



Layer 18

Scale 1:447,000 @A4:

Legend

Mining Methods:
- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:
- Approved
- Existing
- Proposed
- Other Proposed

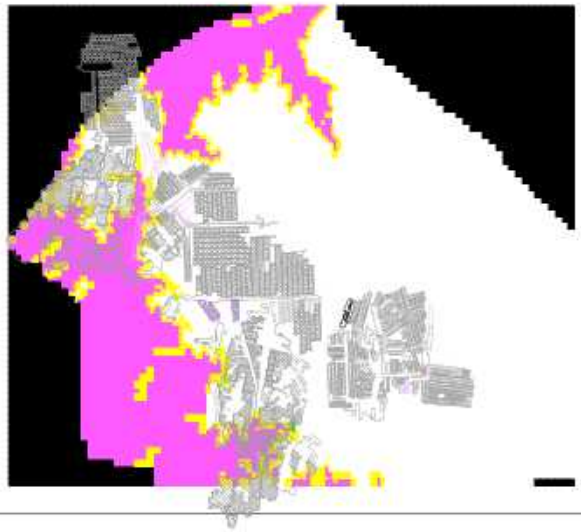
Model Cell Type:
- 'Pinched-Out' Cells

Model Boundary Conditions:
- Drain (DRN) Cells
- River (RIV) Cells
- General Head Boundary (GHB) Cells
- Well (WEL) Cells
- Constant Head (CHD) Cells
- No Flow Boundary (NFB) Cells

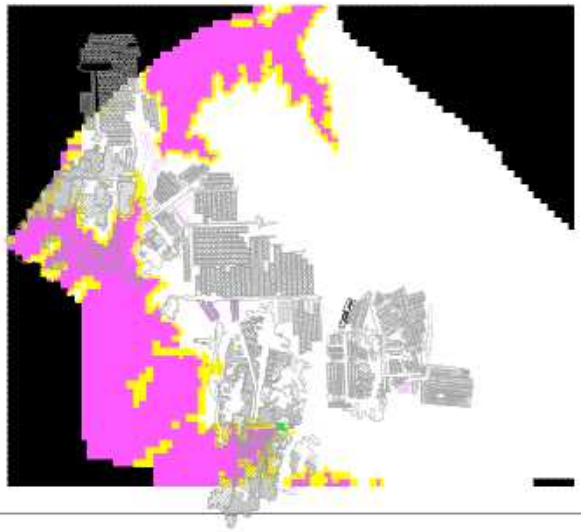
Job No.: 68229		**Layout of Boundary Conditions**
Client: Clarence Colliery Pty Ltd		Steady-State (SP001) - Layer 13 to Layer 18
Version: R01RevA	Date: 06/11/2025	
Drawn By: DAW	Checked By: JRWB	**Figure C-01c** JBS&G

File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D055_LayoutofBCs\68229_R01RevA_D055c_LayoutOfBCs_L13_L18.grf

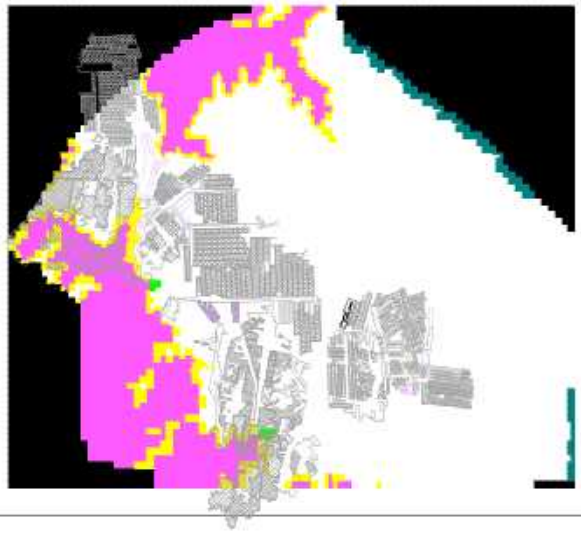
Reference: 68229_R01RevA_PRO_02a



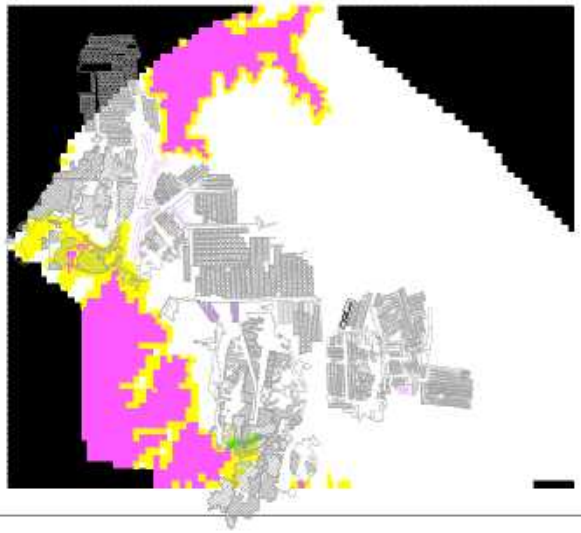
Layer 19



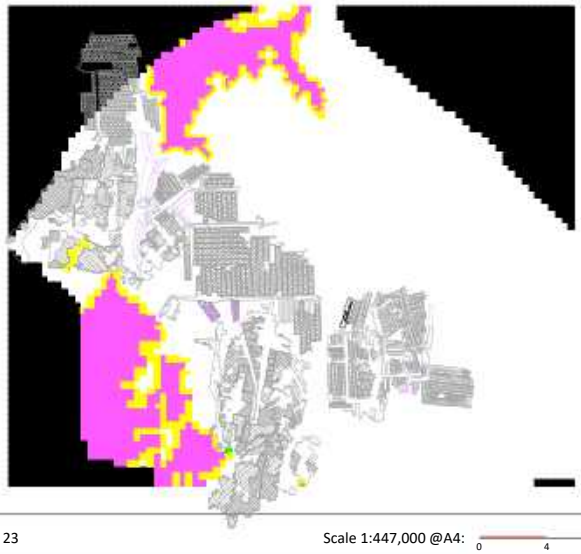
Layer 20



Layer 21

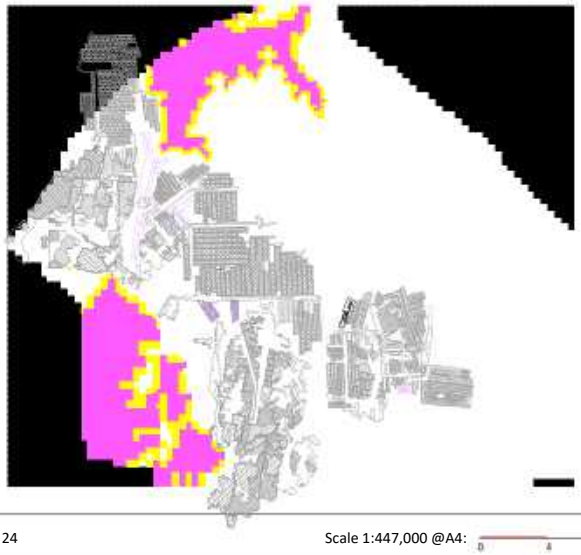


Layer 22



Layer 23

Scale 1:447,000 @A4: 0 4 8km



Layer 24

Scale 1:447,000 @A4:

Legend

Mining Methods:
- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:
- Approved
- Existing
- Proposed
- Other Proposed

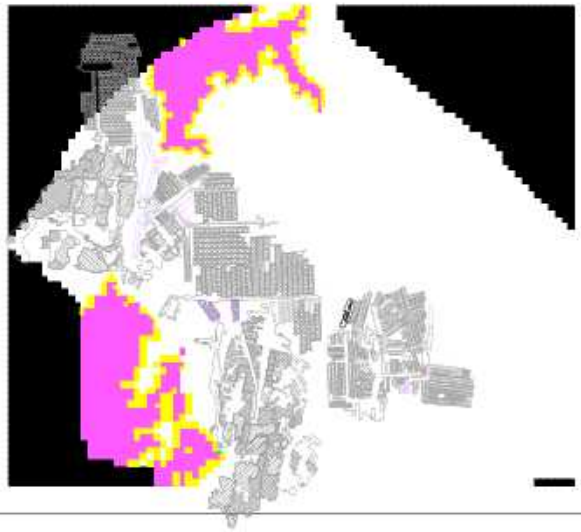
Model Cell Type:
- 'Pinched-Out' Cells

Model Boundary Conditions:
- Drain (DRN) Cells
- River (RIV) Cells
- General Head Boundary (GHB) Cells
- Well (WEL) Cells
- Constant Head (CHD) Cells
- No Flow Boundary (NFB) Cells

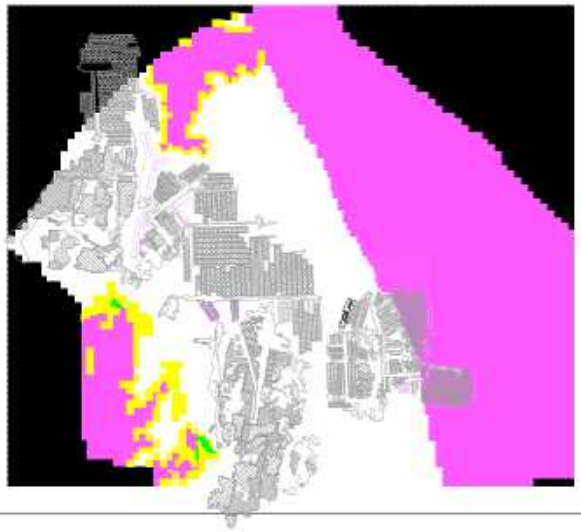
Job No.: 68229		**Layout of Boundary Conditions**
Client: Clarence Colliery Pty Ltd		Steady-State (SP001) - Layer 19 to Layer 24
Version: R01RevA	Date: 06/11/2025	
Drawn By: DAW	Checked By: JRWB	**Figure C-01d**

File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D055_LayoutofBCs\68229_R01RevA_D055d_LayoutOfBCs_L19_L24.grf

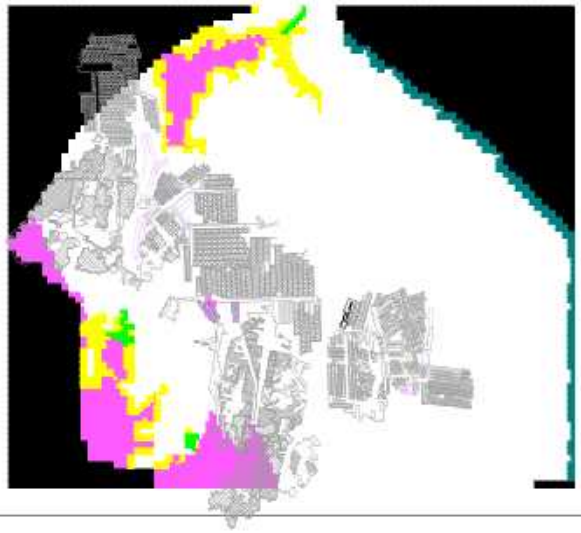
Reference: 68229_R01RevA_PRO_02a



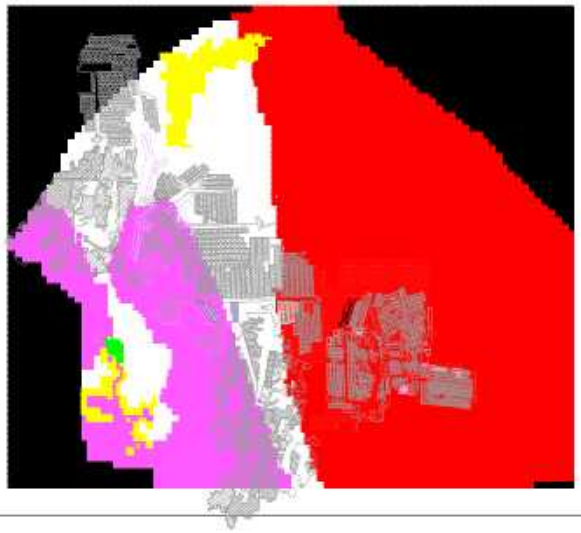
Layer 25



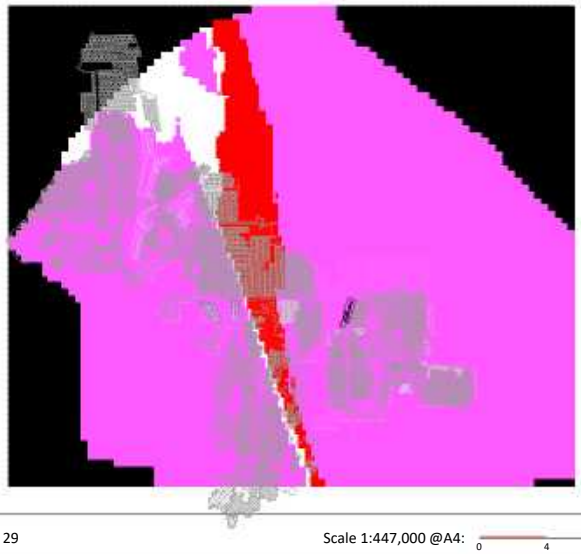
Layer 26



Layer 27

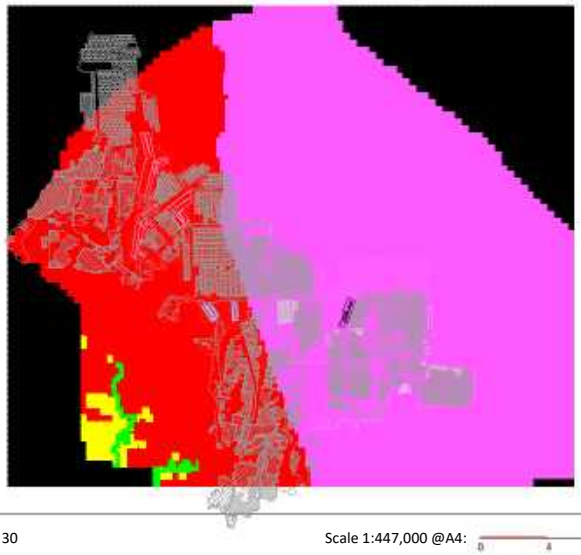


Layer 28



Layer 29

Scale 1:447,000 @A4: 0 4 8km



Layer 30

Scale 1:447,000 @A4:

Legend

Mining Methods:
- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:
- Approved
- Existing
- Proposed
- Other Proposed

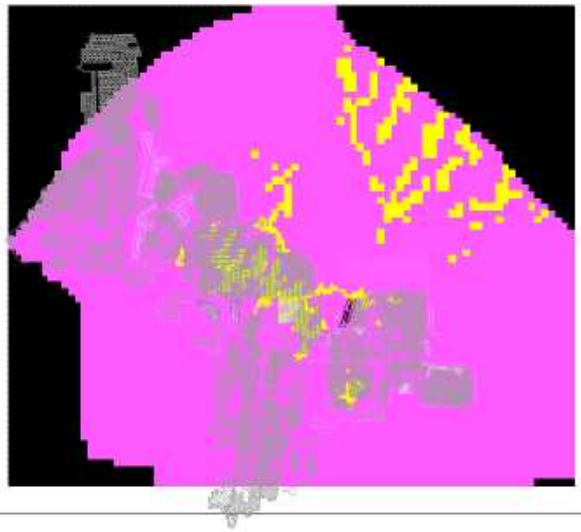
Model Cell Type:
- 'Pinched-Out' Cells

Model Boundary Conditions:
- Drain (DRN) Cells
- River (RIV) Cells
- General Head Boundary (GHB) Cells
- Well (WEL) Cells
- Constant Head (CHD) Cells
- No Flow Boundary (NFB) Cells

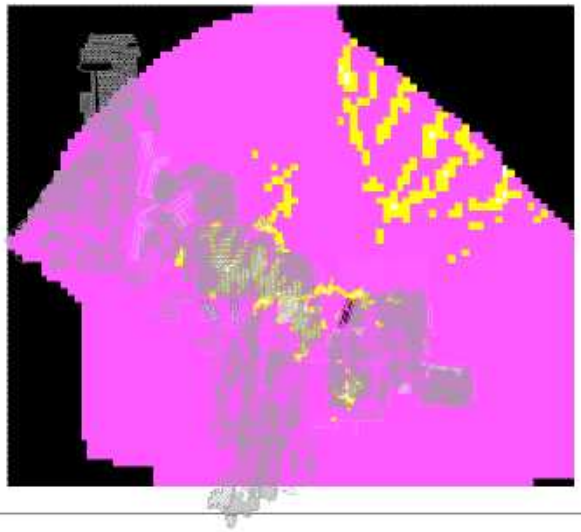
Job No.: 68229		**Layout of Boundary Conditions** Steady-State (SP001) - Layer 25 to Layer 30
Client: Clarence Colliery Pty Ltd		
Version: R01RevA	Date: 06/11/2025	
Drawn By: DAW	Checked By: JRWB	**Figure C-01e** JBS&G

File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D055_LayoutofBCs\68229_R01RevA_D055e_LayoutOfBCs_L25_L30.grf

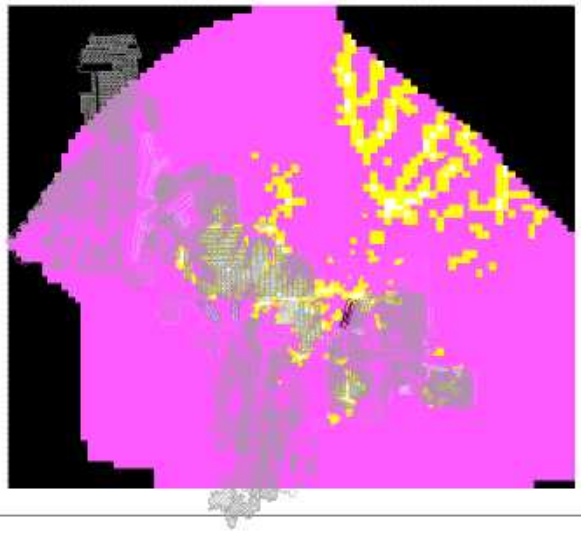
Reference: 68229_R01RevA_PRO_02a



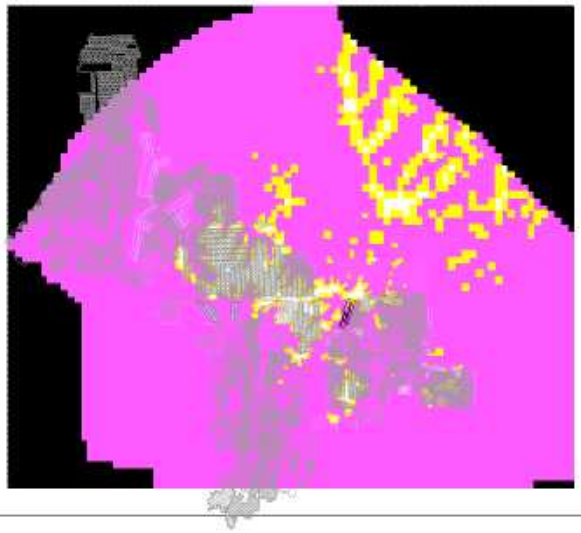
Layer 01



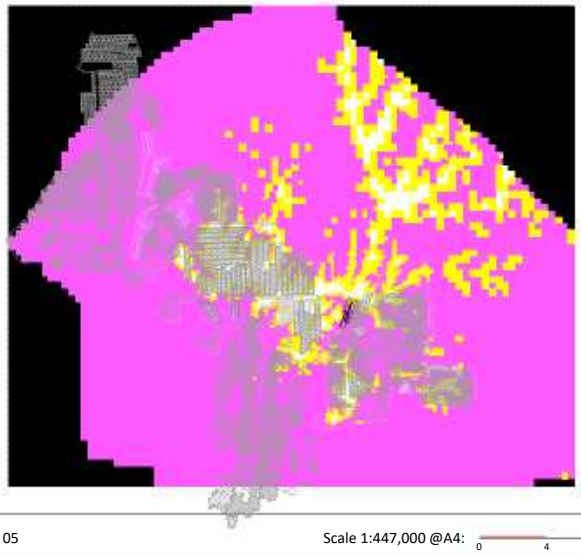
Layer 02



Layer 03

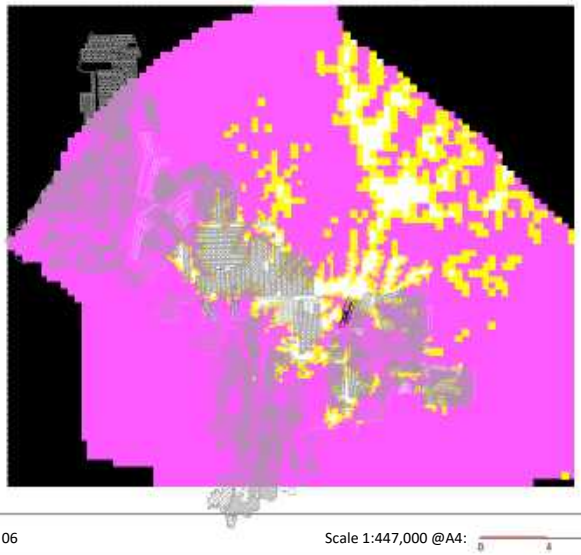


Layer 04



Layer 05

Scale 1:447,000 @A4: 0 4 8km



Layer 06

Scale 1:447,000 @A4:

Legend

Mining Methods:
- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:
- Approved
- Existing
- Proposed
- Other Proposed

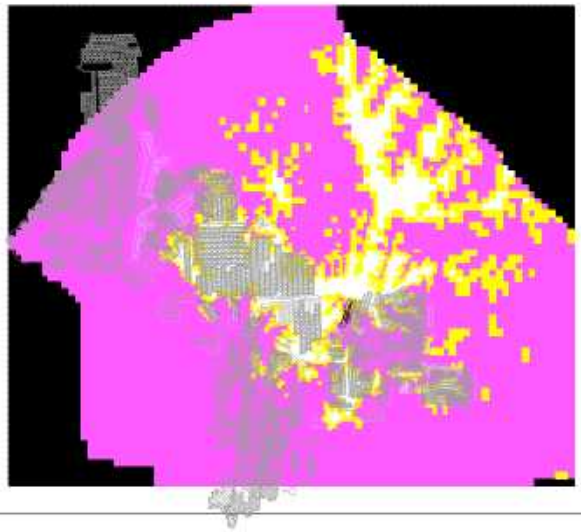
Model Cell Type:
- 'Pinched-Out' Cells

Model Boundary Conditions:
- Drain (DRN) Cells
- River (RIV) Cells
- General Head Boundary (GHB) Cells
- Well (WEL) Cells
- Constant Head (CHD) Cells
- No Flow Boundary (NFB) Cells

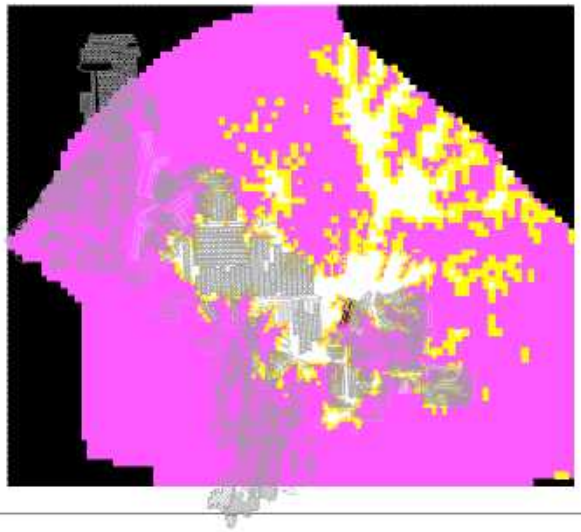
Job No.: 68229		**Layout of Boundary Conditions** March 2028 (SP154) - Layer 01 to Layer 06
Client: Clarence Colliery Pty Ltd		
Version: R01RevA	Date: 06/11/2025	
Drawn By: DAW	Checked By: JRWB	**Figure C-01f** JBS&G

File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D055_LayoutofBCs\68229_R01RevA_D055f_LayoutOfBCs_SP154_L01_L06.grf

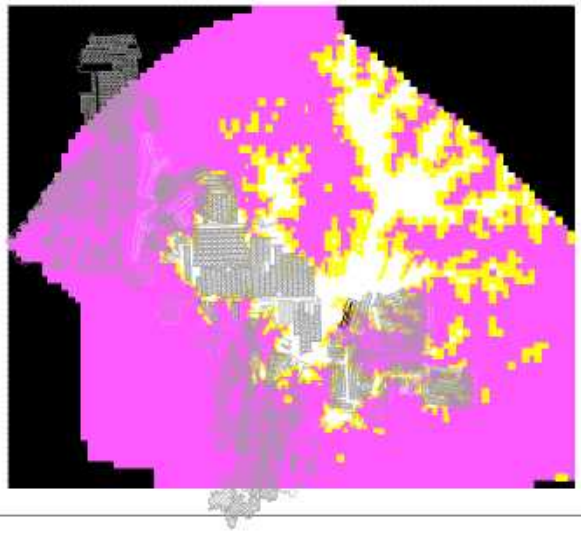
Reference: 68229_R01RevA_PRO_02a



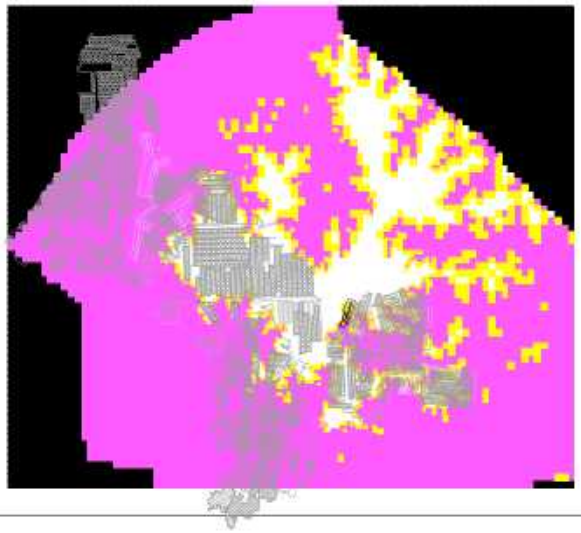
Layer 07



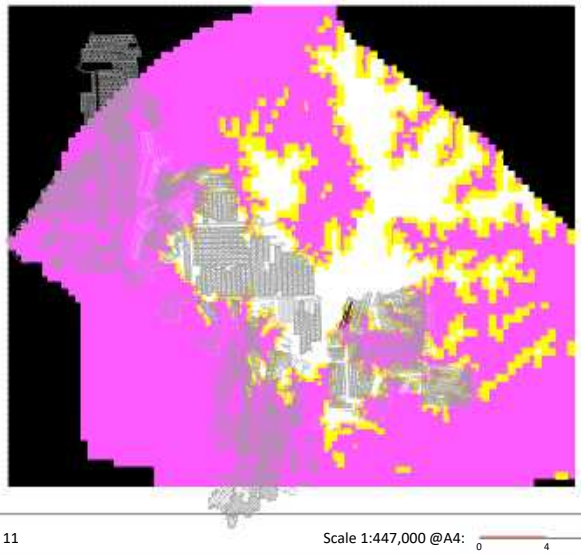
Layer 08



Layer 09

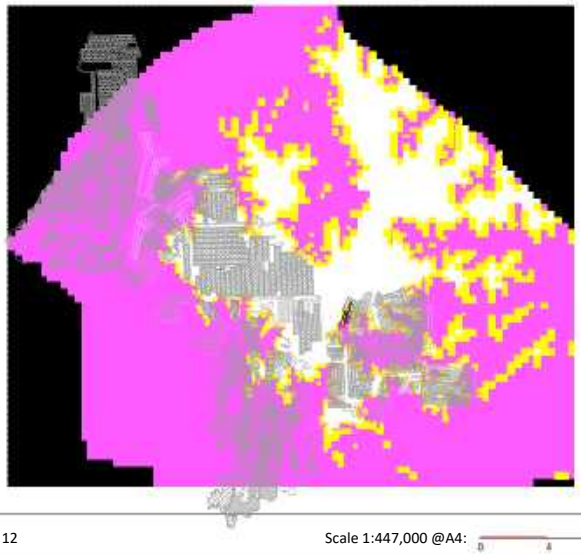


Layer 10



Layer 11

Scale 1:447,000 @A4: 0 4 8km



Layer 12

Scale 1:447,000 @A4:

Legend

Mining Methods:
- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:
- Approved
- Existing
- Proposed
- Other Proposed

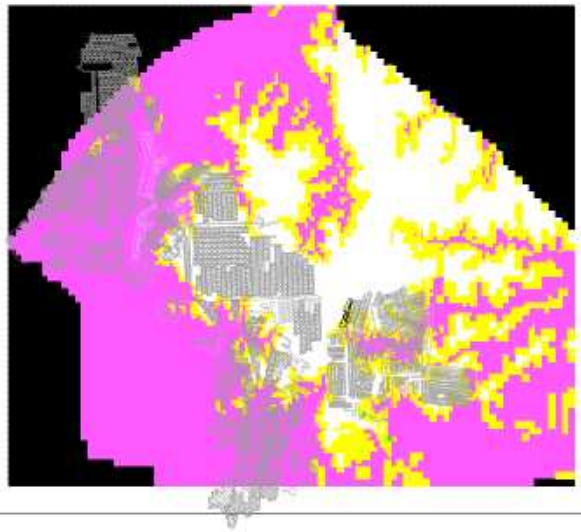
Model Cell Type:
- 'Pinched-Out' Cells

Model Boundary Conditions:
- Drain (DRN) Cells
- River (RIV) Cells
- General Head Boundary (GHB) Cells
- Well (WEL) Cells
- Constant Head (CHD) Cells
- No Flow Boundary (NFB) Cells

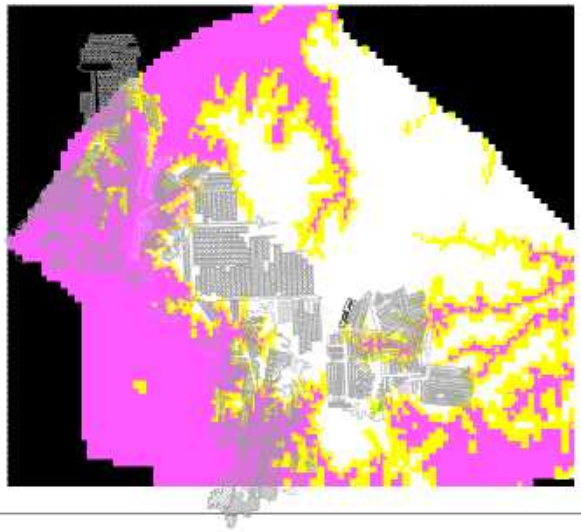
Job No.: 68229		**Layout of Boundary Conditions** March (SP154) - Layer 07 to Layer 12
Client: Clarence Colliery Pty Ltd		
Version: R01RevA	Date: 06/11/2025	
Drawn By: DAW	Checked By: JRWB	**Figure C-01g** JBS&G

File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D055_LayoutofBCs\68229_R01RevA_D055g_LayoutOfBCs_SP154_L07_L12.grf

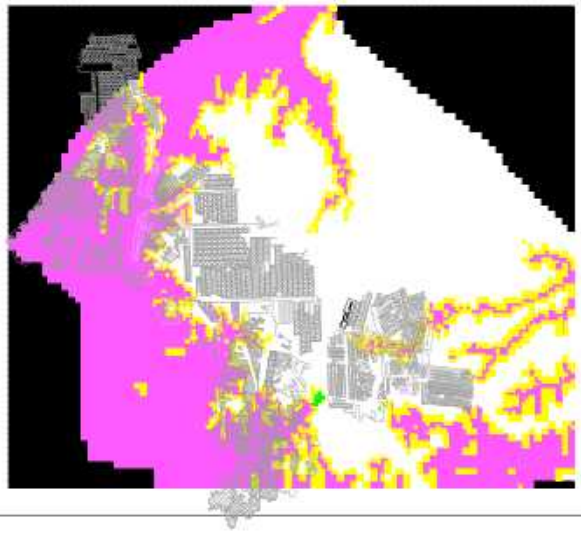
Reference: 68229_R01RevA_PRO_02a



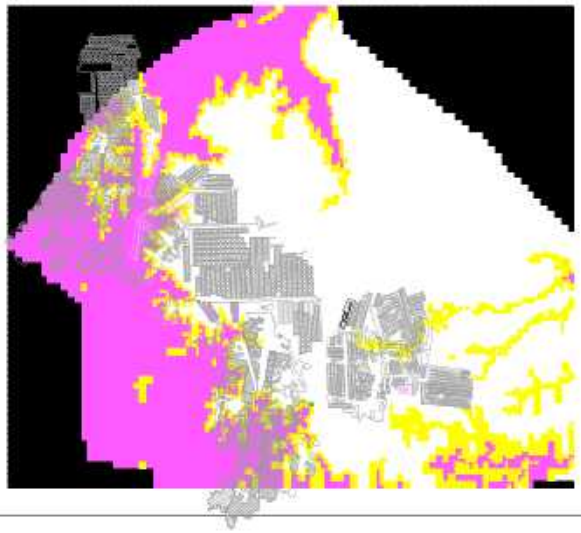
Layer 13



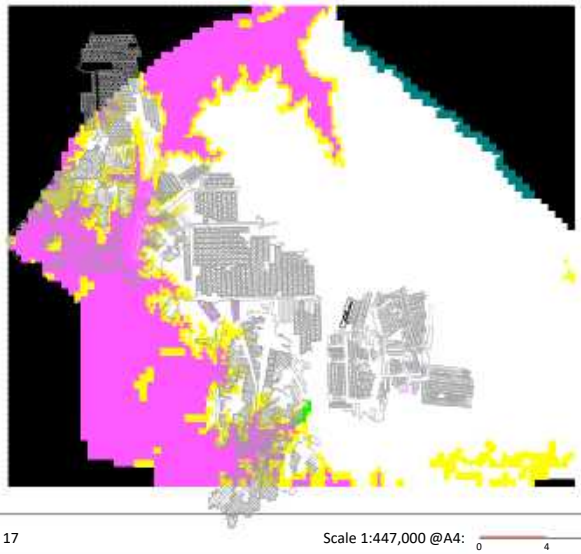
Layer 14



Layer 15

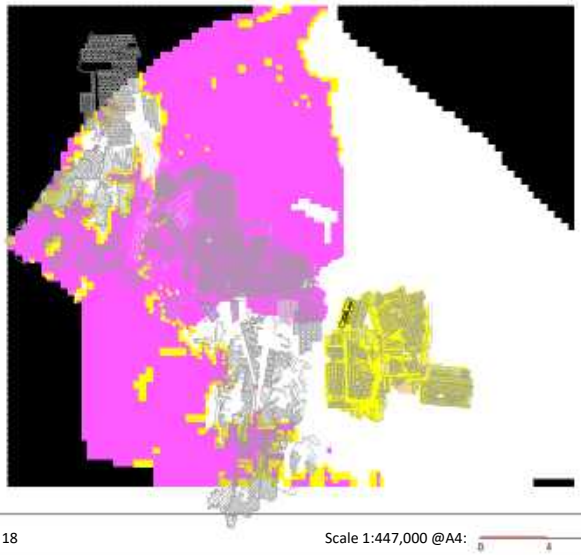


Layer 16



Layer 17

Scale 1:447,000 @A4: 0 4 8km



Layer 18

Scale 1:447,000 @A4:

Legend

Mining Methods:
- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:
- Approved
- Existing
- Proposed
- Other Proposed

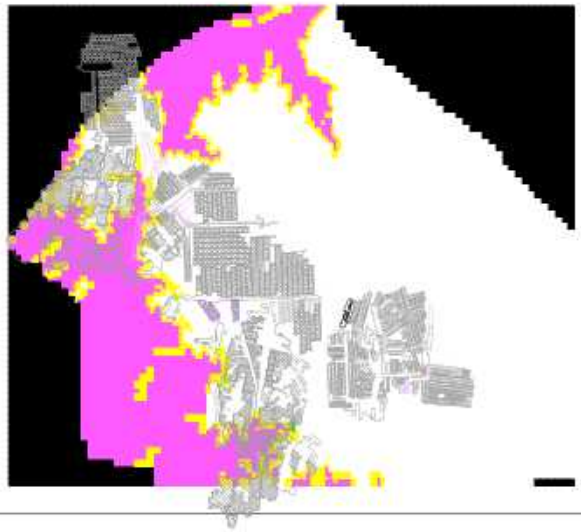
Model Cell Type:
- 'Pinched-Out' Cells

Model Boundary Conditions:
- Drain (DRN) Cells
- River (RIV) Cells
- General Head Boundary (GHB) Cells
- Well (WEL) Cells
- Constant Head (CHD) Cells
- No Flow Boundary (NFB) Cells

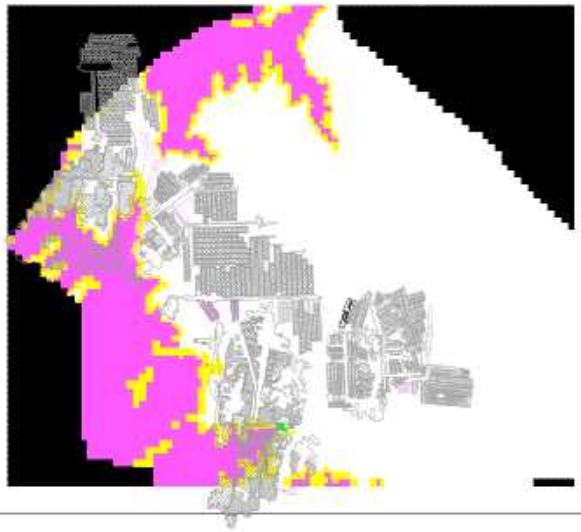
Job No.: 68229		**Layout of Boundary Conditions** March 2028 (SP154) - Layer 13 to Layer 18
Client: Clarence Colliery Pty Ltd		
Version: R01RevA	Date: 06/11/2025	
Drawn By: DAW	Checked By: JRWB	**Figure C-01h** JBS&G

File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D05S_LayoutofBCs\68229_R01RevA_D05Sh_LayoutOfBCs_SP154_L13_L18.grf

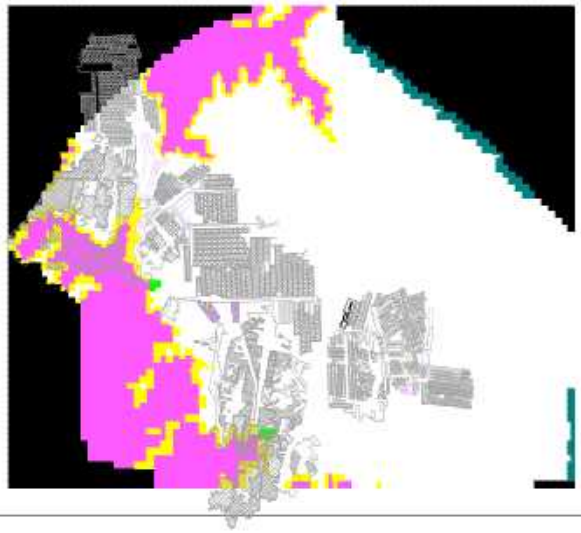
Reference: 68229_R01RevA_PRO_02a



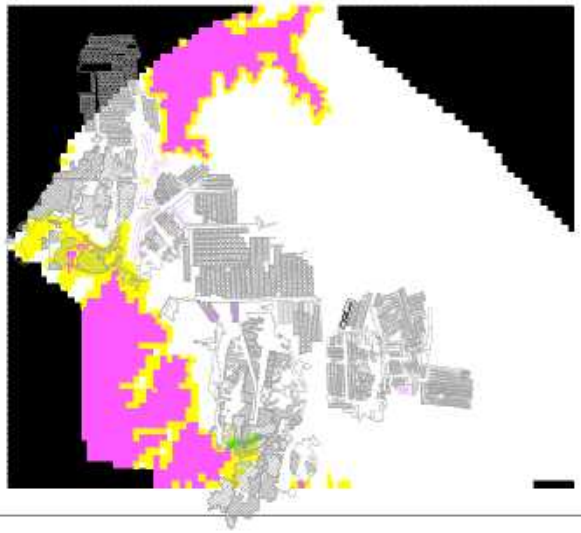
Layer 19



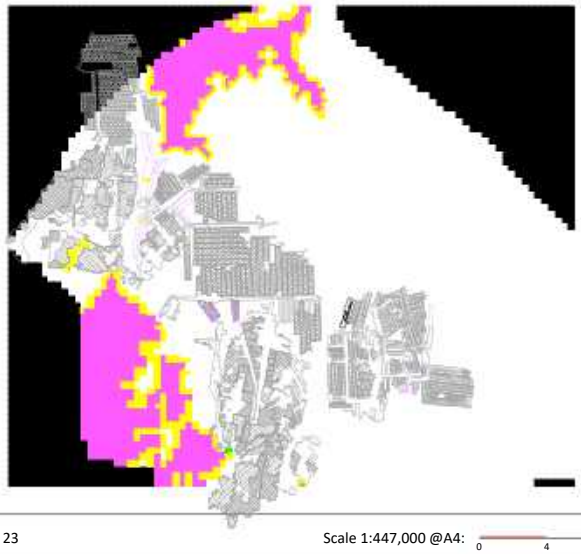
Layer 20



Layer 21

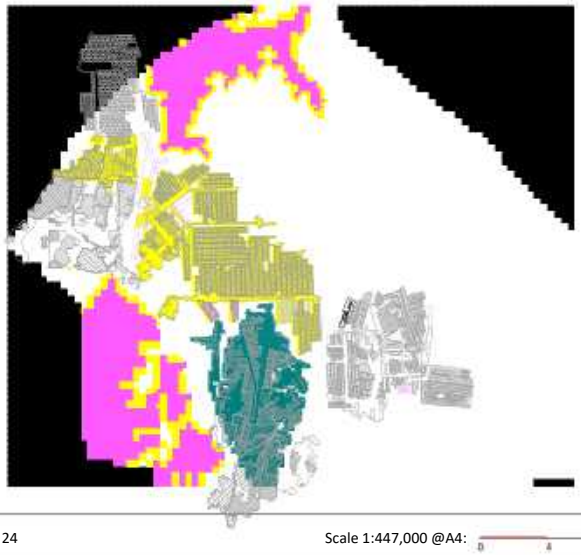


Layer 22



Layer 23

Scale 1:447,000 @A4: 0 4 8km



Layer 24

Scale 1:447,000 @A4:

Legend

Mining Methods:
- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:
- Approved
- Existing
- Proposed
- Other Proposed

Model Cell Type:
- 'Pinched-Out' Cells

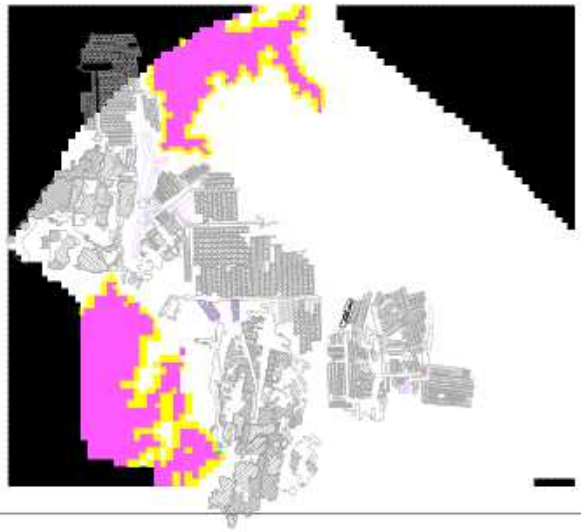
Model Boundary Conditions:
- Drain (DRN) Cells
- River (RIV) Cells
- General Head Boundary (GHB) Cells
- Well (WEL) Cells
- Constant Head (CHD) Cells
- No Flow Boundary (NFB) Cells

Job No.: 68229		**Layout of Boundary Conditions**
Client: Clarence Colliery Pty Ltd		March 2028 (SP154) - Layer 19 to Layer 24
Version: R01RevA	Date: 06/11/2025	
Drawn By: DAW	Checked By: JRWB	**Figure C-01i**

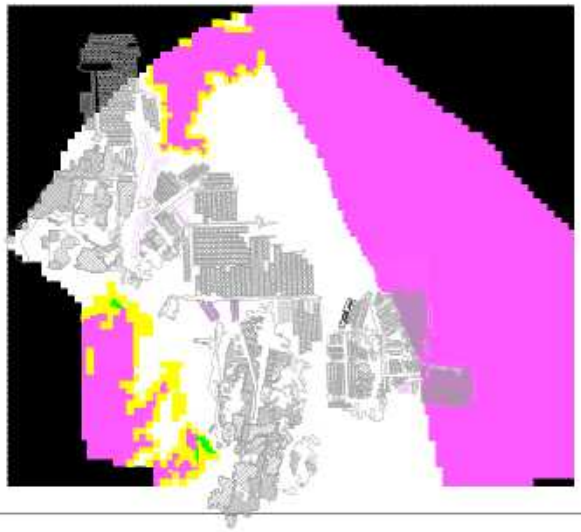
JBS&G

File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D055_LayoutofBCs\68229_R01RevA_D055i_LayoutOfBCs_SP154_L19_L24.grf

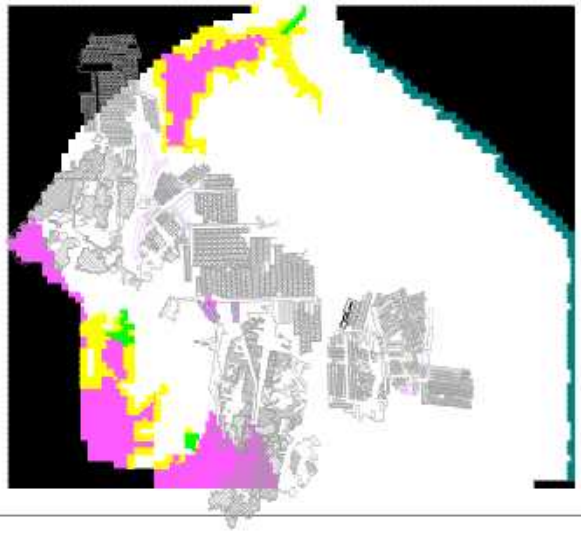
Reference: 68229_R01RevA_PRO_02a



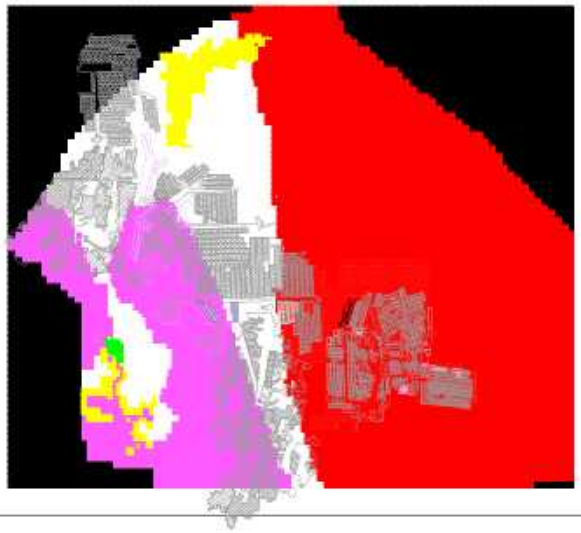
Layer 25



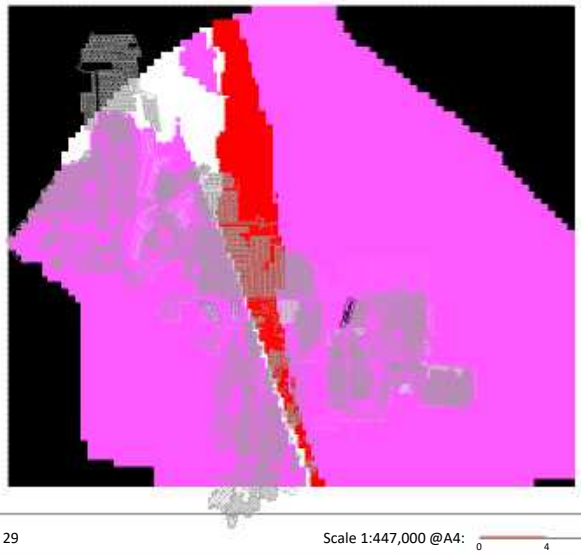
Layer 26



Layer 27

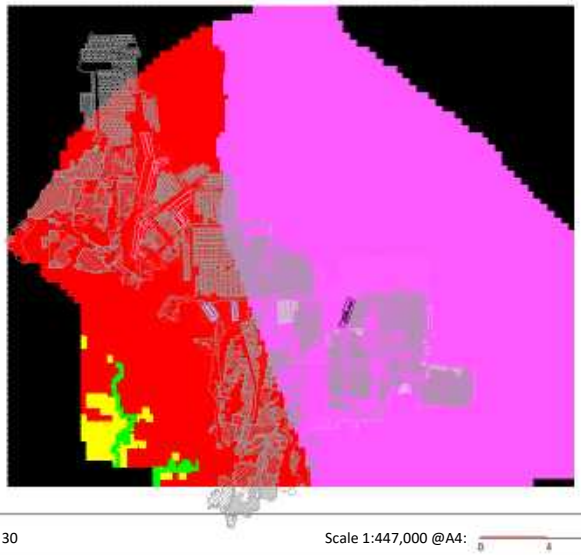


Layer 28



Layer 29

Scale 1:447,000 @A4: 0 4 8km



Layer 30

Scale 1:447,000 @A4:

Legend

Mining Methods:
- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:
- Approved
- Existing
- Proposed
- Other Proposed

Model Cell Type:
- 'Pinched-Out' Cells

Model Boundary Conditions:
- Drain (DRN) Cells
- River (RIV) Cells
- General Head Boundary (GHB) Cells
- Well (WEL) Cells
- Constant Head (CHD) Cells
- No Flow Boundary (NFB) Cells

Job No.: 68229		**Layout of Boundary Conditions** March 2028 (SP154) - Layer 25 to Layer 30
Client: Clarence Colliery Pty Ltd		
Version: R01RevA	Date: 06/11/2025	
Drawn By: DAW	Checked By: JRWB	**Figure C-01j** JBS&G

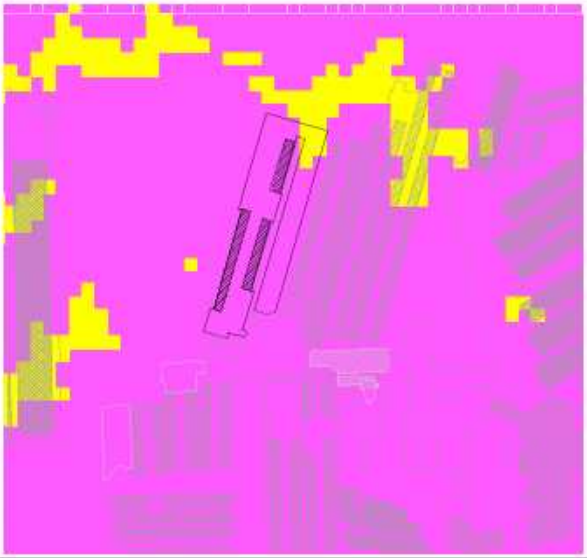
File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D055_LayoutofBCs\68229_R01RevA_D055j_LayoutOfBCs_SP154_L25_L30.grf

Reference: 68229_R01RevA_PRO_02a

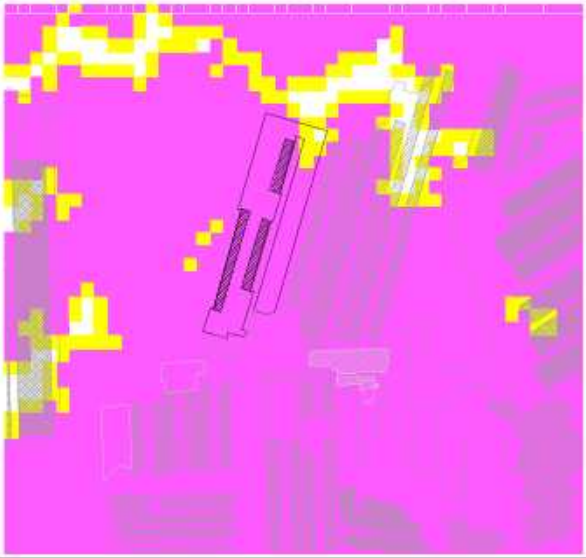
C2. Distribution of Model Boundary Conditions – Vicinity of 918 Panel

This appendix presents boundary conditions in each model layer at the following:

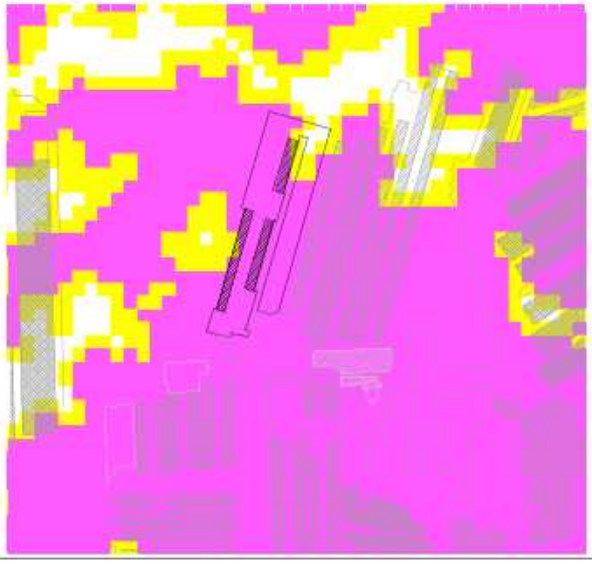
- Steady-State (SP001)
- end of 918 Panel, 31 March 2028 (SP154).



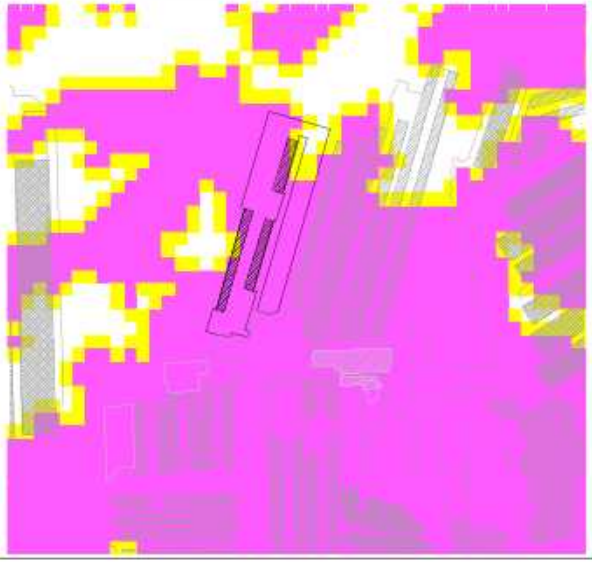
Layer 01



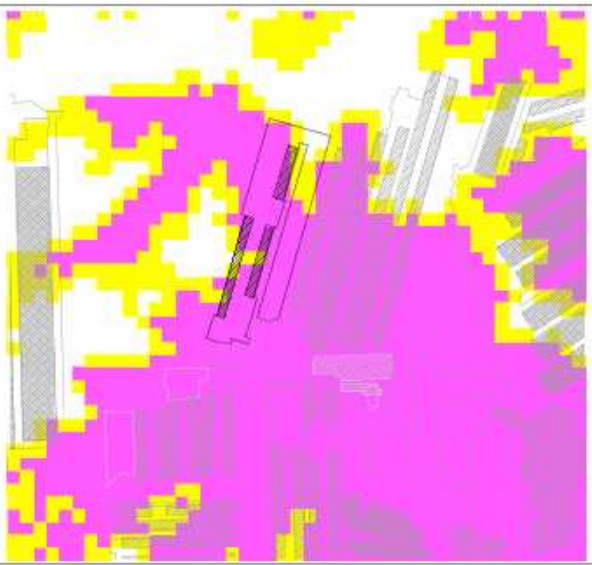
Layer 02



Layer 03

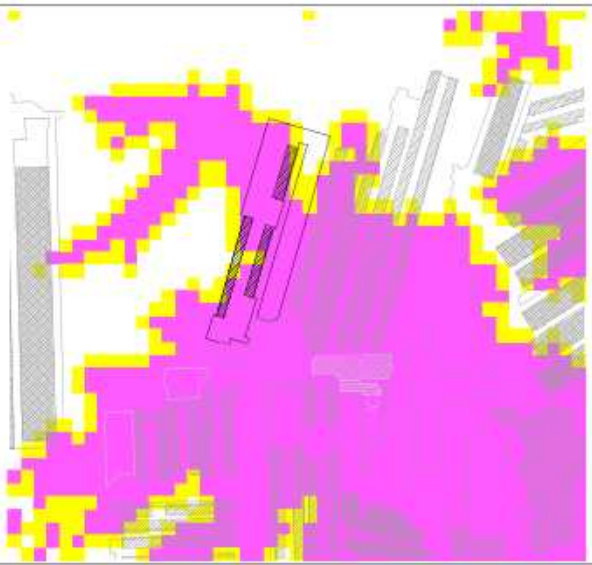


Layer 04



Layer 05

Scale 1:447,000 @A4: 0 4 8km



Layer 06

Scale 1:447,000 @A4:

Legend

Mining Methods:
- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:
- Approved
- Existing
- Proposed
- Other Proposed

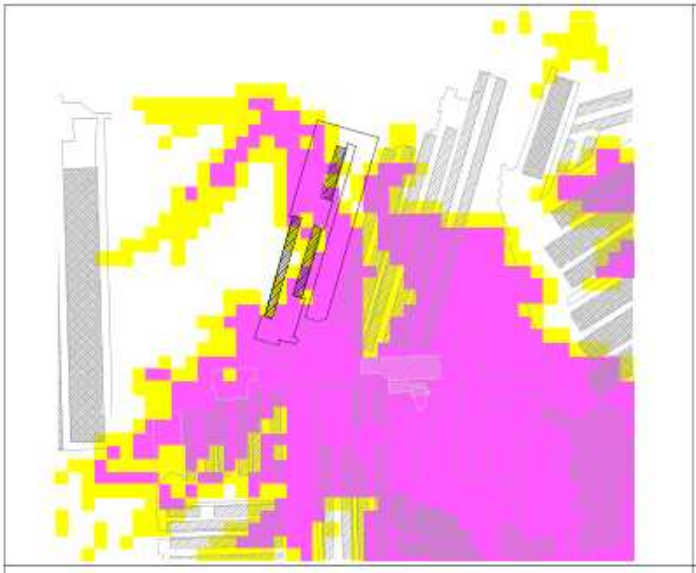
Model Cell Type:
- 'Pinched-Out' Cells

Model Boundary Conditions:
- Drain (DRN) Cells
- River (RIV) Cells
- General Head Boundary (GHB) Cells
- Well (WEL) Cells
- Constant Head (CHD) Cells
- No Flow Boundary (NFB) Cells

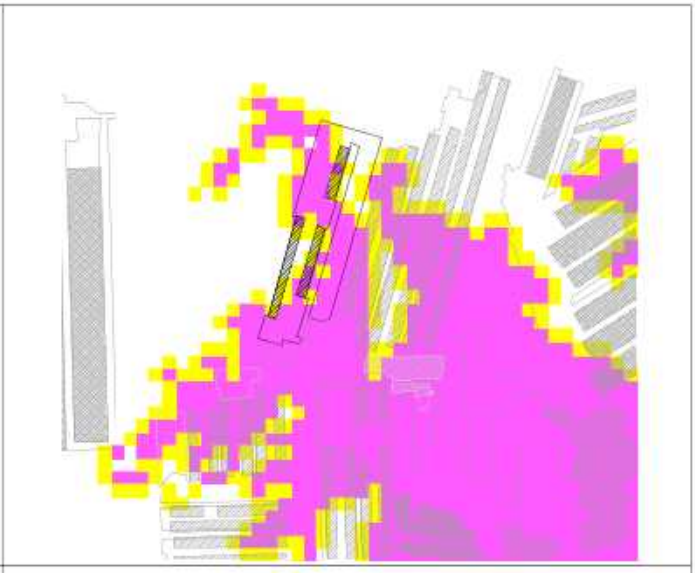
Job No.: 68229		**Layout of Boundary Conditions**
Client: Clarence Colliery Pty Ltd		Steady-State (SP001) - Layer 01 to Layer 06
Version: R01RevA	Date: 06/11/2025	918 Panel
Drawn By: DAW	Checked By: JRWB	**Figure C-02a**

File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D055_LayoutofBCs\68229_R01RevA_D055k_LayoutOfBCs_L01_L06_CloseUp.grf

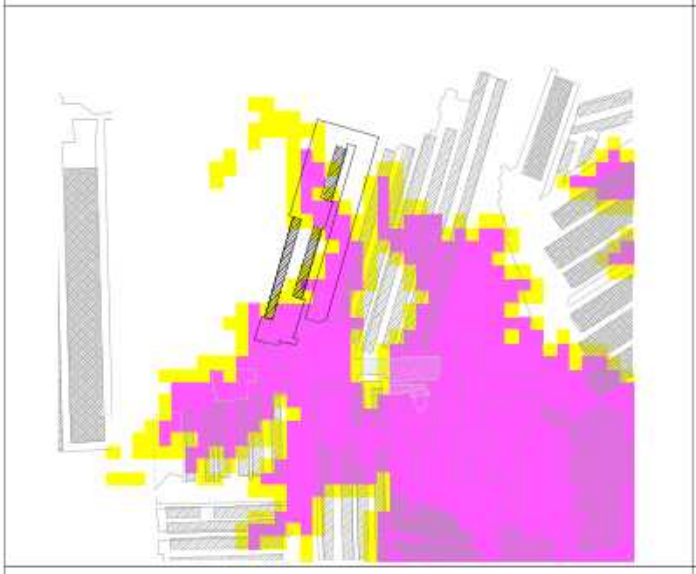
Reference: 68229_R01RevA_PRO_02a



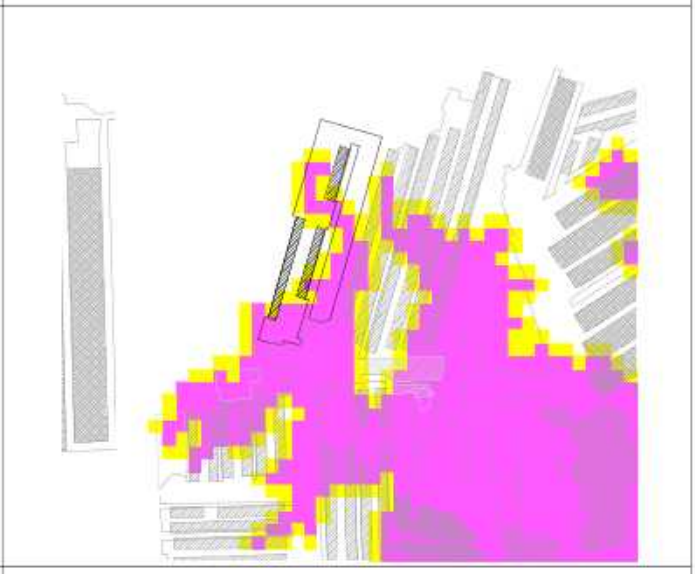
Layer 07



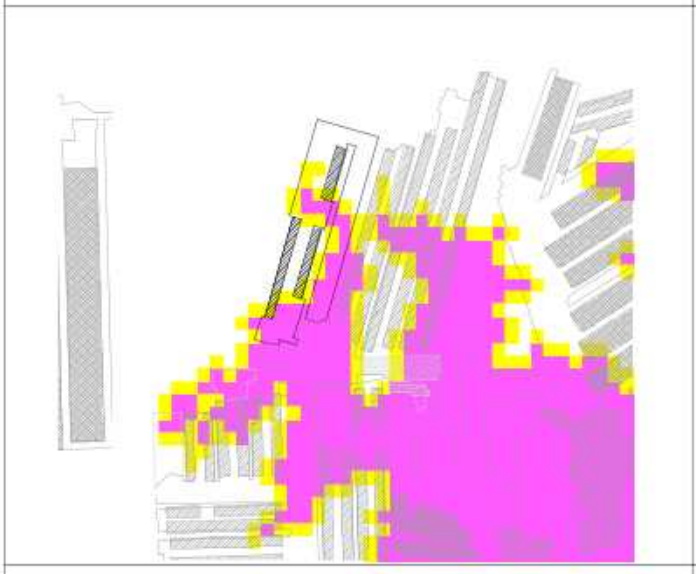
Layer 08



Layer 09

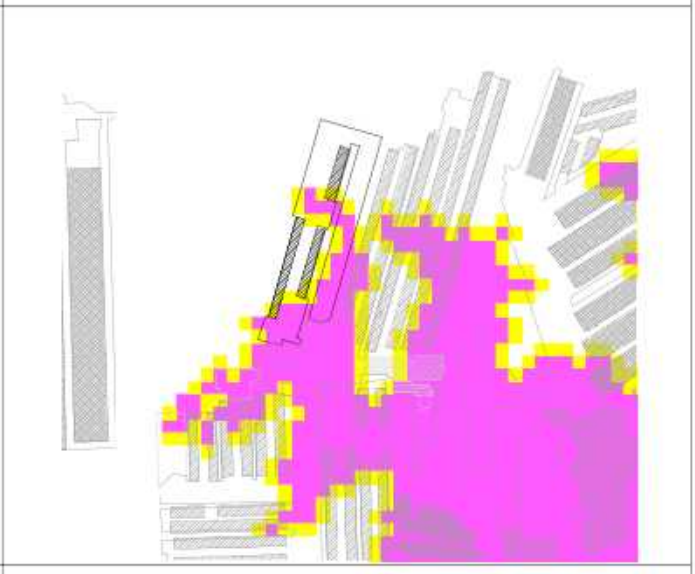


Layer 10



Layer 11

Scale 1:447,000 @A4: 0 4 8km



Layer 12

Scale 1:447,000 @A4:

Legend

Mining Methods:
- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:
- Approved
- Existing
- Proposed
- Other Proposed

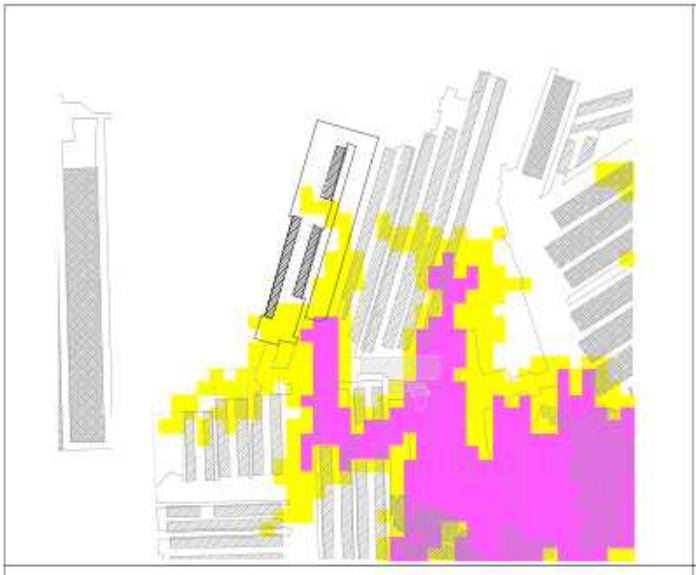
Model Cell Type:
- 'Pinched-Out' Cells

Model Boundary Conditions:
- Drain (DRN) Cells
- River (RIV) Cells
- General Head Boundary (GHB) Cells
- Well (WEL) Cells
- Constant Head (CHD) Cells
- No Flow Boundary (NFB) Cells

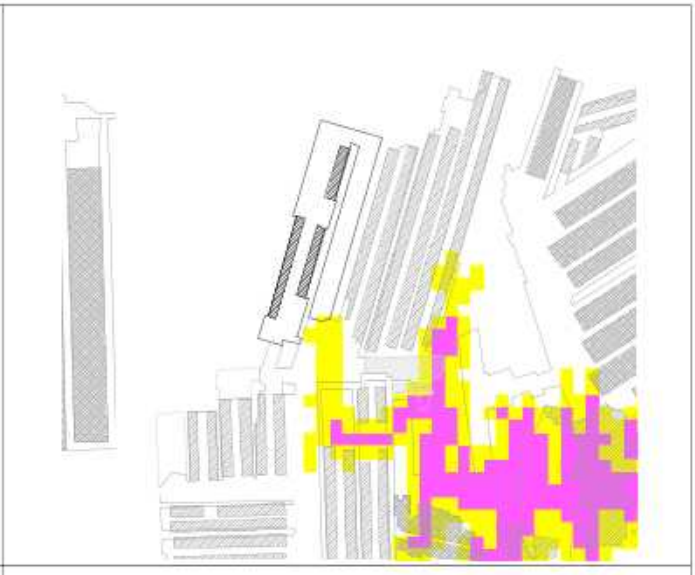
Job No.: 68229		**Layout of Boundary Conditions** Steady-State (SP001) - Layer 07 to Layer 12 918 Panel
Client: Clarence Colliery Pty Ltd		
Version: R01RevA	Date: 06/11/2025	
Drawn By: DAW	Checked By: JRWB	**Figure C-02b** JBS&G

File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D05S_LayoutofBCs\68229_R01RevA_D05SI_LayoutOfBCs_L07_L12_CloseUp.grf

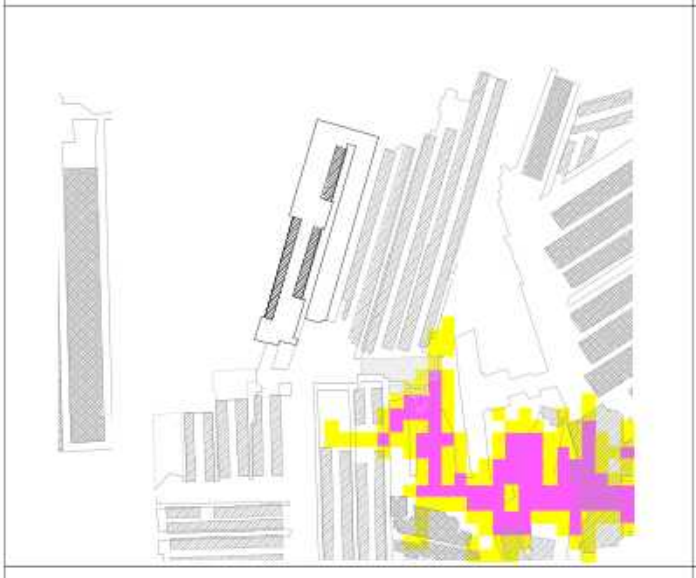
Reference: 68229_R01RevA_PRO_02a



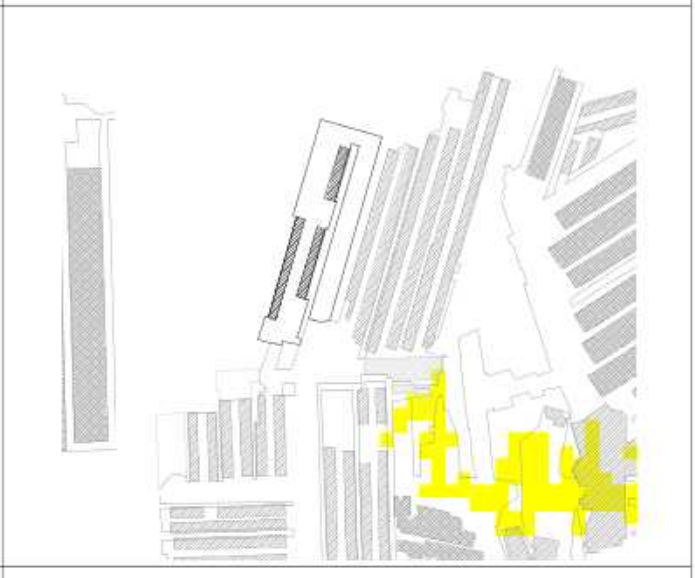
Layer 13



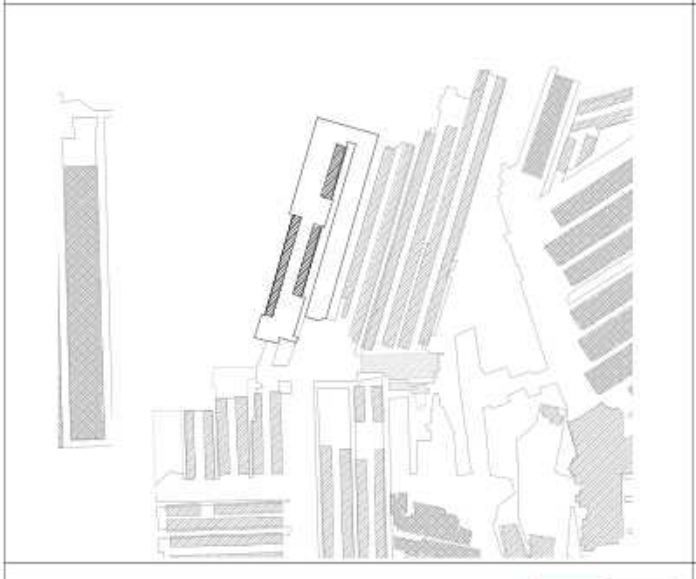
Layer 14



Layer 15

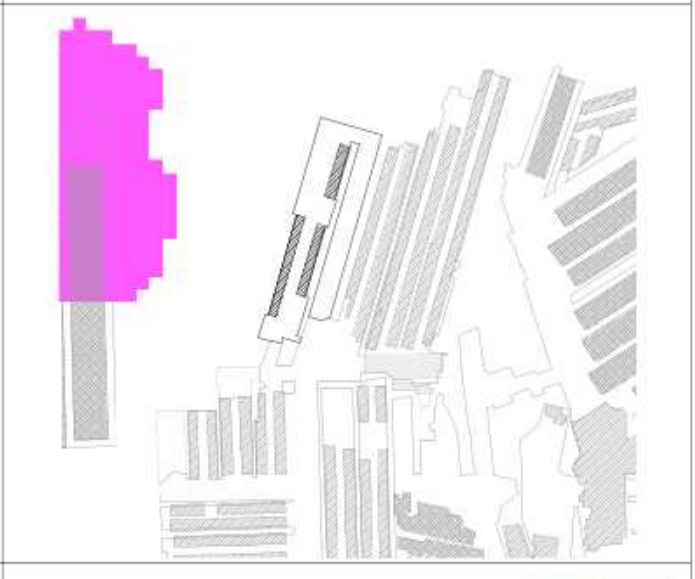


Layer 16



Layer 17

Scale 1:447,000 @A4: 0 4 8km



Layer 18

Scale 1:447,000 @A4:

Legend

Mining Methods:
- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:
- Approved
- Existing
- Proposed
- Other Proposed

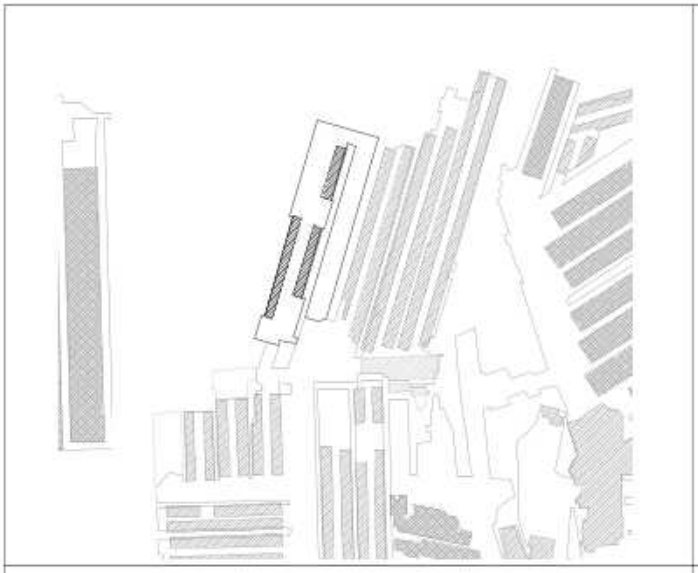
Model Cell Type:
- 'Pinched-Out' Cells

Model Boundary Conditions:
- Drain (DRN) Cells
- River (RIV) Cells
- General Head Boundary (GHB) Cells
- Well (WEL) Cells
- Constant Head (CHD) Cells
- No Flow Boundary (NFB) Cells

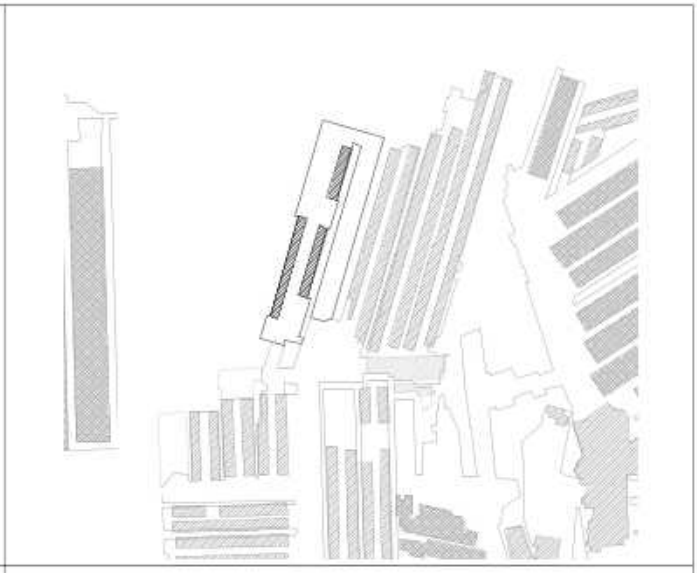
Job No.: 68229		**Layout of Boundary Conditions**
Client: Clarence Colliery Pty Ltd		Steady-State (SP001) - Layer 13 to Layer 18
Version: R01RevA	Date: 06/11/2025	918 Panel
Drawn By: DAW	Checked By: JRWB	**Figure C-02c** JBS&G

File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D055_LayoutofBCs\68229_R01RevA_D055m_LayoutOfBCs_L13_L18_CloseUp.grf

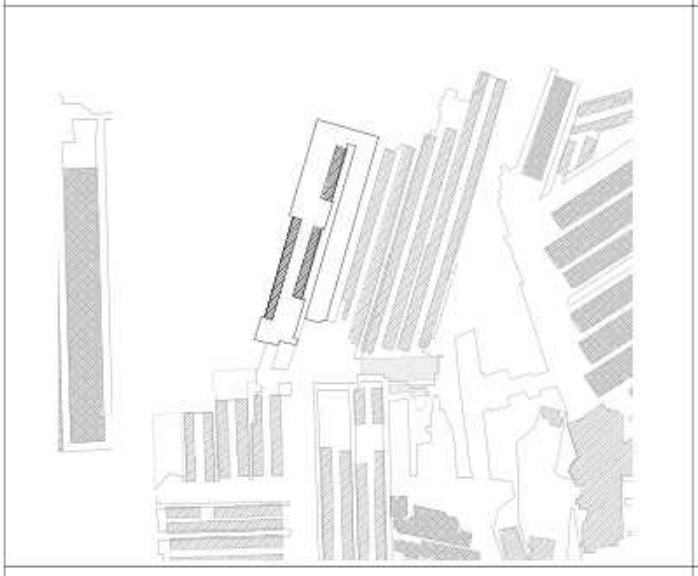
Reference: 68229_R01RevA_PRO_02a



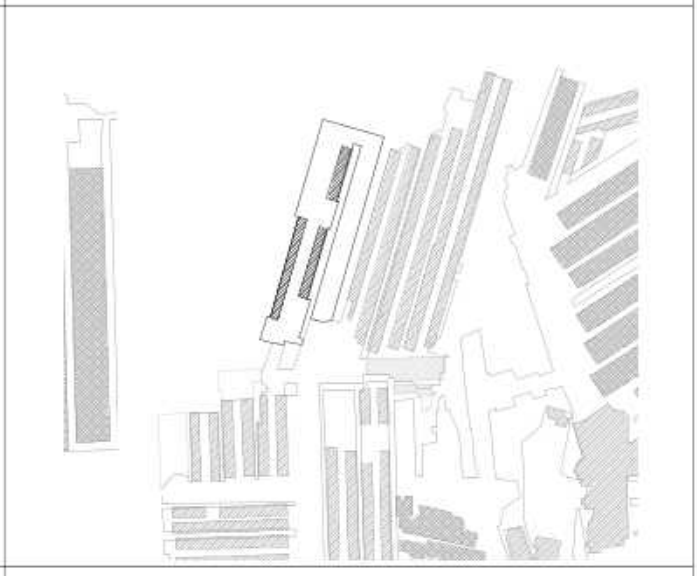
Layer 19



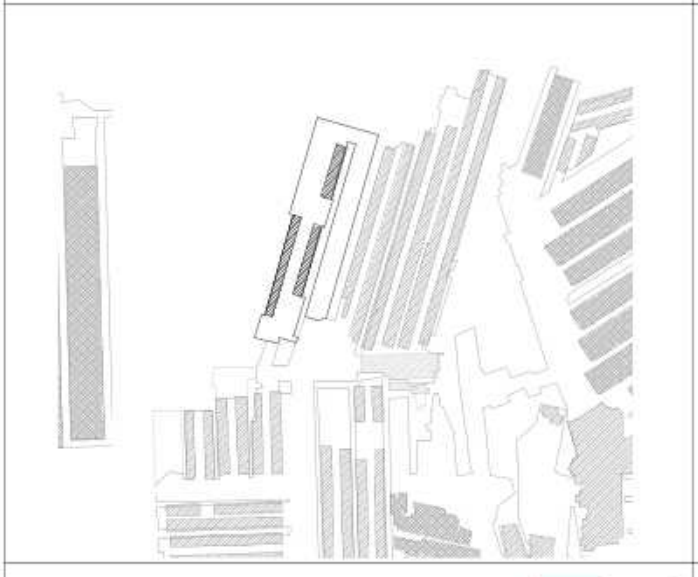
Layer 20



Layer 21

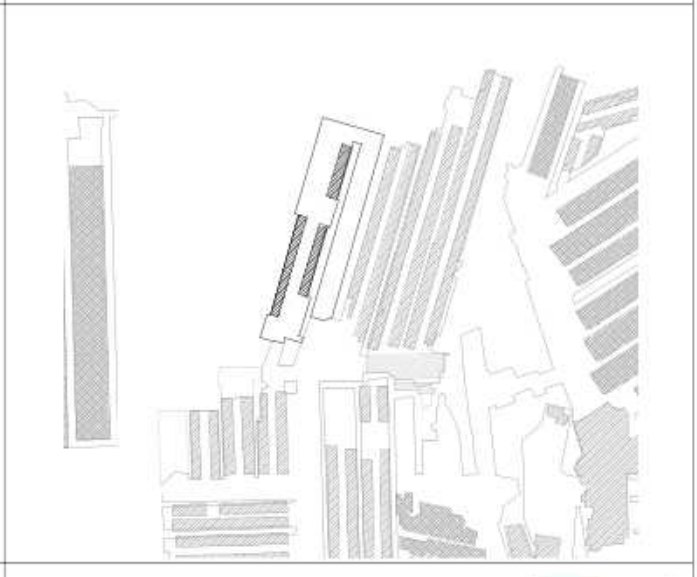


Layer 22



Layer 23

Scale 1:447,000 @A4: 0 4 8km



Layer 24

Scale 1:447,000 @A4:

Legend

Mining Methods:
- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:
- Approved
- Existing
- Proposed
- Other Proposed

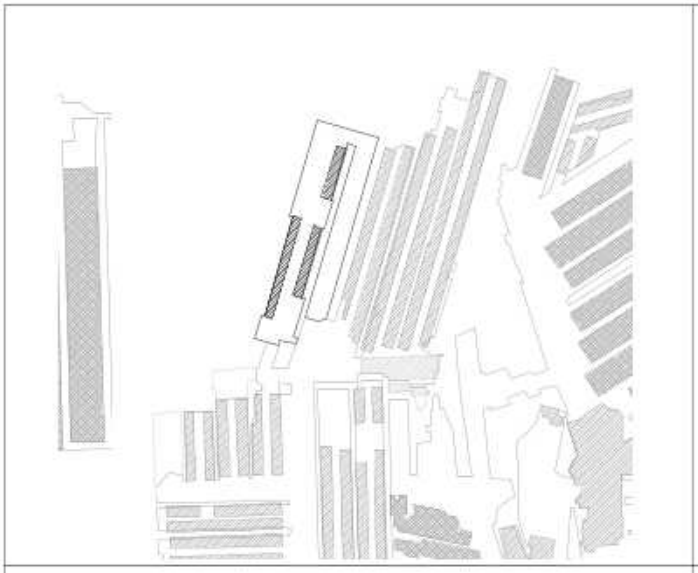
Model Cell Type:
- 'Pinched-Out' Cells

Model Boundary Conditions:
- Drain (DRN) Cells
- River (RIV) Cells
- General Head Boundary (GHB) Cells
- Well (WEL) Cells
- Constant Head (CHD) Cells
- No Flow Boundary (NFB) Cells

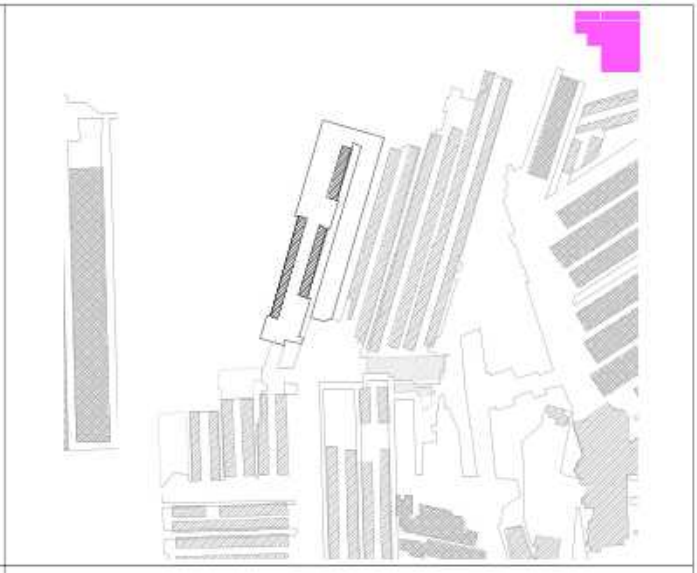
Job No.: 68229		**Layout of Boundary Conditions**
Client: Clarence Colliery Pty Ltd		Steady-State (SP001) - Layer 19 to Layer 24
Version: R01RevA	Date: 06/11/2025	918 Panel
Drawn By: DAW	Checked By: JRWB	**Figure C-02d** JBS&G

File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D055_LayoutofBCs\68229_R01RevA_D055n_LayoutOfBCs_L19_L24_CloseUp.grf

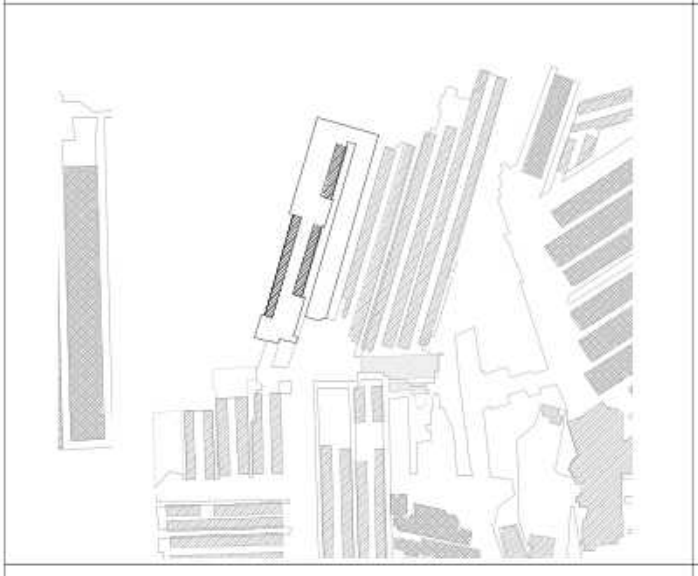
Reference: 68229_R01RevA_PRO_02a



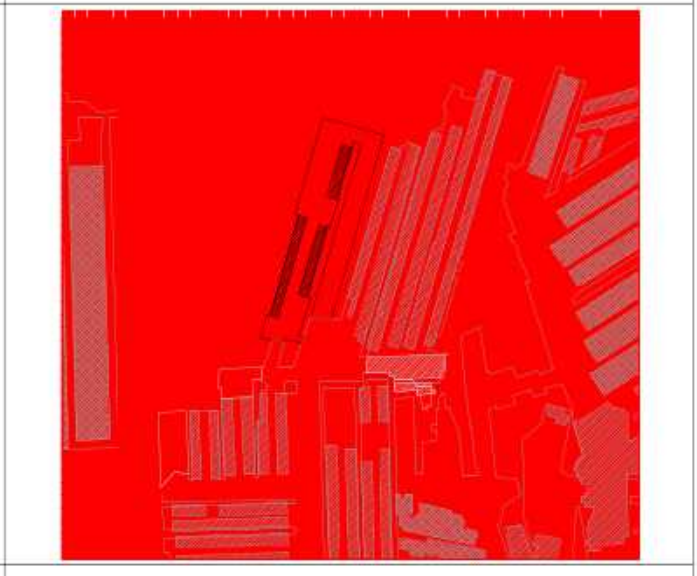
Layer 25



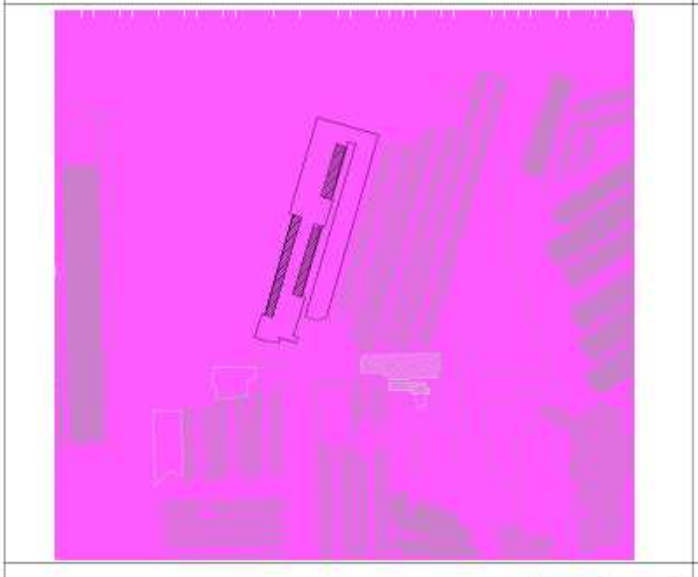
Layer 26



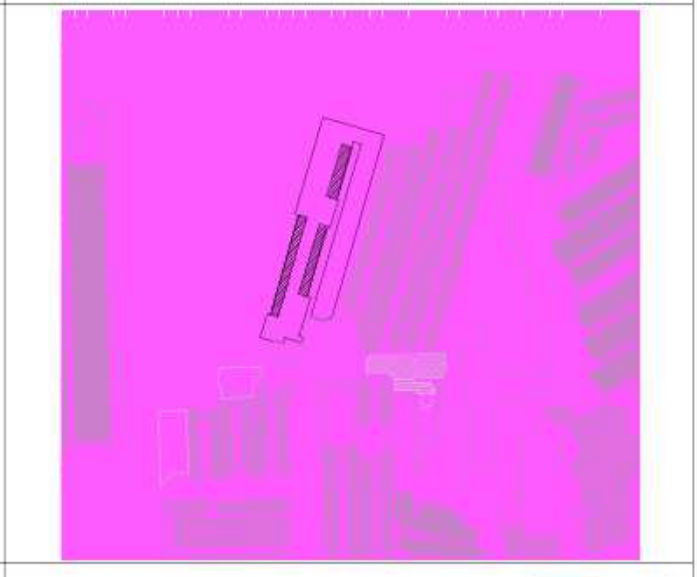
Layer 27



Layer 28



Layer 29 Scale 1:447,000 @A4: 0 4 8km



Layer 30 Scale 1:447,000 @A4:

Legend

Mining Methods:
- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:
- Approved
- Existing
- Proposed
- Other Proposed

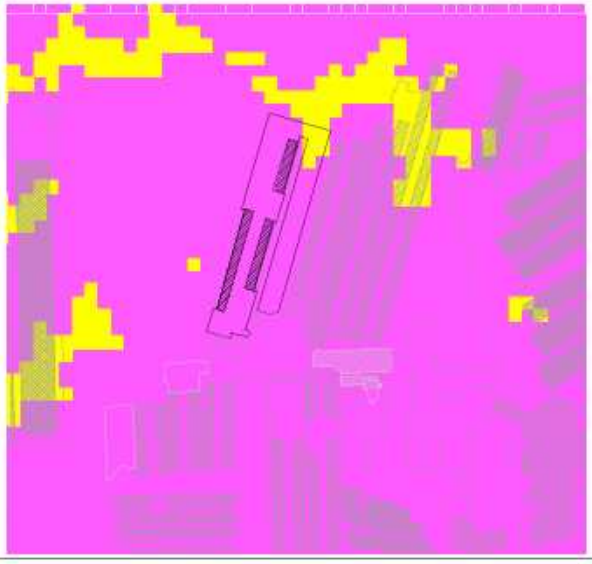
Model Cell Type:
- 'Pinched-Out' Cells

Model Boundary Conditions:
- Drain (DRN) Cells
- River (RIV) Cells
- General Head Boundary (GHB) Cells
- Well (WEL) Cells
- Constant Head (CHD) Cells
- No Flow Boundary (NFB) Cells

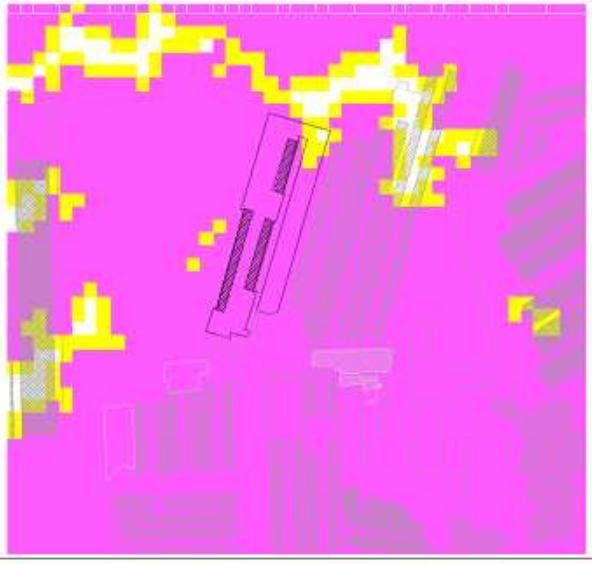
Job No.: 68229		**Layout of Boundary Conditions**
Client: Clarence Colliery Pty Ltd		Steady-State (SP001) - Layer 25 to Layer 30
Version: R01RevA	Date: 06/11/2025	918 Panel
Drawn By: DAW	Checked By: JRWB	**Figure C-02e** JBS&G

File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D055_LayoutofBCs\68229_R01RevA_D055o_LayoutOfBCs_L25_L30_CloseUp.grf

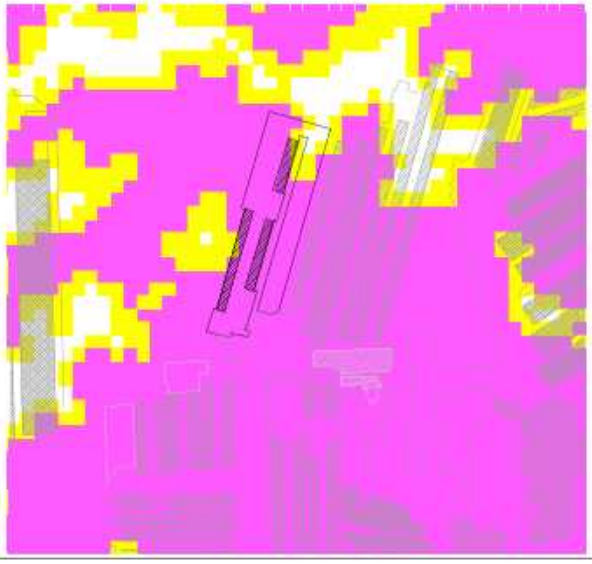
Reference: 68229_R01RevA_PRO_02a



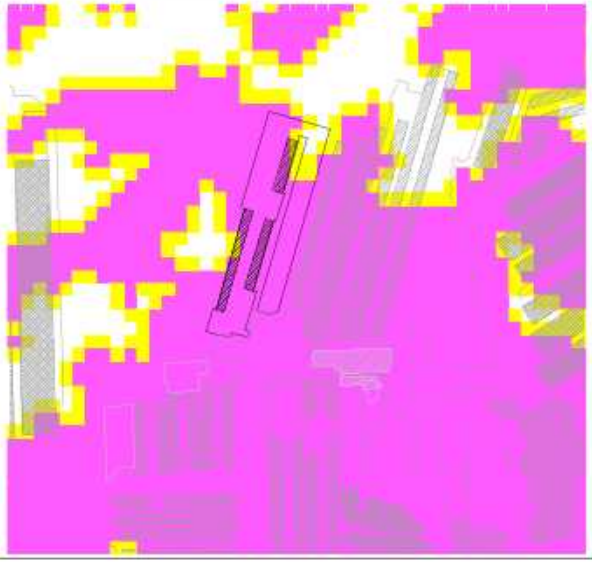
Layer 01



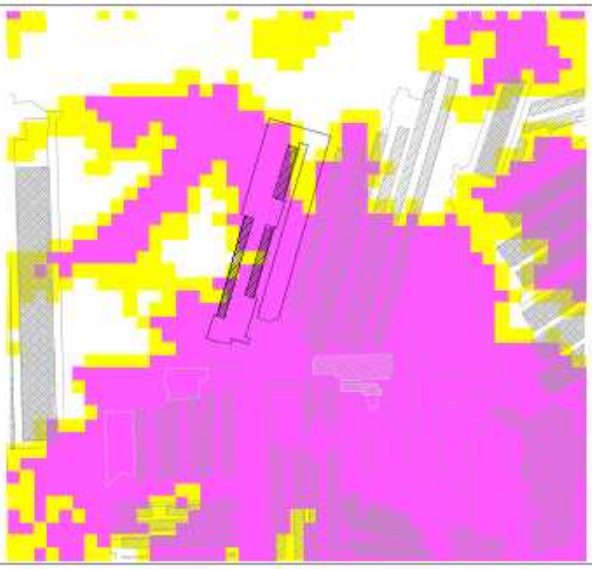
Layer 02



Layer 03

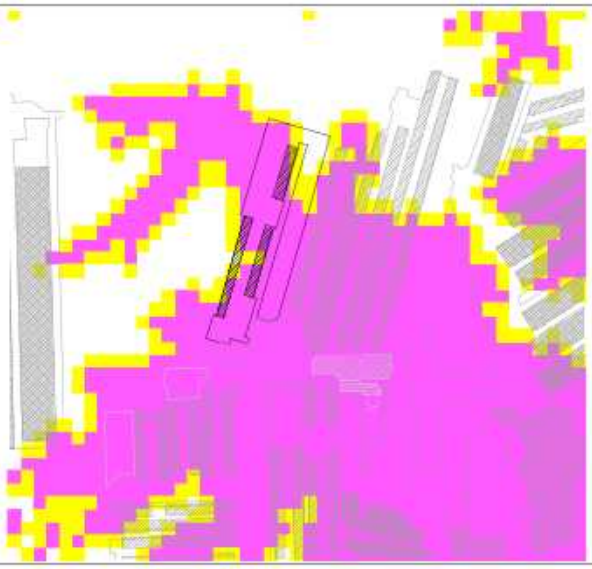


Layer 04



Layer 05

Scale 1:447,000 @A4: 0 4 8km



Layer 06

Scale 1:447,000 @A4:

Legend

Mining Methods:
- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:
- Approved
- Existing
- Proposed
- Other Proposed

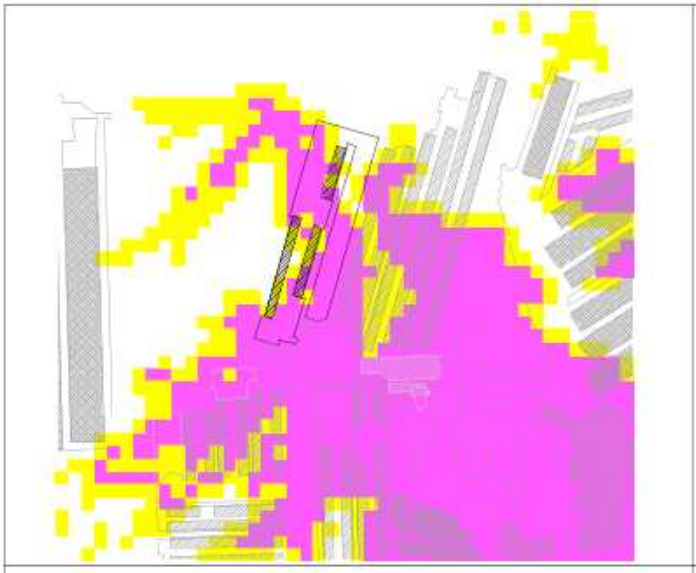
Model Cell Type:
- 'Pinched-Out' Cells

Model Boundary Conditions:
- Drain (DRN) Cells
- River (RIV) Cells
- General Head Boundary (GHB) Cells
- Well (WEL) Cells
- Constant Head (CHD) Cells
- No Flow Boundary (NFB) Cells

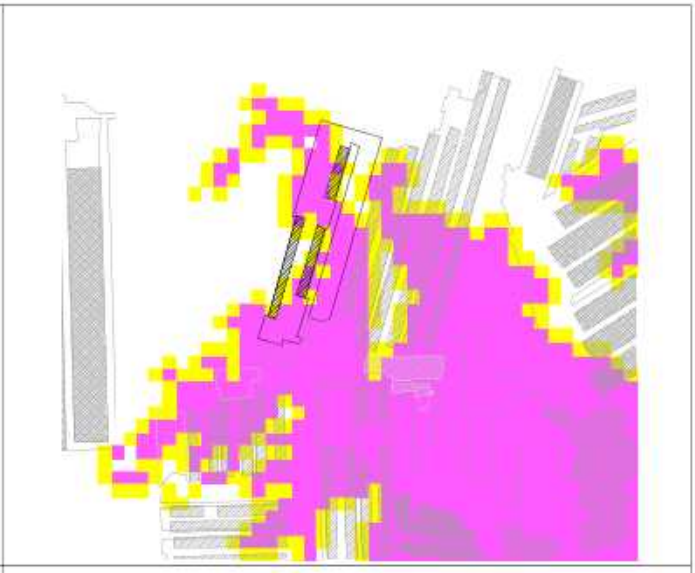
Job No.: 68229		**Layout of Boundary Conditions**
Client: Clarence Colliery Pty Ltd		March 2028 (SP154) - Layer 01 to Layer 06
Version: R01RevA	Date: 06/11/2025	918 Panel
Drawn By: DAW	Checked By: JRWB	**Figure C-02f** JBS&G

File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D05S_LayoutofBCs\68229_R01RevA_D05Sp_LayoutOfBCs_SP154_L01_L06_CloseUp.grf

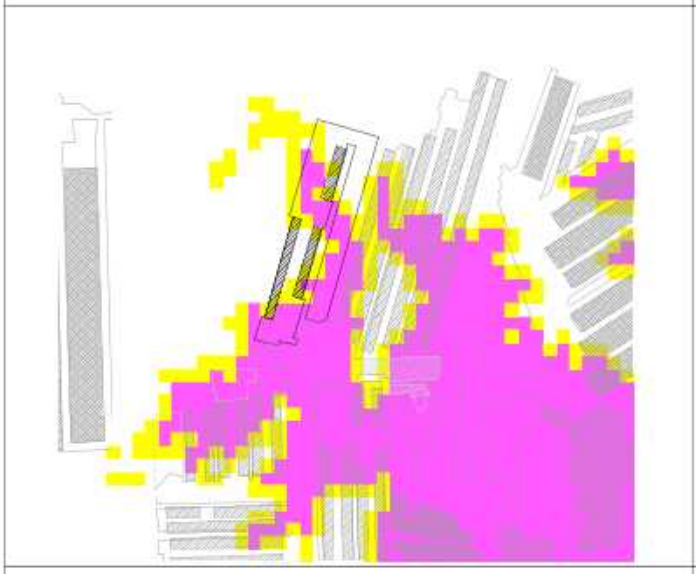
Reference: 68229_R01RevA_PRO_02a



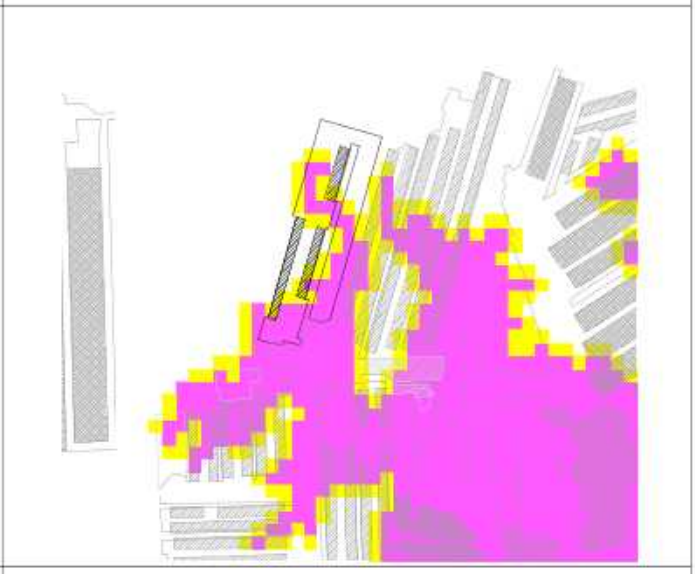
Layer 07



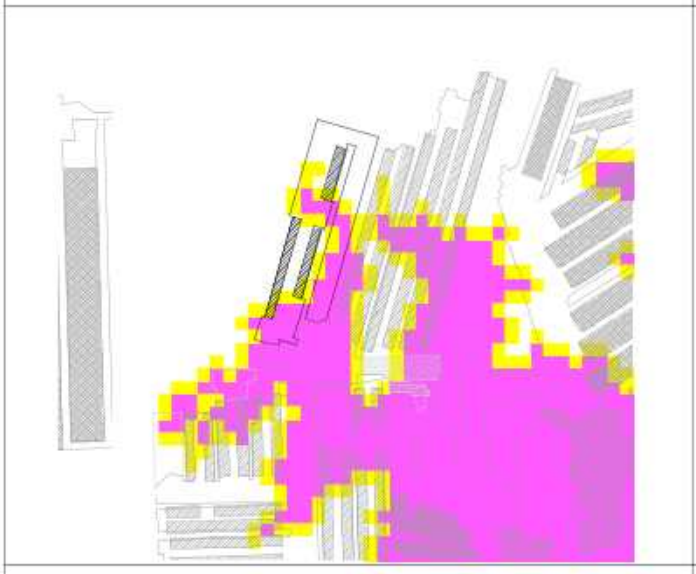
Layer 08



Layer 09

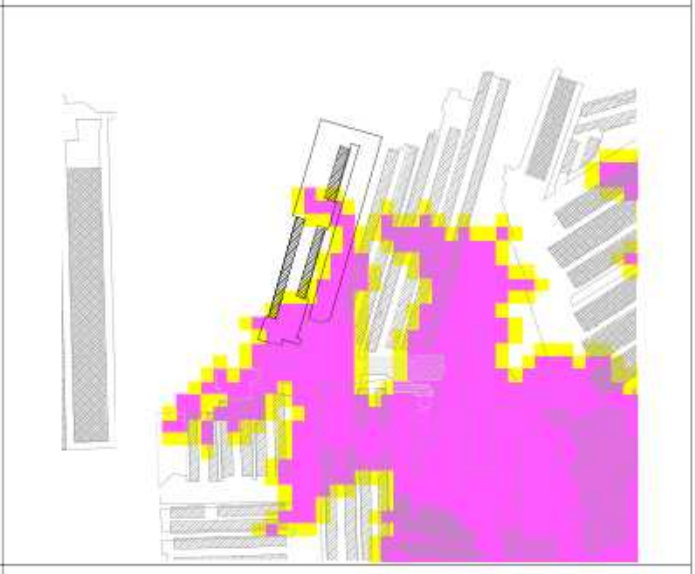


Layer 10



Layer 11

Scale 1:447,000 @A4: 0 4 8km



Layer 12

Scale 1:447,000 @A4:

Legend

Mining Methods:
- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:
- Approved
- Existing
- Proposed
- Other Proposed

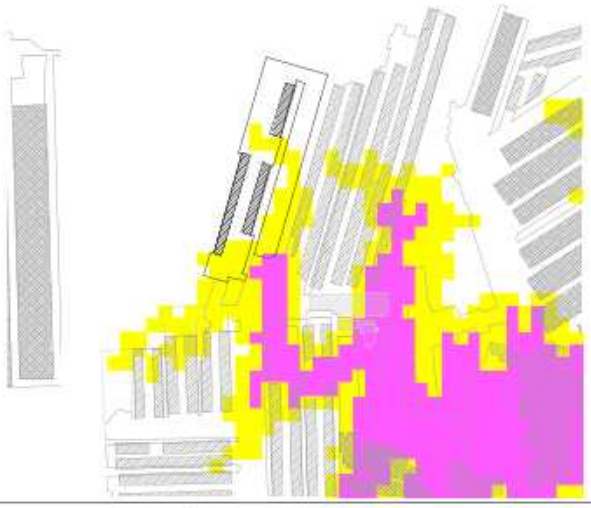
Model Cell Type:
- 'Pinched-Out' Cells

Model Boundary Conditions:
- Drain (DRN) Cells
- River (RIV) Cells
- General Head Boundary (GHB) Cells
- Well (WEL) Cells
- Constant Head (CHD) Cells
- No Flow Boundary (NFB) Cells

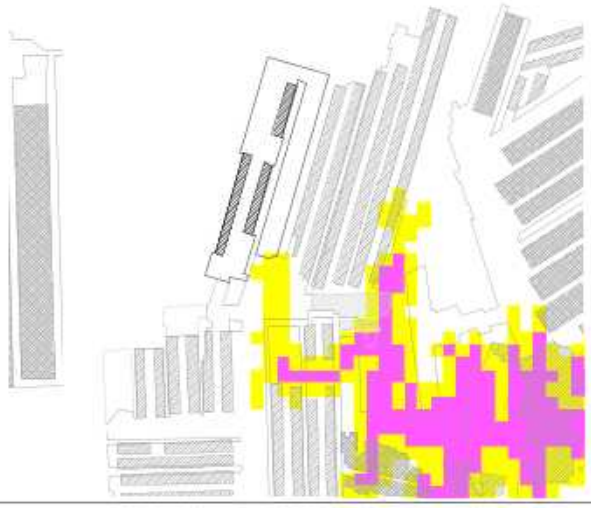
Job No.: 68229		**Layout of Boundary Conditions** March (SP154) - Layer 07 to Layer 12 918 Panel
Client: Clarence Colliery Pty Ltd		
Version: R01RevA	Date: 06/11/2025	
Drawn By: DAW	Checked By: JRWB	**Figure C-02g** JBS&G

File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D05S_LayoutofBCs\68229_R01RevA_D05Sq_LayoutOfBCs_SP154_L07_L12_CloseUp.grf

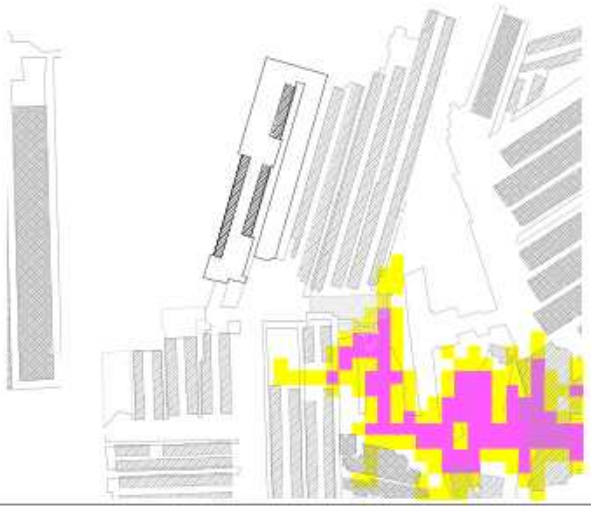
Reference: 68229_R01RevA_PRO_02a



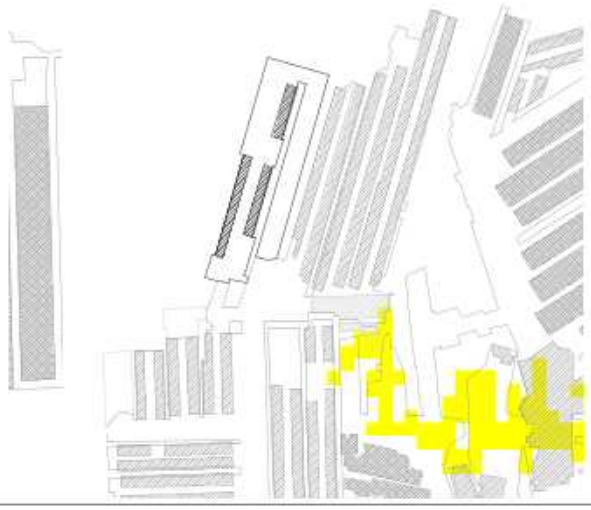
Layer 13



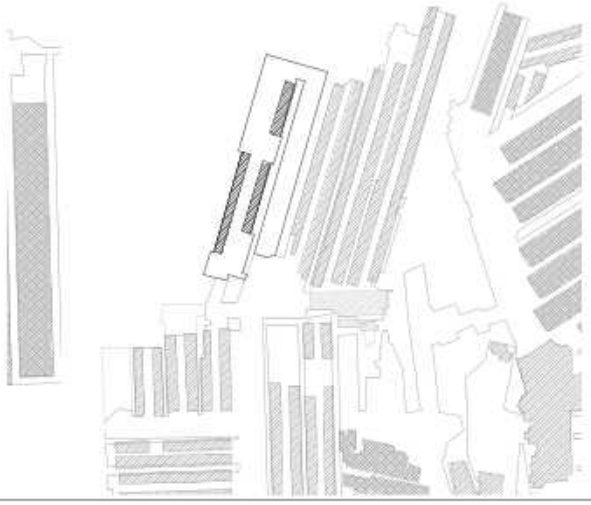
Layer 14



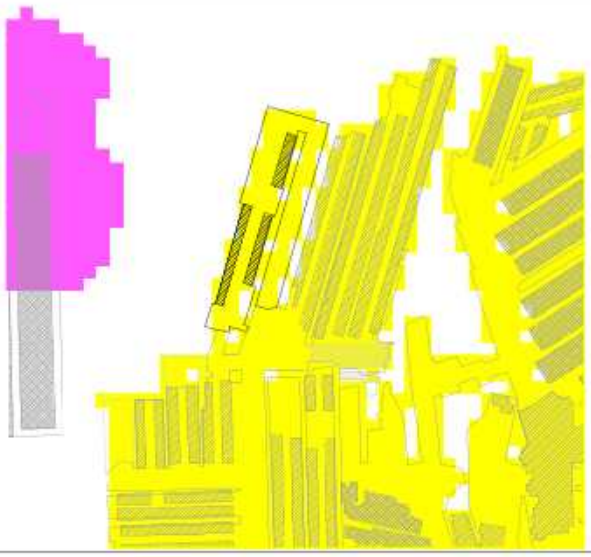
Layer 15



Layer 16



Layer 17 Scale 1:447,000 @A4: 0 4 8km



Layer 18 Scale 1:447,000 @A4:

Legend

Mining Methods:
- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:
- Approved
- Existing
- Proposed
- Other Proposed

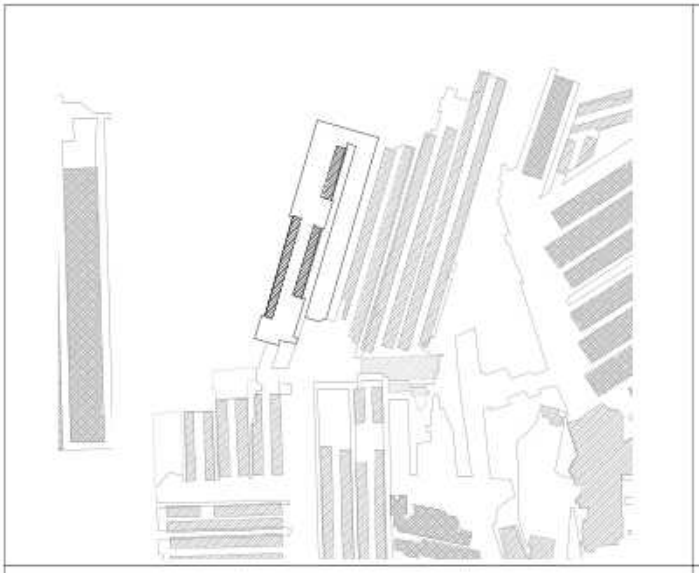
Model Cell Type:
- 'Pinched-Out' Cells

Model Boundary Conditions:
- Drain (DRN) Cells
- River (RIV) Cells
- General Head Boundary (GHB) Cells
- Well (WEL) Cells
- Constant Head (CHD) Cells
- No Flow Boundary (NFB) Cells

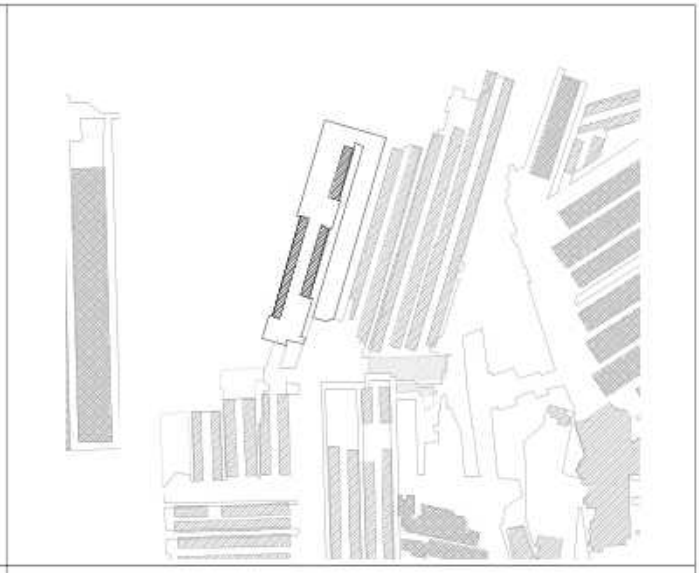
Job No.: 68229		**Layout of Boundary Conditions** March 2028 (SP154) - Layer 13 to Layer 18 918 Panel
Client: Clarence Colliery Pty Ltd		
Version: R01RevA	Date: 06/11/2025	
Drawn By: DAW	Checked By: JRWB	**Figure C-02h** JBS&G

File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D05S_LayoutofBCs\68229_R01RevA_D05Sr_LayoutOfBCs_SP154_L13_L18_CloseUp.grf

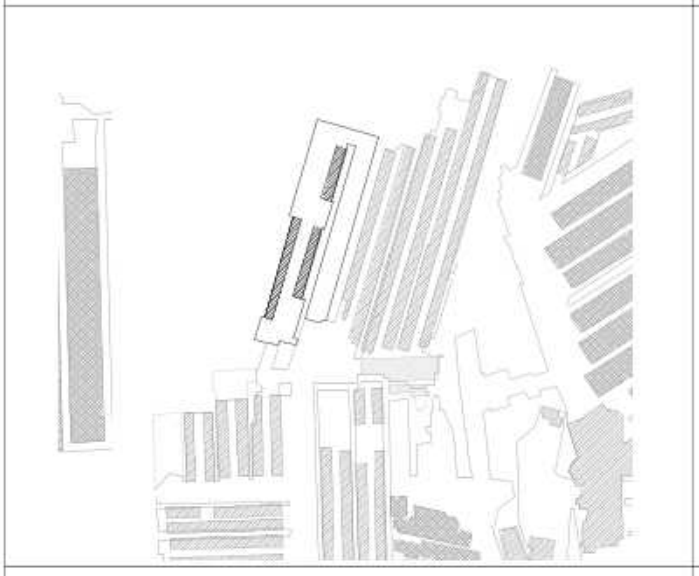
Reference: 68229_R01RevA_PRO_02a



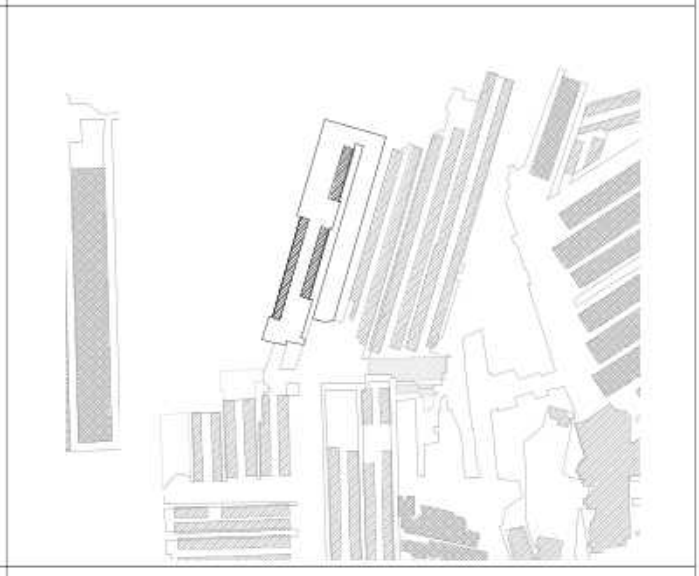
Layer 19



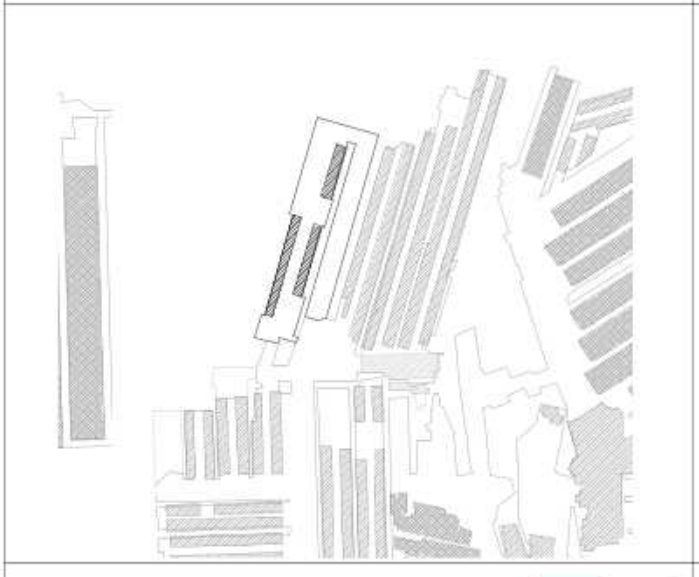
Layer 20



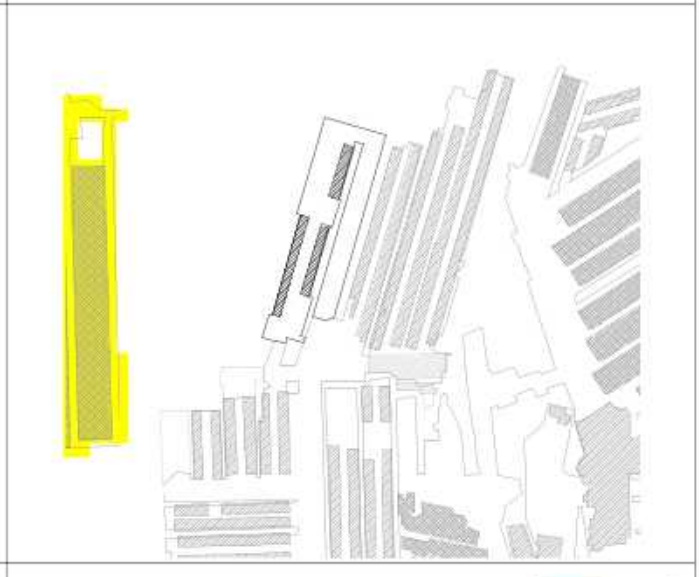
Layer 21



Layer 22



Layer 23 Scale 1:447,000 @A4: 0 4 8km



Layer 24 Scale 1:447,000 @A4:

Legend

Mining Methods:
- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:
- Approved
- Existing
- Proposed
- Other Proposed

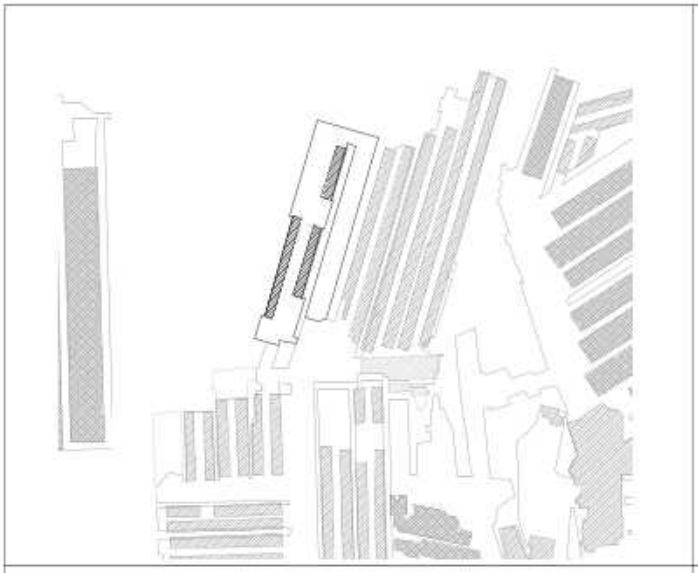
Model Cell Type:
- 'Pinched-Out' Cells

Model Boundary Conditions:
- Drain (DRN) Cells
- River (RIV) Cells
- General Head Boundary (GHB) Cells
- Well (WEL) Cells
- Constant Head (CHD) Cells
- No Flow Boundary (NFB) Cells

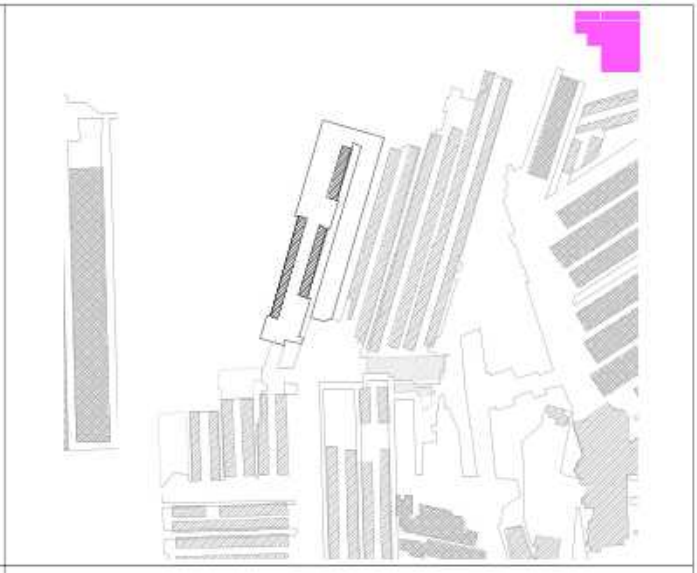
Job No.: 68229		**Layout of Boundary Conditions**
Client: Clarence Colliery Pty Ltd		March 2028 (SP154) - Layer 19 to Layer 24
Version: R01RevA	Date: 06/11/2025	918 Panel
Drawn By: DAW	Checked By: JRWB	**Figure C-02i** JBS&G

File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D05S_LayoutofBCs\68229_R01RevA_D05Ss_LayoutOfBCs_SP154_L19_L24_CloseUp.grf

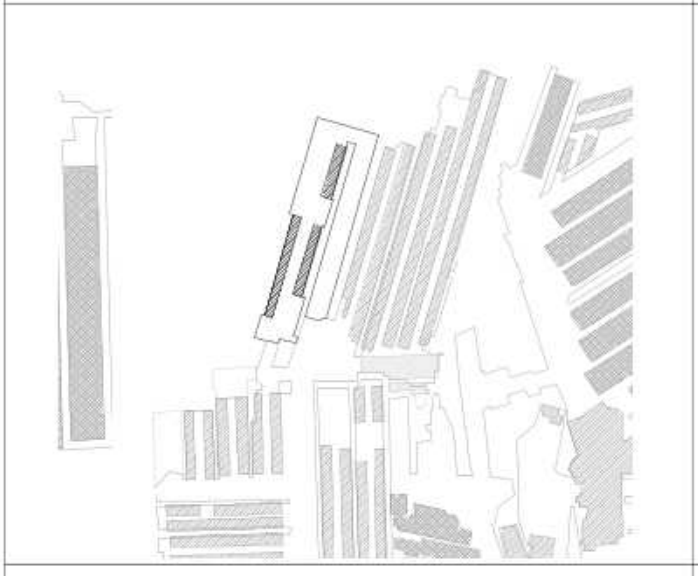
Reference: 68229_R01RevA_PRO_02a



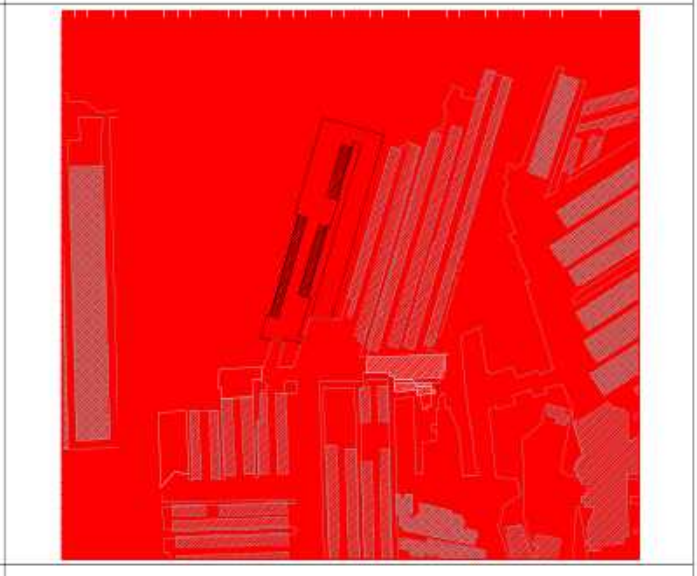
Layer 25



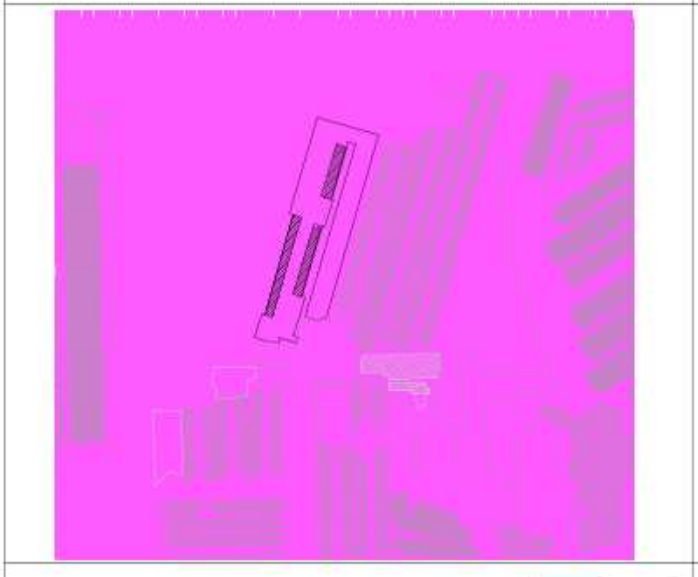
Layer 26



Layer 27

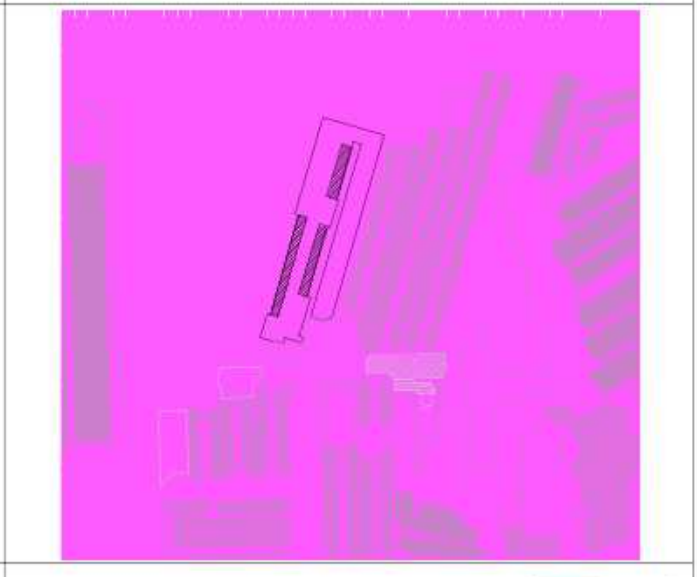


Layer 28



Layer 29

Scale 1:447,000 @A4: 0 4 8km



Layer 30

Scale 1:447,000 @A4:

Legend

Mining Methods:
- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:
- Approved
- Existing
- Proposed
- Other Proposed

Model Cell Type:
- 'Pinched-Out' Cells

Model Boundary Conditions:
- Drain (DRN) Cells
- River (RIV) Cells
- General Head Boundary (GHB) Cells
- Well (WEL) Cells
- Constant Head (CHD) Cells
- No Flow Boundary (NFB) Cells

Job No.: 68229		**Layout of Boundary Conditions** March 2028 (SP154) - Layer 25 to Layer 30 918 Panel
Client: Clarence Colliery Pty Ltd		
Version: R01RevA	Date: 06/11/2025	
Drawn By: DAW	Checked By: JRWB	**Figure C-02j** JBS&G

File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D05S_LayoutofBCs\68229_R01RevA_D05St_LayoutOfBCs_SP154_L25_L30_CloseUp.grf

Reference: 68229_R01RevA_PRO_02a

Appendix D Distribution of Pilot Points – Hydraulic Properties

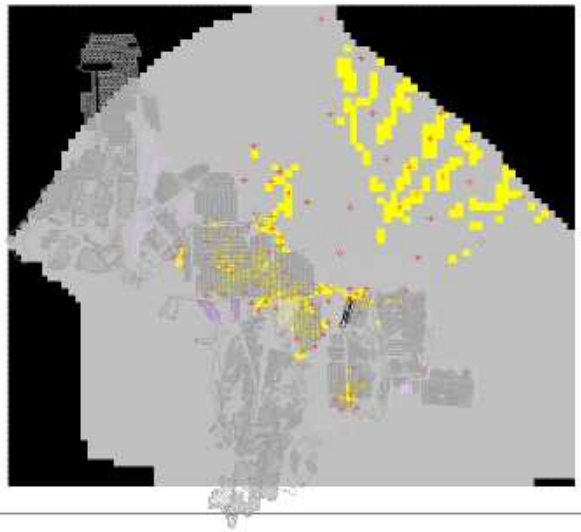
Appendix D

D1. Pilot Point Distribution – Horizontal Hydraulic Conductivity, Kh

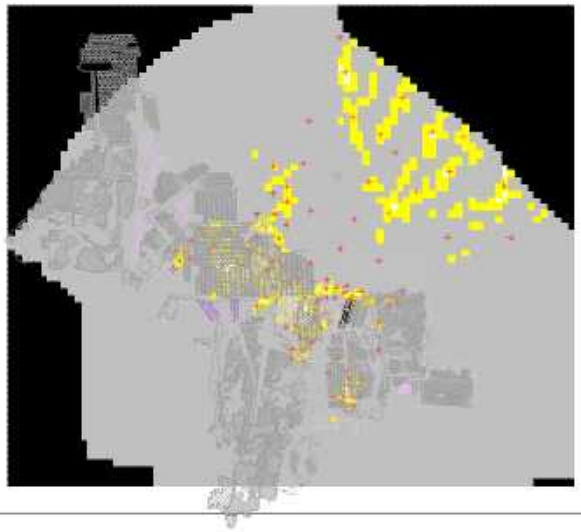
There is a pair of figures presented in this appendix section:

- Full Model Extent
- Vicinity of 918 Panel.

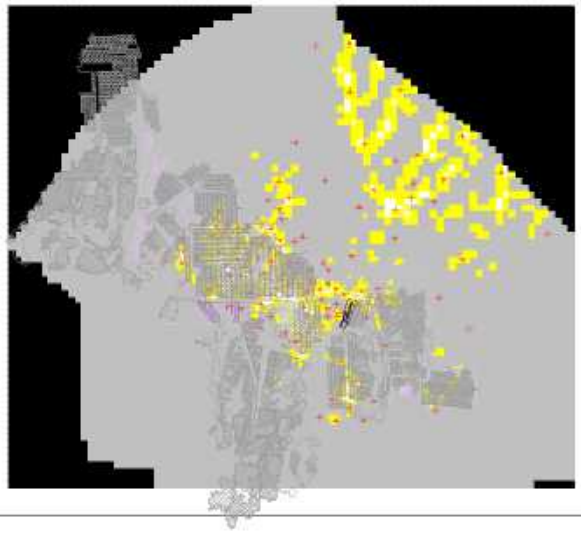
The model boundary conditions presented in the figures below are steady-state (SP001).



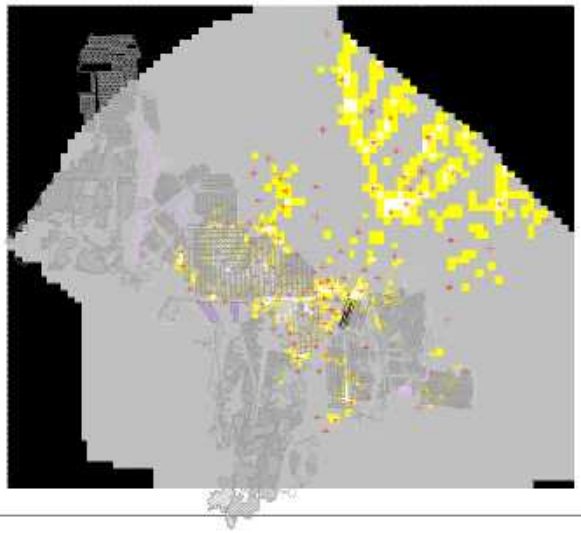
Layer 01



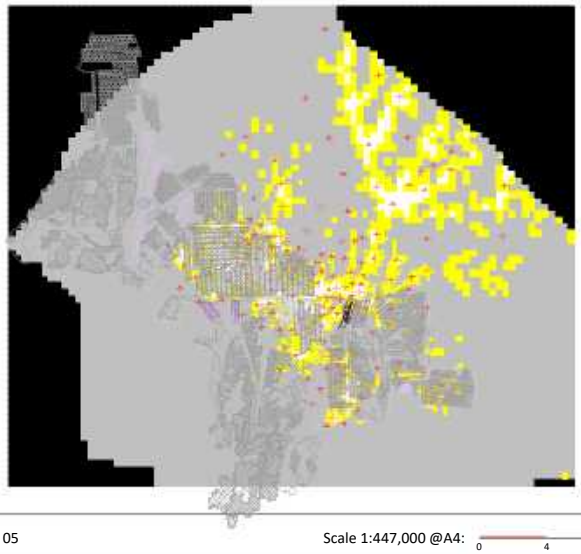
Layer 02



Layer 03

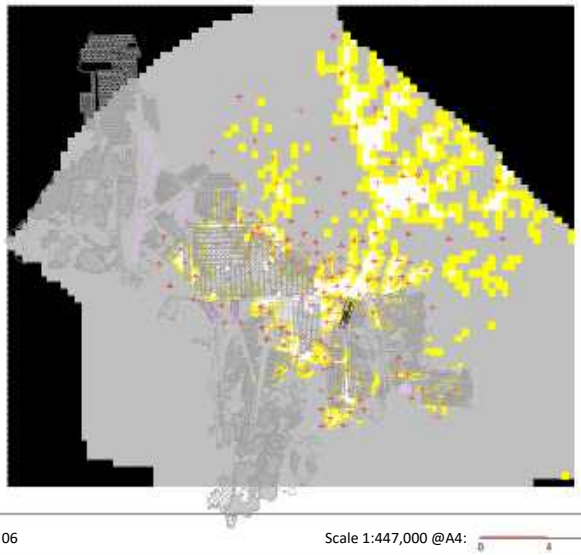


Layer 04



Layer 05

Scale 1:447,000 @A4: 0 4 8km



Layer 06

Scale 1:447,000 @A4:

Legend

Mining Methods:
- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:
- Approved
- Existing
- Proposed
- Other Proposed

Model Cell Type:
- 'Pinched-Out' Cells

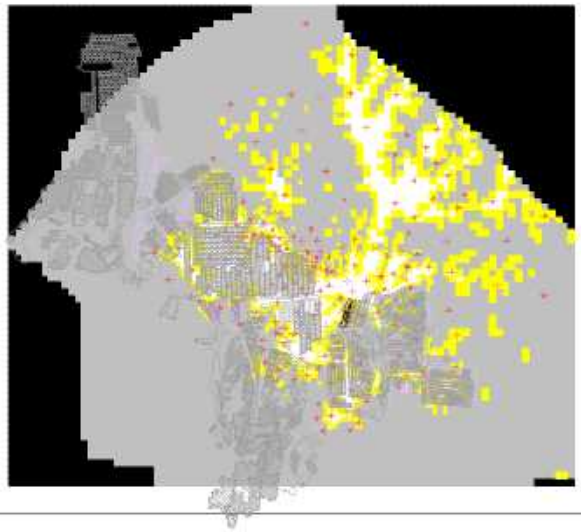
Model Boundary Conditions:
- Drain (DRN) Cells
- River (RIV) Cells
- General Head Boundary (GHB) Cells
- Well (WEL) Cells
- Constant Head (CHD) Cells
- No Flow Boundary (NFB) Cells

Model Results:
- Pilot Point

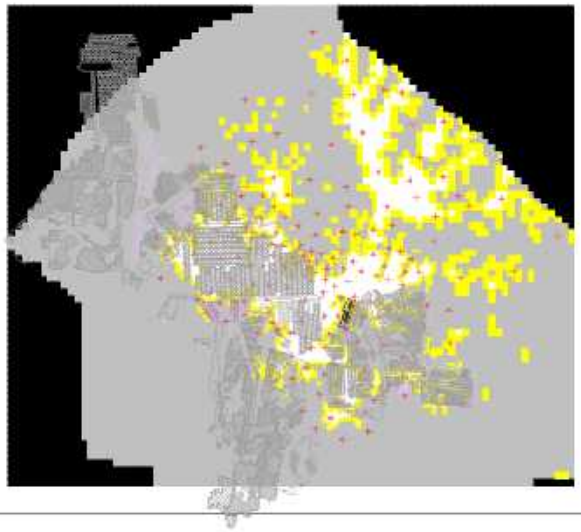
Job No.: 68229		**Distribution of Pilot Points (Kh)**
Client: Clarence Colliery Pty Ltd		Layer 01 to Layer 06
Version: R01RevA	Date: 07/11/2025	
Drawn By: DAW	Checked By: JRWB	**Figure D1-01a** JBS&G

File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D060a_PP_Kh\68229_R01RevA_D060a_PP-Kh_L01_L06.grf

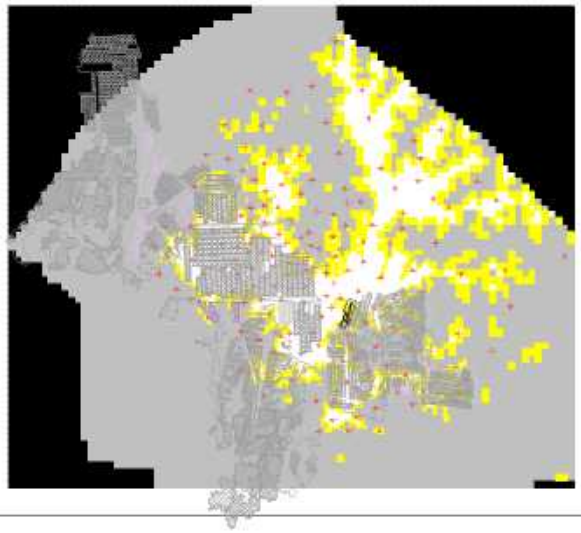
Reference: 68229_R01RevA_PRO_02a



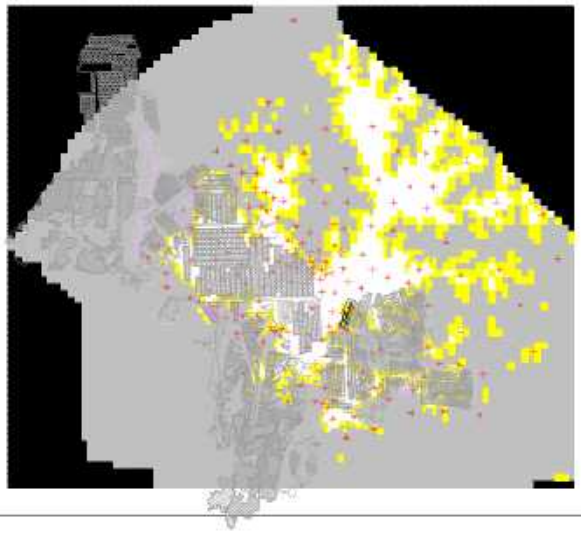
Layer 07



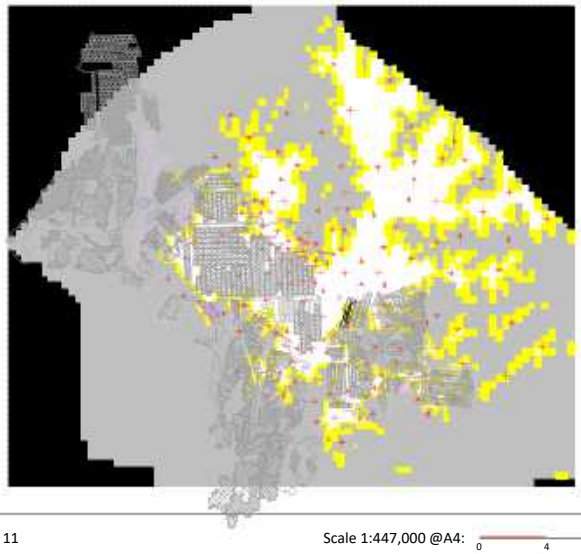
Layer 08



Layer 09

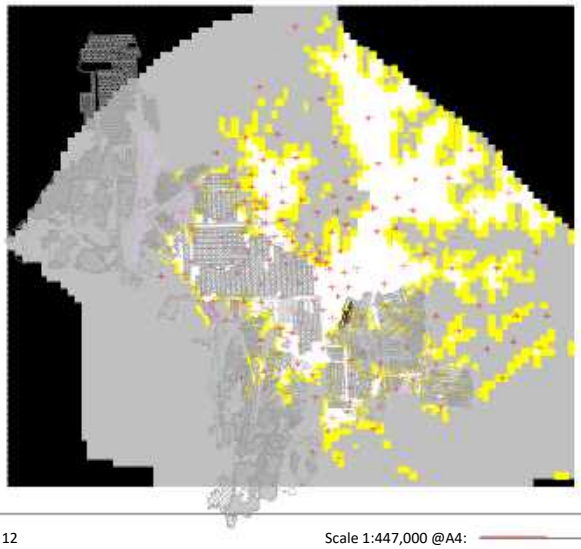


Layer 10



Layer 11

Scale 1:447,000 @A4: 0 4 8km



Layer 12

Scale 1:447,000 @A4:

Legend

Mining Methods:
- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:
- Approved
- Existing
- Proposed
- Other Proposed

Model Cell Type:
- 'Pinched-Out' Cells

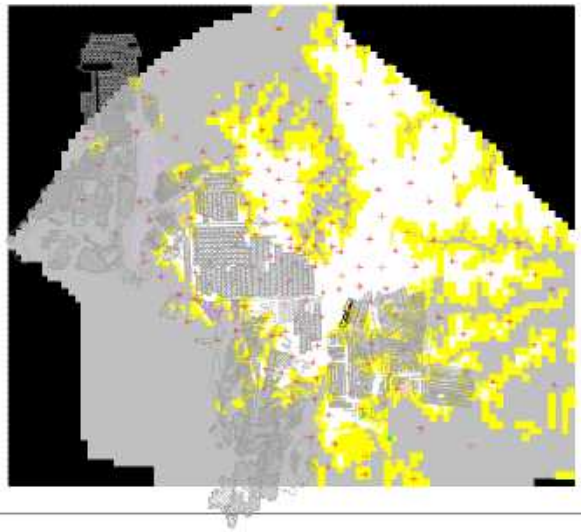
Model Boundary Conditions:
- Drain (DRN) Cells
- River (RIV) Cells
- General Head Boundary (GHB) Cells
- Well (WEL) Cells
- Constant Head (CHD) Cells
- No Flow Boundary (NFB) Cells

Model Results:
- Pilot Point

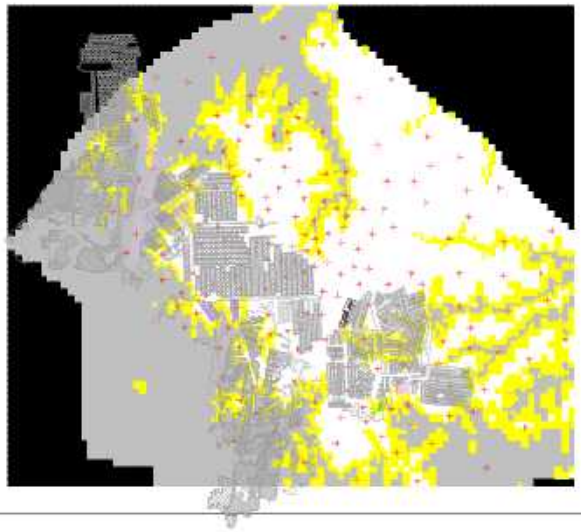
Job No.: 68229		**Distribution of Pilot Points (Kh)**
Client: Clarence Colliery Pty Ltd		Layer 07 to Layer 12
Version: R01RevA	Date: 07/11/2025	
Drawn By: DAW	Checked By: JRWB	**Figure D1-01b** JBS&G

File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D060a_PP_Kh\68229_R01RevA_D060a_PP-Kh_L07_L12.grf

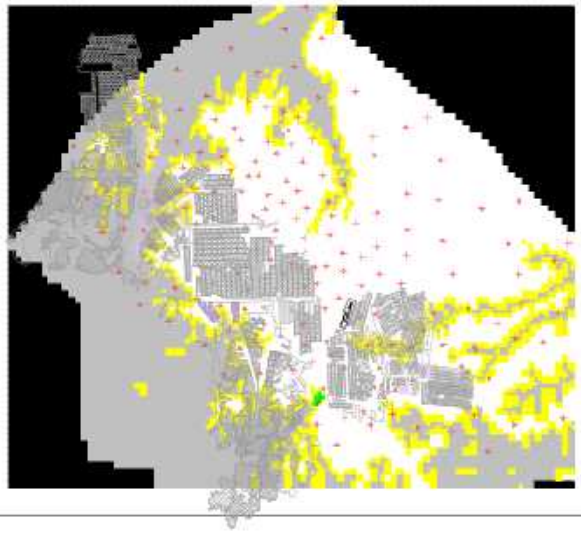
Reference: 68229_R01RevA_PRO_02a



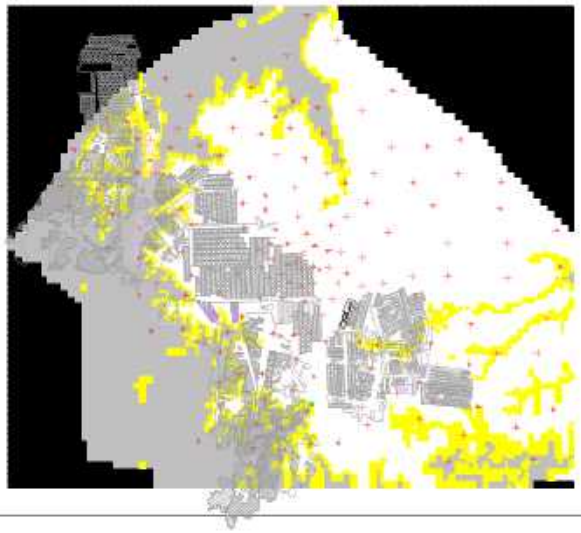
Layer 13



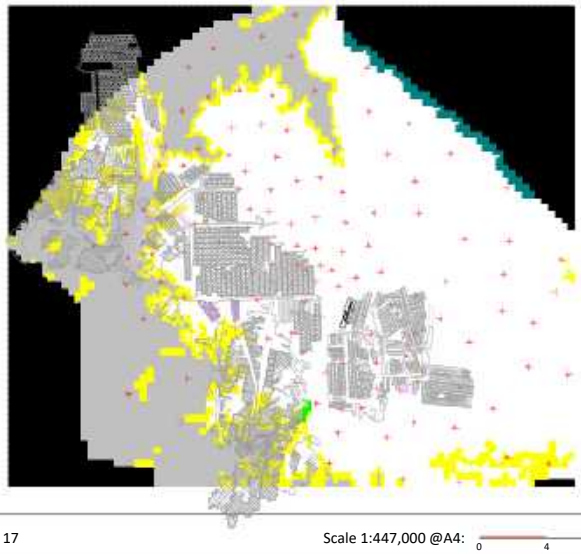
Layer 14



Layer 15

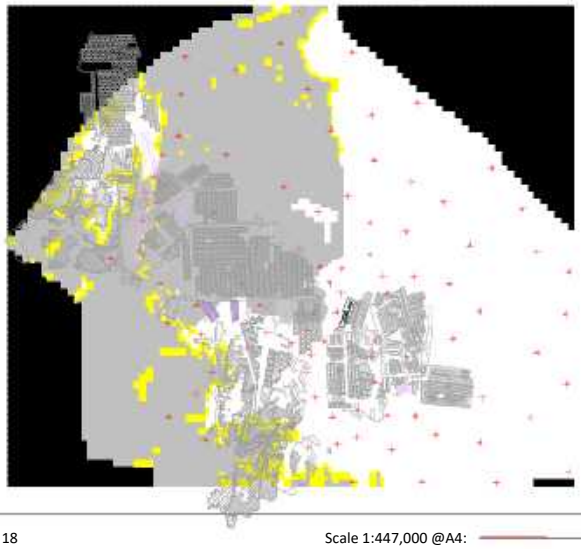


Layer 16



Layer 17

Scale 1:447,000 @A4: 0 4 8km



Layer 18

Scale 1:447,000 @A4:

Legend

Mining Methods:
- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:
- Approved
- Existing
- Proposed
- Other Proposed

Model Cell Type:
- 'Pinched-Out' Cells

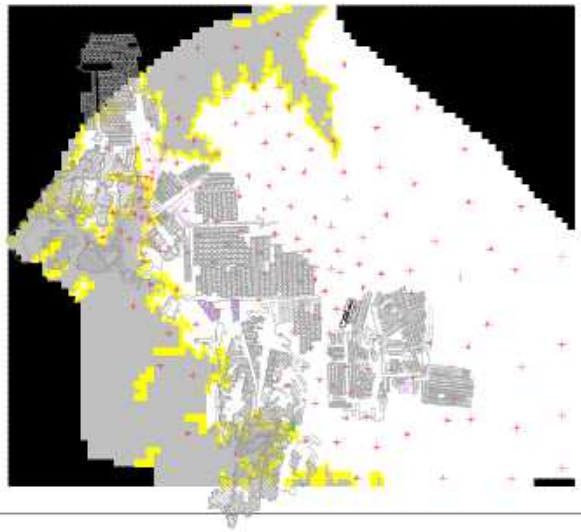
Model Boundary Conditions:
- Drain (DRN) Cells
- River (RIV) Cells
- General Head Boundary (GHB) Cells
- Well (WEL) Cells
- Constant Head (CHD) Cells
- No Flow Boundary (NFB) Cells

Model Results:
- Pilot Point

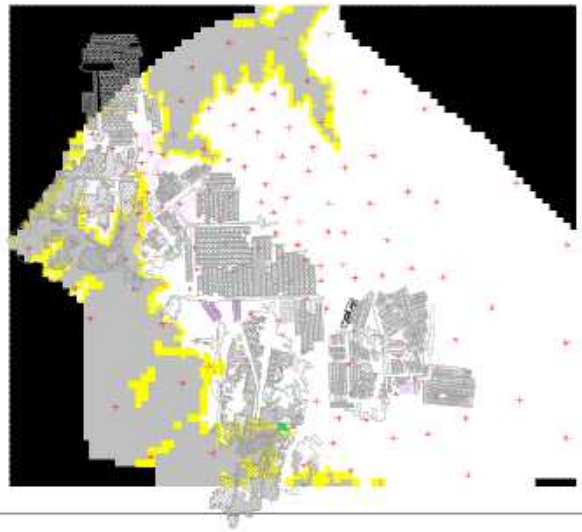
Job No.: 68229		**Distribution of Pilot Points (Kh)**
Client: Clarence Colliery Pty Ltd		Layer 13 to Layer 18
Version: R01RevA	Date: 07/11/2025	
Drawn By: DAW	Checked By: JRWB	**Figure D1-01c** JBS&G

File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D060a_PP_Kh\68229_R01RevA_D060a_PP-Kh_L13_L18.grf

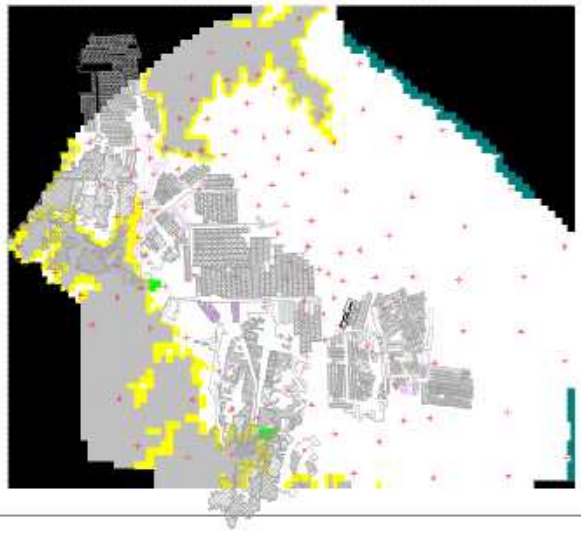
Reference: 68229_R01RevA_PRO_02a



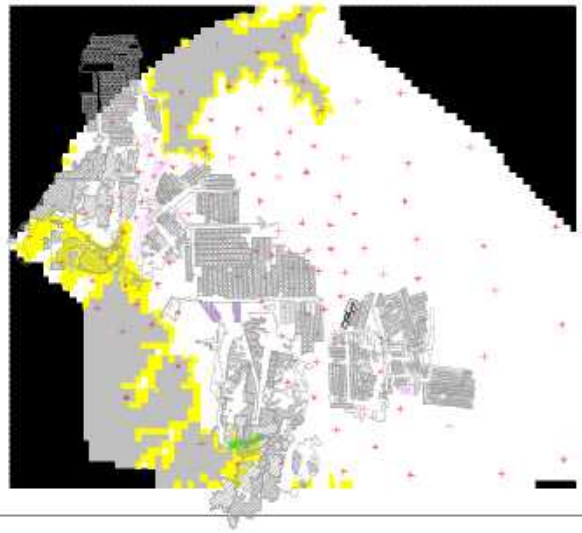
Layer 19



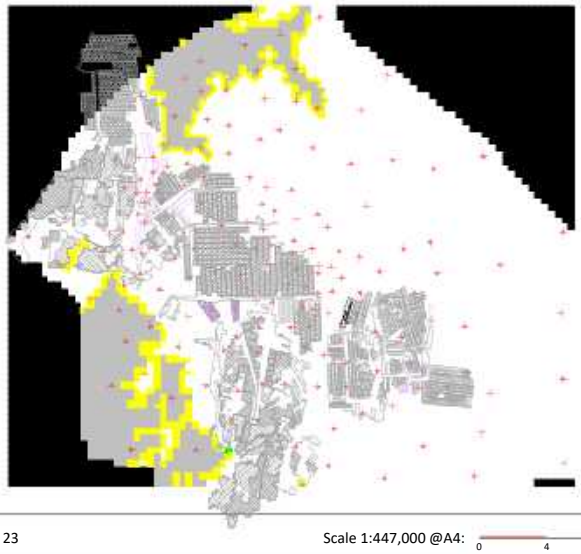
Layer 20



Layer 21

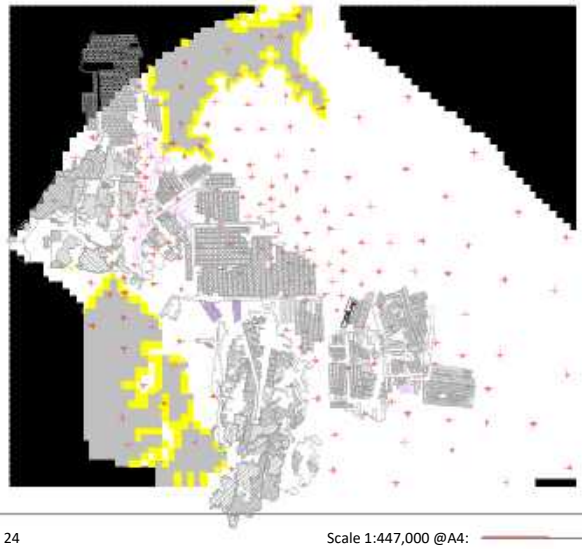


Layer 22



Layer 23

Scale 1:447,000 @A4: 0 4 8km



Layer 24

Scale 1:447,000 @A4:

Legend

Mining Methods:
- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:
- Approved
- Existing
- Proposed
- Other Proposed

Model Cell Type:
- 'Pinched-Out' Cells

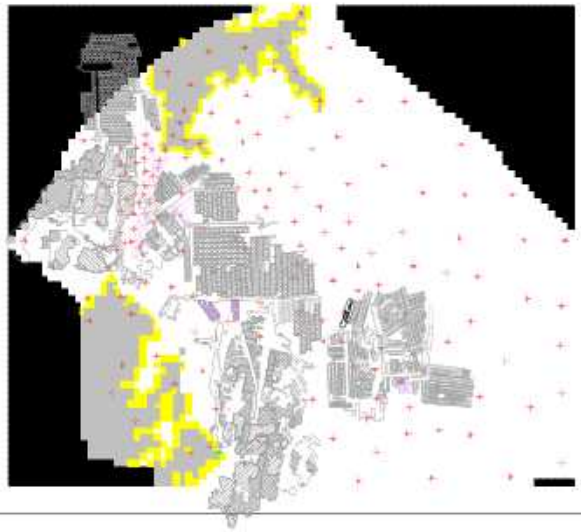
Model Boundary Conditions:
- Drain (DRN) Cells
- River (RIV) Cells
- General Head Boundary (GHB) Cells
- Well (WEL) Cells
- Constant Head (CHD) Cells
- No Flow Boundary (NFB) Cells

Model Results:
- Pilot Point

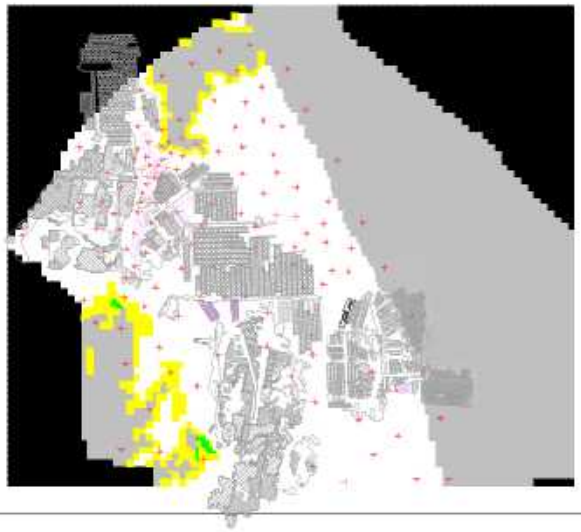
Job No.: 68229		**Distribution of Pilot Points (Kh)**
Client: Clarence Colliery Pty Ltd		Layer 19 to Layer 24
Version: R01RevA	Date: 07/11/2025	
Drawn By: DAW	Checked By: JRWB	**Figure D1-01d** JBS&G

File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D060a_PP_Kh\68229_R01RevA_D060a_PP-Kh_L19_L24.grf

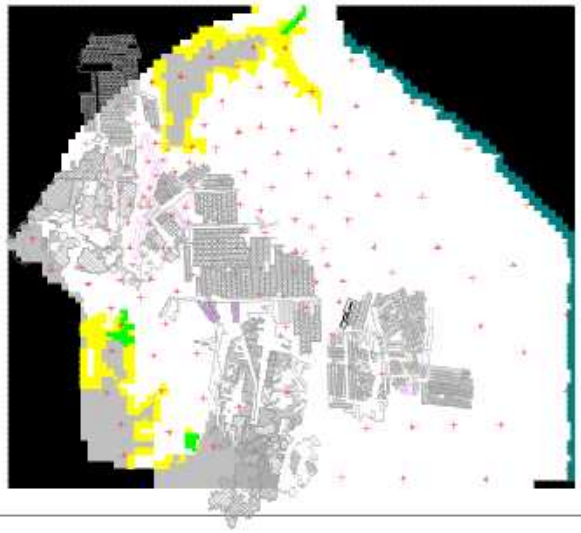
Reference: 68229_R01RevA_PRO_02a



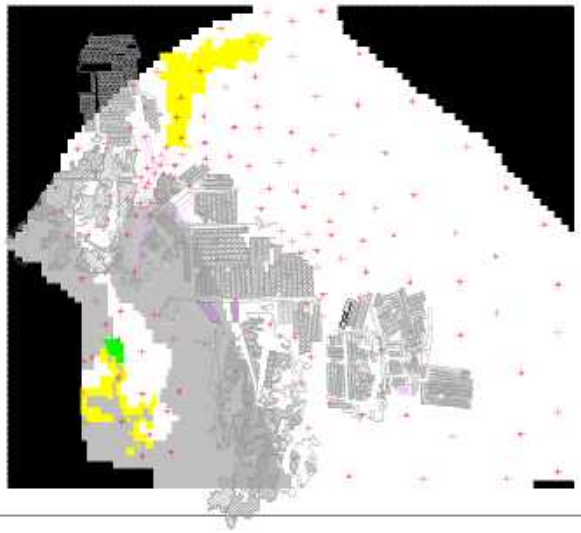
Layer 25



Layer 26



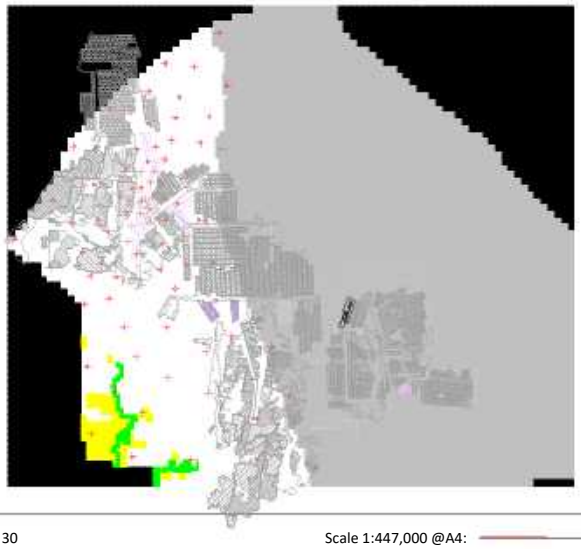
Layer 27



Layer 28

Layer 29

Scale 1:447,000 @A4: 0 4 8km



Layer 30

Scale 1:447,000 @A4:

Legend

Mining Methods:
- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:
- Approved
- Existing
- Proposed
- Other Proposed

Model Cell Type:
- 'Pinched-Out' Cells

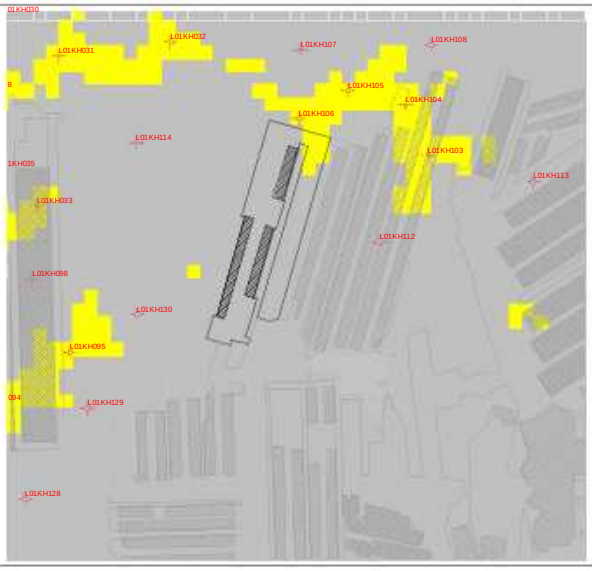
Model Boundary Conditions:
- Drain (DRN) Cells
- River (RIV) Cells
- General Head Boundary (GHB) Cells
- Well (WEL) Cells
- Constant Head (CHD) Cells
- No Flow Boundary (NFB) Cells

Model Results:
- Pilot Point

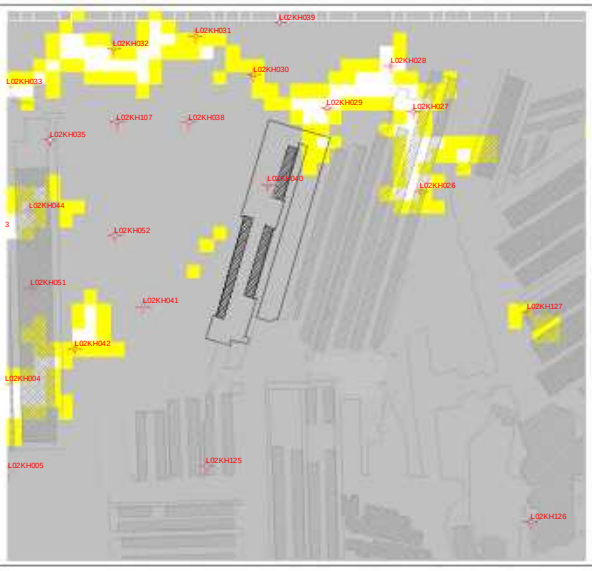
Job No.: 68229		**Distribution of Pilot Points (Kh)**
Client: Clarence Colliery Pty Ltd		Layer 25 to Layer 30
Version: R01RevA	Date: 07/11/2025	
Drawn By: DAW	Checked By: JRWB	**Figure D1-01e** JBS&G

File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D060a_PP_Kh\68229_R01RevA_D060a_PP-Kh_L25_L30.grf

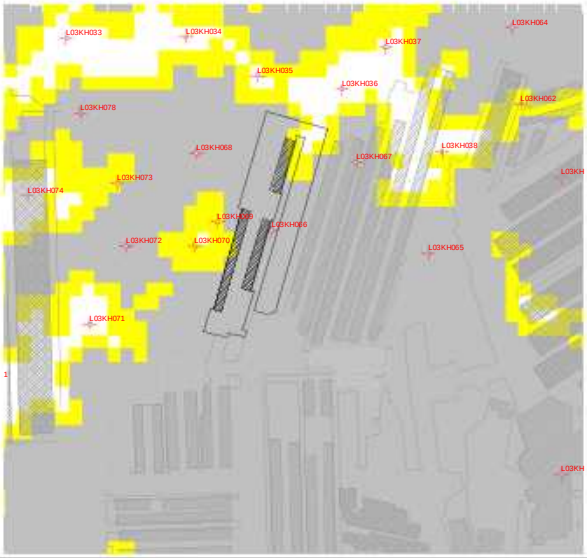
Reference: 68229_R01RevA_PRO_02a



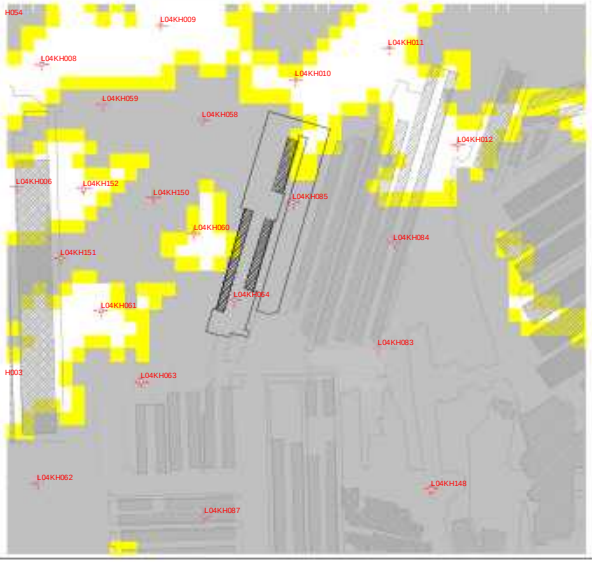
Layer 01



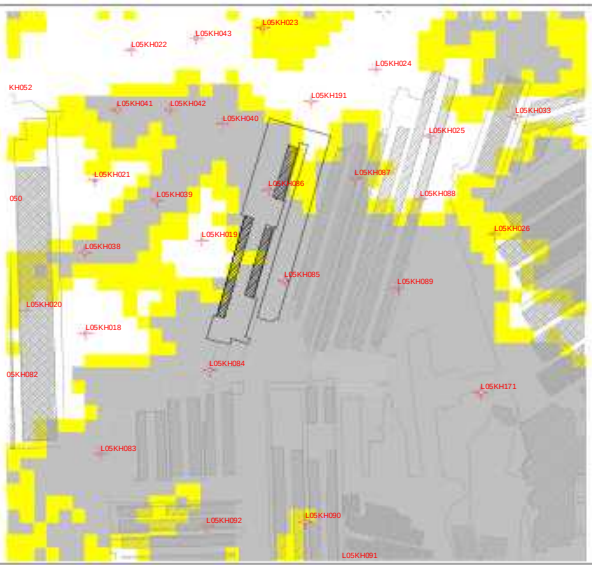
Layer 02



Layer 03

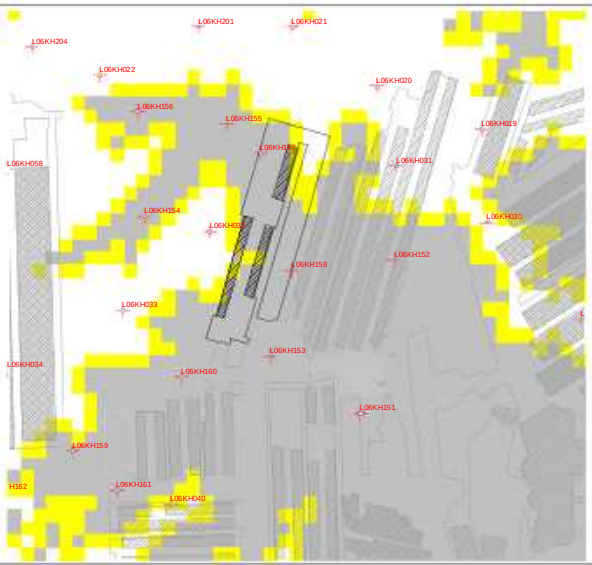


Layer 04



Layer 05

Scale 1:58,080 @A4: 0 250 500m



Layer 06

Scale 1:58,080 @A4: 0 250 500m

Legend

Mining Methods:
- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:
- Approved
- Existing
- Proposed
- Other Proposed

Model Cell Type:
- 'Pinched-Out' Cells

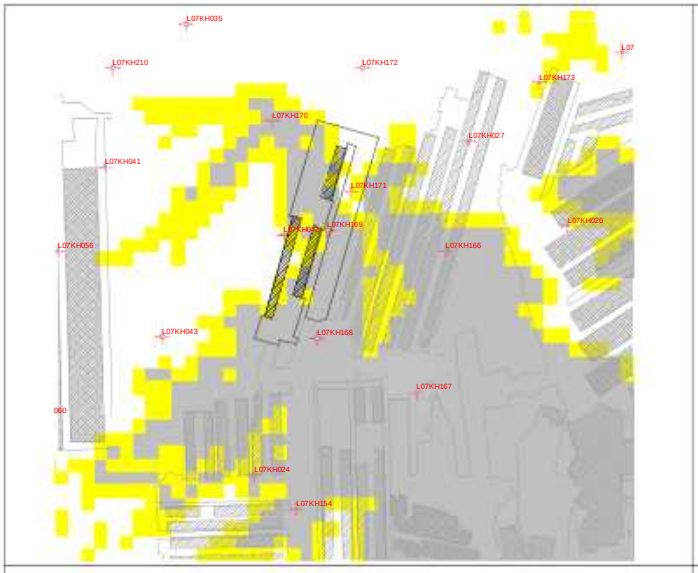
Model Boundary Conditions:
- Drain (DRN) Cells
- River (RIV) Cells
- General Head Boundary (GHB) Cells
- Well (WEL) Cells
- Constant Head (CHD) Cells
- No Flow Boundary (NFB) Cells

Model Results:
- Pilot Point

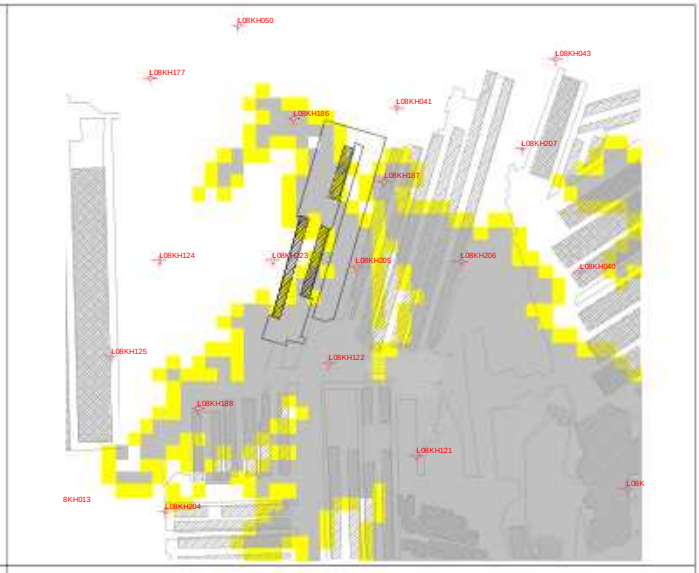
Job No.: 68229		**Distribution of Pilot Points (Kh)**
Client: Clarence Colliery Pty Ltd		Layer 01 to Layer 06 918 Panel
Version: R01RevA	Date: 07/11/2025	
Drawn By: DAW	Checked By: JRWB	**Figure D1-02a** JBS&G

File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D060b_PP_Kh\68229_R01RevA_D060b_PP-Kh_L01_L06_CloseUp.grf

Reference: 68229_R01RevA_PRO_02a

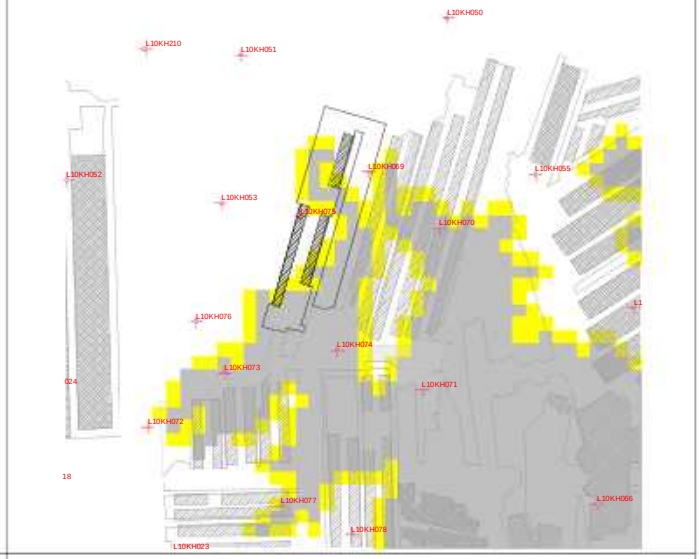


Layer 07

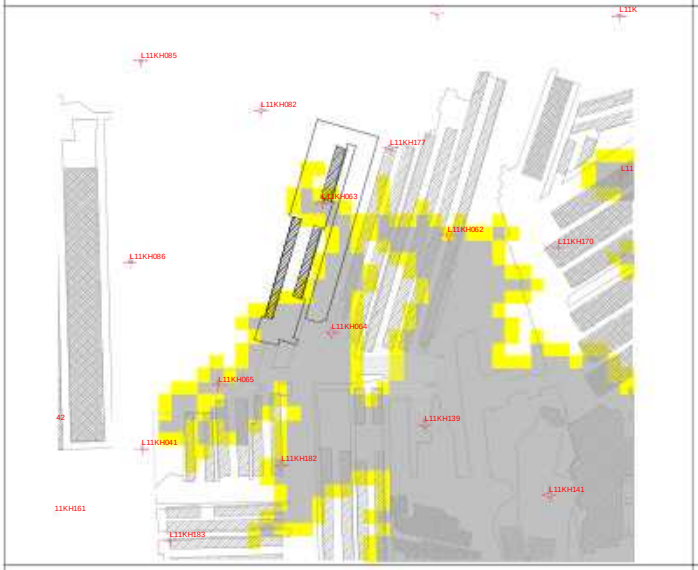


Layer 08

Layer 09

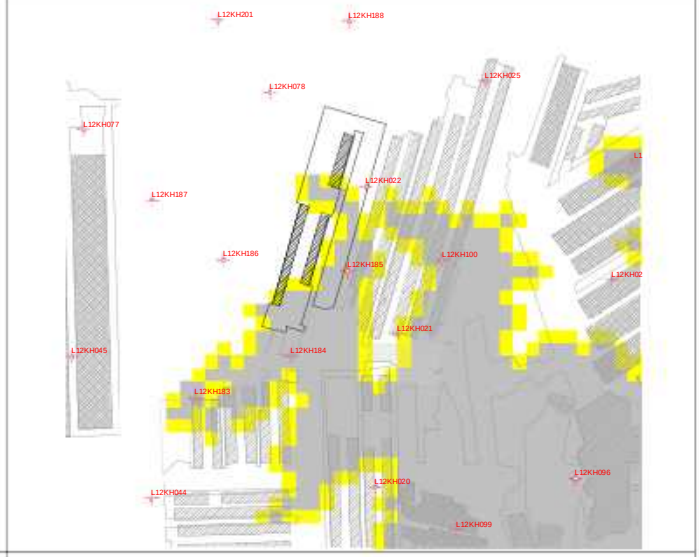


Layer 10



Layer 11

Scale 1:58,080 @A4: 0 250 500m



Layer 12

Scale 1:58,080 @A4: 0 250 500m

Legend

Mining Methods:
- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:
- Approved
- Existing
- Proposed
- Other Proposed

Model Cell Type:
- 'Pinched-Out' Cells

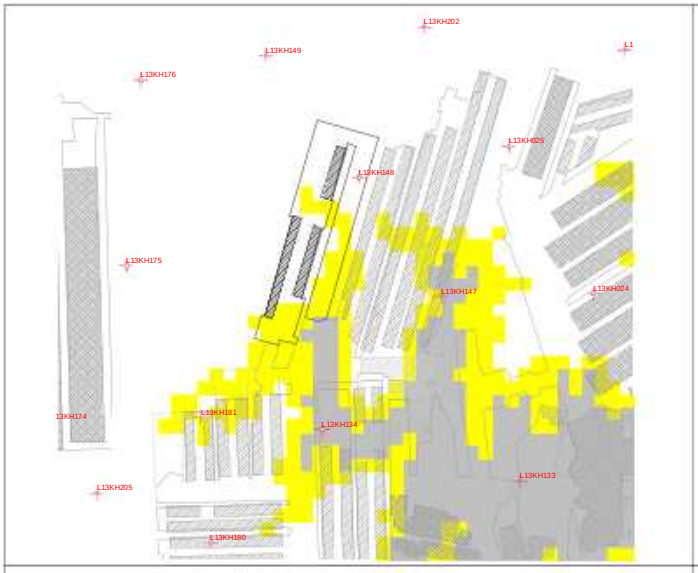
Model Boundary Conditions:
- Drain (DRN) Cells
- River (RIV) Cells
- General Head Boundary (GHB) Cells
- Well (WEL) Cells
- Constant Head (CHD) Cells
- No Flow Boundary (NFB) Cells

Model Results:
- Pilot Point

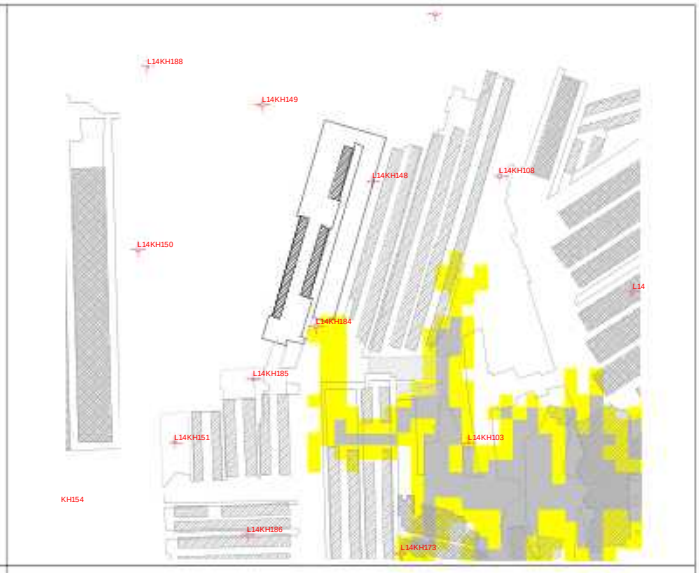
Job No.: 68229		**Distribution of Pilot Points (Kh)**
Client: Clarence Colliery Pty Ltd		Layer 07 to Layer 12 918 Panel
Version: R01RevA	Date: 07/11/2025	
Drawn By: DAW	Checked By: JRWB	**Figure D1-02b** JBS&G

File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D060b_PP_Kh\68229_R01RevA_D060b_PP-Kh_L07_L12_CloseUp.grf

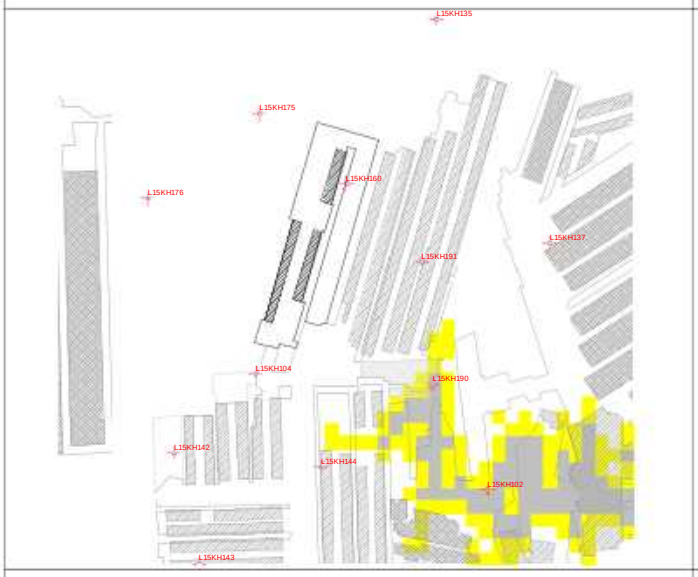
Reference: 68229_R01RevA_PRO_02a



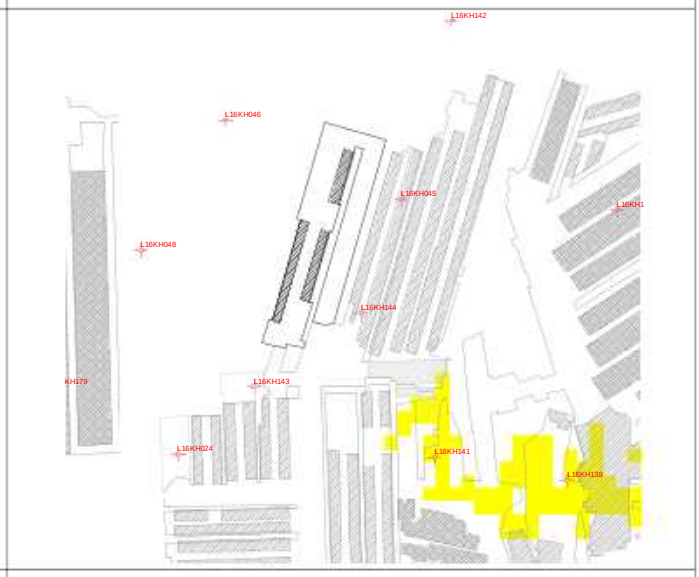
Layer 13



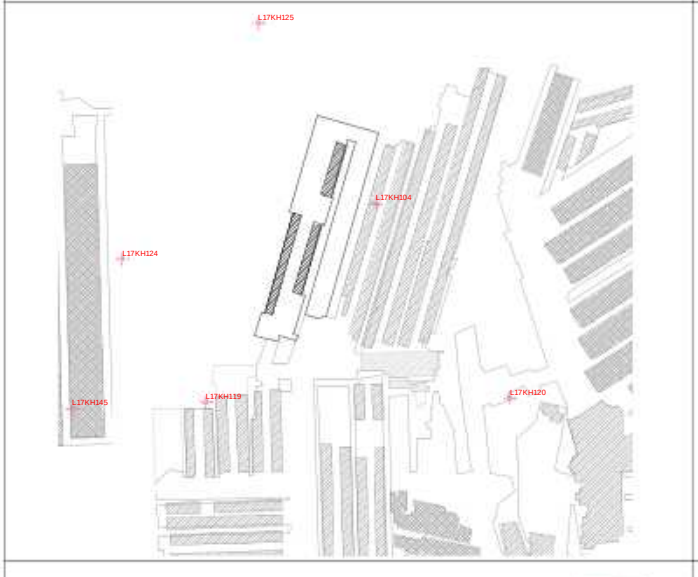
Layer 14



Layer 15

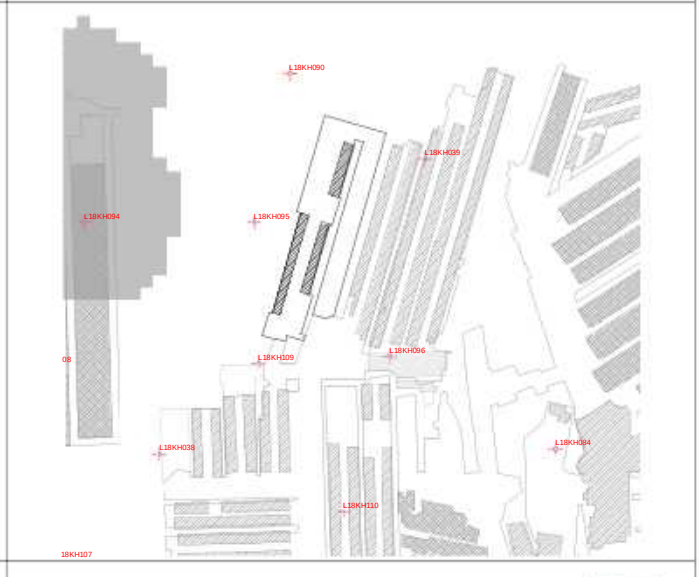


Layer 16



Layer 17

Scale 1:58,080 @A4: 0 250 500m



Layer 18

Scale 1:58,080 @A4: 0 250 500m

Legend

Mining Methods:
- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:
- Approved
- Existing
- Proposed
- Other Proposed

Model Cell Type:
- 'Pinched-Out' Cells

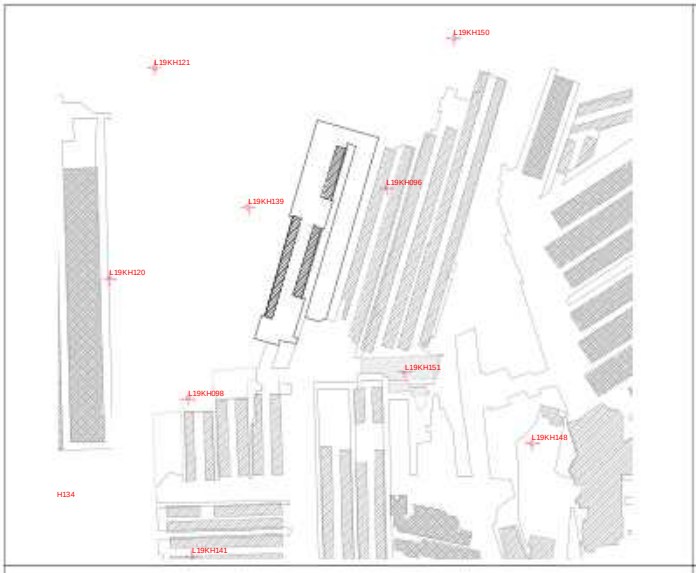
Model Boundary Conditions:
- Drain (DRN) Cells
- River (RIV) Cells
- General Head Boundary (GHB) Cells
- Well (WEL) Cells
- Constant Head (CHD) Cells
- No Flow Boundary (NFB) Cells

Model Results:
- Pilot Point

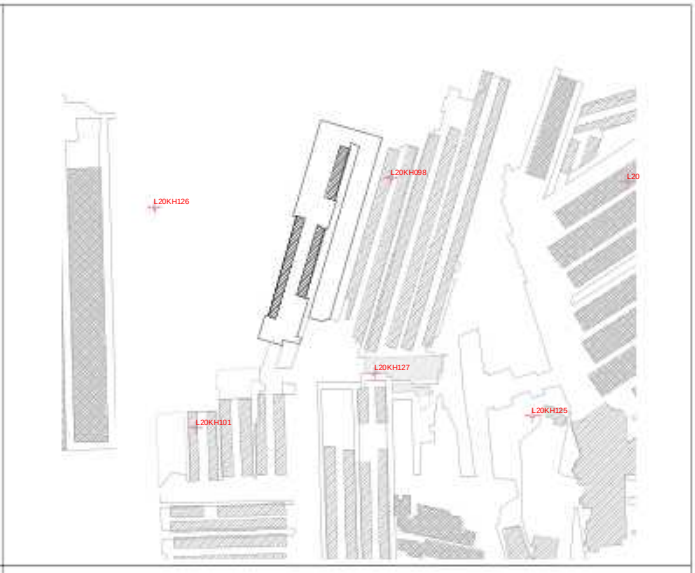
Job No.: 68229		**Distribution of Pilot Points (Kh)**
Client: Clarence Colliery Pty Ltd		Layer 13 to Layer 18 918 Panel
Version: R01RevA	Date: 07/11/2025	
Drawn By: DAW	Checked By: JRWB	**Figure D1-02c**

File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D060b_PP_Kh\68229_R01RevA_D060b_PP-Kh_L13_L18_CloseUp.grf

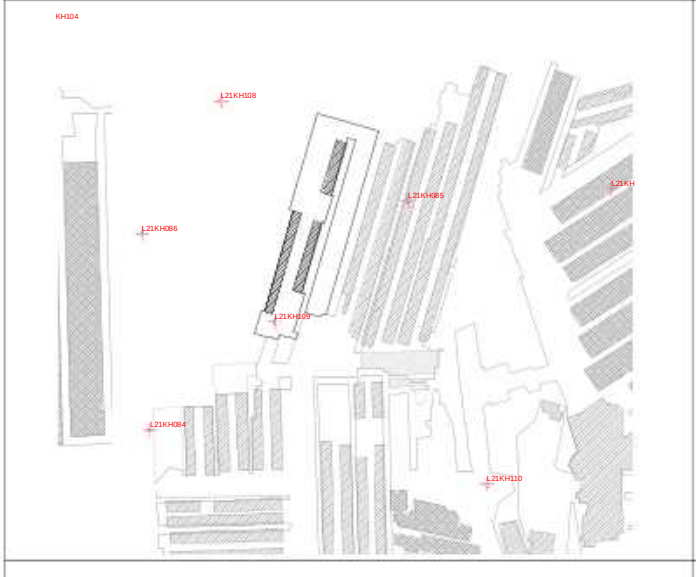
Reference: 68229_R01RevA_PRO_02a



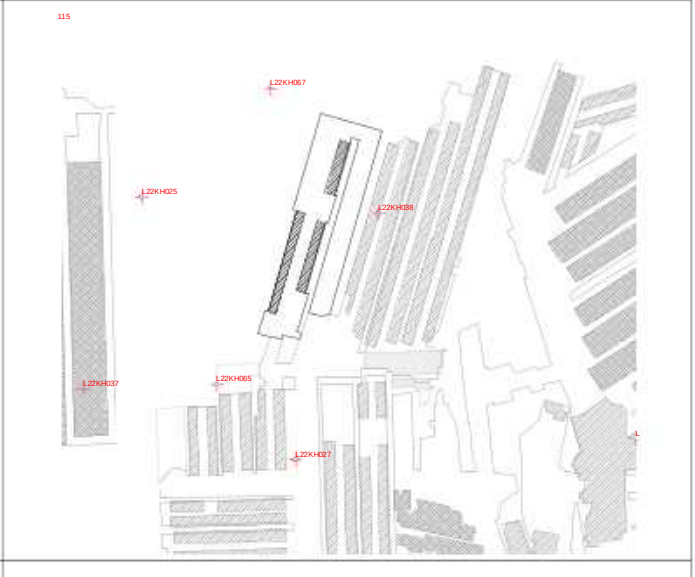
Layer 19



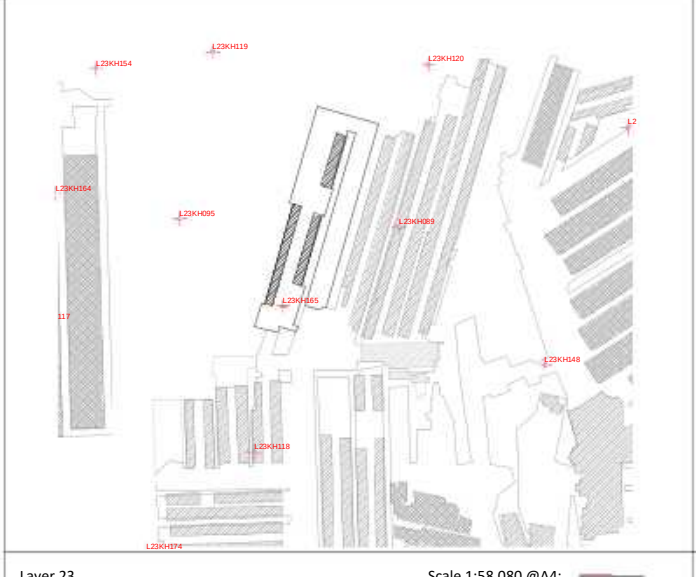
Layer 20



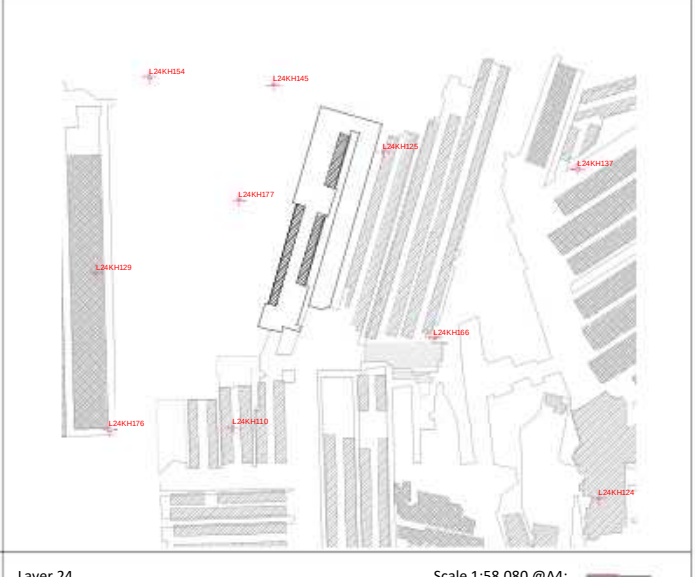
Layer 21



Layer 22



Layer 23 Scale 1:58,080 @A4: 0 250 500m



Layer 24 Scale 1:58,080 @A4: 0 250 500m

Legend

Mining Methods:
- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:
- Approved
- Existing
- Proposed
- Other Proposed

Model Cell Type:
- 'Pinched-Out' Cells

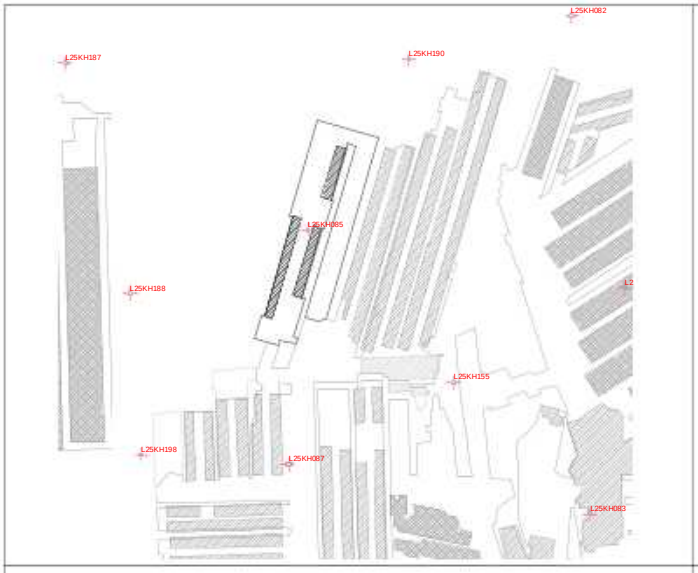
Model Boundary Conditions:
- Drain (DRN) Cells
- River (RIV) Cells
- General Head Boundary (GHB) Cells
- Well (WEL) Cells
- Constant Head (CHD) Cells
- No Flow Boundary (NFB) Cells

Model Results:
- Pilot Point

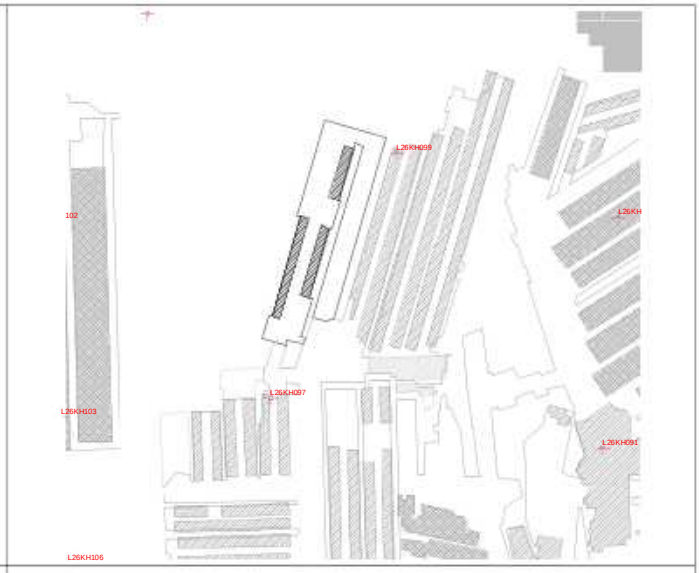
Job No.: 68229		**Distribution of Pilot Points (Kh)**
Client: Clarence Colliery Pty Ltd		Layer 19 to Layer 24 918 Panel
Version: R01RevA	Date: 07/11/2025	
Drawn By: DAW	Checked By: JRWB	**Figure D1-02d** JBS&G

File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D060b_PP_Kh\68229_R01RevA_D060b_PP-Kh_L19_L24_CloseUp.grf

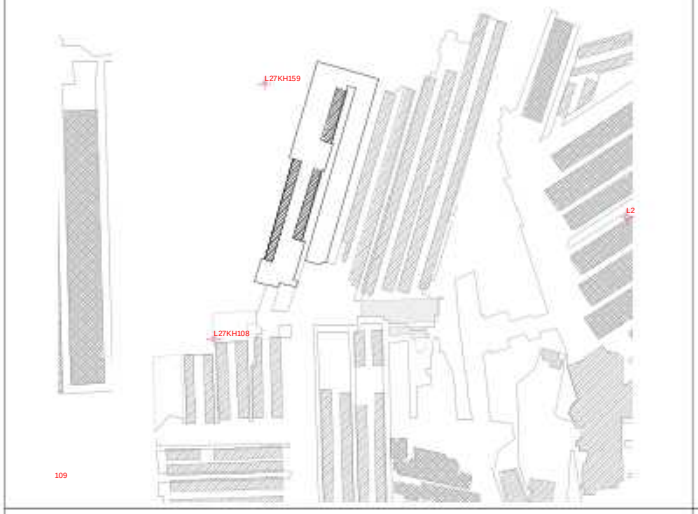
Reference: 68229_R01RevA_PRO_02a



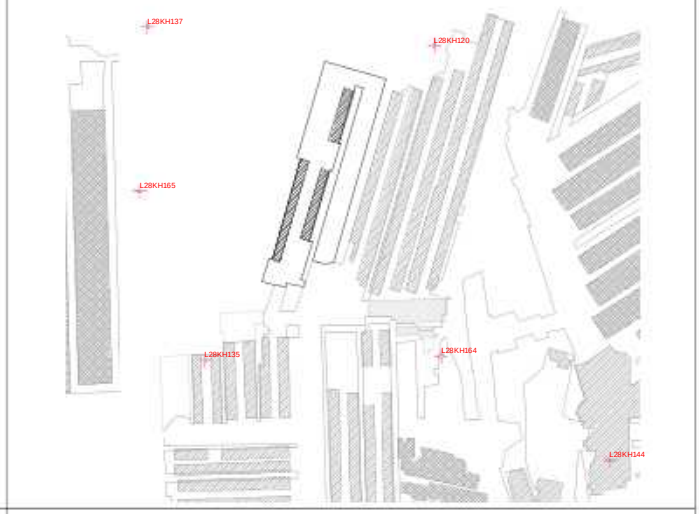
Layer 25



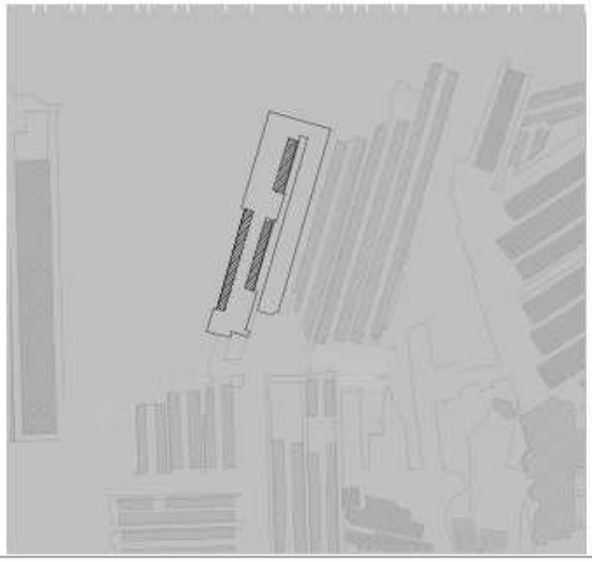
Layer 26



Layer 27



Layer 28



Layer 29 Scale 1:58,080 @A4: 0 250 500m

Layer 30 Scale 1:58,080 @A4: 0 250 500m

Legend

Mining Methods:
- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:
- Approved
- Existing
- Proposed
- Other Proposed

Model Cell Type:
- 'Pinched-Out' Cells

Model Boundary Conditions:
- Drain (DRN) Cells
- River (RIV) Cells
- General Head Boundary (GHB) Cells
- Well (WEL) Cells
- Constant Head (CHD) Cells
- No Flow Boundary (NFB) Cells

Model Results:
- Pilot Point

Job No.: 68229		**Distribution of Pilot Points (Kh)**
Client: Clarence Colliery Pty Ltd		Layer 25 to Layer 30 918 Panel
Version: R01RevA	Date: 07/11/2025	
Drawn By: DAW	Checked By: JRWB	**Figure D1-02e** JBS&G

File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D060b_PP_Kh\68229_R01RevA_D060b_PP-Kh_L25_L30_CloseUp.grf

Reference: 68229_R01RevA_PRO_02a

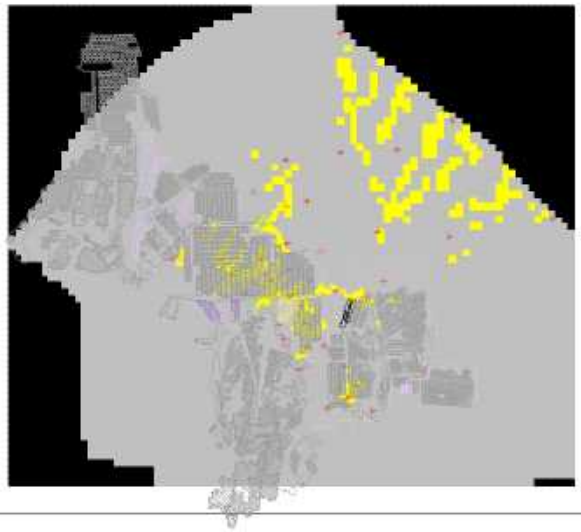
D2. Pilot Point Distribution – Warping Field for Vertical Hydraulic Conductivity Factor, KvF, Specific Storage Factor, SsF and Specific Yield Factor, SyF

There is a pair of figures presented in this appendix section:

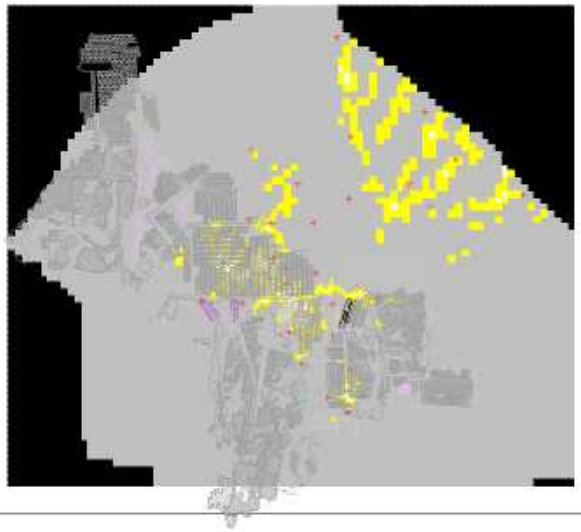
- Full Model Extent
- Vicinity of 918 Panel.

As presented in **Section 4.12.4.2**, these Pilot Points are 'Warping Fields' (multiplicative factor centred on 1.0) to cosimulated value of vertical hydraulic conductivity, Kv, specific storage, Ss and specific yield, Sy.

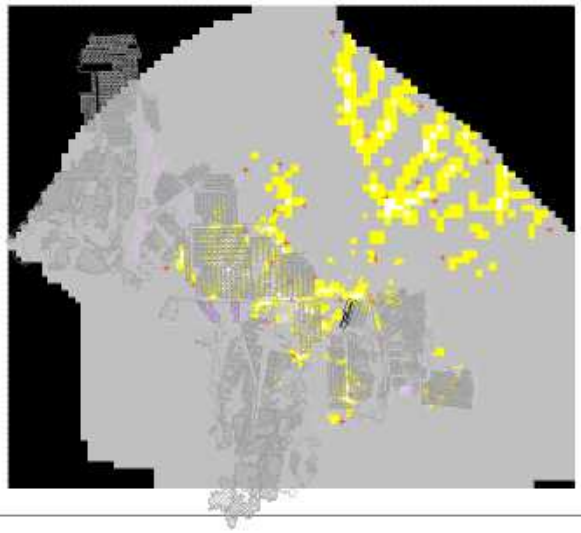
The model boundary conditions presented in the figures below are steady-state (SP001).



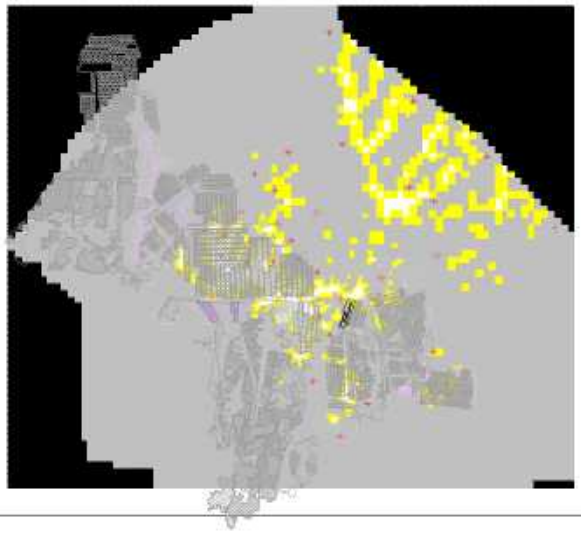
Layer 01



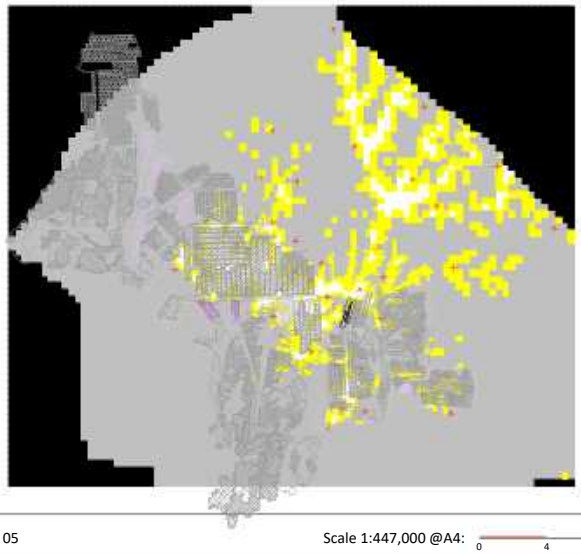
Layer 02



Layer 03

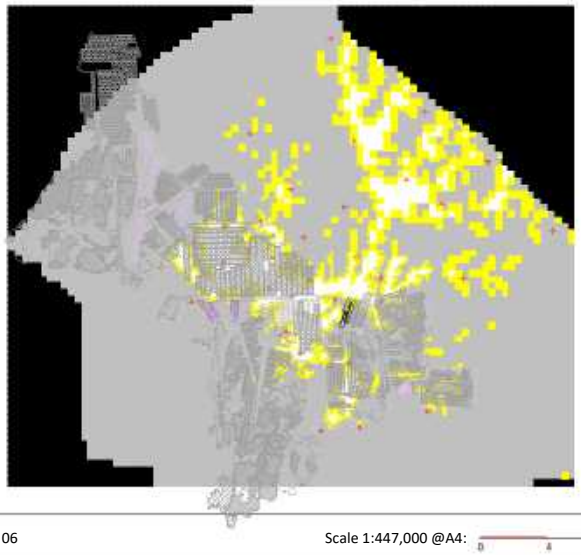


Layer 04



Layer 05

Scale 1:447,000 @A4: 0 4 8km



Layer 06

Scale 1:447,000 @A4:

Legend

Mining Methods:
- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:
- Approved
- Existing
- Proposed
- Other Proposed

Model Cell Type:
- 'Pinched-Out' Cells

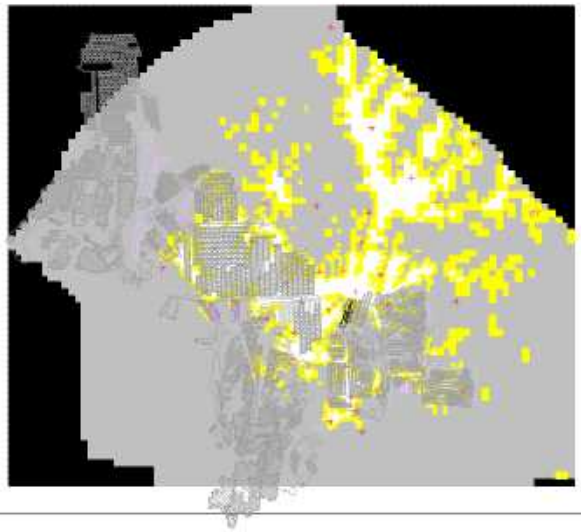
Model Boundary Conditions:
- Drain (DRN) Cells
- River (RIV) Cells
- General Head Boundary (GHB) Cells
- Well (WEL) Cells
- Constant Head (CHD) Cells
- No Flow Boundary (NFB) Cells

Model Results:
- Pilot Point

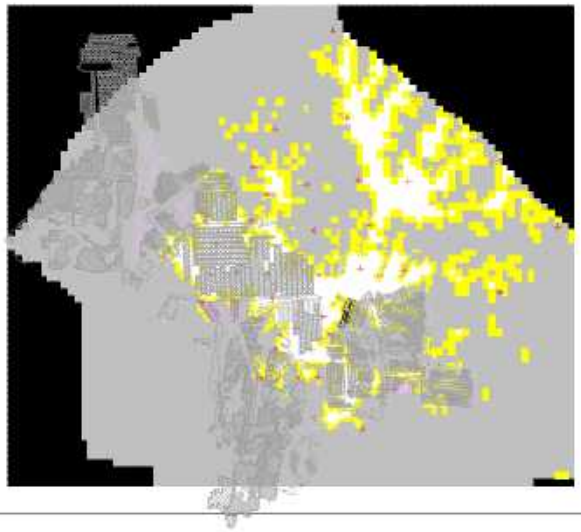
Job No.: 68229		**Distribution of Pilot Points (Kv, S1-Ss and S2-Sy) 'Warping Fields'**
Client: Clarence Colliery Pty Ltd		Layer 01 to Layer 06
Version: R01RevA	Date: 07/11/2025	
Drawn By: DAW	Checked By: JRWB	**Figure D2-01a** JBS&G

File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D061a_PP_Kv\68229_R01RevA_D061a_PP-Kv_L01_L06.grf

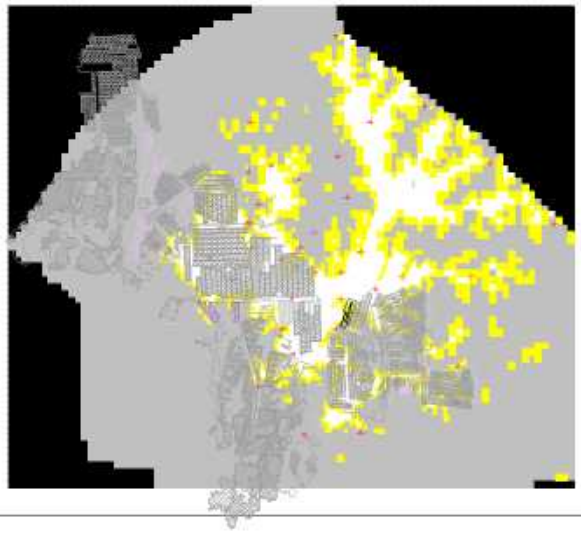
Reference: 68229_R01RevA_PRO_02a



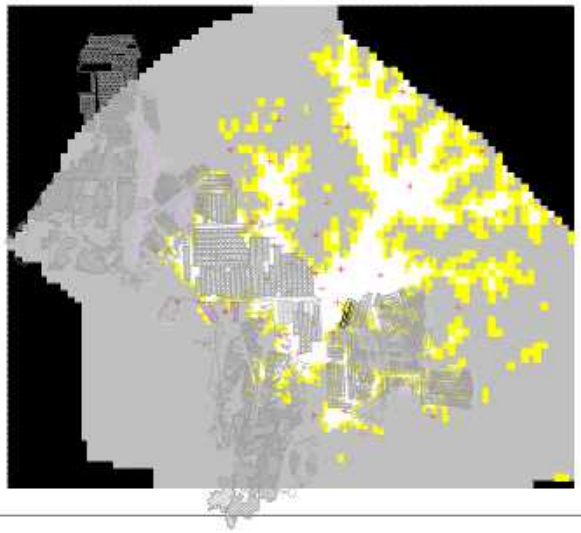
Layer 07



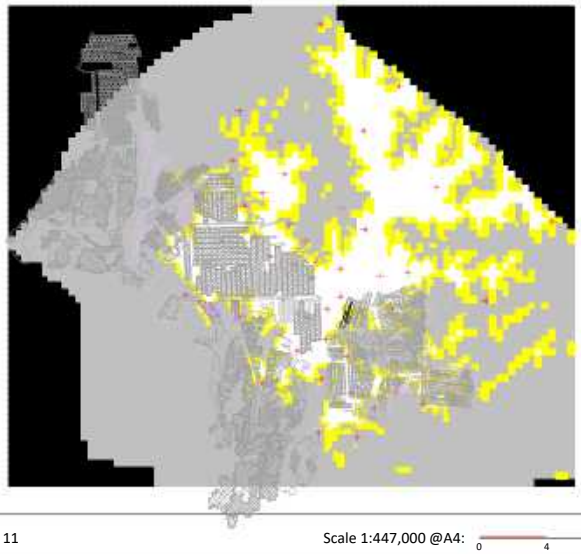
Layer 08



Layer 09

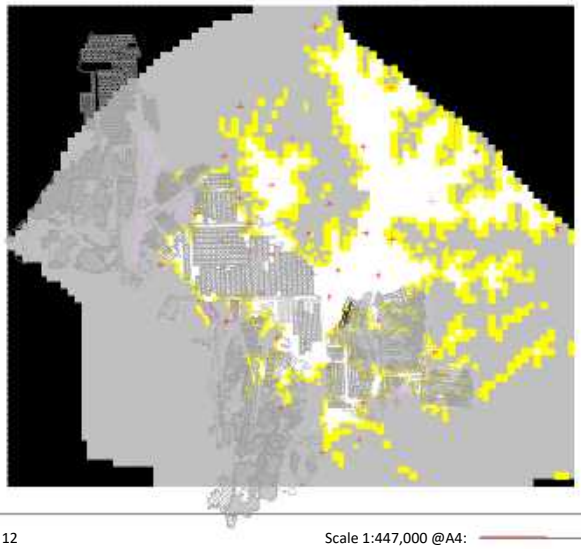


Layer 10



Layer 11

Scale 1:447,000 @A4: 0 4 8km



Layer 12

Scale 1:447,000 @A4:

Legend

Mining Methods:
- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:
- Approved
- Existing
- Proposed
- Other Proposed

Model Cell Type:
- 'Pinched-Out' Cells

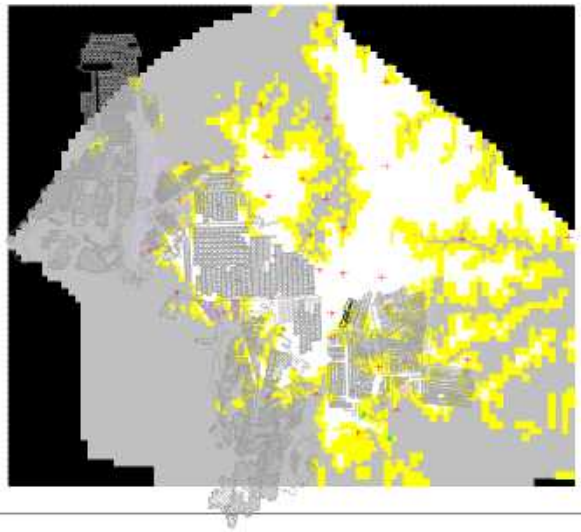
Model Boundary Conditions:
- Drain (DRN) Cells
- River (RIV) Cells
- General Head Boundary (GHB) Cells
- Well (WEL) Cells
- Constant Head (CHD) Cells
- No Flow Boundary (NFB) Cells

Model Results:
- Pilot Point

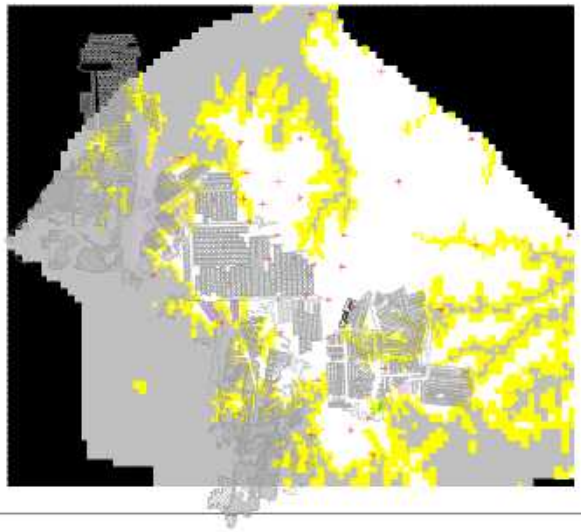
Job No.: 68229		**Distribution of Pilot Points (Kv, S1-Ss and S2-Sy) 'Warping Fields'**
Client: Clarence Colliery Pty Ltd		Layer 07 to Layer 12
Version: R01RevA	Date: 07/11/2025	
Drawn By: DAW	Checked By: JRWB	**Figure D2-01b** JBS&G

File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D061a_PP_Kv\68229_R01RevA_D061a_PP-Kv_L07_L12.grf

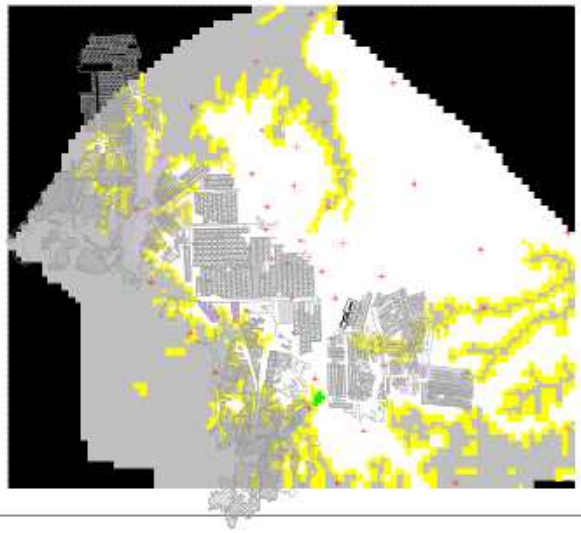
Reference: 68229_R01RevA_PRO_02a



Layer 13

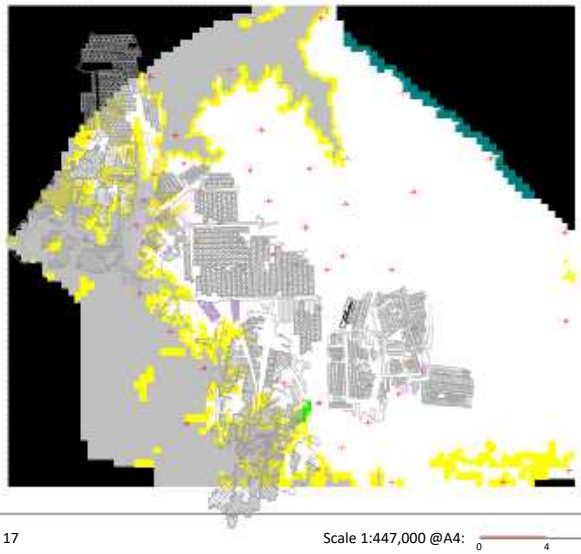


Layer 14



Layer 15

Layer 16



Layer 17

Scale 1:447,000 @A4: 0 4 8km

Layer 18

Scale 1:447,000 @A4:

Legend

Mining Methods:
- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:
- Approved
- Existing
- Proposed
- Other Proposed

Model Cell Type:
- 'Pinched-Out' Cells

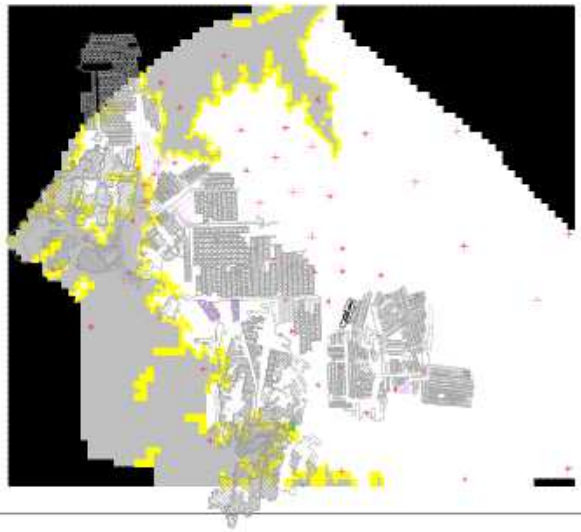
Model Boundary Conditions:
- Drain (DRN) Cells
- River (RIV) Cells
- General Head Boundary (GHB) Cells
- Well (WEL) Cells
- Constant Head (CHD) Cells
- No Flow Boundary (NFB) Cells

Model Results:
- Pilot Point

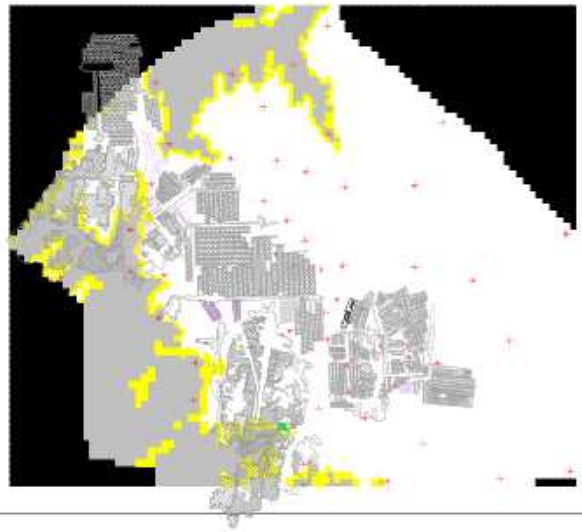
Job No.: 68229		**Distribution of Pilot Points (Kv, S1-Ss and S2-Sy) 'Warping Fields'**
Client: Clarence Colliery Pty Ltd		Layer 13 to Layer 18
Version: R01RevA	Date: 07/11/2025	
Drawn By: DAW	Checked By: JRWB	**Figure D2-01c** JBS&G

File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D061a_PP_Kv\68229_R01RevA_D061a_PP-Kv_L13_L18.grf

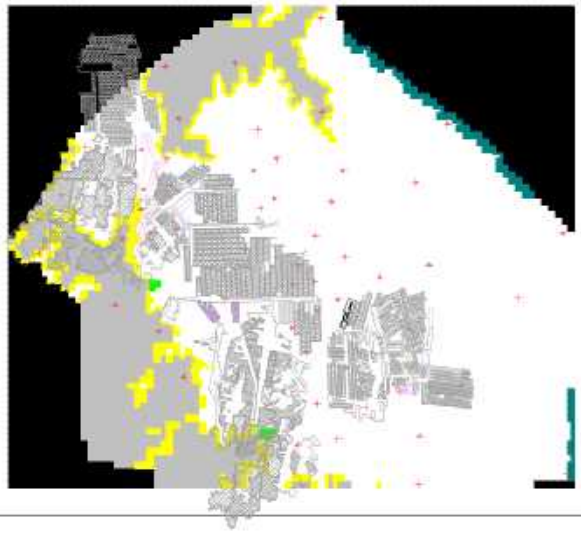
Reference: 68229_R01RevA_PRO_02a



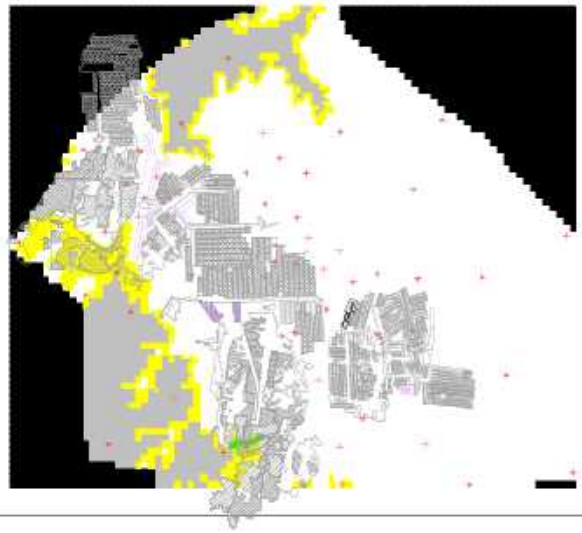
Layer 19



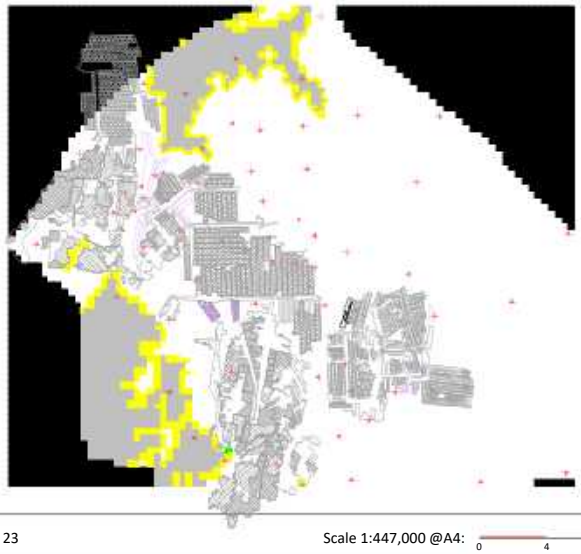
Layer 20



Layer 21

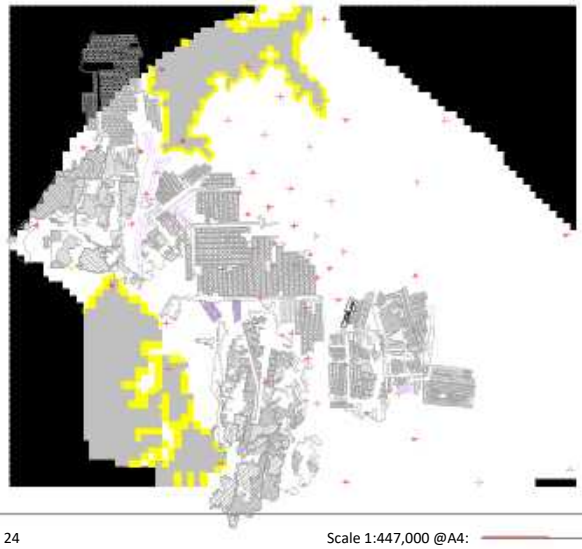


Layer 22



Layer 23

Scale 1:447,000 @A4: 0 4 8km



Layer 24

Scale 1:447,000 @A4:

Legend

Mining Methods:
- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:
- Approved
- Existing
- Proposed
- Other Proposed

Model Cell Type:
- 'Pinched-Out' Cells

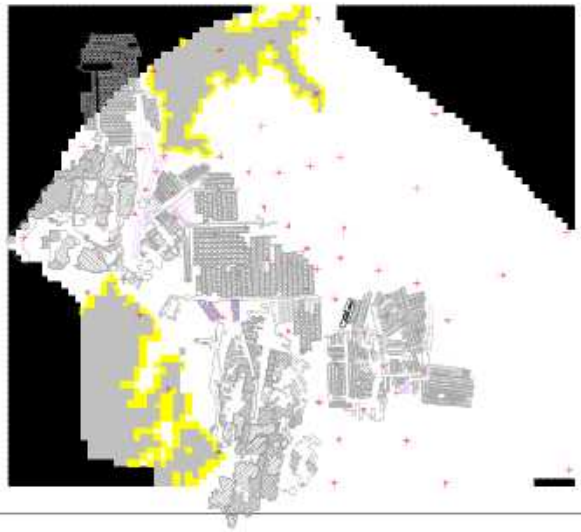
Model Boundary Conditions:
- Drain (DRN) Cells
- River (RIV) Cells
- General Head Boundary (GHB) Cells
- Well (WEL) Cells
- Constant Head (CHD) Cells
- No Flow Boundary (NFB) Cells

Model Results:
- Pilot Point

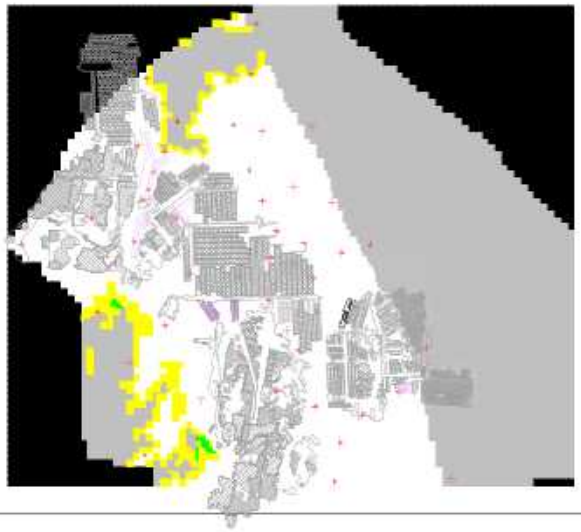
Job No.: 68229		**Distribution of Pilot Points (Kv, S1-Ss and S2-Sy) 'Warping Fields'**
Client: Clarence Colliery Pty Ltd		Layer 19 to Layer 24
Version: R01RevA	Date: 07/11/2025	
Drawn By: DAW	Checked By: JRWB	**Figure D2-01d** JBS&G

File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D061a_PP_Kv\68229_R01RevA_D061a_PP-Kv_L19_L24.grf

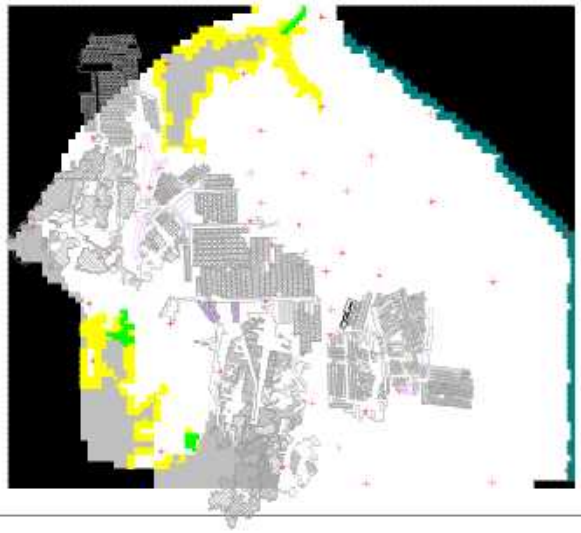
Reference: 68229_R01RevA_PRO_02a



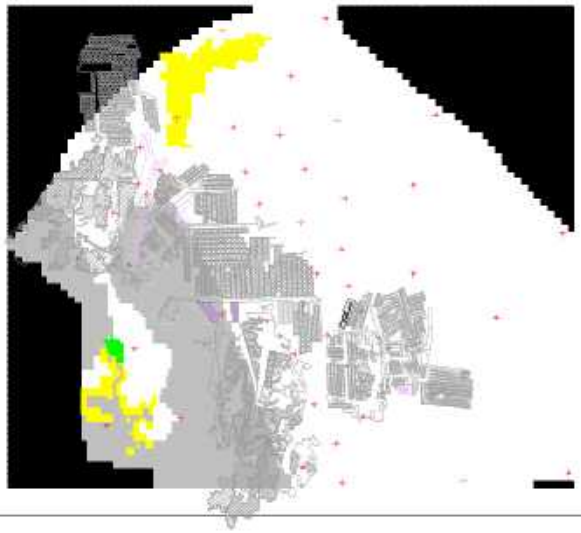
Layer 25



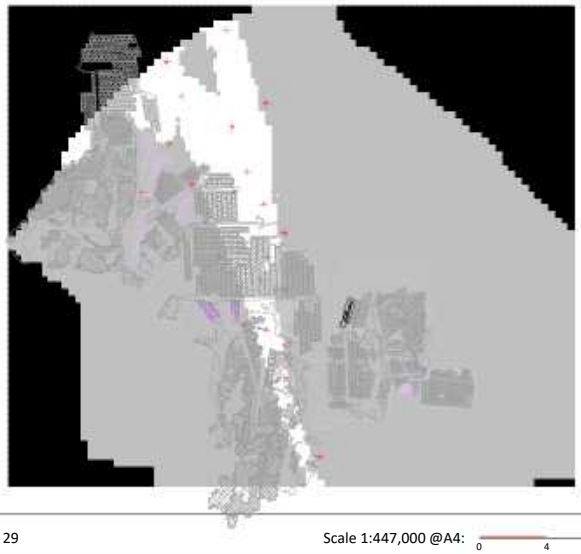
Layer 26



Layer 27

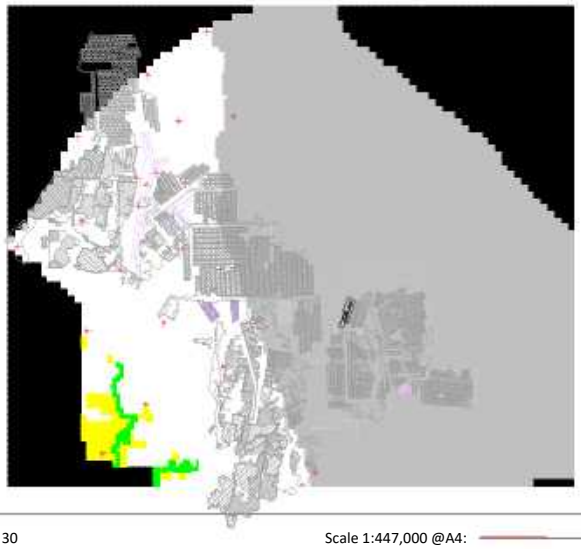


Layer 28



Layer 29

Scale 1:447,000 @A4: 0 4 8km



Layer 30

Scale 1:447,000 @A4:

Legend

Mining Methods:
- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:
- Approved
- Existing
- Proposed
- Other Proposed

Model Cell Type:
- 'Pinched-Out' Cells

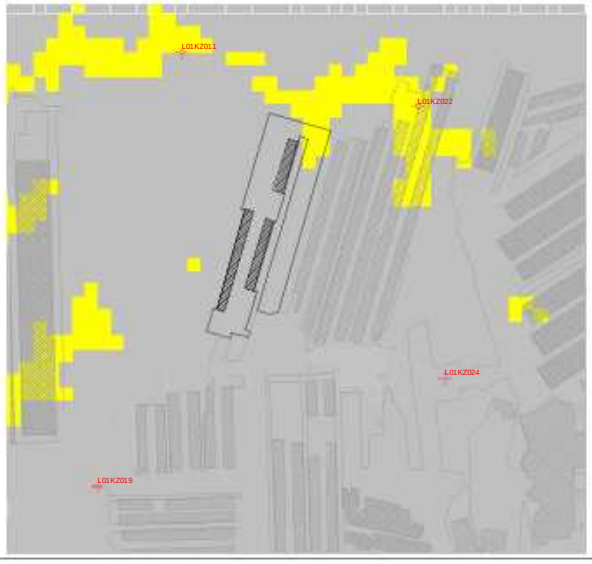
Model Boundary Conditions:
- Drain (DRN) Cells
- River (RIV) Cells
- General Head Boundary (GHB) Cells
- Well (WEL) Cells
- Constant Head (CHD) Cells
- No Flow Boundary (NFB) Cells

Model Results:
- Pilot Point

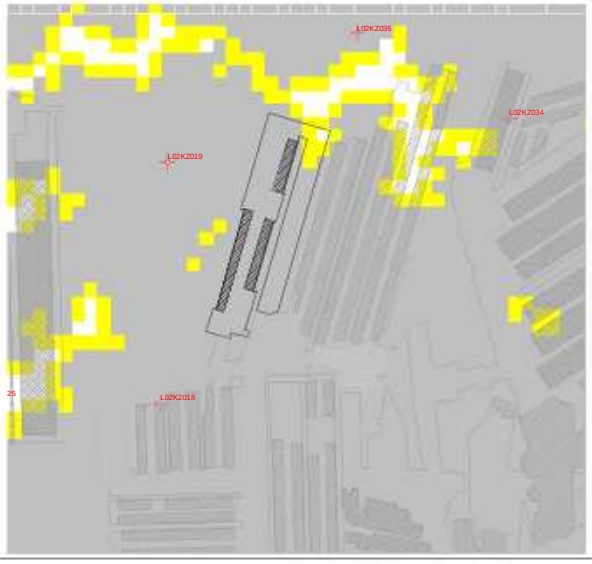
Job No.: 68229		**Distribution of Pilot Points (Kv, S1-Ss and S2-Sy) 'Warping Fields'**
Client: Clarence Colliery Pty Ltd		Layer 25 to Layer 30
Version: R01RevA	Date: 07/11/2025	
Drawn By: DAW	Checked By: JRWB	**Figure D2-01e** JBS&G

File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D061a_PP_Kv\68229_R01RevA_D061a_PP-Kv_L25_L30.grf

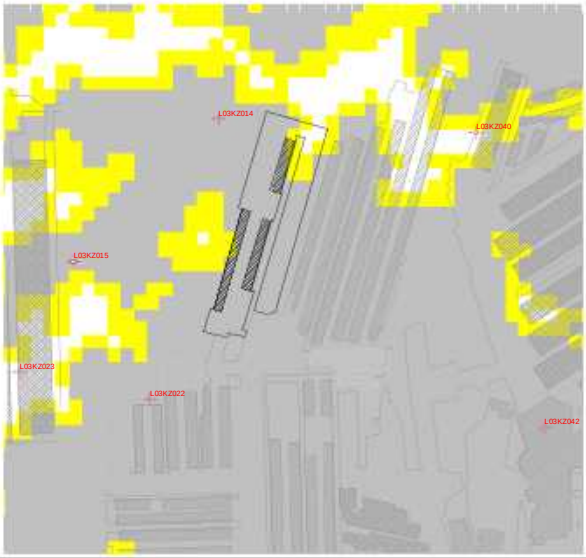
Reference: 68229_R01RevA_PRO_02a



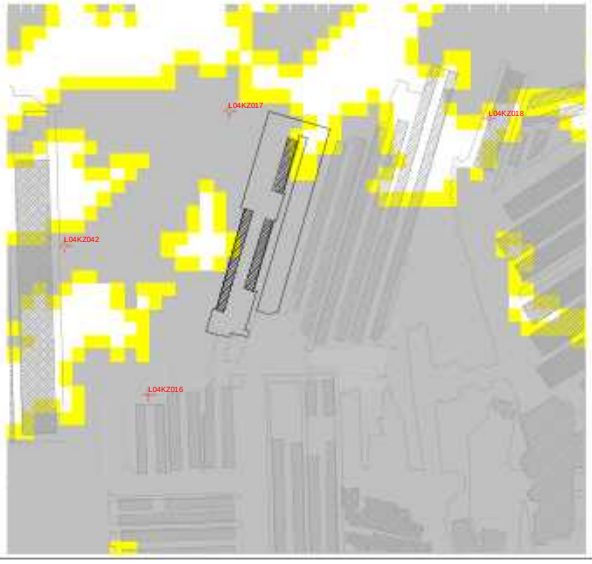
Layer 01



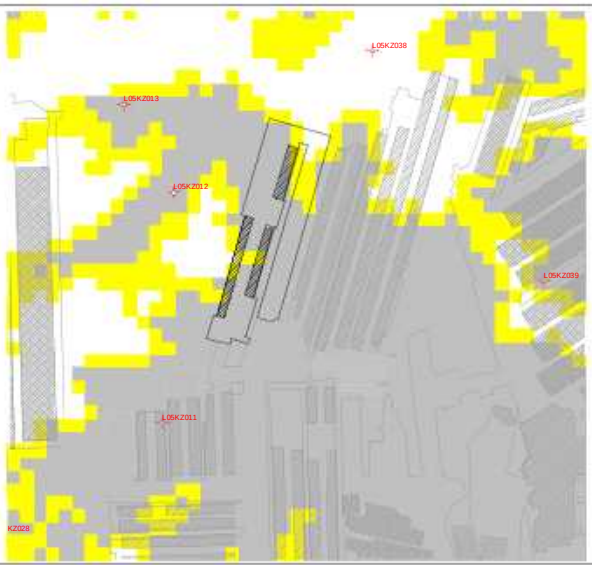
Layer 02



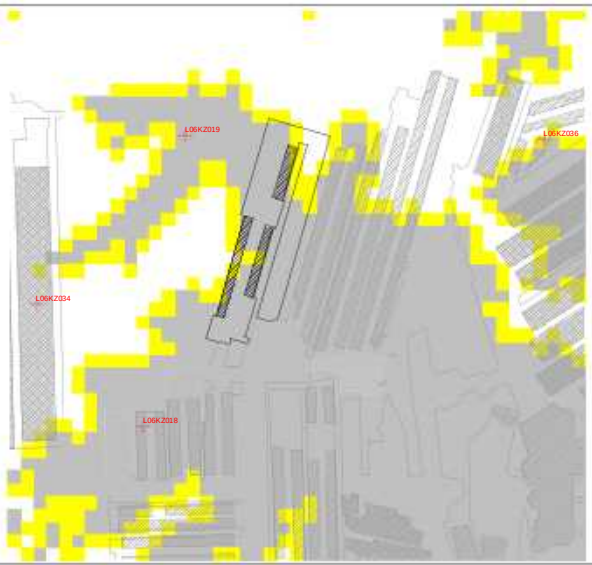
Layer 03



Layer 04



Layer 05 Scale 1:58,080 @A4: 0 250 500m



Layer 06 Scale 1:58,080 @A4: 0 250 500m

Legend

Mining Methods:
- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:
- Approved
- Existing
- Proposed
- Other Proposed

Model Cell Type:
- 'Pinched-Out' Cells

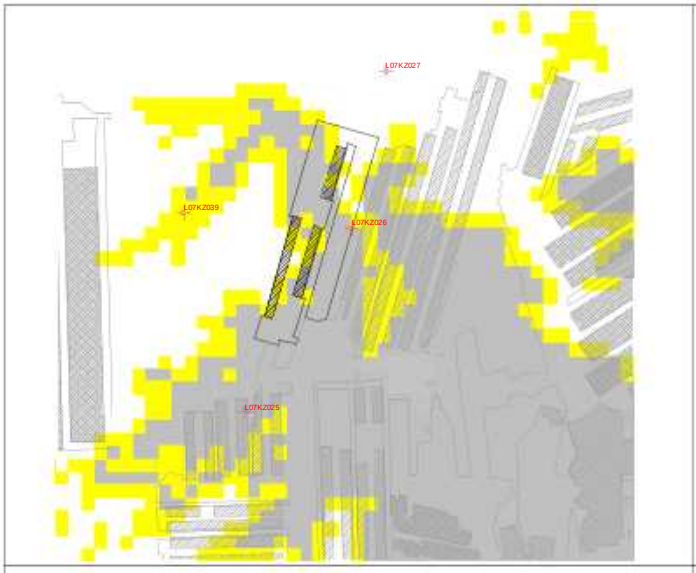
Model Boundary Conditions:
- Drain (DRN) Cells
- River (RIV) Cells
- General Head Boundary (GHB) Cells
- Well (WEL) Cells
- Constant Head (CHD) Cells
- No Flow Boundary (NFB) Cells

Model Results:
- Pilot Point

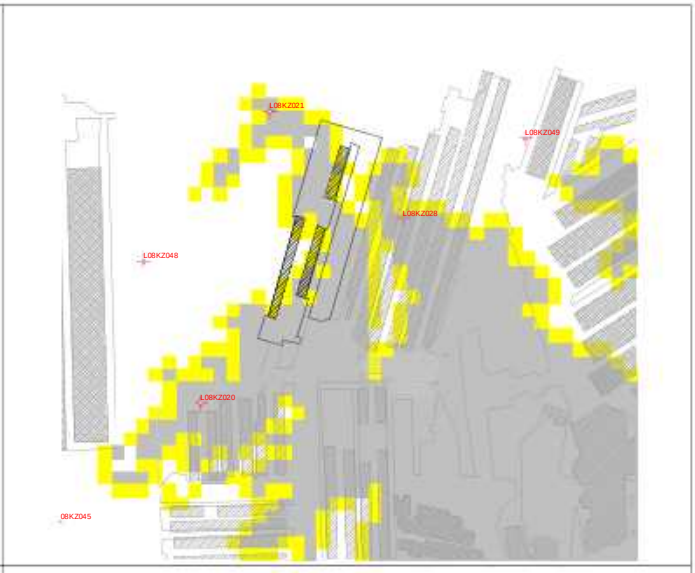
Job No.: 68229		**Distribution of Pilot Points (Kv, S1-Ss and S2-Sy) 'Warping Fields'**
Client: Clarence Colliery Pty Ltd		Layer 01 to Layer 06
Version: R01RevA	Date: 07/11/2025	918 Panel
Drawn By: DAW	Checked By: JRWB	**Figure D2-02a** JBS&G

File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D061b_PP_Kv\68229_R01RevA_D061b_PP-Kv_L01_L06_CloseUp.grf

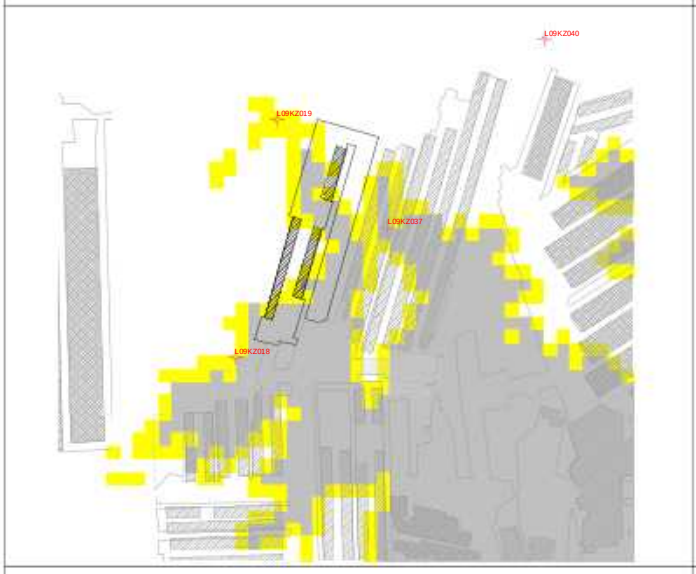
Reference: 68229_R01RevA_PRO_02a



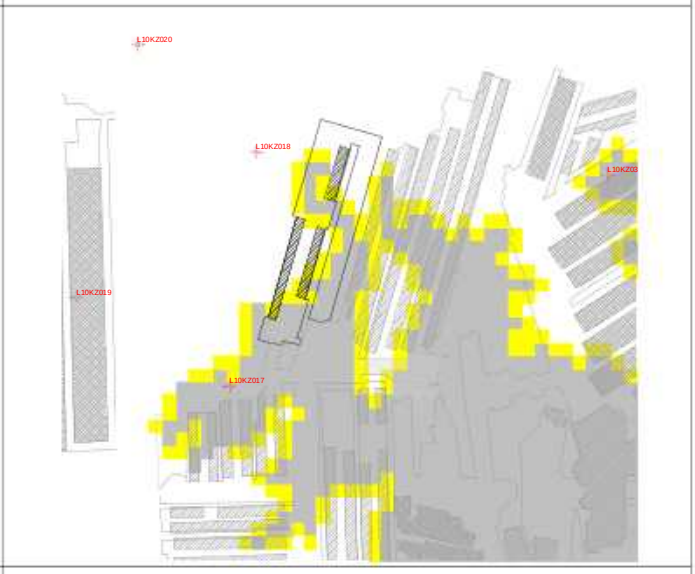
Layer 07



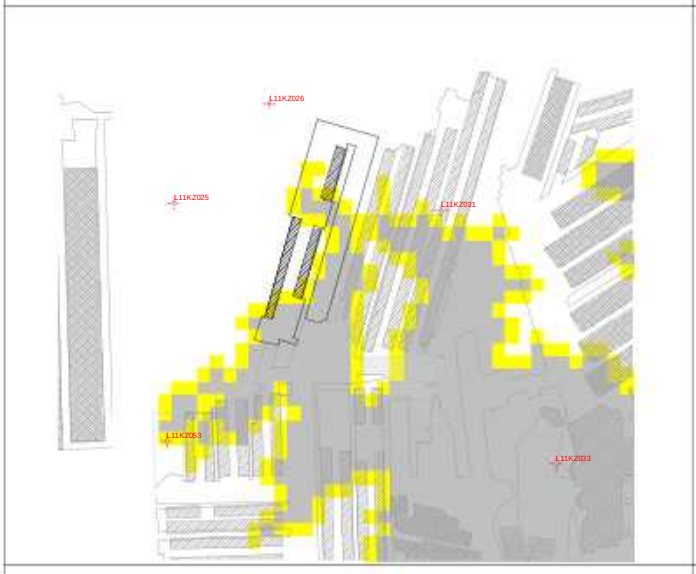
Layer 08



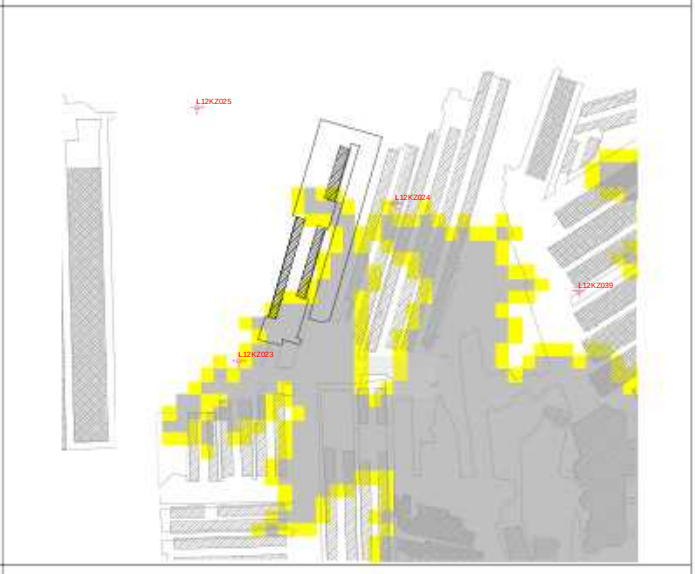
Layer 09



Layer 10



Layer 11 Scale 1:58,080 @A4: 0 250 500m



Layer 12 Scale 1:58,080 @A4: 0 250 500m

Legend

Mining Methods:
- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:
- Approved
- Existing
- Proposed
- Other Proposed

Model Cell Type:
- 'Pinched-Out' Cells

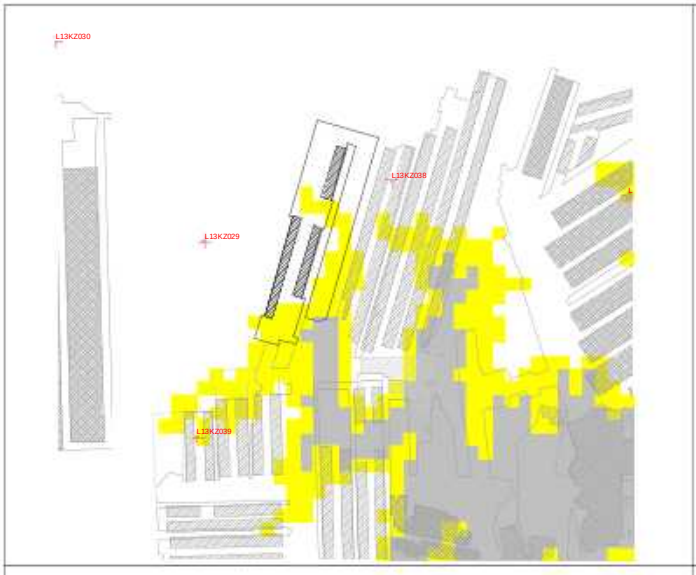
Model Boundary Conditions:
- Drain (DRN) Cells
- River (RIV) Cells
- General Head Boundary (GHB) Cells
- Well (WEL) Cells
- Constant Head (CHD) Cells
- No Flow Boundary (NFB) Cells

Model Results:
- Pilot Point

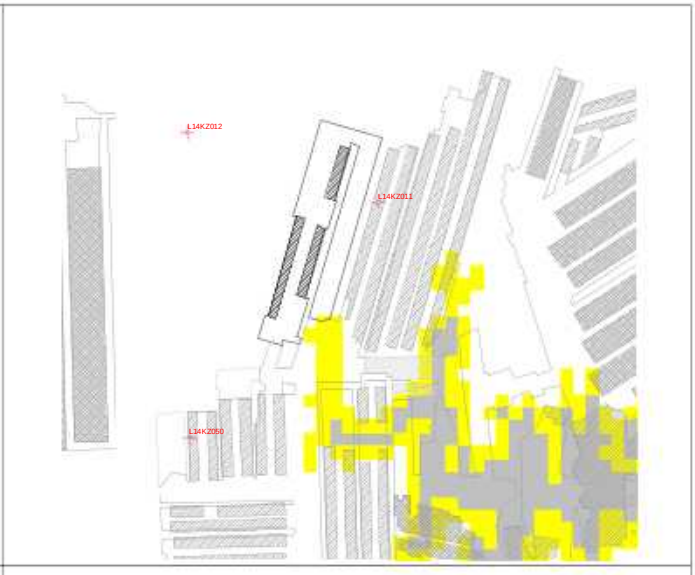
Job No.: 68229		**Distribution of Pilot Points (Kv, S1-Ss and S2-Sy) 'Warping Fields'**
Client: Clarence Colliery Pty Ltd		Layer 07 to Layer 12
Version: R01RevA	Date: 07/11/2025	918 Panel
Drawn By: DAW	Checked By: JRWB	**Figure D2-02b** JBS&G

File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D061b_PP_Kv\68229_R01RevA_D061b_PP-Kv_L07_L12_CloseUp.grf

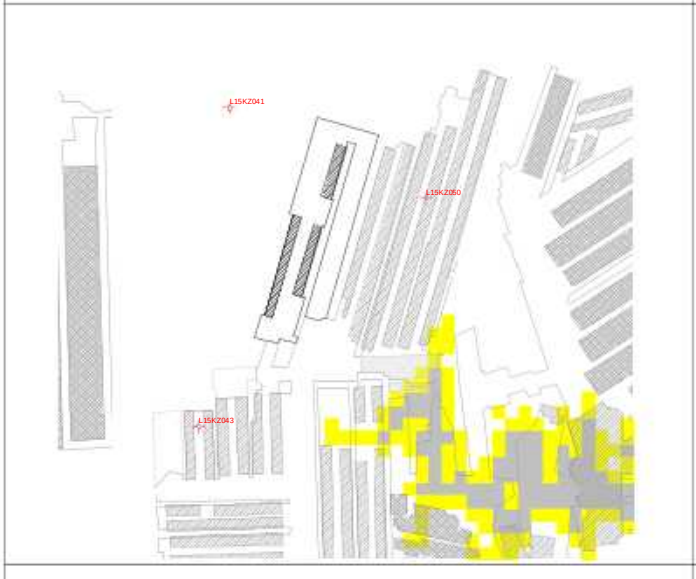
Reference: 68229_R01RevA_PRO_02a



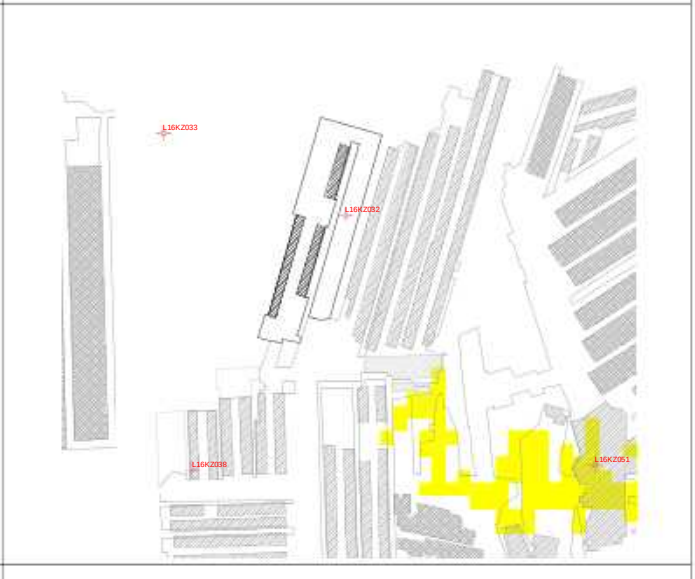
Layer 13



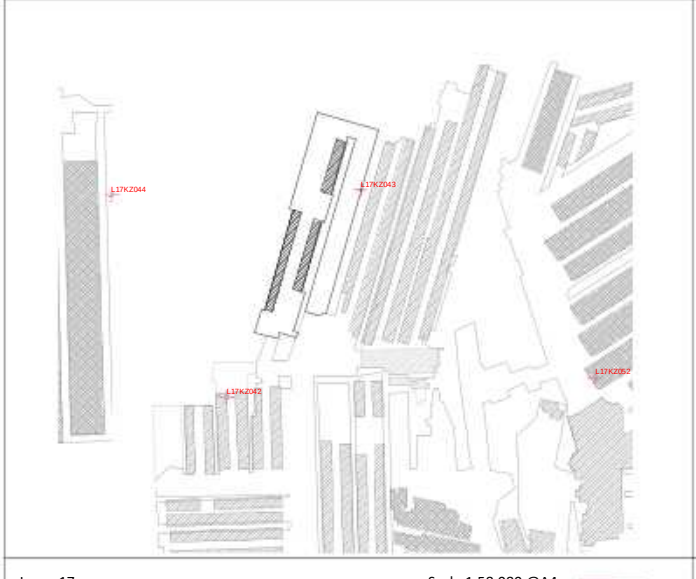
Layer 14



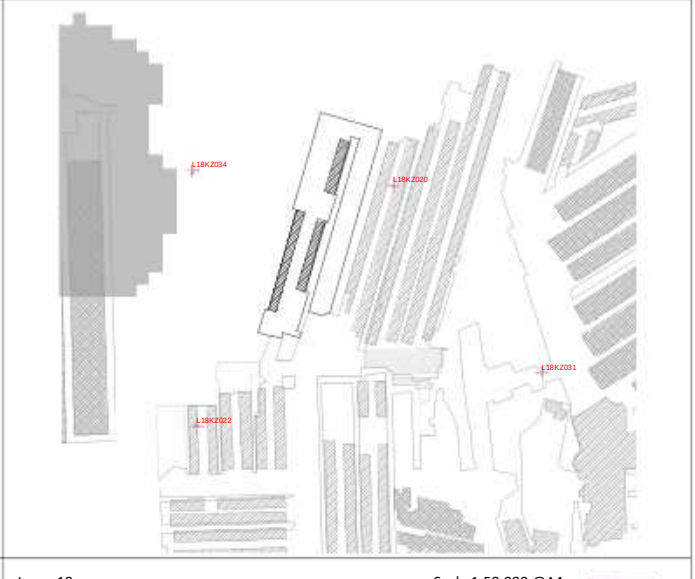
Layer 15



Layer 16



Layer 17 Scale 1:58,080 @A4: 0 250 500m



Layer 18 Scale 1:58,080 @A4: 0 250 500m

Legend

Mining Methods:
- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:
- Approved
- Existing
- Proposed
- Other Proposed

Model Cell Type:
- 'Pinched-Out' Cells

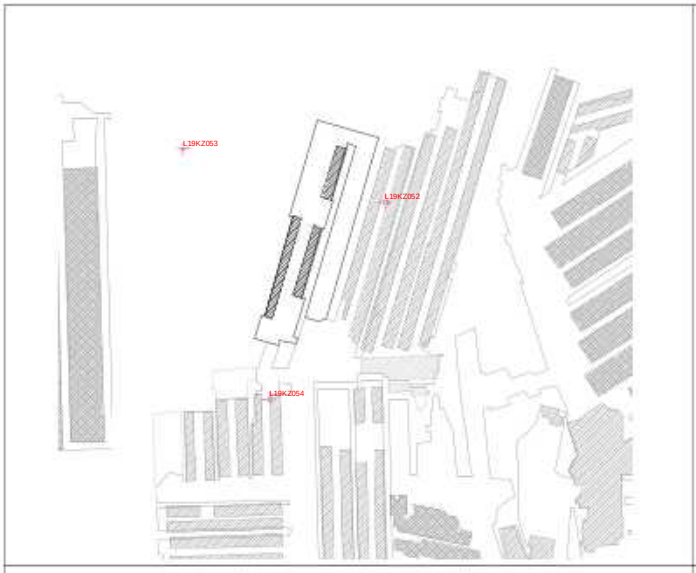
Model Boundary Conditions:
- Drain (DRN) Cells
- River (RIV) Cells
- General Head Boundary (GHB) Cells
- Well (WEL) Cells
- Constant Head (CHD) Cells
- No Flow Boundary (NFB) Cells

Model Results:
- Pilot Point

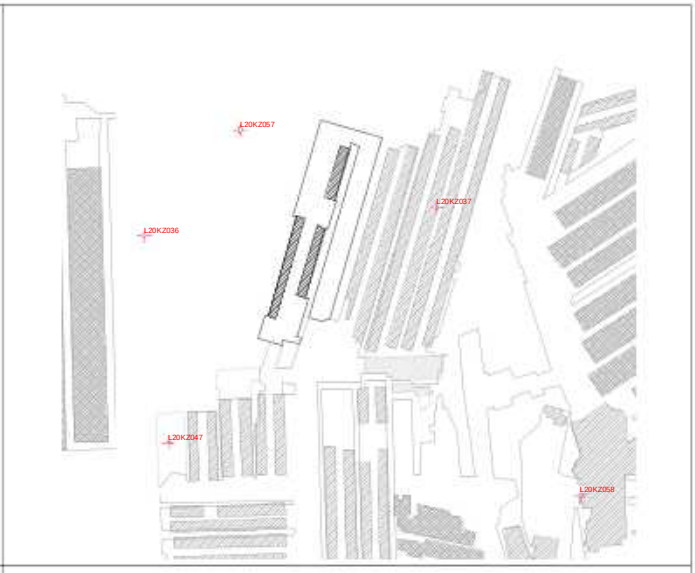
Job No.: 68229		**Distribution of Pilot Points (Kv, S1-Ss and S2-Sy) 'Warping Fields'**
Client: Clarence Colliery Pty Ltd		Layer 13 to Layer 18
Version: R01RevA	Date: 07/11/2025	918 Panel
Drawn By: DAW	Checked By: JRWB	**Figure D2-02c** JBS&G

File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D061b_PP_Kv\68229_R01RevA_D061b_PP-Kv_L13_L18_CloseUp.grf

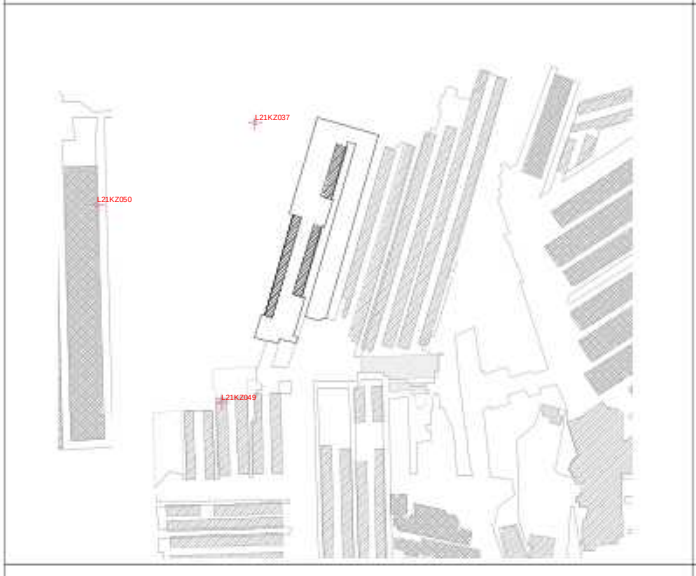
Reference: 68229_R01RevA_PRO_02a



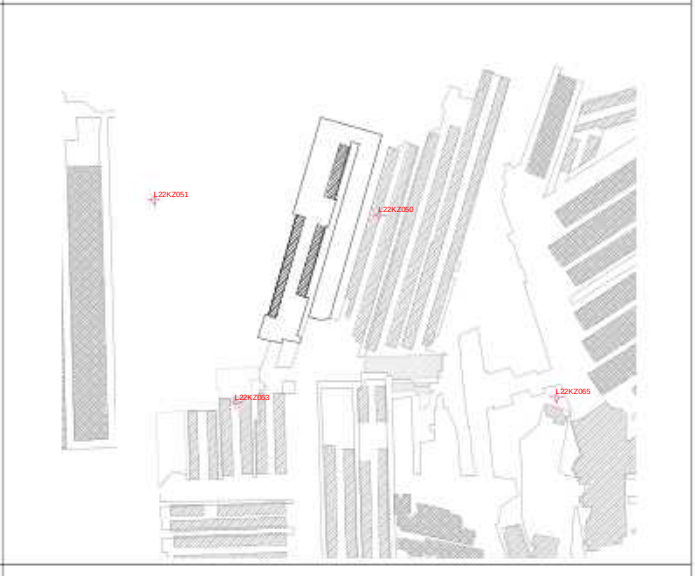
Layer 19



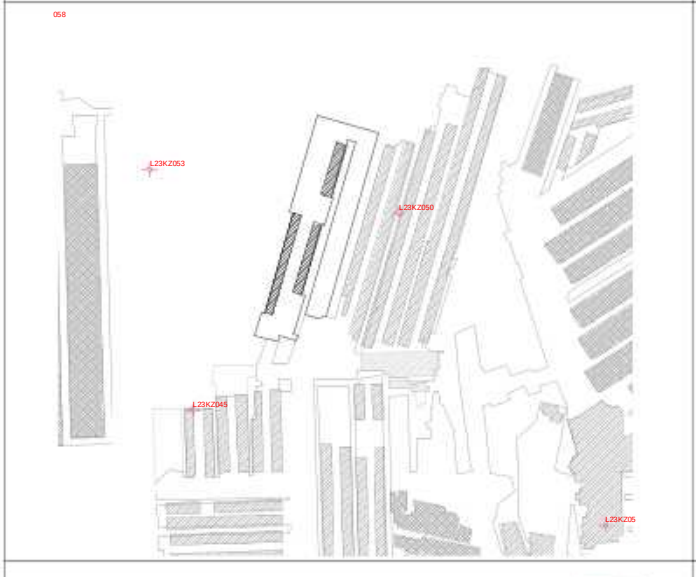
Layer 20



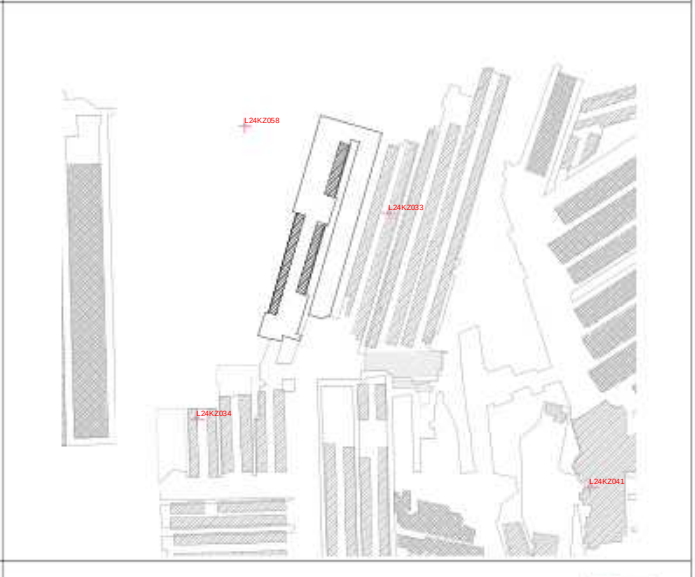
Layer 21



Layer 22



Layer 23 Scale 1:58,080 @A4: 0 250 500m



Layer 24 Scale 1:58,080 @A4: 0 250 500m

Legend

Mining Methods:
- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:
- Approved
- Existing
- Proposed
- Other Proposed

Model Cell Type:
- 'Pinched-Out' Cells

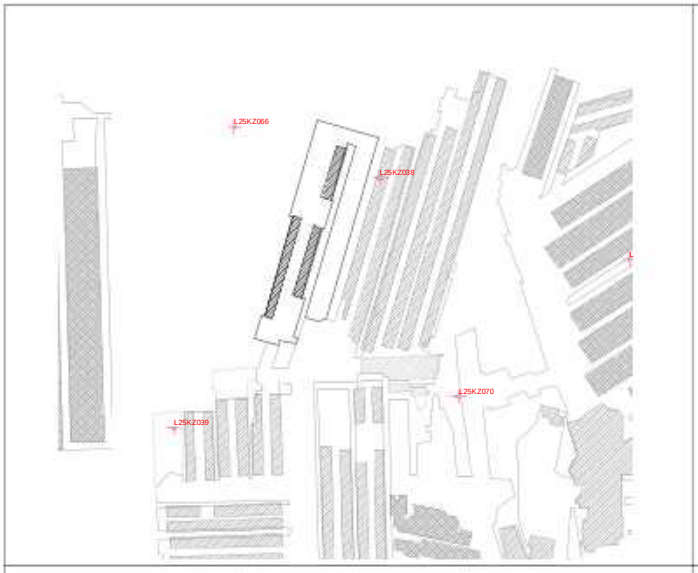
Model Boundary Conditions:
- Drain (DRN) Cells
- River (RIV) Cells
- General Head Boundary (GHB) Cells
- Well (WEL) Cells
- Constant Head (CHD) Cells
- No Flow Boundary (NFB) Cells

Model Results:
- Pilot Point

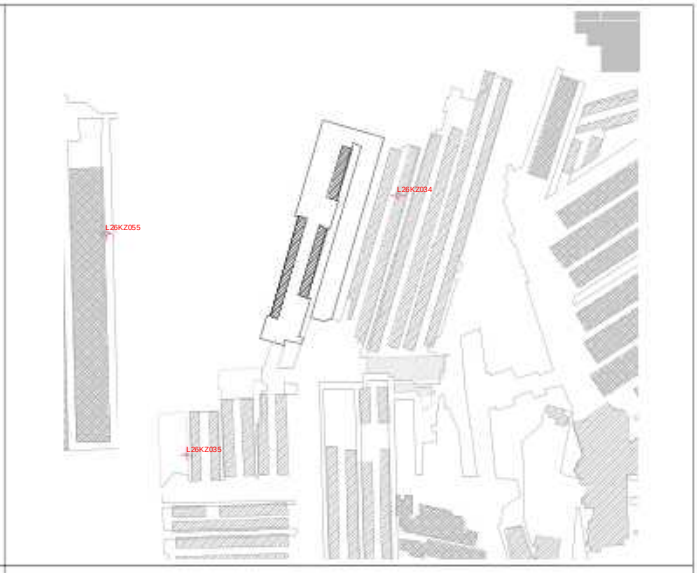
Job No.: 68229		**Distribution of Pilot Points (Kv, S1-Ss and S2-Sy) 'Warping Fields'**
Client: Clarence Colliery Pty Ltd		Layer 19 to Layer 24
Version: R01RevA	Date: 07/11/2025	918 Panel
Drawn By: DAW	Checked By: JRWB	**Figure D2-02d** JBS&G

File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D061b_PP_Kv\68229_R01RevA_D061b_PP-Kv_L19_L24_CloseUp.grf

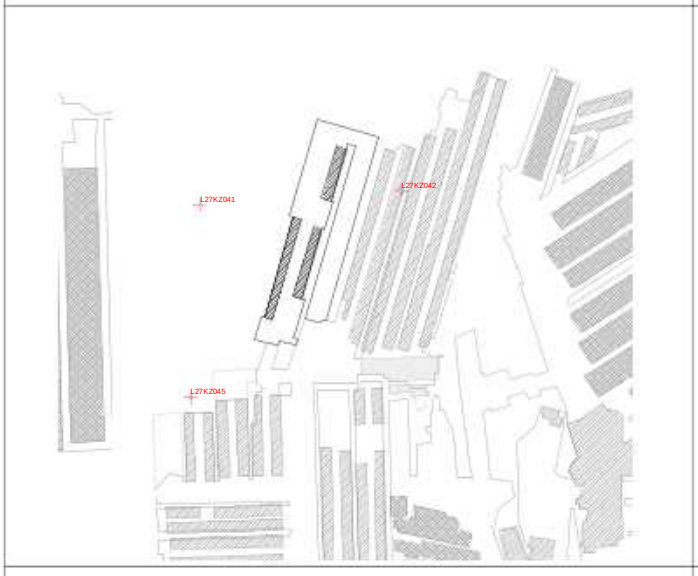
Reference: 68229_R01RevA_PRO_02a



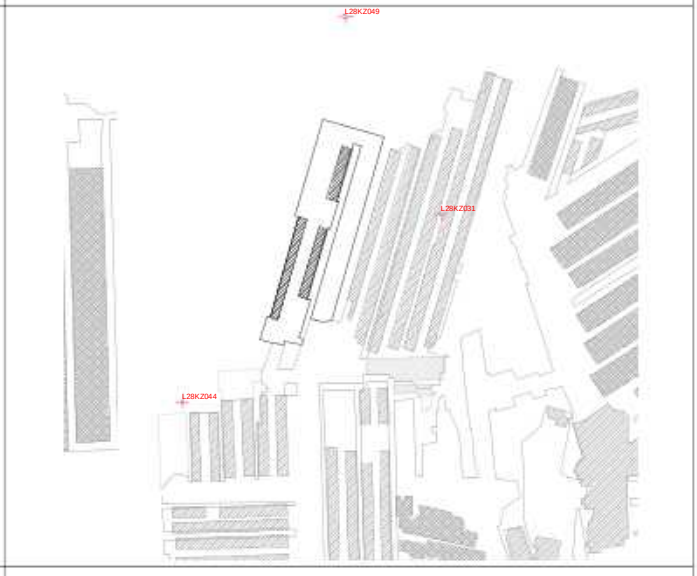
Layer 25



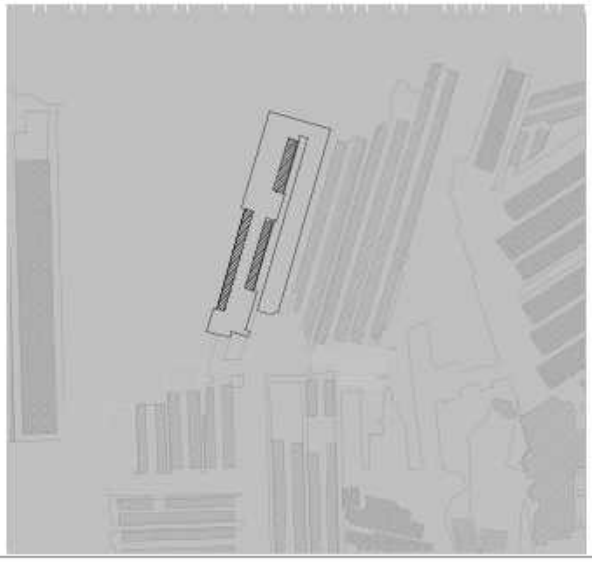
Layer 26



Layer 27



Layer 28



Layer 29 Scale 1:58,080 @A4: 0 250 500m

Layer 30 Scale 1:58,080 @A4: 0 250 500m

Legend

Mining Methods:
- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:
- Approved
- Existing
- Proposed
- Other Proposed

Model Cell Type:
- 'Pinched-Out' Cells

Model Boundary Conditions:
- Drain (DRN) Cells
- River (RIV) Cells
- General Head Boundary (GHB) Cells
- Well (WEL) Cells
- Constant Head (CHD) Cells
- No Flow Boundary (NFB) Cells

Model Results:
- Pilot Point

Job No.: 68229		**Distribution of Pilot Points (Kv, S1-Ss and S2-Sy) 'Warping Fields'**
Client: Clarence Colliery Pty Ltd		Layer 25 to Layer 30
Version: R01RevA	Date: 07/11/2025	918 Panel
Drawn By: DAW	Checked By: JRWB	**Figure D2-02e** JBS&G

File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D061b_PP_Kv\68229_R01RevA_D061b_PP-Kv_L25_L30_CloseUp.grf

Reference: 68229_R01RevA_PRO_02a

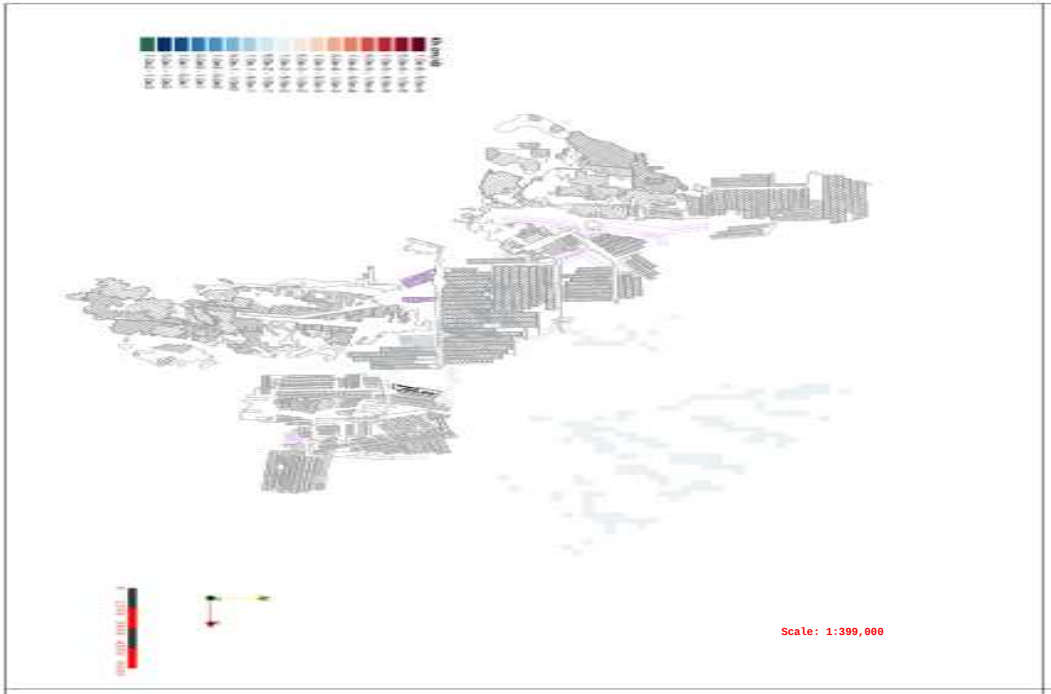
Appendix E Distribution of Hydraulic Properties

Appendix E

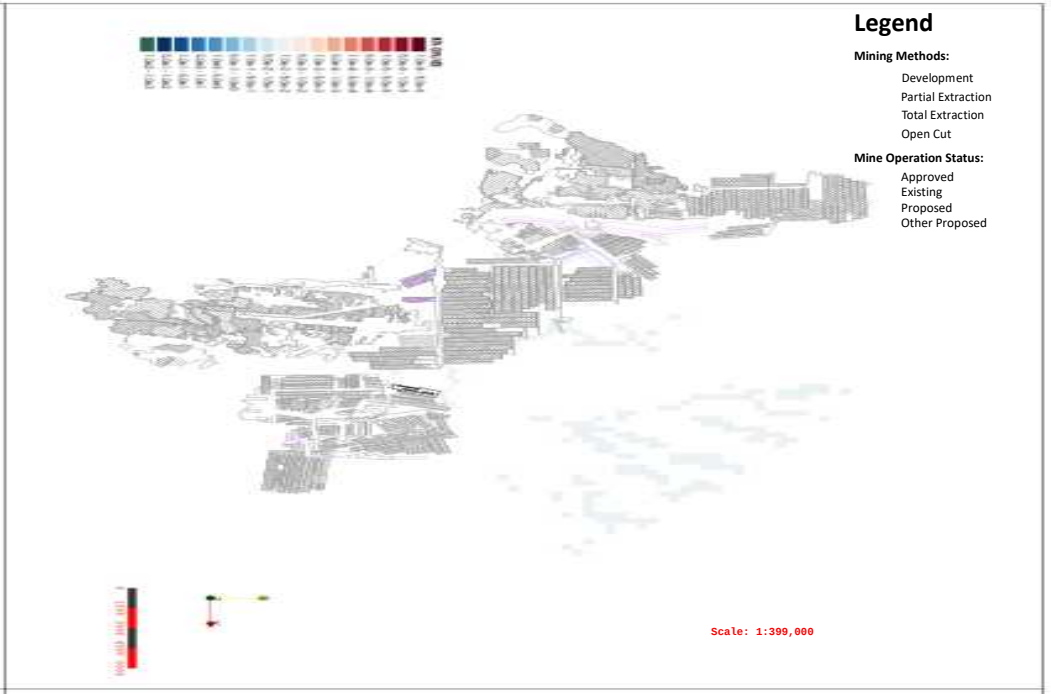
E1. Transient Distribution of Hydraulic Properties (Proposed Case)

The distribution of hydraulic properties (horizontal and vertical hydraulic conductivity, specific storage and specific yield) are presented at the following stress periods. It is noted that specific storage was constant, hence only steady-state (SP001) values are presented:

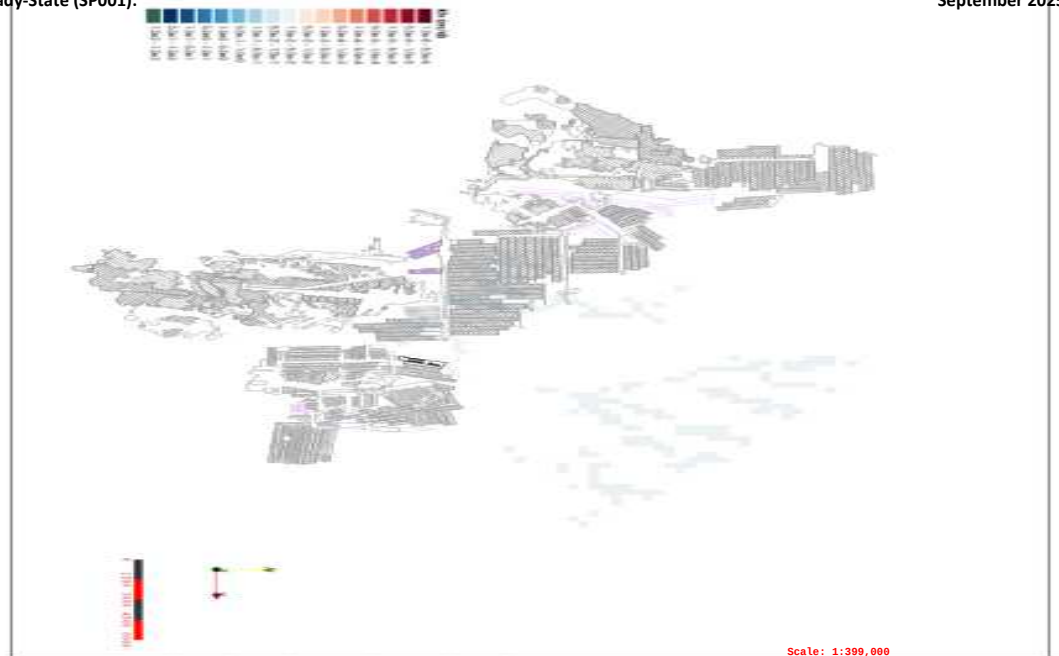
- Steady-State (SP001)
- 30 September 2025 (SP144)
    - end of Calibration Period
- 30 September 2026 (SP148)
    - Immediately prior to commencement of extraction at 918 Panel
- 31 December 20249 (SP241)
    - end of Prediction Period.



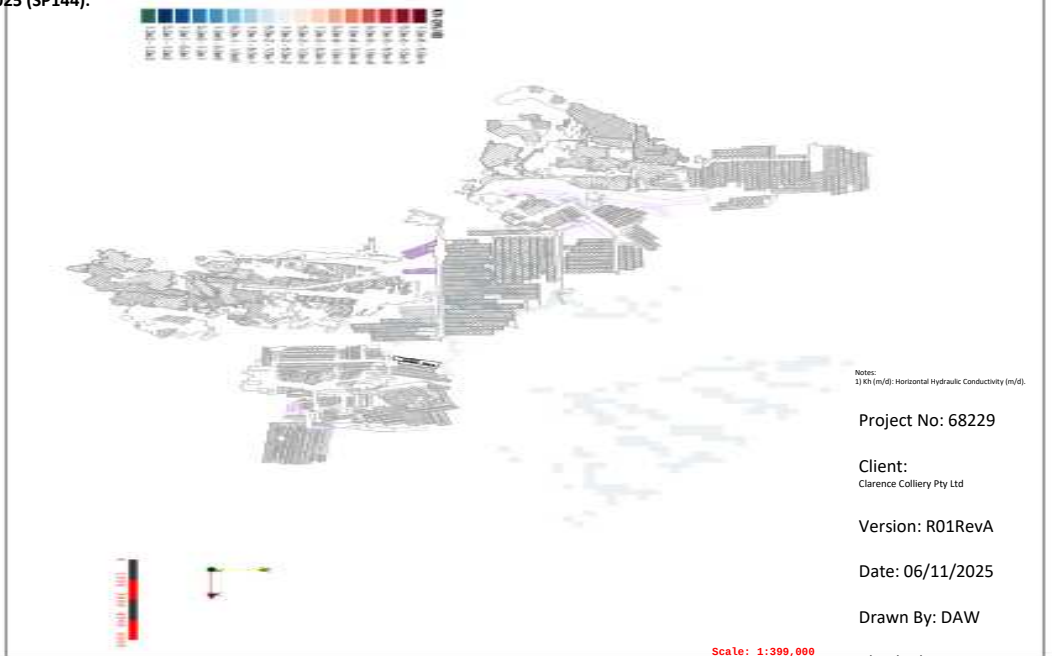
Steady-State (SP001):



September 2025 (SP144):



September 2026 (SP148):



December 2049 (SP241):

Legend

Mining Methods:

- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:

- Approved
- Existing
- Proposed
- Other Proposed

Notes:
1) Kh (m/d): Horizontal Hydraulic Conductivity (m/d).

Project No: 68229

Client:
Clarence Colliery Pty Ltd

Version: R01RevA

Date: 06/11/2025

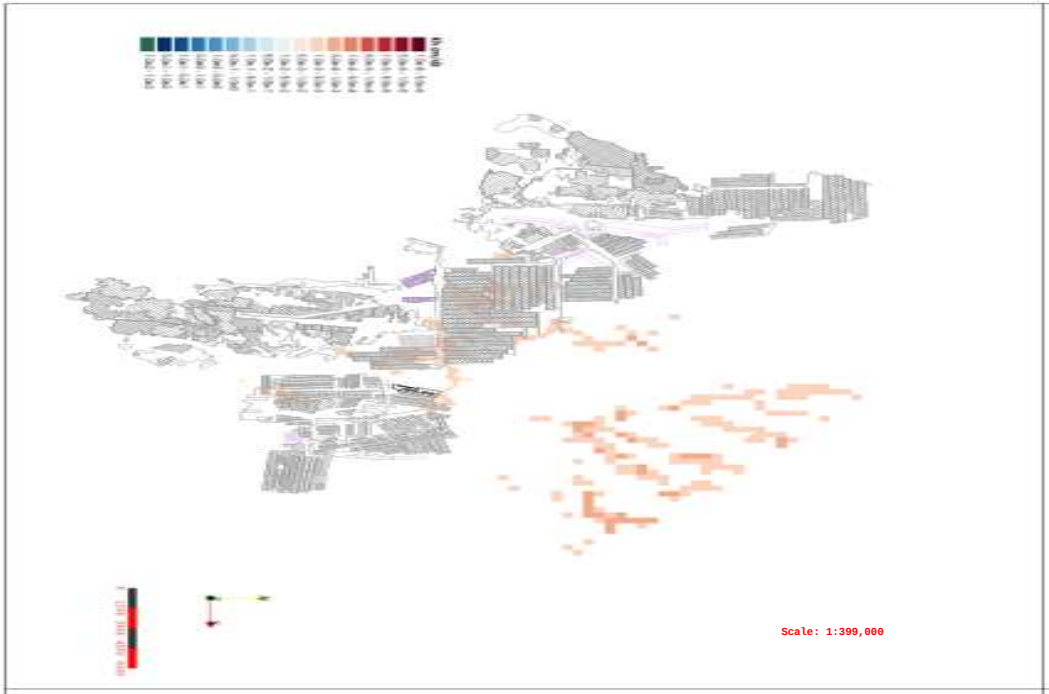
Drawn By: DAW

Checked By: JRWB

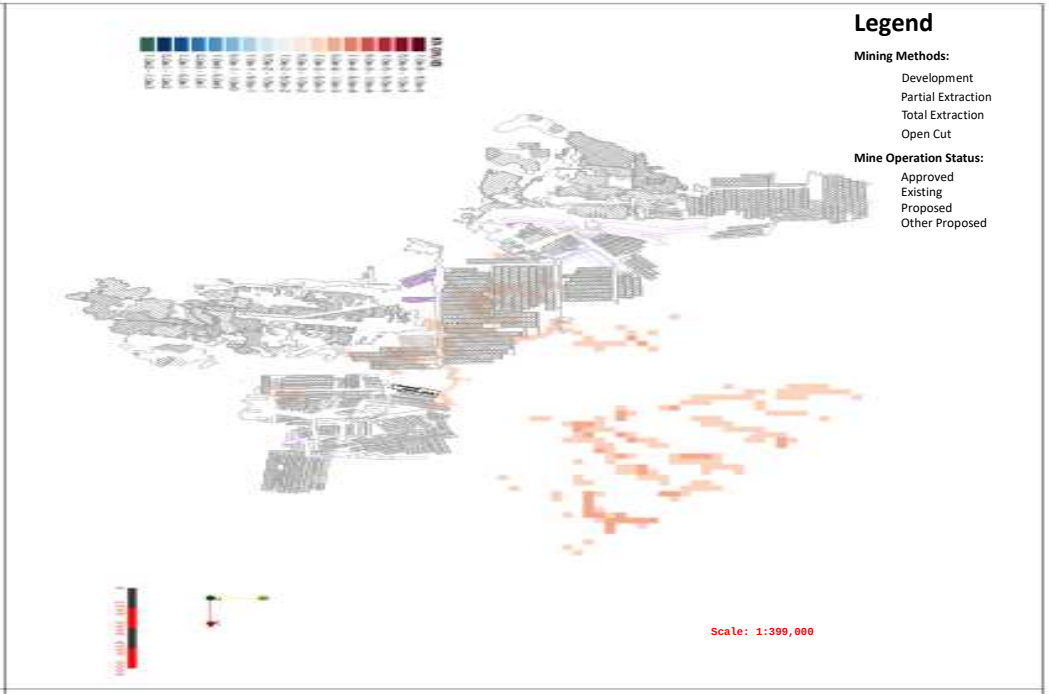
File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D056_Plan_Kh\68229_R01RevA_D056_Plan_Kh_L01.grf

Reference: 68229_R01RevA_PRO_02a

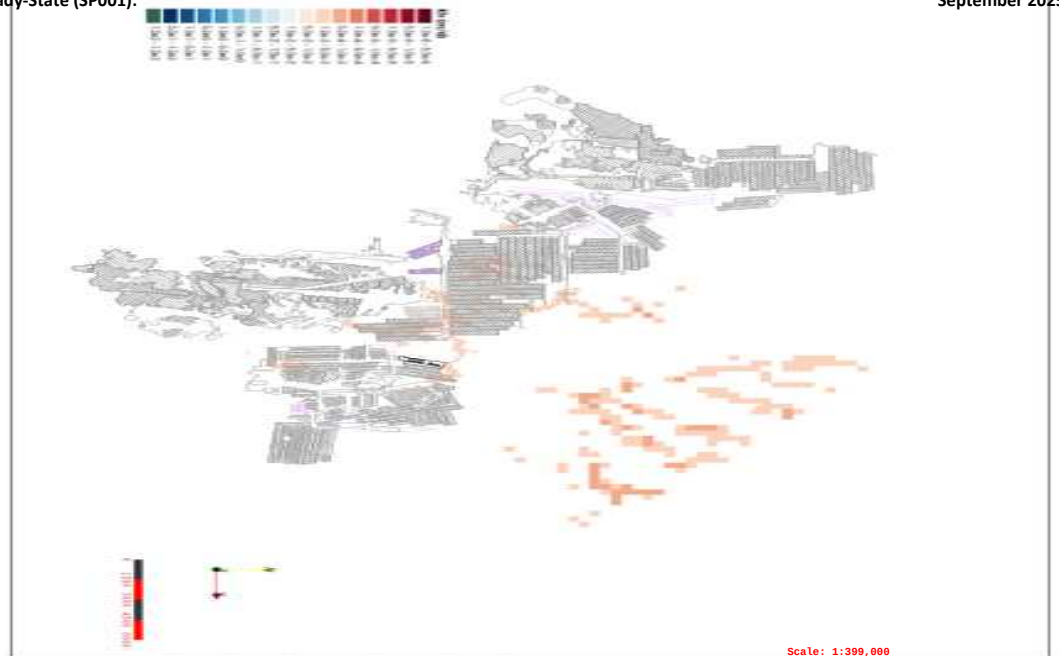
Figure E1a-01: Modelled Horizontal Hydraulic Conductivity (m/d) - Layer 01



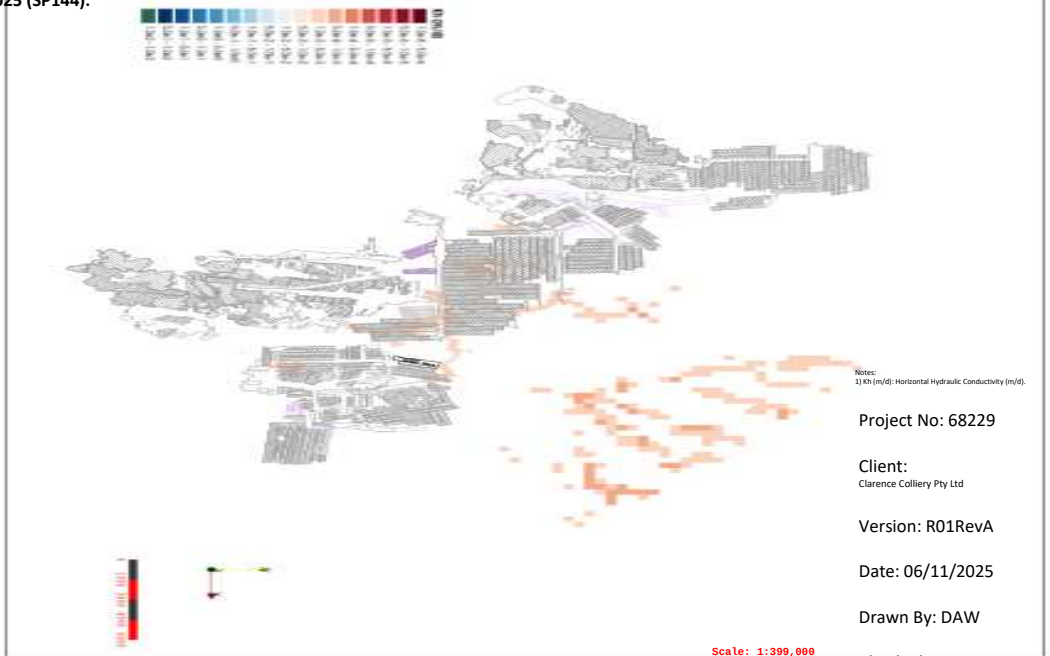
Steady-State (SP001):



September 2025 (SP144):



September 2026 (SP148):



December 2049 (SP241):

Legend

Mining Methods:

- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:

- Approved
- Existing
- Proposed
- Other Proposed

Notes:
1) Kh (m/d): Horizontal Hydraulic Conductivity (m/d).

Project No: 68229

Client:
Clarence Colliery Pty Ltd

Version: R01RevA

Date: 06/11/2025

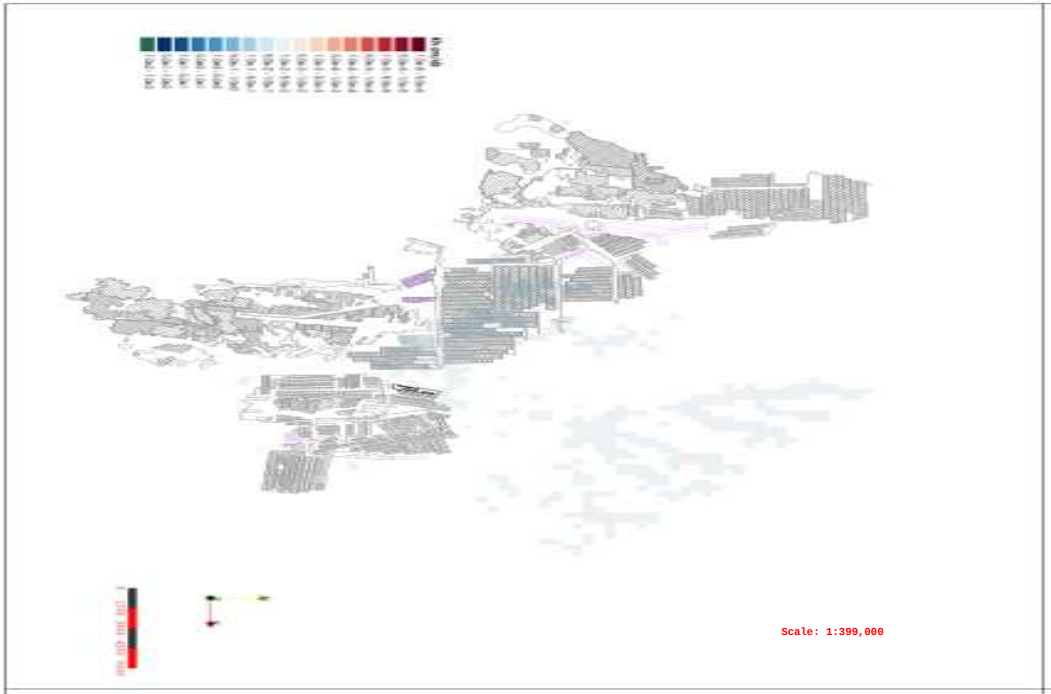
Drawn By: DAW

Checked By: JRWB

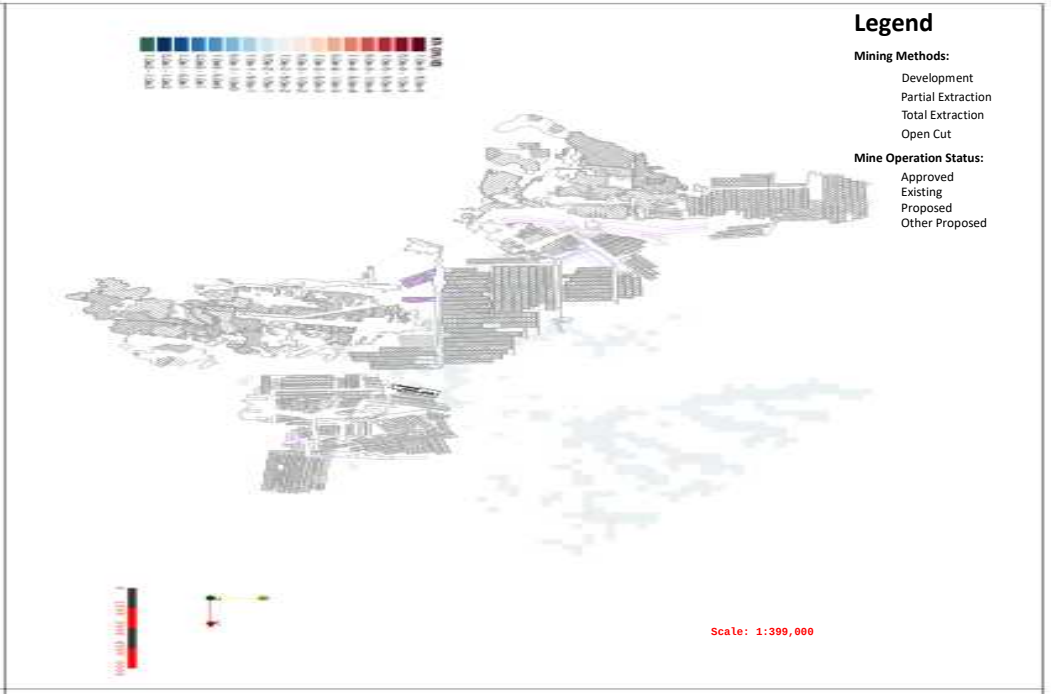
File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D056_Plan_Kh\68229_R01RevA_D056_Plan_Kh_L02.grf

Reference: 68229_R01RevA_PRO_02a

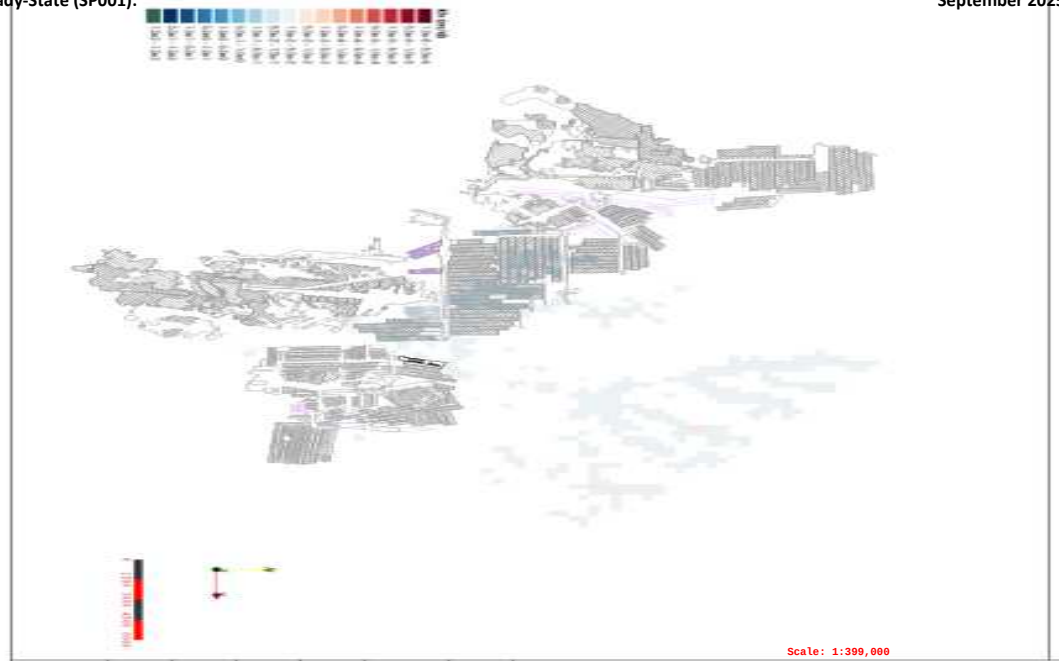
Figure E1a-02: Modelled Horizontal Hydraulic Conductivity (m/d) - Layer 02



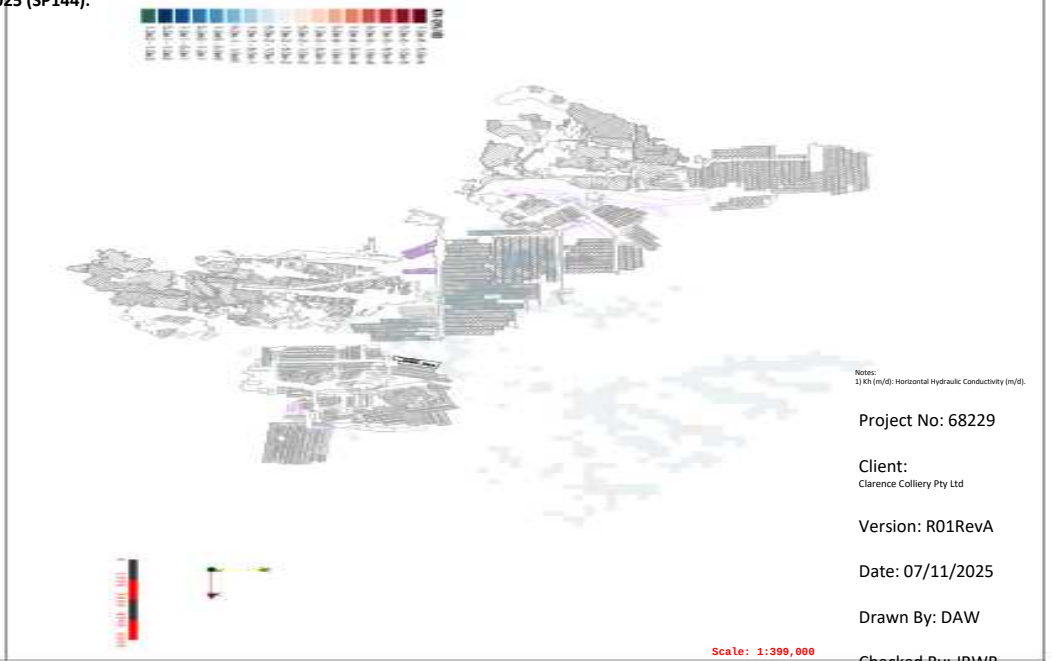
Steady-State (SP001):



September 2025 (SP144):



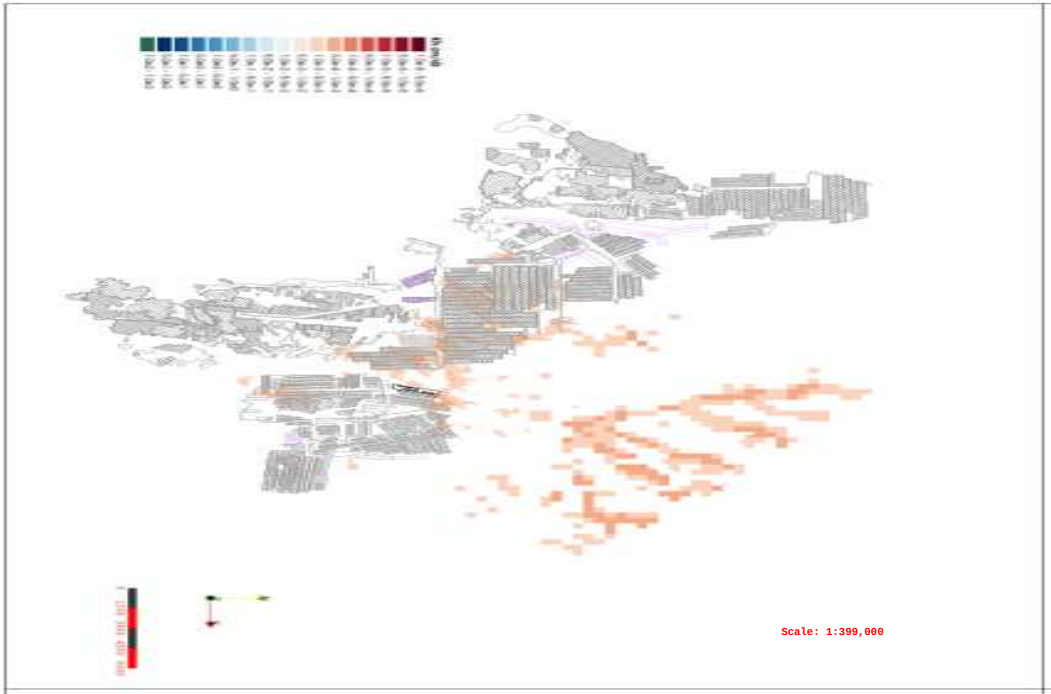
September 2026 (SP148):



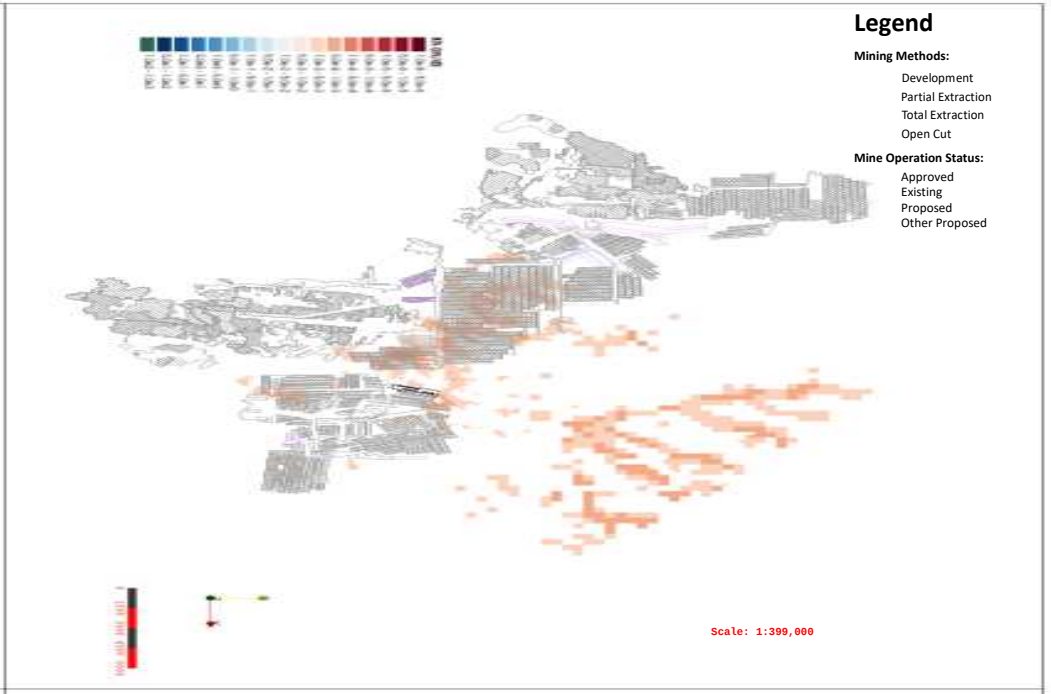
December 2049 (SP241):

Figure E1a-03: Modelled Horizontal Hydraulic Conductivity (m/d) - Layer 03

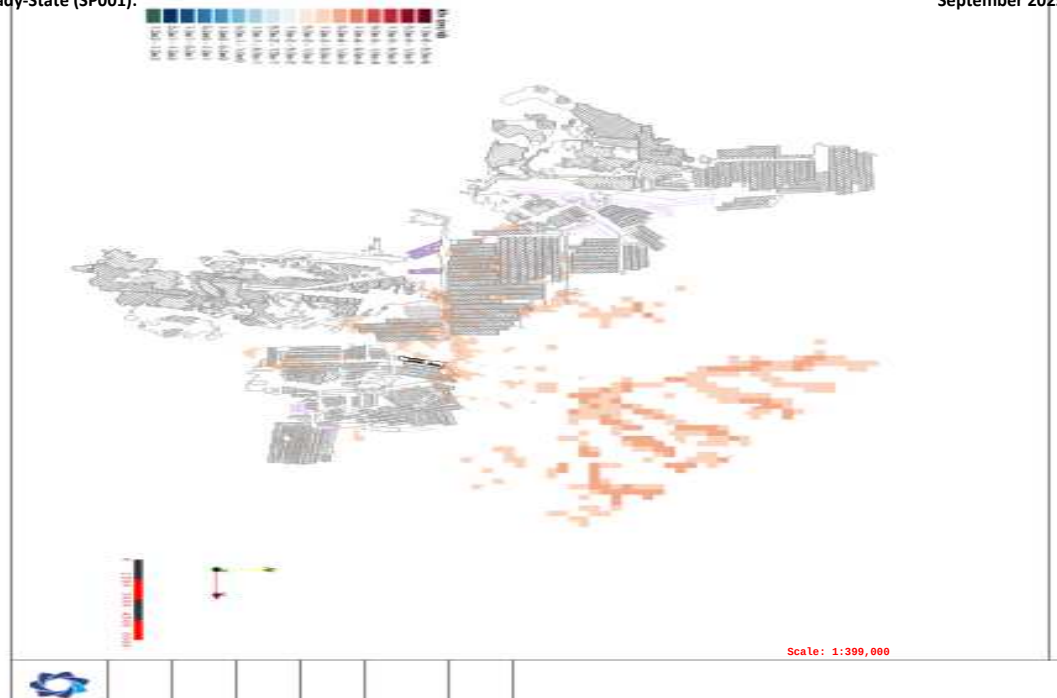
File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D056_Plan_Kh\68229_R01RevA_D056_Plan_Kh_L03.grf
Reference: 68229_R01RevA_PRO_02a



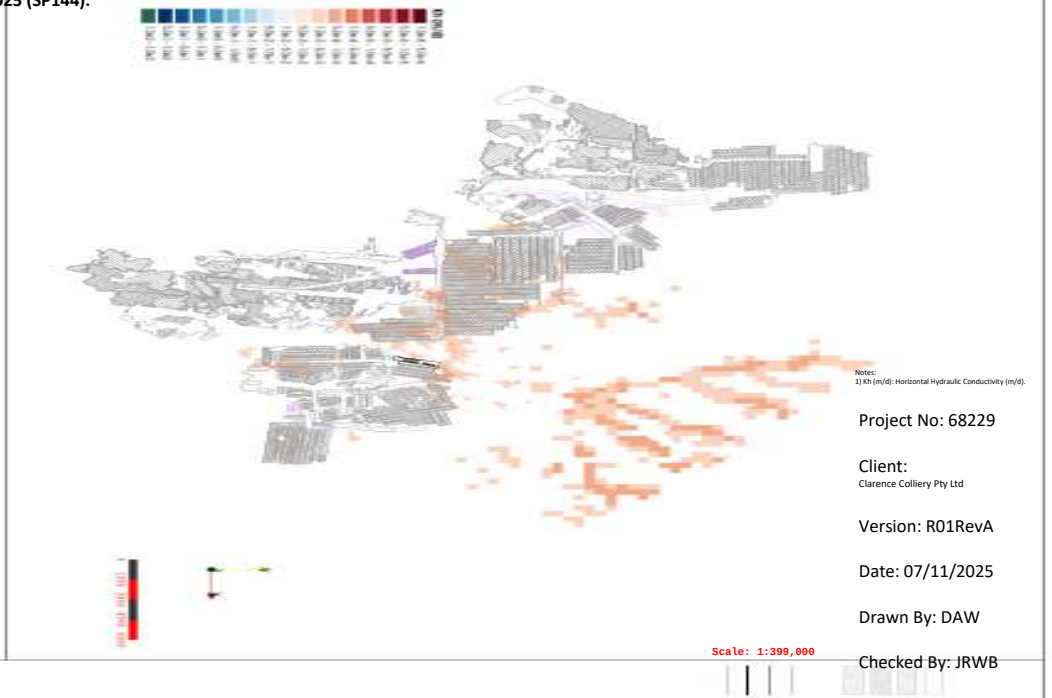
Steady-State (SP001):



September 2025 (SP144):



September 2026 (SP148):



December 2049 (SP241):

Legend

Mining Methods:

- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:

- Approved
- Existing
- Proposed
- Other Proposed

Notes:
1) Kh (m/d): Horizontal Hydraulic Conductivity (m/d).

Project No: 68229

Client:
Clarence Colliery Pty Ltd

Version: R01RevA

Date: 07/11/2025

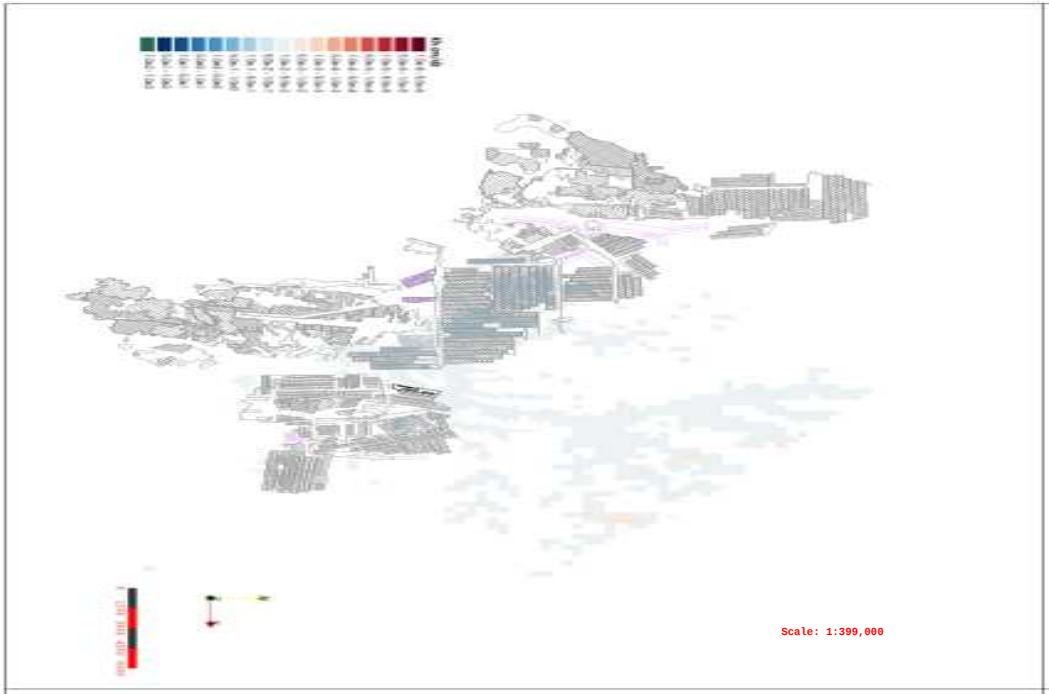
Drawn By: DAW

Checked By: JRWB

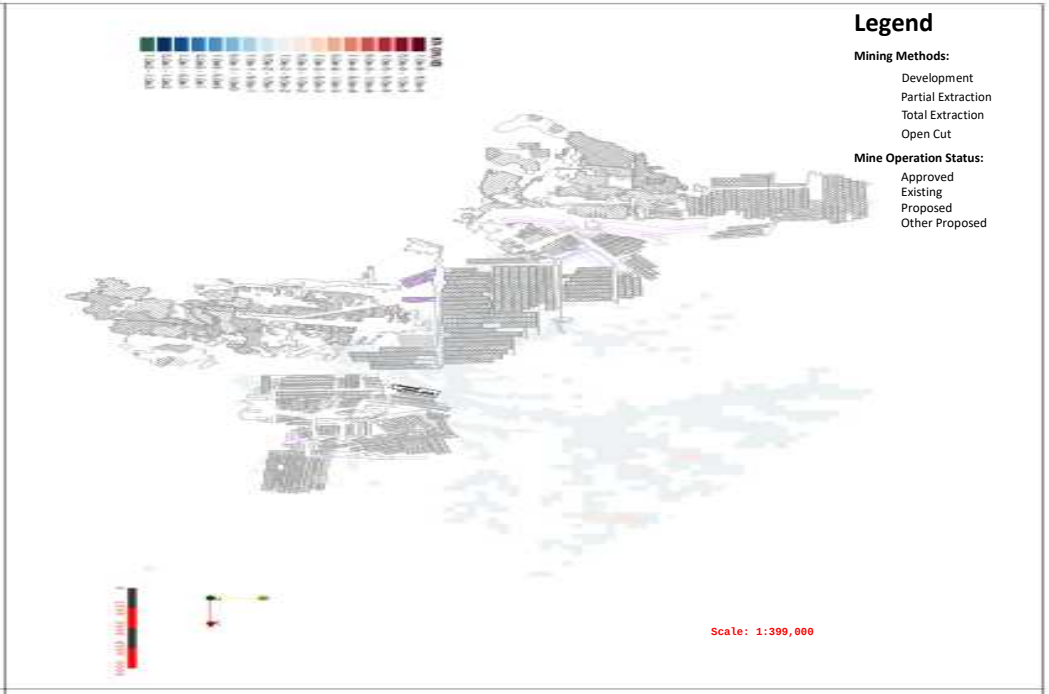
File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D056_Plan_Kh\68229_R01RevA_D056_Plan_Kh_L04.grf

Reference: 68229_R01RevA_PRO_02a

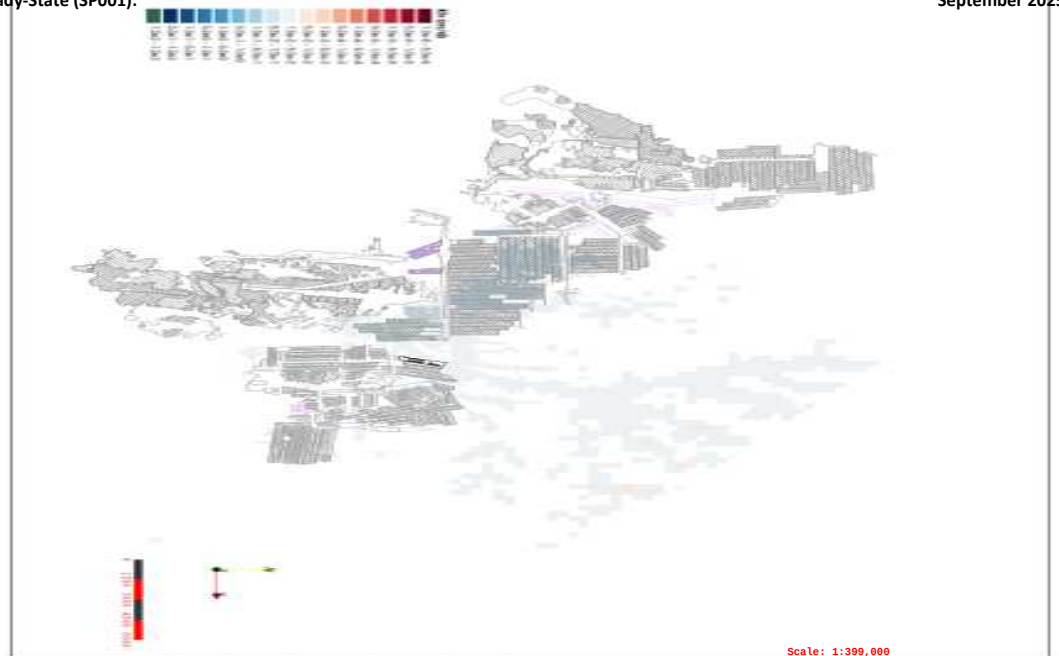
Figure E1a-04: Modelled Horizontal Hydraulic Conductivity (m/d) - Layer 04



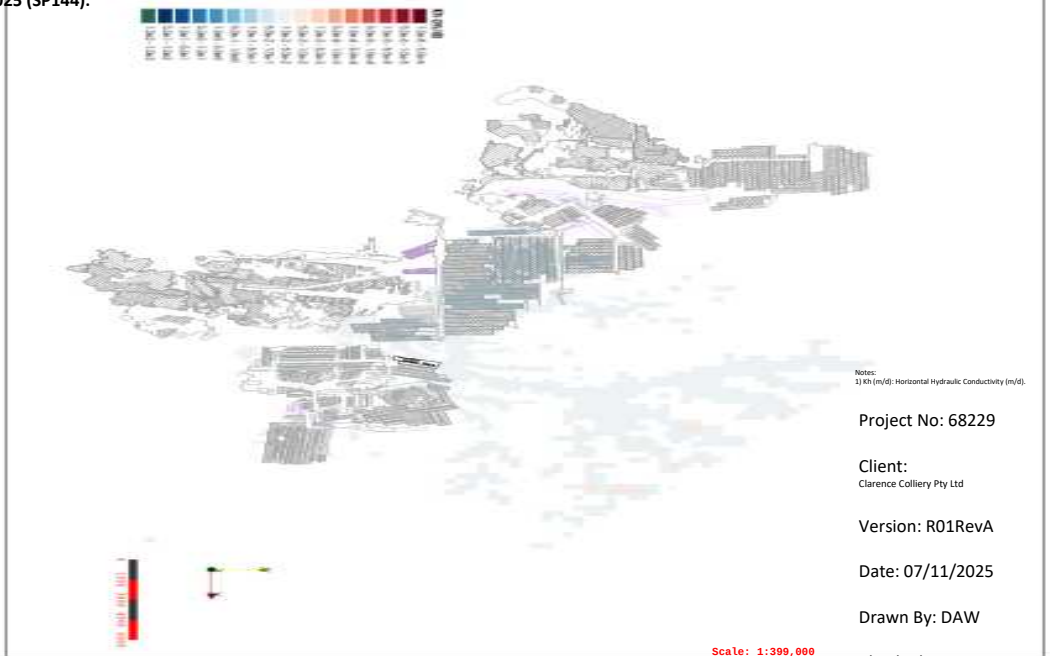
Steady-State (SP001):



September 2025 (SP144):



September 2026 (SP148):



December 2049 (SP241):

Legend

Mining Methods:

- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:

- Approved
- Existing
- Proposed
- Other Proposed

Notes:
1) Kh (m/d): Horizontal Hydraulic Conductivity (m/d).

Project No: 68229

Client:
Clarence Colliery Pty Ltd

Version: R01RevA

Date: 07/11/2025

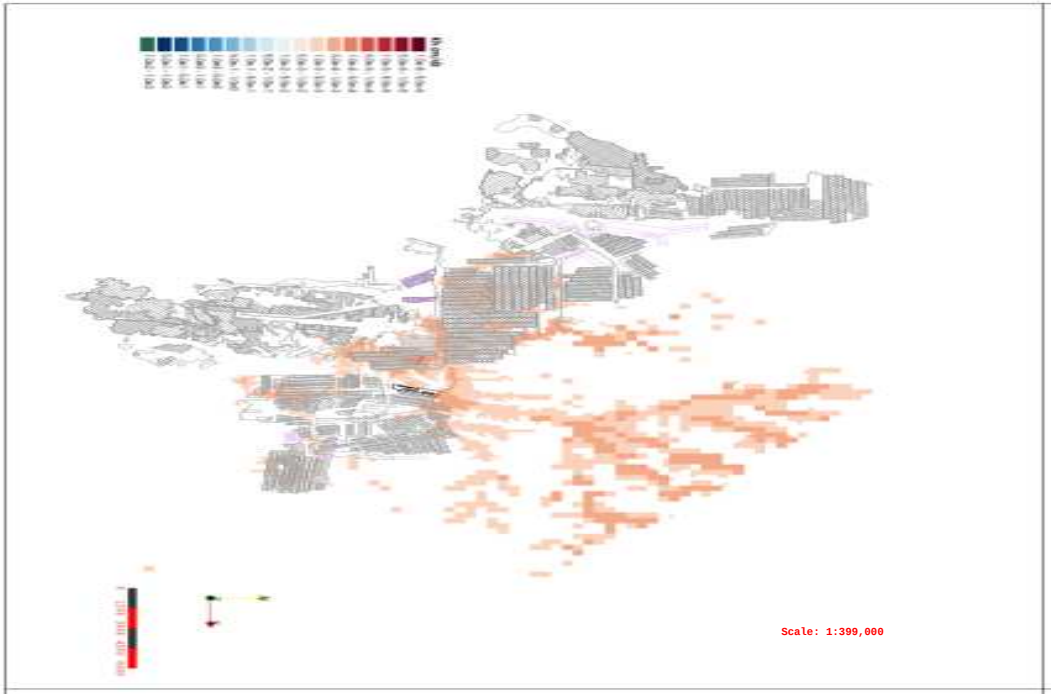
Drawn By: DAW

Checked By: JRWB

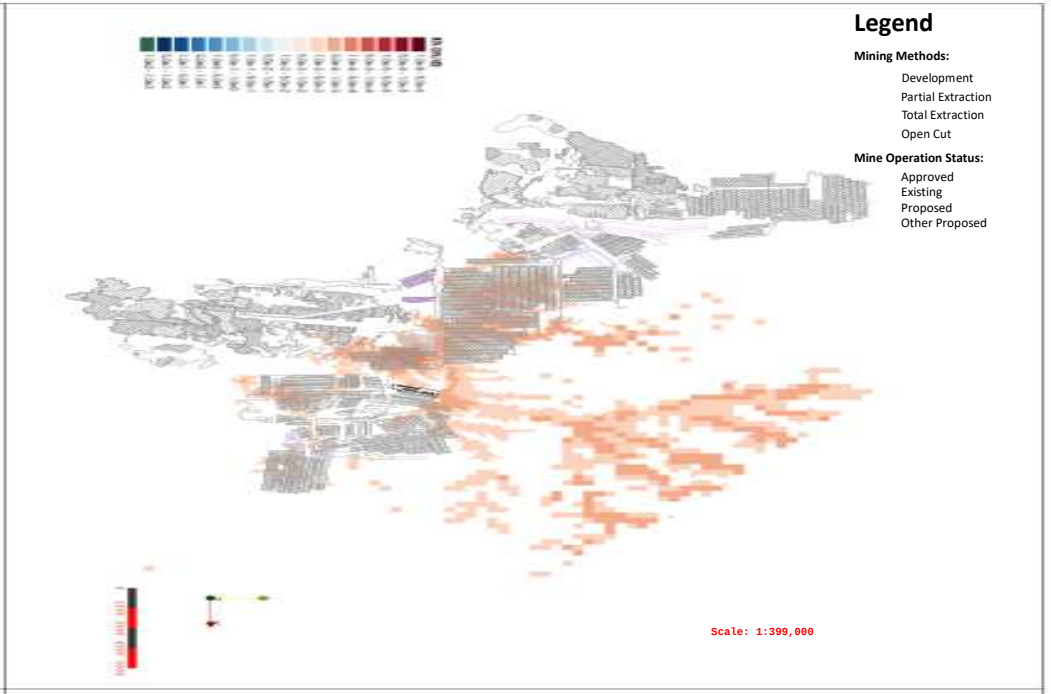
File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D056_Plan_Kh\68229_R01RevA_D056_Plan_Kh_L05.grf

Reference: 68229_R01RevA_PRO_02a

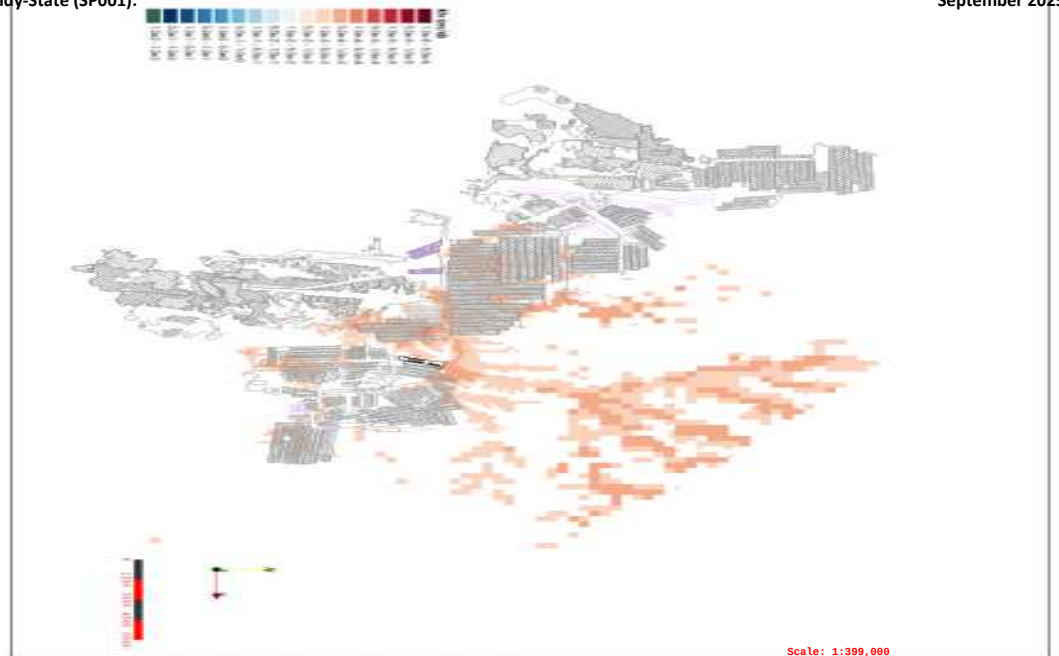
Figure E1a-05: Modelled Horizontal Hydraulic Conductivity (m/d) - Layer 05



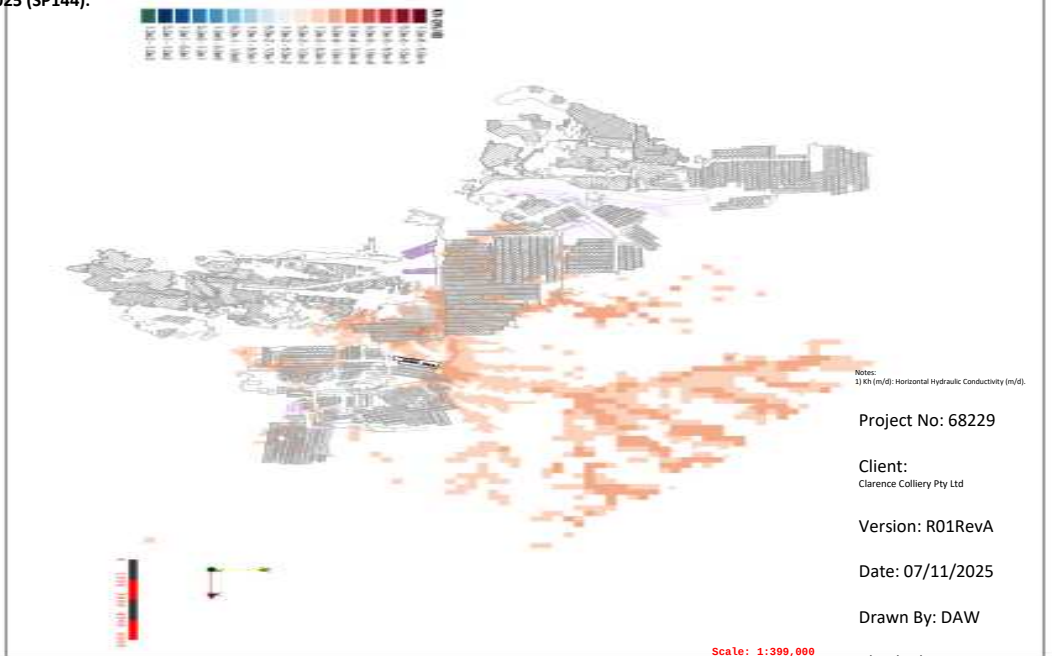
Steady-State (SP001):



September 2025 (SP144):



September 2026 (SP148):



December 2049 (SP241):

Legend

Mining Methods:

- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:

- Approved
- Existing
- Proposed
- Other Proposed

Notes:
1) Kh (m/d): Horizontal Hydraulic Conductivity (m/d).

Project No: 68229

Client:
Clarence Colliery Pty Ltd

Version: R01RevA

Date: 07/11/2025

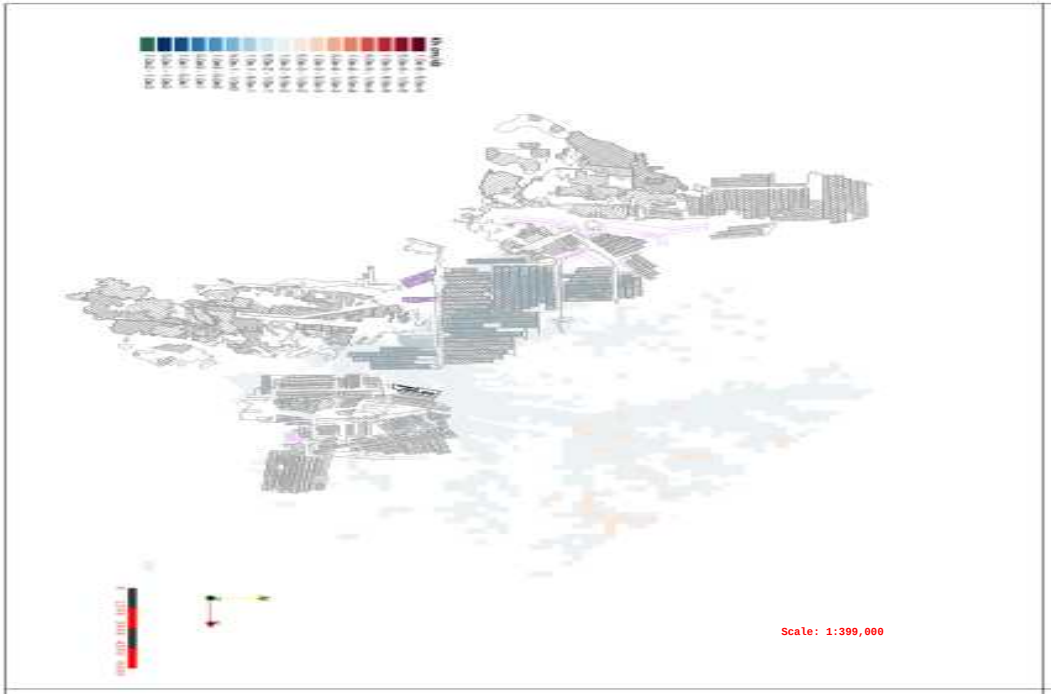
Drawn By: DAW

Checked By: JRWB

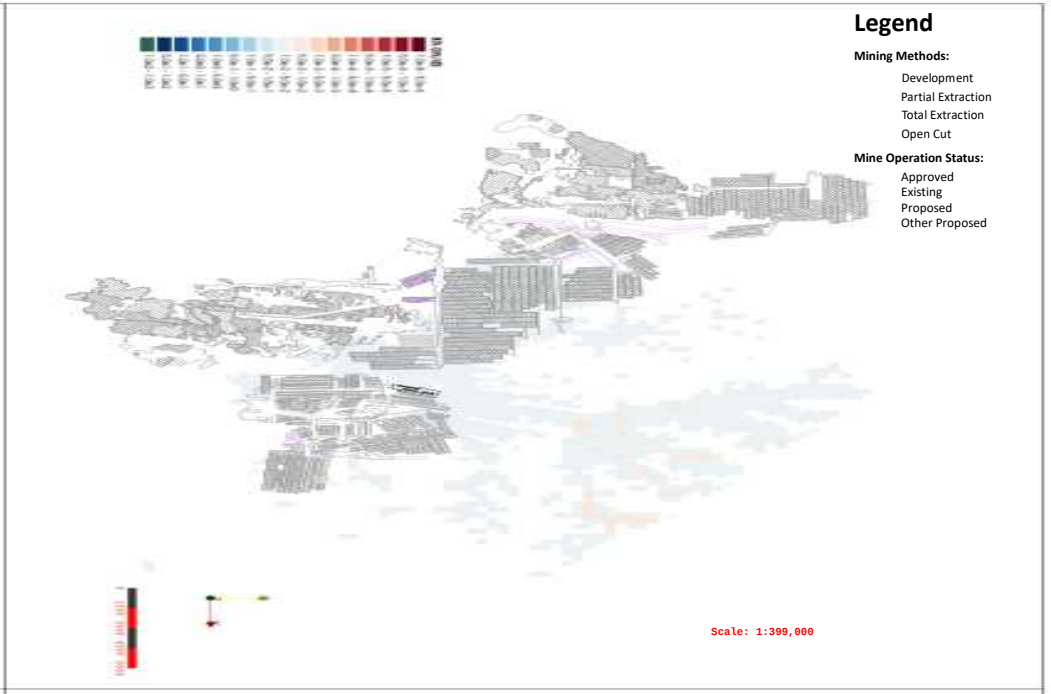
File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D056_Plan_Kh\68229_R01RevA_D056_Plan_Kh_L06.grf

Reference: 68229_R01RevA_PRO_02a

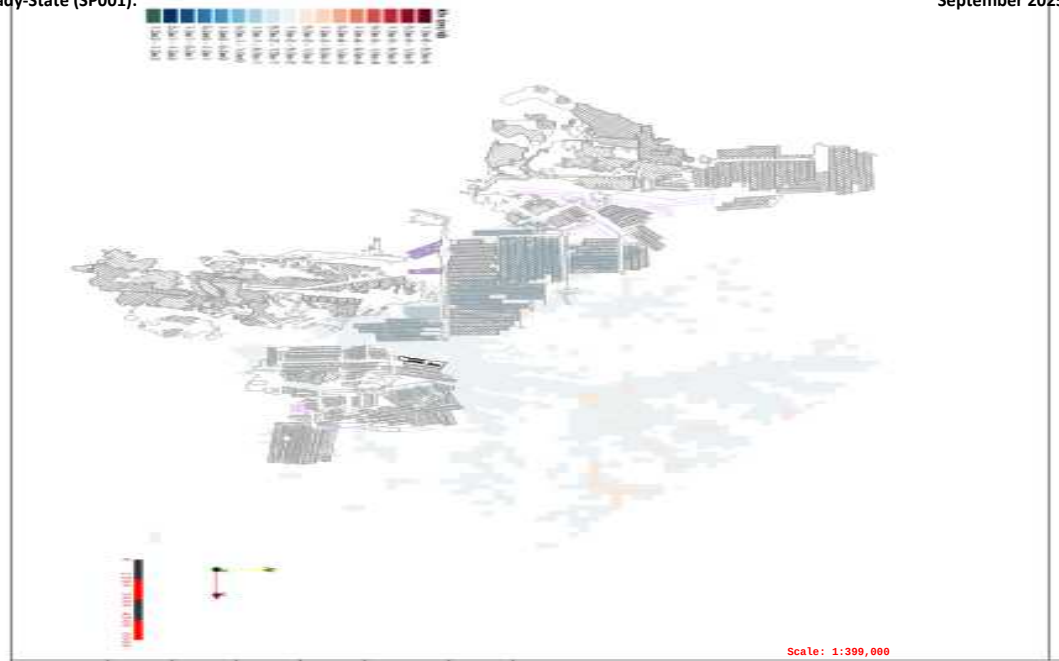
Figure E1a-06: Modelled Horizontal Hydraulic Conductivity (m/d) - Layer 06



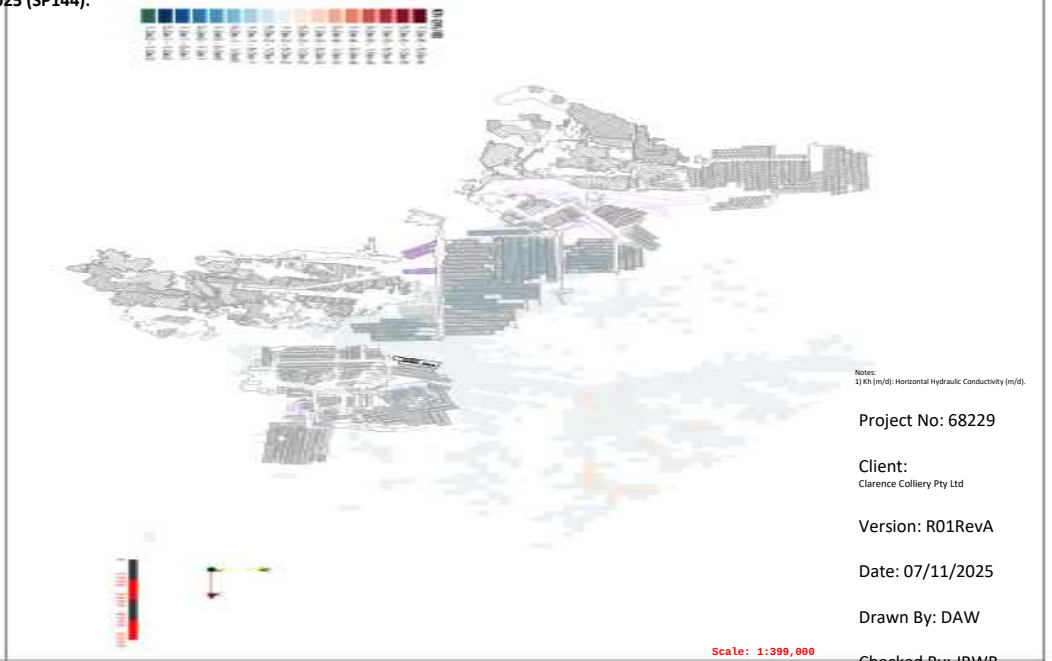
Steady-State (SP001):



September 2025 (SP144):



September 2026 (SP148):



December 2049 (SP241):

Legend

Mining Methods:

- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:

- Approved
- Existing
- Proposed
- Other Proposed

Notes:
1) Kh (m/d): Horizontal Hydraulic Conductivity (m/d).

Project No: 68229

Client:
Clarence Colliery Pty Ltd

Version: R01RevA

Date: 07/11/2025

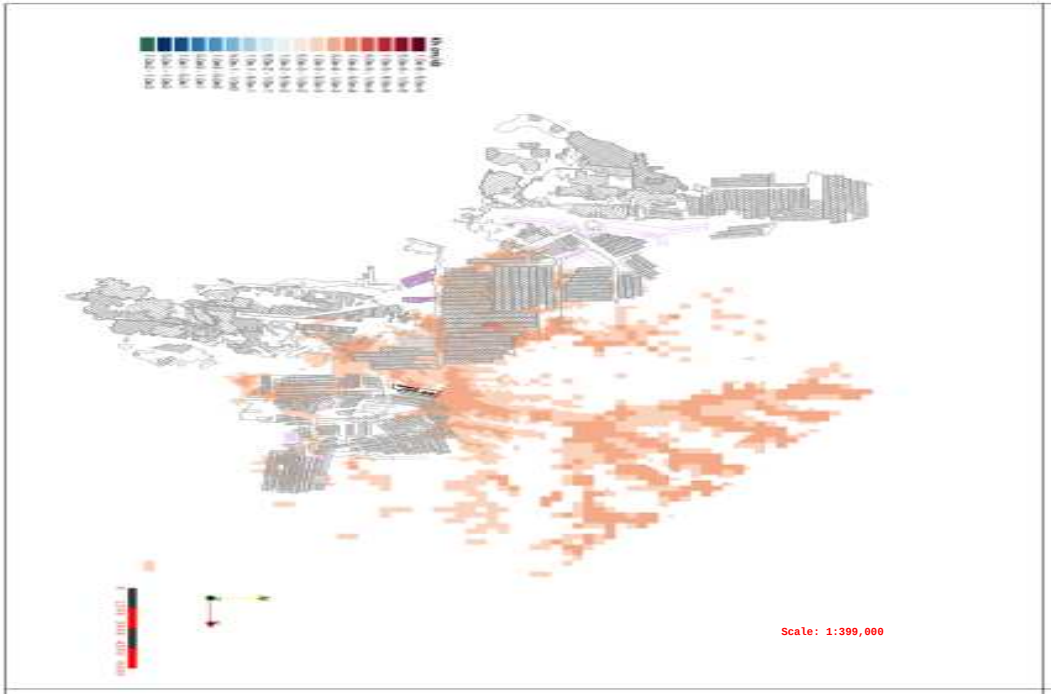
Drawn By: DAW

Checked By: JRWB

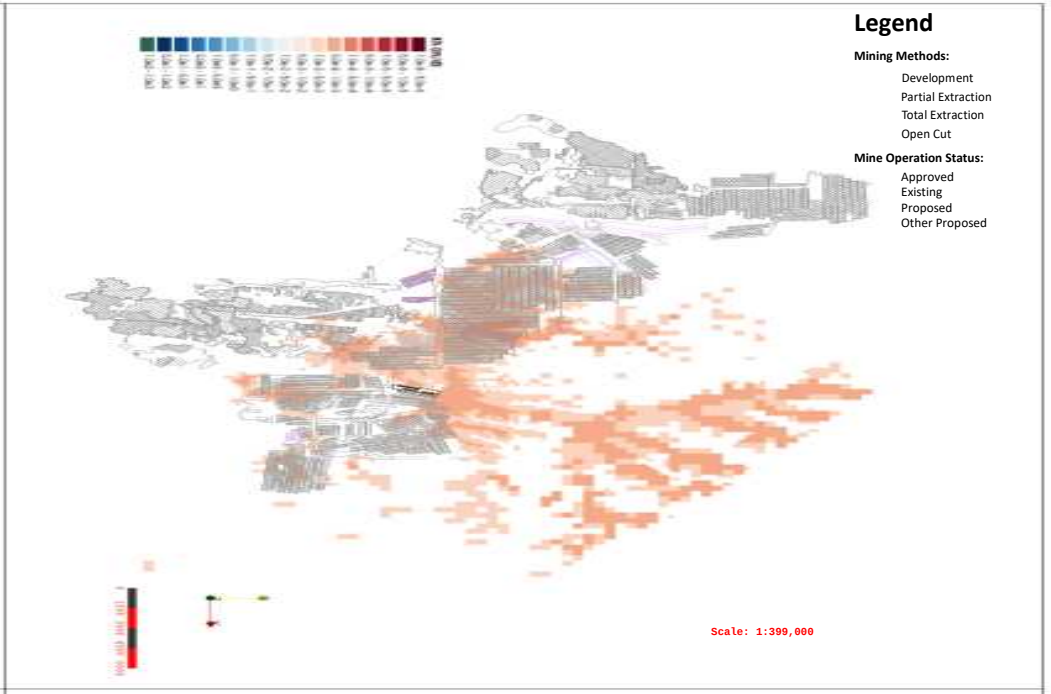
File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D056_Plan_Kh\68229_R01RevA_D056_Plan_Kh_L07.grf

Reference: 68229_R01RevA_PRO_02a

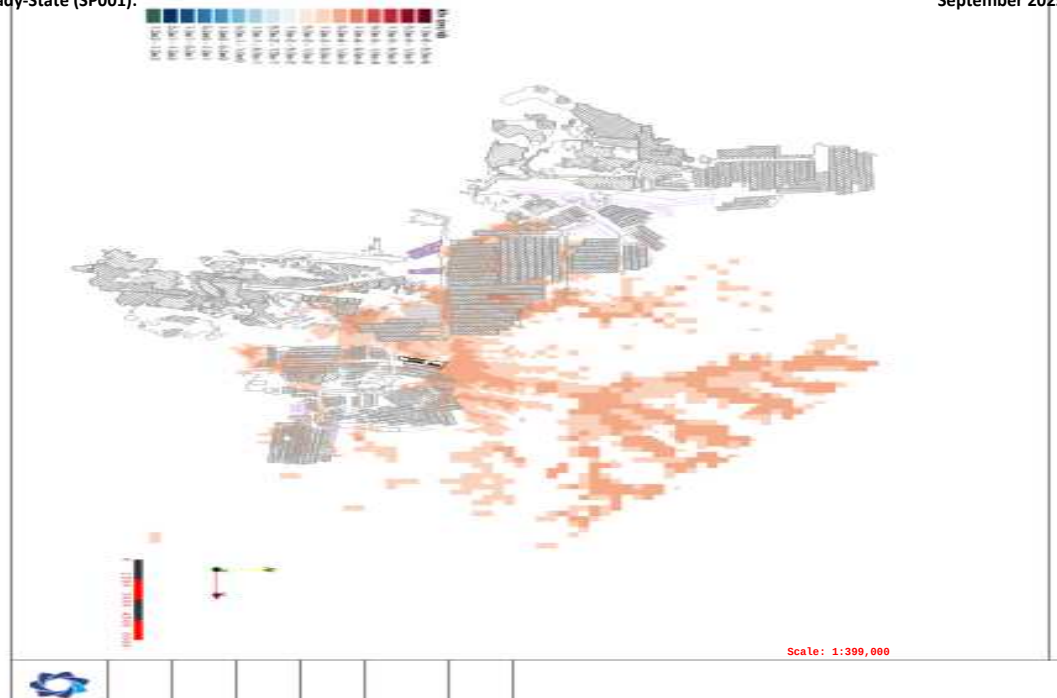
Figure E1a-07: Modelled Horizontal Hydraulic Conductivity (m/d) - Layer 07



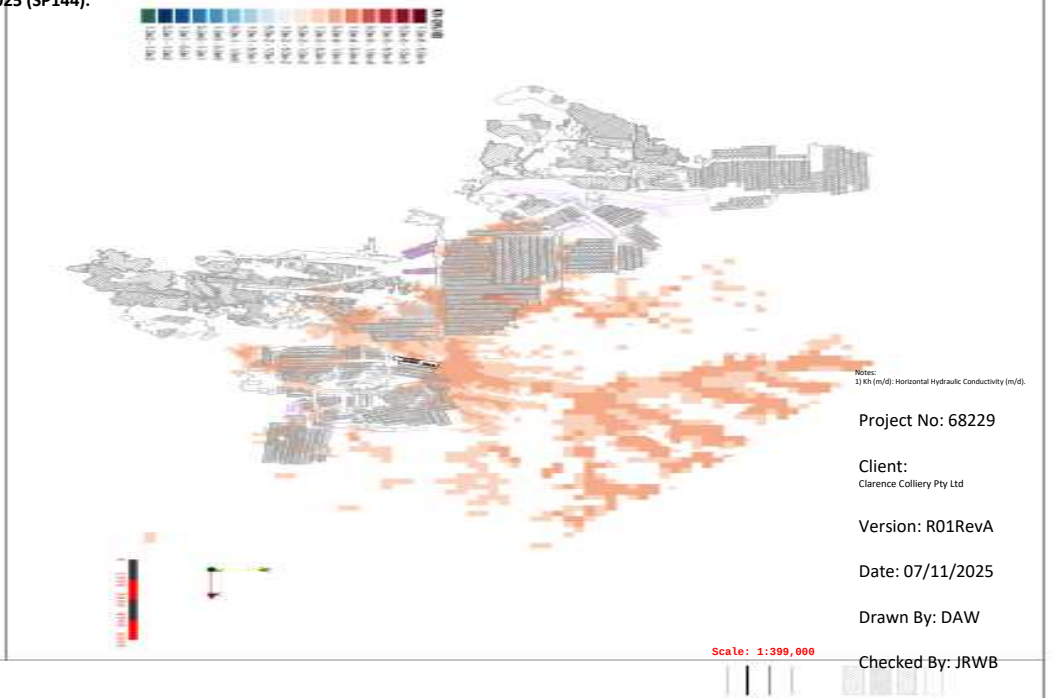
Steady-State (SP001):



September 2025 (SP144):



September 2026 (SP148):



December 2049 (SP241):

Legend

Mining Methods:

- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:

- Approved
- Existing
- Proposed
- Other Proposed

Notes:
1) Kh (m/d): Horizontal Hydraulic Conductivity (m/d).

Project No: 68229

Client:
Clarence Colliery Pty Ltd

Version: R01RevA

Date: 07/11/2025

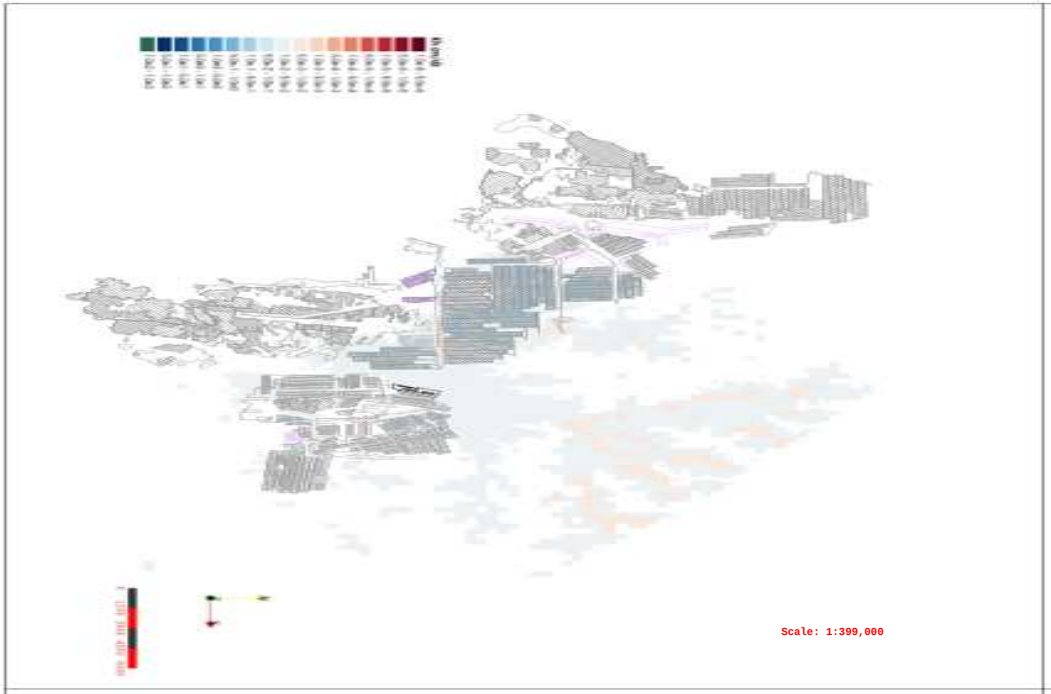
Drawn By: DAW

Checked By: JRWB

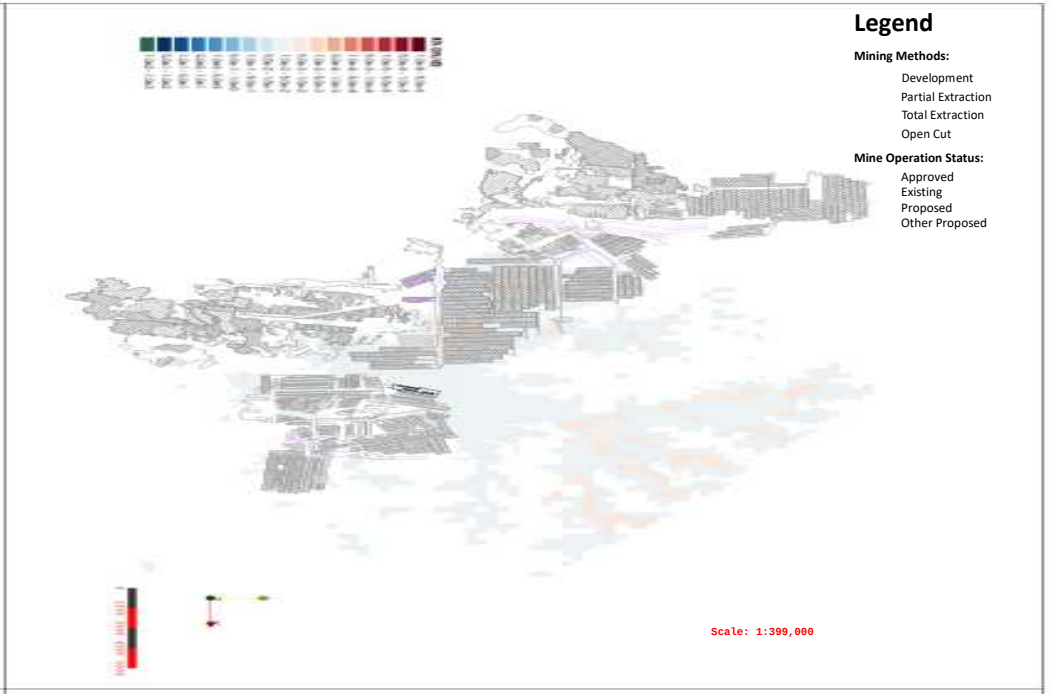
File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D056_Plan_Kh\68229_R01RevA_D056_Plan_Kh_L08.grf

Reference: 68229_R01RevA_PRO_02a

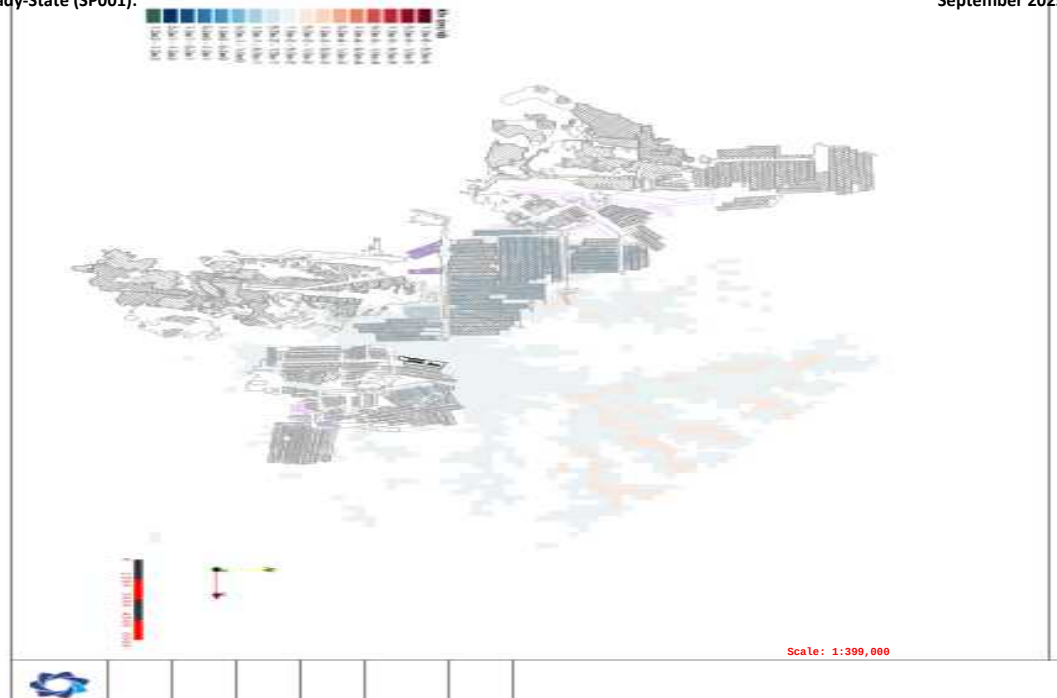
Figure E1a-08: Modelled Horizontal Hydraulic Conductivity (m/d) - Layer 08



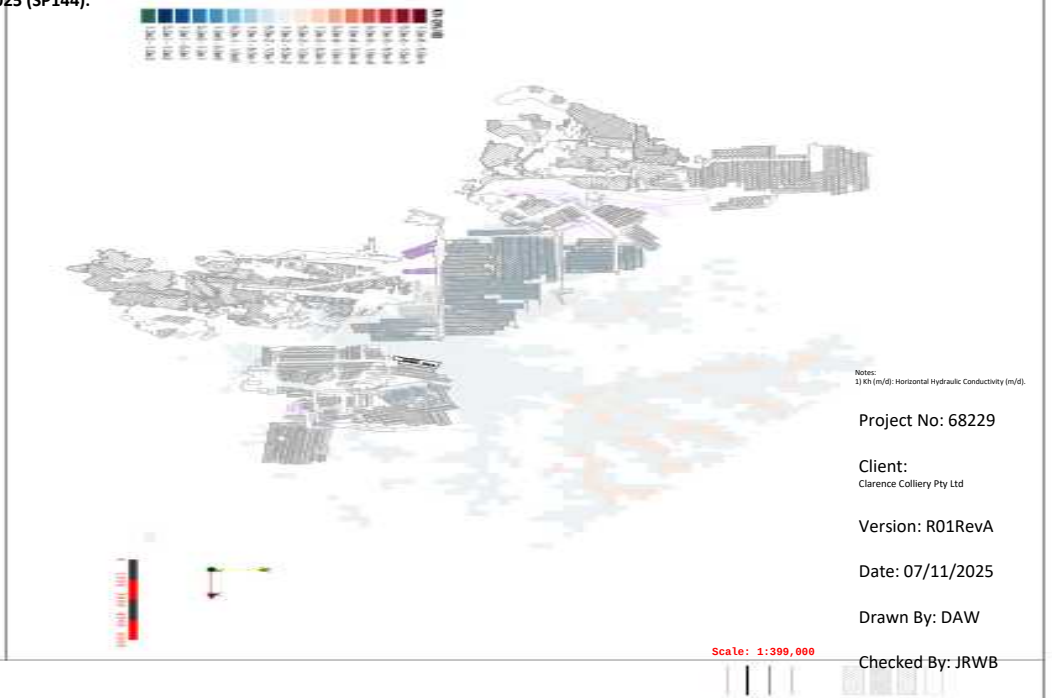
Steady-State (SP001):



September 2025 (SP144):



September 2026 (SP148):



December 2049 (SP241):

Legend

Mining Methods:

- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:

- Approved
- Existing
- Proposed
- Other Proposed

Notes:
1) Kh (m/d): Horizontal Hydraulic Conductivity (m/d).

Project No: 68229

Client:
Clarence Colliery Pty Ltd

Version: R01RevA

Date: 07/11/2025

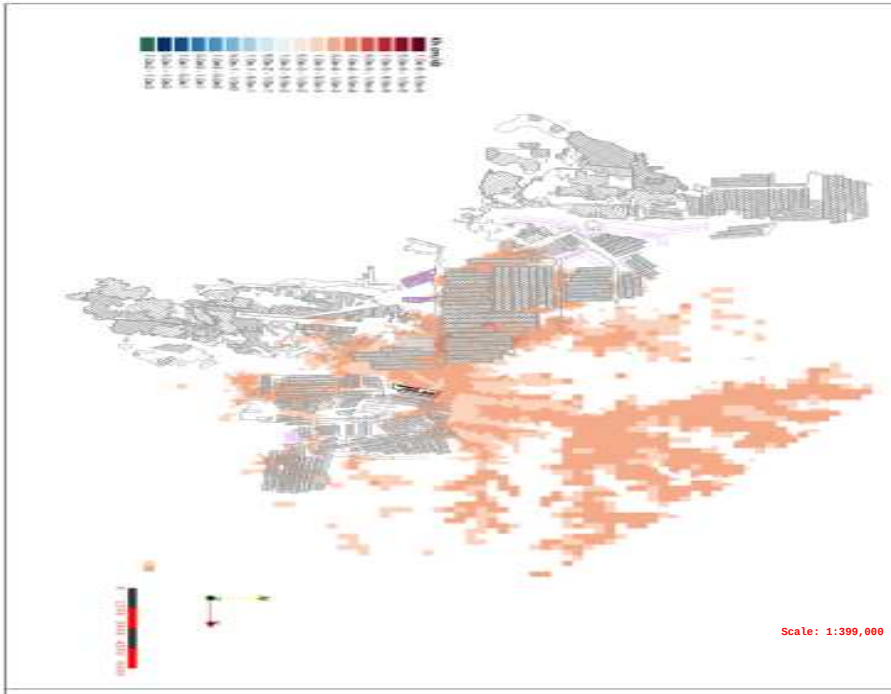
Drawn By: DAW

Checked By: JRWB

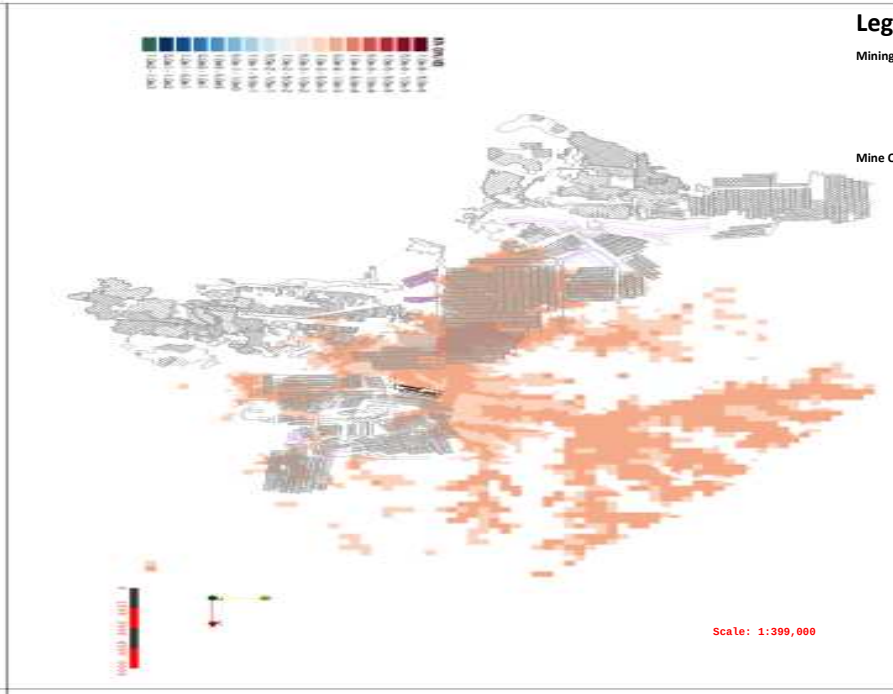
File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D056_Plan_Kh\68229_R01RevA_D056_Plan_Kh_L09.grf

Reference: 68229_R01RevA_PRO_02a

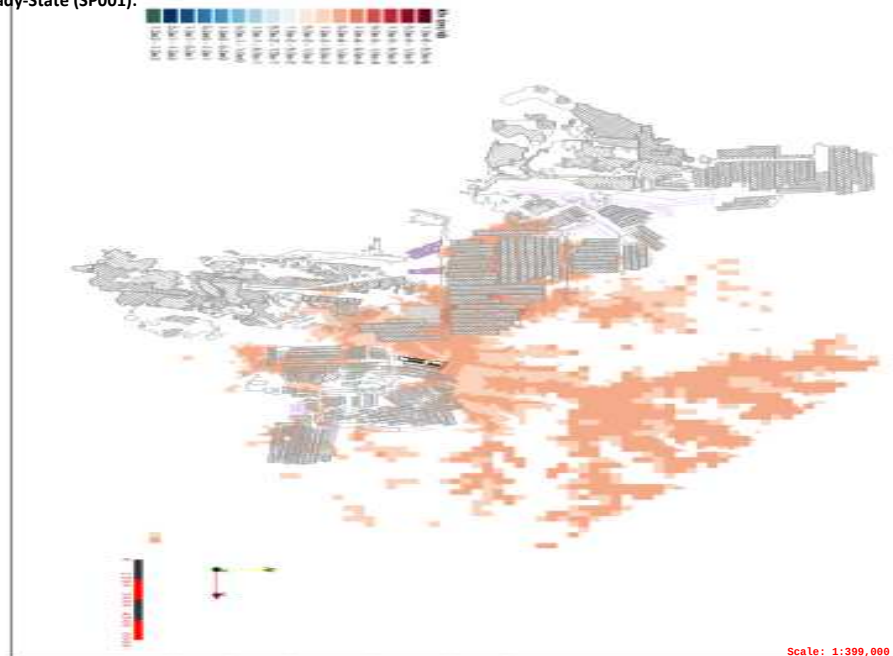
Figure E1a-09: Modelled Horizontal Hydraulic Conductivity (m/d) - Layer 09



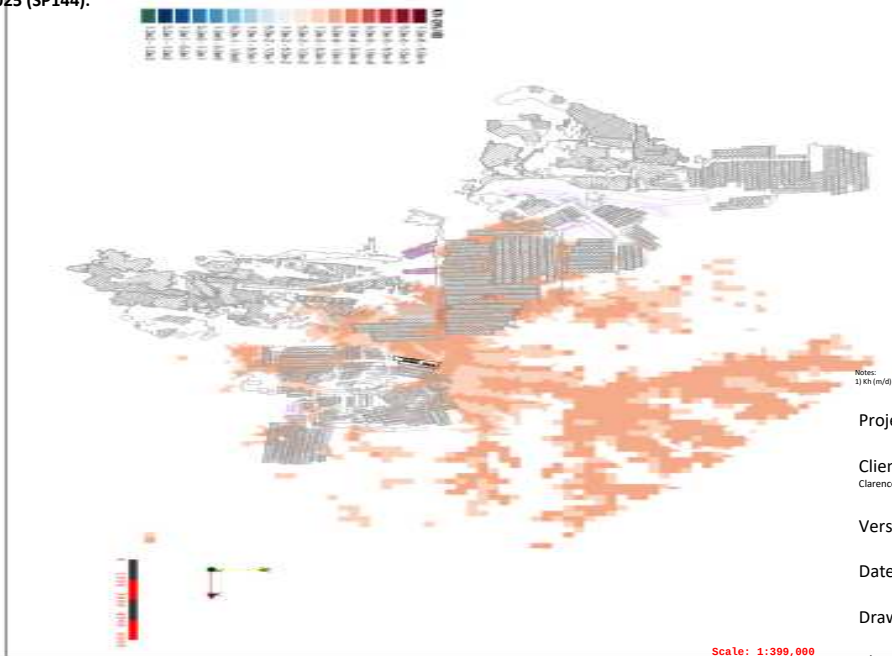
Steady-State (SP001):



September 2025 (SP144):



September 2026 (SP148):



December 2049 (SP241):

Legend

Mining Methods:

- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:

- Approved
- Existing
- Proposed
- Other Proposed

Notes:
1) Kh (m/d): Horizontal Hydraulic Conductivity (m/d).

Project No: 68229

Client:
Clarence Colliery Pty Ltd

Version: R01RevA

Date: 07/11/2025

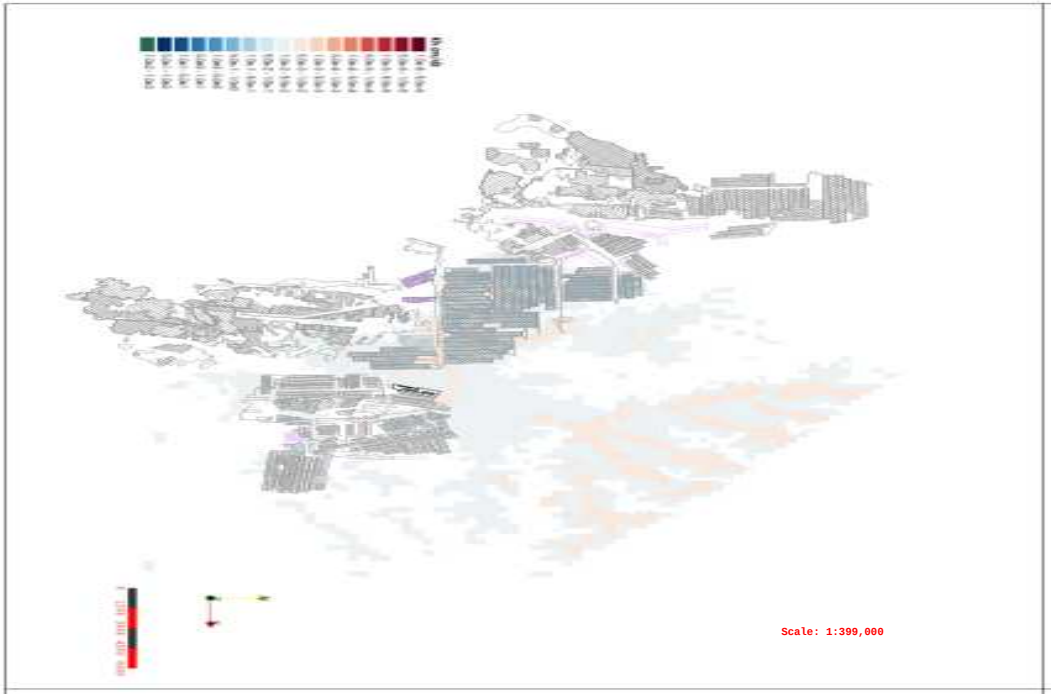
Drawn By: DAW

Checked By: JRWB

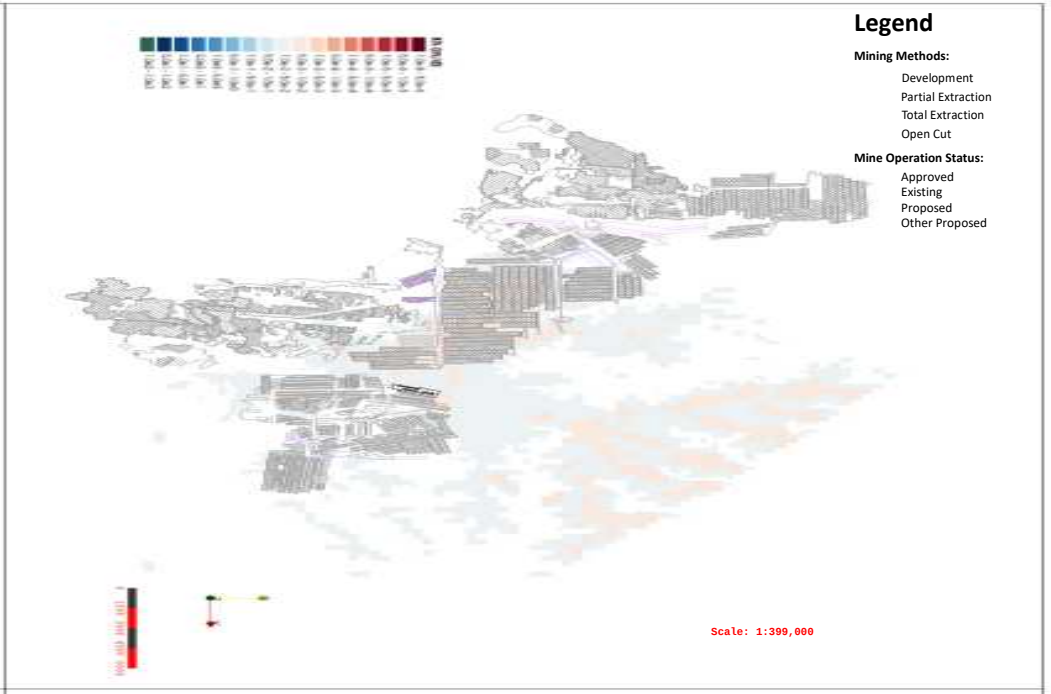
File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D056_Plan_Kh\68229_R01RevA_D056_Plan_Kh_L10.grf

Reference: 68229_R01RevA_PRO_02a

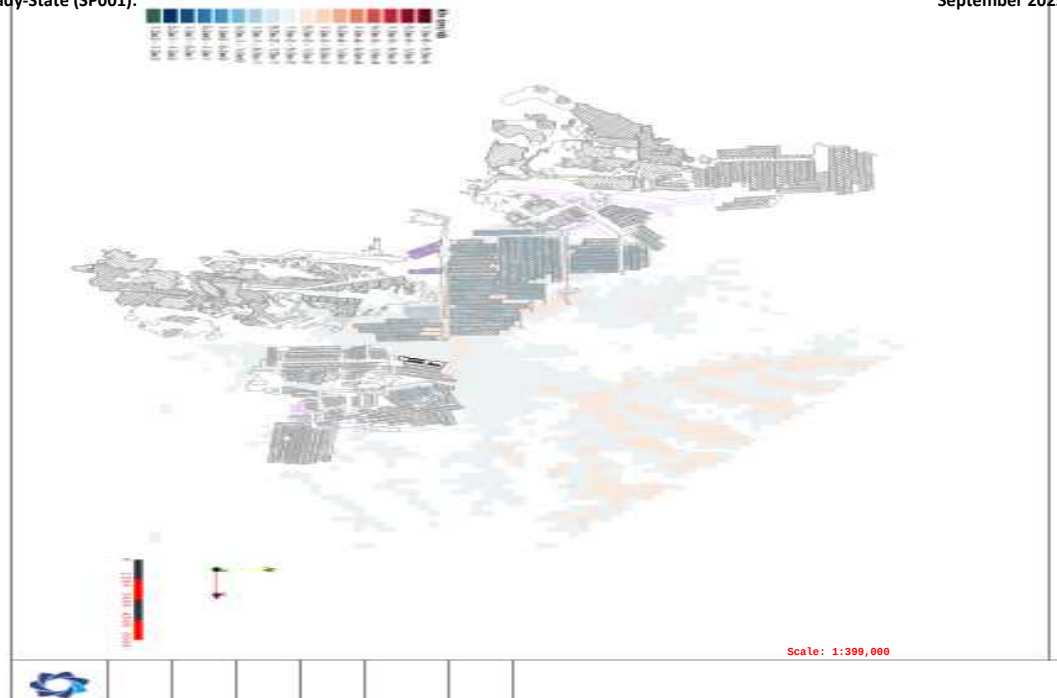
Figure E1a-10: Modelled Horizontal Hydraulic Conductivity (m/d) - Layer 10



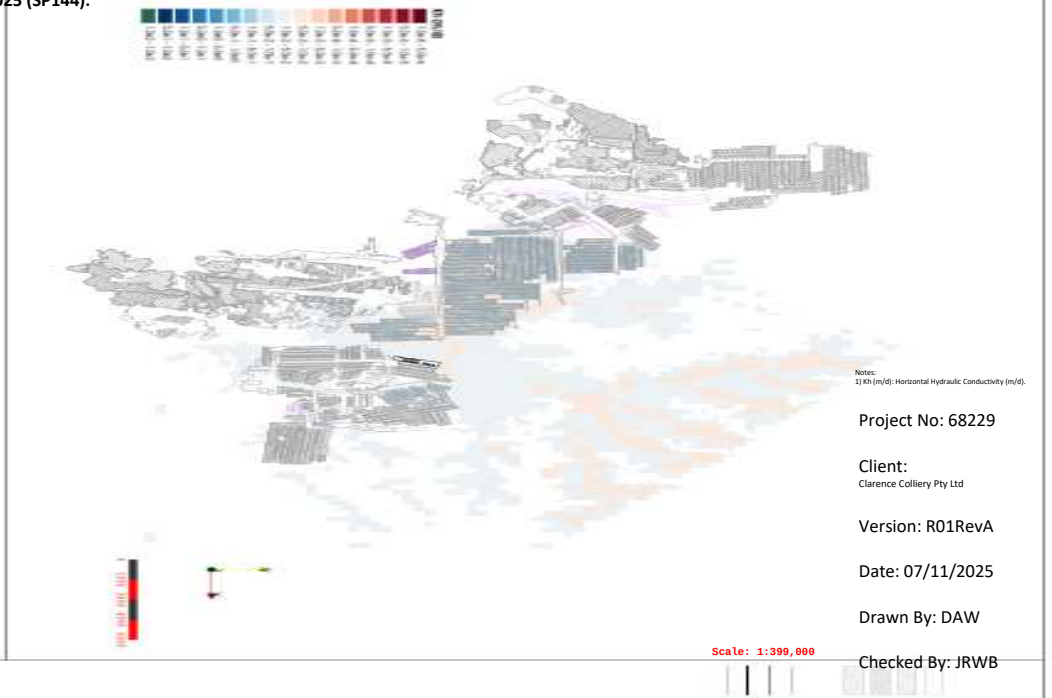
Steady-State (SP001):



September 2025 (SP144):



September 2026 (SP148):



December 2049 (SP241):

Legend

Mining Methods:

- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:

- Approved
- Existing
- Proposed
- Other Proposed

Notes:
1) Kh (m/d): Horizontal Hydraulic Conductivity (m/d).

Project No: 68229

Client:
Clarence Colliery Pty Ltd

Version: R01RevA

Date: 07/11/2025

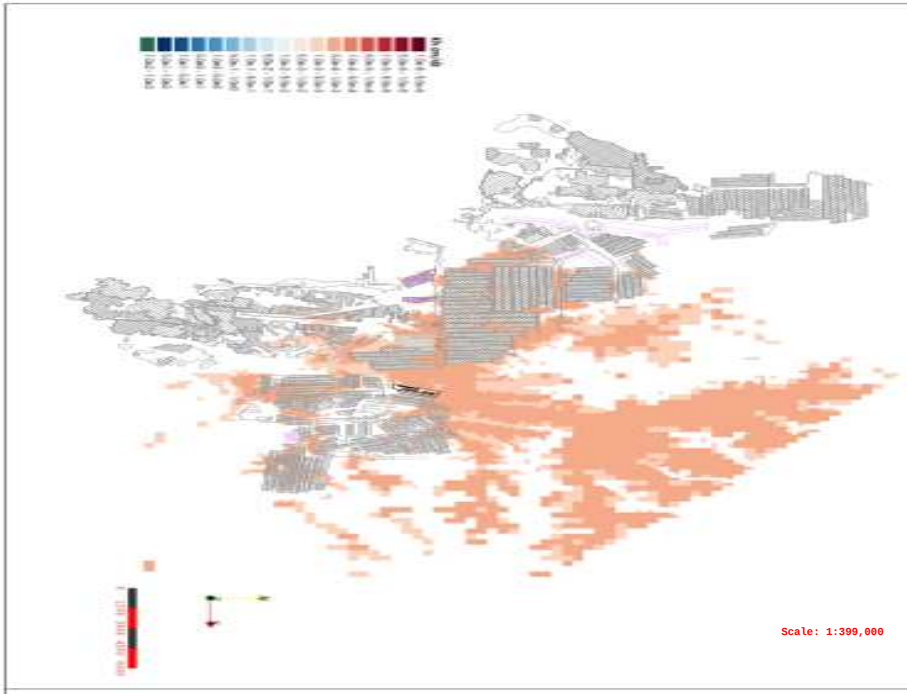
Drawn By: DAW

Checked By: JRWB

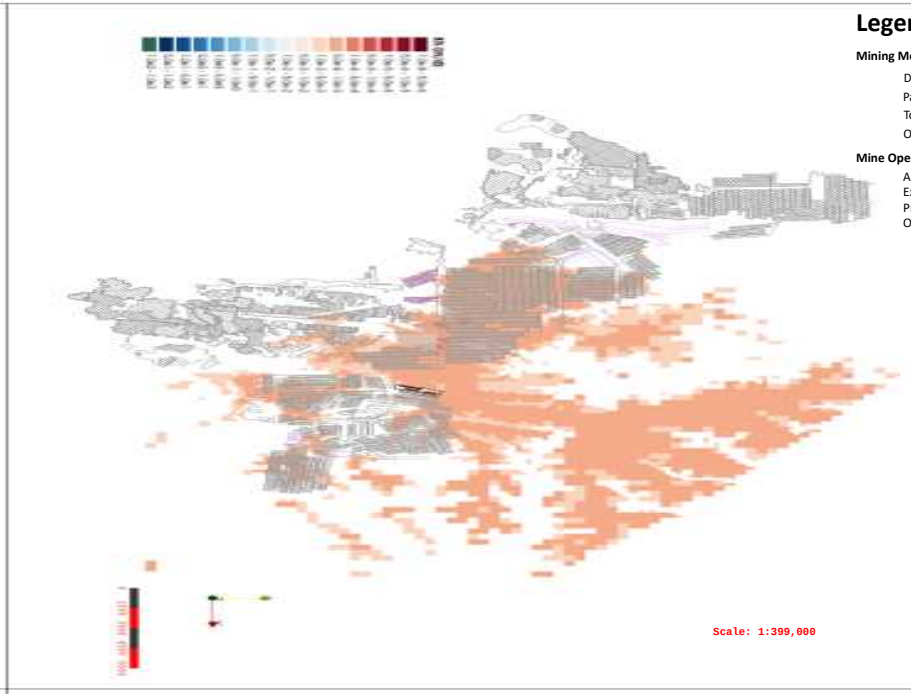
File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D056_Plan_Kh\68229_R01RevA_D056_Plan_Kh_L11.grf

Reference: 68229_R01RevA_PRO_02a

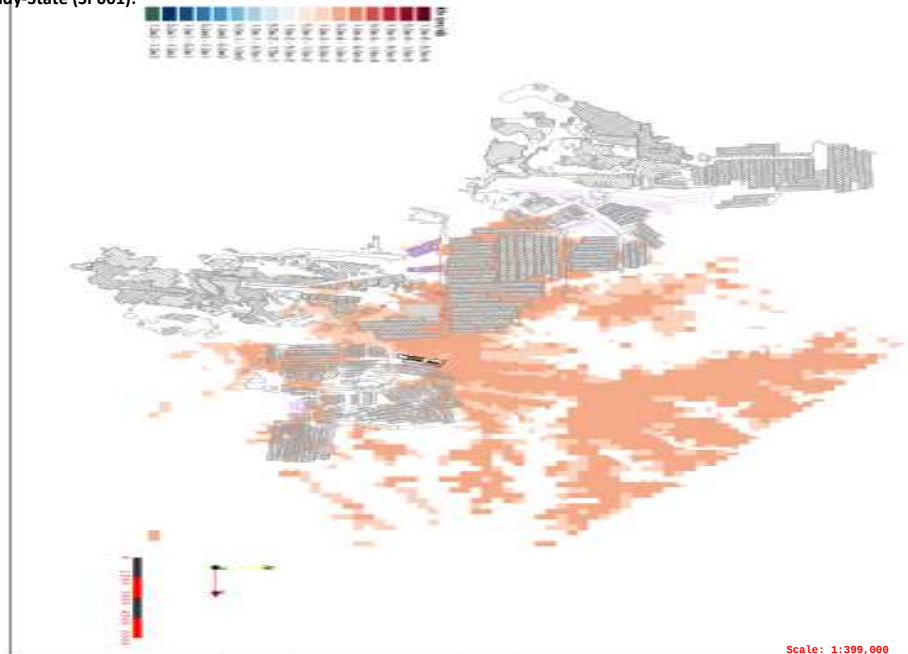
Figure E1a-11: Modelled Horizontal Hydraulic Conductivity (m/d) - Layer 11



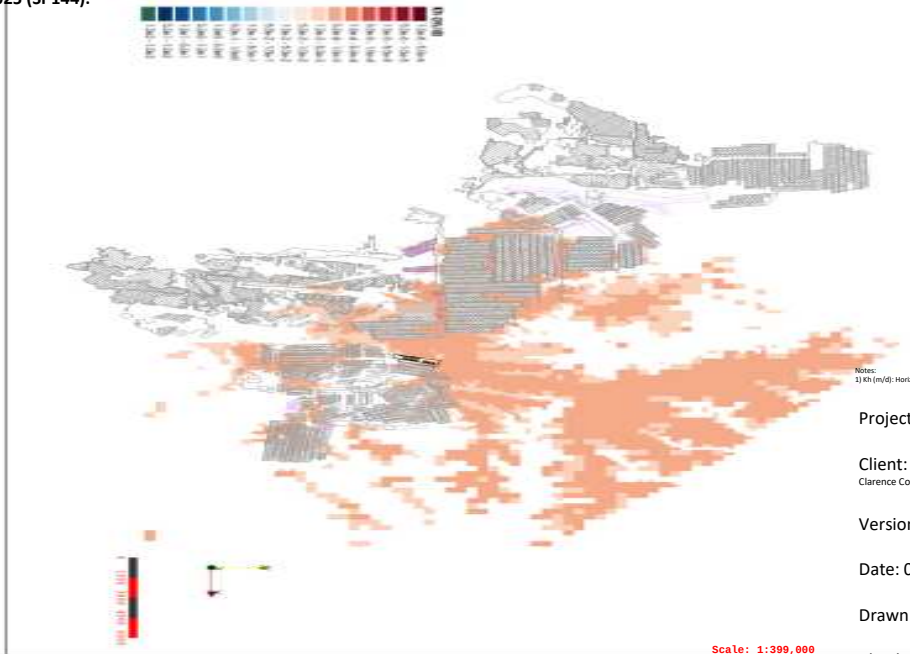
Steady-State (SP001):



September 2025 (SP144):



September 2026 (SP148):



December 2049 (SP241):

Legend

Mining Methods:

- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:

- Approved
- Existing
- Proposed
- Other Proposed

Notes:
1) Kh (m/d): Horizontal Hydraulic Conductivity (m/d).

Project No: 68229

Client:
Clarence Colliery Pty Ltd

Version: R01RevA

Date: 07/11/2025

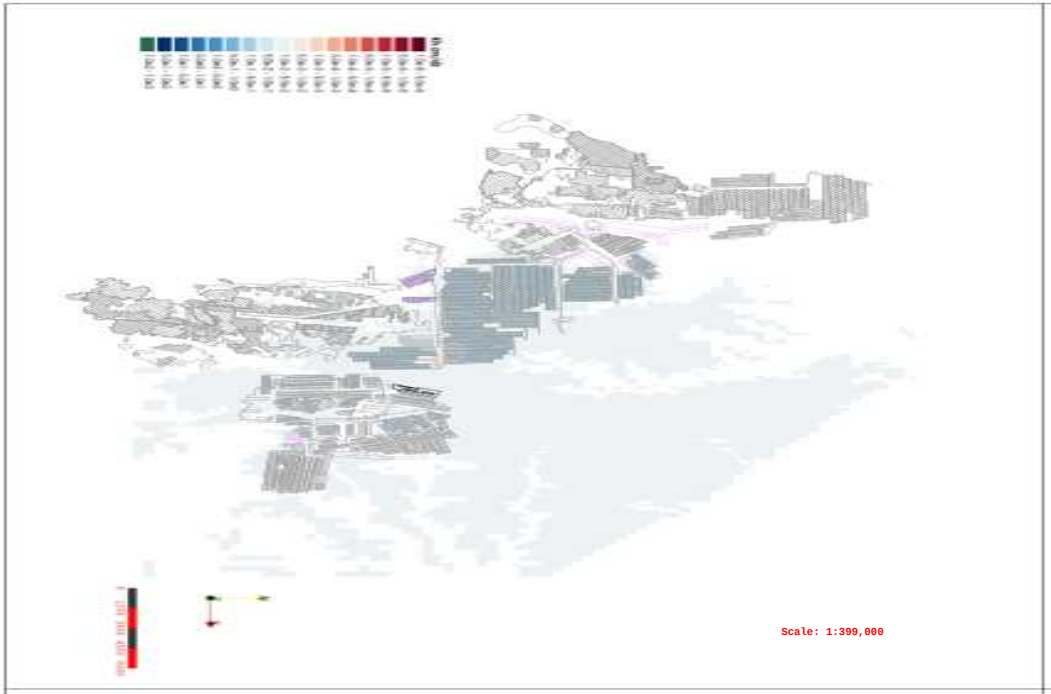
Drawn By: DAW

Checked By: JRWB

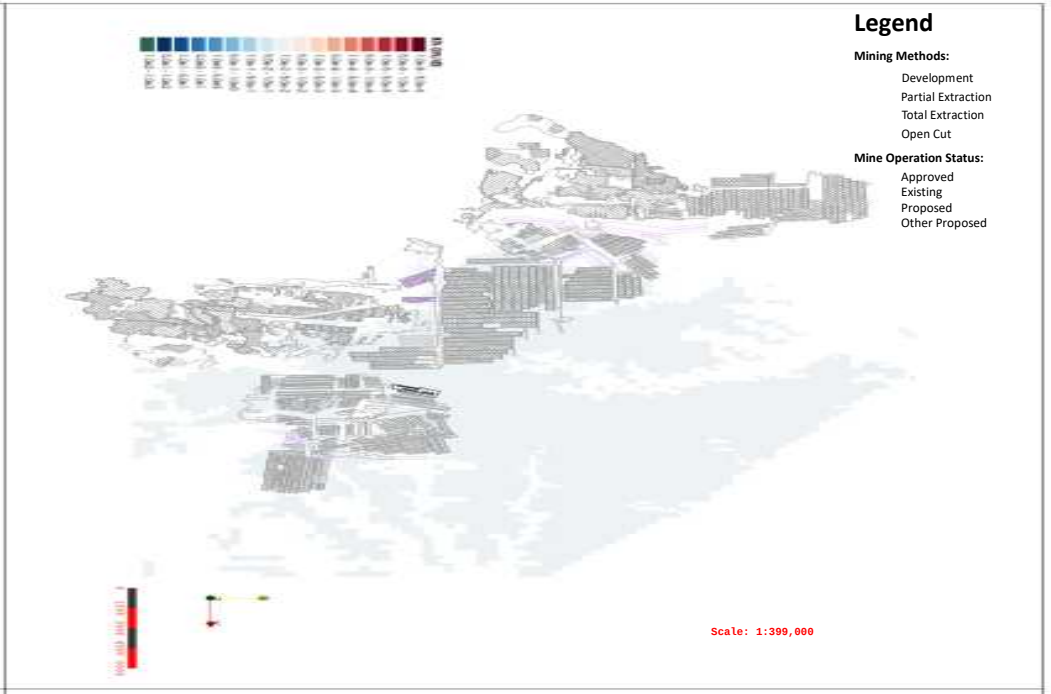
File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D056_Plan_Kh\68229_R01RevA_D056_Plan_Kh_L12.grf

Reference: 68229_R01RevA_PRO_02a

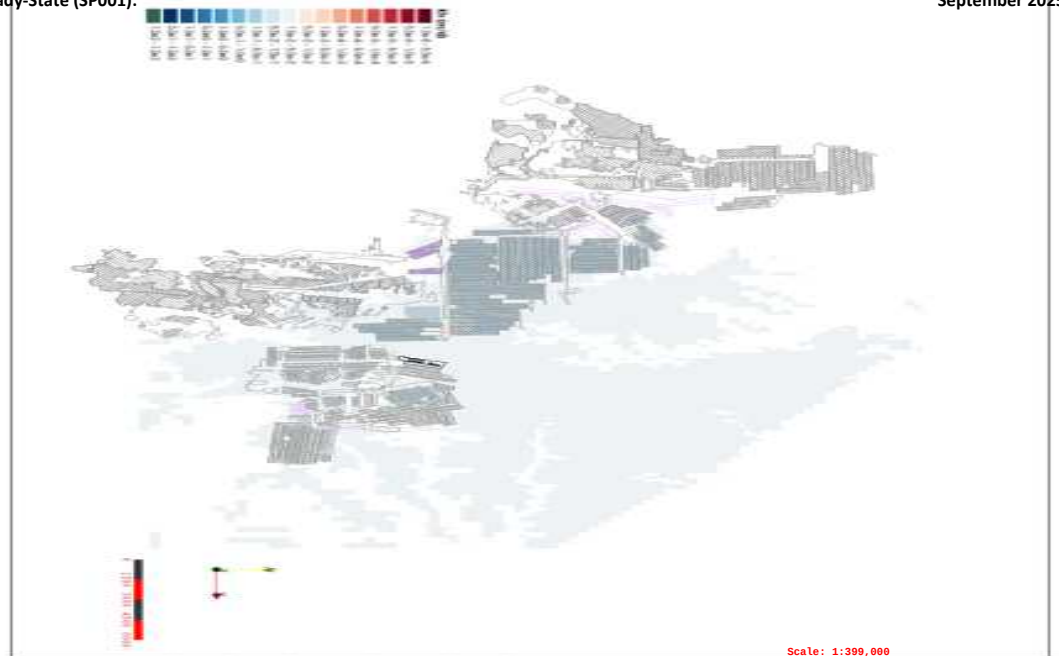
Figure E1a-12: Modelled Horizontal Hydraulic Conductivity (m/d) - Layer 12



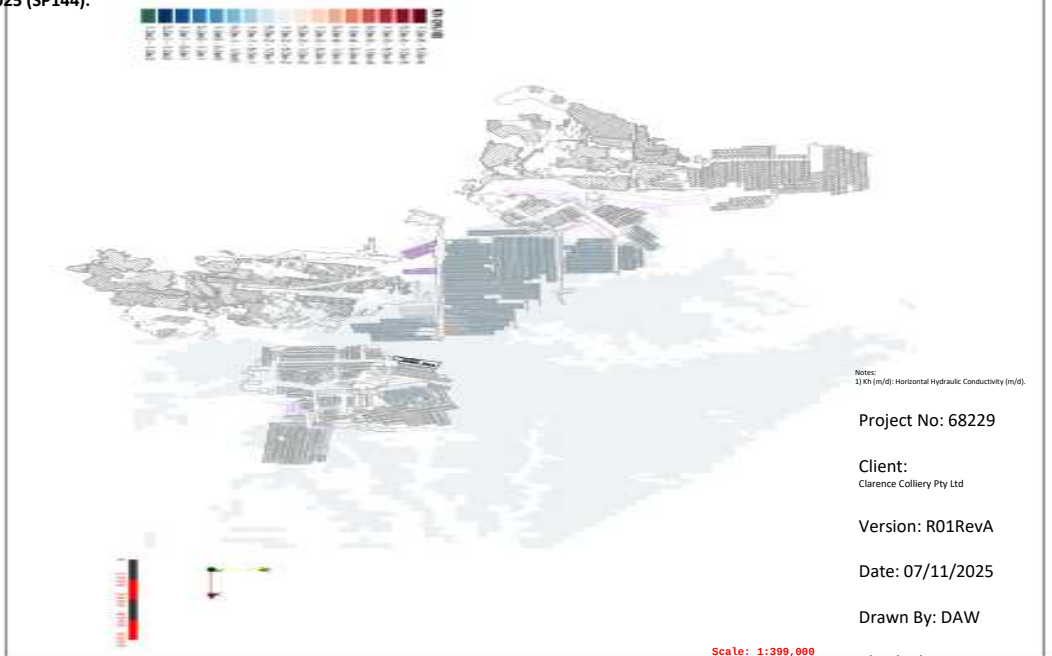
Steady-State (SP001):



September 2025 (SP144):



September 2026 (SP148):



December 2049 (SP241):

Legend

Mining Methods:

- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:

- Approved
- Existing
- Proposed
- Other Proposed

Notes:
1) Kh (m/d): Horizontal Hydraulic Conductivity (m/d).

Project No: 68229

Client:
Clarence Colliery Pty Ltd

Version: R01RevA

Date: 07/11/2025

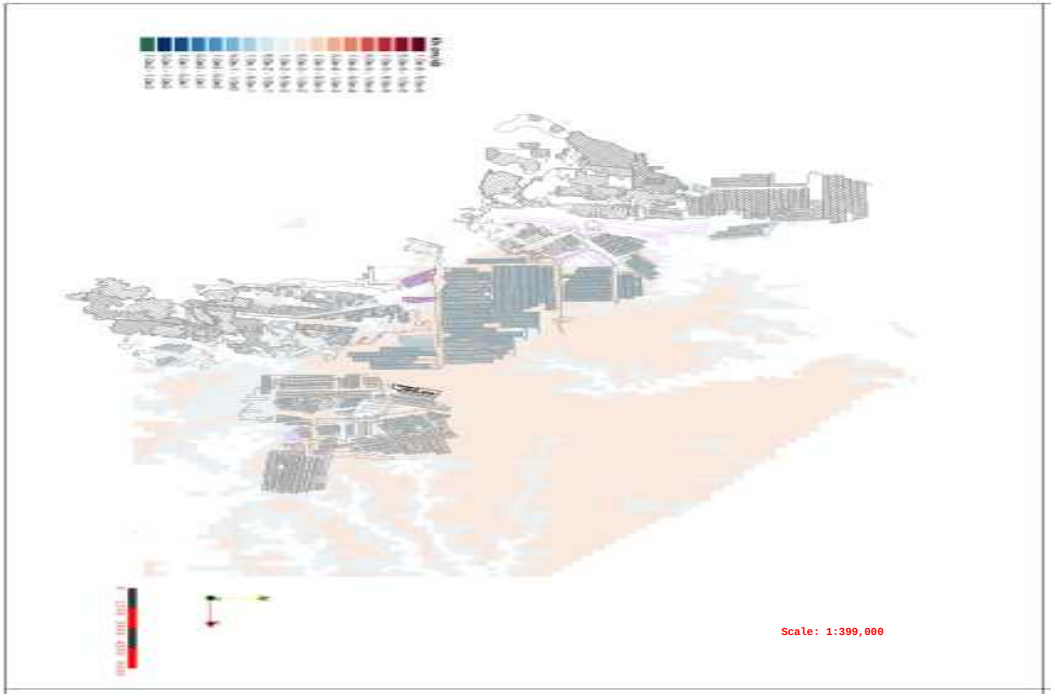
Drawn By: DAW

Checked By: JRWB

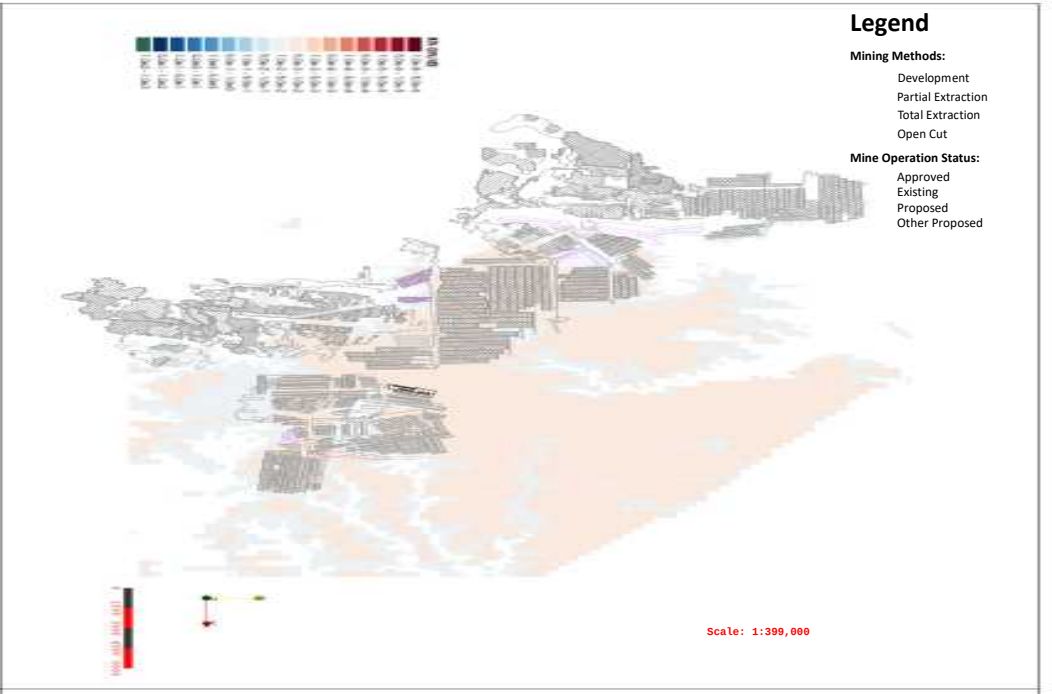
File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D056_Plan_Kh\68229_R01RevA_D056_Plan_Kh_L13.grf

Reference: 68229_R01RevA_PRO_02a

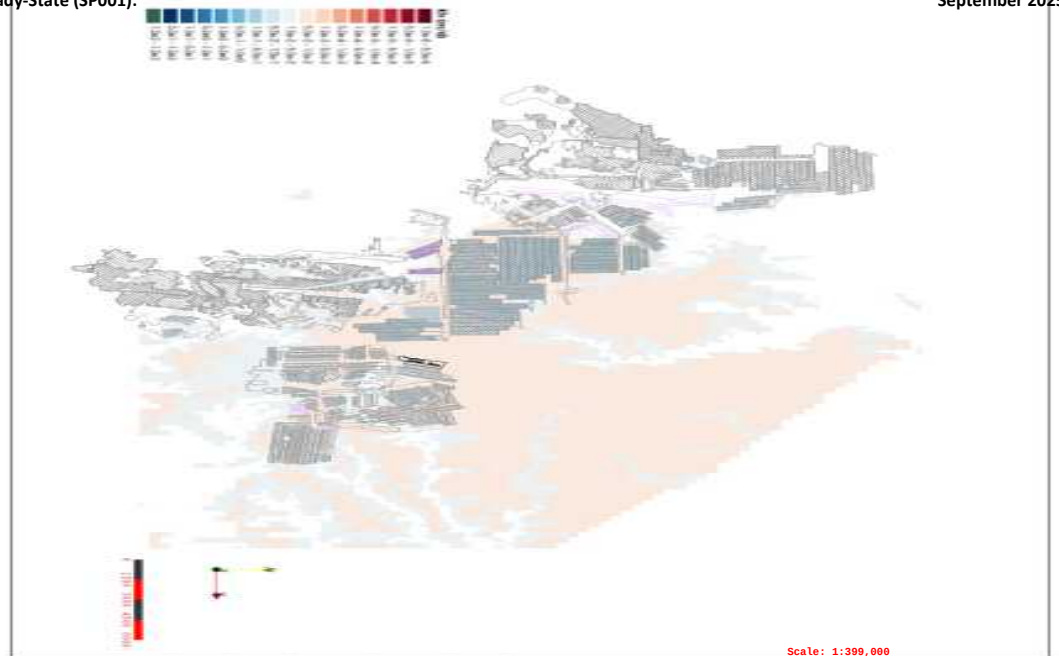
Figure E1a-13: Modelled Horizontal Hydraulic Conductivity (m/d) - Layer 13



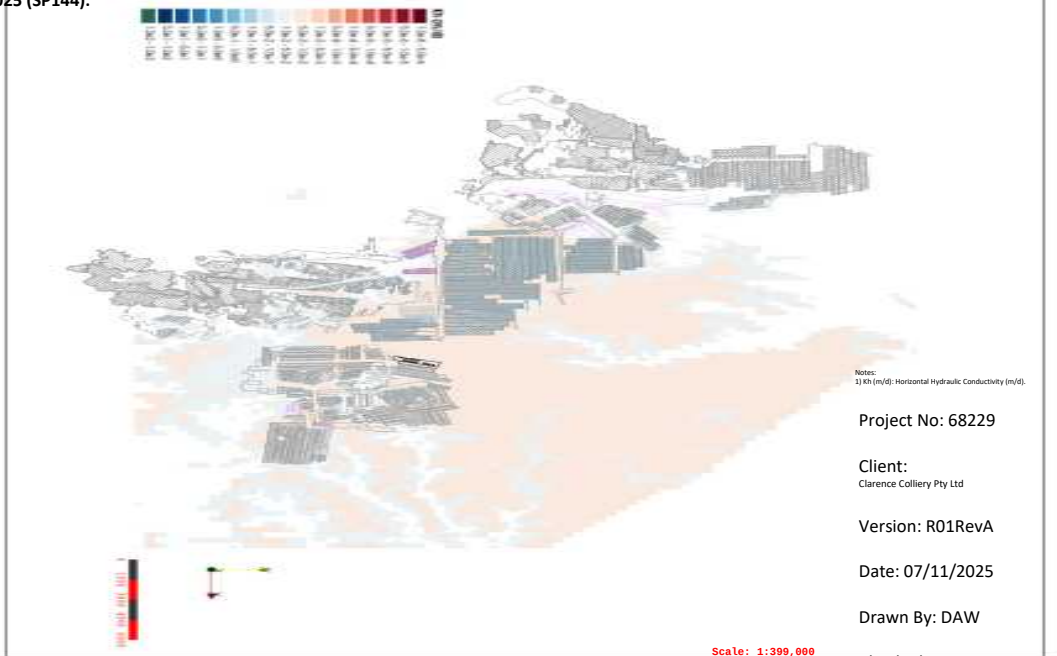
Steady-State (SP001):



September 2025 (SP144):



September 2026 (SP148):



December 2049 (SP241):

Legend

Mining Methods:

- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:

- Approved
- Existing
- Proposed
- Other Proposed

Notes:
1) Kh (m/d): Horizontal Hydraulic Conductivity (m/d).

Project No: 68229

Client:
Clarence Colliery Pty Ltd

Version: R01RevA

Date: 07/11/2025

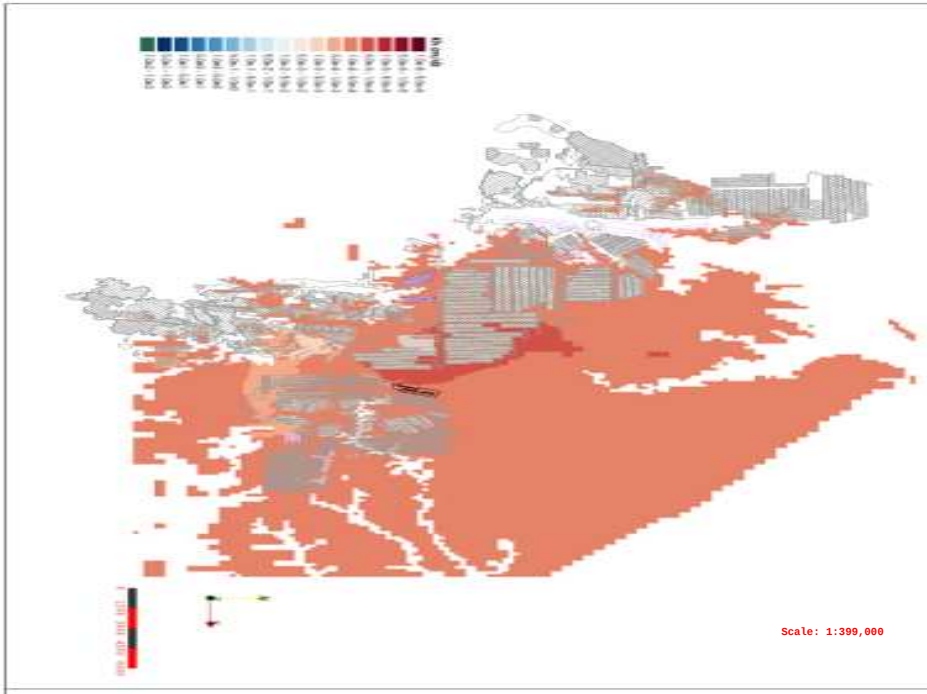
Drawn By: DAW

Checked By: JRWB

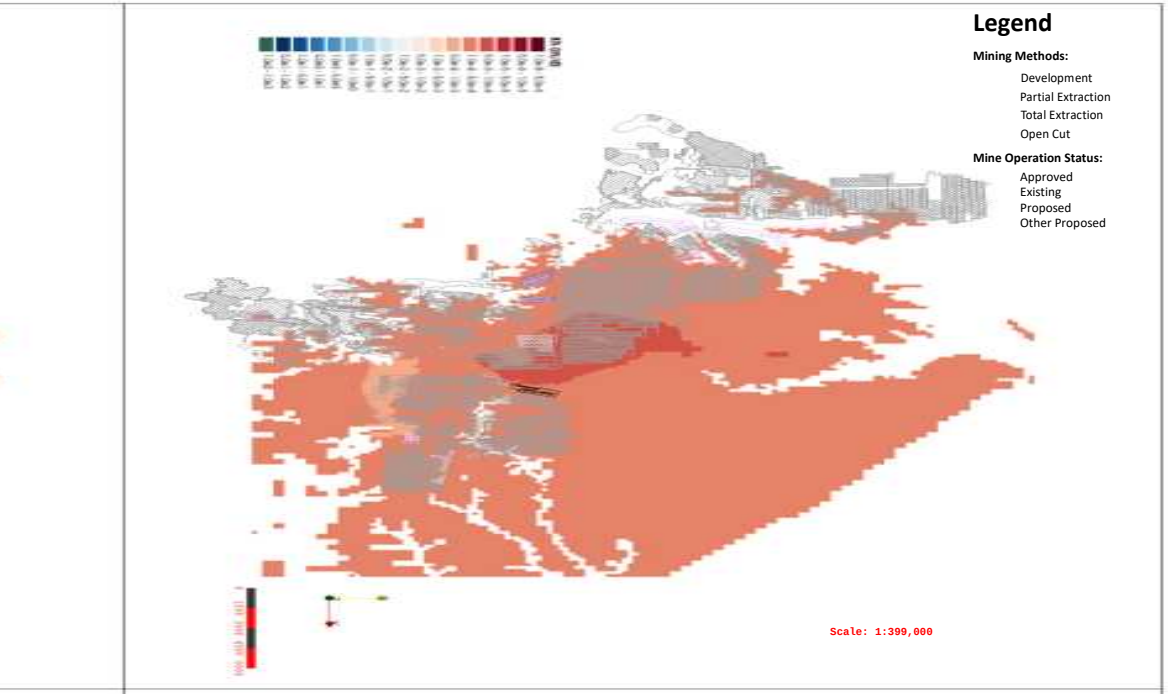
File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D056_Plan_Kh\68229_R01RevA_D056_Plan_Kh_L14.grf

Reference: 68229_R01RevA_PRO_02a

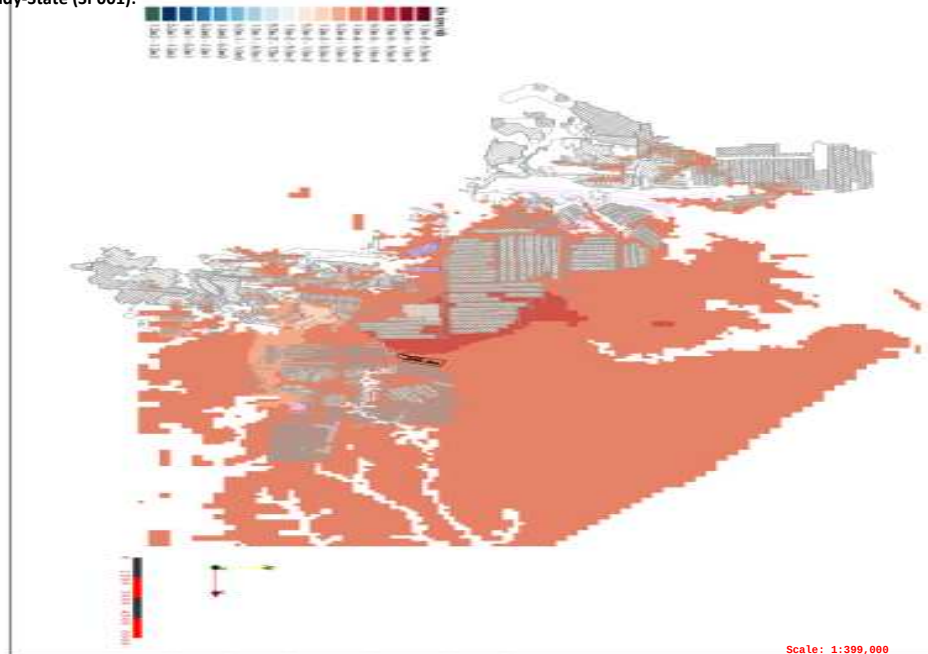
Figure E1a-14: Modelled Horizontal Hydraulic Conductivity (m/d) - Layer 14



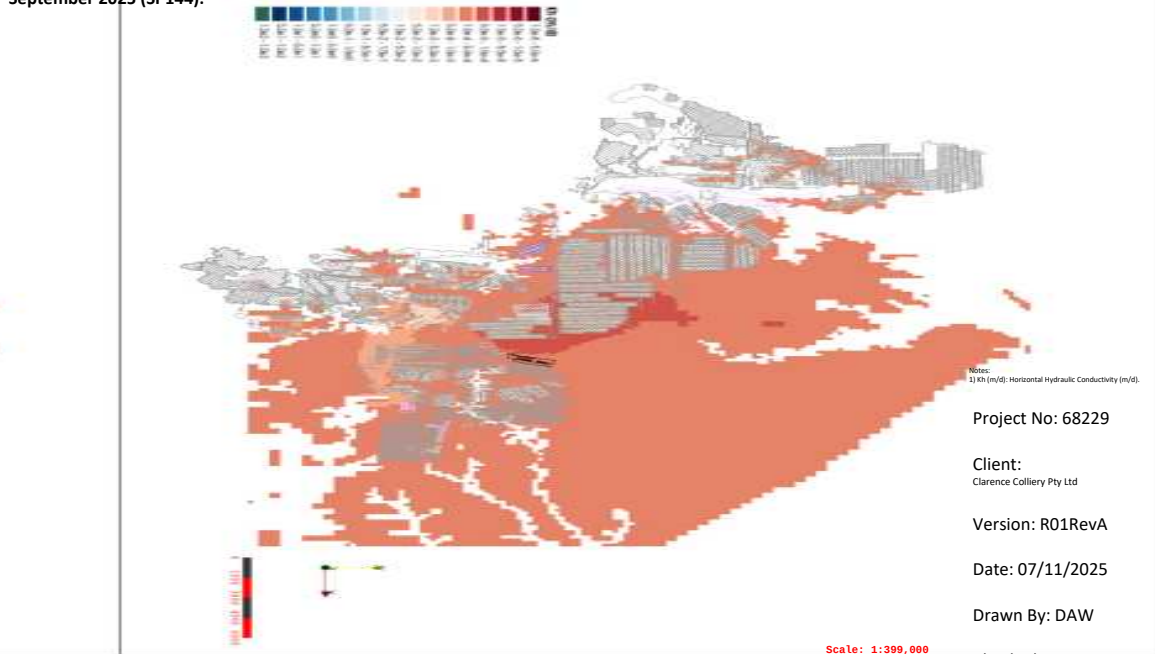
Steady-State (SP001):



September 2025 (SP144):



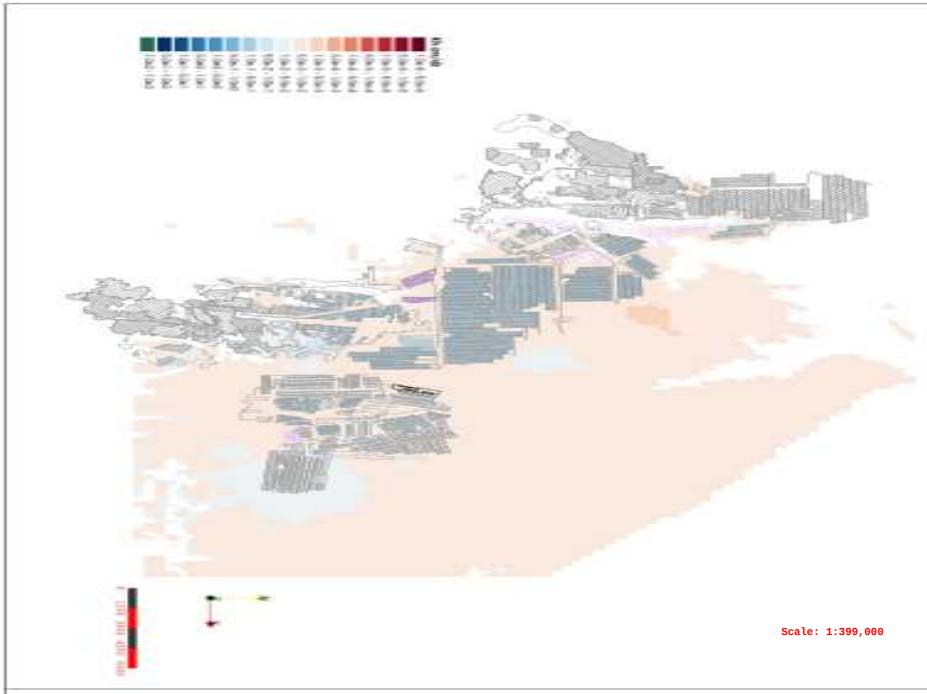
September 2026 (SP148):



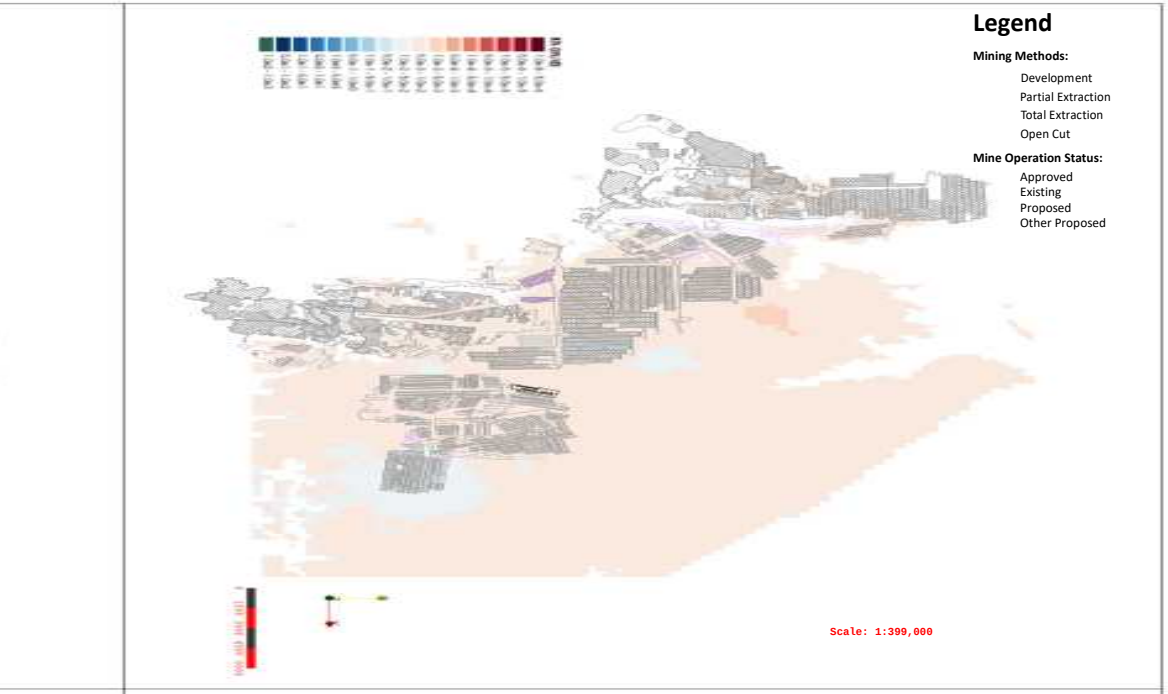
December 2049 (SP241):

File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D056_Plan_Kh\68229_R01RevA_D056_Plan_Kh_L15.grf
Reference: 68229_R01RevA_PRO_02a

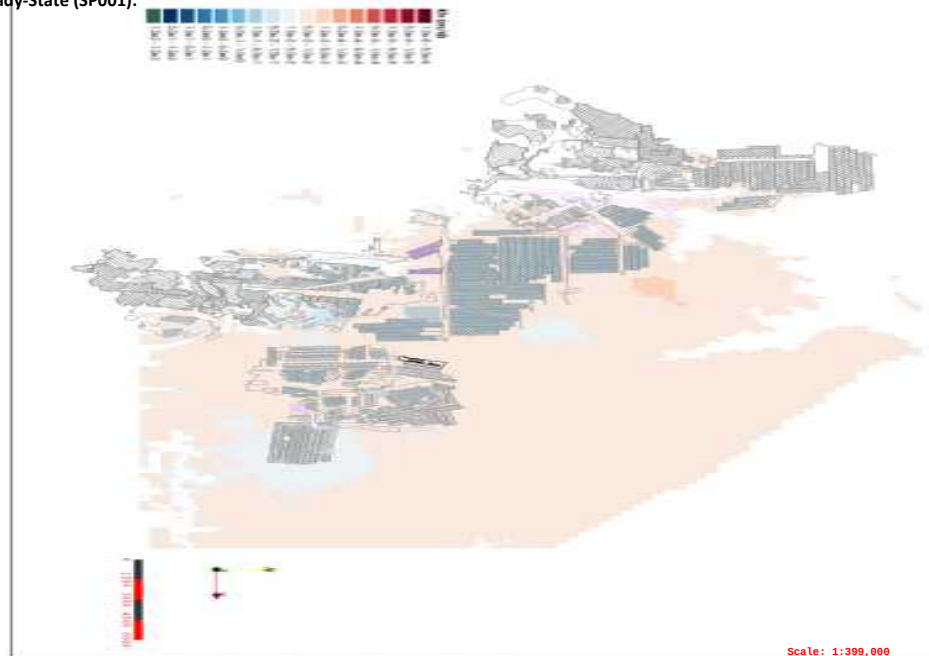
Figure E1a-15: Modelled Horizontal Hydraulic Conductivity (m/d) - Layer 15



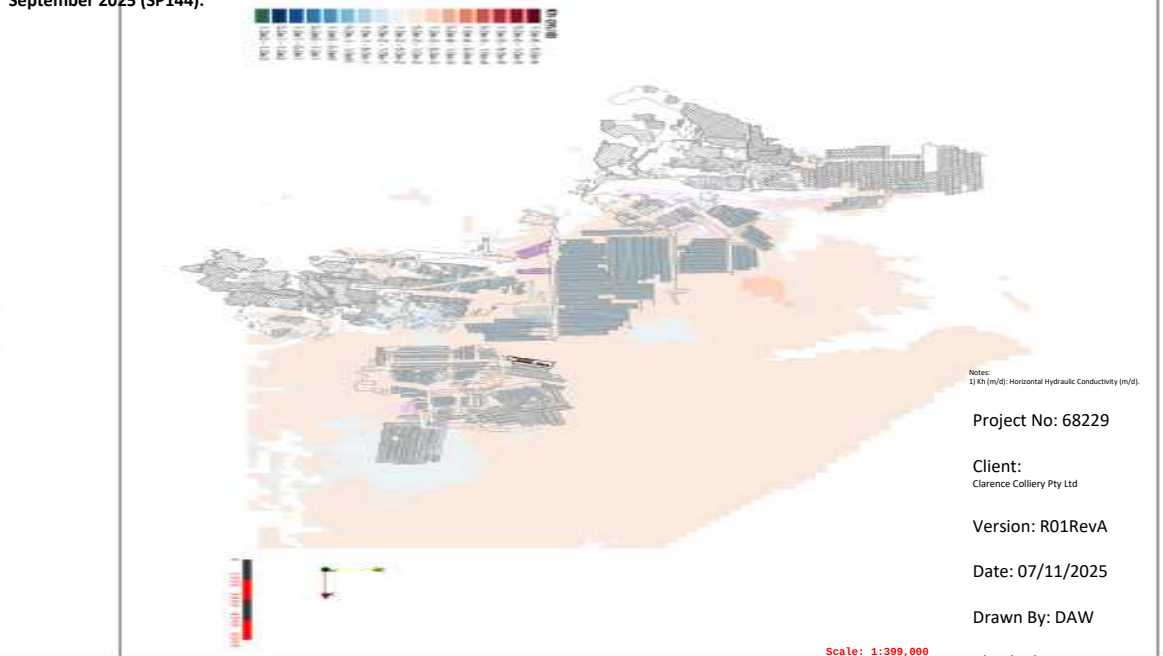
Steady-State (SP001):



September 2025 (SP144):



September 2026 (SP148):



December 2049 (SP241):

Legend

Mining Methods:

- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:

- Approved
- Existing
- Proposed
- Other Proposed

Notes:
1) Kh (m/d): Horizontal Hydraulic Conductivity (m/d).

Project No: 68229

Client:
Clarence Colliery Pty Ltd

Version: R01RevA

Date: 07/11/2025

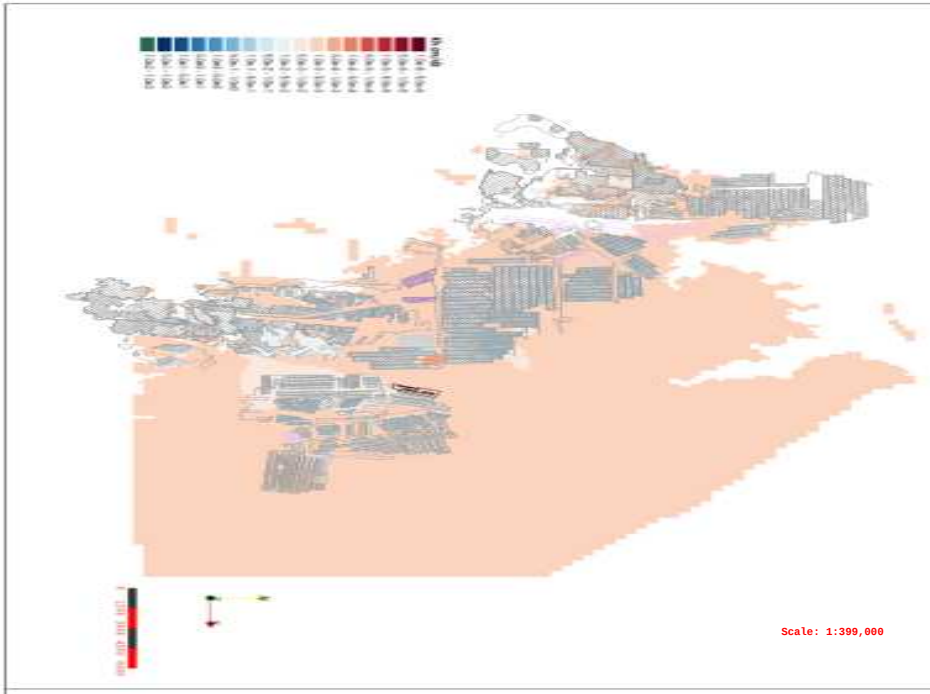
Drawn By: DAW

Checked By: JRWB

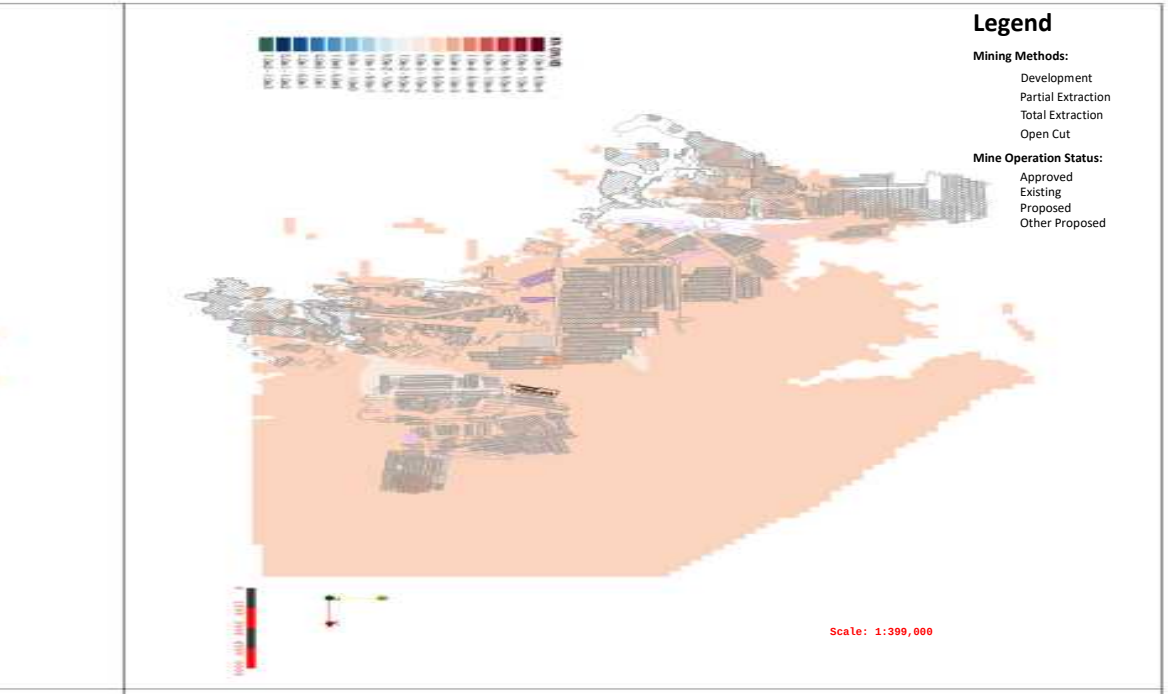
File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D056_Plan_Kh\68229_R01RevA_D056_Plan_Kh_L16.grf

Reference: 68229_R01RevA_PRO_02a

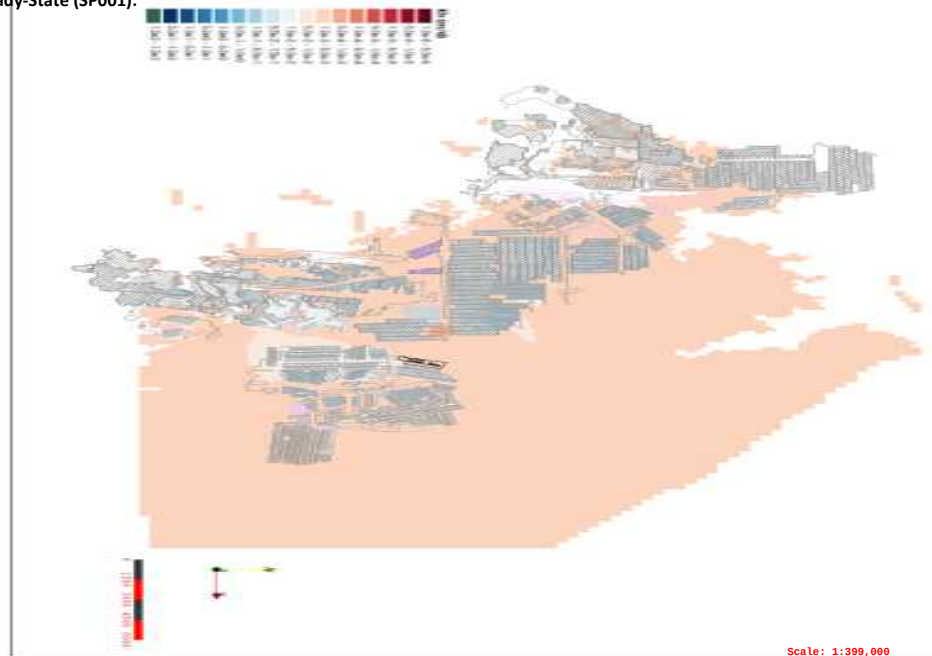
Figure E1a-16: Modelled Horizontal Hydraulic Conductivity (m/d) - Layer 16



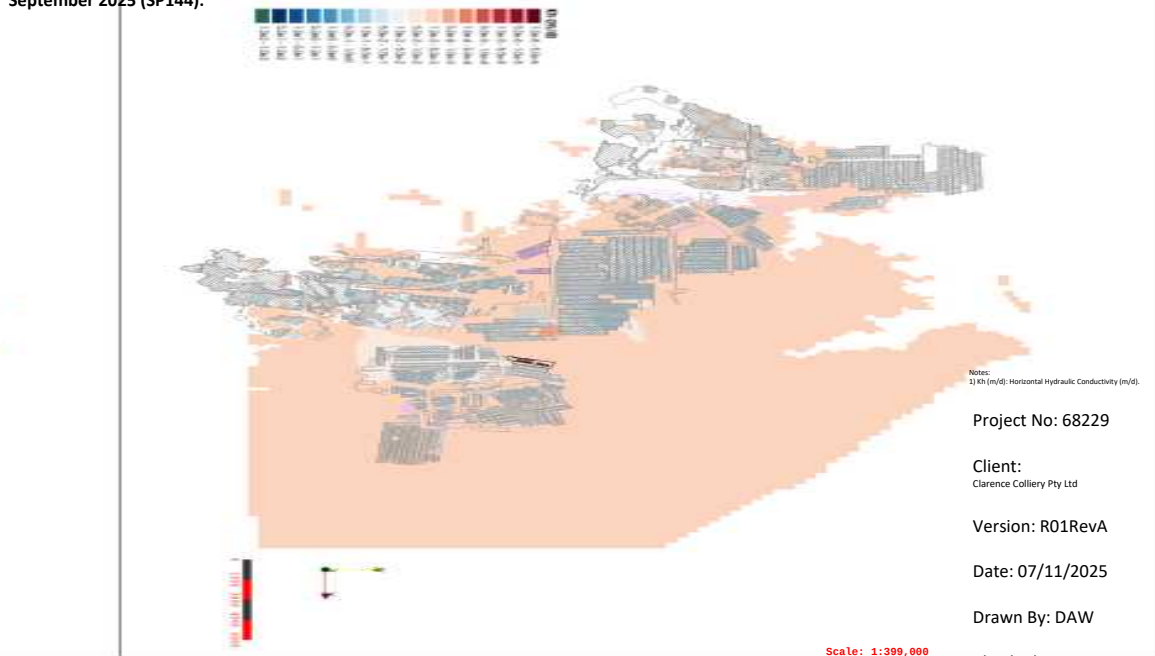
Steady-State (SP001):



September 2025 (SP144):



September 2026 (SP148):



December 2049 (SP241):

Legend

Mining Methods:

- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:

- Approved
- Existing
- Proposed
- Other Proposed

Notes:
1) Kh (m/d): Horizontal Hydraulic Conductivity (m/d).

Project No: 68229

Client:
Clarence Colliery Pty Ltd

Version: R01RevA

Date: 07/11/2025

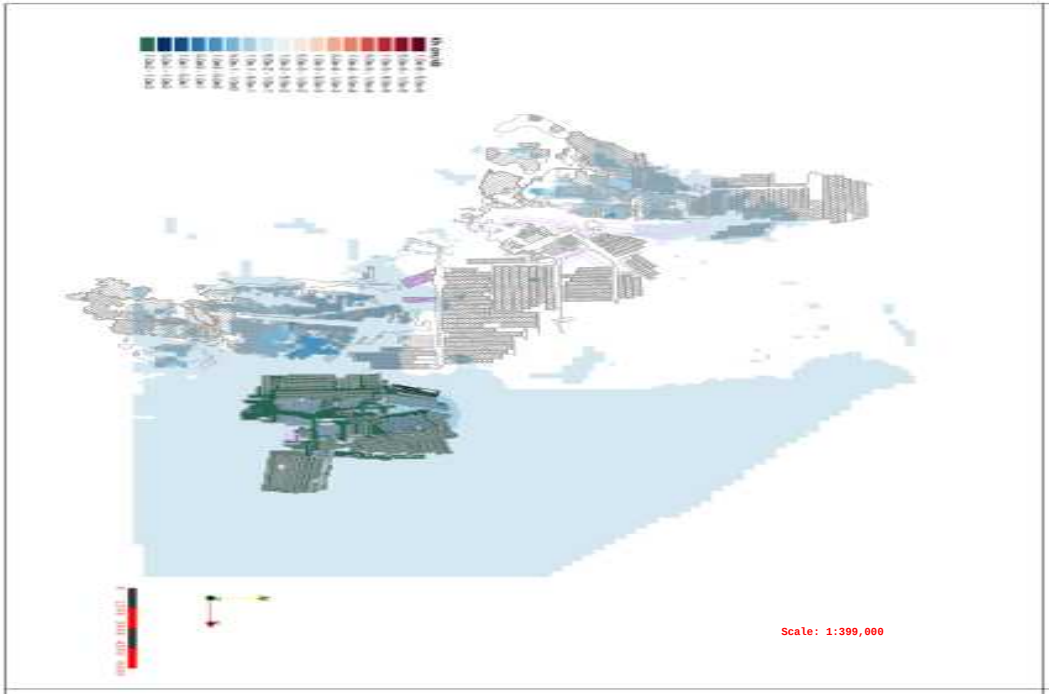
Drawn By: DAW

Checked By: JRWB

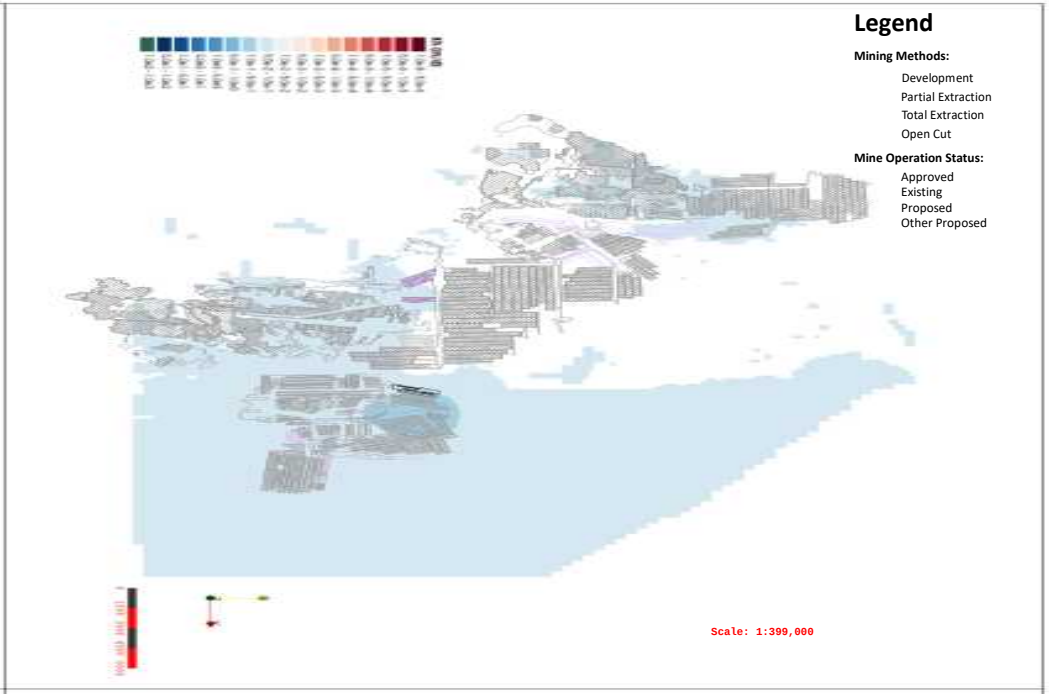
File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D056_Plan_Kh\68229_R01RevA_D056_Plan_Kh_L17.grf

Reference: 68229_R01RevA_PRO_02a

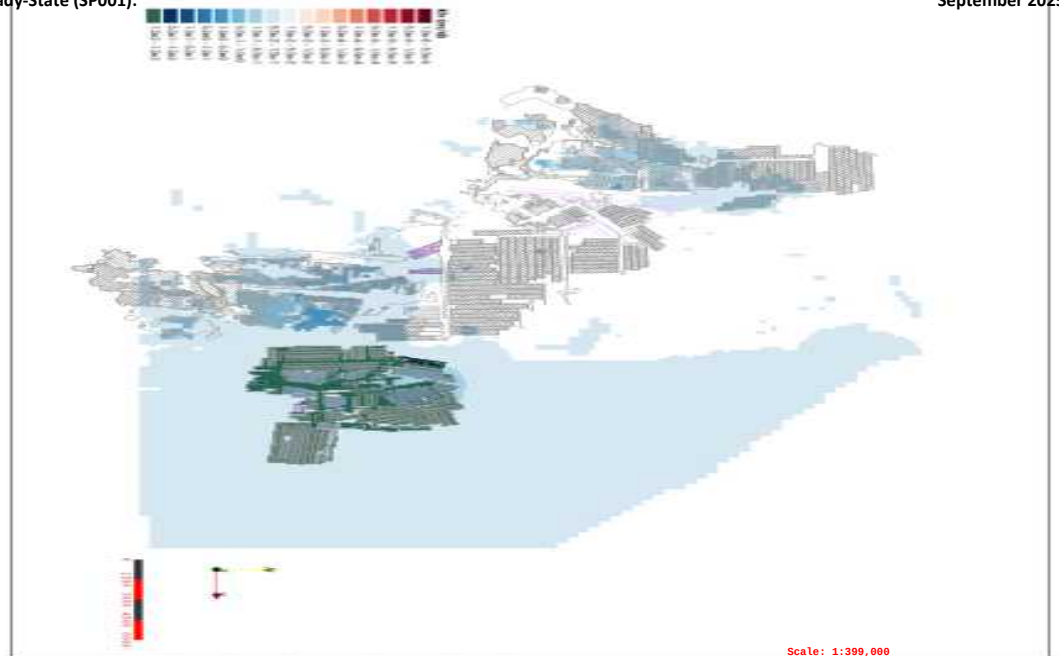
Figure E1a-17: Modelled Horizontal Hydraulic Conductivity (m/d) - Layer 17



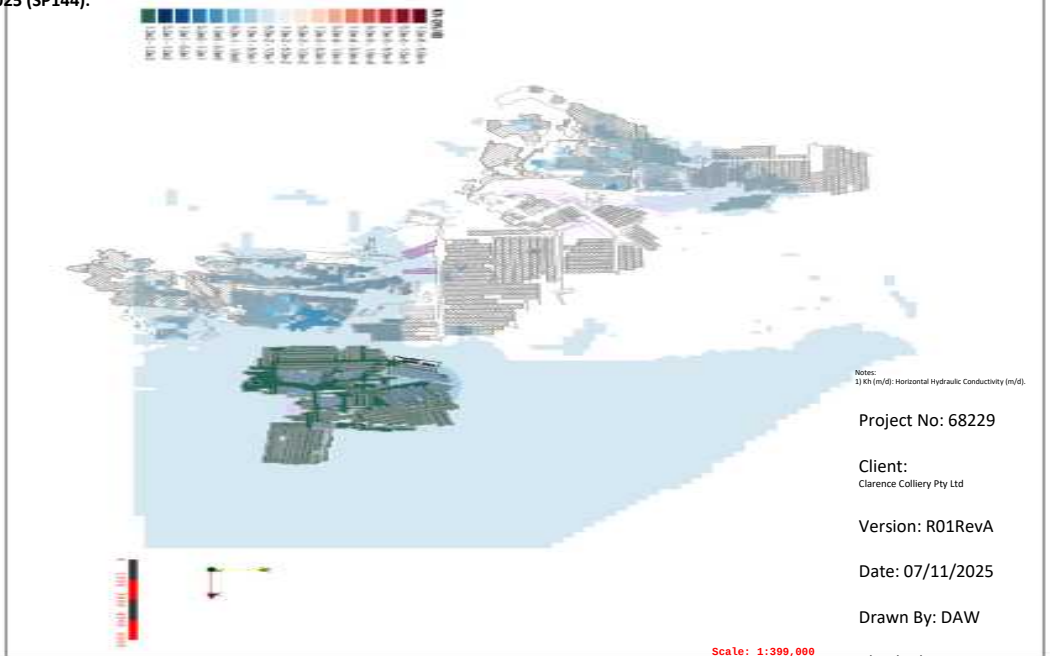
Steady-State (SP001):



September 2025 (SP144):



September 2026 (SP148):



December 2049 (SP241):

Legend

Mining Methods:

- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:

- Approved
- Existing
- Proposed
- Other Proposed

Notes:
1) Kh (m/d): Horizontal Hydraulic Conductivity (m/d).

Project No: 68229

Client:
Clarence Colliery Pty Ltd

Version: R01RevA

Date: 07/11/2025

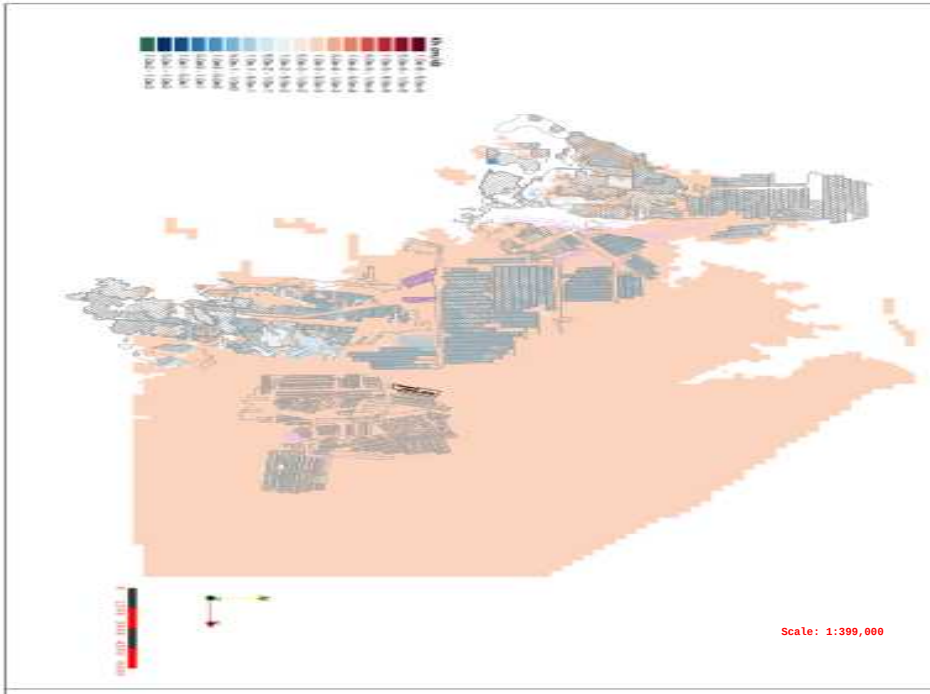
Drawn By: DAW

Checked By: JRWB

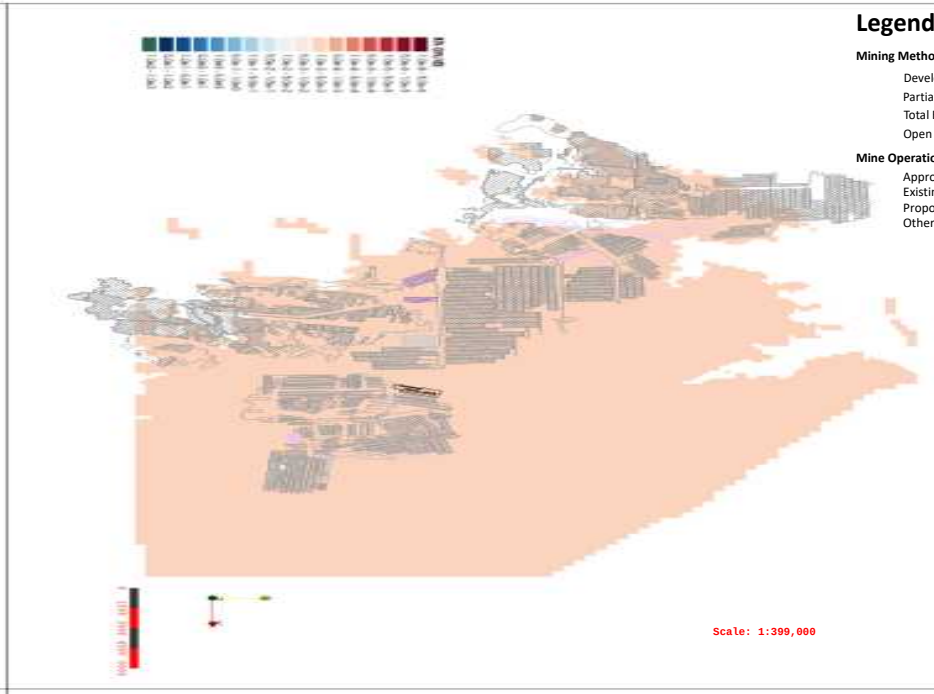
File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D056_Plan_Kh\68229_R01RevA_D056_Plan_Kh_L18.grf

Reference: 68229_R01RevA_PRO_02a

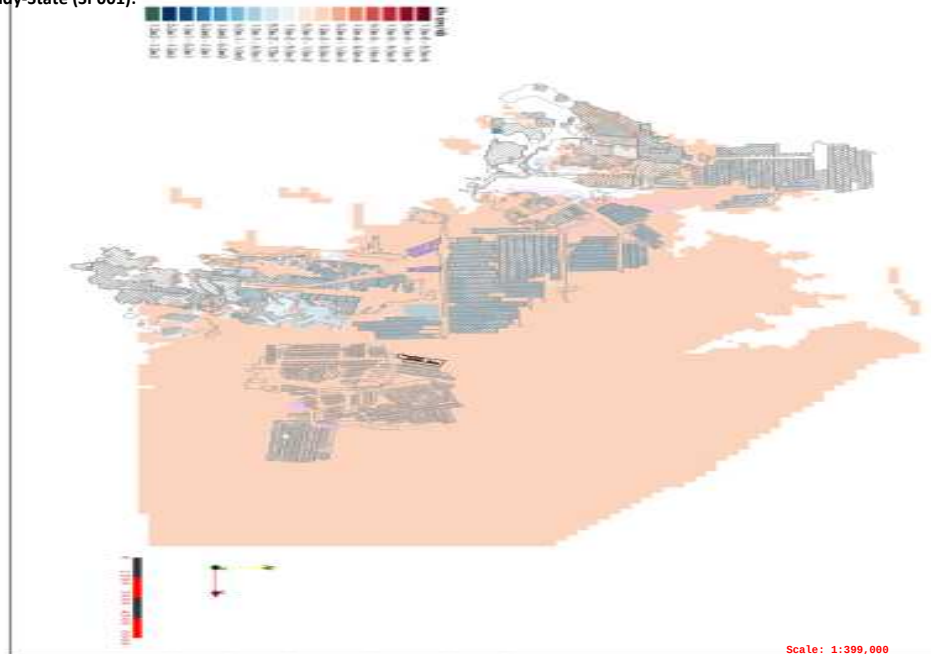
Figure E1a-18: Modelled Horizontal Hydraulic Conductivity (m/d) - Layer 18



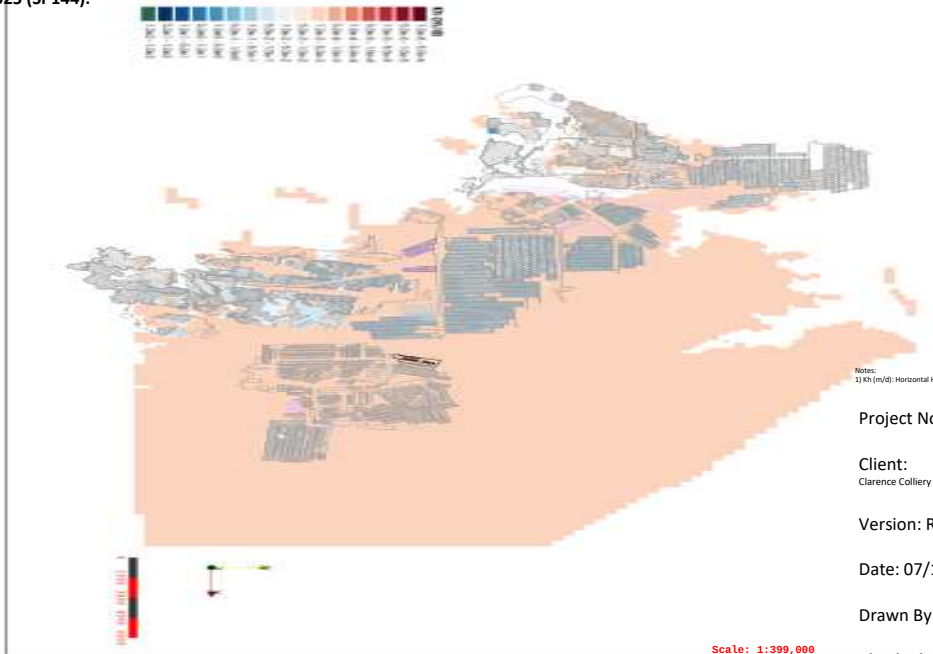
Steady-State (SP001):



September 2025 (SP144):



September 2026 (SP148):



December 2049 (SP241):

Legend

Mining Methods:

- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:

- Approved
- Existing
- Proposed
- Other Proposed

Notes:
1) Kh (m/d): Horizontal Hydraulic Conductivity (m/d).

Project No: 68229

Client:
Clarence Colliery Pty Ltd

Version: R01RevA

Date: 07/11/2025

Drawn By: DAW

Checked By: JRWB

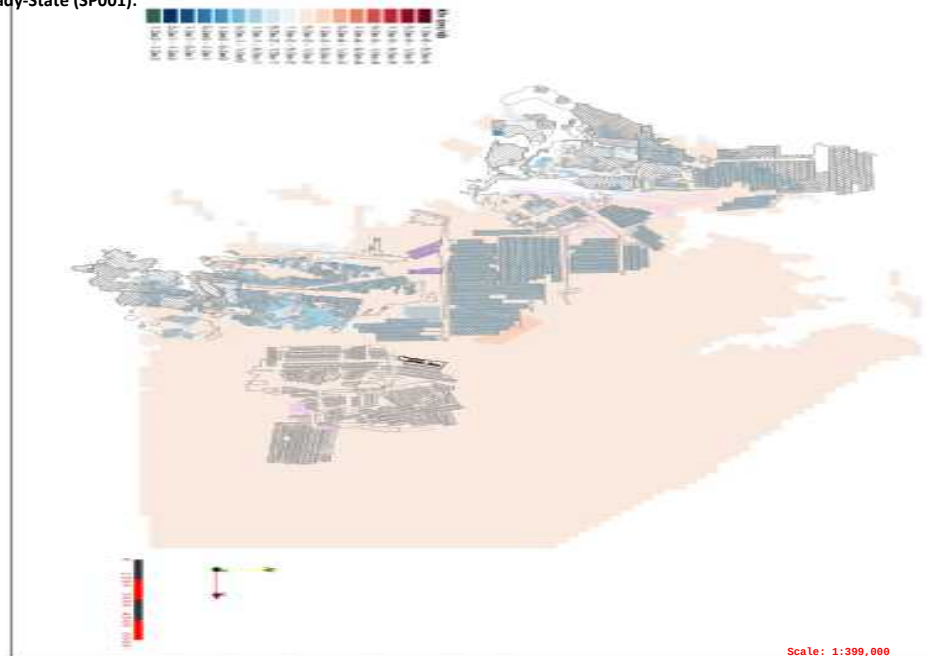
File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D056_Plan_Kh\68229_R01RevA_D056_Plan_Kh_L19.grf

Reference: 68229_R01RevA_PRO_02a

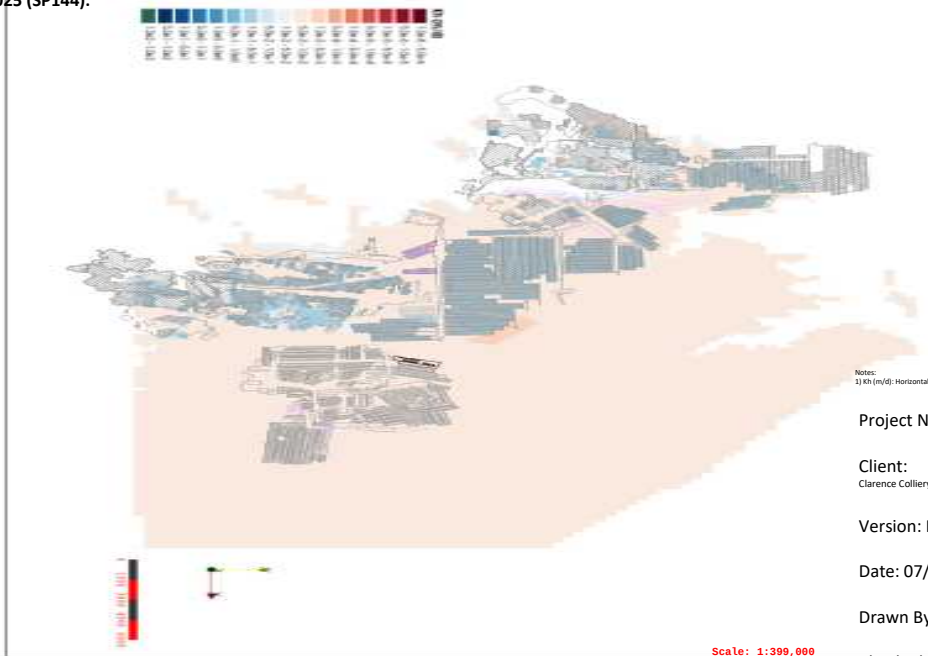
Figure E1a-19: Modelled Horizontal Hydraulic Conductivity (m/d) - Layer 19

Steady-State (SP001):

September 2025 (SP144):



September 2026 (SP148):



December 2049 (SP241):

Legend

Mining Methods:

- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:

- Approved
- Existing
- Proposed
- Other Proposed

Notes:
1) Kh (m/d): Horizontal Hydraulic Conductivity (m/d).

Project No: 68229

Client:
Clarence Colliery Pty Ltd

Version: R01RevA

Date: 07/11/2025

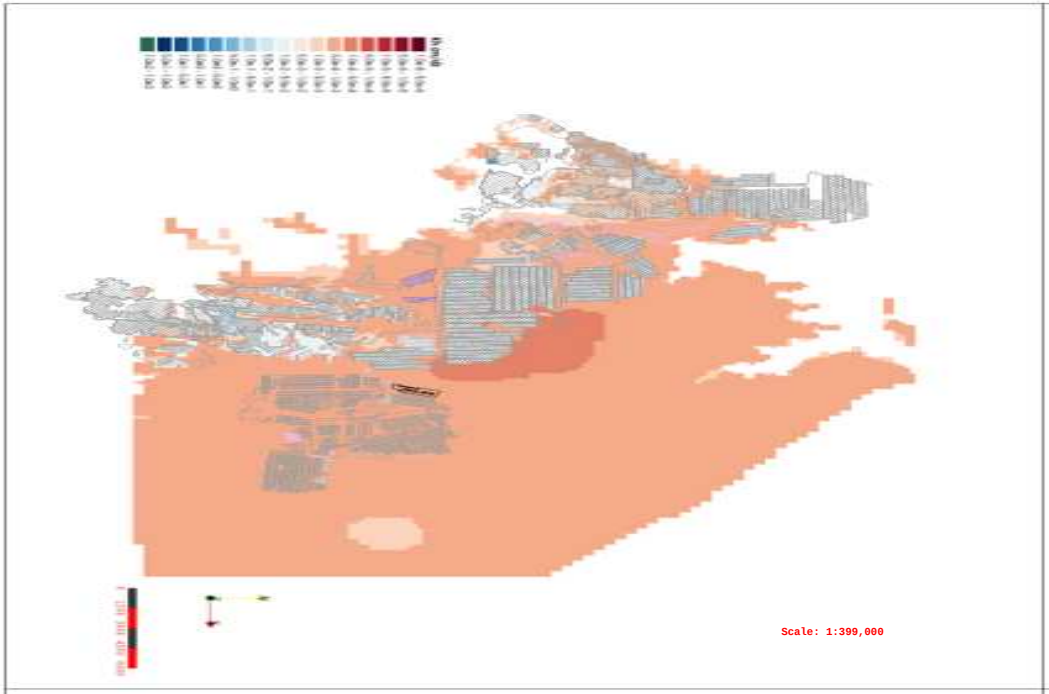
Drawn By: DAW

Checked By: JRWB

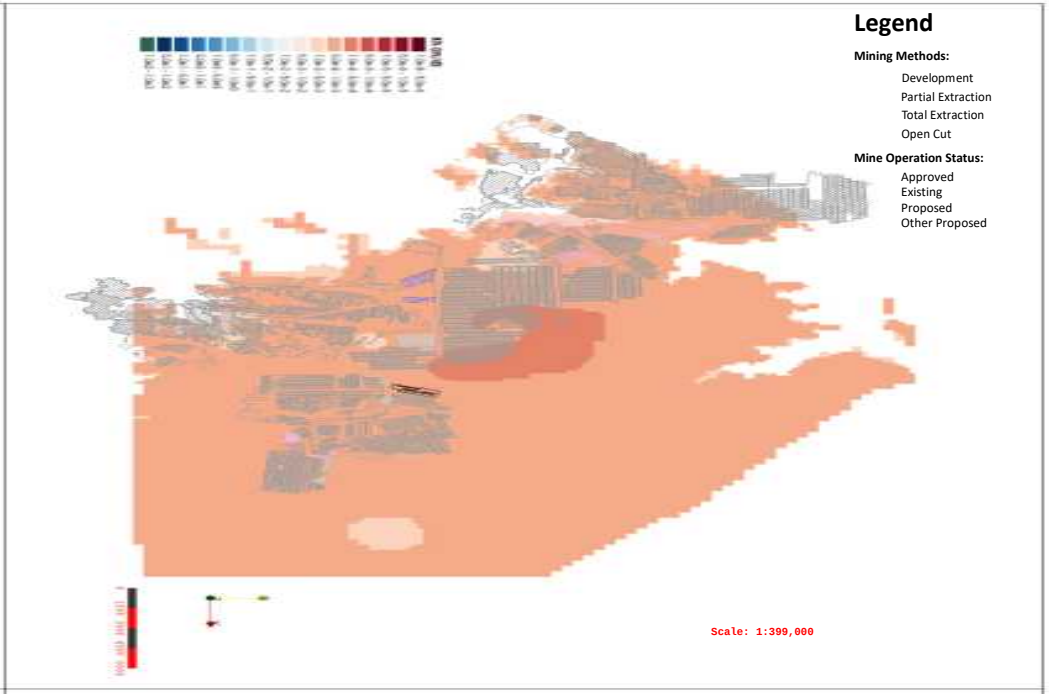
File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D056_Plan_Kh\68229_R01RevA_D056_Plan_Kh_L20.grf

Reference: 68229_R01RevA_PRO_02a

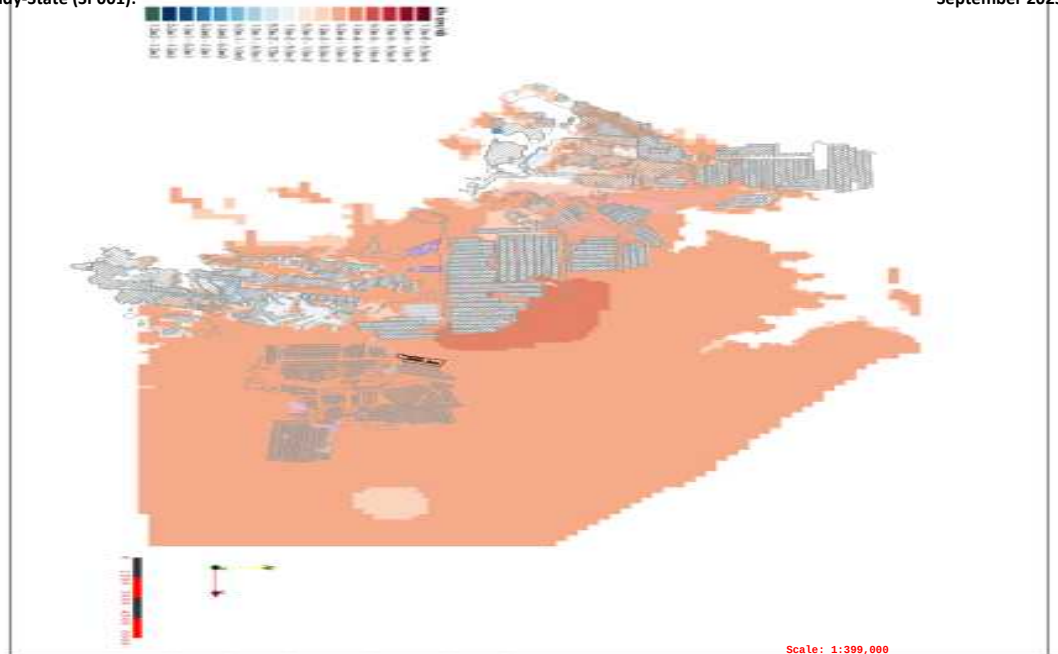
Figure E1a-02: Modelled Horizontal Hydraulic Conductivity (m/d) - Layer 20



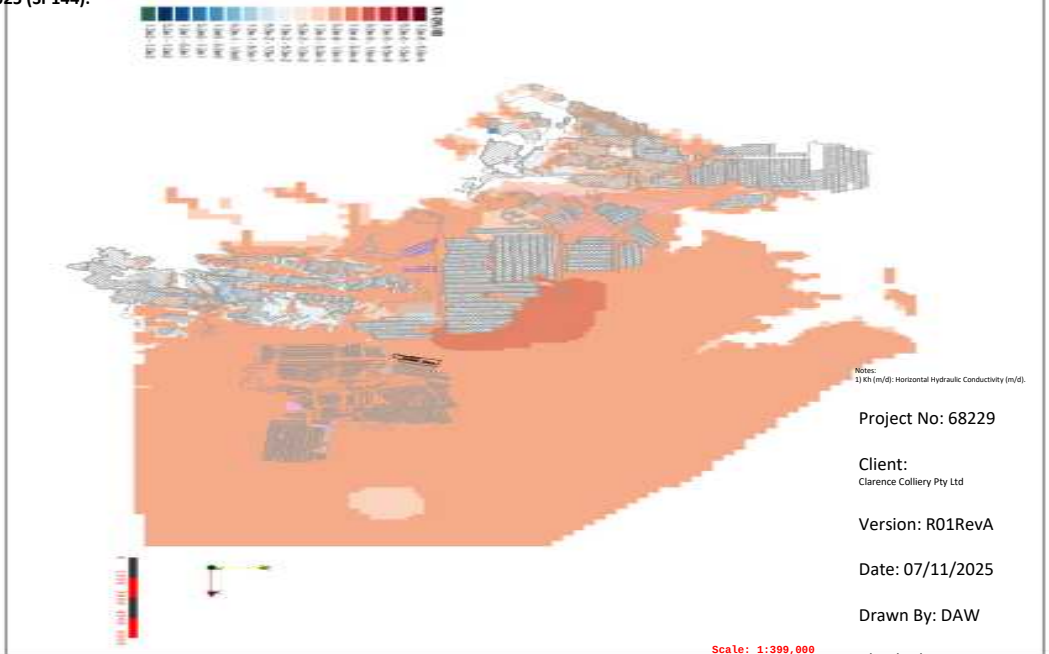
Steady-State (SP001):



September 2025 (SP144):



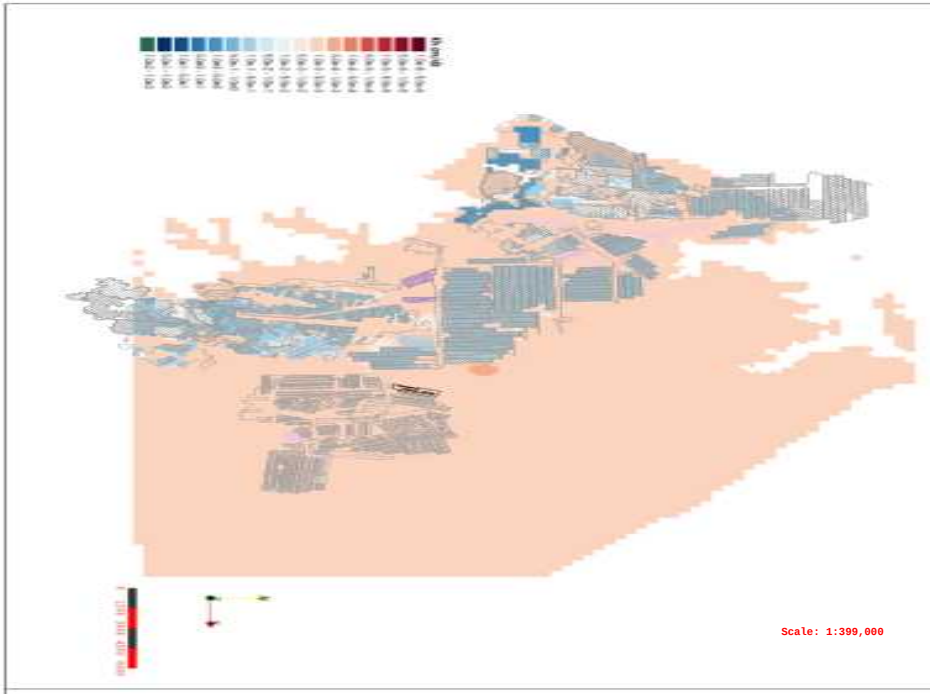
September 2026 (SP148):



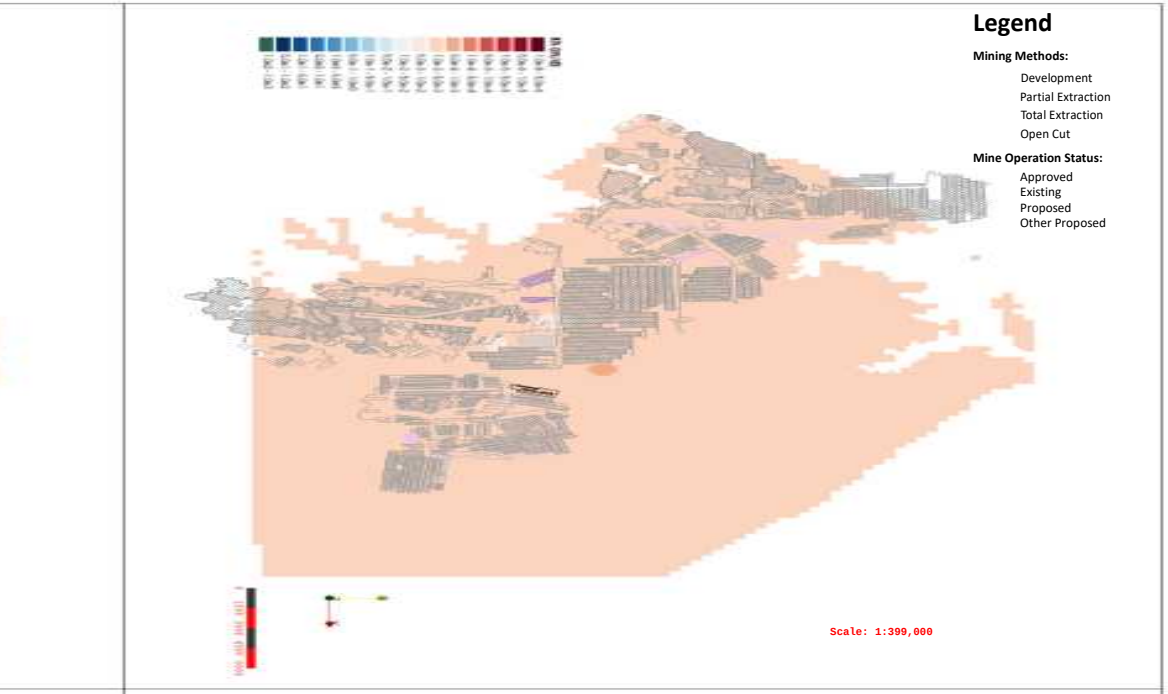
December 2049 (SP241):

File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D056_Plan_Kh\68229_R01RevA_D056_Plan_Kh_L21.grf
Reference: 68229_R01RevA_PRO_02a

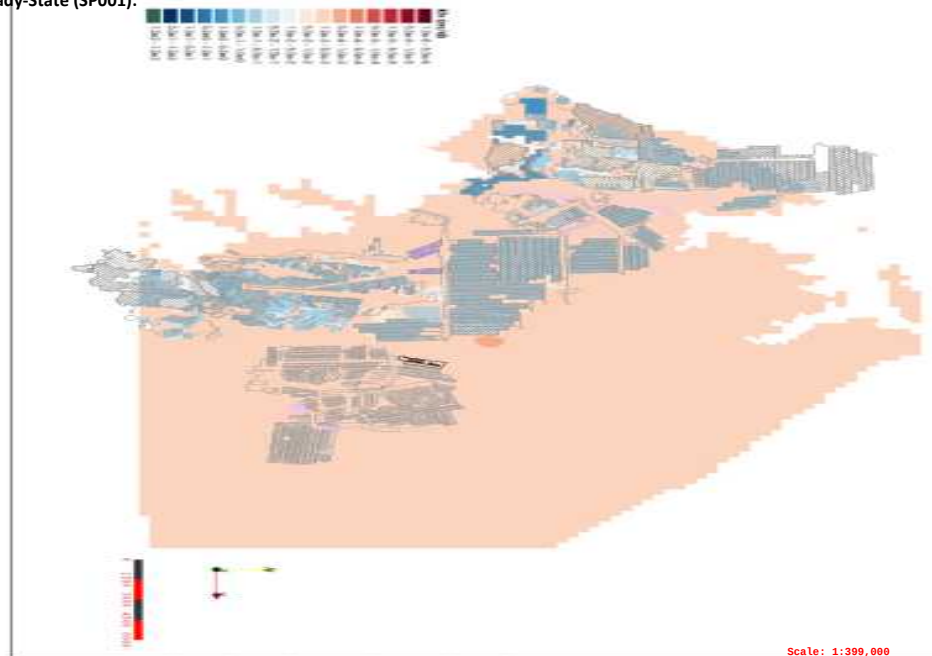
Figure E1a-21: Modelled Horizontal Hydraulic Conductivity (m/d) - Layer 21



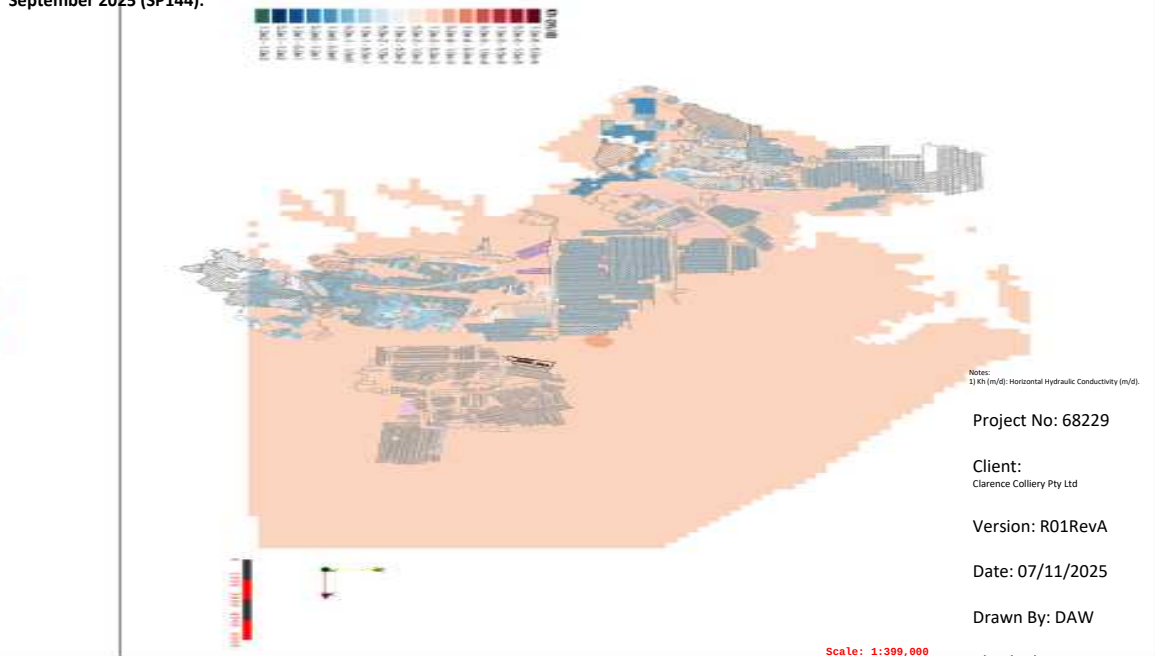
Steady-State (SP001):



September 2025 (SP144):



September 2026 (SP148):



December 2049 (SP241):

Legend

Mining Methods:

- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:

- Approved
- Existing
- Proposed
- Other Proposed

Notes:
1) Kh (m/d): Horizontal Hydraulic Conductivity (m/d).

Project No: 68229

Client:
Clarence Colliery Pty Ltd

Version: R01RevA

Date: 07/11/2025

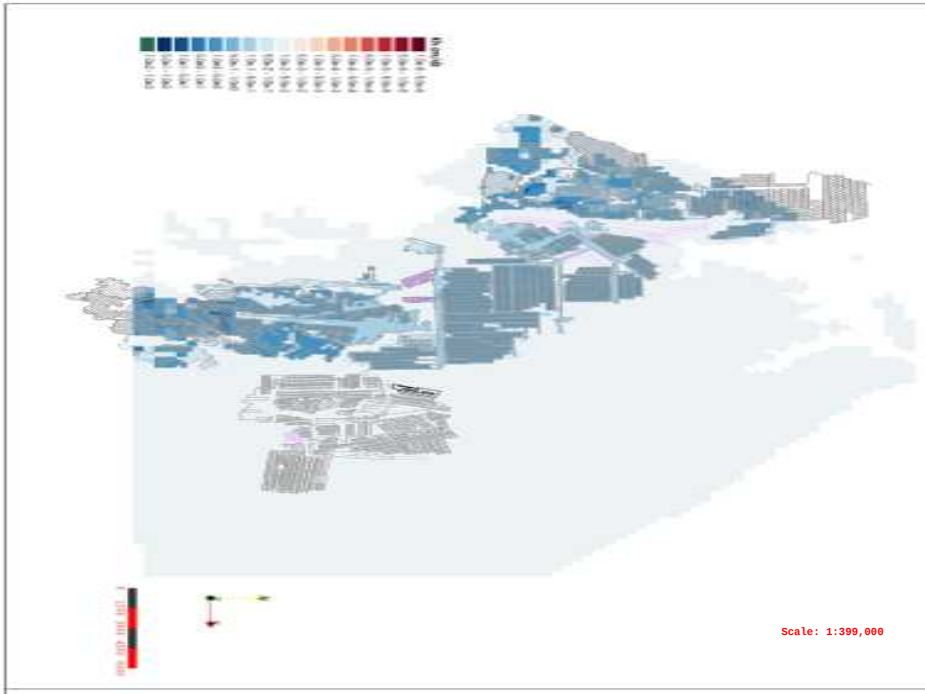
Drawn By: DAW

Checked By: JRWB

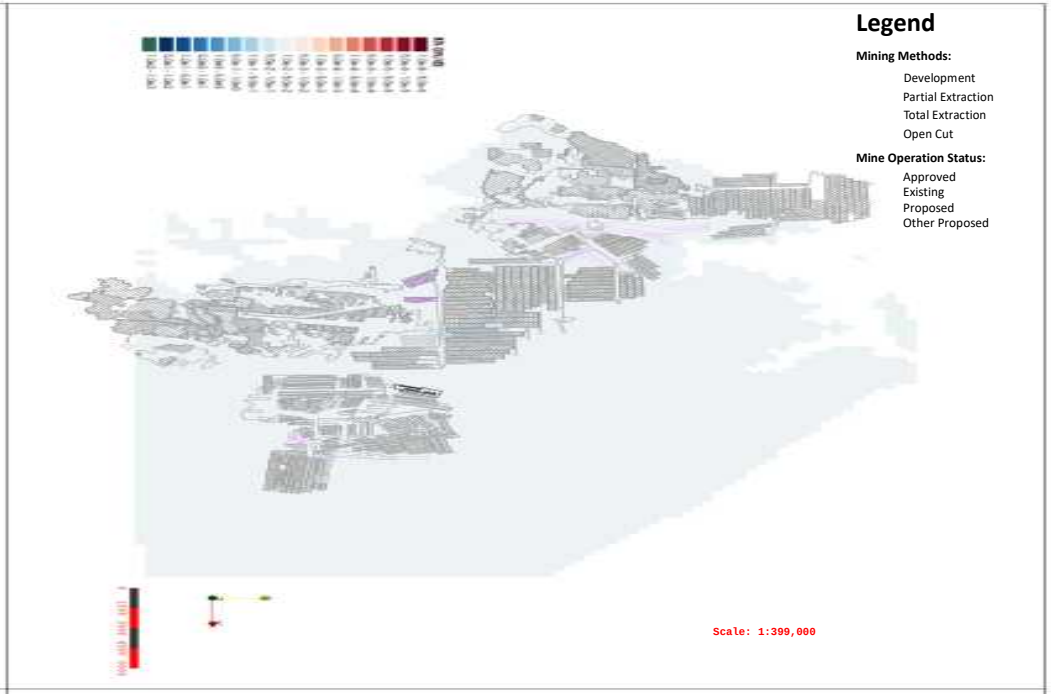
File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D056_Plan_Kh\68229_R01RevA_D056_Plan_Kh_L22.grf

Reference: 68229_R01RevA_PRO_02a

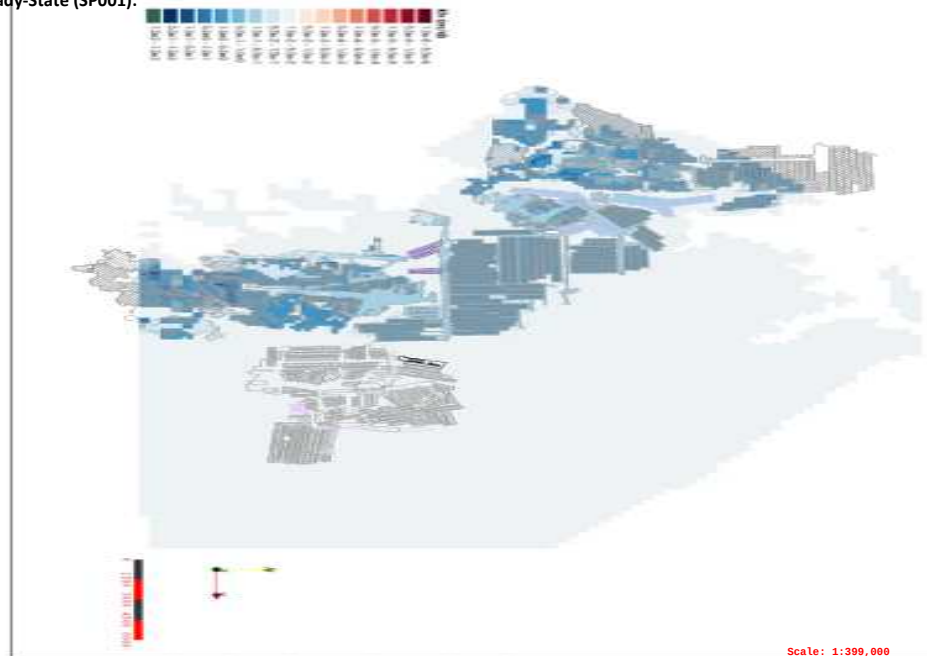
Figure E1a-22: Modelled Horizontal Hydraulic Conductivity (m/d) - Layer 22



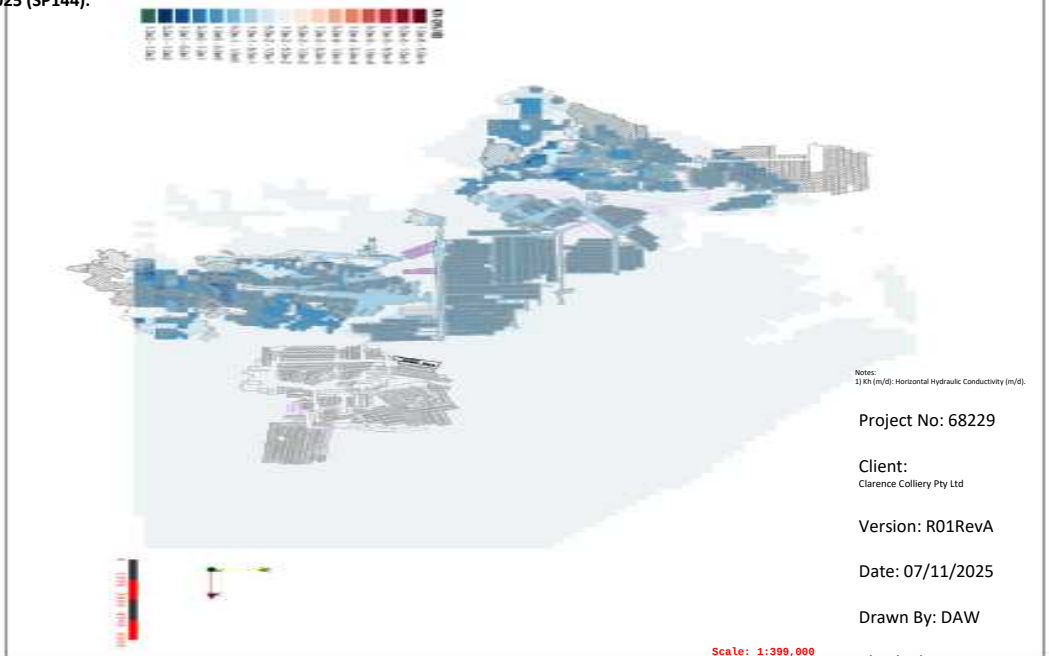
Steady-State (SP001):



September 2025 (SP144):



September 2026 (SP148):



December 2049 (SP241):

Legend

Mining Methods:

- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:

- Approved
- Existing
- Proposed
- Other Proposed

Notes:
1) Kh (m/d): Horizontal Hydraulic Conductivity (m/d).

Project No: 68229

Client:
Clarence Colliery Pty Ltd

Version: R01RevA

Date: 07/11/2025

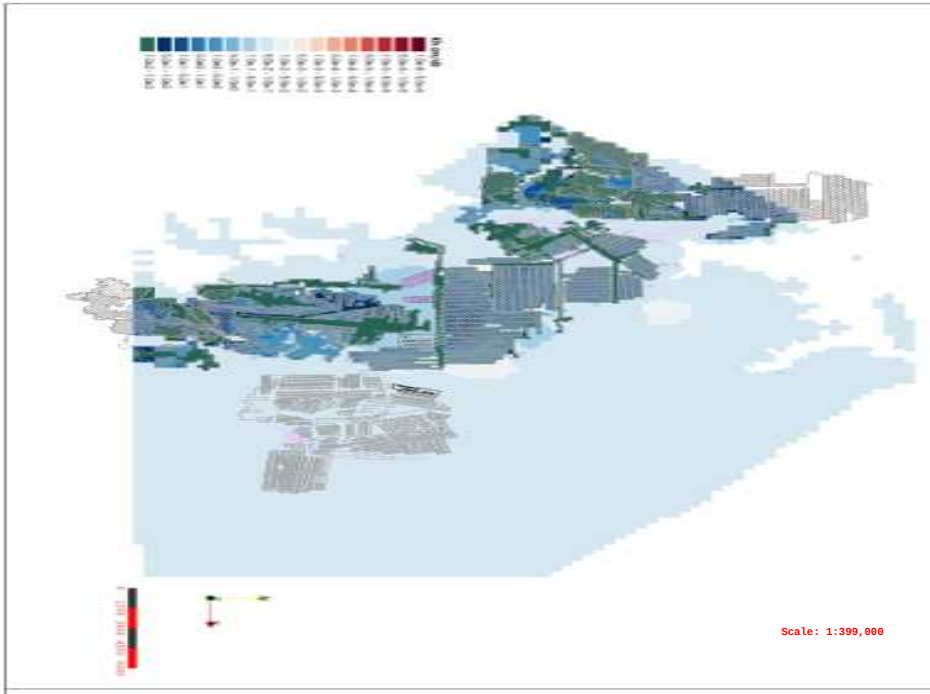
Drawn By: DAW

Checked By: JRWB

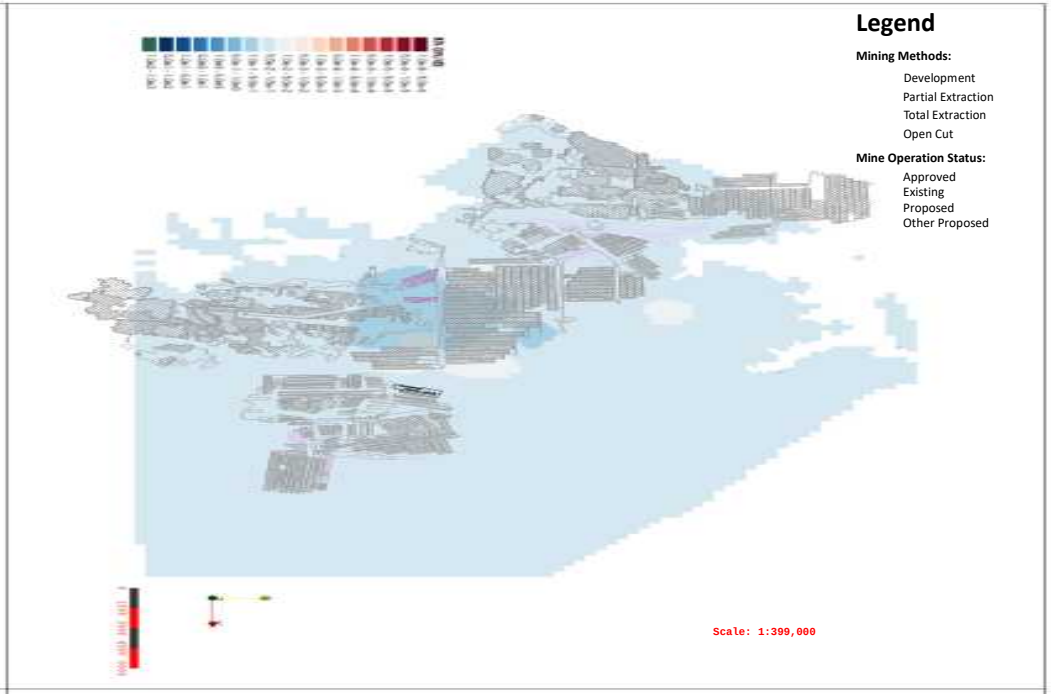
File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D056_Plan_Kh\68229_R01RevA_D056_Plan_Kh_L23.grf

Reference: 68229_R01RevA_PRO_02a

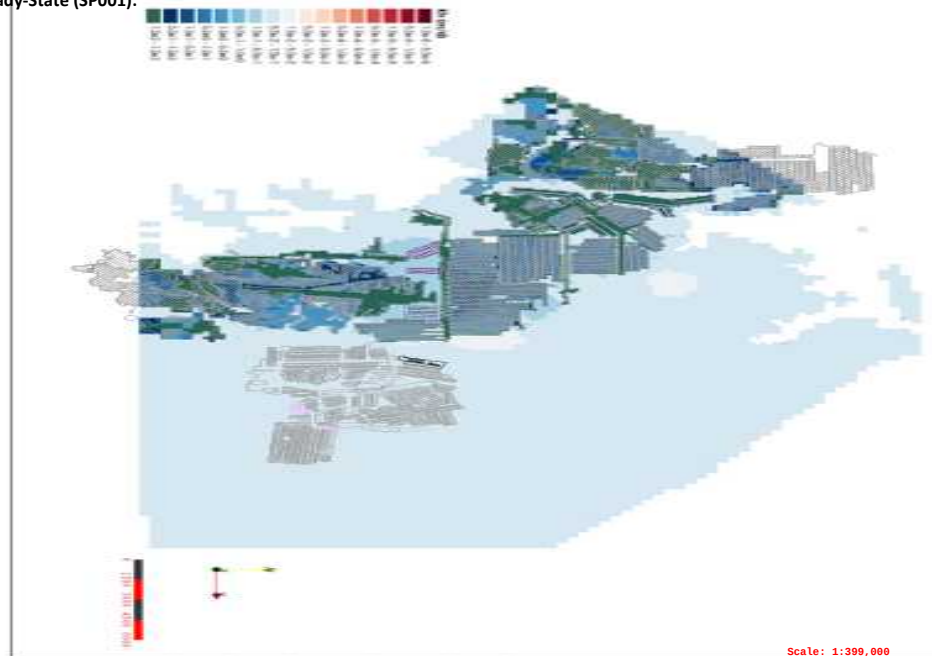
Figure E1a-23: Modelled Horizontal Hydraulic Conductivity (m/d) - Layer 23



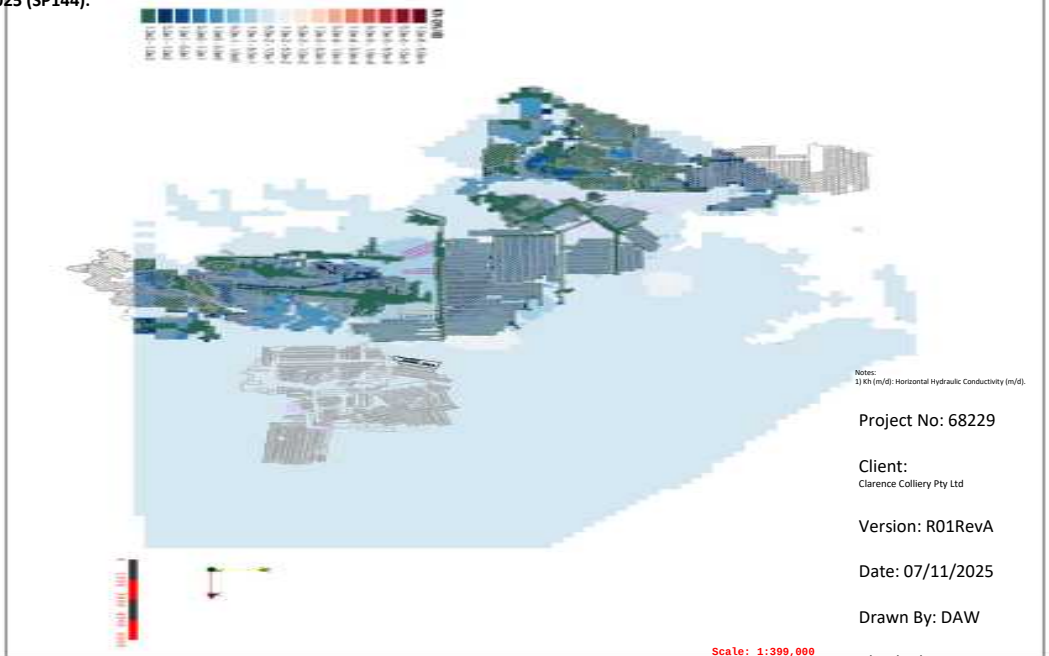
Steady-State (SP001):



September 2025 (SP144):



September 2026 (SP148):



December 2049 (SP241):

Legend

Mining Methods:

- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:

- Approved
- Existing
- Proposed
- Other Proposed

Notes:
1) Kh (m/d): Horizontal Hydraulic Conductivity (m/d).

Project No: 68229

Client:
Clarence Colliery Pty Ltd

Version: R01RevA

Date: 07/11/2025

Drawn By: DAW

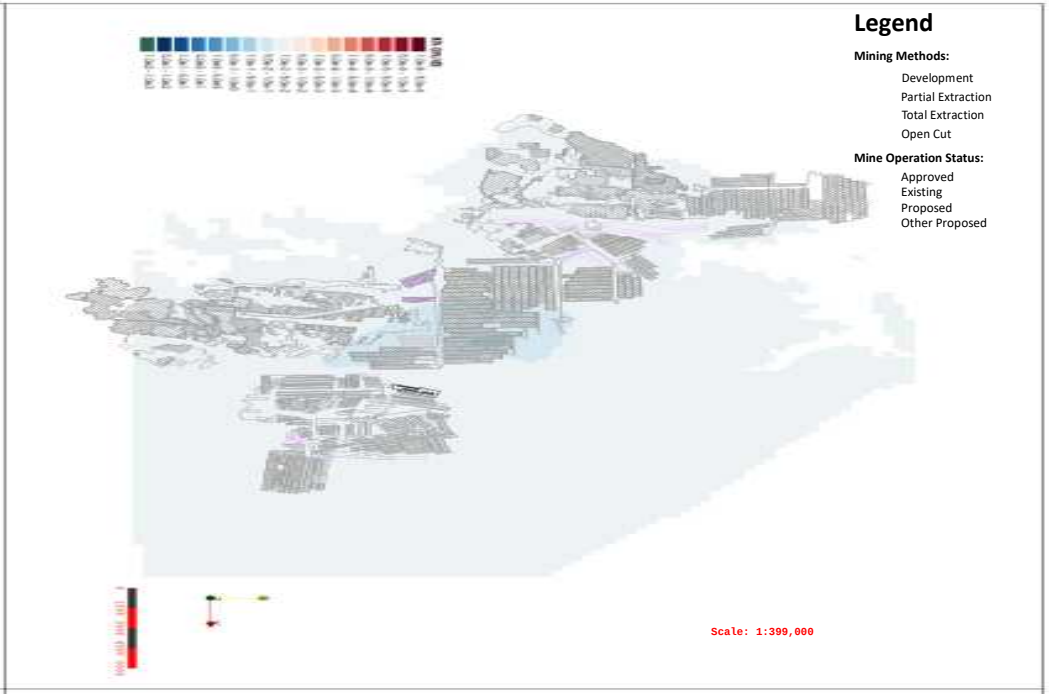
Checked By: JRWB

File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D056_Plan_Kh\68229_R01RevA_D056_Plan_Kh_L24.grf

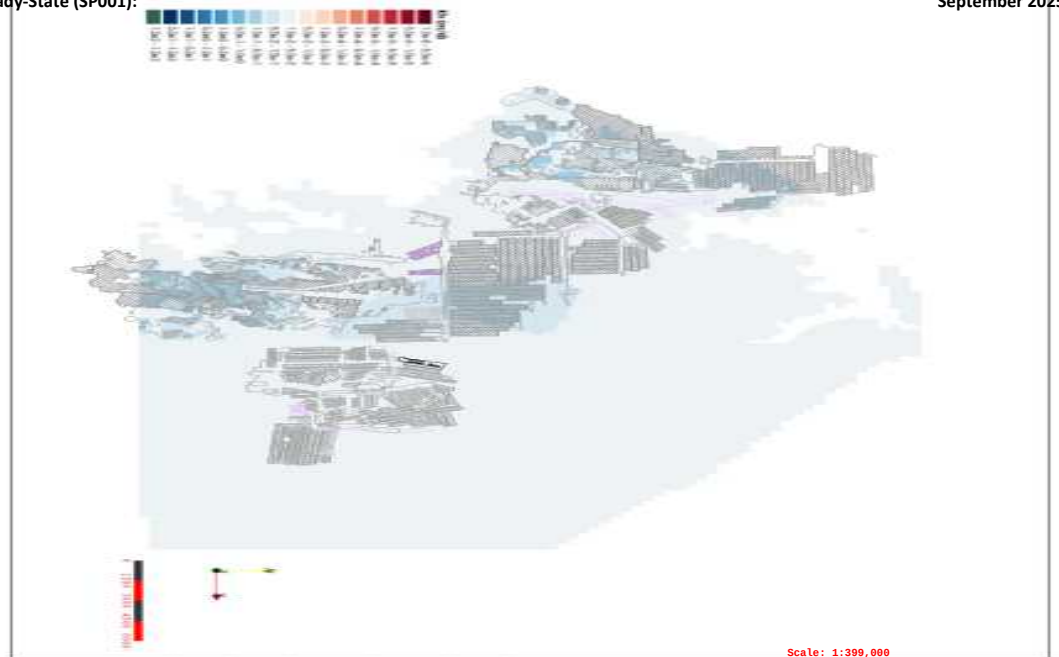
Reference: 68229_R01RevA_PRO_02a

Figure E1a-24: Modelled Horizontal Hydraulic Conductivity (m/d) - Layer 24

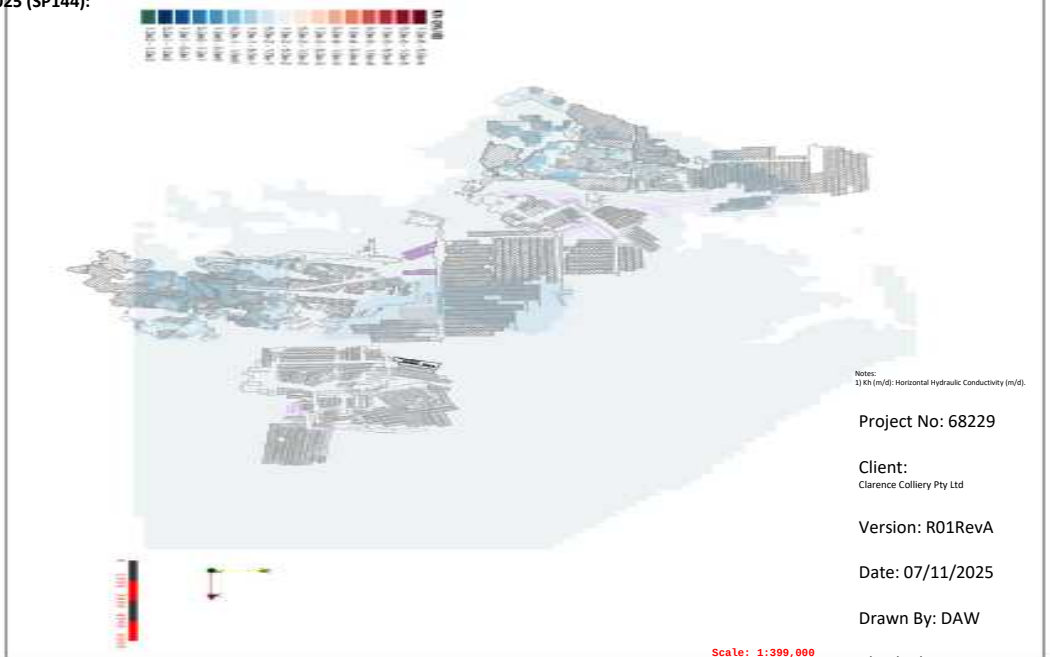
Steady-State (SP001):



September 2025 (SP144):



September 2026 (SP148):



December 2049 (SP241):

Legend

Mining Methods:

- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:

- Approved
- Existing
- Proposed
- Other Proposed

Notes:
1) Kh (m/d): Horizontal Hydraulic Conductivity (m/d).

Project No: 68229

Client:
Clarence Colliery Pty Ltd

Version: R01RevA

Date: 07/11/2025

Drawn By: DAW

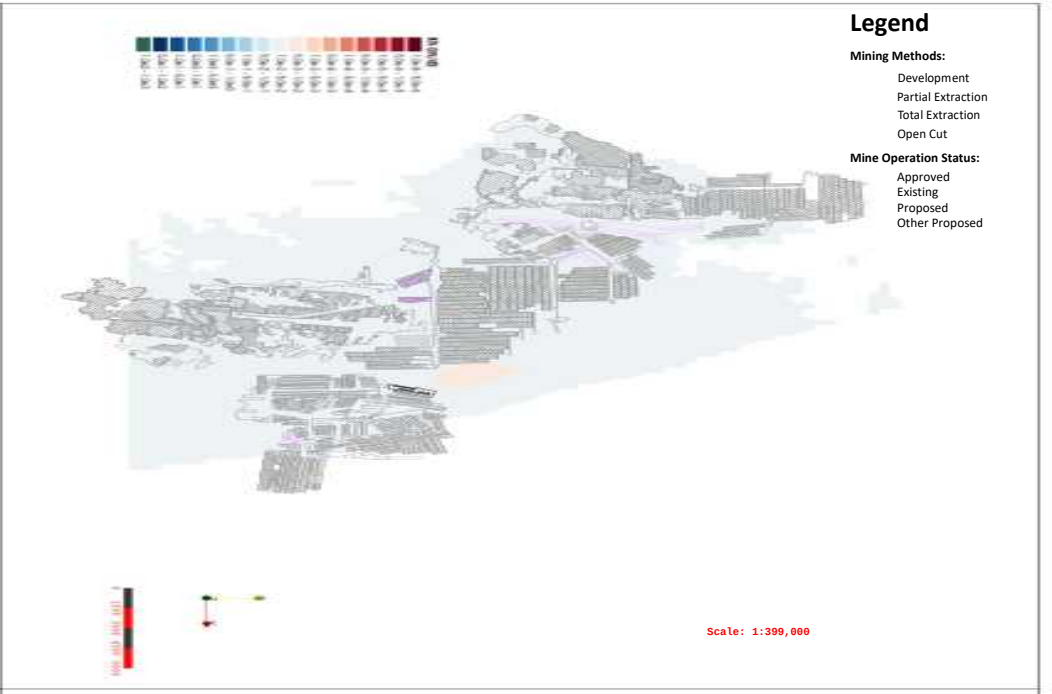
Checked By: JRWB

File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D056_Plan_Kh\68229_R01RevA_D056_Plan_Kh_L25.grf

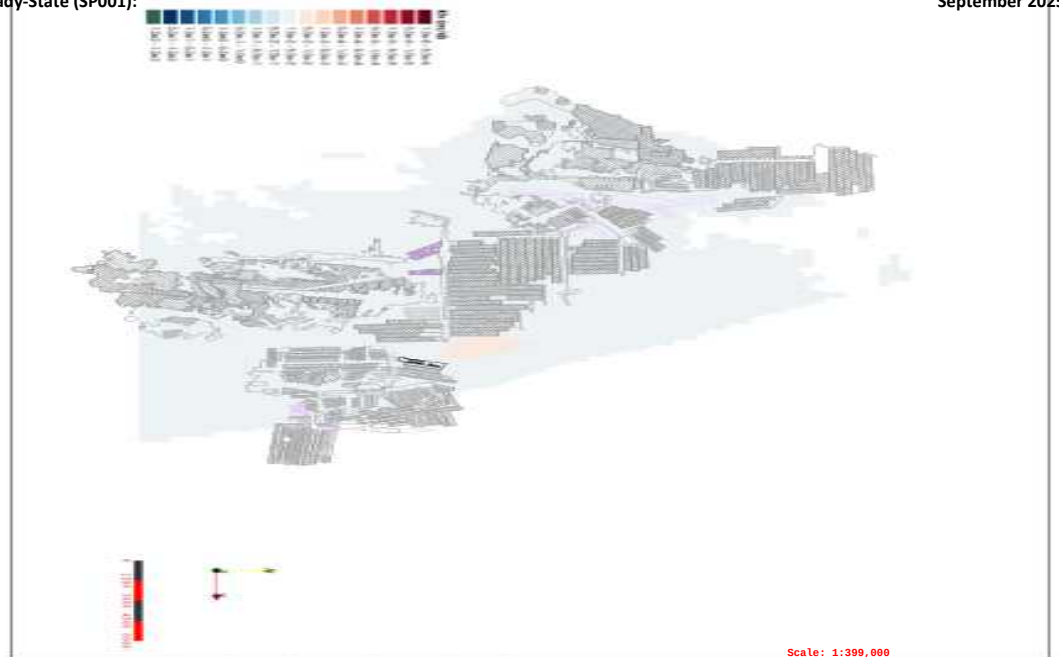
Reference: 68229_R01RevA_PRO_02a

Figure E1a-25: Modelled Horizontal Hydraulic Conductivity (m/d) - Layer 25

Steady-State (SP001):



September 2025 (SP144):



September 2026 (SP148):

December 2049 (SP241):

Legend

Mining Methods:

- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:

- Approved
- Existing
- Proposed
- Other Proposed

Notes:
1) Kh (m/d): Horizontal Hydraulic Conductivity (m/d).

Project No: 68229

Client:
Clarence Colliery Pty Ltd

Version: R01RevA

Date: 07/11/2025

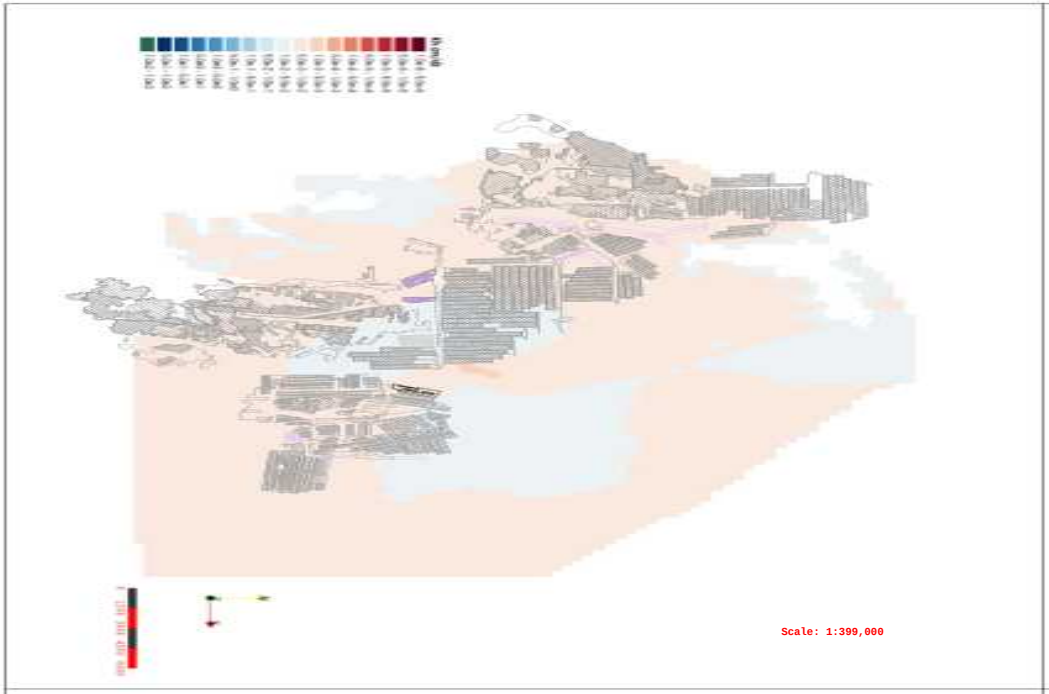
Drawn By: DAW

Checked By: JRWB

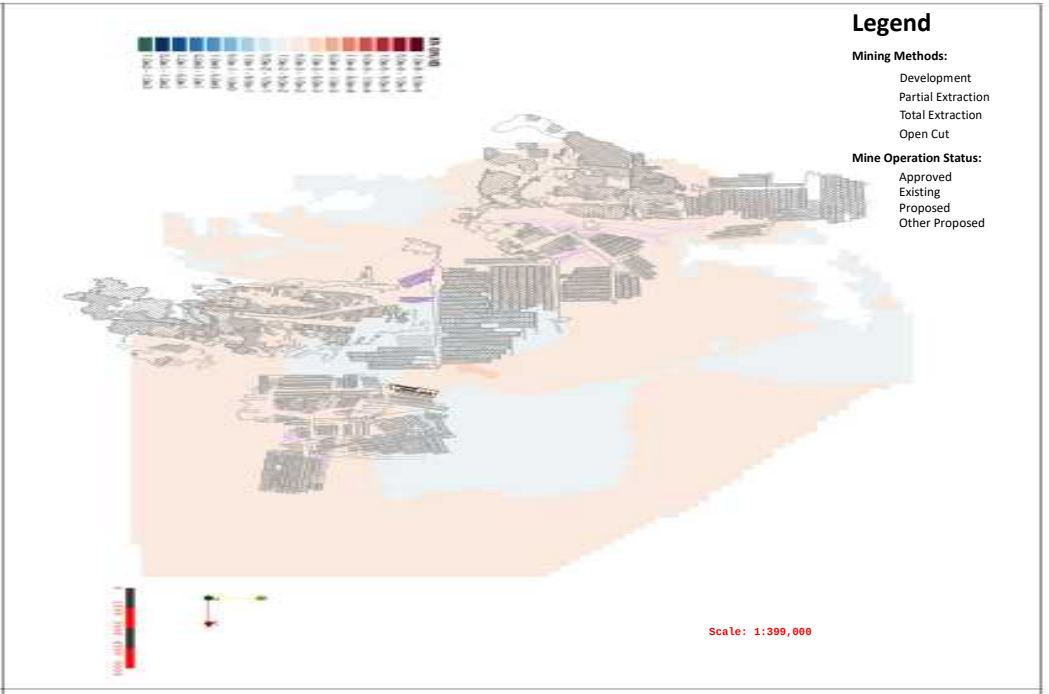
File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D056_Plan_Kh\68229_R01RevA_D056_Plan_Kh_L26.grf

Reference: 68229_R01RevA_PRO_02a

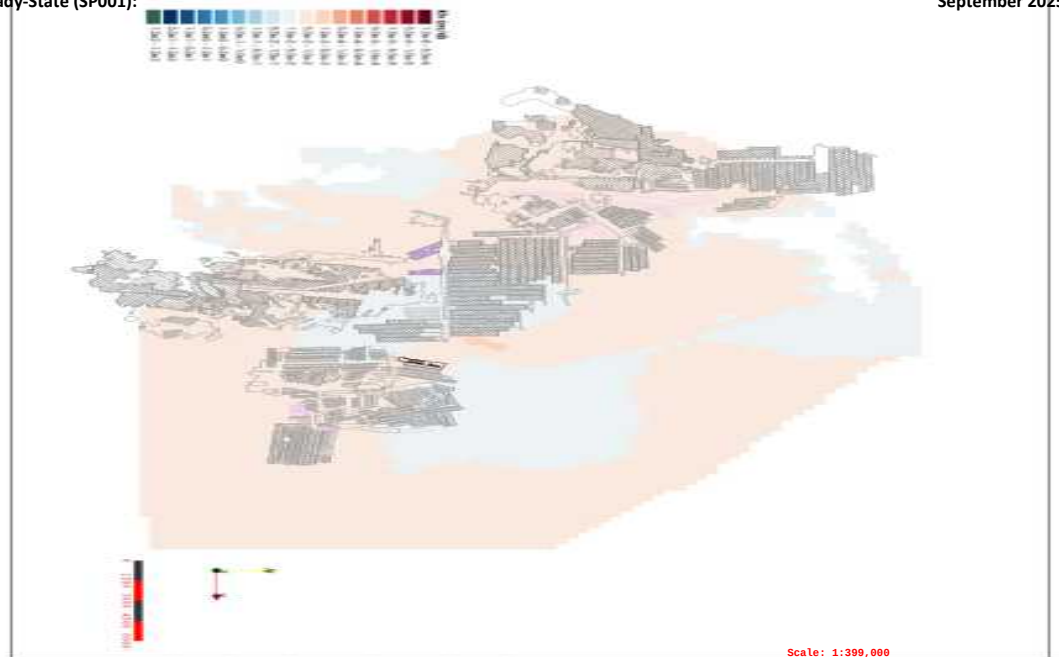
Figure E1a-26: Modelled Horizontal Hydraulic Conductivity (m/d) - Layer 26



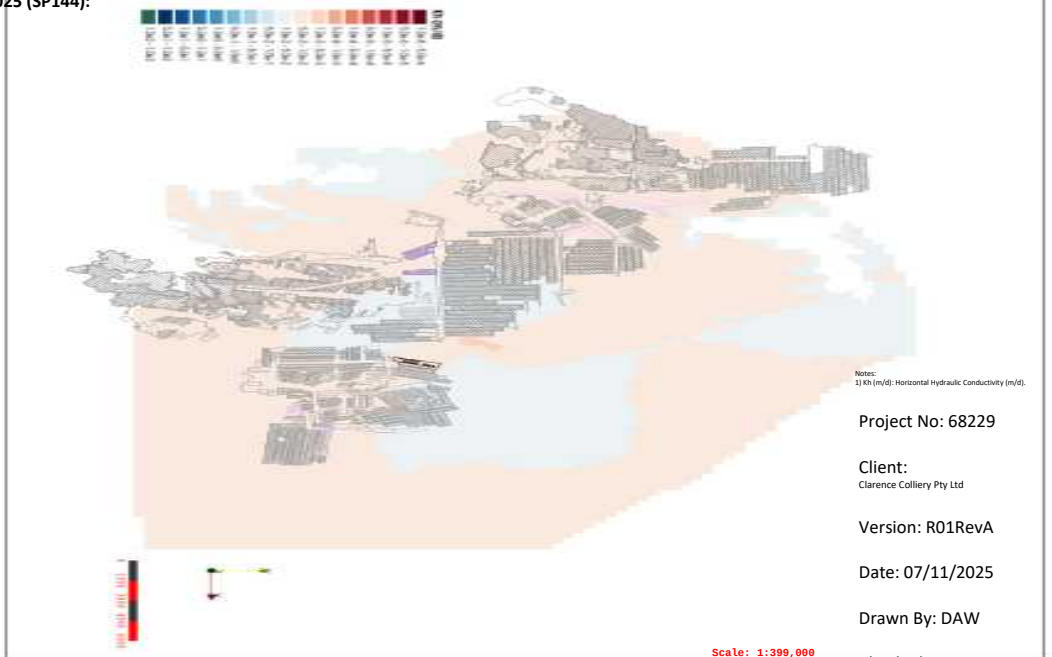
Steady-State (SP001):



September 2025 (SP144):



September 2026 (SP148):



December 2049 (SP241):

Legend

Mining Methods:

- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:

- Approved
- Existing
- Proposed
- Other Proposed

Notes:
1) Kh (m/d): Horizontal Hydraulic Conductivity (m/d).

Project No: 68229

Client:
Clarence Colliery Pty Ltd

Version: R01RevA

Date: 07/11/2025

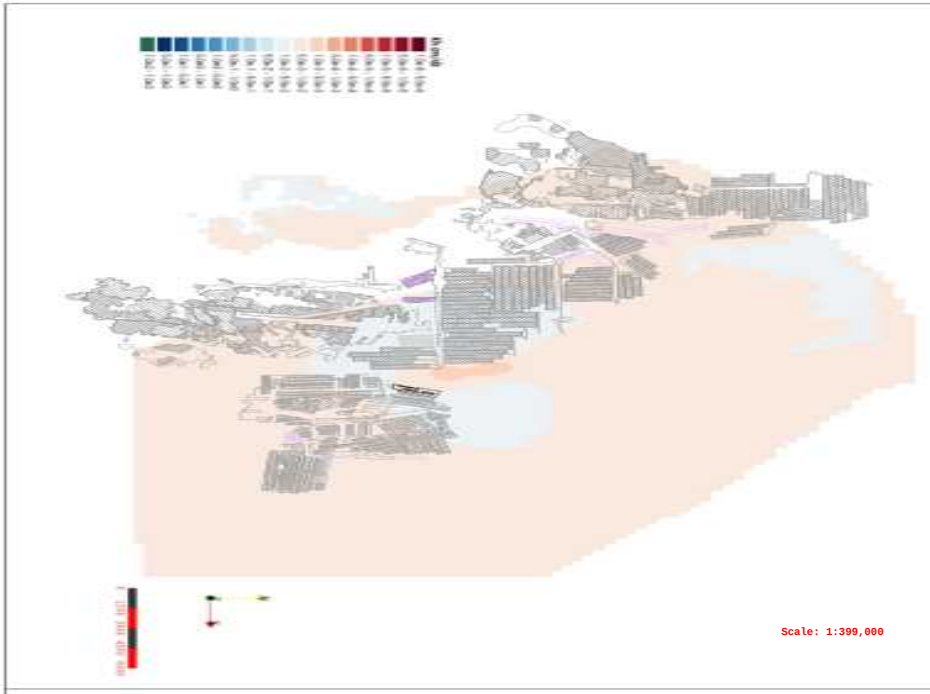
Drawn By: DAW

Checked By: JRWB

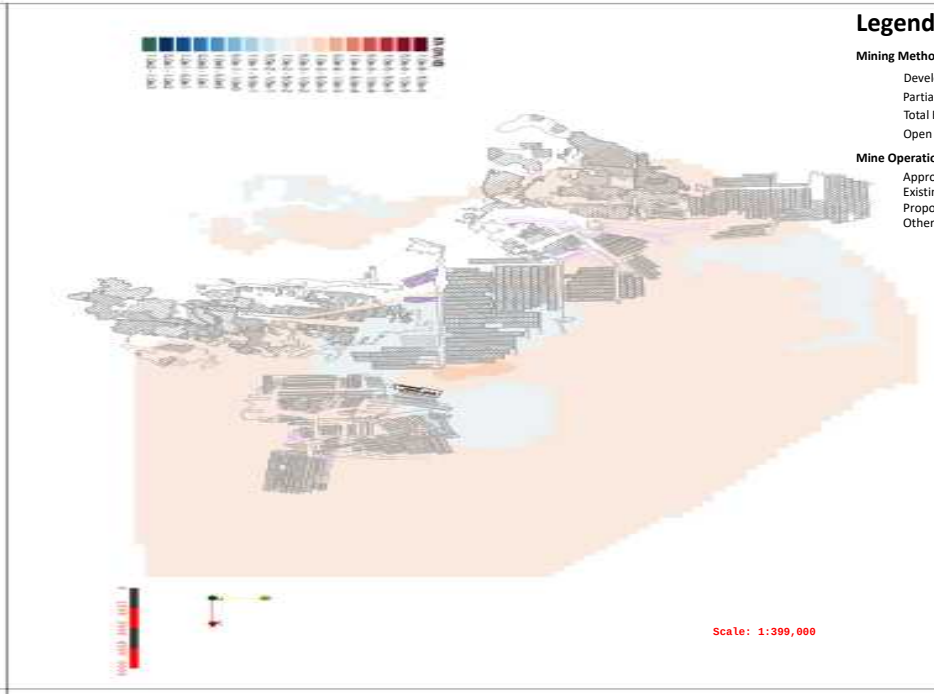
File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D056_Plan_Kh\68229_R01RevA_D056_Plan_Kh_L27.grf

Reference: 68229_R01RevA_PRO_02a

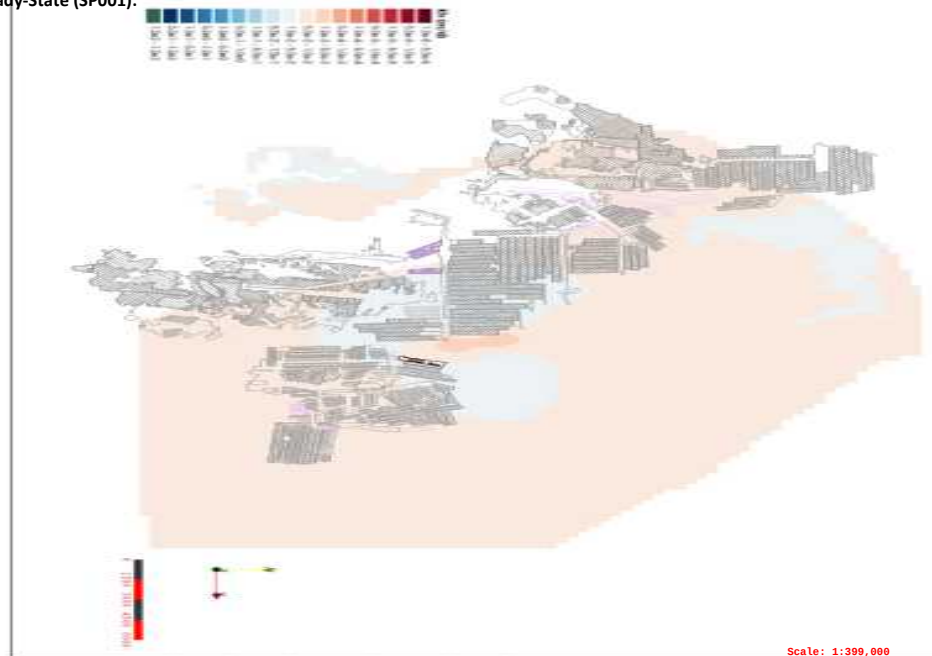
Figure E1a-27: Modelled Horizontal Hydraulic Conductivity (m/d) - Layer 27



Steady-State (SP001):



September 2025 (SP144):



September 2026 (SP148):

December 2049 (SP241):

Legend

Mining Methods:

- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:

- Approved
- Existing
- Proposed
- Other Proposed

Notes:
1) Kh (m/d): Horizontal Hydraulic Conductivity (m/d).

Project No: 68229

Client:
Clarence Colliery Pty Ltd

Version: R01RevA

Date: 07/11/2025

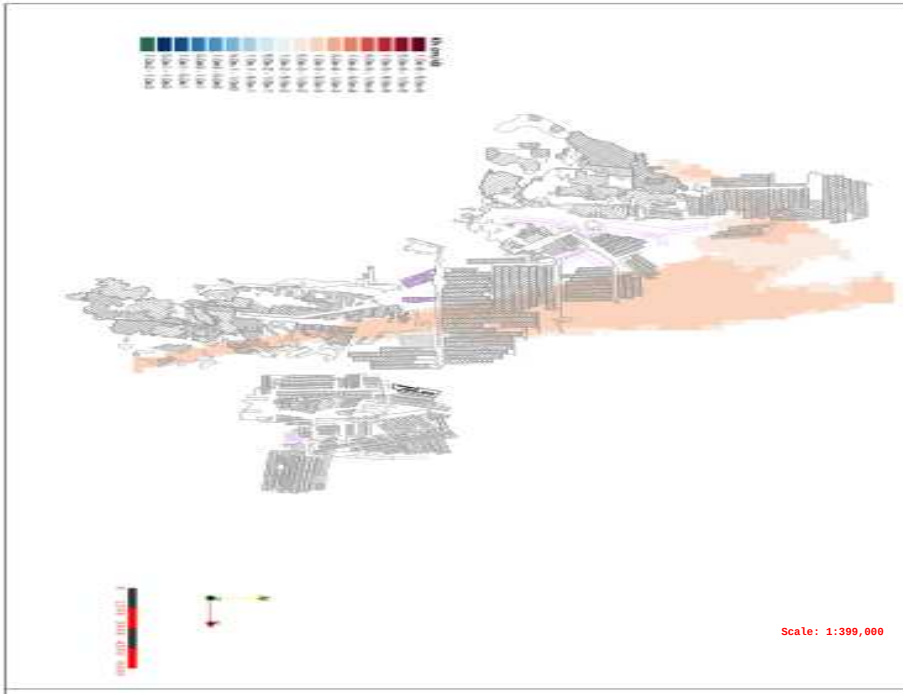
Drawn By: DAW

Checked By: JRWB

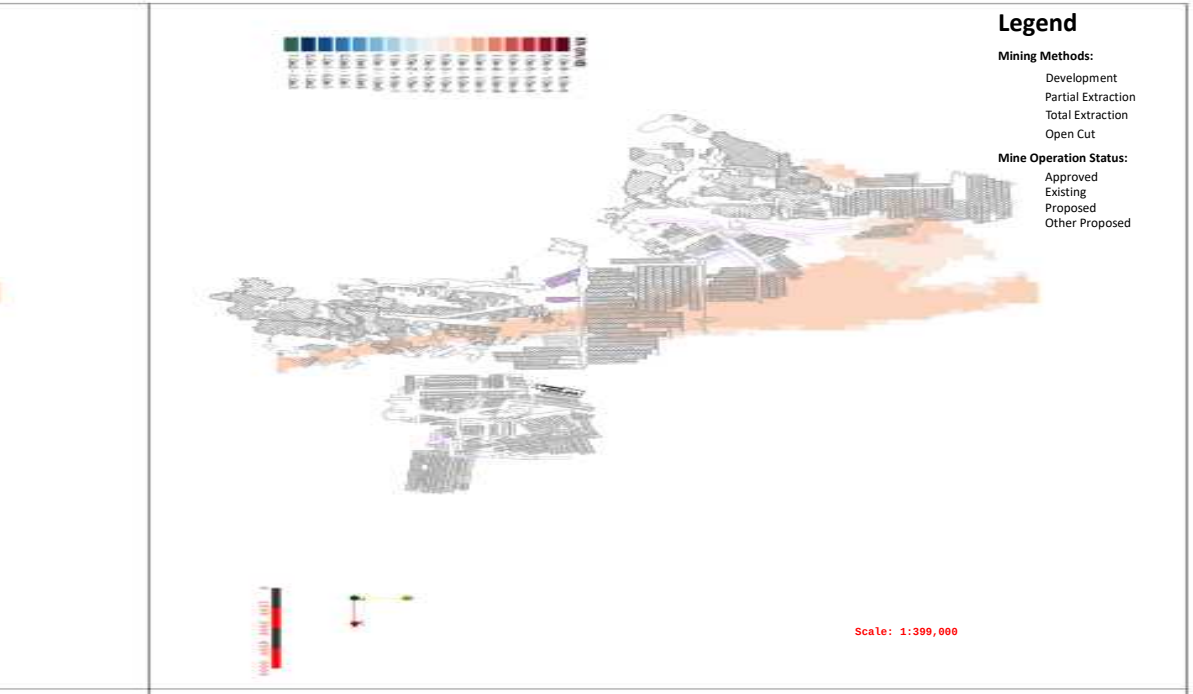
File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D056_Plan_Kh\68229_R01RevA_D056_Plan_Kh_L28.grf

Reference: 68229_R01RevA_PRO_02a

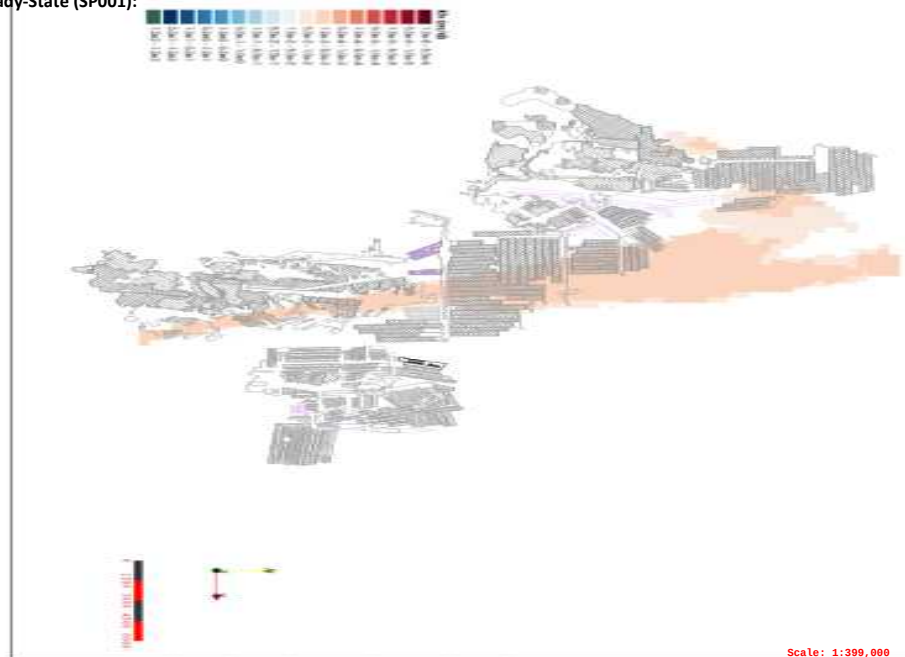
Figure E1a-28: Modelled Horizontal Hydraulic Conductivity (m/d) - Layer 28



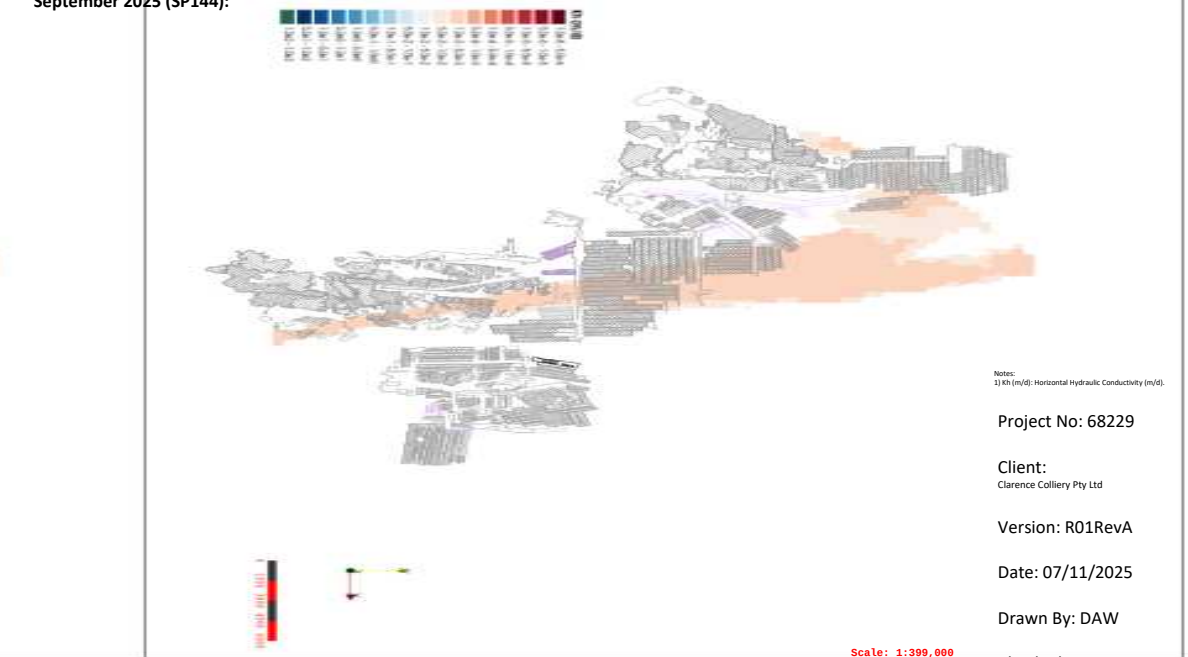
Steady-State (SP001):



September 2025 (SP144):



September 2026 (SP148):



December 2049 (SP241):

Legend

Mining Methods:

- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:

- Approved
- Existing
- Proposed
- Other Proposed

Notes:
1) Kh (m/d): Horizontal Hydraulic Conductivity (m/d).

Project No: 68229

Client:
Clarence Colliery Pty Ltd

Version: R01RevA

Date: 07/11/2025

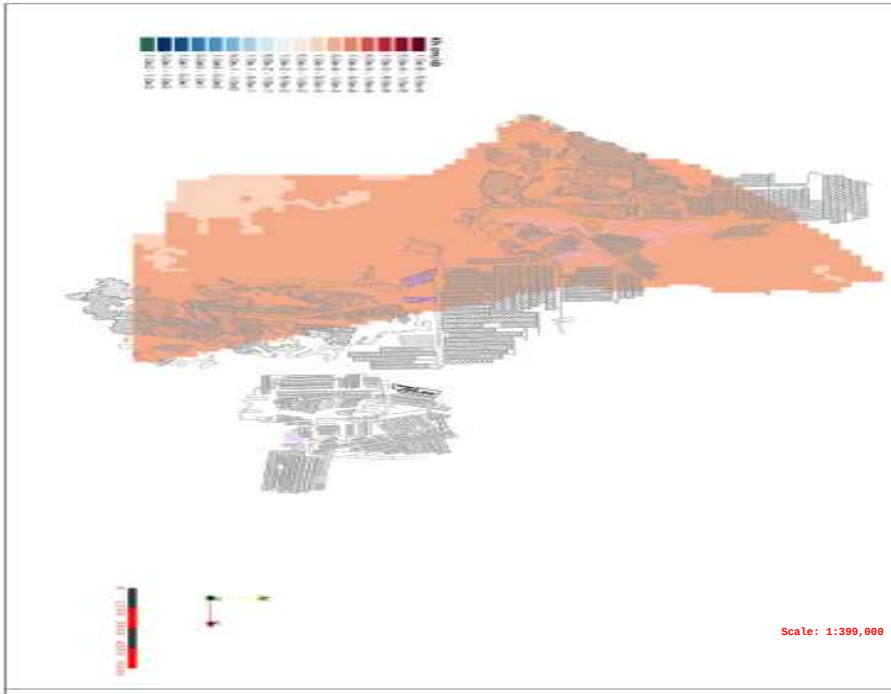
Drawn By: DAW

Checked By: JRWB

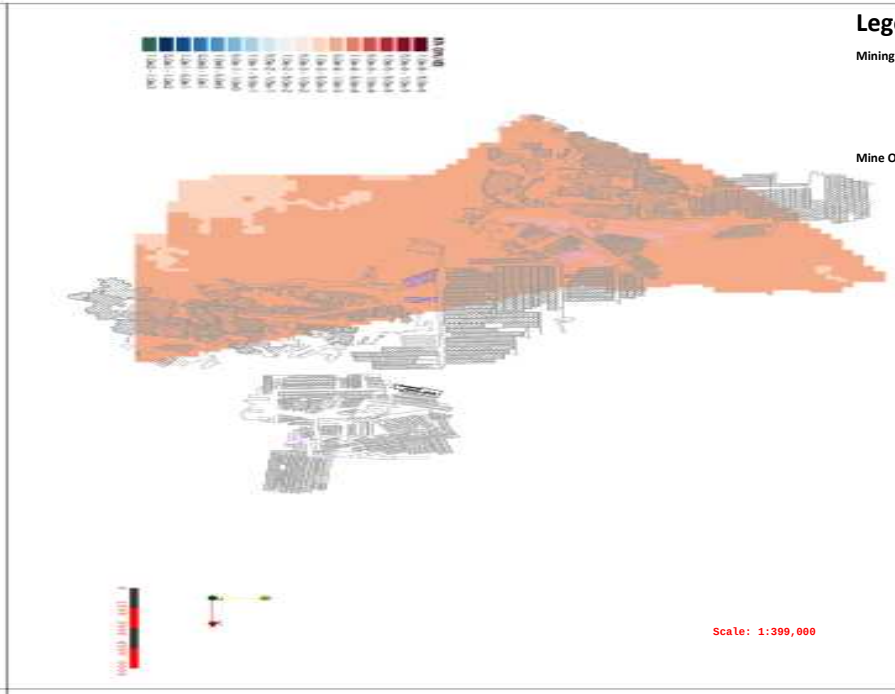
File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D056_Plan_Kh\68229_R01RevA_D056_Plan_Kh_L29.grf

Reference: 68229_R01RevA_PRO_02a

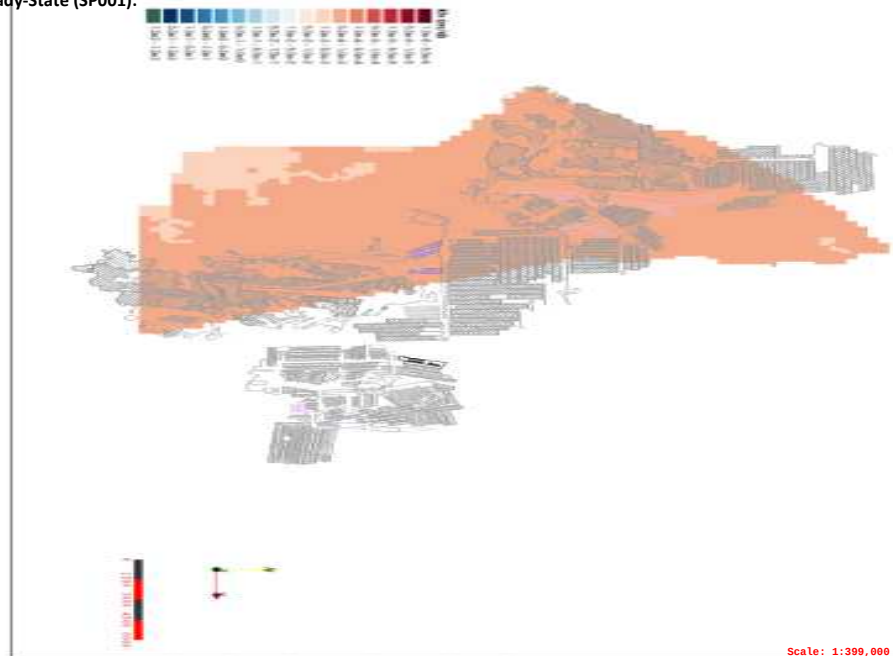
Figure E1a-29: Modelled Horizontal Hydraulic Conductivity (m/d) - Layer 29



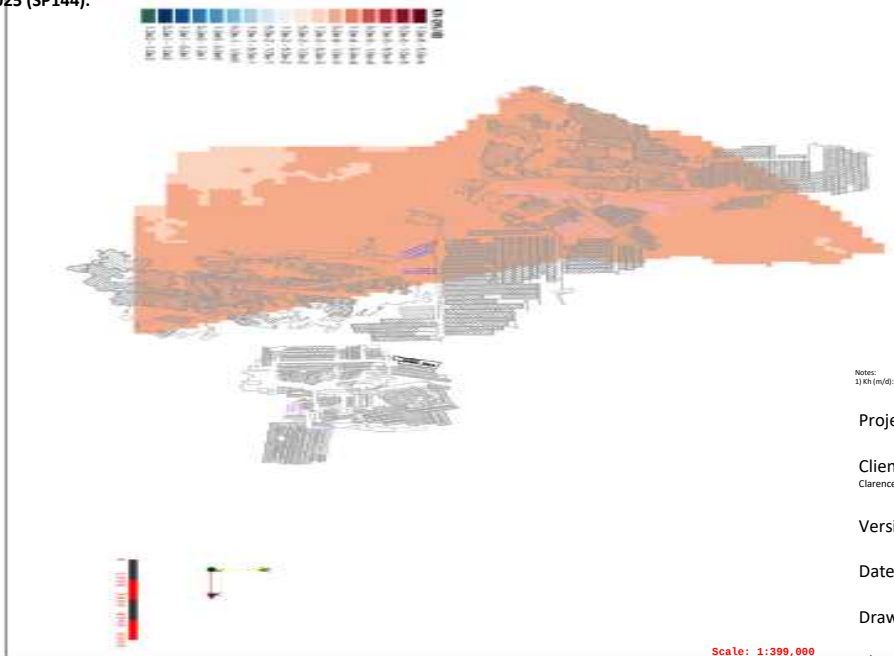
Steady-State (SP001):



September 2025 (SP144):



September 2026 (SP148):



December 2049 (SP241):

Legend

Mining Methods:

- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:

- Approved
- Existing
- Proposed
- Other Proposed

Notes:
1) Kh (m/d): Horizontal Hydraulic Conductivity (m/d).

Project No: 68229

Client:
Clarence Colliery Pty Ltd

Version: R01RevA

Date: 07/11/2025

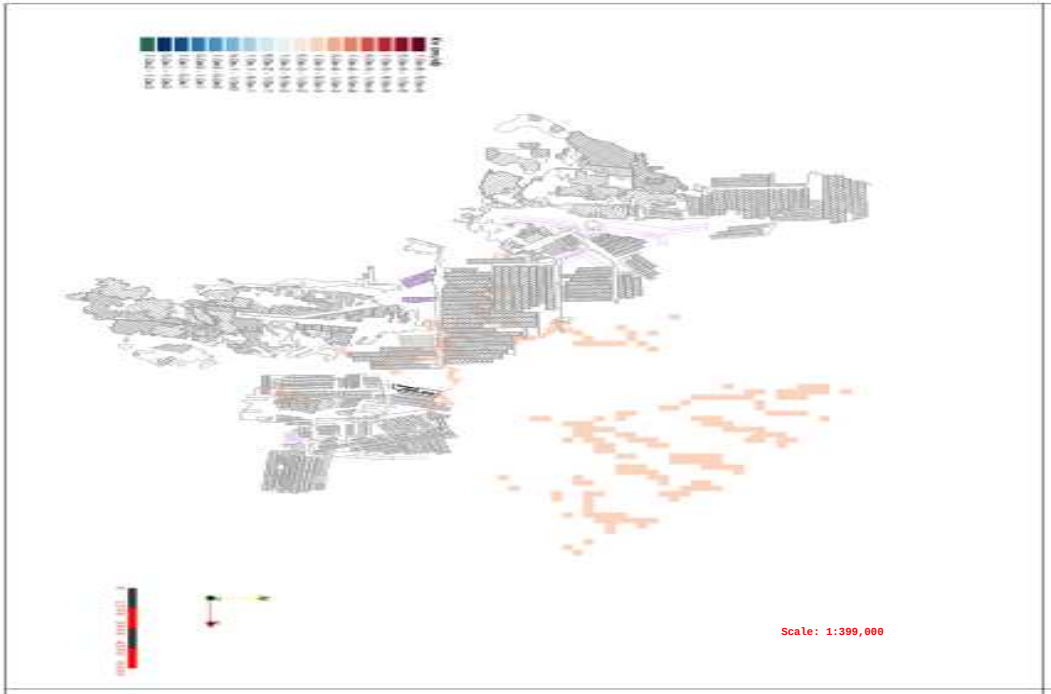
Drawn By: DAW

Checked By: JRWB

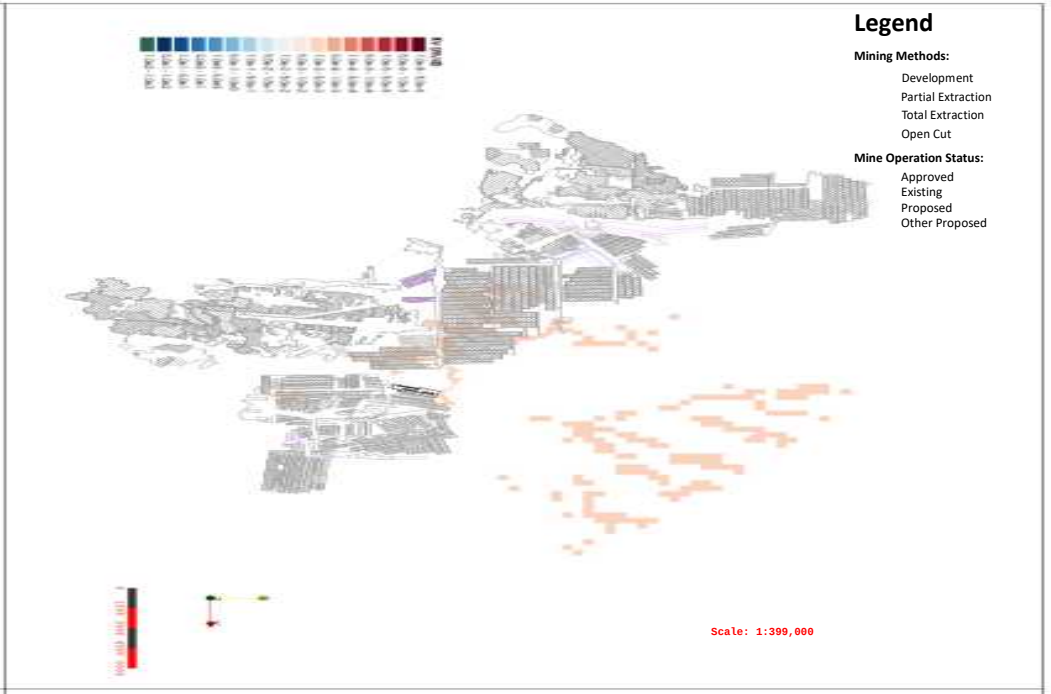
File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D056_Plan_Kh\68229_R01RevA_D056_Plan_Kh_L30.grf

Reference: 68229_R01RevA_PRO_02a

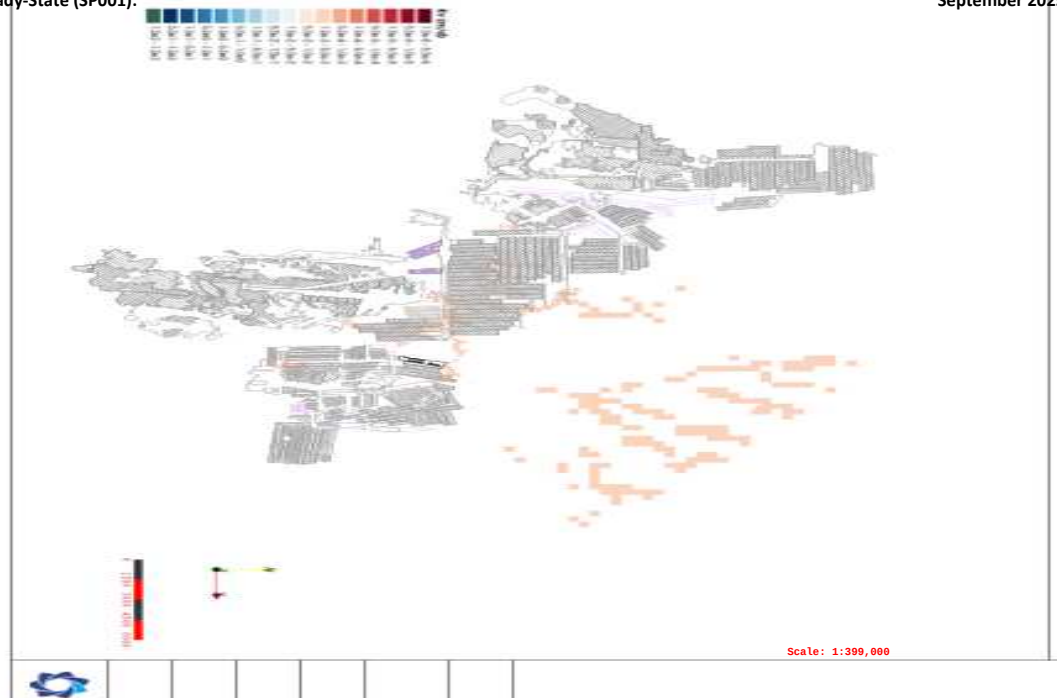
Figure E1a-30: Modelled Horizontal Hydraulic Conductivity (m/d) - Layer 30



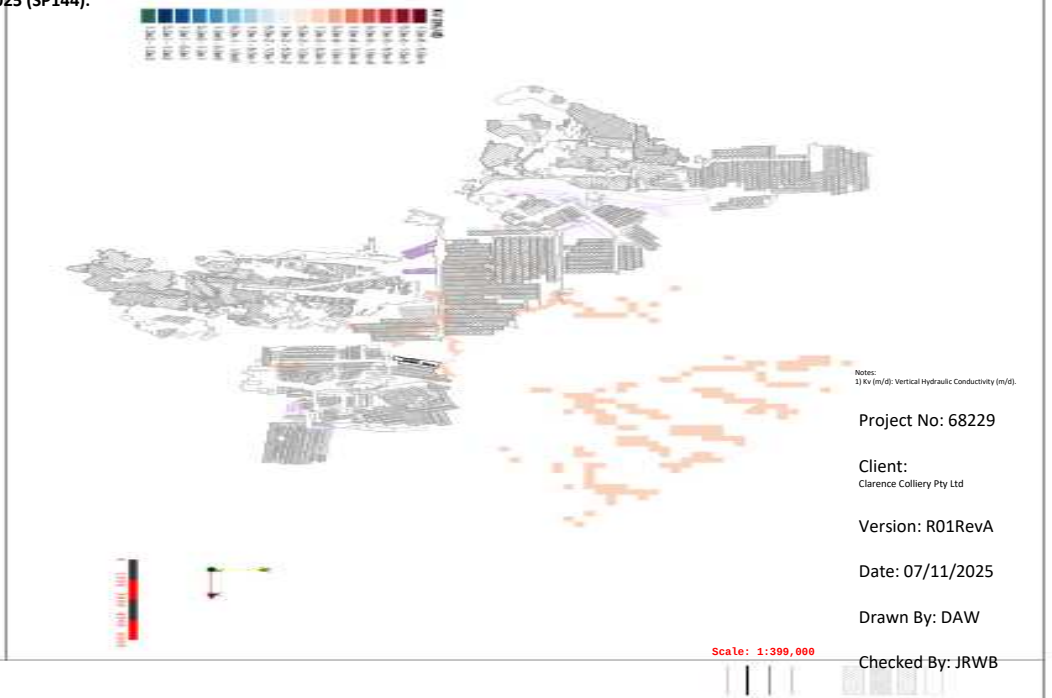
Steady-State (SP001):



September 2025 (SP144):



September 2026 (SP148):



December 2049 (SP241):

Legend

Mining Methods:

- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:

- Approved
- Existing
- Proposed
- Other Proposed

Notes:
1) Kv (m/d): Vertical Hydraulic Conductivity (m/d).

Project No: 68229

Client:
Clarence Colliery Pty Ltd

Version: R01RevA

Date: 07/11/2025

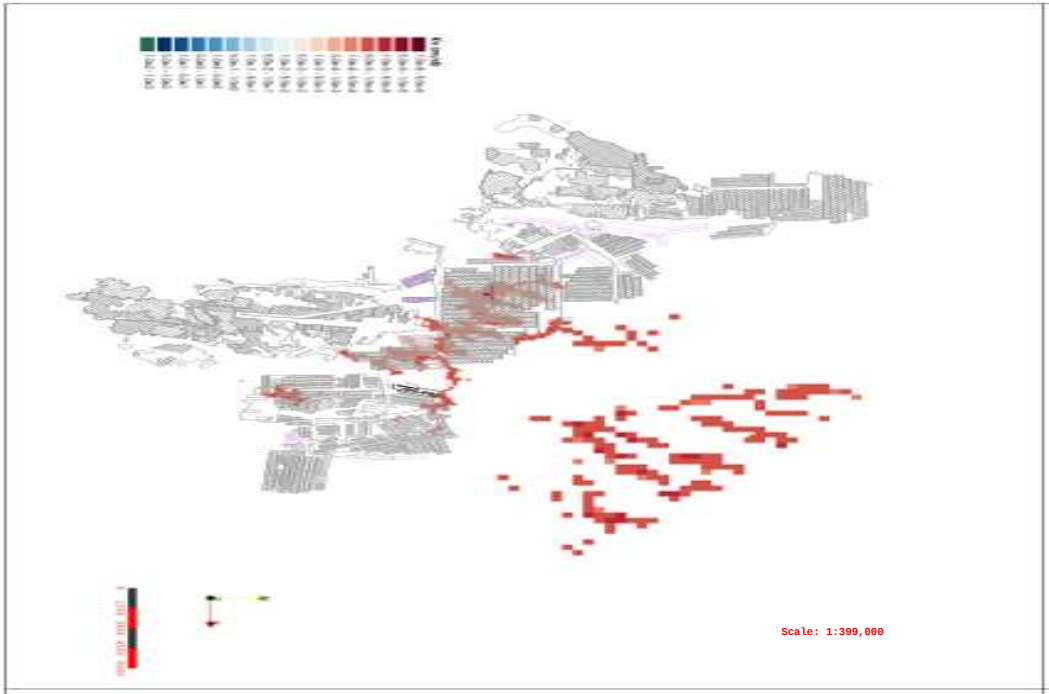
Drawn By: DAW

Checked By: JRWB

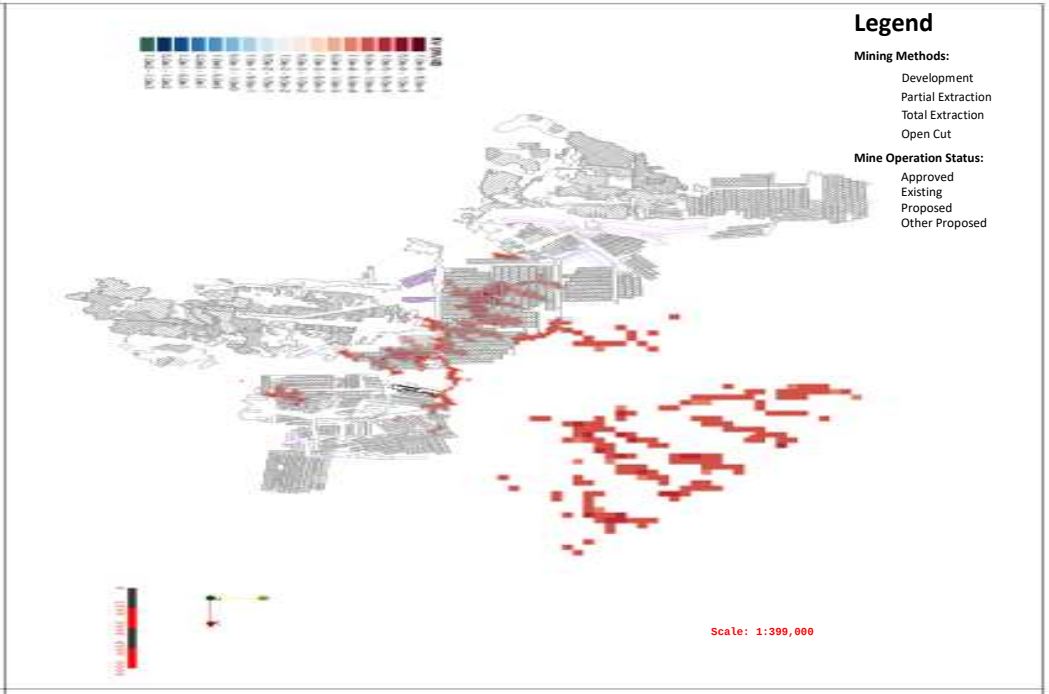
File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D057_Plan_Kv\68229_R01RevA_D057_Plan_Kv_L01.grf

Reference: 68229_R01RevA_PRO_02a

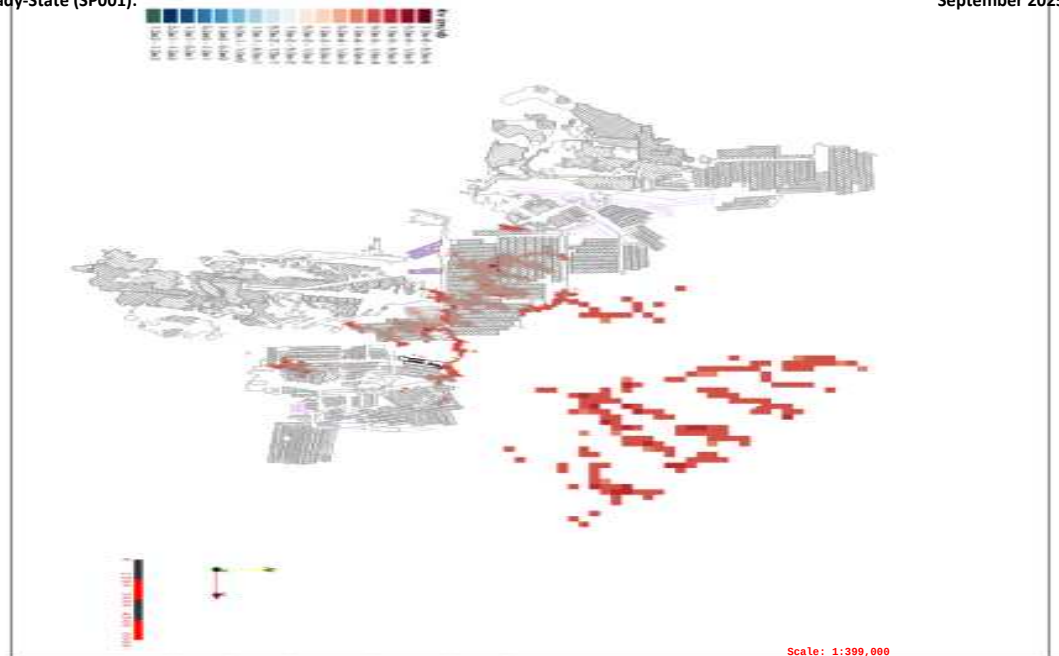
Figure E1b-01: Modelled Vertical Hydraulic Conductivity (m/d) - Layer 01



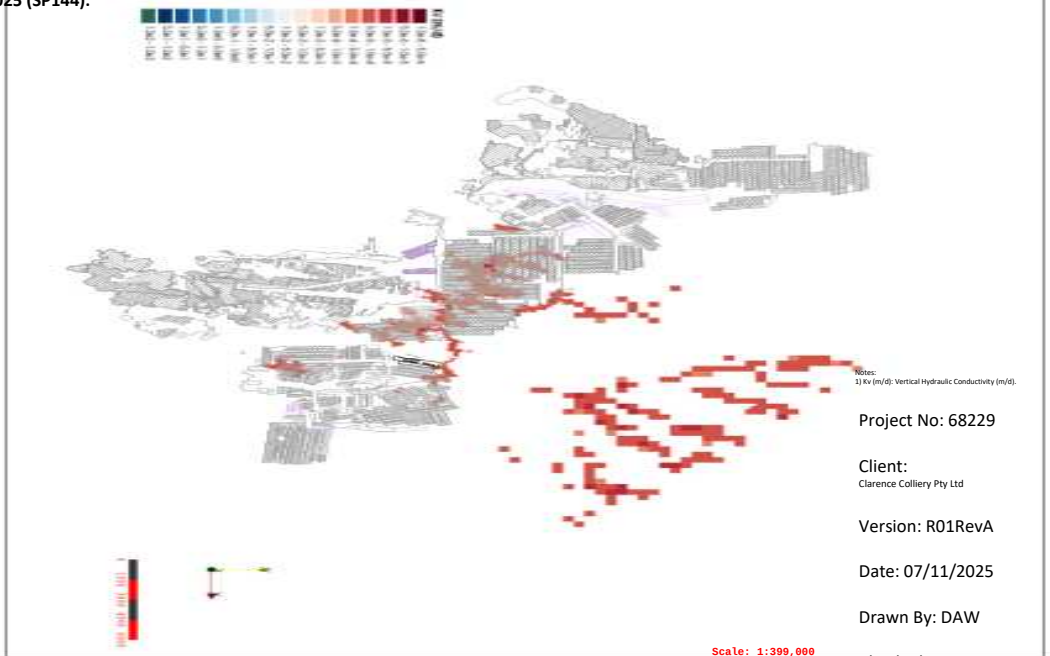
Steady-State (SP001):



September 2025 (SP144):



September 2026 (SP148):



December 2049 (SP241):

Legend

Mining Methods:

- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:

- Approved
- Existing
- Proposed
- Other Proposed

Notes:
1) Kv (m/d): Vertical Hydraulic Conductivity (m/d).

Project No: 68229

Client:
Clarence Colliery Pty Ltd

Version: R01RevA

Date: 07/11/2025

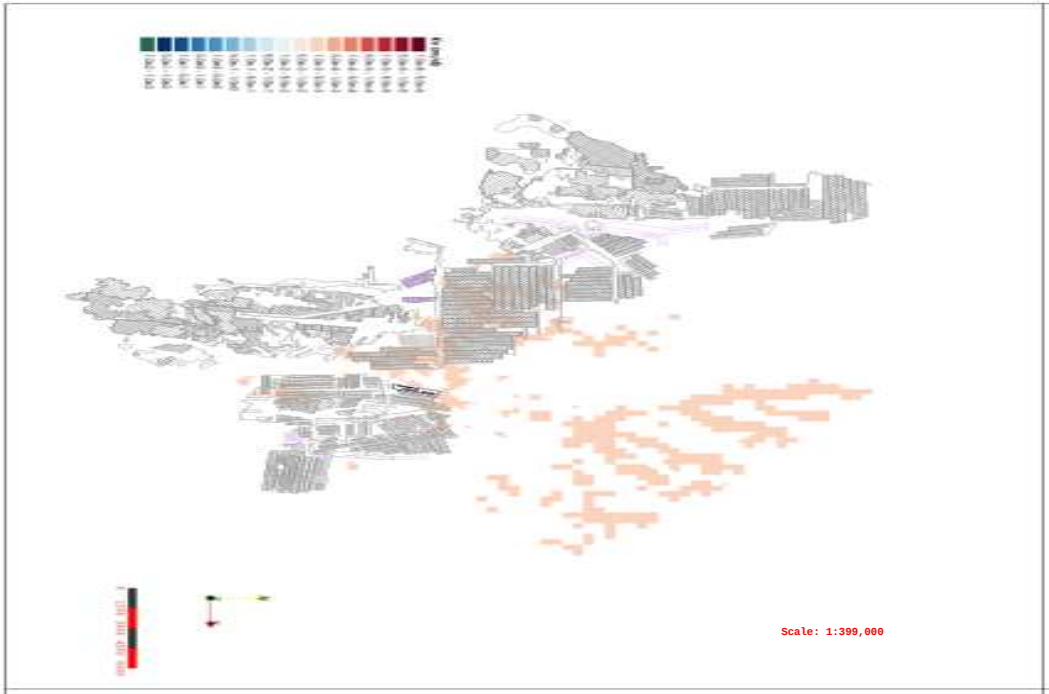
Drawn By: DAW

Checked By: JRWB

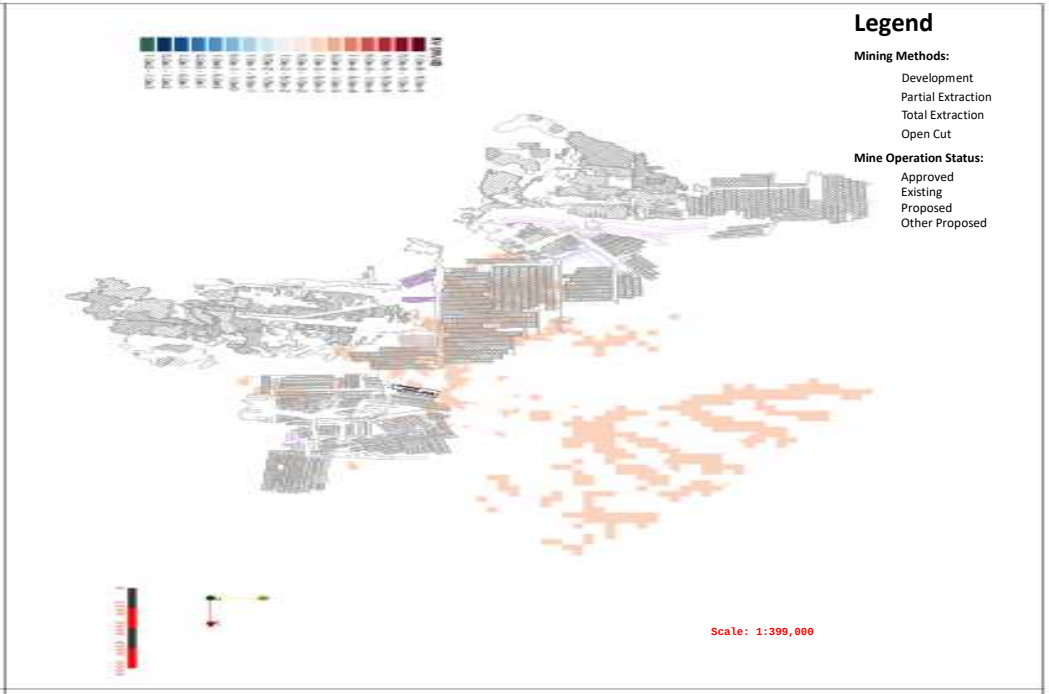
File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D057_Plan_Kv\68229_R01RevA_D057_Plan_Kv_L02.grf

Reference: 68229_R01RevA_PRO_02a

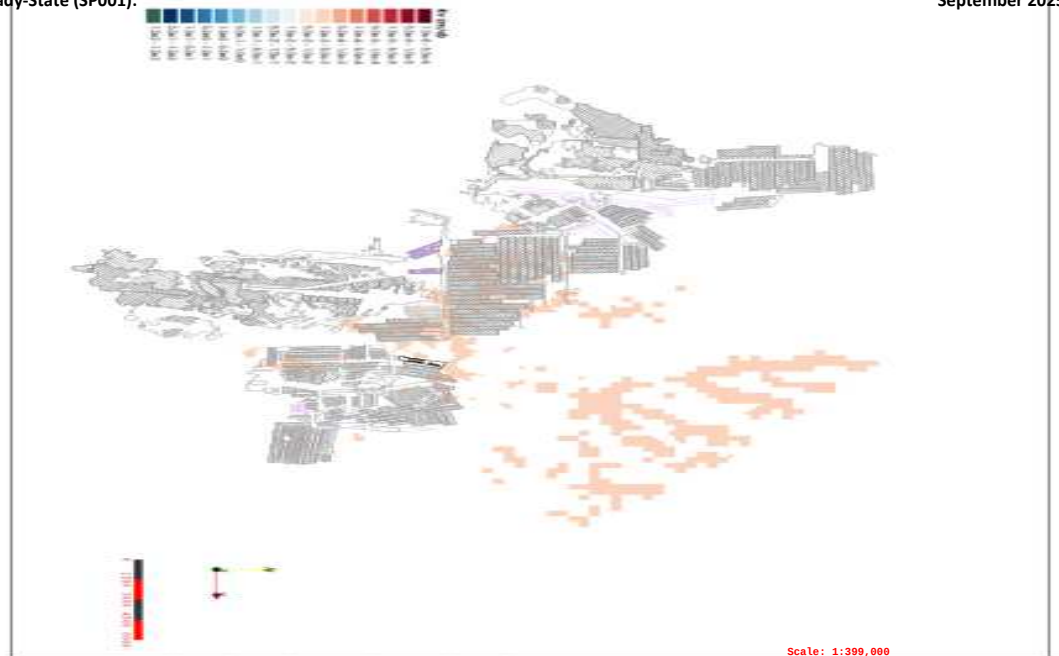
Figure E1b-02: Modelled Vertical Hydraulic Conductivity (m/d) - Layer 02



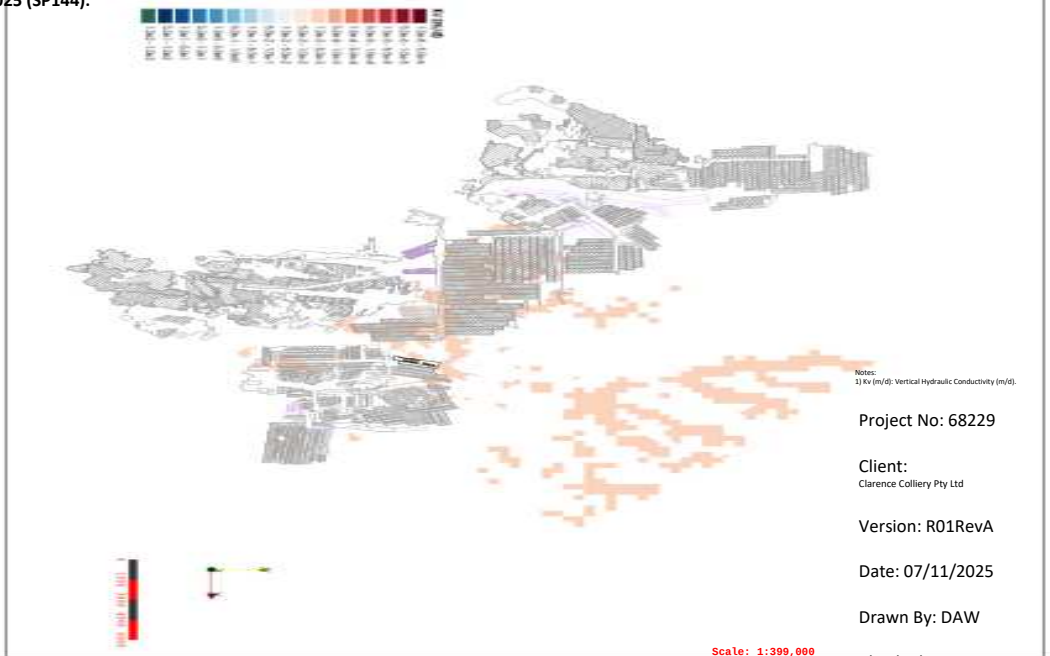
Steady-State (SP001):



September 2025 (SP144):



September 2026 (SP148):



December 2049 (SP241):

Legend

Mining Methods:

- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:

- Approved
- Existing
- Proposed
- Other Proposed

Notes:
1) Kv (m/d): Vertical Hydraulic Conductivity (m/d).

Project No: 68229

Client:
Clarence Colliery Pty Ltd

Version: R01RevA

Date: 07/11/2025

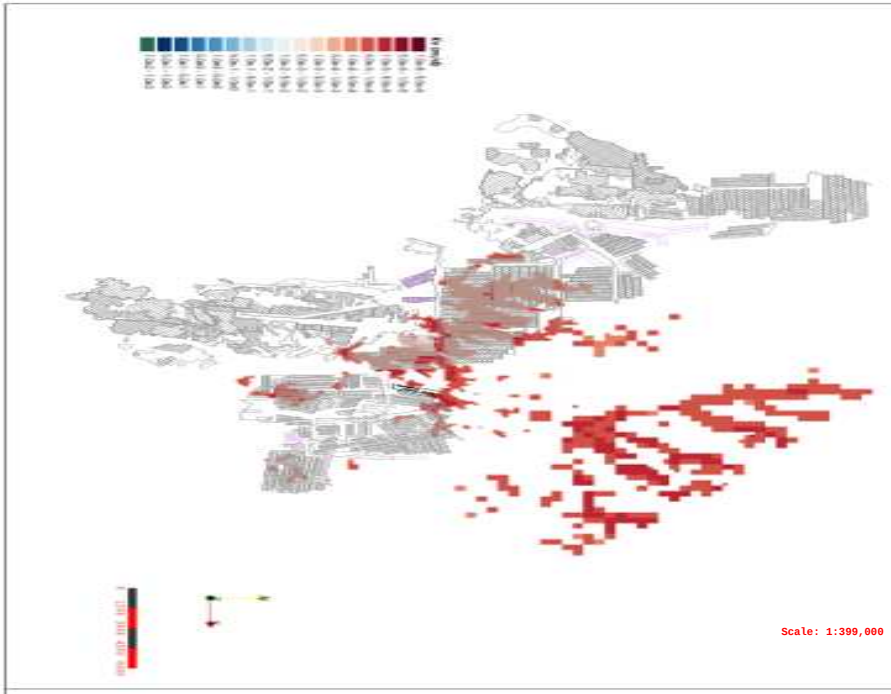
Drawn By: DAW

Checked By: JRWB

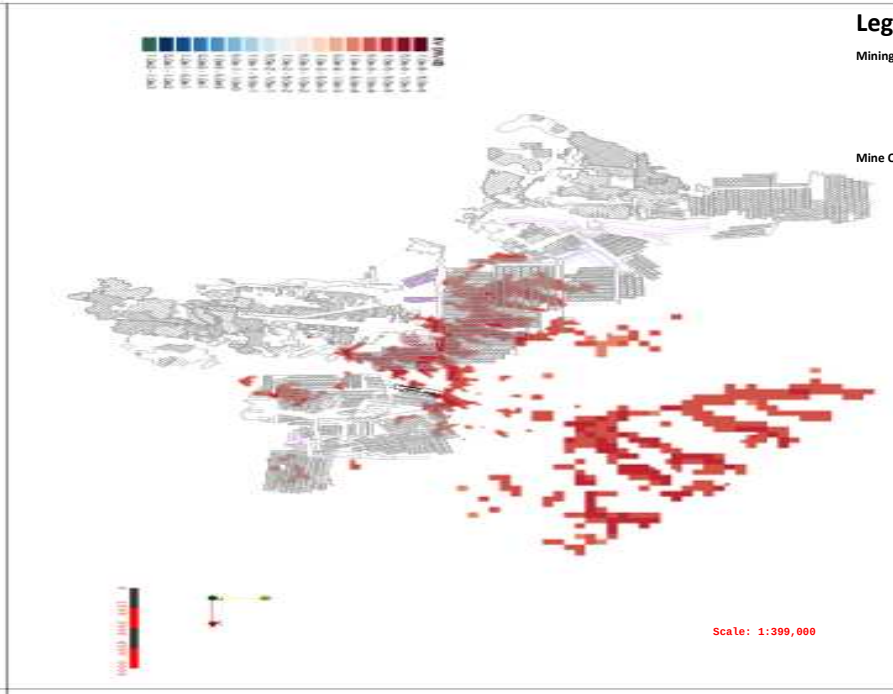
File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D057_Plan_Kv\68229_R01RevA_D057_Plan_Kv_L03.grf

Reference: 68229_R01RevA_PRO_02a

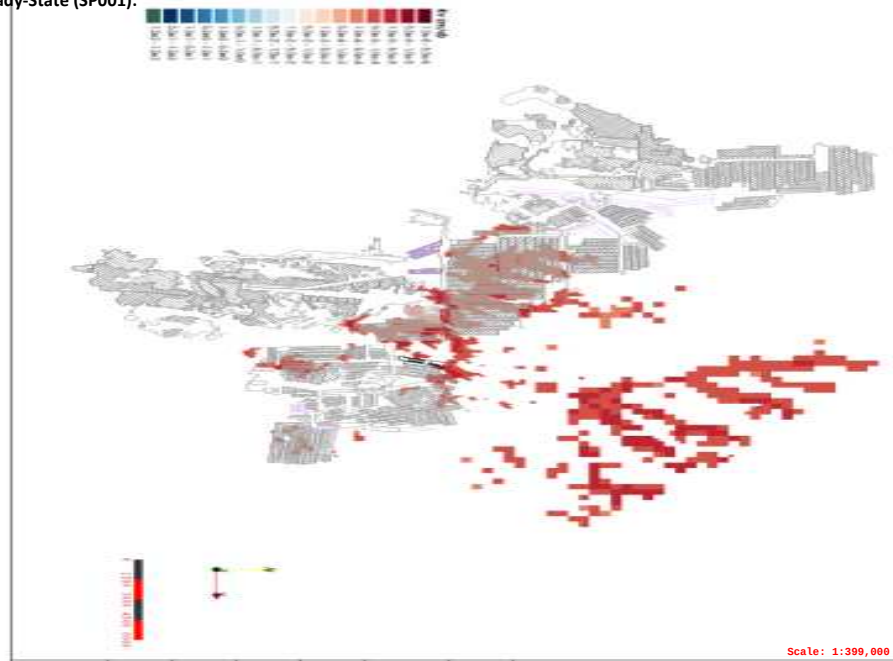
Figure E1b-03: Modelled Vertical Hydraulic Conductivity (m/d) - Layer 03



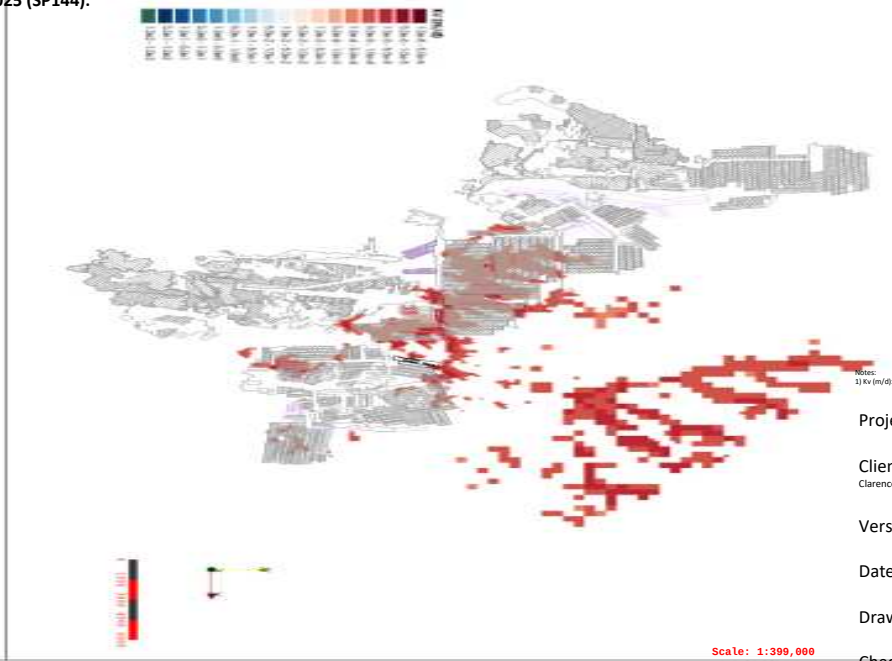
Steady-State (SP001):



September 2025 (SP144):



September 2026 (SP148):



December 2049 (SP241):

Legend

Mining Methods:

- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:

- Approved
- Existing
- Proposed
- Other Proposed

Notes:
1) Kv (m/d): Vertical Hydraulic Conductivity (m/d).

Project No: 68229

Client:
Clarence Colliery Pty Ltd

Version: R01RevA

Date: 07/11/2025

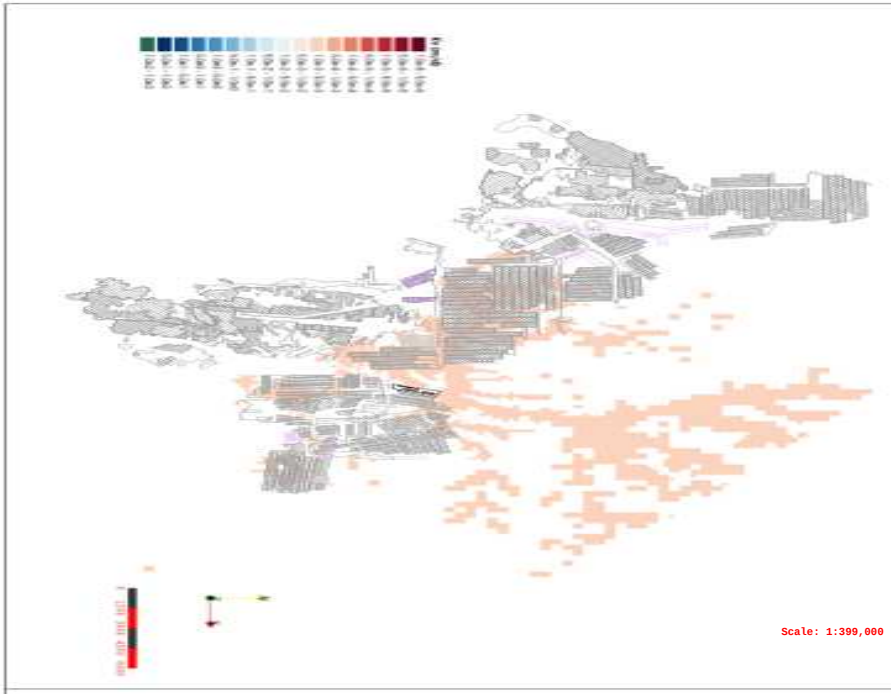
Drawn By: DAW

Checked By: JRWB

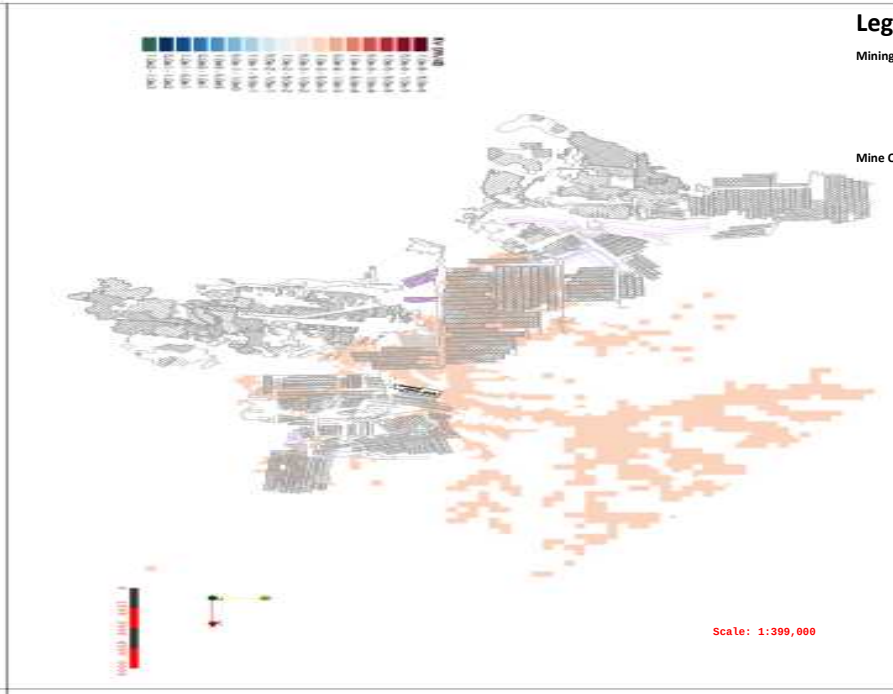
File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D057_Plan_Kv\68229_R01RevA_D057_Plan_Kv_L04.grf

Reference: 68229_R01RevA_PRO_02a

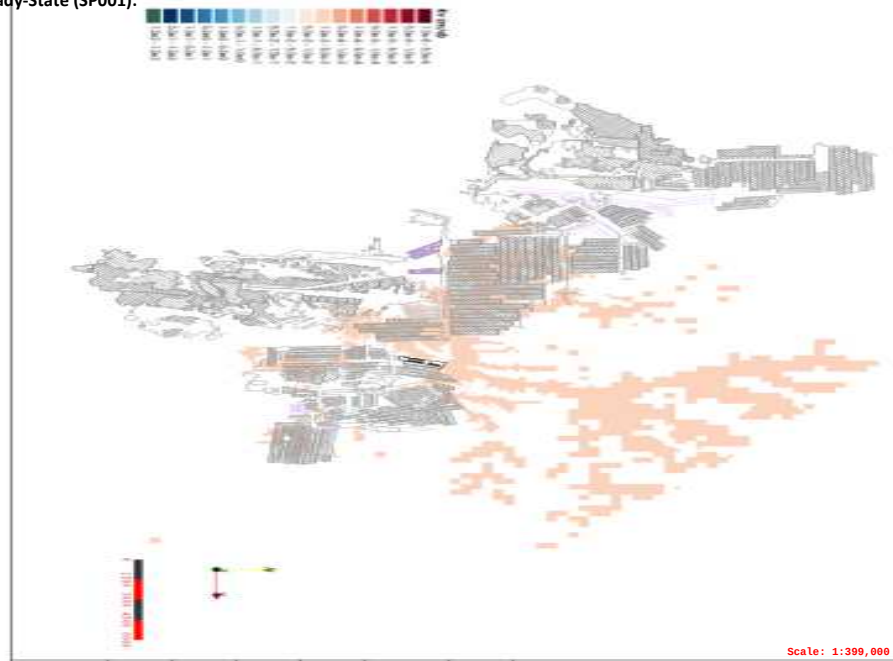
Figure E1b-04: Modelled Vertical Hydraulic Conductivity (m/d) - Layer 04



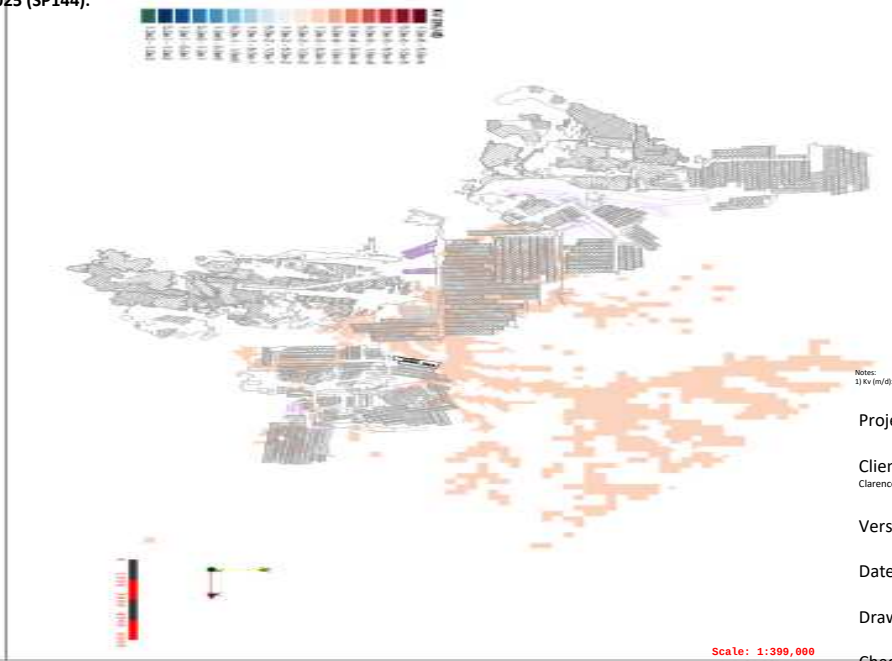
Steady-State (SP001):



September 2025 (SP144):



September 2026 (SP148):



December 2049 (SP241):

Legend

Mining Methods:

- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:

- Approved
- Existing
- Proposed
- Other Proposed

Notes:
1) Kv (m/d): Vertical Hydraulic Conductivity (m/d).

Project No: 68229

Client:
Clarence Colliery Pty Ltd

Version: R01RevA

Date: 07/11/2025

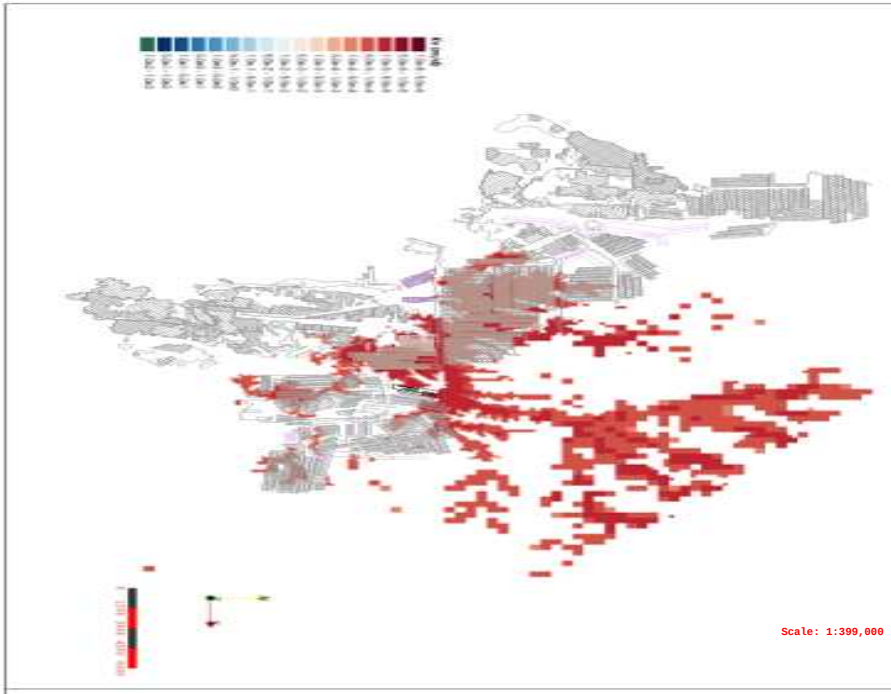
Drawn By: DAW

Checked By: JRWB

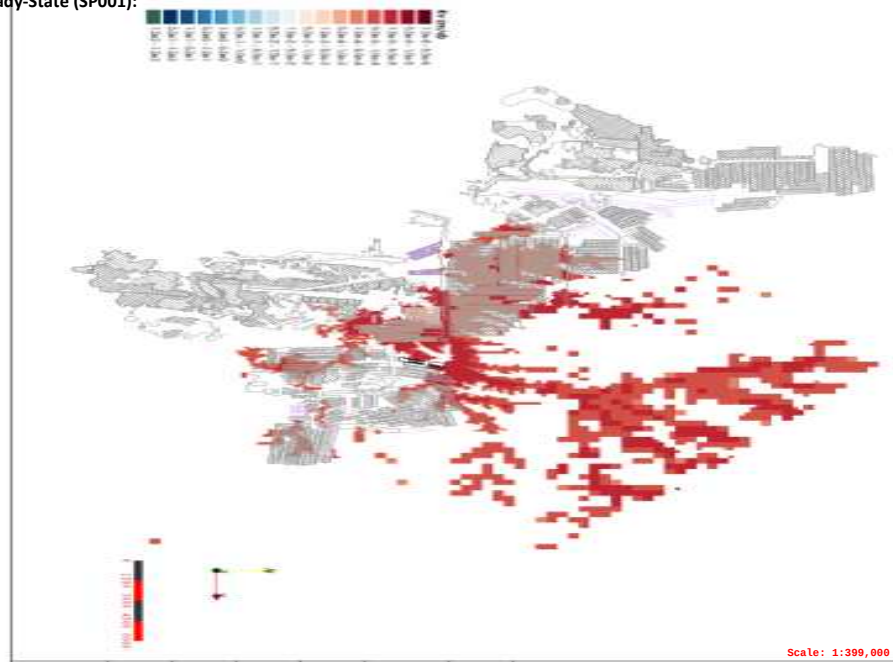
File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D057_Plan_Kv\68229_R01RevA_D057_Plan_Kv_L05.grf

Reference: 68229_R01RevA_PRO_02a

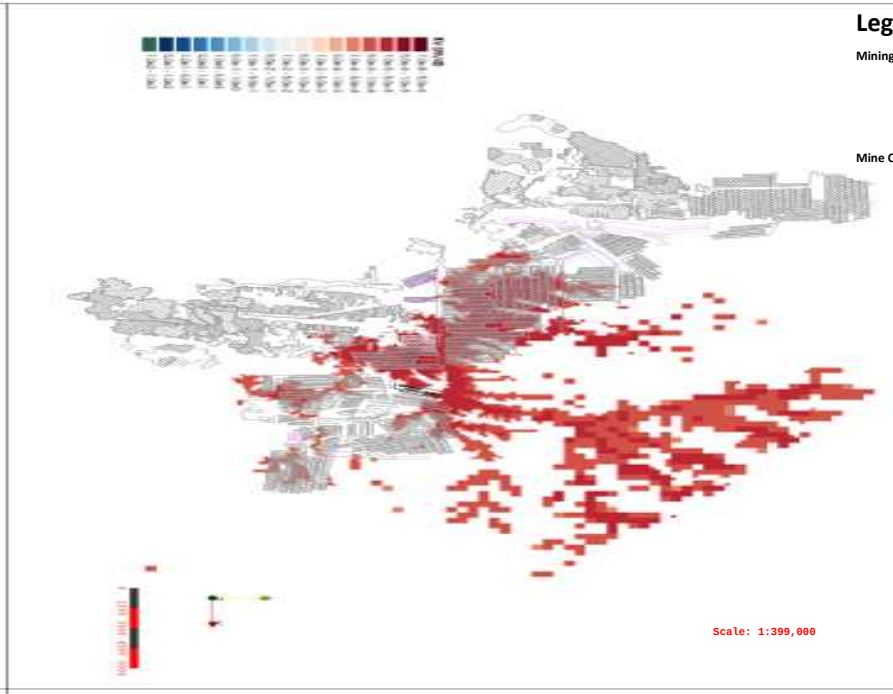
Figure E1b-05: Modelled Vertical Hydraulic Conductivity (m/d) - Layer 05



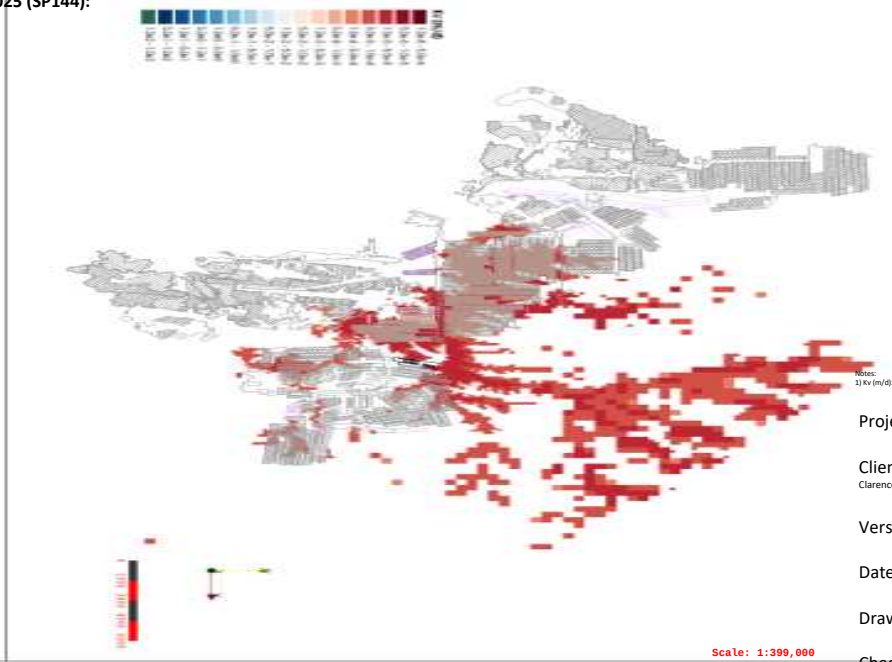
Steady-State (SP001):



September 2026 (SP148):



September 2025 (SP144):



December 2049 (SP241):

Legend

Mining Methods:

- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:

- Approved
- Existing
- Proposed
- Other Proposed

Notes:
1) Kv (m/d): Vertical Hydraulic Conductivity (m/d).

Project No: 68229

Client:
Clarence Colliery Pty Ltd

Version: R01RevA

Date: 07/11/2025

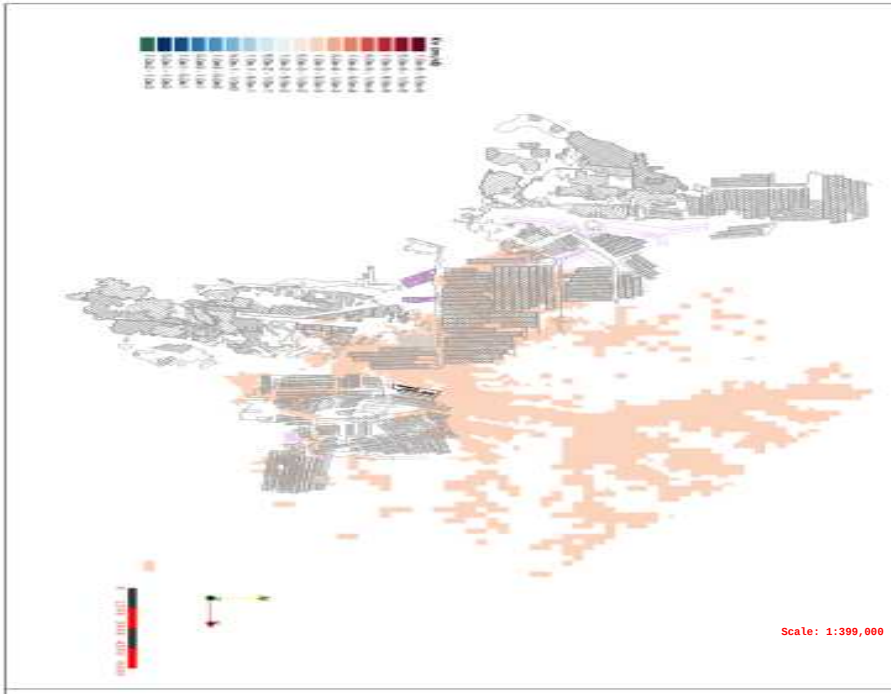
Drawn By: DAW

Checked By: JRWB

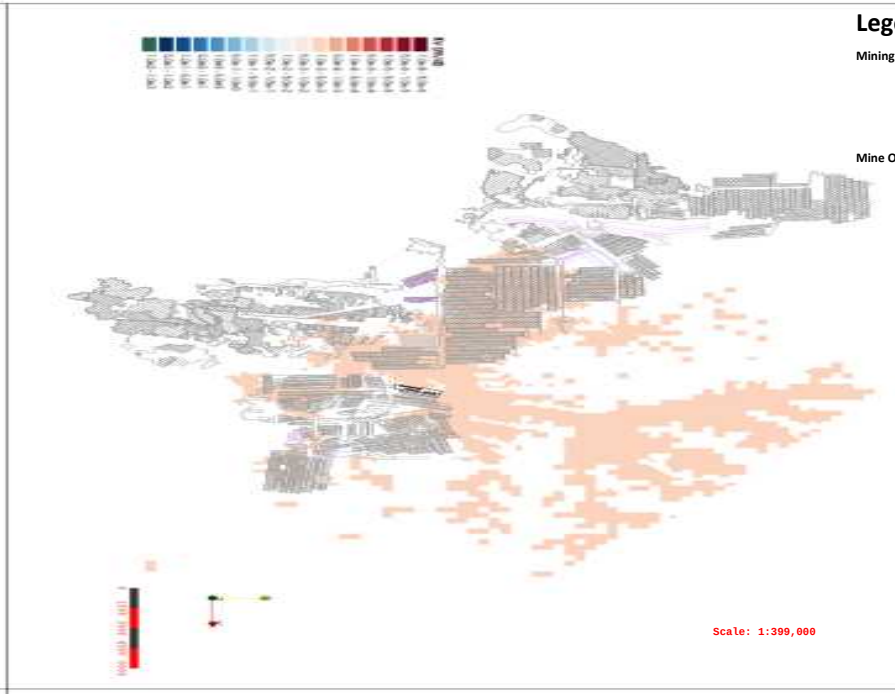
File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D057_Plan_Kv\68229_R01RevA_D057_Plan_Kv_L06.grf

Reference: 68229_R01RevA_PRO_02a

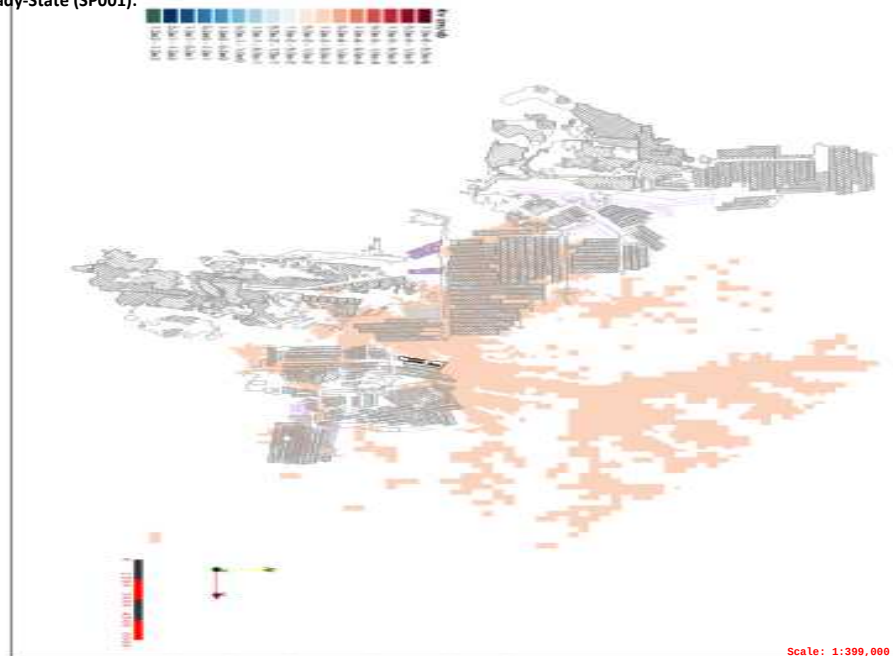
Figure E1b-06: Modelled Vertical Hydraulic Conductivity (m/d) - Layer 06



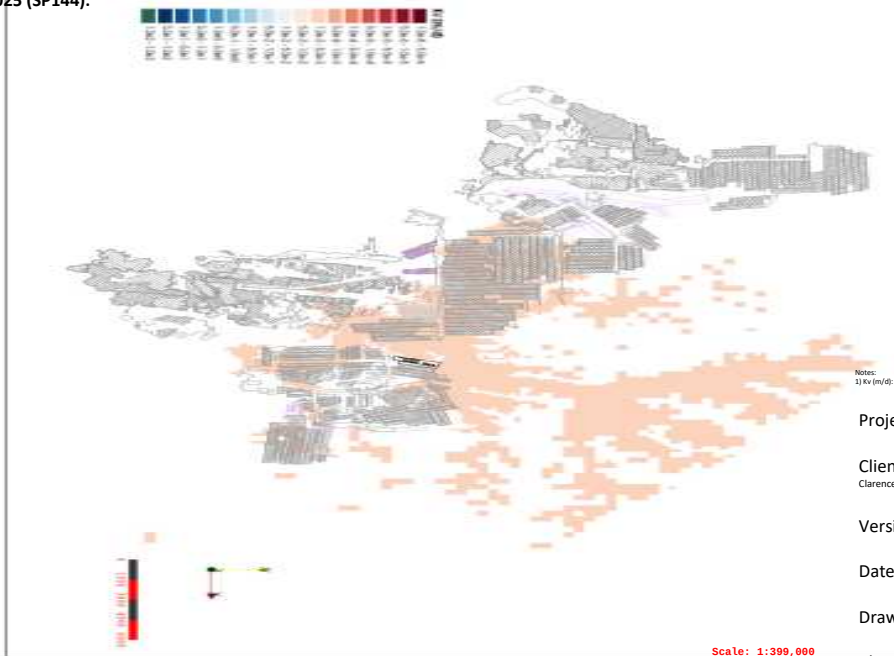
Steady-State (SP001):



September 2025 (SP144):



September 2026 (SP148):



December 2049 (SP241):

Legend

Mining Methods:

- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:

- Approved
- Existing
- Proposed
- Other Proposed

Notes:
1) Kv (m/d): Vertical Hydraulic Conductivity (m/d).

Project No: 68229

Client:
Clarence Colliery Pty Ltd

Version: R01RevA

Date: 07/11/2025

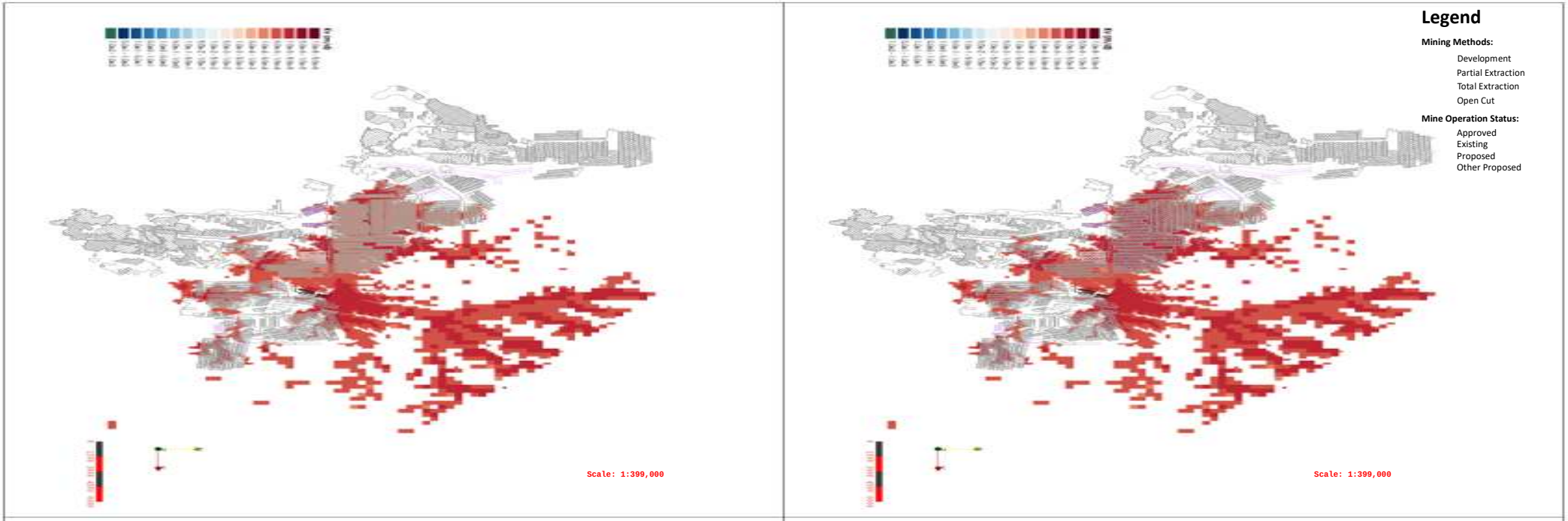
Drawn By: DAW

Checked By: JRWB

File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D057_Plan_Kv\68229_R01RevA_D057_Plan_Kv_L07.grf

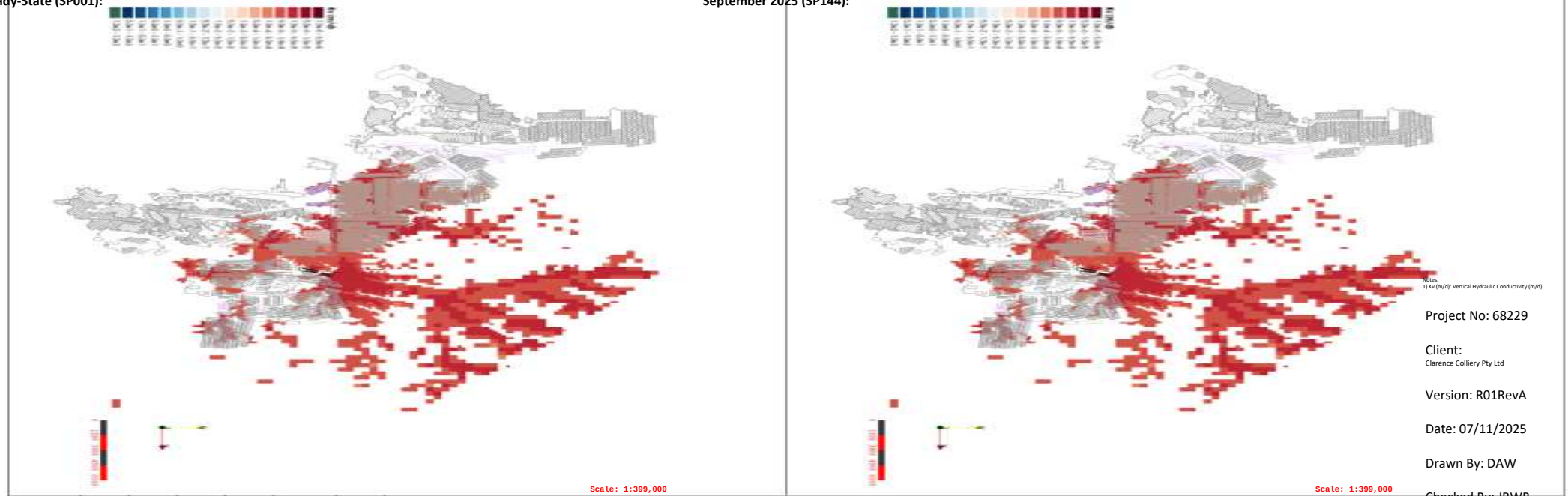
Reference: 68229_R01RevA_PRO_02a

Figure E1b-07: Modelled Vertical Hydraulic Conductivity (m/d) - Layer 07



Steady-State (SP001):

September 2025 (SP144):



September 2026 (SP148):

December 2049 (SP241):

Legend

Mining Methods:

- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:

- Approved
- Existing
- Proposed
- Other Proposed

Notes:
1) Kv (m/d): Vertical Hydraulic Conductivity (m/d).

Project No: 68229

Client:
Clarence Colliery Pty Ltd

Version: R01RevA

Date: 07/11/2025

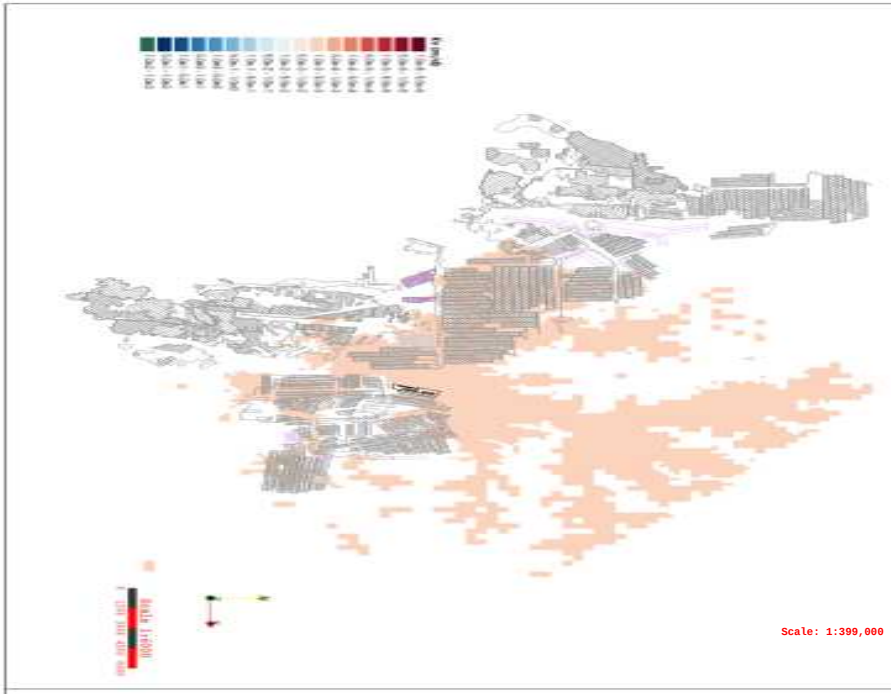
Drawn By: DAW

Checked By: JRWB

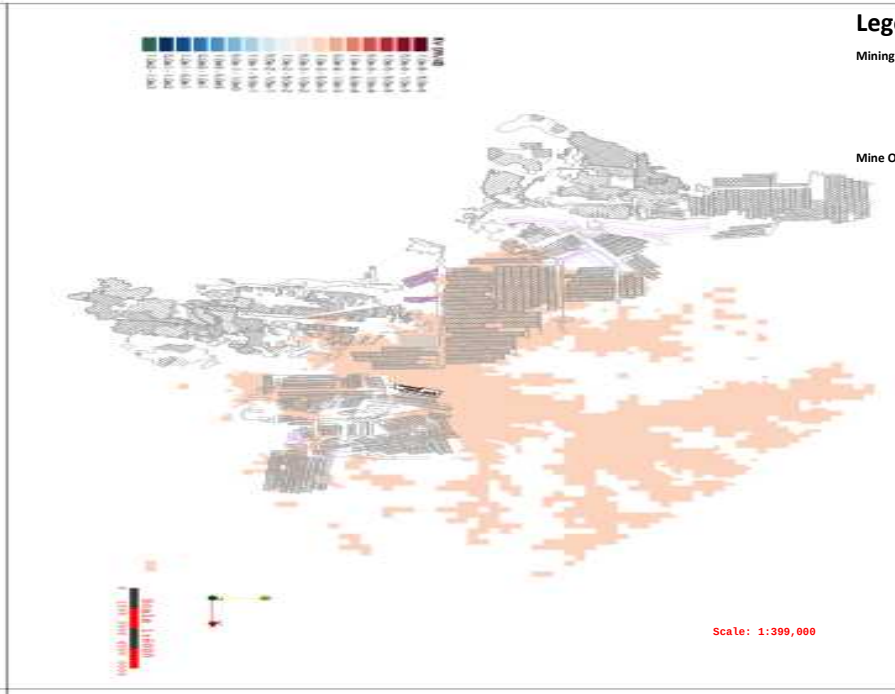
File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D057_Plan_Kv\68229_R01RevA_D057_Plan_Kv_L08.grf

Reference: 68229_R01RevA_PRO_02a

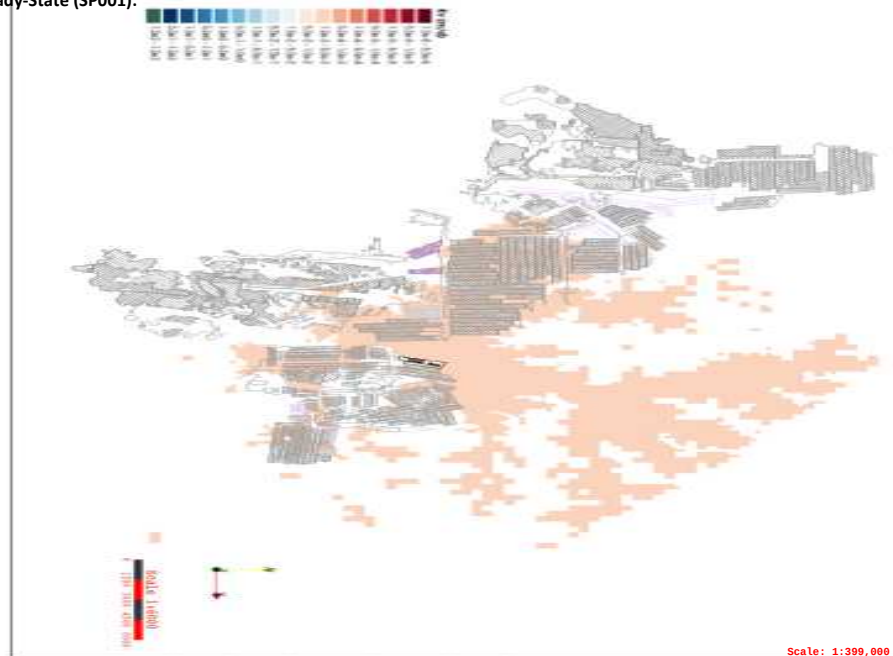
Figure E1b-08: Modelled Vertical Hydraulic Conductivity (m/d) - Layer 08



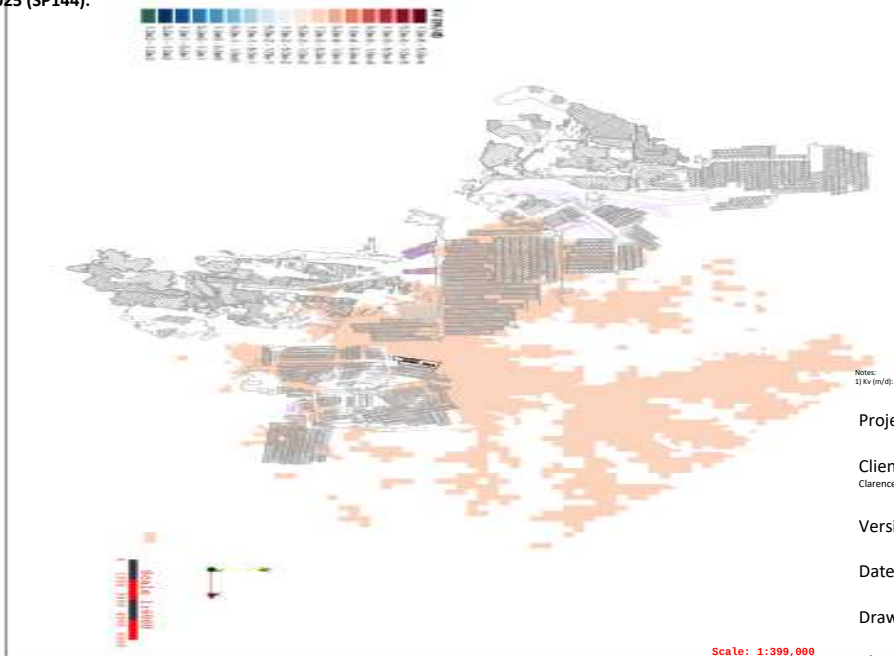
Steady-State (SP001):



September 2025 (SP144):



September 2026 (SP148):



December 2049 (SP241):

Legend

Mining Methods:

- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:

- Approved
- Existing
- Proposed
- Other Proposed

Notes:
1) Kv (m/d): Vertical Hydraulic Conductivity (m/d).

Project No: 68229

Client:
Clarence Colliery Pty Ltd

Version: R01RevA

Date: 07/11/2025

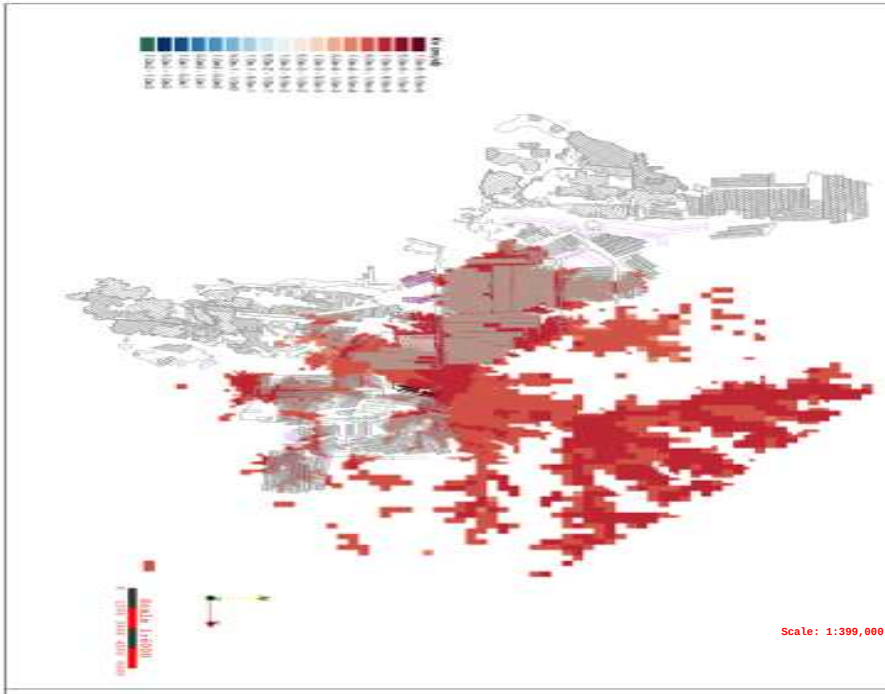
Drawn By: DAW

Checked By: JRWB

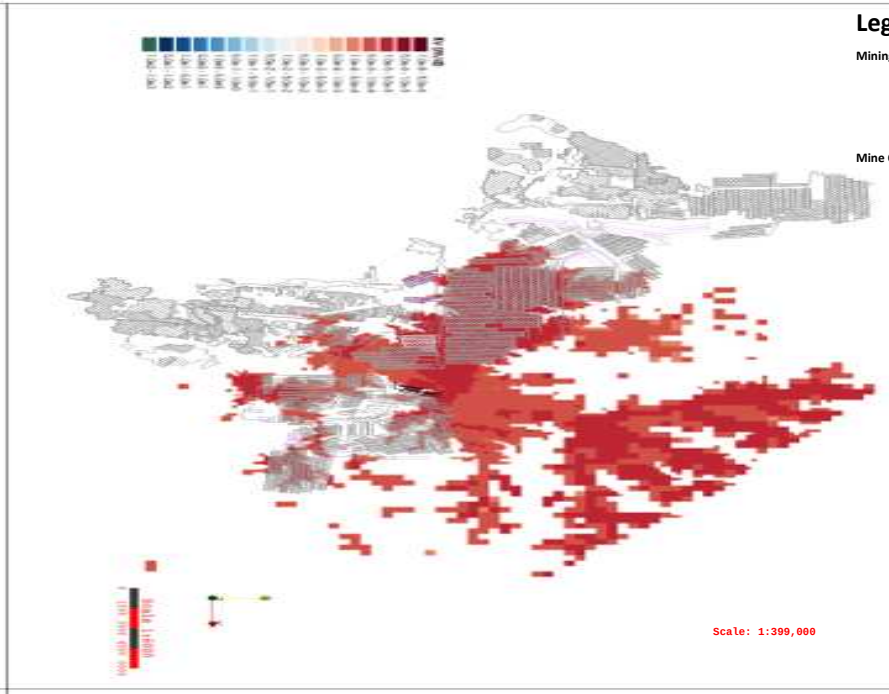
File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D057_Plan_Kv\68229_R01RevA_D057_Plan_Kv_L09.grf

Reference: 68229_R01RevA_PRO_02a

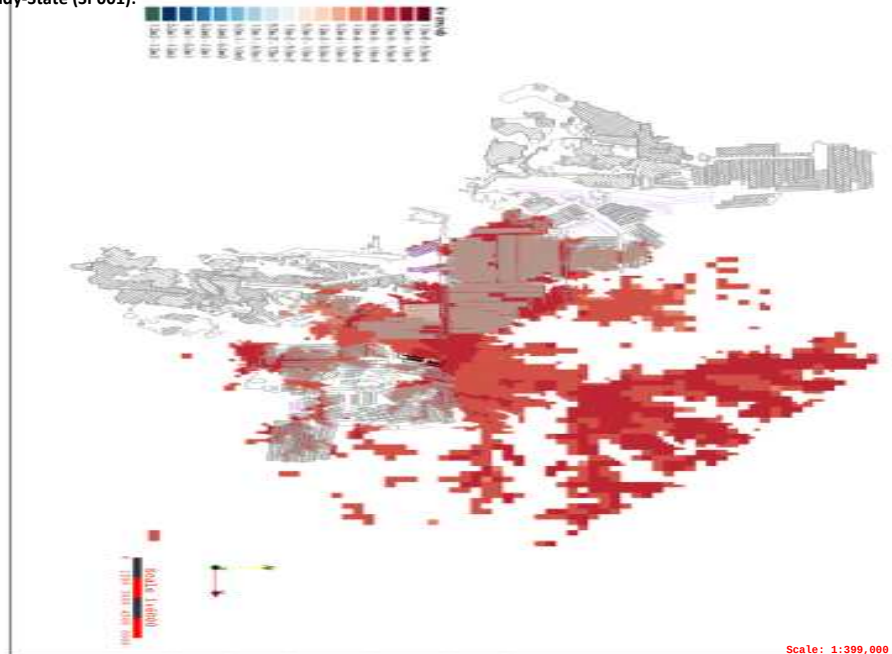
Figure E1b-09: Modelled Vertical Hydraulic Conductivity (m/d) - Layer 09



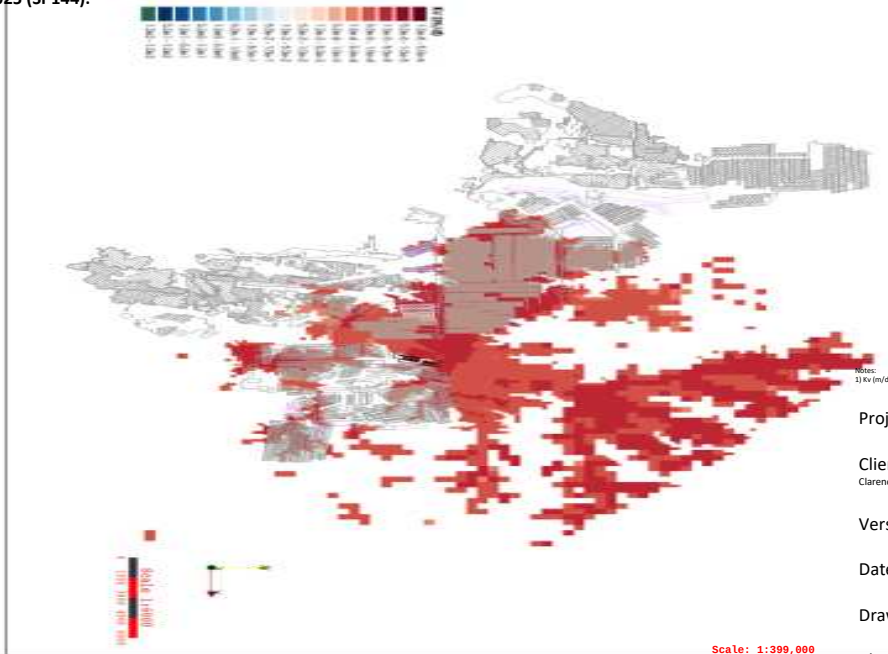
Steady-State (SP001):



September 2025 (SP144):



September 2026 (SP148):



December 2049 (SP241):

Legend

Mining Methods:

- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:

- Approved
- Existing
- Proposed
- Other Proposed

Notes:
1) Kv (m/d): Vertical Hydraulic Conductivity (m/d).

Project No: 68229

Client:
Clarence Colliery Pty Ltd

Version: R01RevA

Date: 07/11/2025

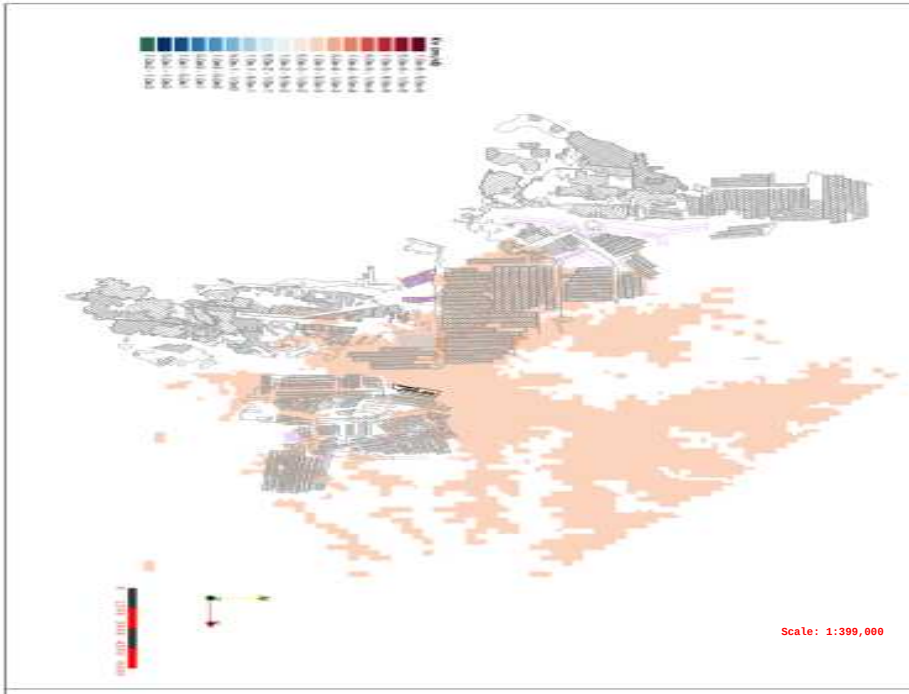
Drawn By: DAW

Checked By: JRWB

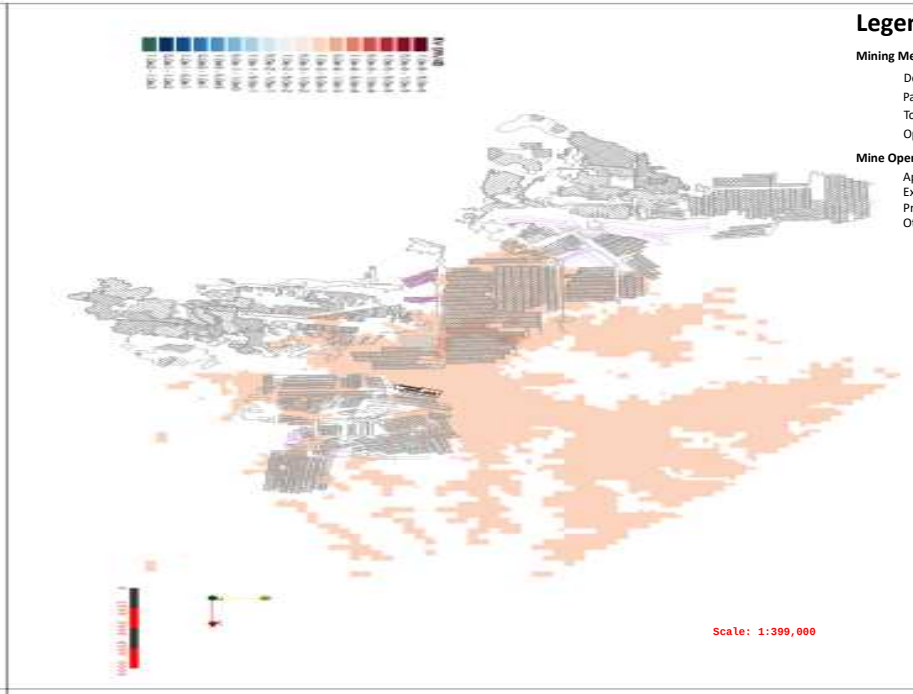
File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D057_Plan_Kv\68229_R01RevA_D057_Plan_Kv_L10.grf

Reference: 68229_R01RevA_PRO_02a

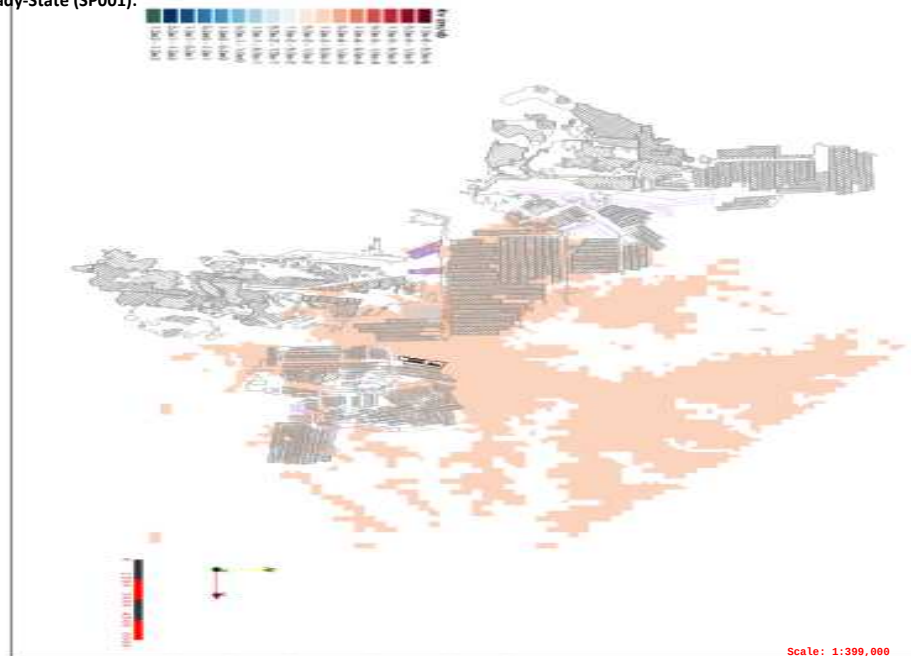
Figure E1b-10: Modelled Vertical Hydraulic Conductivity (m/d) - Layer 10



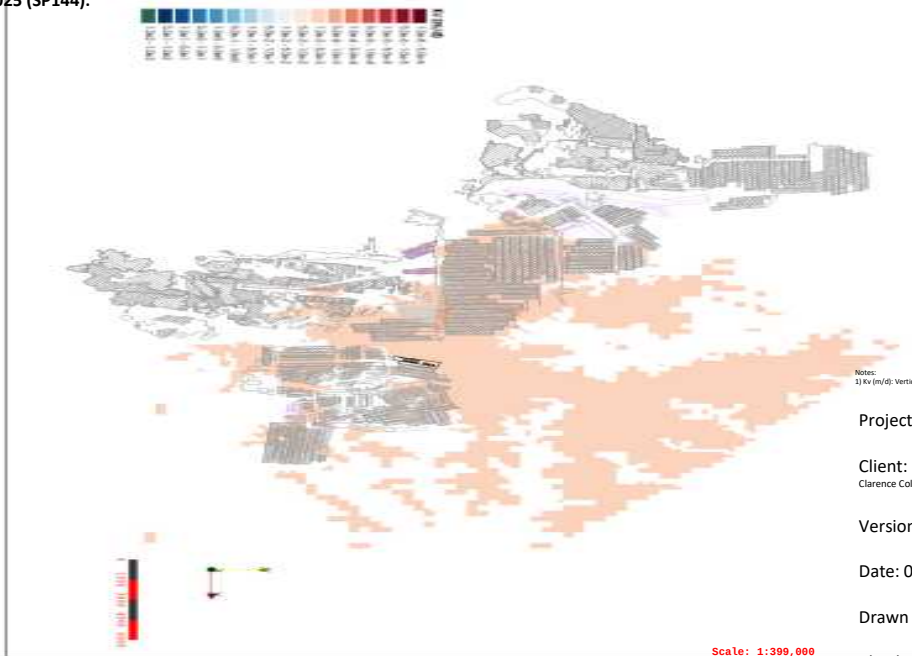
Steady-State (SP001):



September 2025 (SP144):



September 2026 (SP148):



December 2049 (SP241):

Legend

Mining Methods:

- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:

- Approved
- Existing
- Proposed
- Other Proposed

Notes:
1) Kv (m/d): Vertical Hydraulic Conductivity (m/d).

Project No: 68229

Client:
Clarence Colliery Pty Ltd

Version: R01RevA

Date: 07/11/2025

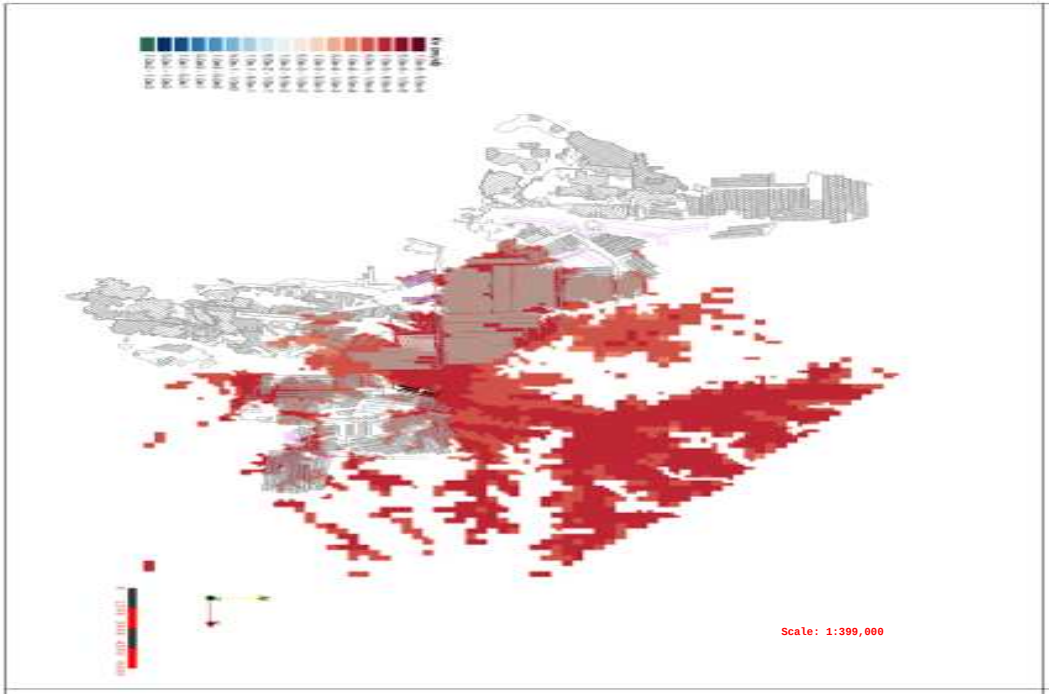
Drawn By: DAW

Checked By: JRWB

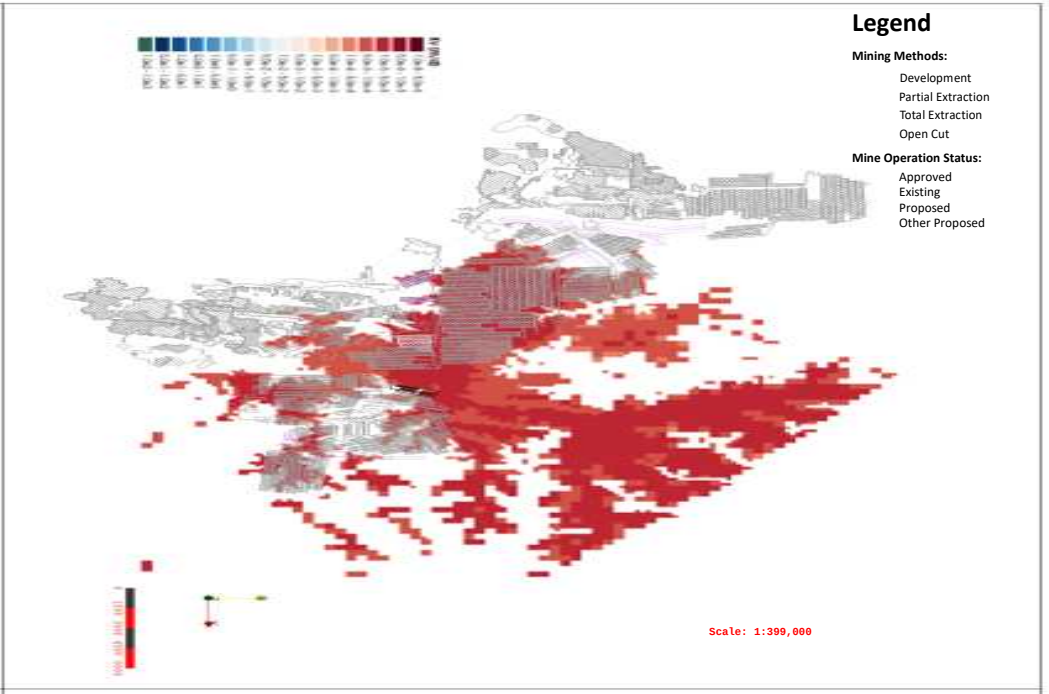
File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D057_Plan_Kv\68229_R01RevA_D057_Plan_Kv_L11.grf

Reference: 68229_R01RevA_PRO_02a

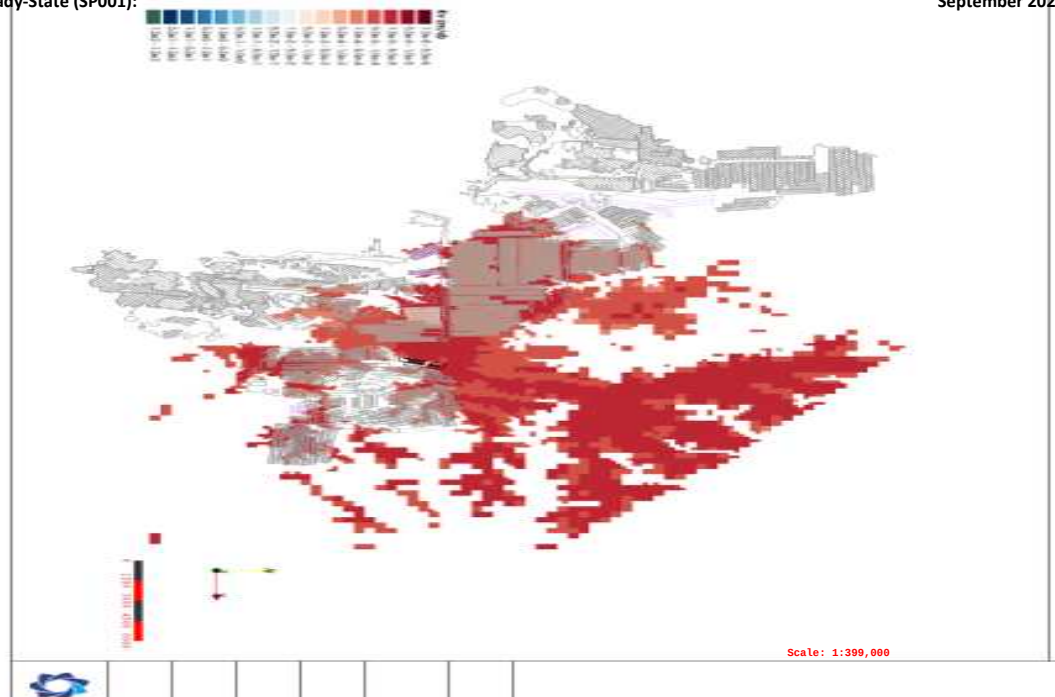
Figure E1b-11: Modelled Vertical Hydraulic Conductivity (m/d) - Layer 11



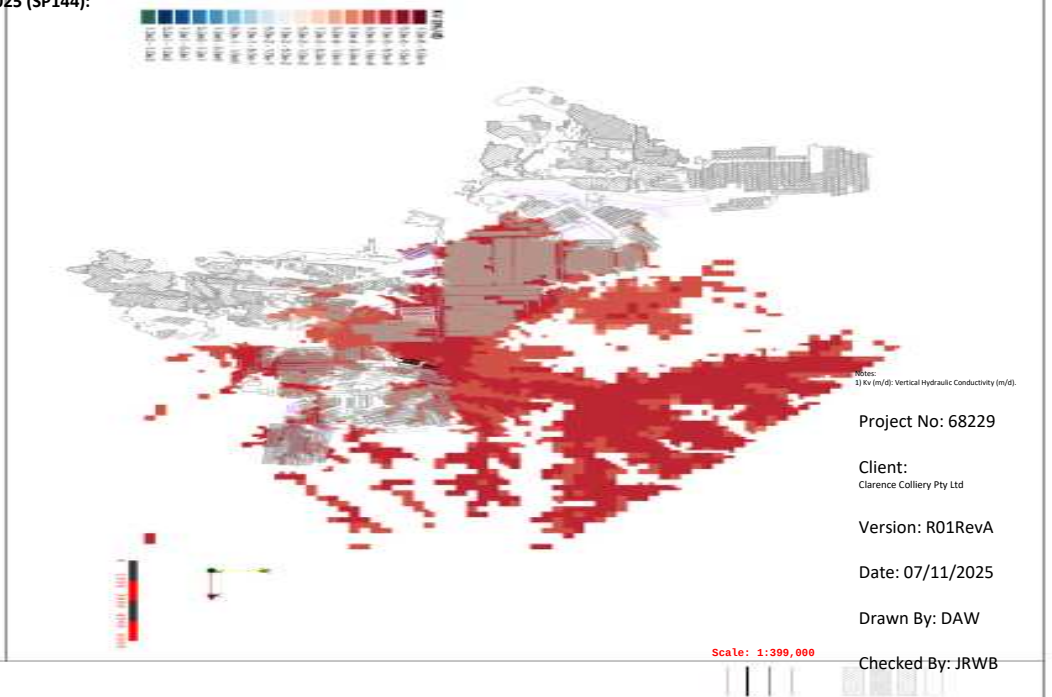
Steady-State (SP001):



September 2025 (SP144):



September 2026 (SP148):



December 2049 (SP241):

Legend

Mining Methods:

- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:

- Approved
- Existing
- Proposed
- Other Proposed

Notes:
1) Kv (m/d): Vertical Hydraulic Conductivity (m/d).

Project No: 68229

Client:
Clarence Colliery Pty Ltd

Version: R01RevA

Date: 07/11/2025

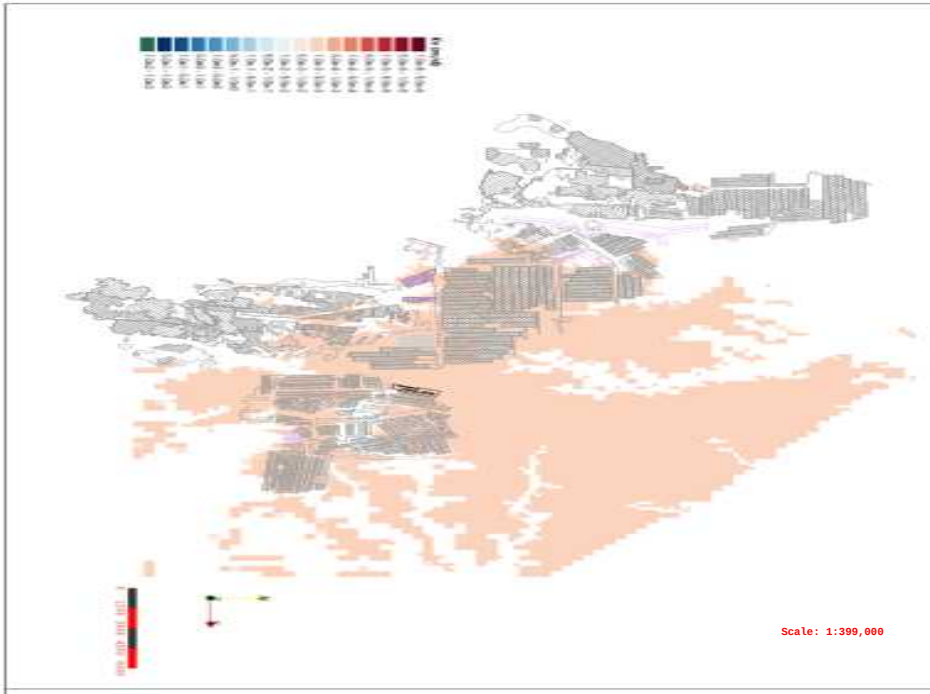
Drawn By: DAW

Checked By: JRWB

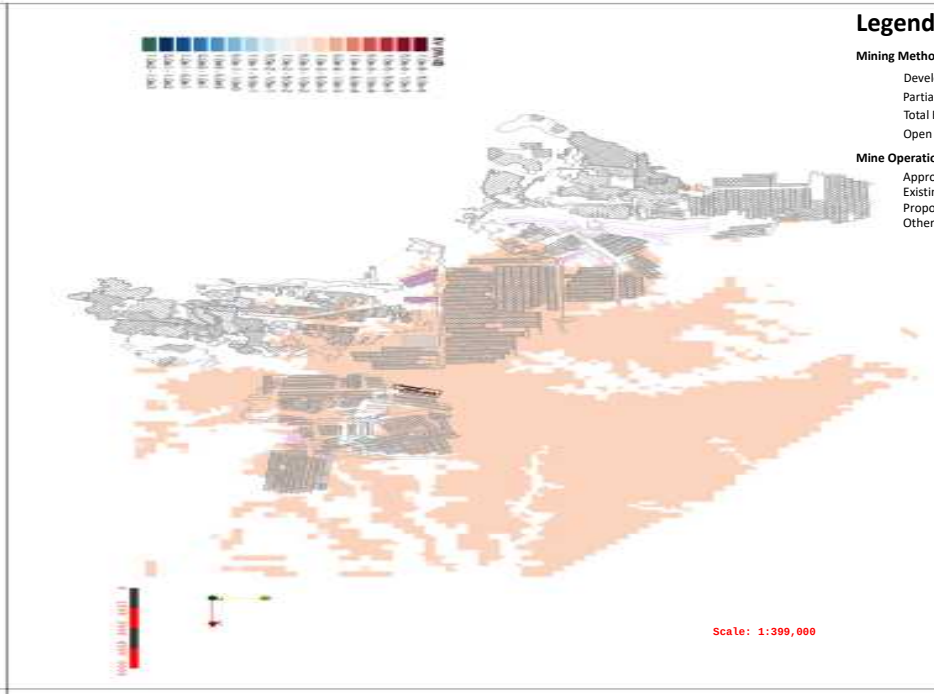
File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D057_Plan_Kv\68229_R01RevA_D057_Plan_Kv_L12.grf

Reference: 68229_R01RevA_PRO_02a

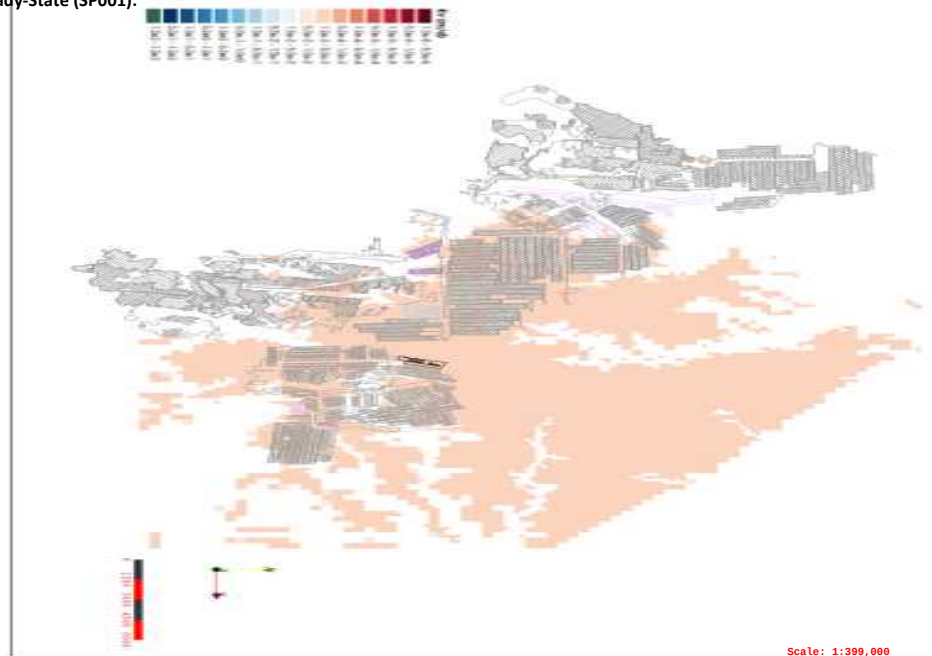
Figure E1b-12: Modelled Vertical Hydraulic Conductivity (m/d) - Layer 12



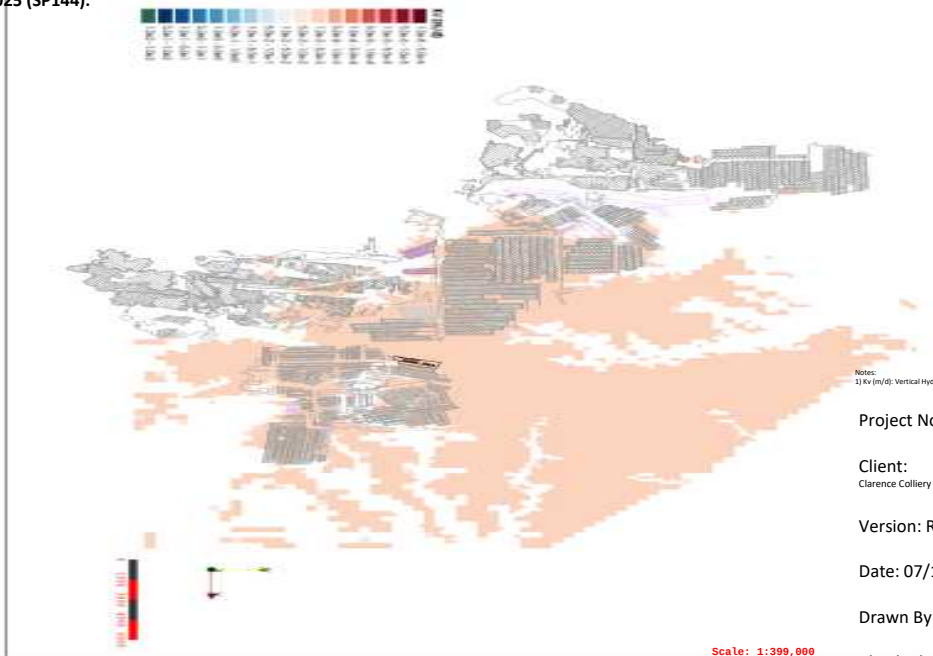
Steady-State (SP001):



September 2025 (SP144):



September 2026 (SP148):



December 2049 (SP241):

Legend

Mining Methods:

- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:

- Approved
- Existing
- Proposed
- Other Proposed

Notes:
1) Kv (m/d): Vertical Hydraulic Conductivity (m/d).

Project No: 68229

Client:
Clarence Colliery Pty Ltd

Version: R01RevA

Date: 07/11/2025

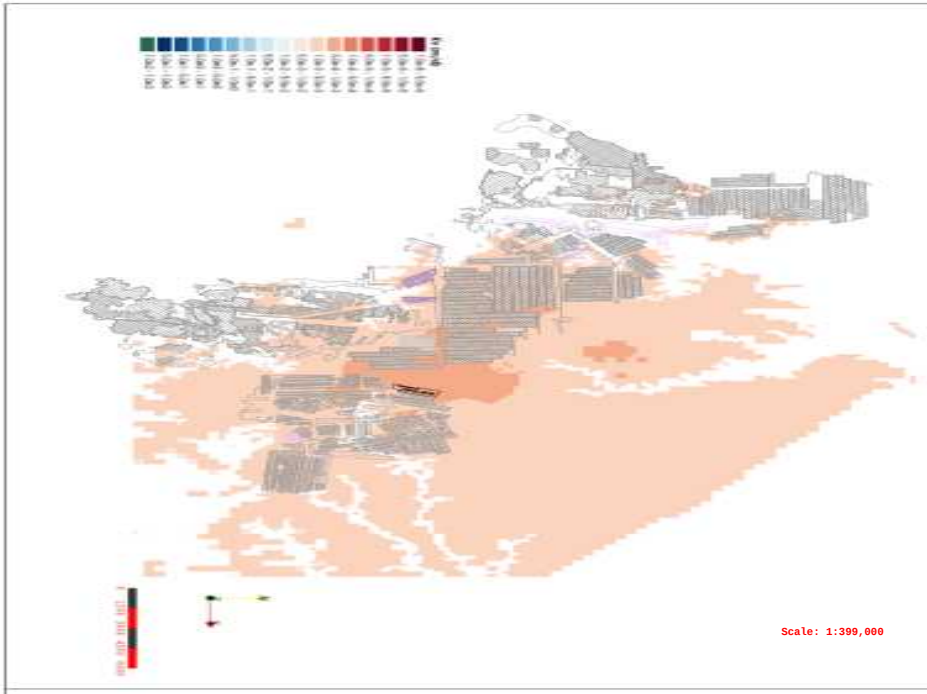
Drawn By: DAW

Checked By: JRWB

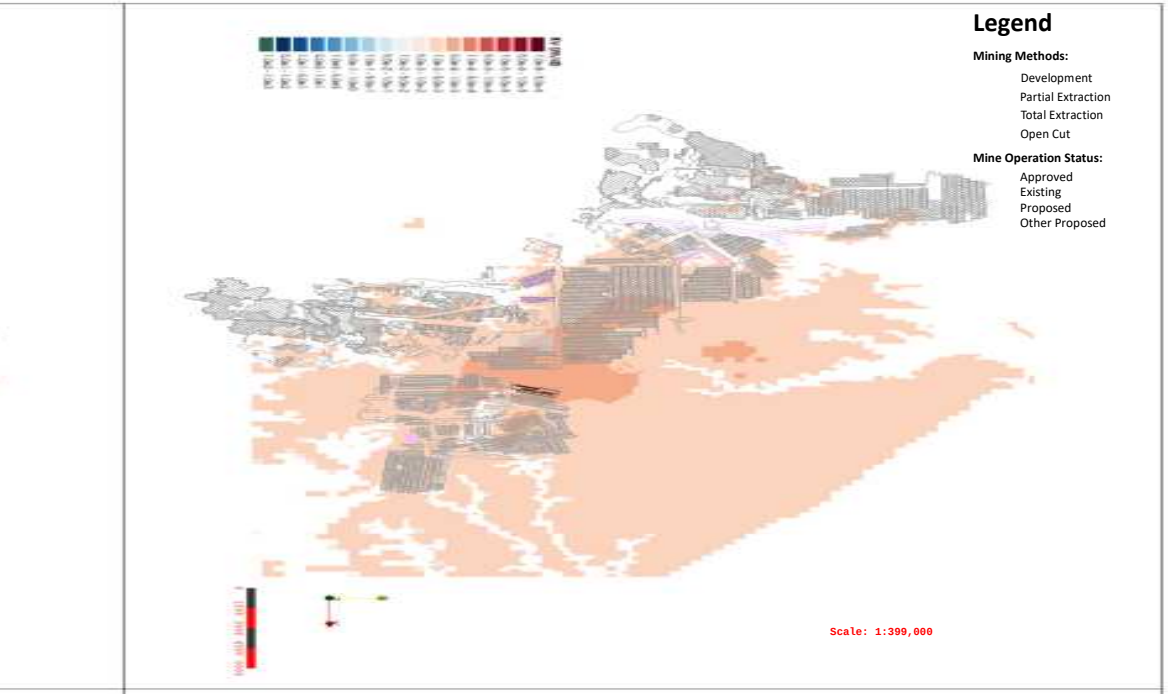
File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D057_Plan_Kv\68229_R01RevA_D057_Plan_Kv_L13.grf

Reference: 68229_R01RevA_PRO_02a

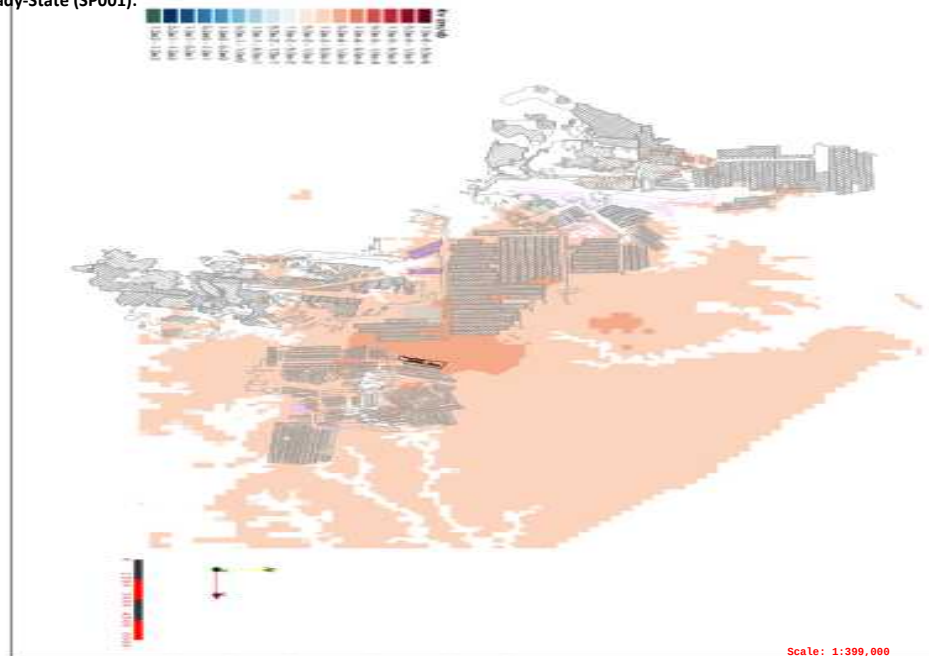
Figure E1b-13: Modelled Vertical Hydraulic Conductivity (m/d) - Layer 13



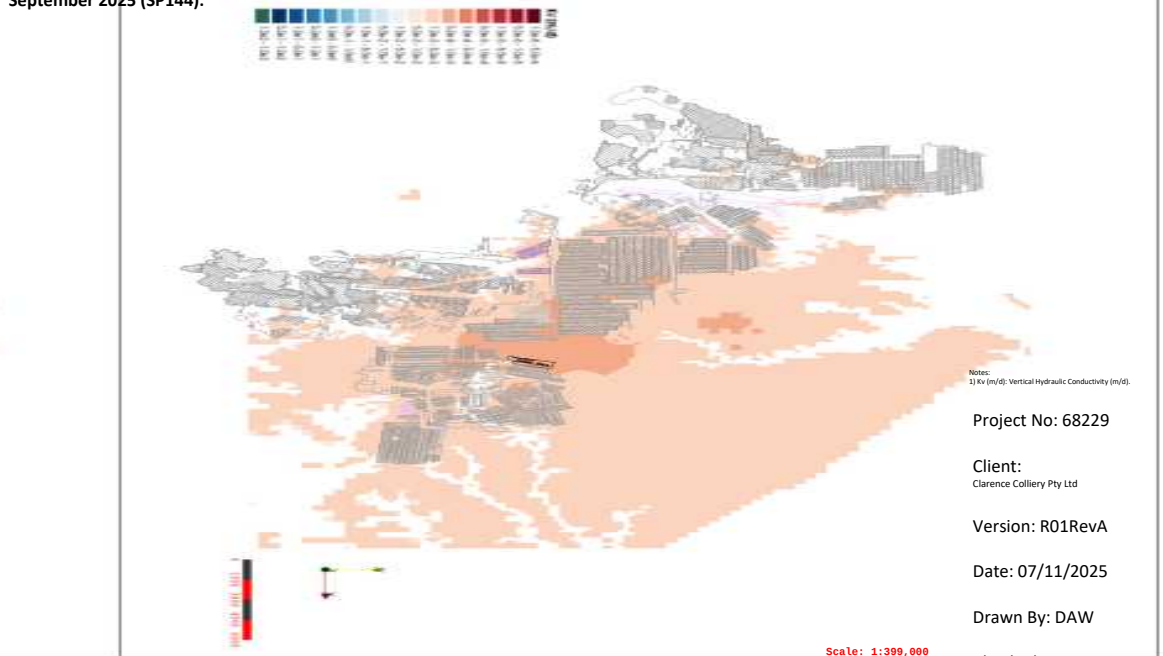
Steady-State (SP001):



September 2025 (SP144):



September 2026 (SP148):



December 2049 (SP241):

Legend

Mining Methods:

- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:

- Approved
- Existing
- Proposed
- Other Proposed

Notes:
1) Kv (m/d): Vertical Hydraulic Conductivity (m/d).

Project No: 68229

Client:
Clarence Colliery Pty Ltd

Version: R01RevA

Date: 07/11/2025

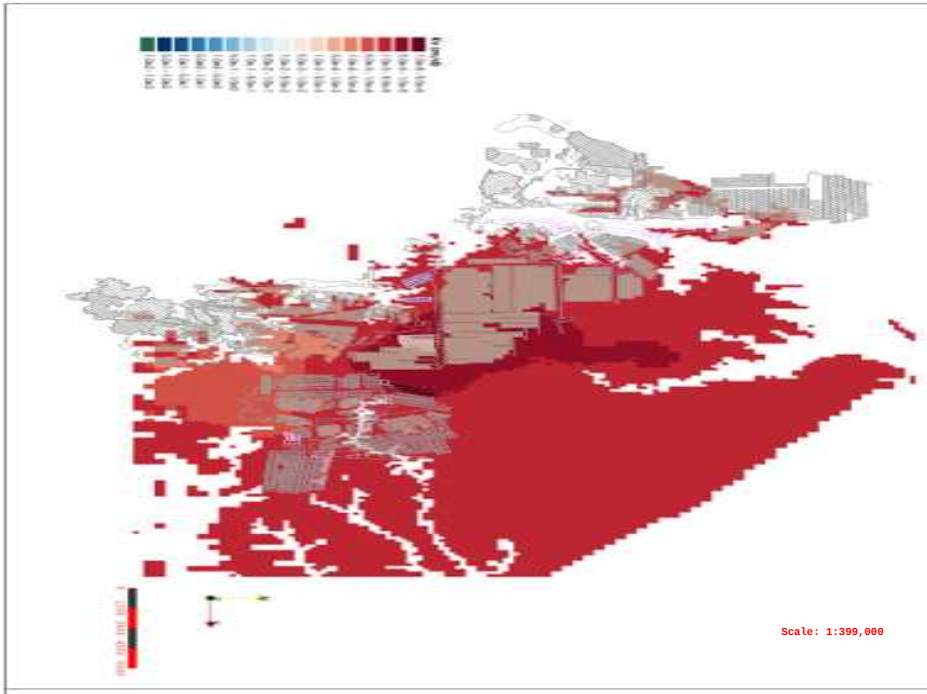
Drawn By: DAW

Checked By: JRWB

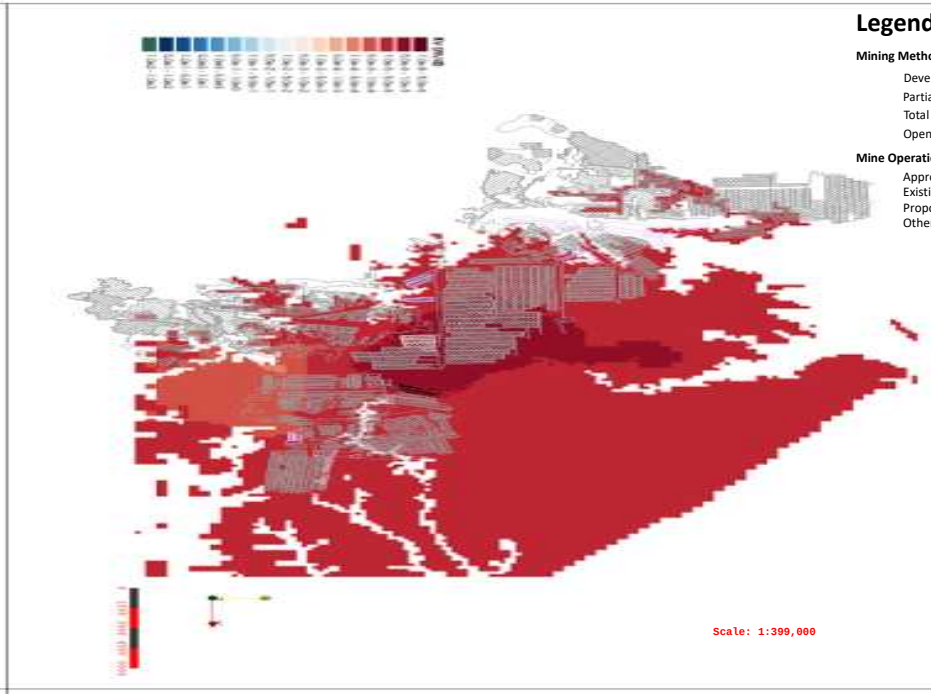
File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D057_Plan_Kv\68229_R01RevA_D057_Plan_Kv_L14.grf

Reference: 68229_R01RevA_PRO_02a

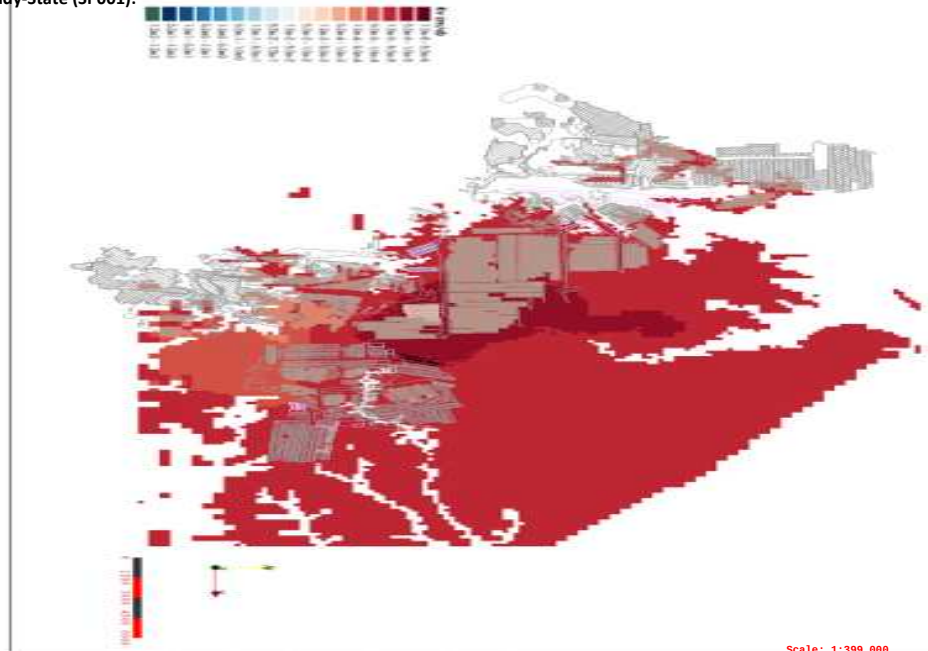
Figure E1b-14: Modelled Vertical Hydraulic Conductivity (m/d) - Layer 14



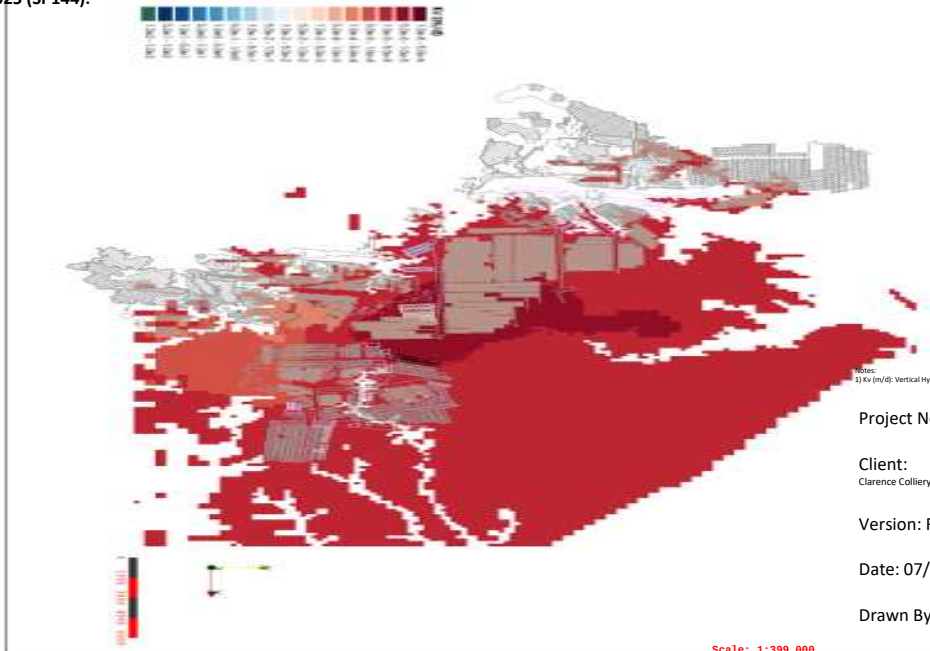
Steady-State (SP001):



September 2025 (SP144):



September 2026 (SP148):



December 2049 (SP241):

Legend

Mining Methods:

- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:

- Approved
- Existing
- Proposed
- Other Proposed

Notes:
1) Kv (m/d): Vertical Hydraulic Conductivity (m/d).

Project No: 68229

Client:
Clarence Colliery Pty Ltd

Version: R01RevA

Date: 07/11/2025

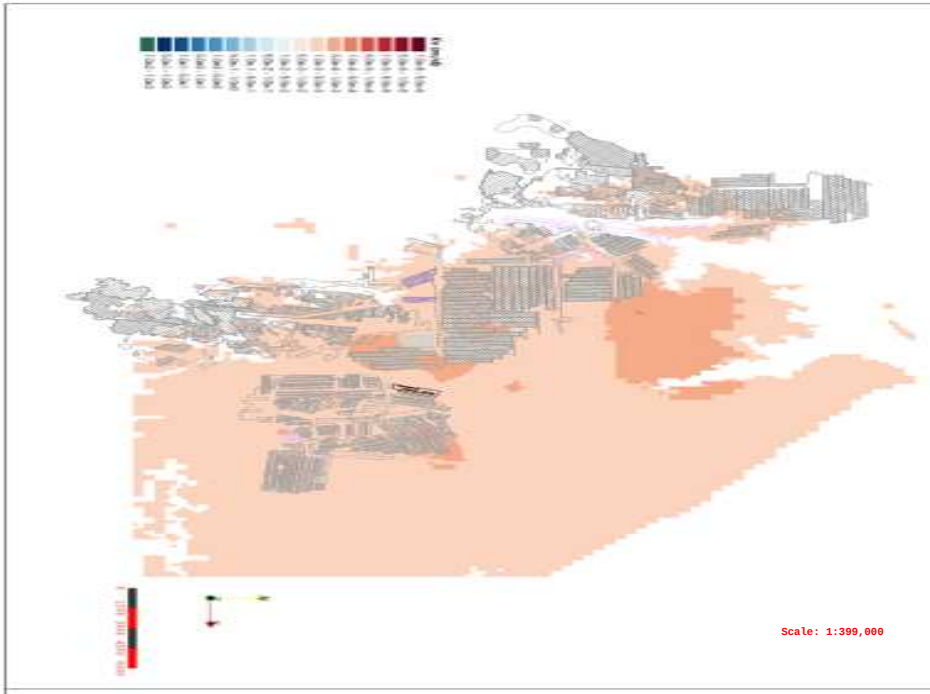
Drawn By: DAW

Checked By: JRWB

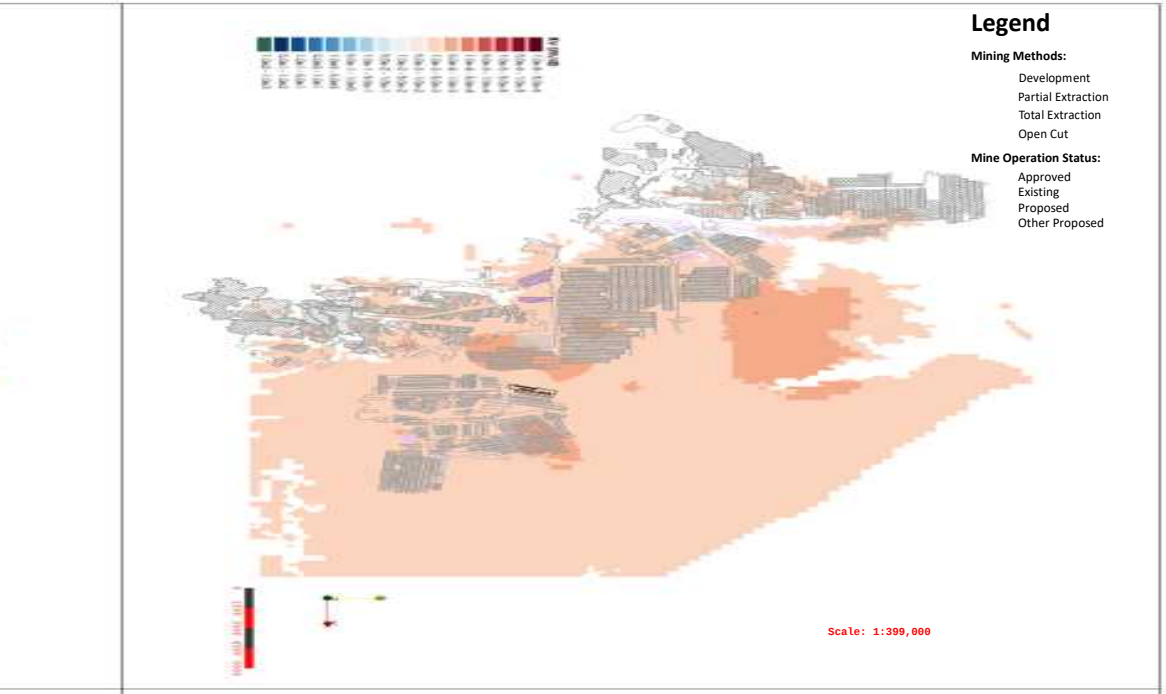
File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D057_Plan_Kv_L15.grf

Reference: 68229_R01RevA_PRO_02a

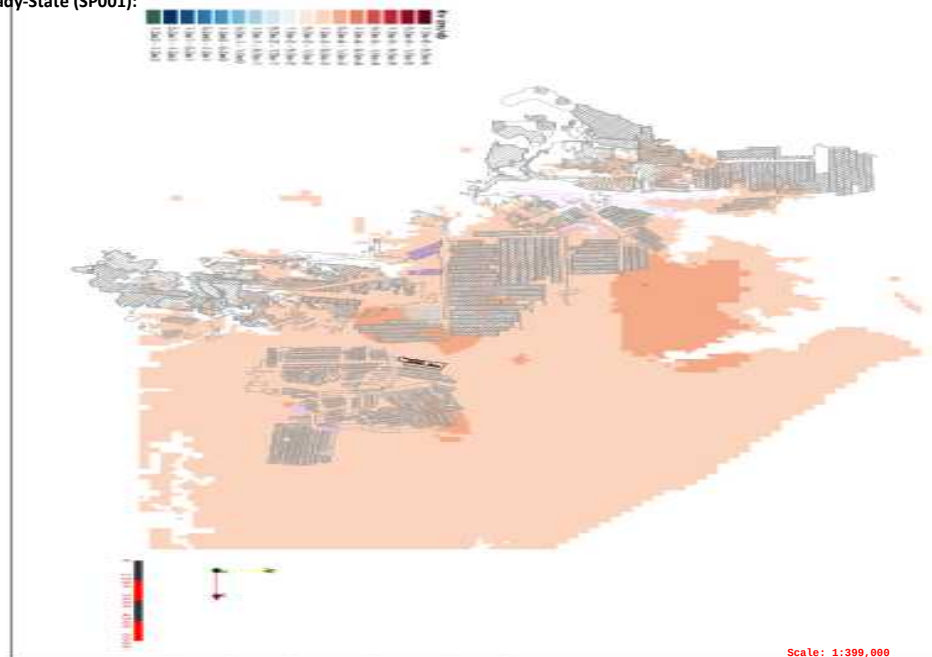
Figure E1b-15: Modelled Vertical Hydraulic Conductivity (m/d) - Layer 15



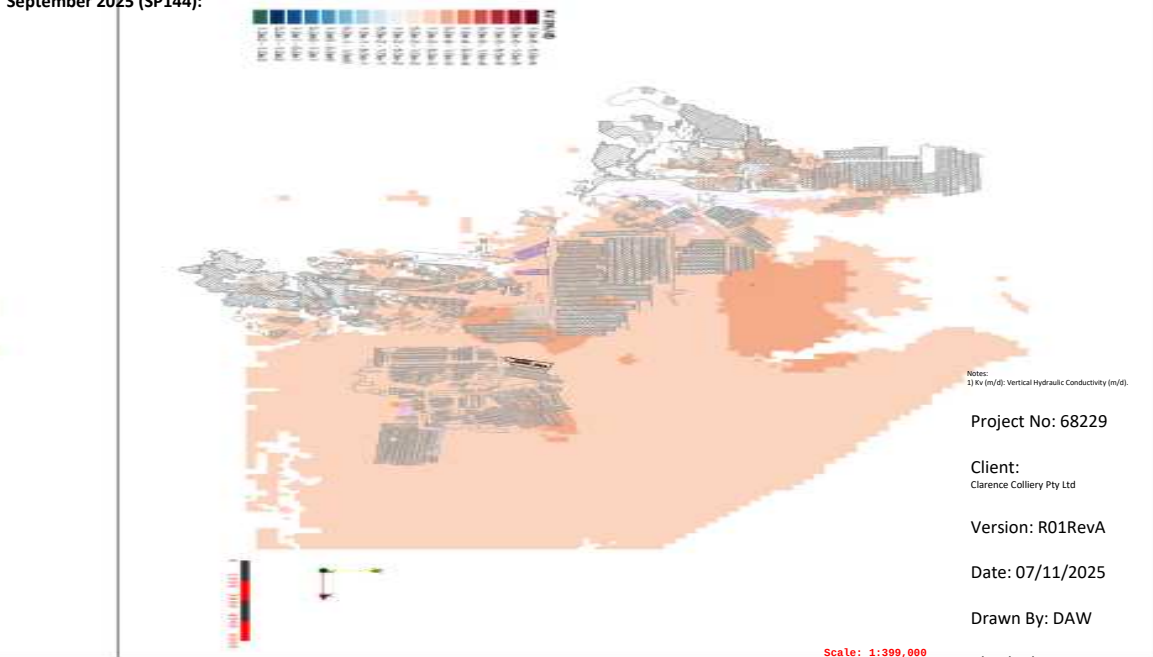
Steady-State (SP001):



September 2025 (SP144):



September 2026 (SP148):



December 2049 (SP241):

Legend

Mining Methods:

- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:

- Approved
- Existing
- Proposed
- Other Proposed

Notes:
1) Kv (m/d): Vertical Hydraulic Conductivity (m/d).

Project No: 68229

Client:
Clarence Colliery Pty Ltd

Version: R01RevA

Date: 07/11/2025

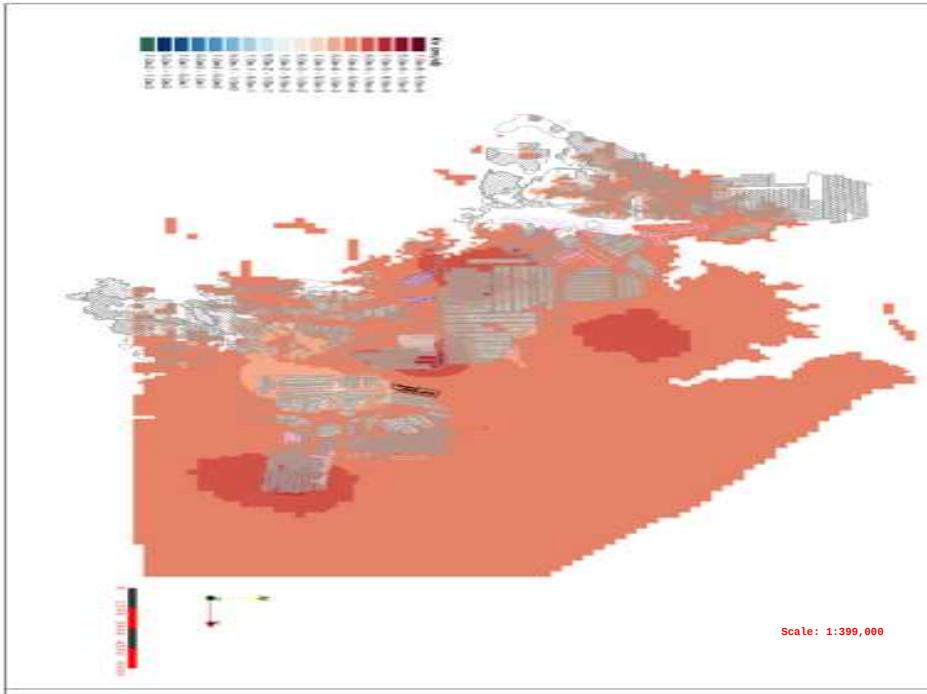
Drawn By: DAW

Checked By: JRWB

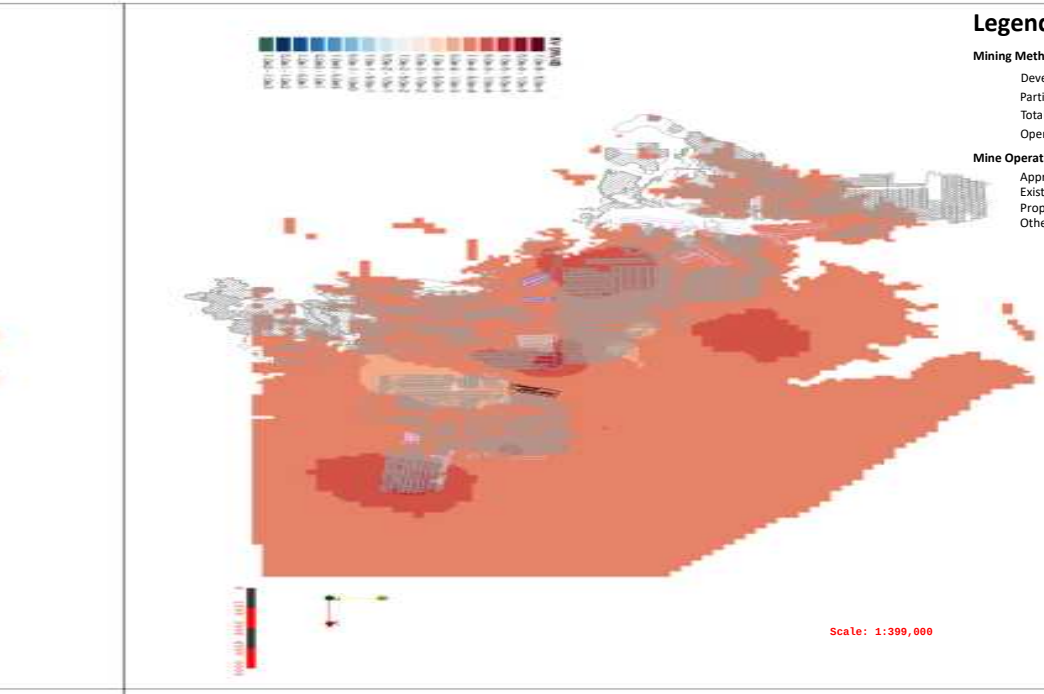
File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D057_Plan_Kv\68229_R01RevA_D057_Plan_Kv_L16.grf

Reference: 68229_R01RevA_PRO_02a

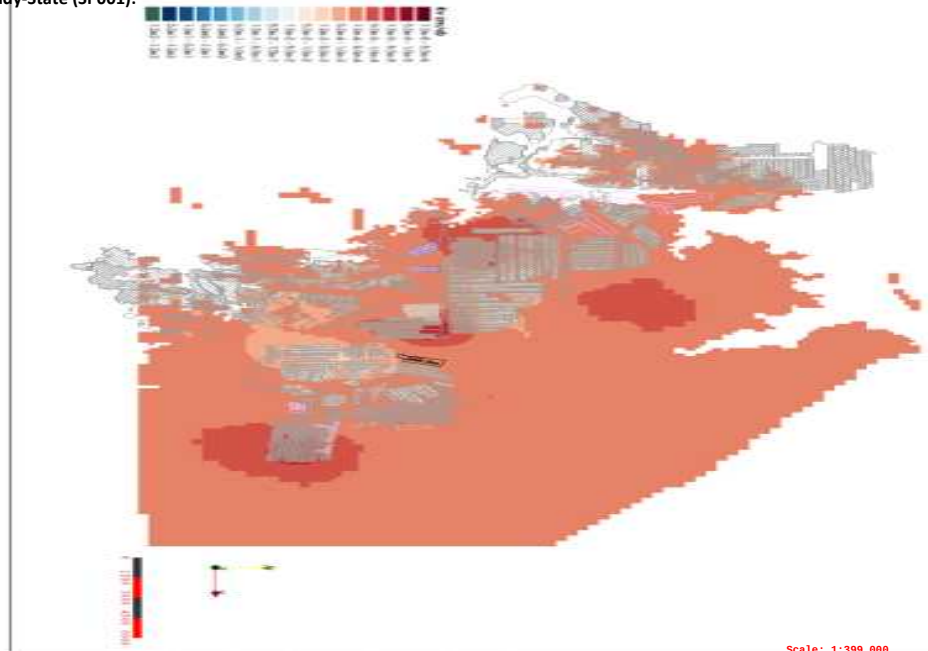
Figure E1b-16: Modelled Vertical Hydraulic Conductivity (m/d) - Layer 16



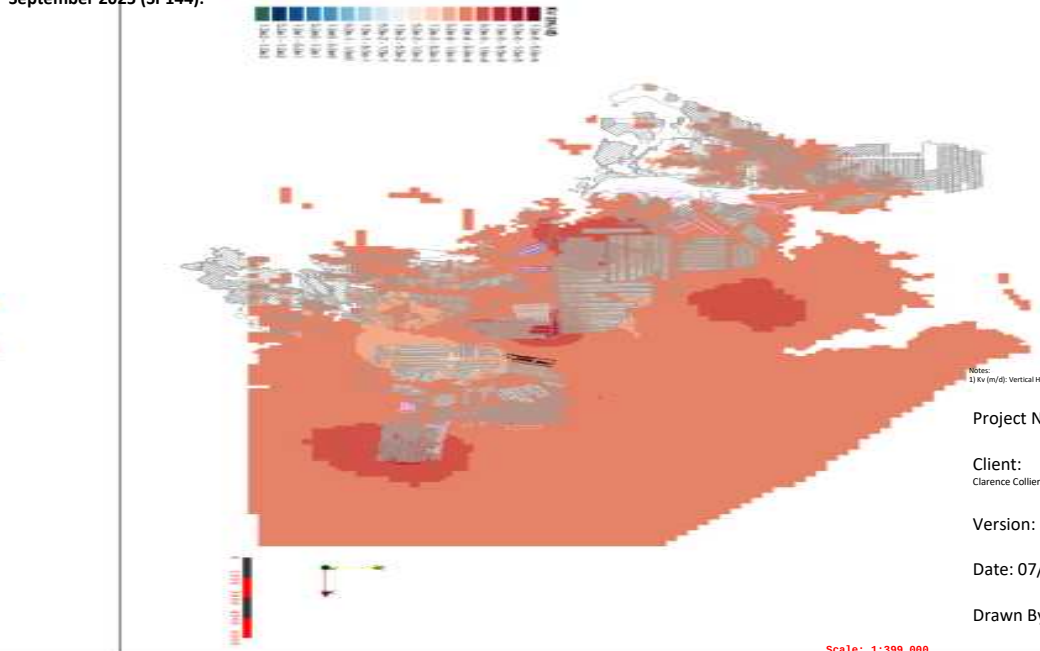
Steady-State (SP001):



September 2025 (SP144):



September 2026 (SP148):



December 2049 (SP241):

Legend

Mining Methods:

- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:

- Approved
- Existing
- Proposed
- Other Proposed

Notes:
1) Kv (m/d): Vertical Hydraulic Conductivity (m/d).

Project No: 68229

Client:
Clarence Colliery Pty Ltd

Version: R01RevA

Date: 07/11/2025

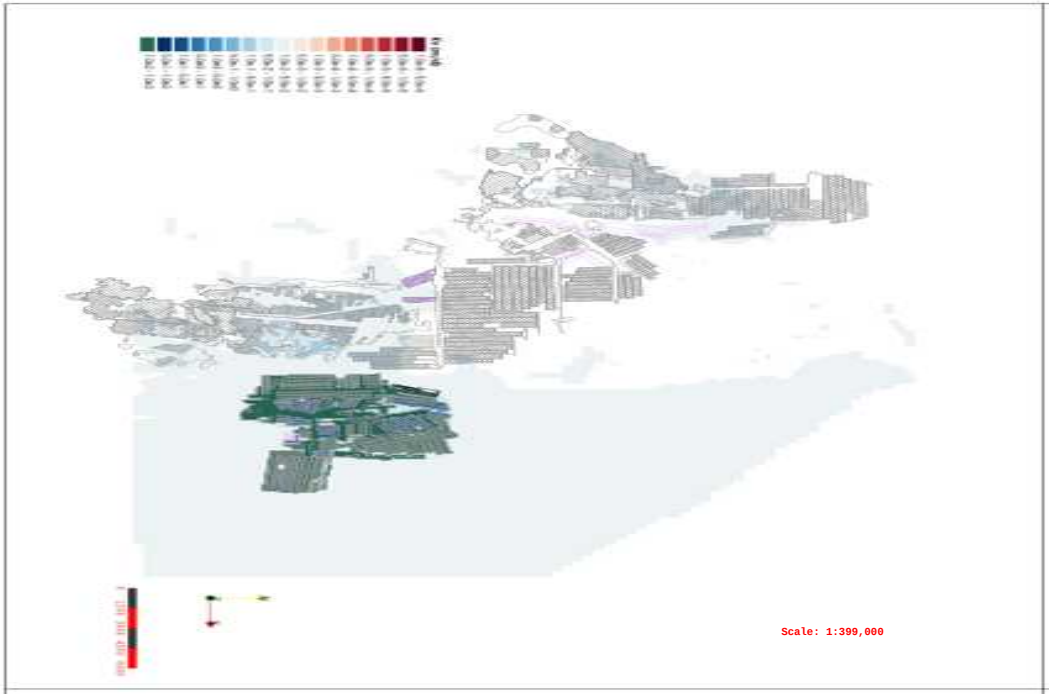
Drawn By: DAW

Checked By: JRWB

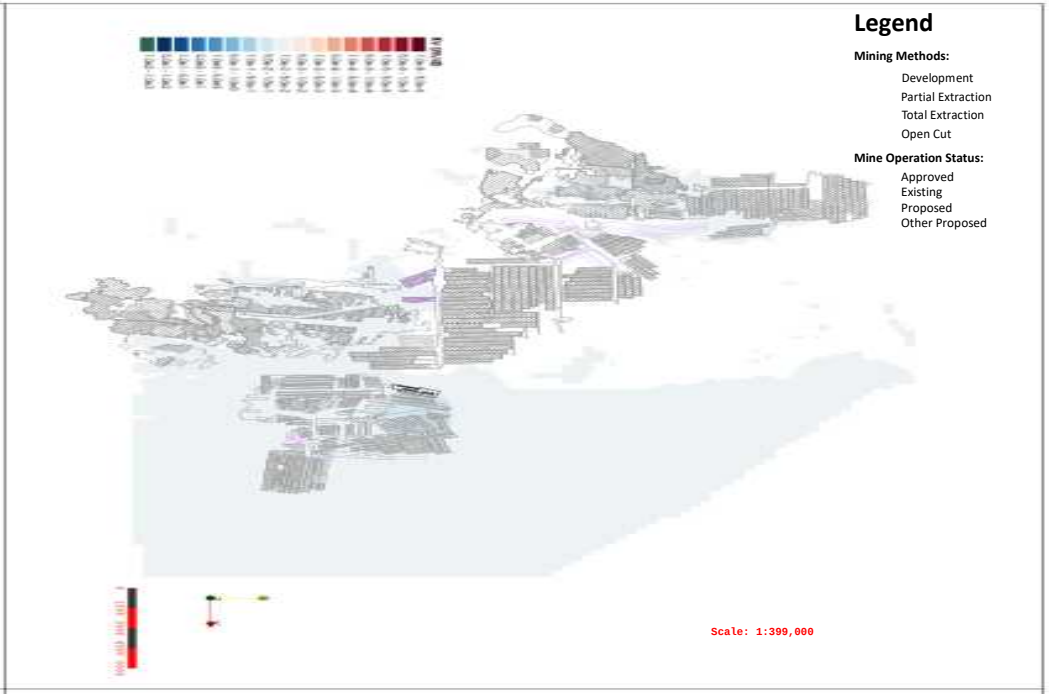
File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D057_Plan_Kv\68229_R01RevA_D057_Plan_Kv_L17.grf

Reference: 68229_R01RevA_PRO_02a

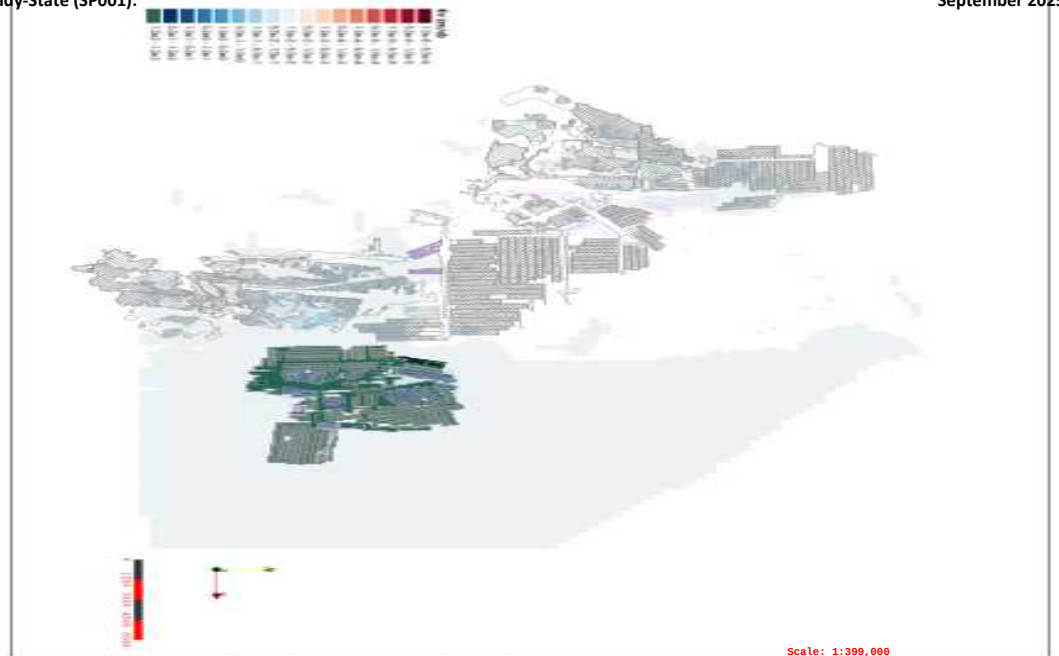
Figure E1b-17: Modelled Vertical Hydraulic Conductivity (m/d) - Layer 17



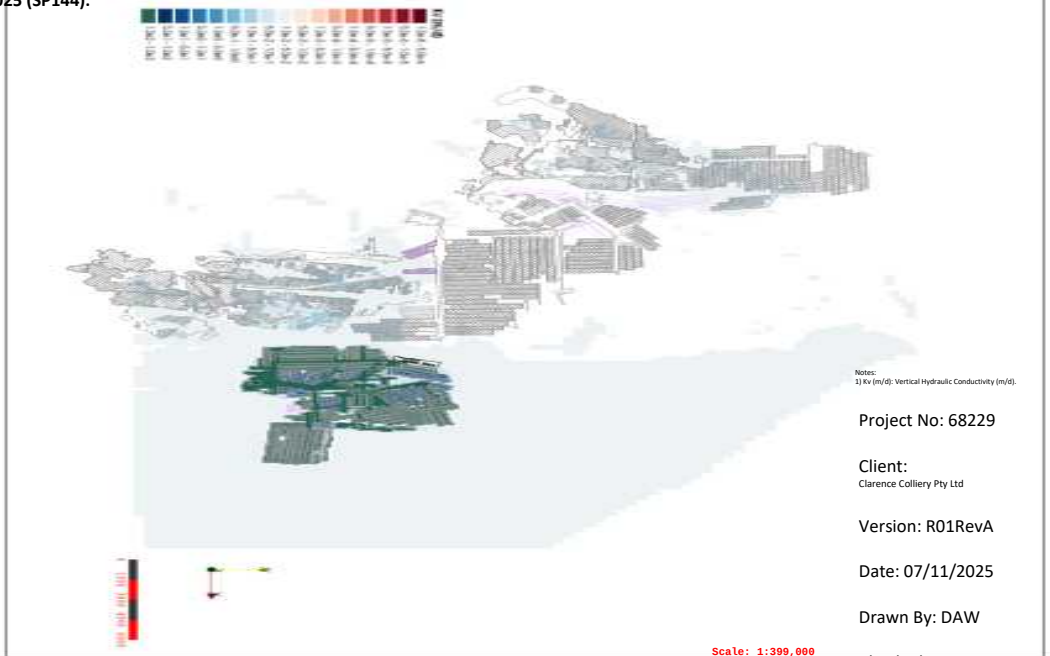
Steady-State (SP001):



September 2025 (SP144):



September 2026 (SP148):



December 2049 (SP241):

Legend

Mining Methods:

- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:

- Approved
- Existing
- Proposed
- Other Proposed

Notes:
1) Kv (m/d): Vertical Hydraulic Conductivity (m/d).

Project No: 68229

Client:
Clarence Colliery Pty Ltd

Version: R01RevA

Date: 07/11/2025

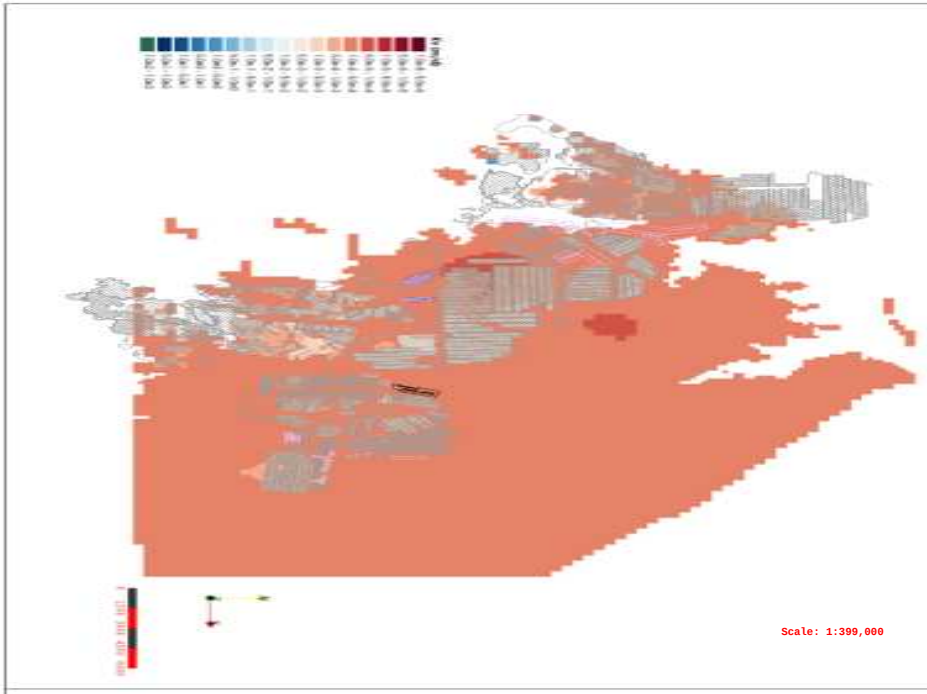
Drawn By: DAW

Checked By: JRWB

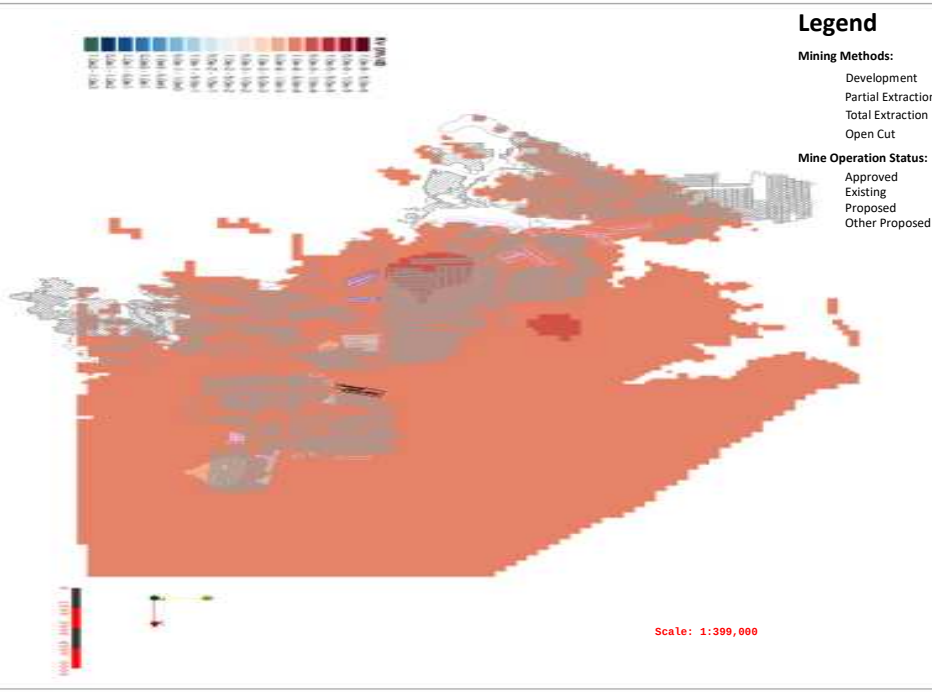
File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D057_Plan_Kv\68229_R01RevA_D057_Plan_Kv_L18.grf

Reference: 68229_R01RevA_PRO_02a

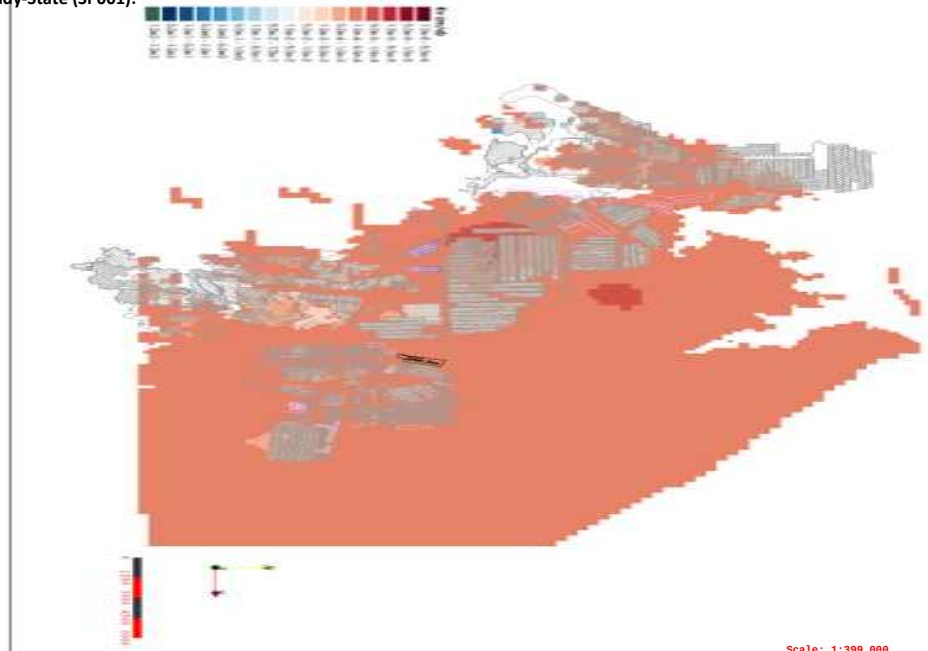
Figure E1b-18: Modelled Vertical Hydraulic Conductivity (m/d) - Layer 18



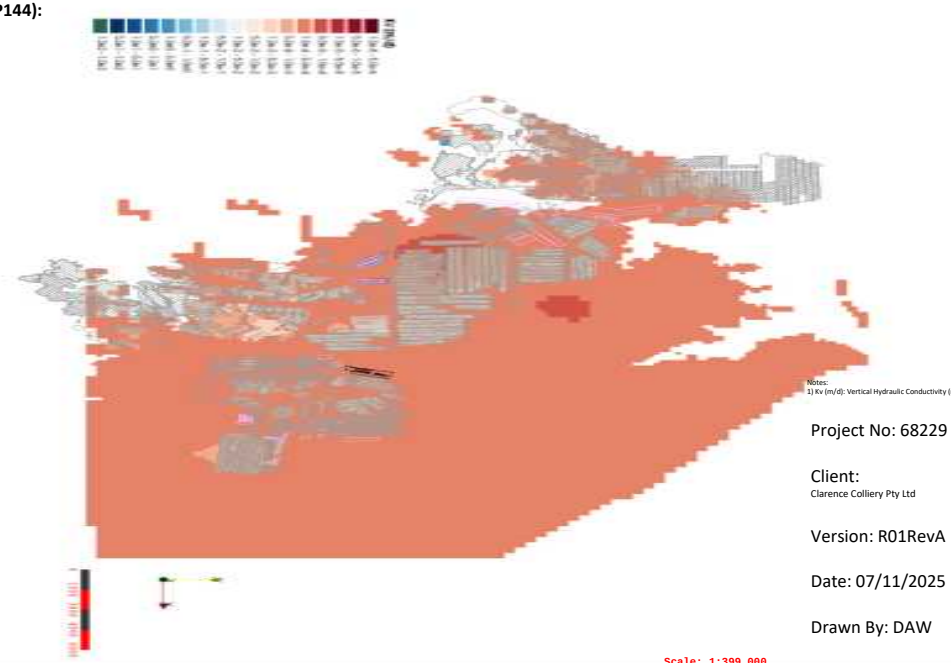
Steady-State (SP001):



September 2025 (SP144):



September 2026 (SP148):



December 2049 (SP241):

Legend

Mining Methods:

- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:

- Approved
- Existing
- Proposed
- Other Proposed

Notes:
1) Kv (m/d): Vertical Hydraulic Conductivity (m/d).

Project No: 68229

Client:
Clarence Colliery Pty Ltd

Version: R01RevA

Date: 07/11/2025

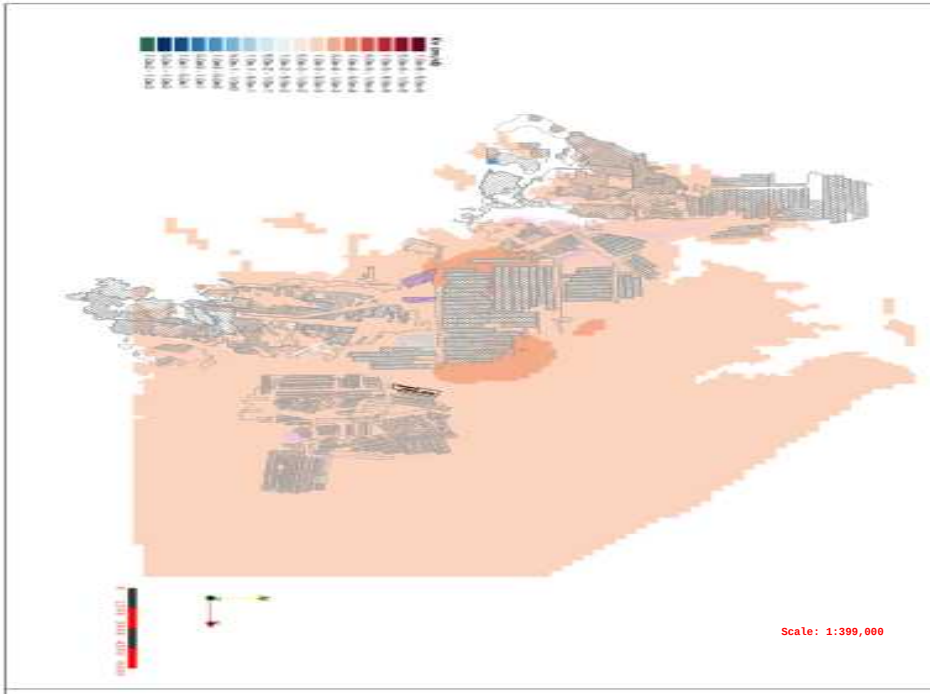
Drawn By: DAW

Checked By: JRWB

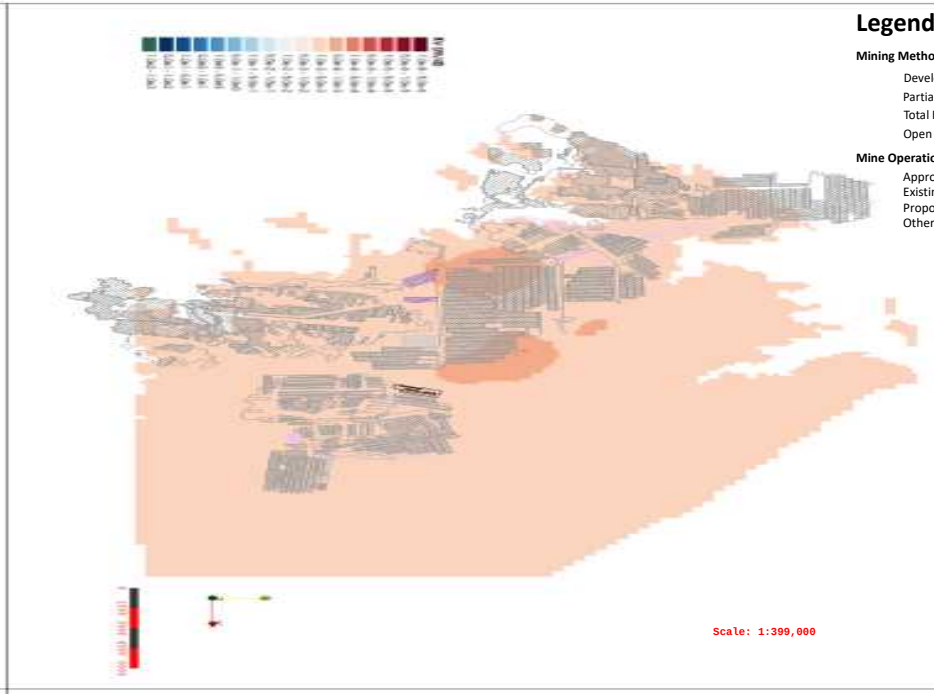
File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D057_Plan_Kv\68229_R01RevA_D057_Plan_Kv_L19.grf

Reference: 68229_R01RevA_PRO_02a

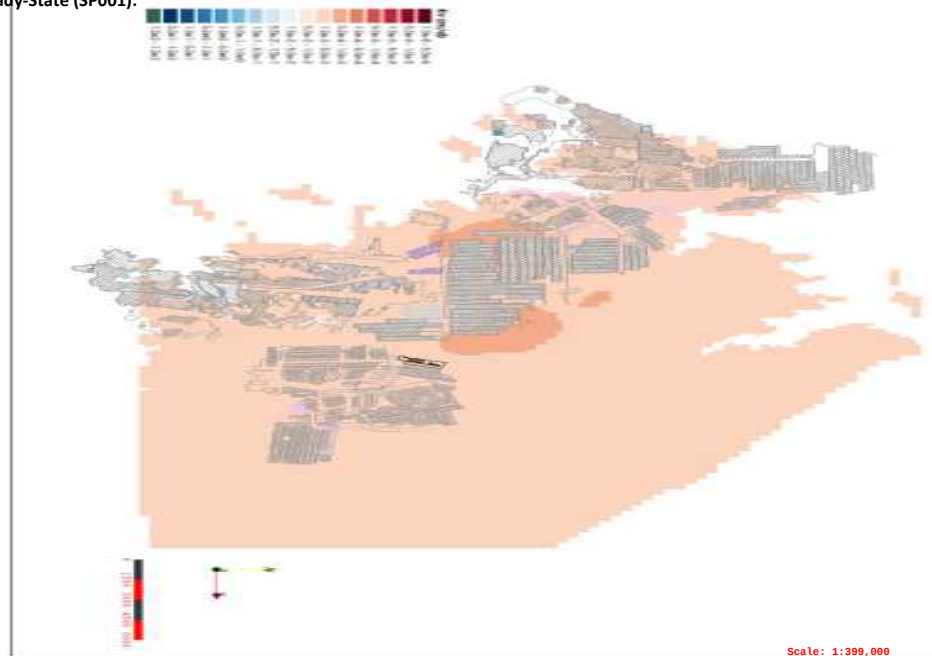
Figure E1b-19: Modelled Vertical Hydraulic Conductivity (m/d) - Layer 19



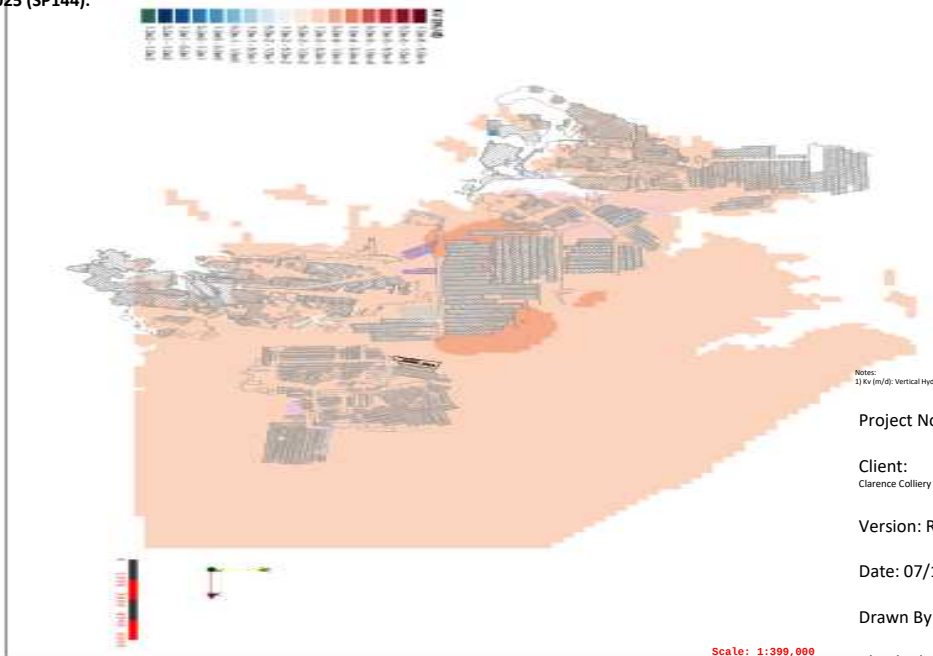
Steady-State (SP001):



September 2025 (SP144):



September 2026 (SP148):



December 2049 (SP241):

Legend

Mining Methods:

- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:

- Approved
- Existing
- Proposed
- Other Proposed

Notes:
1) Kv (m/d): Vertical Hydraulic Conductivity (m/d).

Project No: 68229

Client:
Clarence Colliery Pty Ltd

Version: R01RevA

Date: 07/11/2025

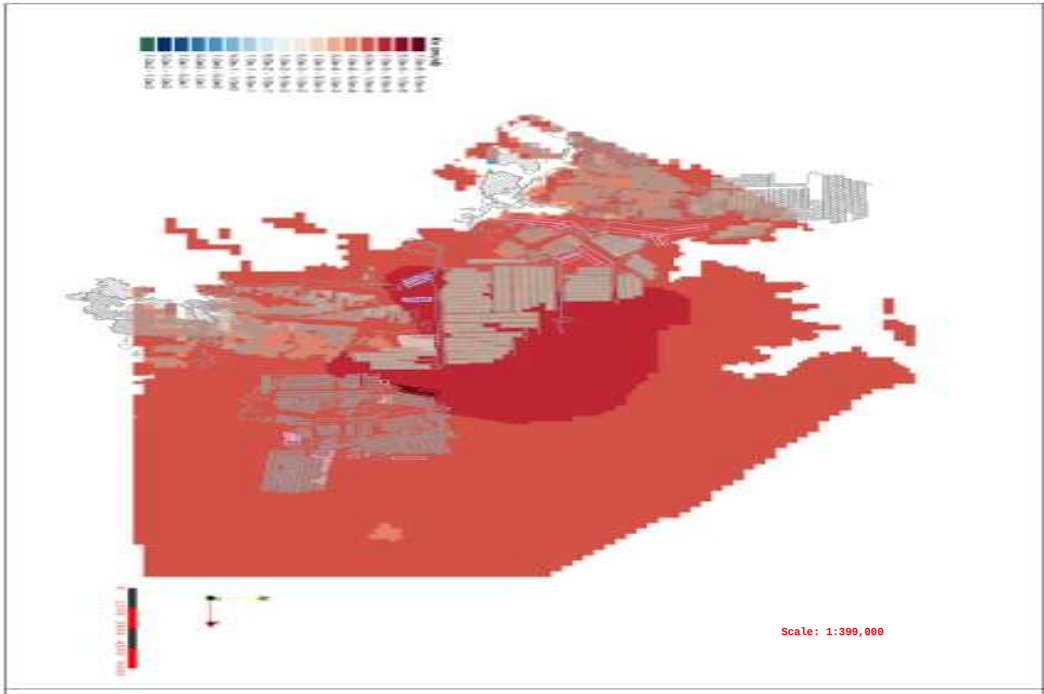
Drawn By: DAW

Checked By: JRWB

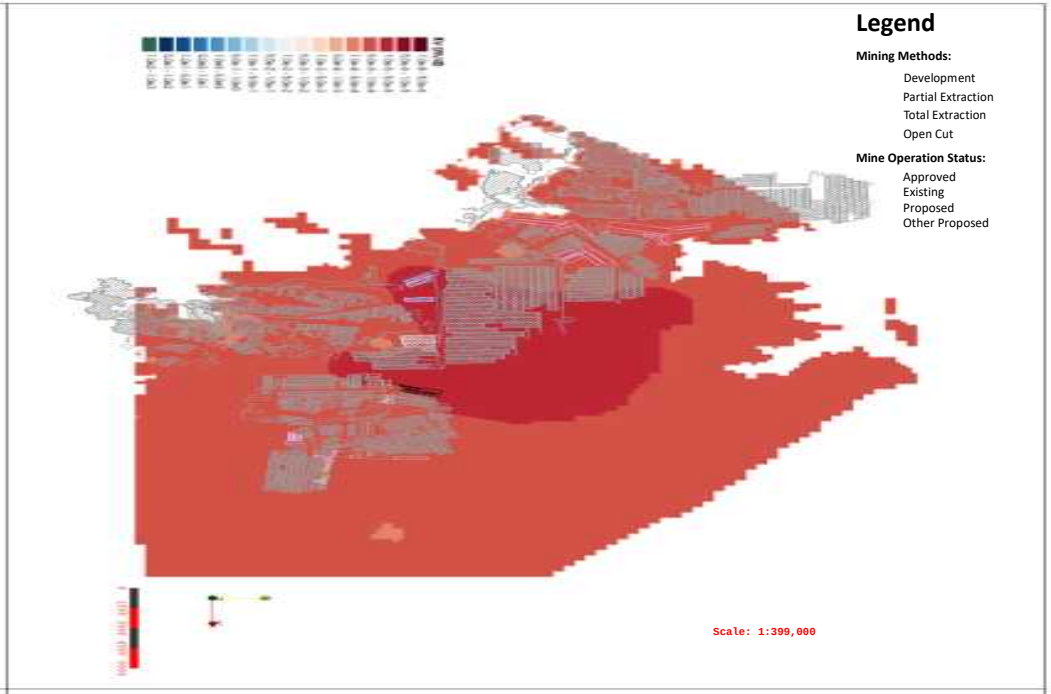
File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D057_Plan_Kv_L20.grf

Reference: 68229_R01RevA_PRO_02a

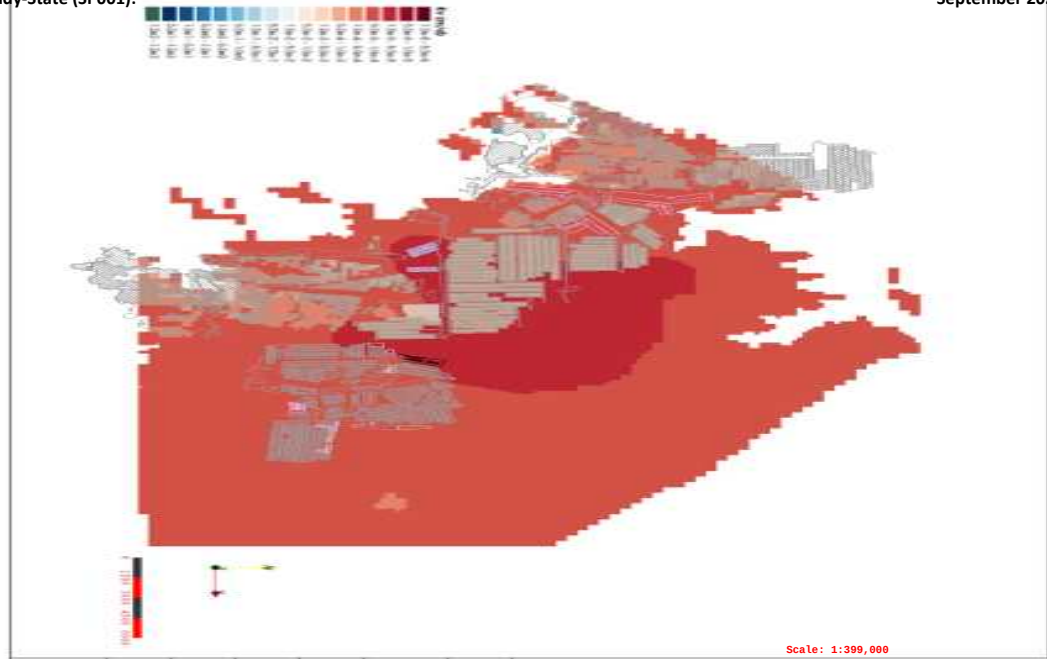
Figure E1b-20: Modelled Vertical Hydraulic Conductivity (m/d) - Layer 20



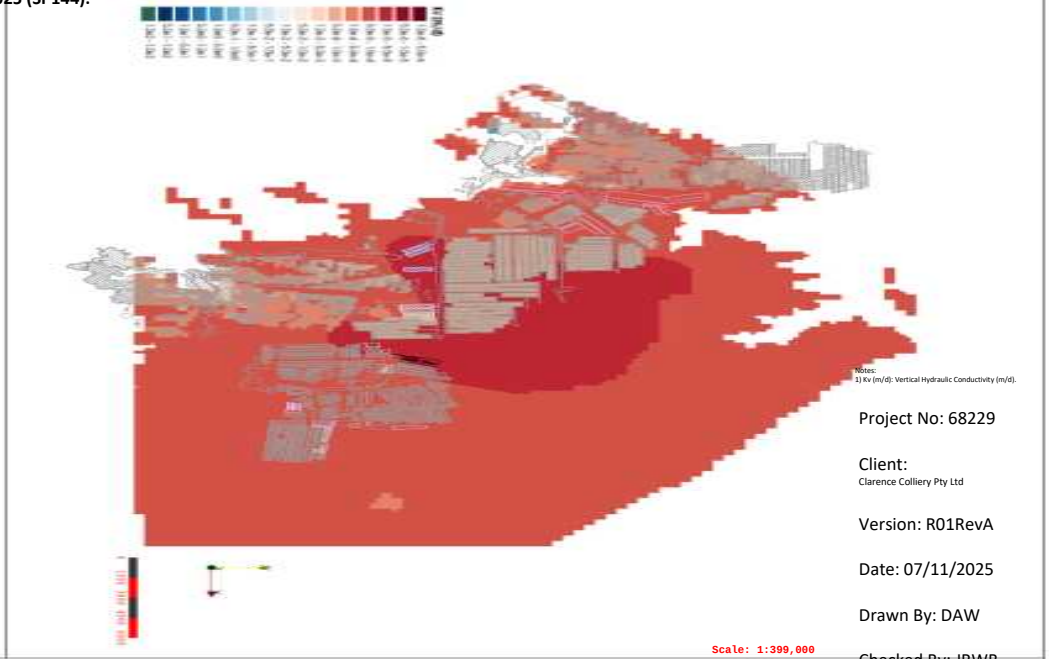
Steady-State (SP001):



September 2025 (SP144):



September 2026 (SP148):



December 2049 (SP241):

Legend

Mining Methods:

- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:

- Approved
- Existing
- Proposed
- Other Proposed

Notes:
1) Kv (m/d): Vertical Hydraulic Conductivity (m/d).

Project No: 68229

Client:
Clarence Colliery Pty Ltd

Version: R01RevA

Date: 07/11/2025

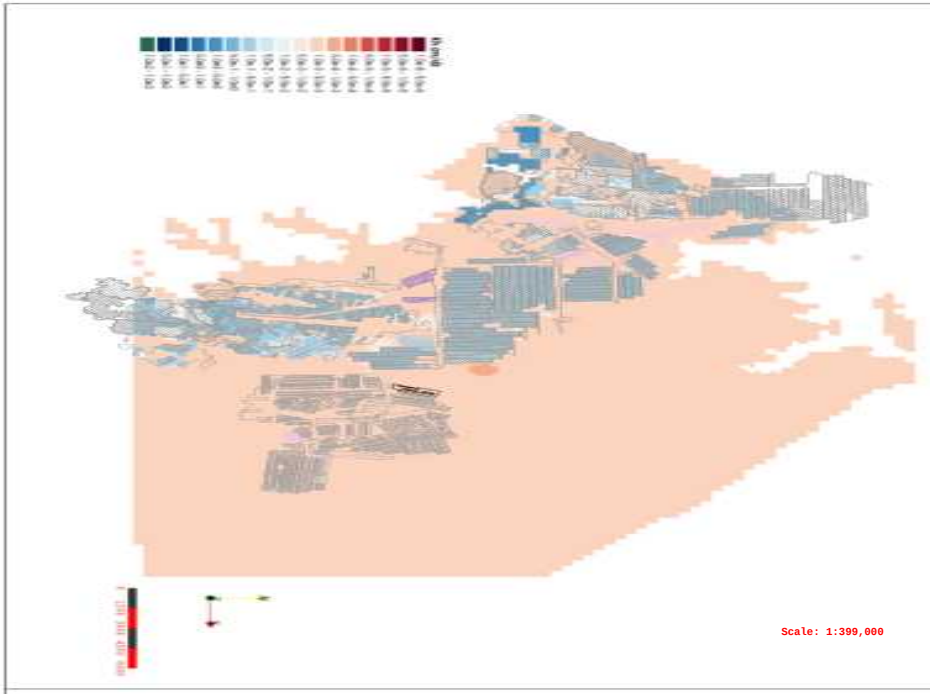
Drawn By: DAW

Checked By: JRWB

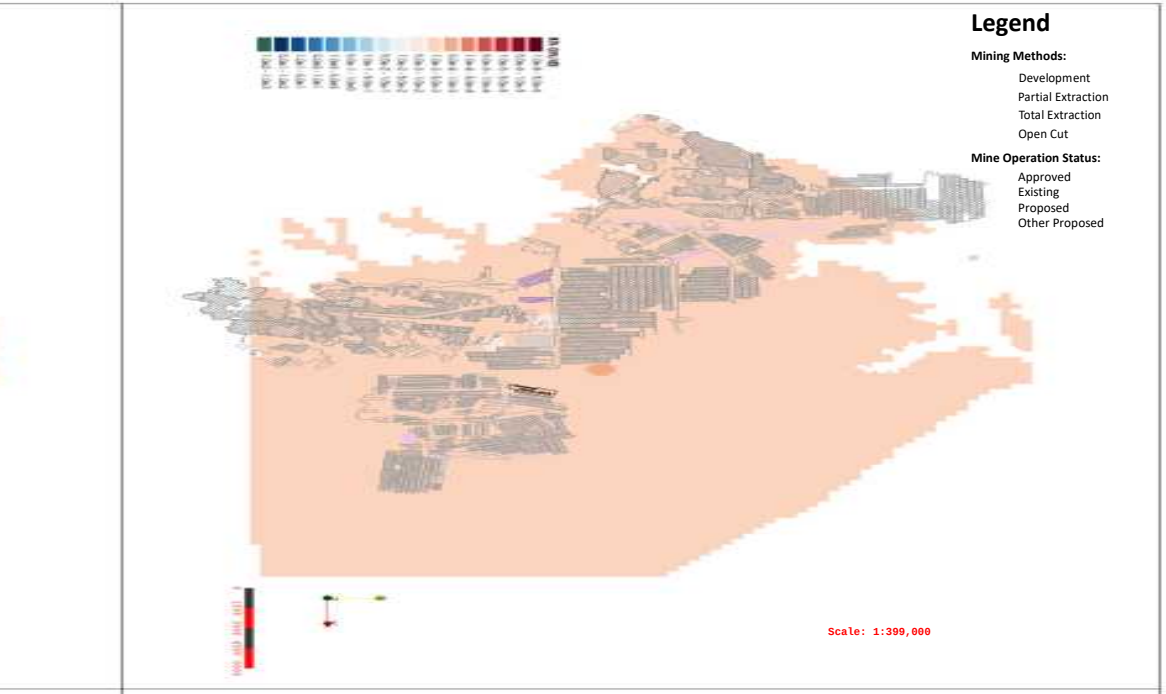
File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D057_Plan_Kv\68229_R01RevA_D057_Plan_Kv_L21.grf

Reference: 68229_R01RevA_PRO_02a

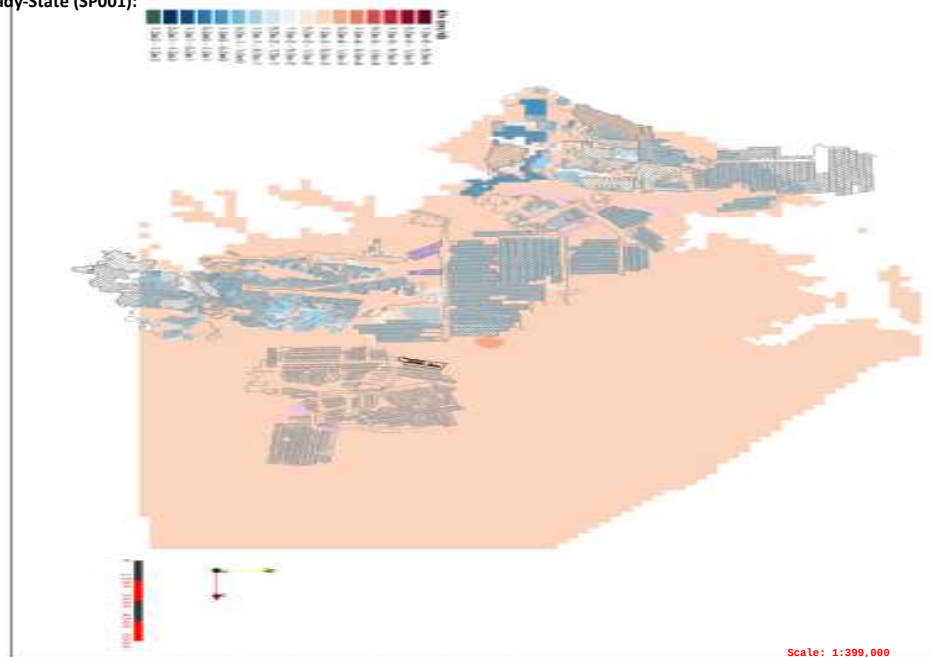
Figure E1b-21: Modelled Vertical Hydraulic Conductivity (m/d) - Layer 21



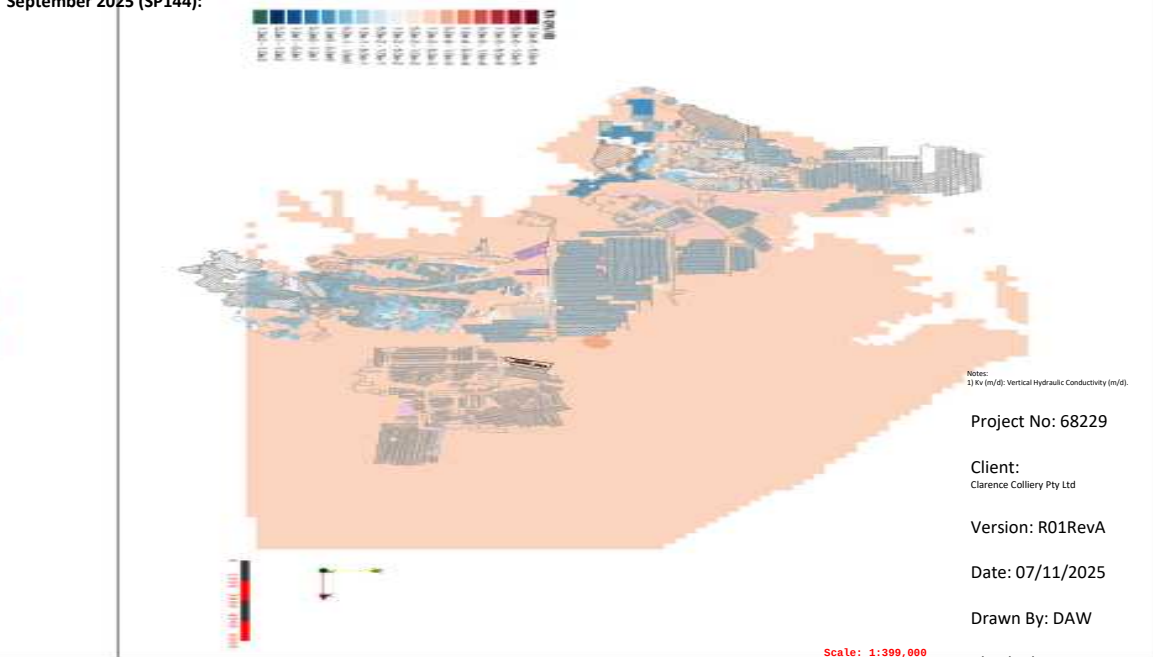
Steady-State (SP001):



September 2025 (SP144):



September 2026 (SP148):



December 2049 (SP241):

Legend

Mining Methods:

- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:

- Approved
- Existing
- Proposed
- Other Proposed

Notes:
1) Kv (m/d): Vertical Hydraulic Conductivity (m/d).

Project No: 68229

Client:
Clarence Colliery Pty Ltd

Version: R01RevA

Date: 07/11/2025

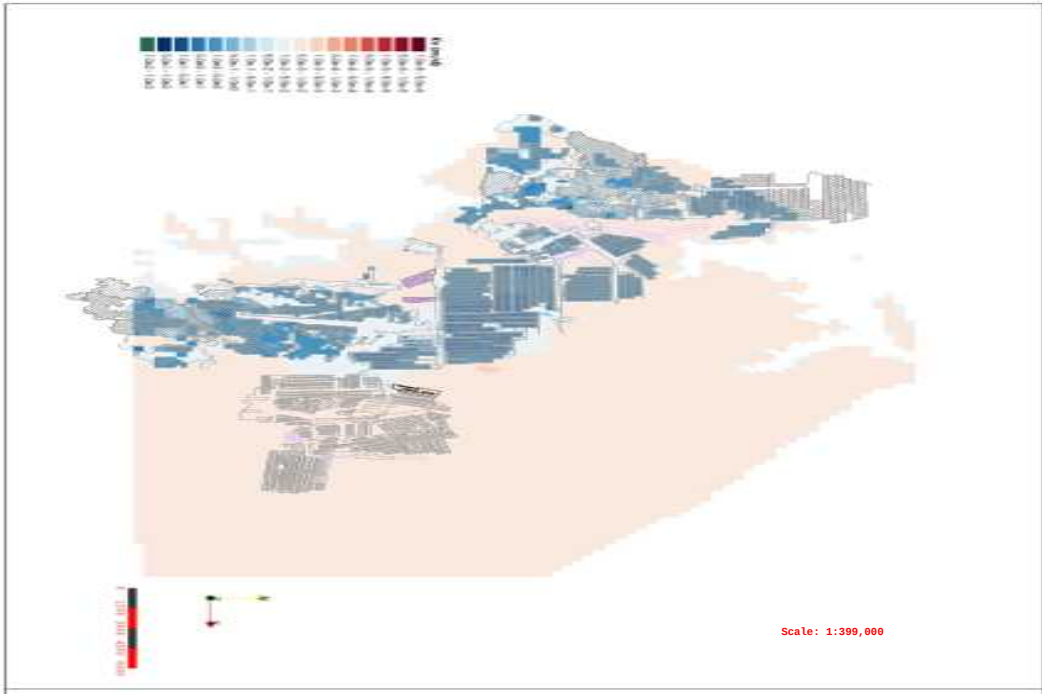
Drawn By: DAW

Checked By: JRWB

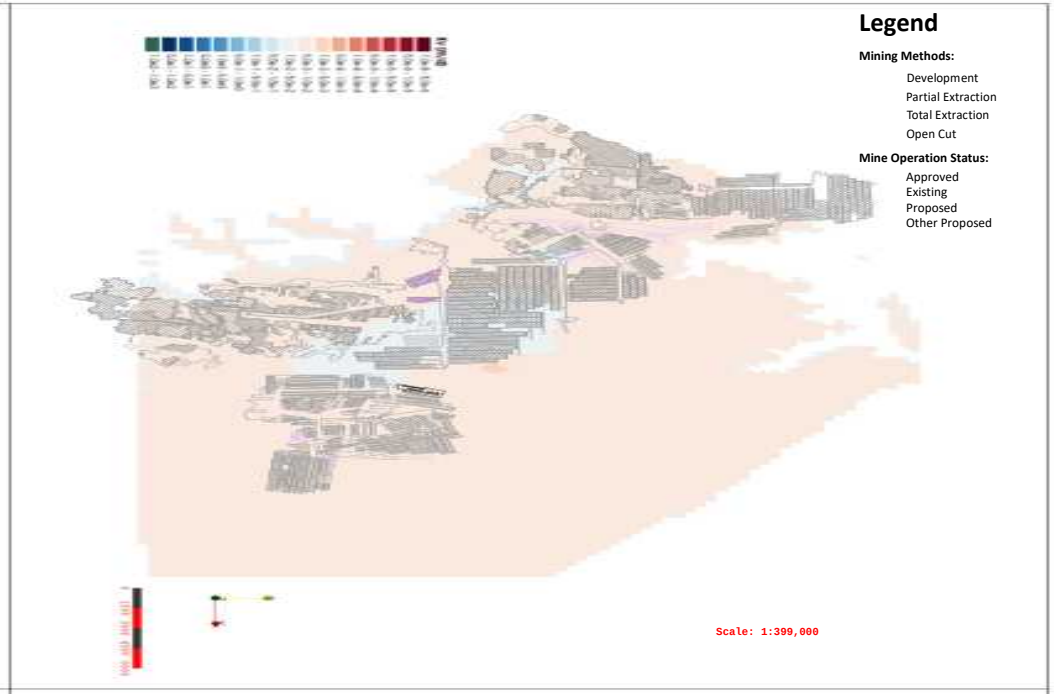
File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D057_Plan_Kv\68229_R01RevA_D057_Plan_Kv_L22.grf

Reference: 68229_R01RevA_PRO_02a

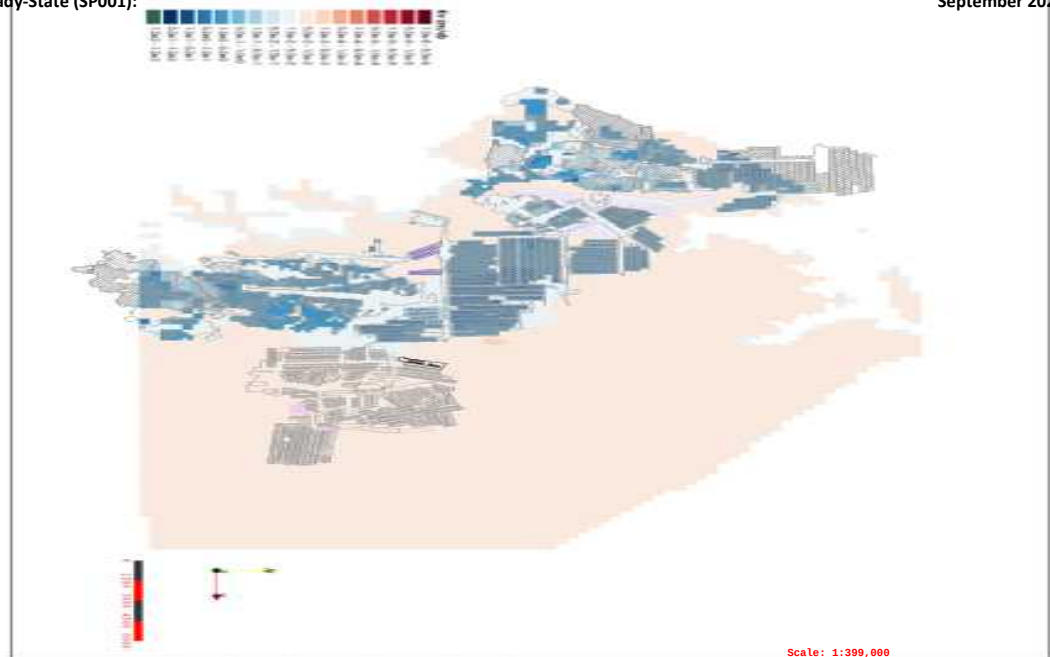
Figure E1b-22: Modelled Vertical Hydraulic Conductivity (m/d) - Layer 22



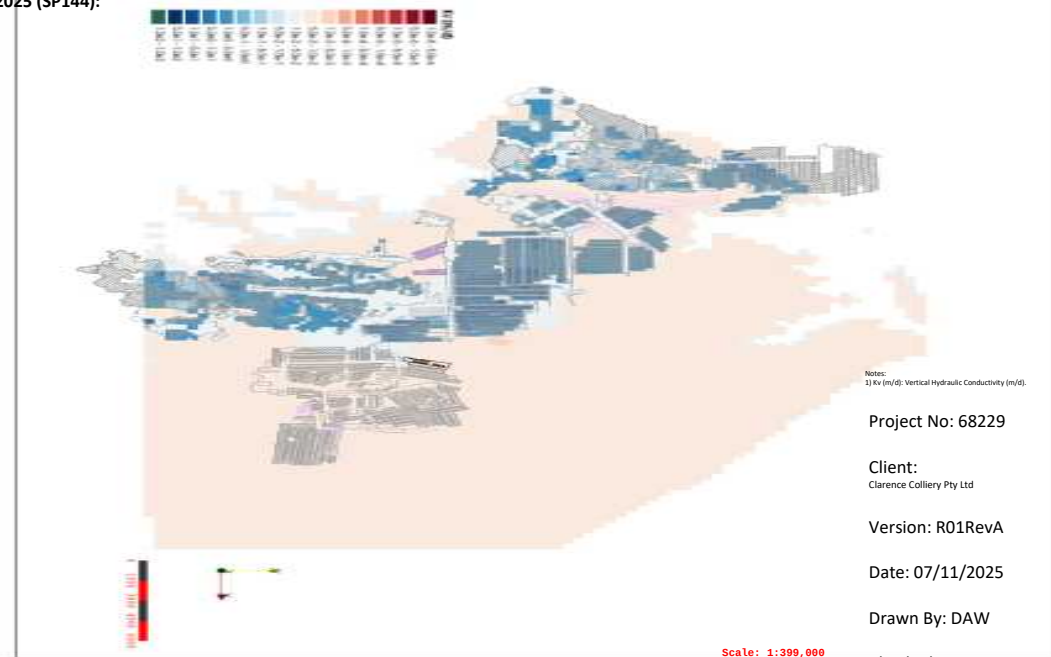
Steady-State (SP001):



September 2025 (SP144):



September 2026 (SP148):



December 2049 (SP241):

Legend

Mining Methods:

- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:

- Approved
- Existing
- Proposed
- Other Proposed

Notes:
1) Kv (m/d): Vertical Hydraulic Conductivity (m/d).

Project No: 68229

Client:
Clarence Colliery Pty Ltd

Version: R01RevA

Date: 07/11/2025

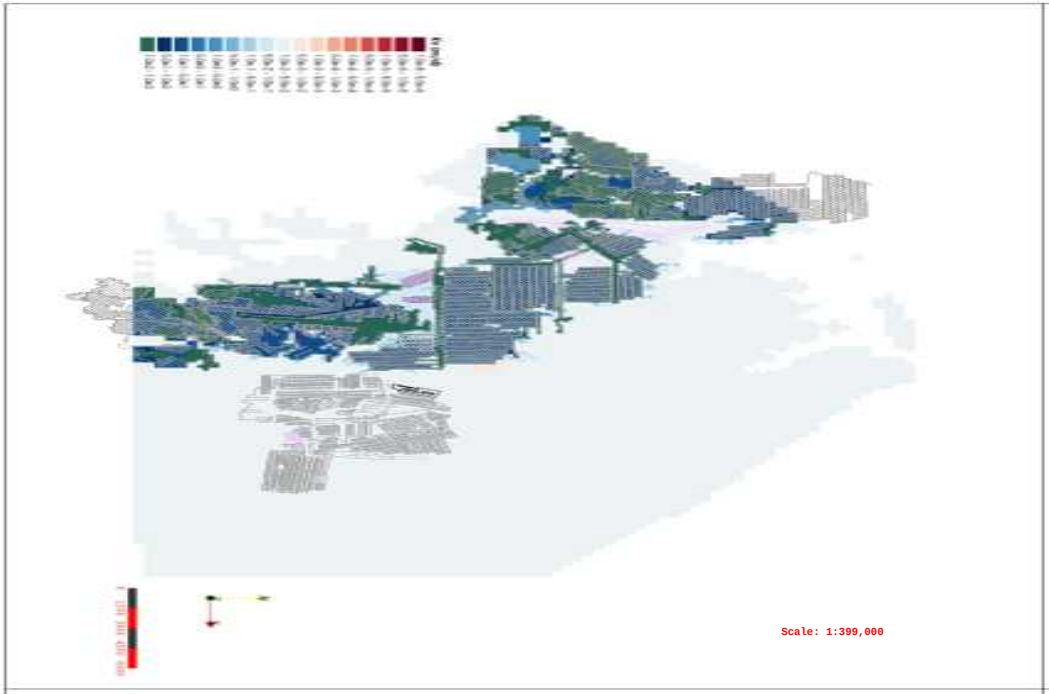
Drawn By: DAW

Checked By: JRWB

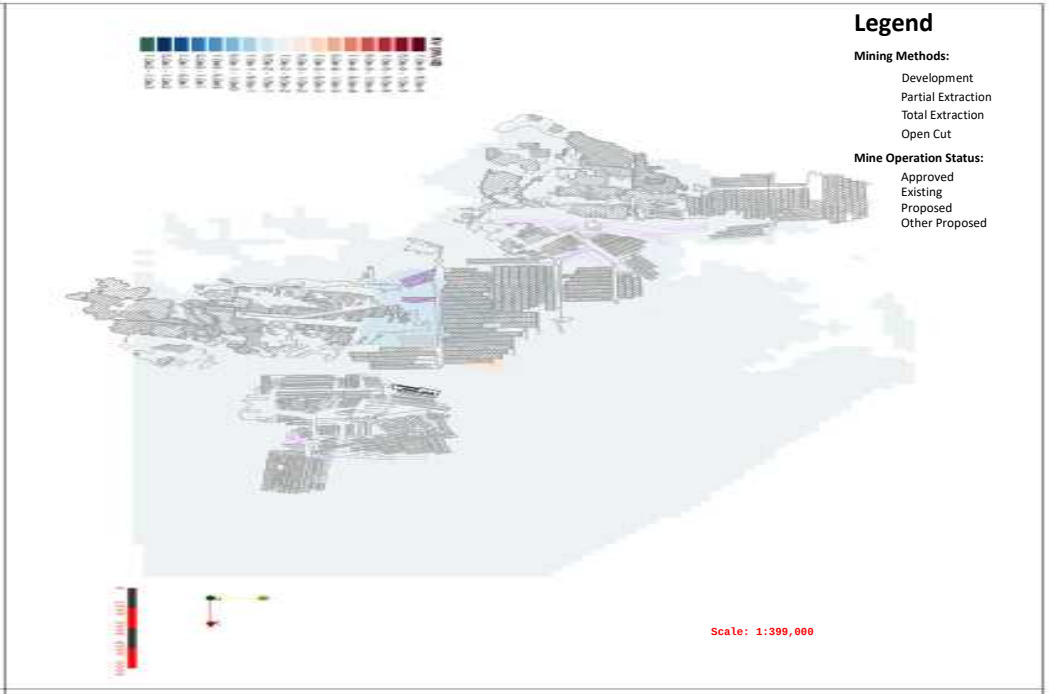
File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D057_Plan_Kv\68229_R01RevA_D057_Plan_Kv_L23.grf

Reference: 68229_R01RevA_PRO_02a

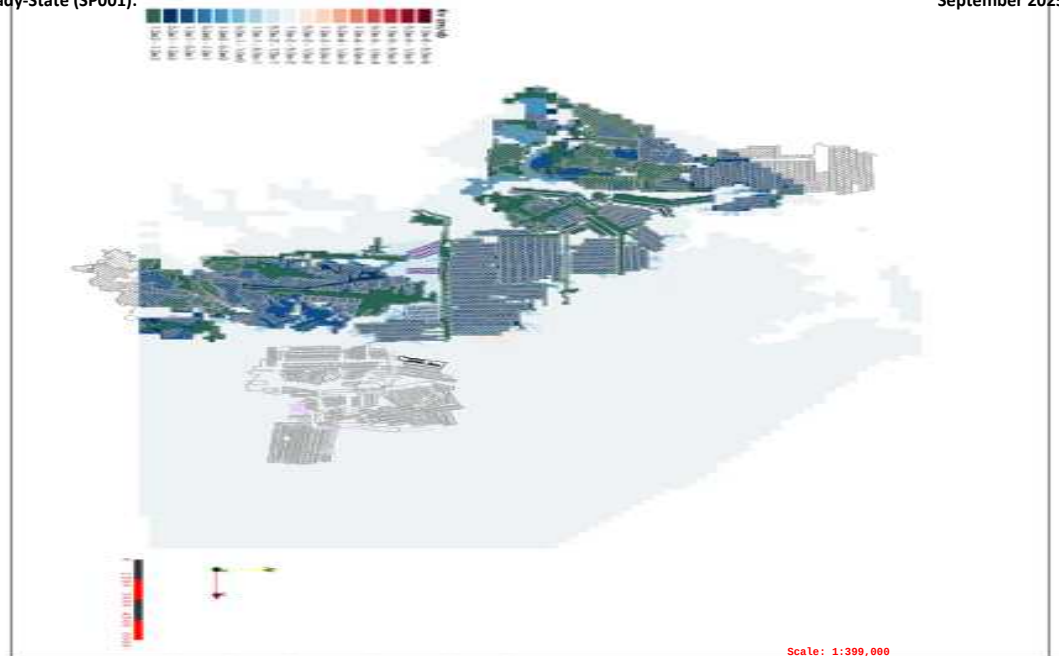
Figure E1b-23: Modelled Vertical Hydraulic Conductivity (m/d) - Layer 23



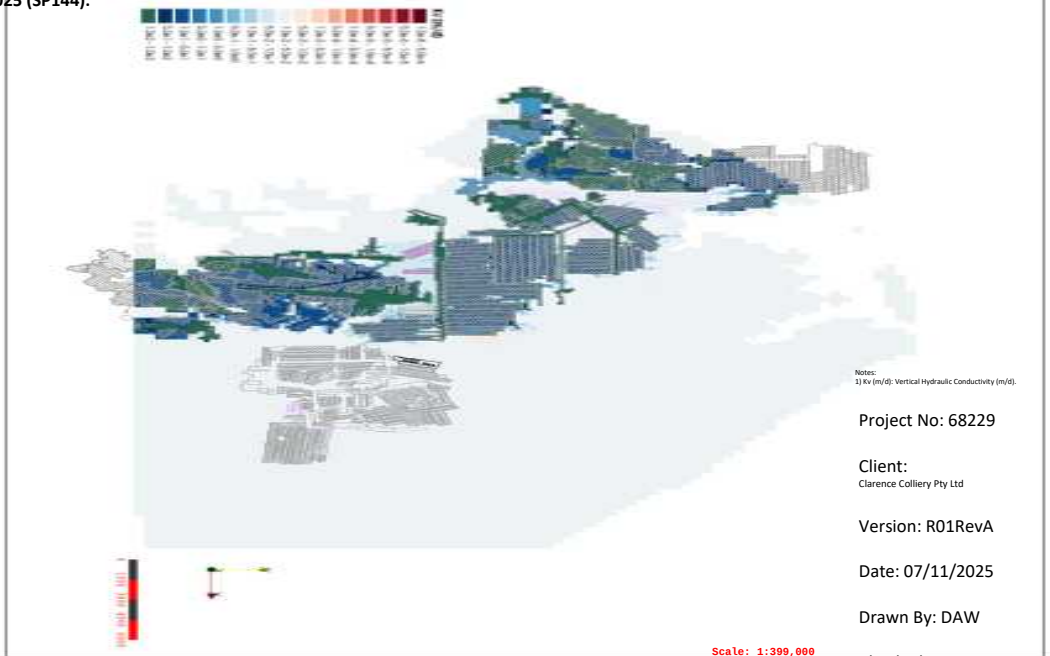
Steady-State (SP001):



September 2025 (SP144):



September 2026 (SP148):



December 2049 (SP241):

Legend

Mining Methods:

- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:

- Approved
- Existing
- Proposed
- Other Proposed

Notes:
1) Kv (m/d): Vertical Hydraulic Conductivity (m/d).

Project No: 68229

Client:
Clarence Colliery Pty Ltd

Version: R01RevA

Date: 07/11/2025

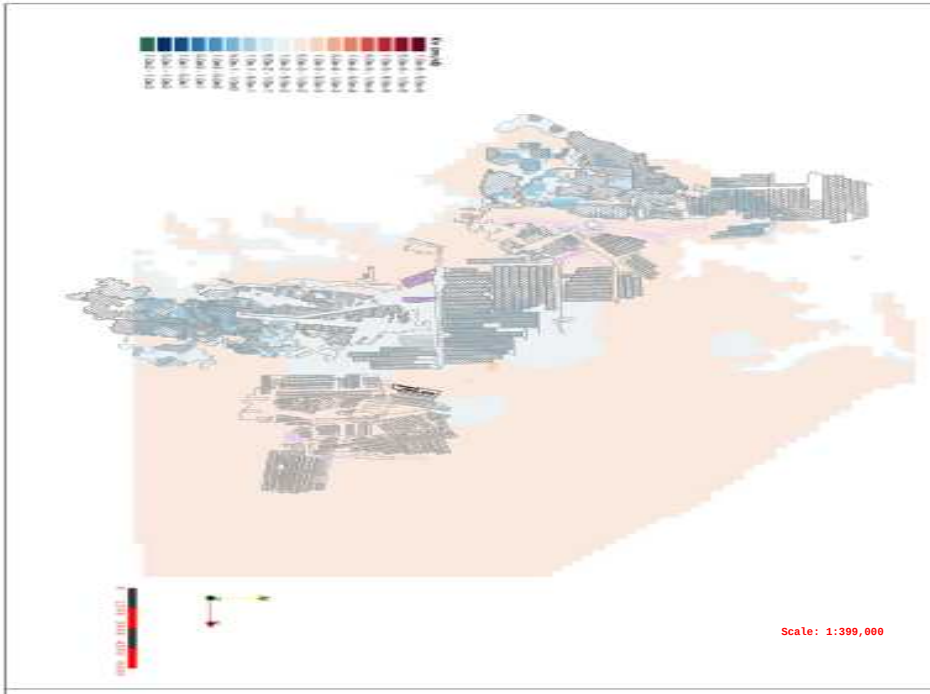
Drawn By: DAW

Checked By: JRWB

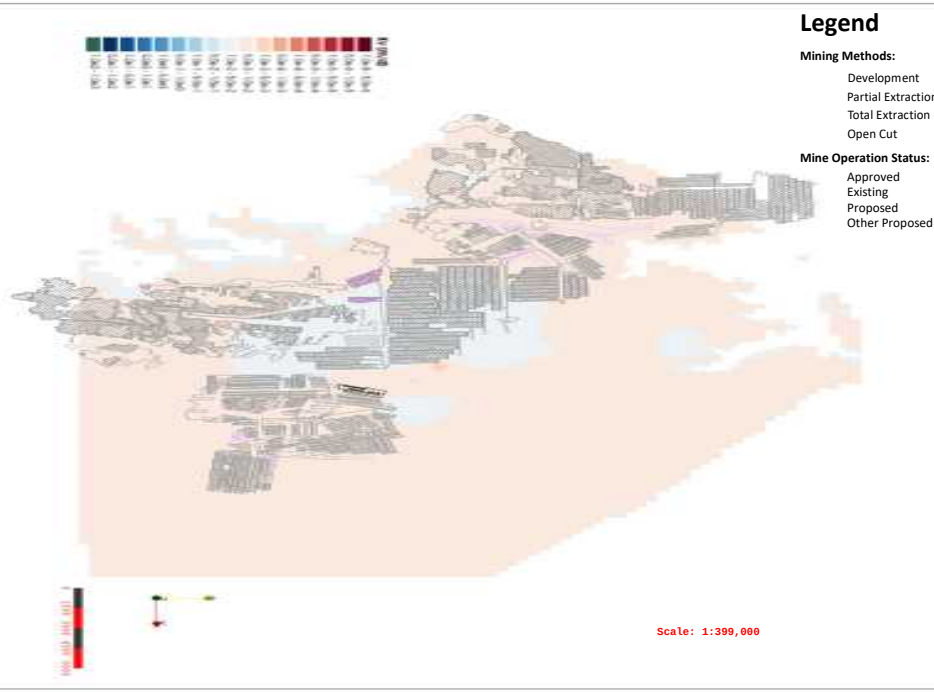
File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D057_Plan_Kv\68229_R01RevA_D057_Plan_Kv_L24.grf

Reference: 68229_R01RevA_PRO_02a

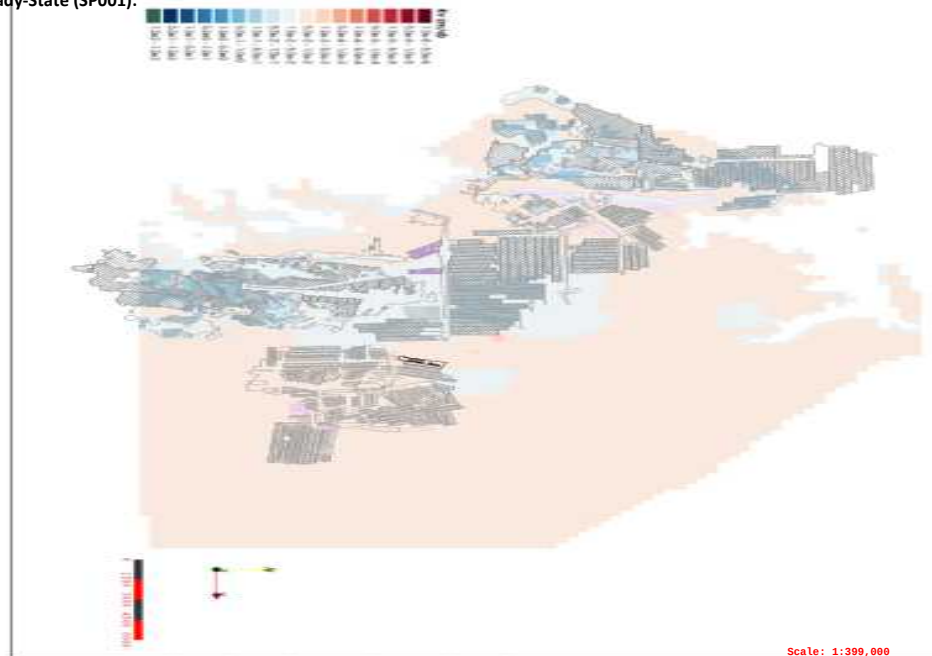
Figure E1b-24: Modelled Vertical Hydraulic Conductivity (m/d) - Layer 24



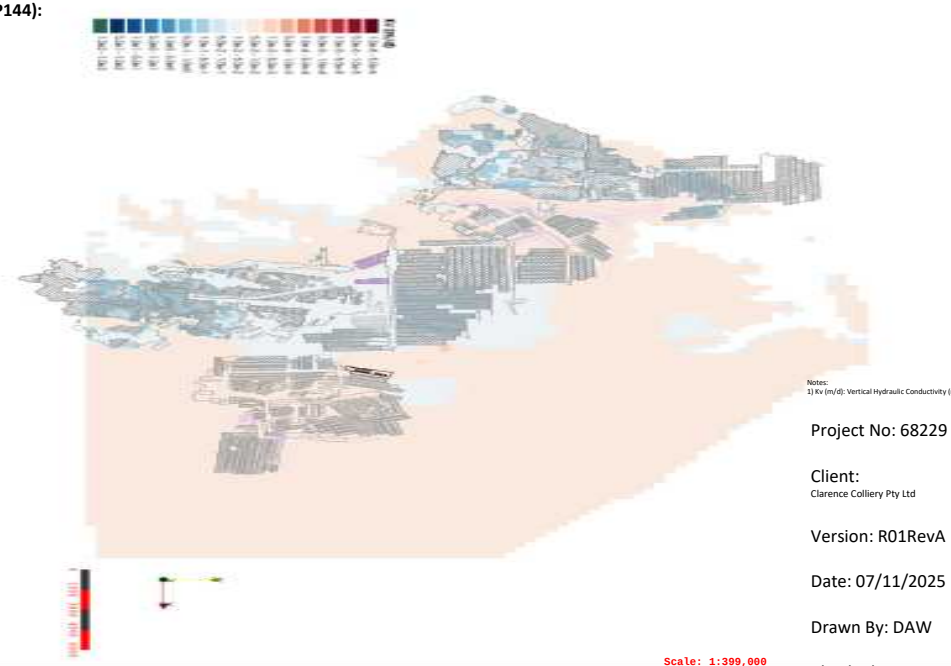
Steady-State (SP001):



September 2025 (SP144):



September 2026 (SP148):



December 2049 (SP241):

Legend

Mining Methods:

- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:

- Approved
- Existing
- Proposed
- Other Proposed

Notes:
1) Kv (m/d): Vertical Hydraulic Conductivity (m/d).

Project No: 68229

Client:
Clarence Colliery Pty Ltd

Version: R01RevA

Date: 07/11/2025

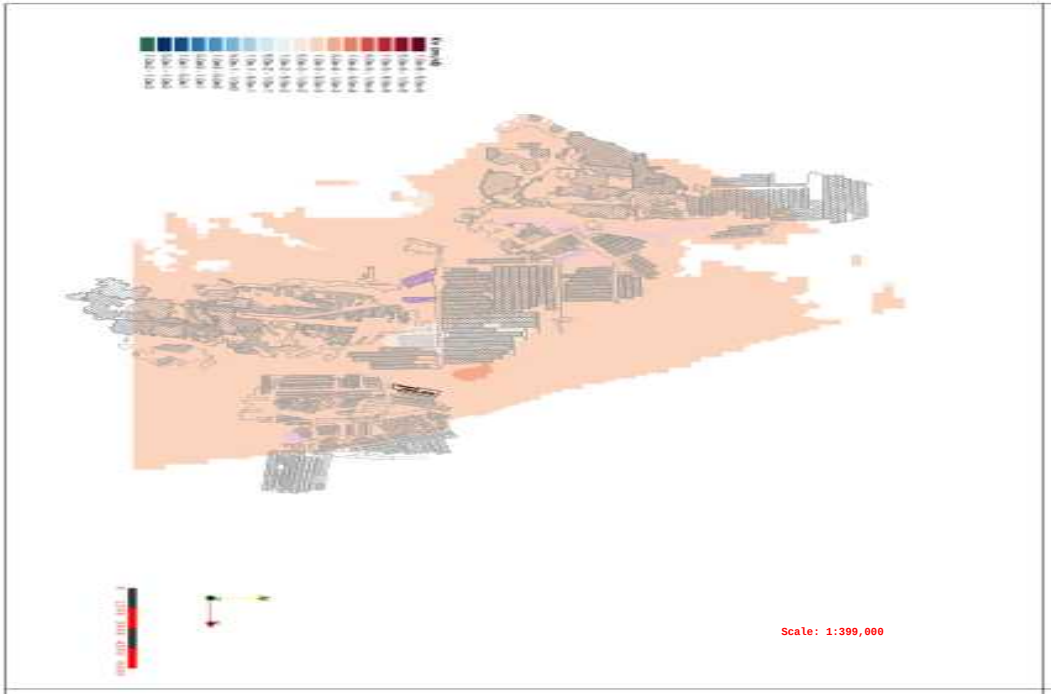
Drawn By: DAW

Checked By: JRWB

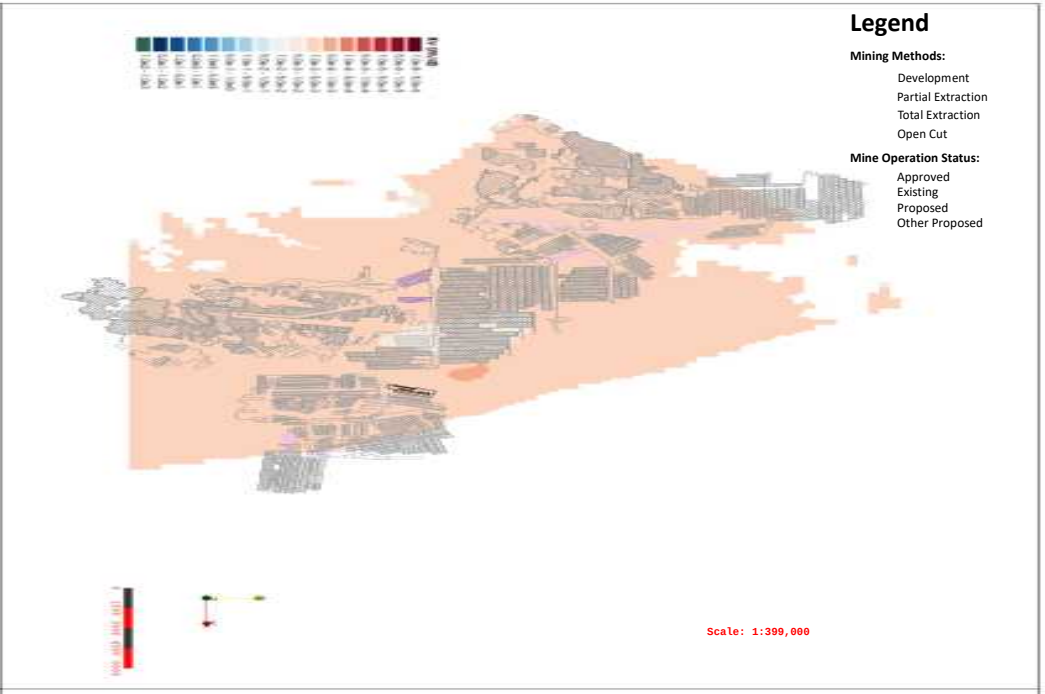
File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D057_Plan_Kv_L25.grf

Reference: 68229_R01RevA_PRO_02a

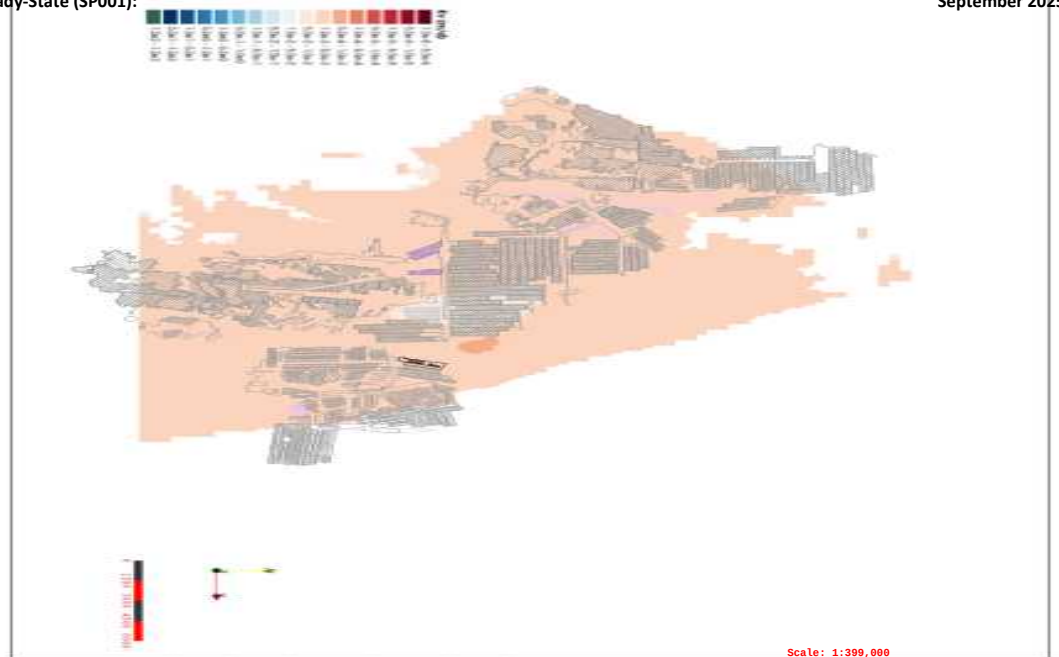
Figure E1b-25: Modelled Vertical Hydraulic Conductivity (m/d) - Layer 25



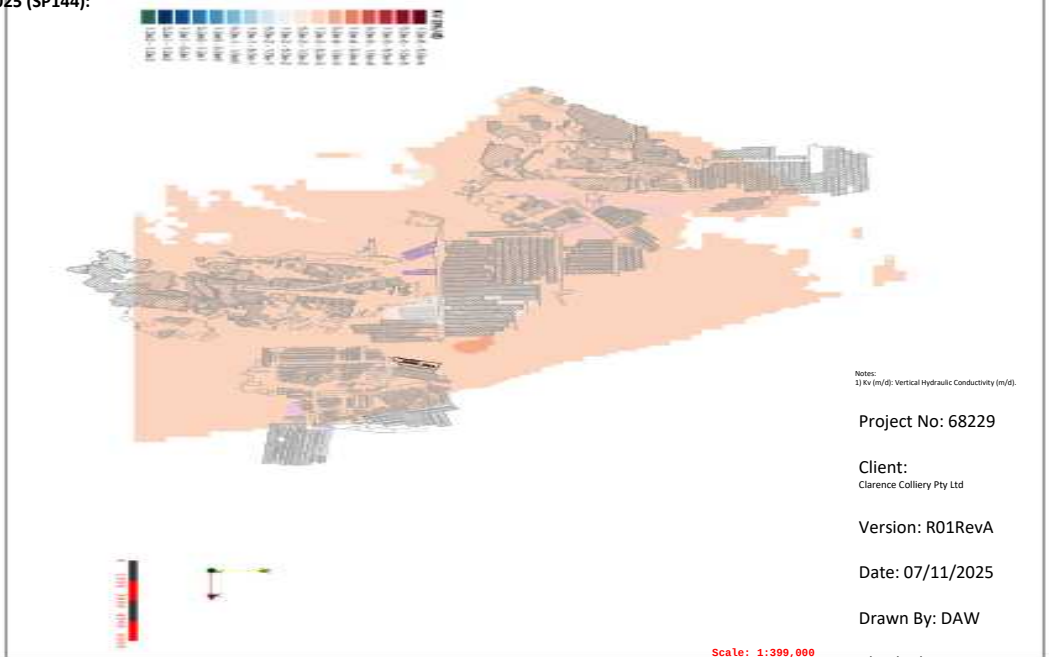
Steady-State (SP001):



September 2025 (SP144):



September 2026 (SP148):



December 2049 (SP241):

Legend

Mining Methods:

- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:

- Approved
- Existing
- Proposed
- Other Proposed

Notes:
1) Kv (m/d): Vertical Hydraulic Conductivity (m/d).

Project No: 68229

Client:
Clarence Colliery Pty Ltd

Version: R01RevA

Date: 07/11/2025

Drawn By: DAW

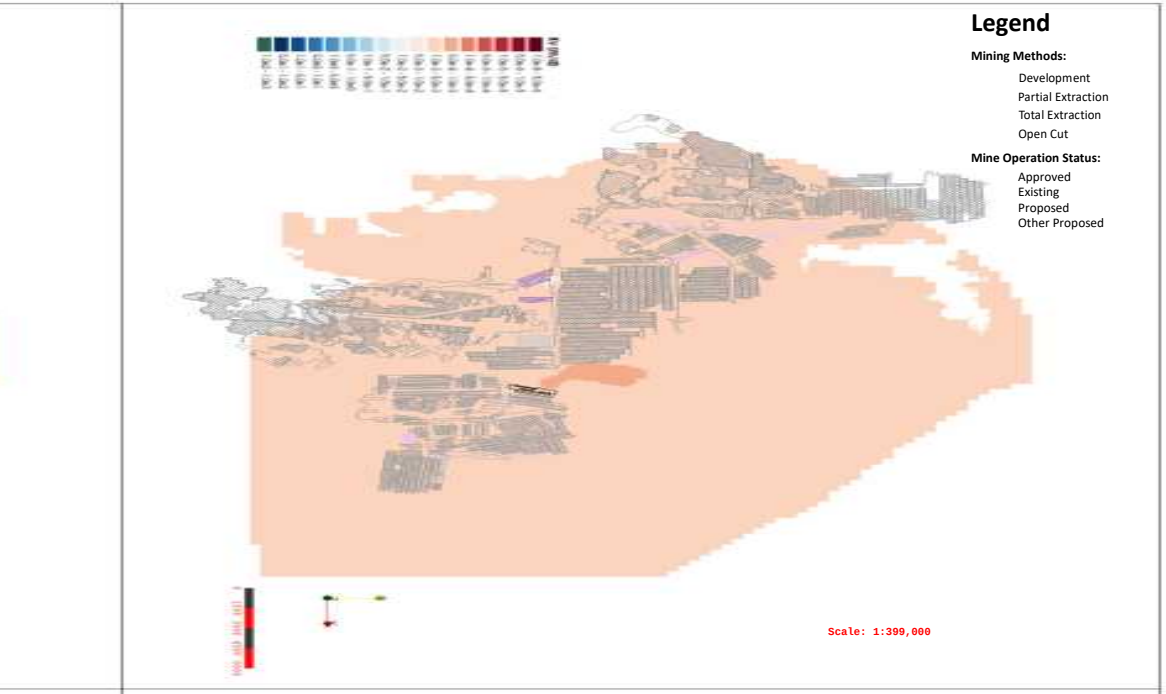
Checked By: JRWB

File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D057_Plan_Kv\68229_R01RevA_D057_Plan_Kv_L26.grf

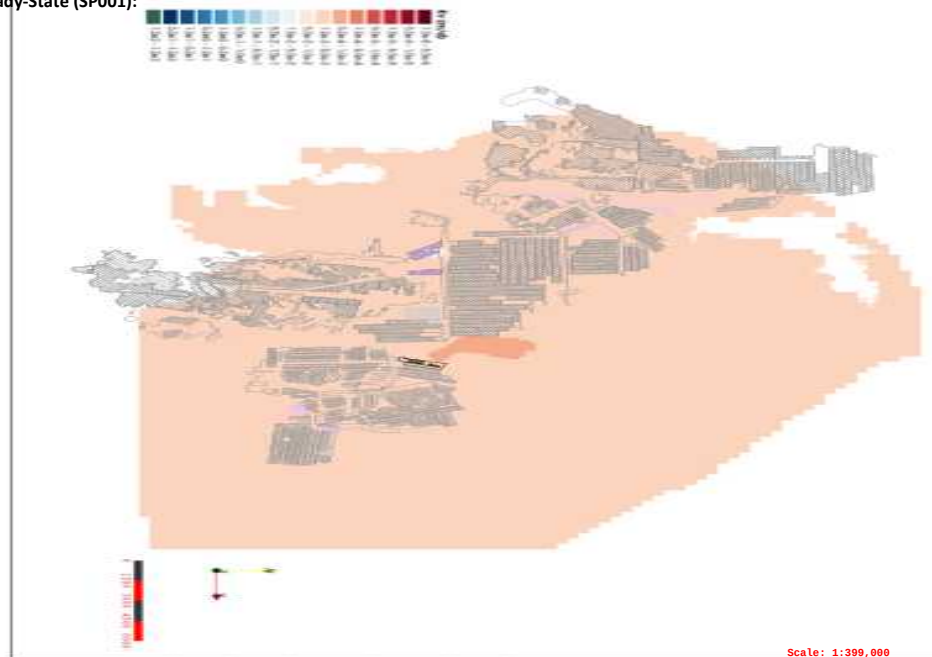
Reference: 68229_R01RevA_PRO_02a

Figure E1b-26: Modelled Vertical Hydraulic Conductivity (m/d) - Layer 26

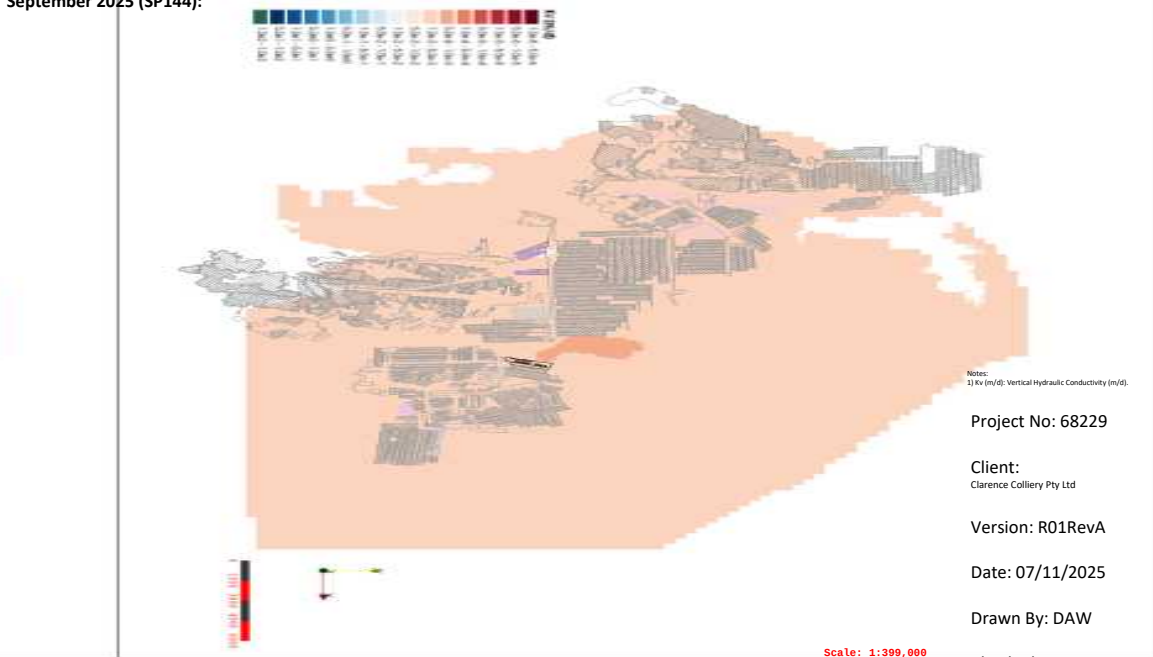
Steady-State (SP001):



September 2025 (SP144):



September 2026 (SP148):



December 2049 (SP241):

Legend

Mining Methods:

- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:

- Approved
- Existing
- Proposed
- Other Proposed

Notes:
1) Kv (m/d): Vertical Hydraulic Conductivity (m/d).

Project No: 68229

Client:
Clarence Colliery Pty Ltd

Version: R01RevA

Date: 07/11/2025

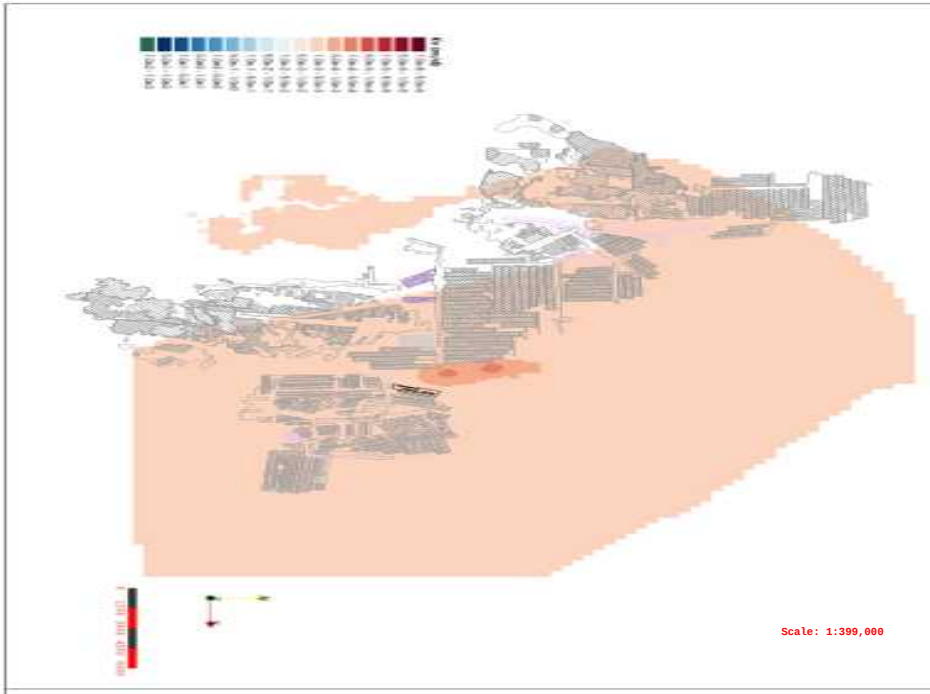
Drawn By: DAW

Checked By: JRWB

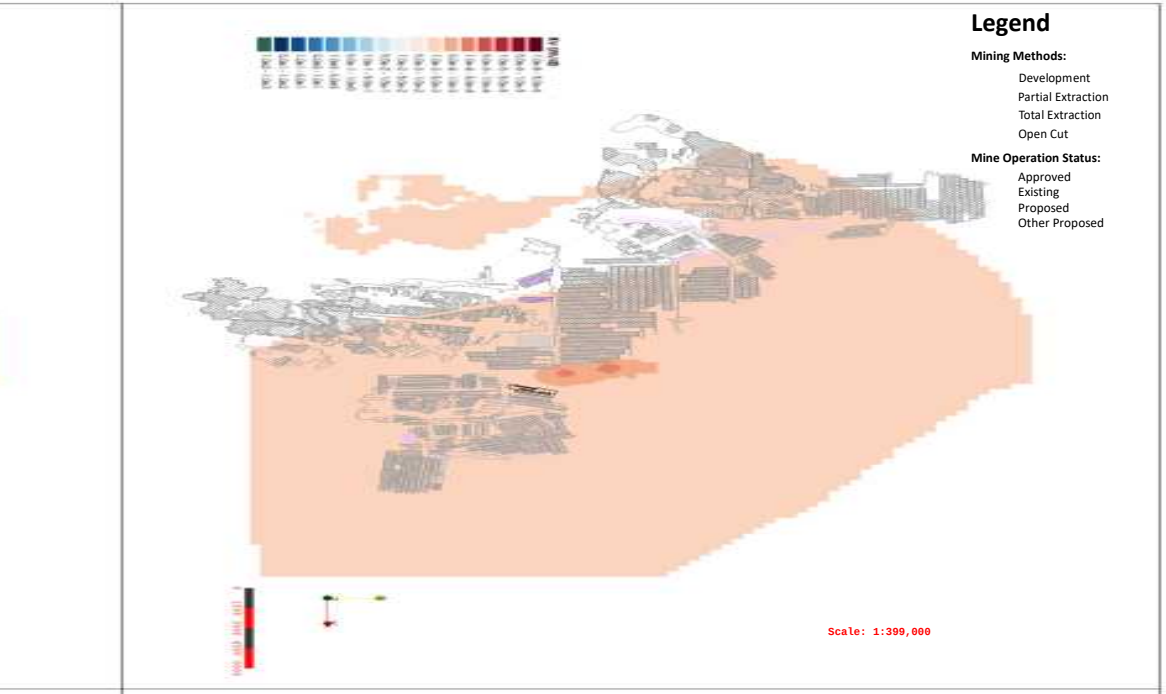
File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D057_Plan_Kv\68229_R01RevA_D057_Plan_Kv_L27.grf

Reference: 68229_R01RevA_PRO_02a

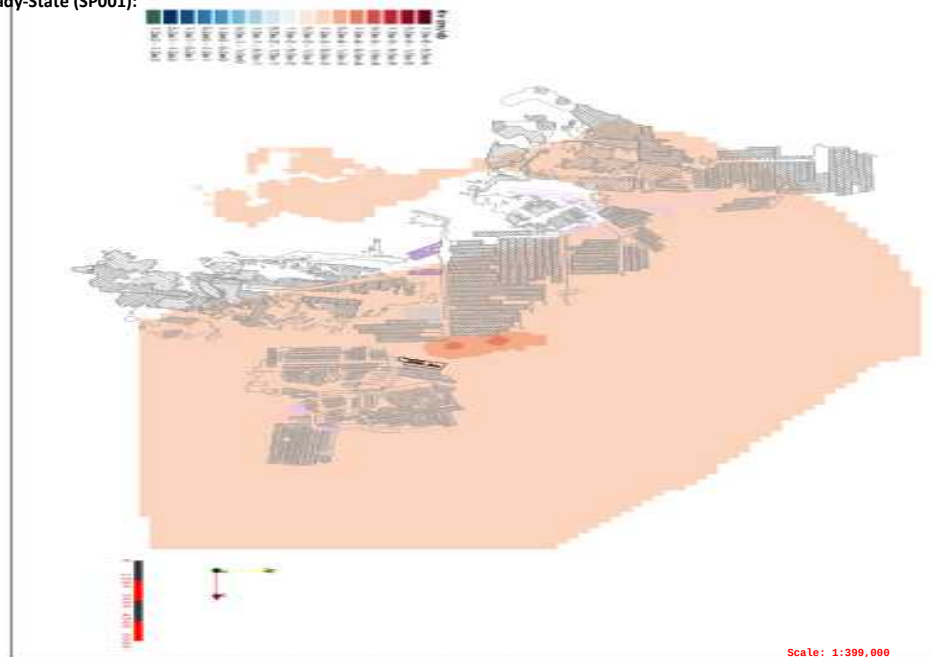
Figure E1b-27: Modelled Vertical Hydraulic Conductivity (m/d) - Layer 27



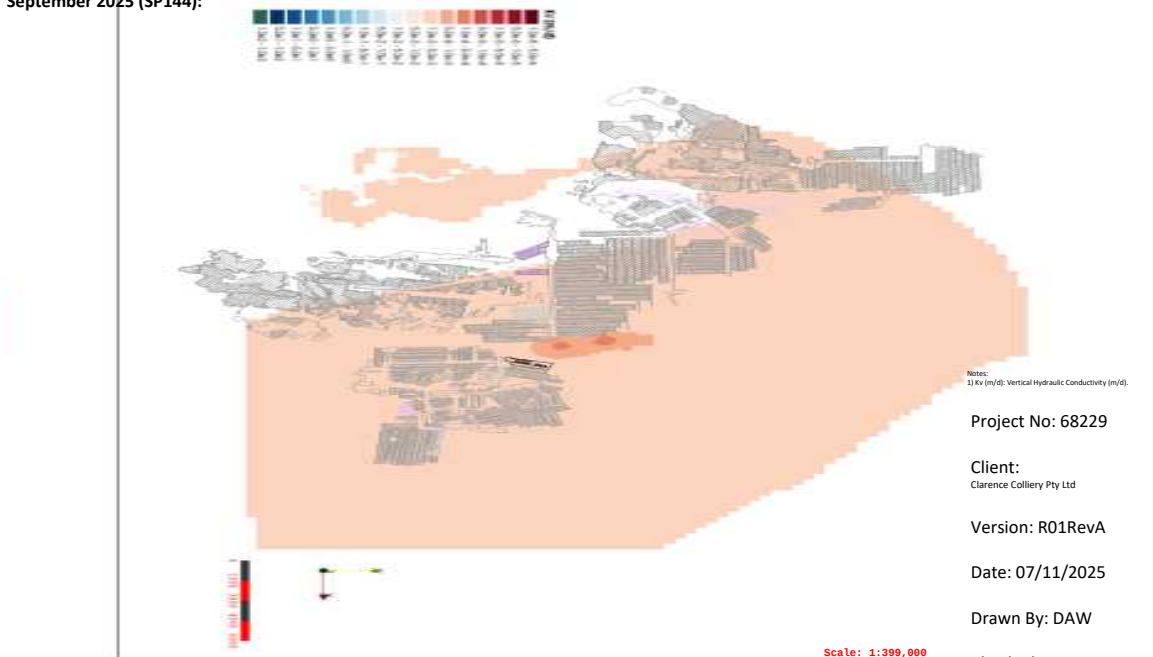
Steady-State (SP001):



September 2025 (SP144):



September 2026 (SP148):



December 2049 (SP241):

Legend

Mining Methods:

- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:

- Approved
- Existing
- Proposed
- Other Proposed

Notes:
1) Kv (m/d): Vertical Hydraulic Conductivity (m/d).

Project No: 68229

Client:
Clarence Colliery Pty Ltd

Version: R01RevA

Date: 07/11/2025

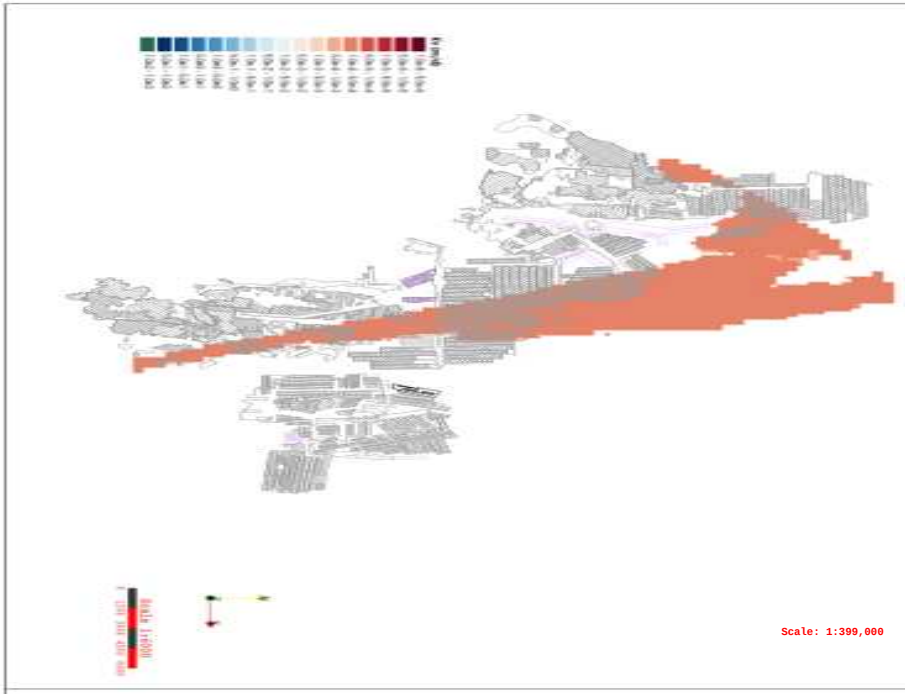
Drawn By: DAW

Checked By: JRWB

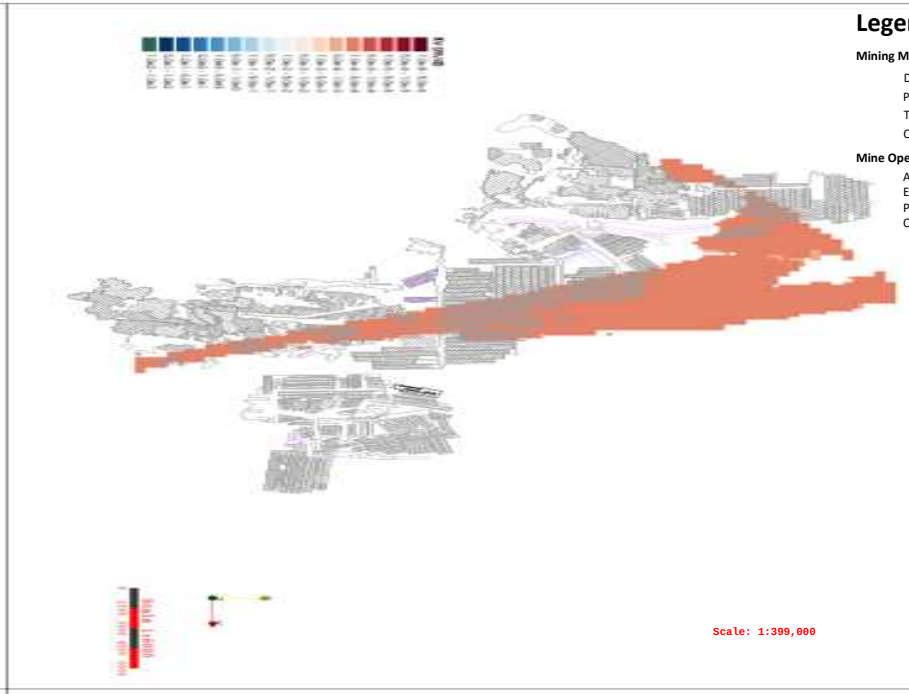
File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D057_Plan_Kv\68229_R01RevA_D057_Plan_Kv_L28.grf

Reference: 68229_R01RevA_PRO_02a

Figure E1b-28: Modelled Vertical Hydraulic Conductivity (m/d) - Layer 28



Steady-State (SP001):



September 2025 (SP144):

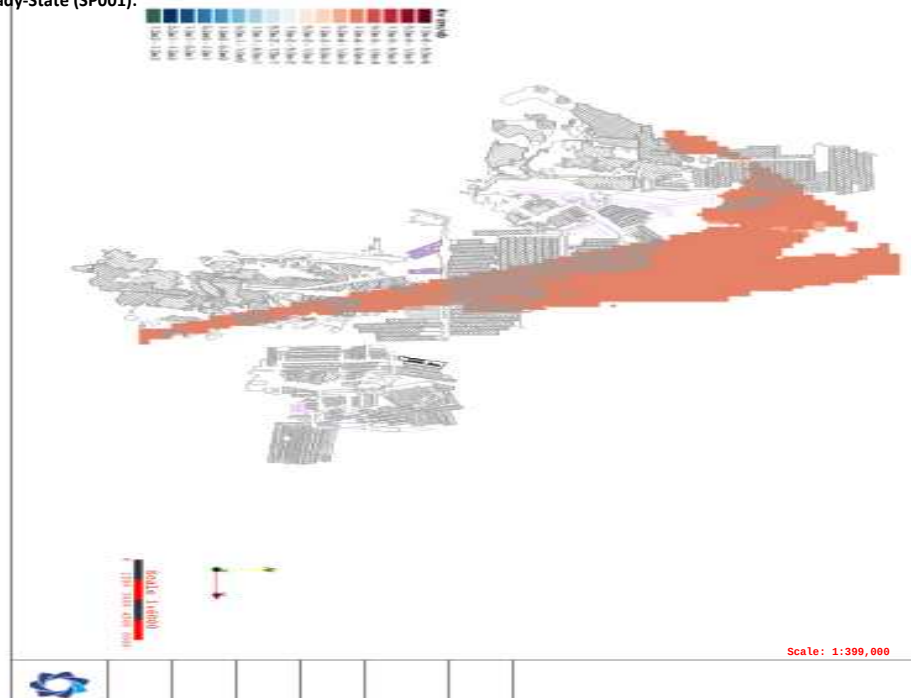
Legend

Mining Methods:

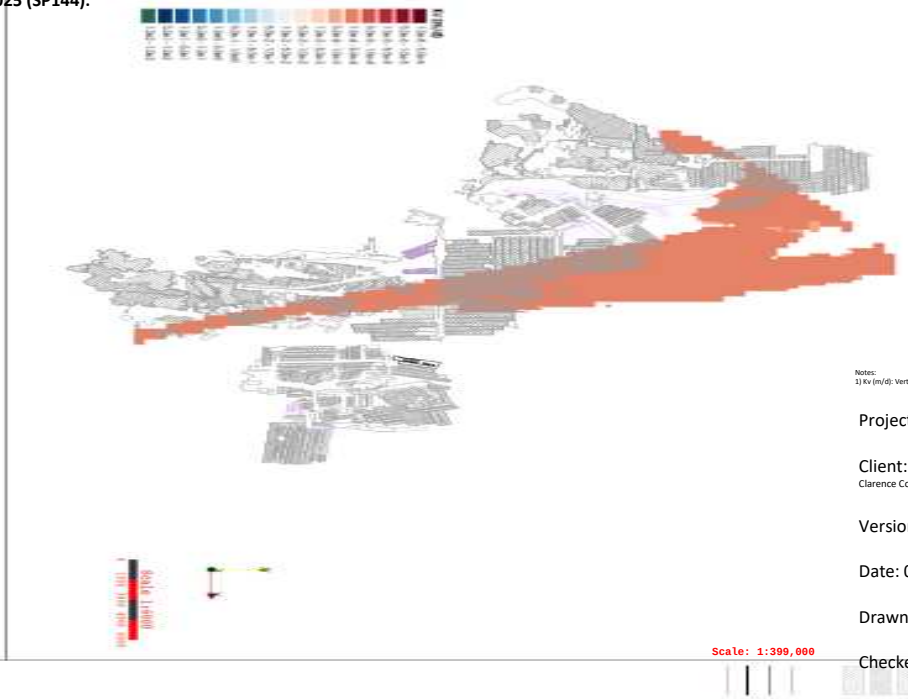
- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:

- Approved
- Existing
- Proposed
- Other Proposed



September 2026 (SP148):



December 2049 (SP241):

Notes:
1) Kv (m/d): Vertical Hydraulic Conductivity (m/d).

Project No: 68229

Client:
Clarence Colliery Pty Ltd

Version: R01RevA

Date: 07/11/2025

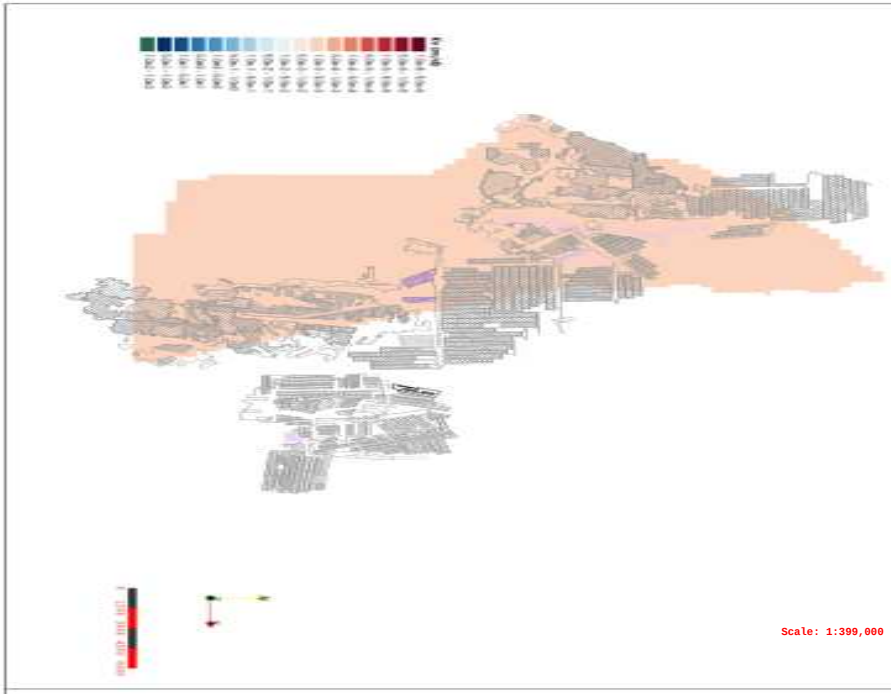
Drawn By: DAW

Checked By: JRWB

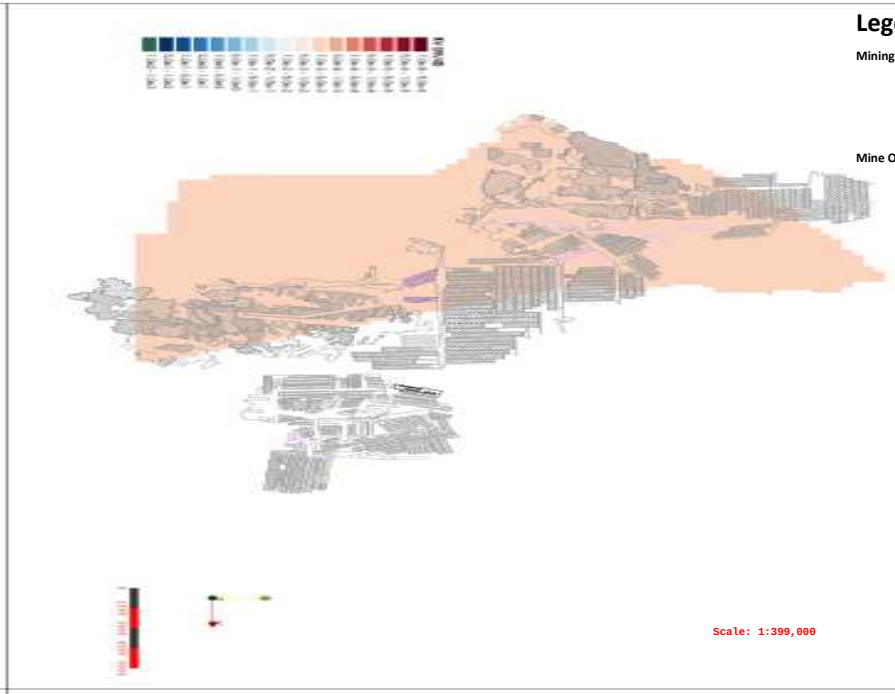
File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D057_Plan_Kv\68229_R01RevA_D057_Plan_Kv_L29.grf

Reference: 68229_R01RevA_PRO_02a

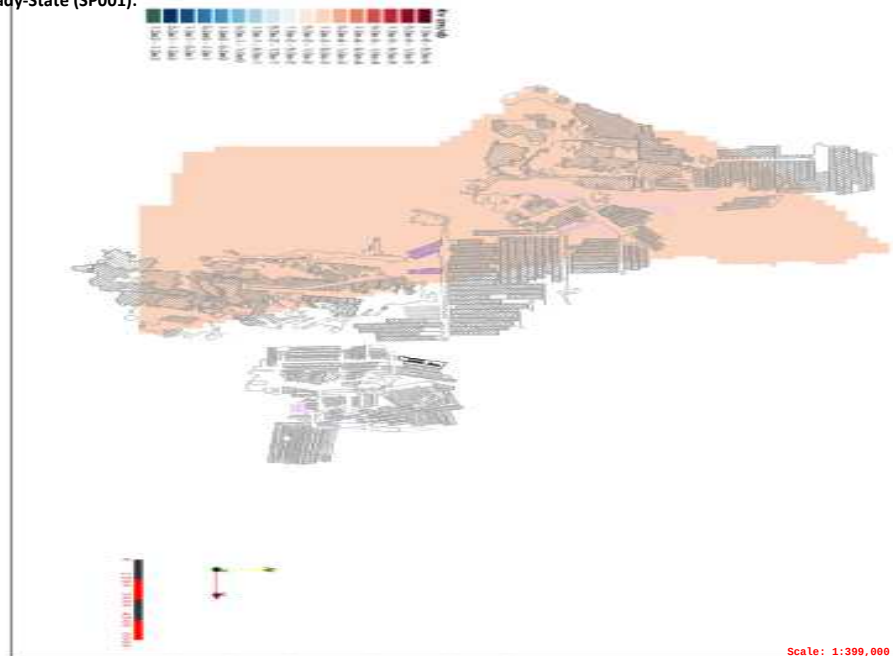
Figure E1b-29: Modelled Vertical Hydraulic Conductivity (m/d) - Layer 29



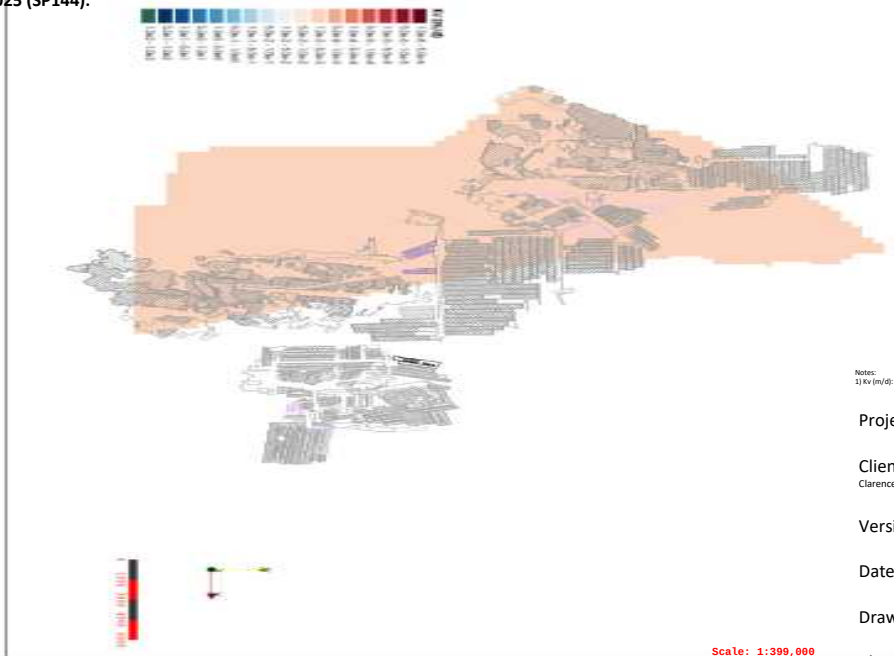
Steady-State (SP001):



September 2025 (SP144):



September 2026 (SP148):



December 2049 (SP241):

Legend

Mining Methods:

- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:

- Approved
- Existing
- Proposed
- Other Proposed

Notes:
1) Kv (m/d): Vertical Hydraulic Conductivity (m/d).

Project No: 68229

Client:
Clarence Colliery Pty Ltd

Version: R01RevA

Date: 07/11/2025

Drawn By: DAW

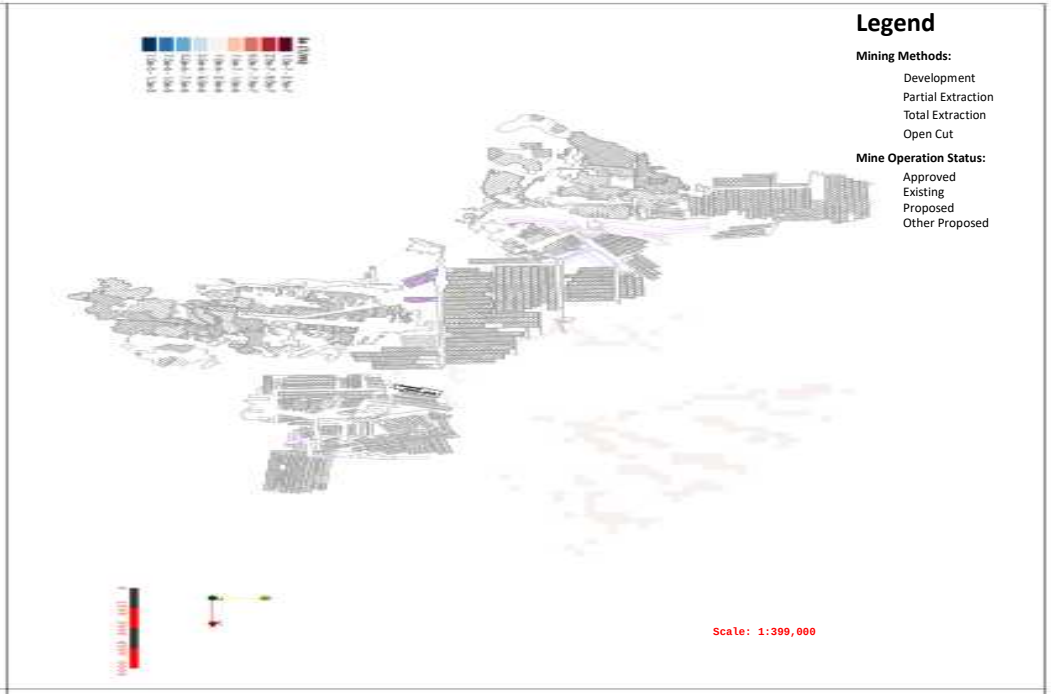
Checked By: JRWB

File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EP\Figures\Grapher\68229_R01RevA_D057_Plan_Kv\68229_R01RevA_D057_Plan_Kv_L30.grf

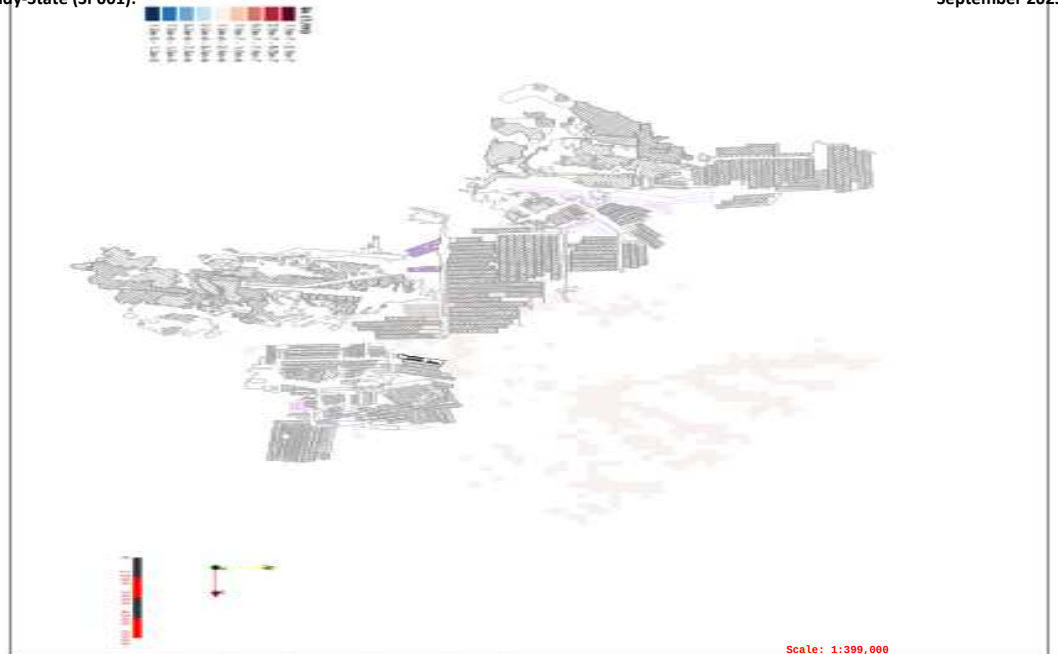
Reference: 68229_R01RevA_PRO_02a

Figure E1b-30: Modelled Vertical Hydraulic Conductivity (m/d) - Layer 30

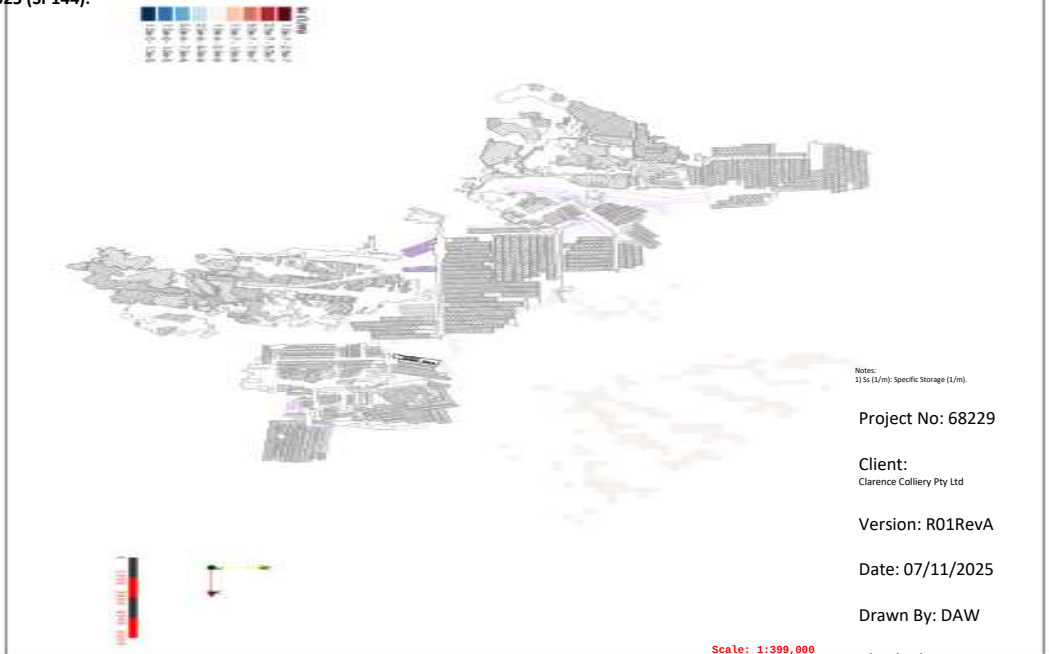
Steady-State (SP001):



September 2025 (SP144):



September 2026 (SP148):

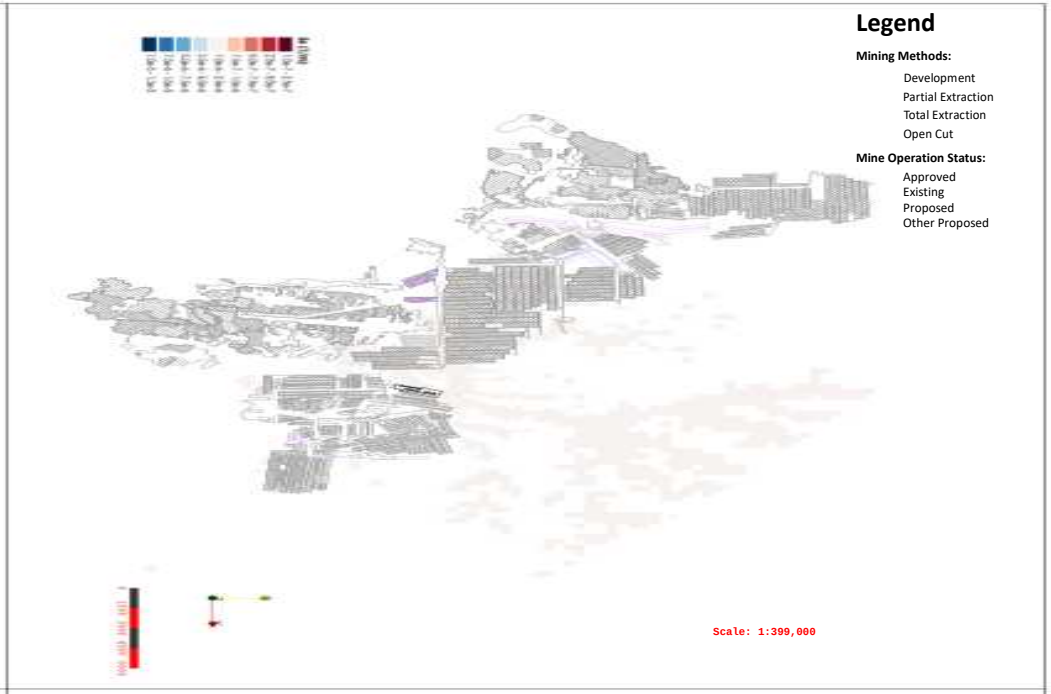


December 2049 (SP241):

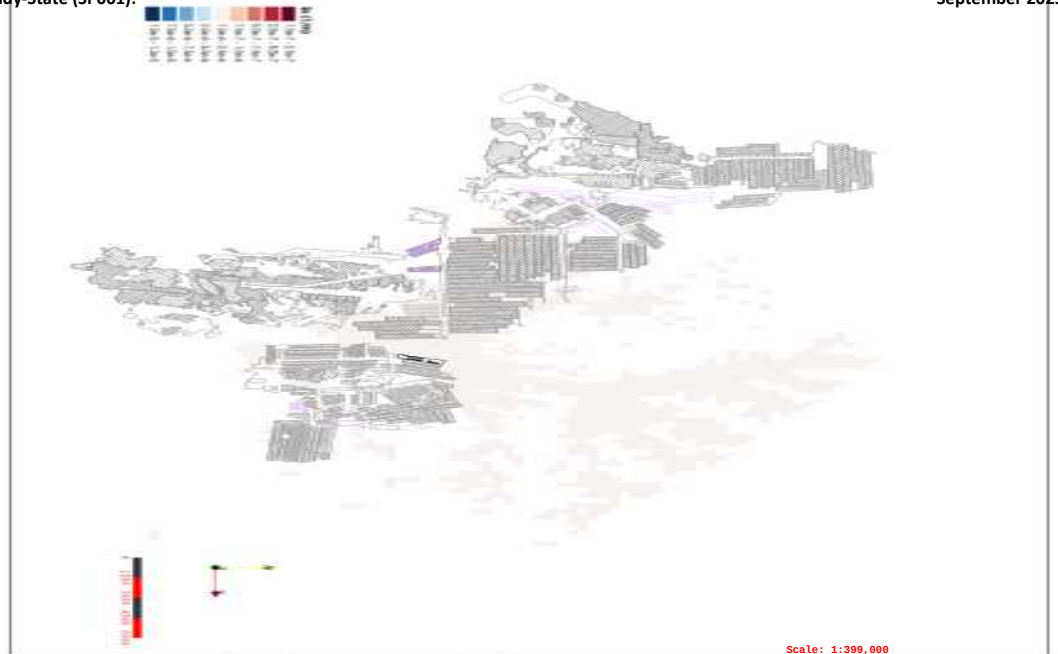
File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EPI\Figures\Grapher\68229_R01RevA_D058_Plan_Ss\68229_R01RevA_D058_Plan_Ss_L01_L04.grf
Reference: 68229_R01RevA_PRO_02a

Figure E1c-01: Modelled Specific Storage (1/m) Quasi Steady-State (SP001) - Layer 01 to Layer 04

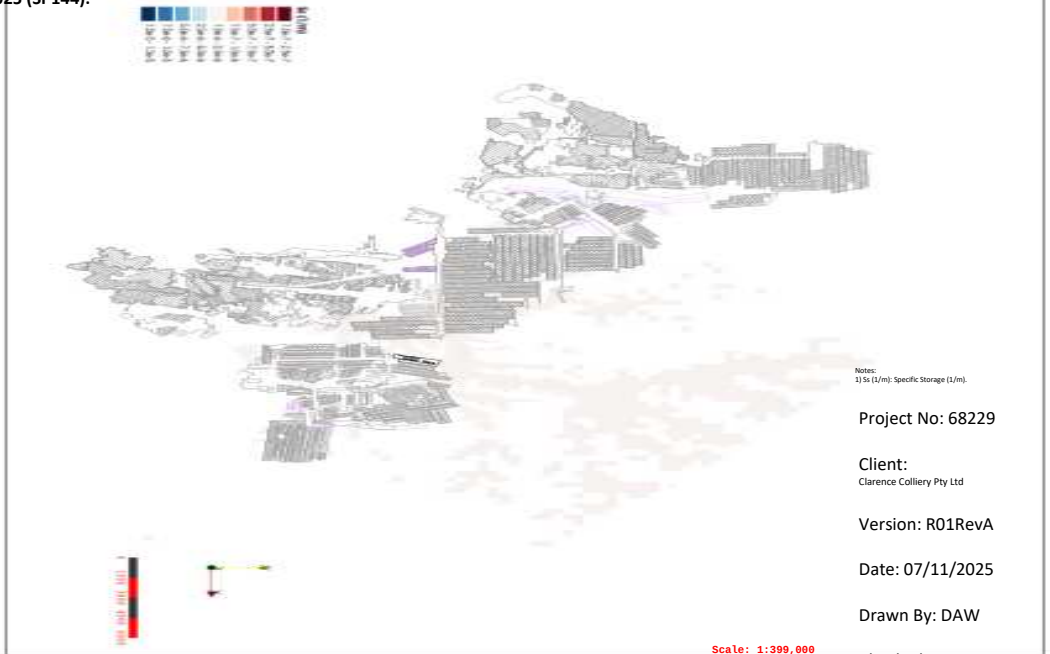
Steady-State (SP001):



September 2025 (SP144):



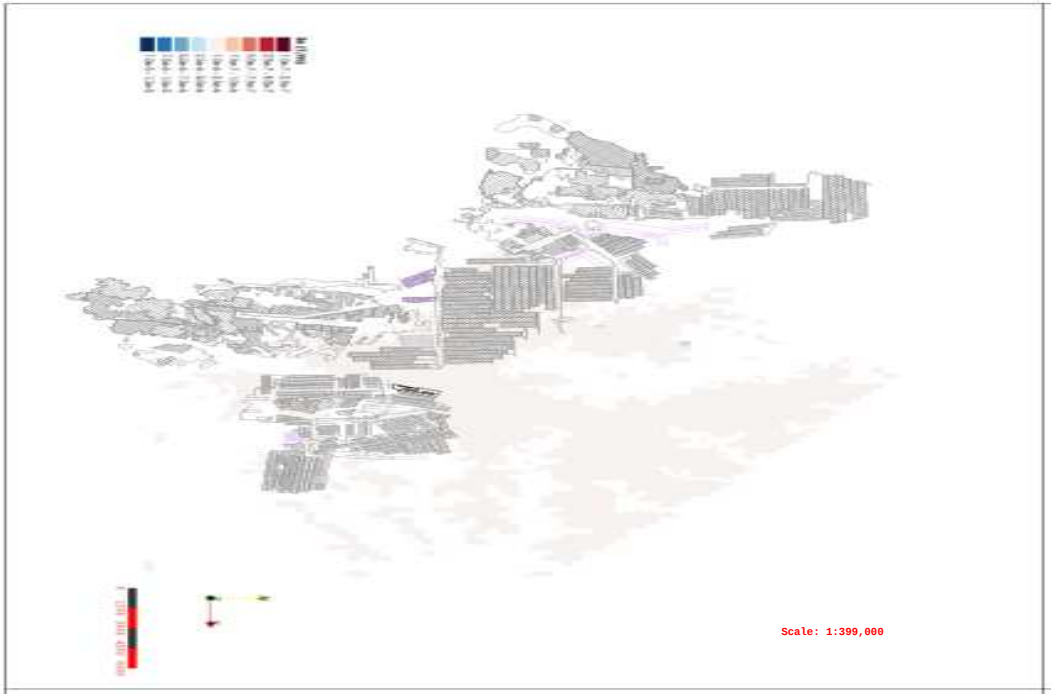
September 2026 (SP148):



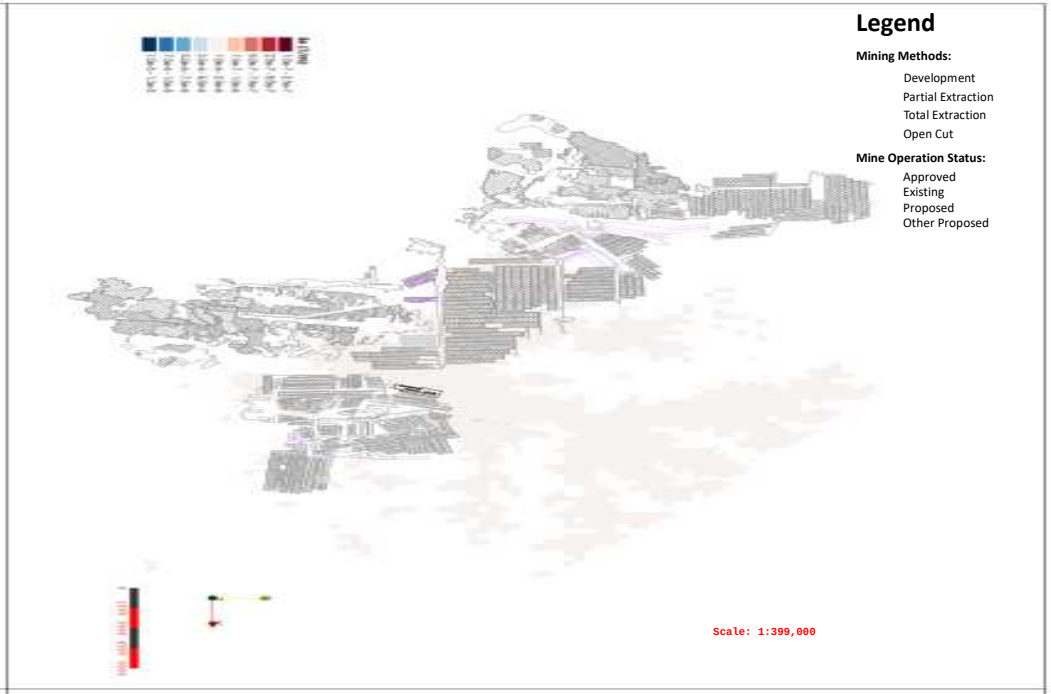
December 2049 (SP241):

File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EPI\Figures\Grapher\68229_R01RevA_D058_Plan_Ss\68229_R01RevA_D058_Plan_Ss_L05_L08.grf
Reference: 68229_R01RevA_PRO_02a

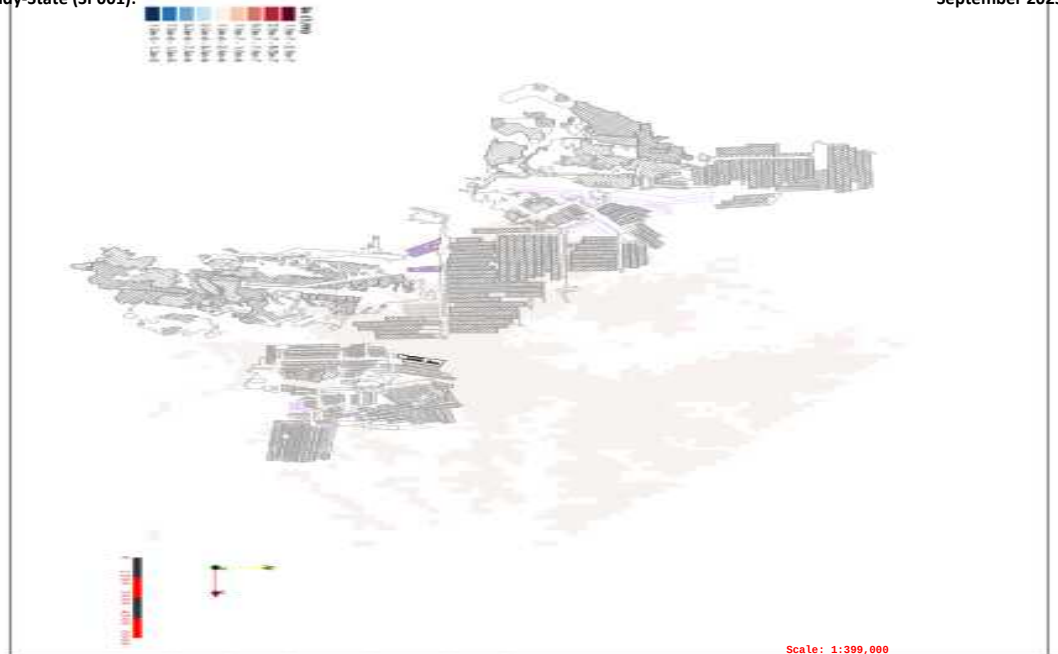
Figure E1c-02: Modelled Specific Storage (1/m) Quasi Steady-State (SP001) - Layer 05 to Layer 08



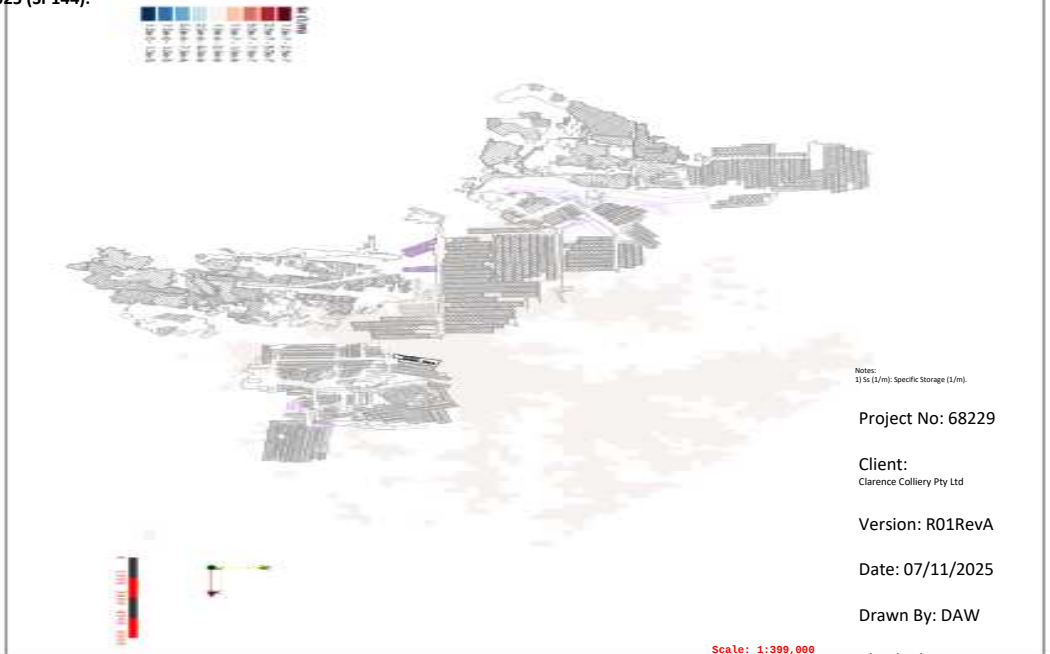
Steady-State (SP001):



September 2025 (SP144):



September 2026 (SP148):



December 2049 (SP241):

Legend

Mining Methods:

- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:

- Approved
- Existing
- Proposed
- Other Proposed

Notes:
1) Ss (1/m): Specific Storage (1/m).

Project No: 68229

Client:
Clarence Colliery Pty Ltd

Version: R01RevA

Date: 07/11/2025

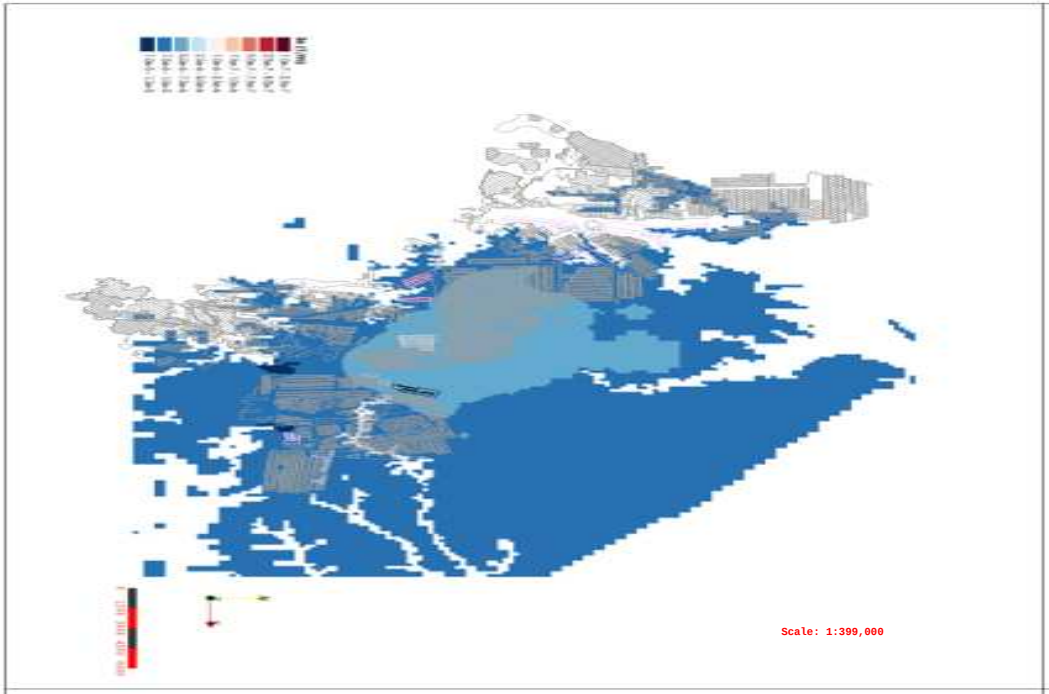
Drawn By: DAW

Checked By: JRWB

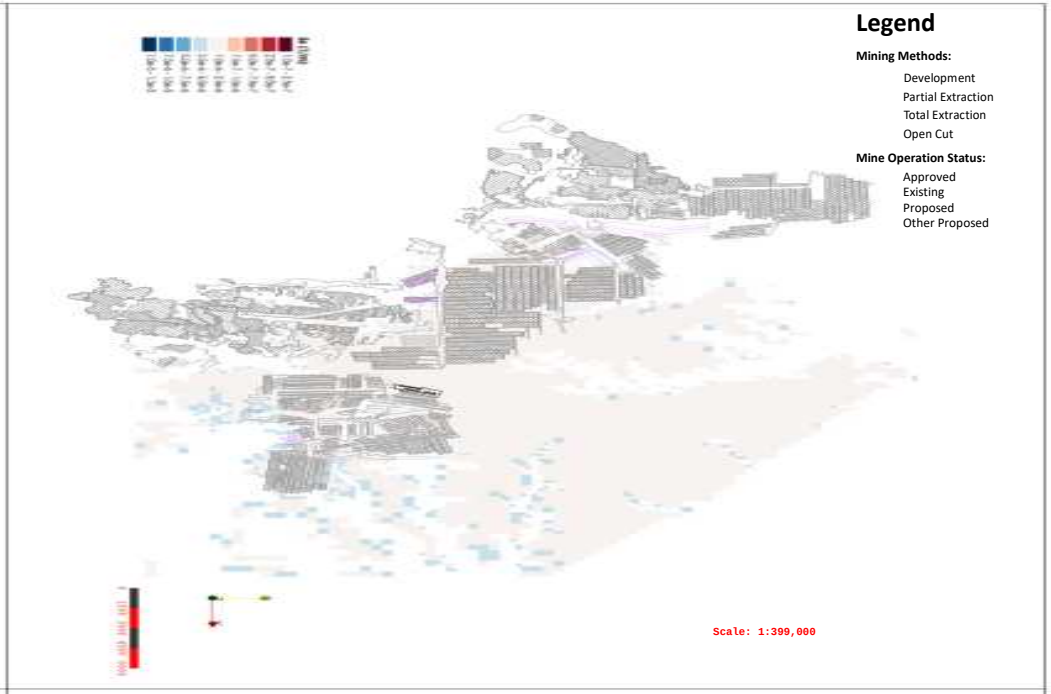
File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EPI\Figures\Grapher\68229_R01RevA_D058_Plan_Ss\68229_R01RevA_D058_Plan_Ss_L09_L12.grf

Reference: 68229_R01RevA_PRO_02a

Figure E1c-03: Modelled Specific Storage (1/m) Quasi Steady-State (SP001) - Layer 09 to Layer 12

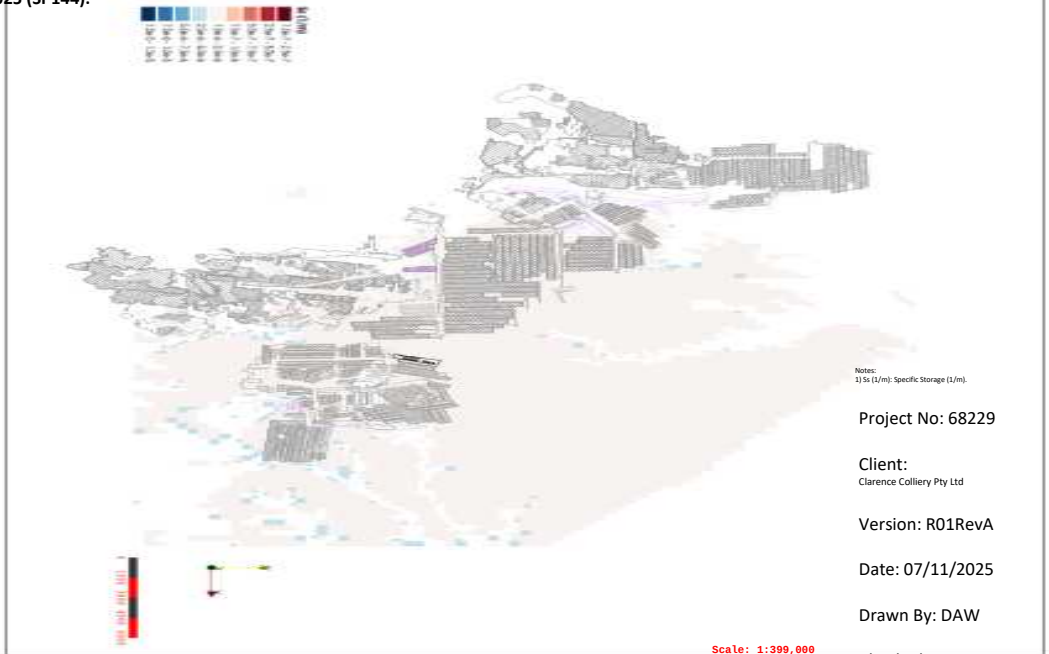


Steady-State (SP001):



September 2025 (SP144):

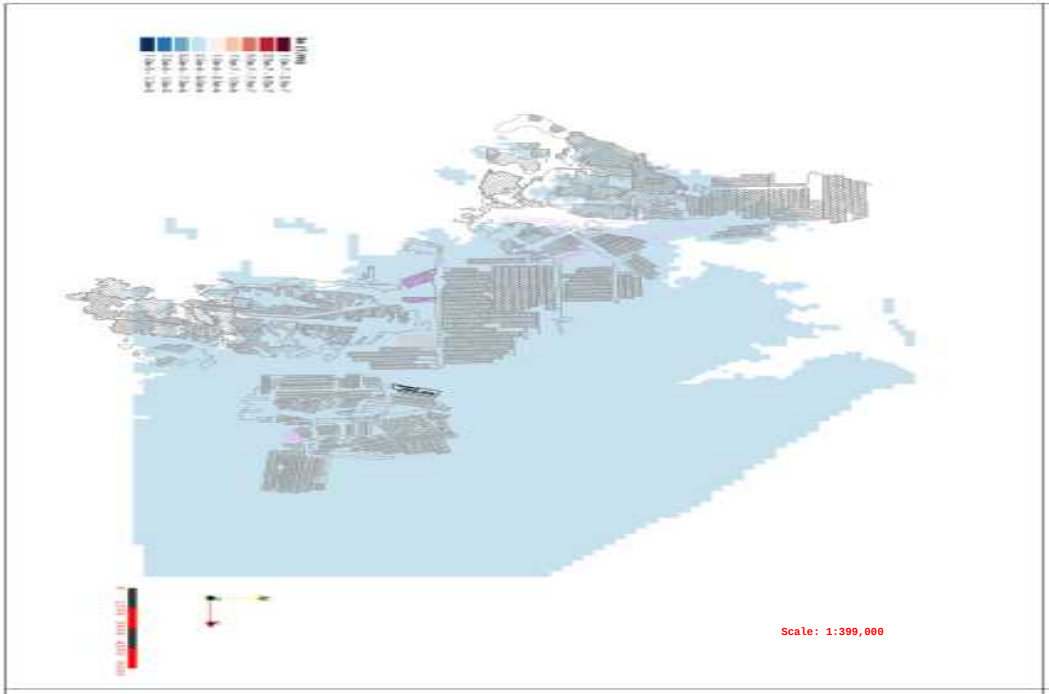
September 2026 (SP148):



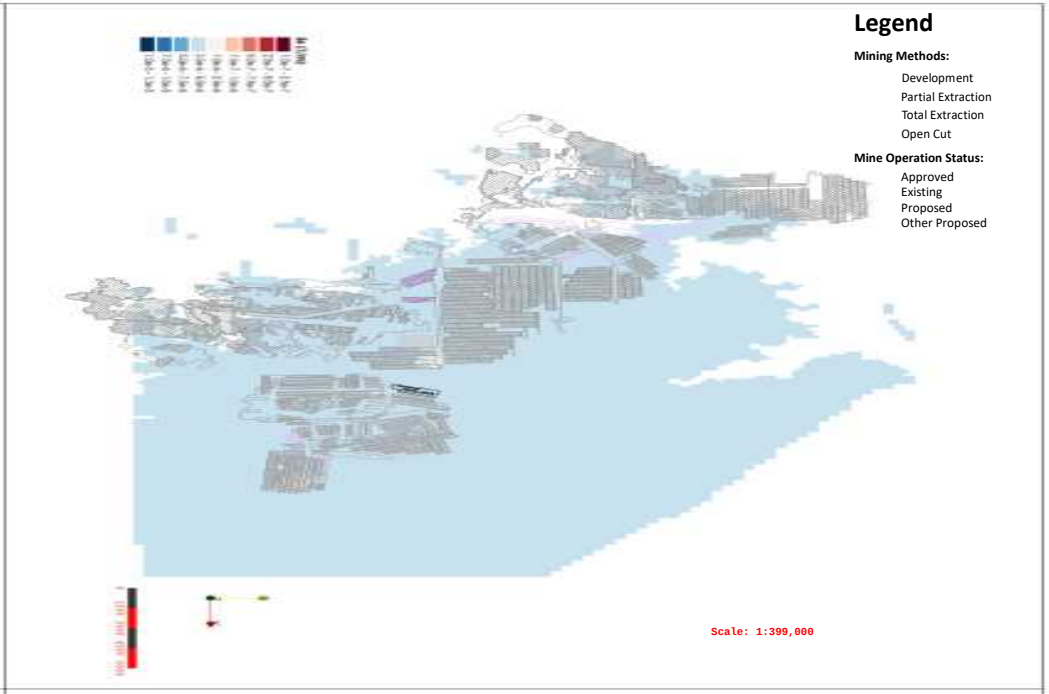
December 2049 (SP241):

File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EPI\Figures\Grapher\68229_R01RevA_D058_Plan_Ss\68229_R01RevA_D058_Plan_Ss_L13_L16.grf
Reference: 68229_R01RevA_PRO_02a

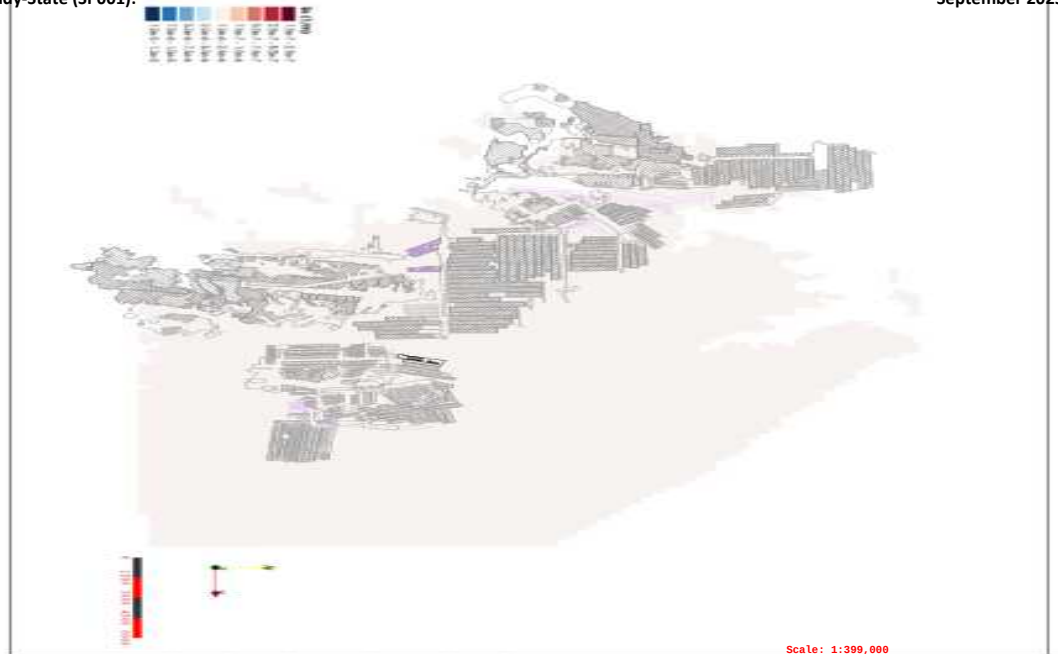
Figure E1c-04: Modelled Specific Storage (1/m) Quasi Steady-State (SP001) - Layer 13 to Layer 16



Steady-State (SP001):



September 2025 (SP144):



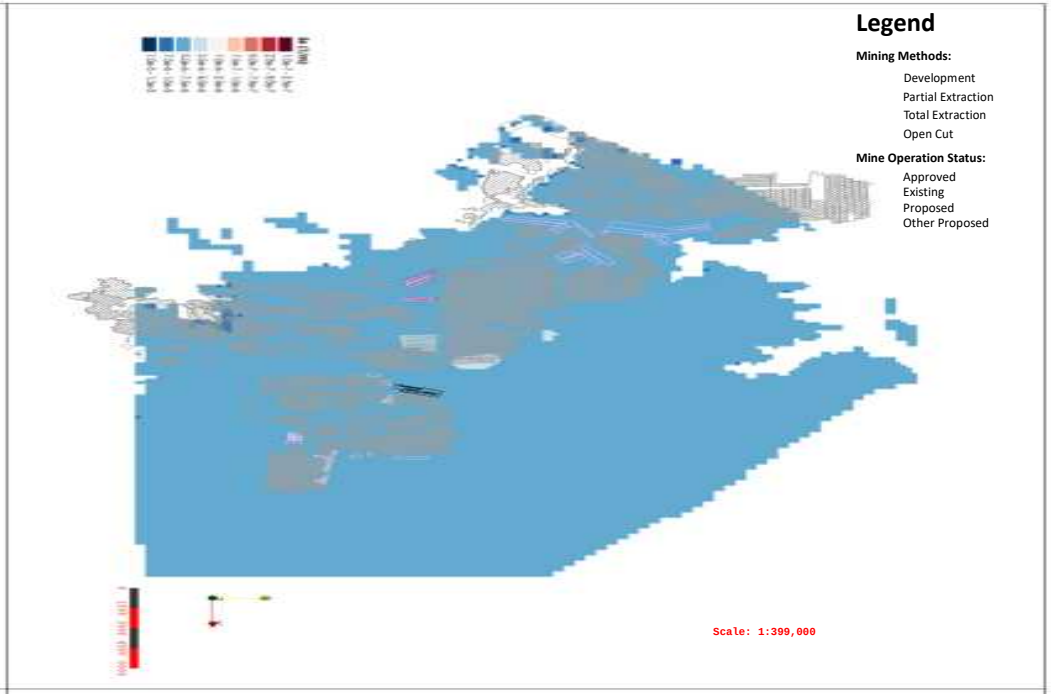
September 2026 (SP148):

December 2049 (SP241):

File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EPI\Figures\Grapher\68229_R01RevA_D058_Plan_Ss\68229_R01RevA_D058_Plan_Ss_L17_L20.grf
Reference: 68229_R01RevA_PRO_02a

Figure E1c-05: Modelled Specific Storage (1/m) Quasi Steady-State (SP001) - Layer 17 to Layer 20

Steady-State (SP001):



September 2025 (SP144):

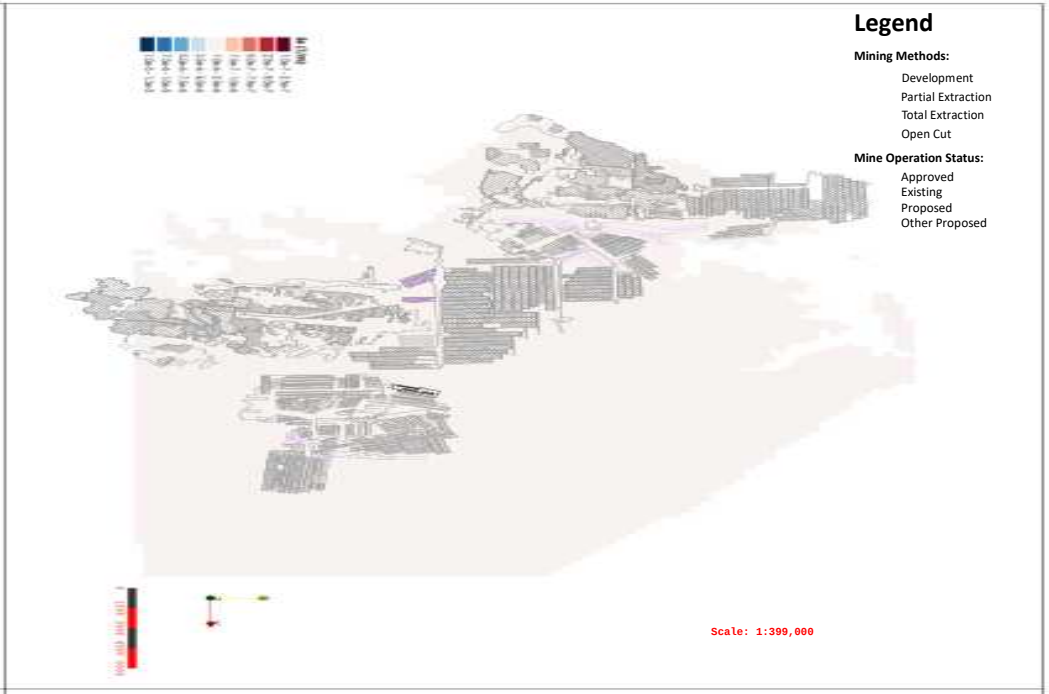
September 2026 (SP148):

December 2049 (SP241):

File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EPI\Figures\Grapher\68229_R01RevA_D058_Plan_Ss\68229_R01RevA_D058_Plan_Ss_L21_L24.grf
Reference: 68229_R01RevA_PRO_02a

Figure E1c-06: Modelled Specific Storage (1/m) Quasi Steady-State (SP001) - Layer 21 to Layer 24

Steady-State (SP001):



September 2025 (SP144):

September 2026 (SP148):

December 2049 (SP241):

File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EPI\Figures\Grapher\68229_R01RevA_D058_Plan_Ss\68229_R01RevA_D058_Plan_Ss_L25_L28.grf
Reference: 68229_R01RevA_PRO_02a

Figure E1c-07: Modelled Specific Storage (1/m) Quasi Steady-State (SP001) - Layer 25 to Layer 28

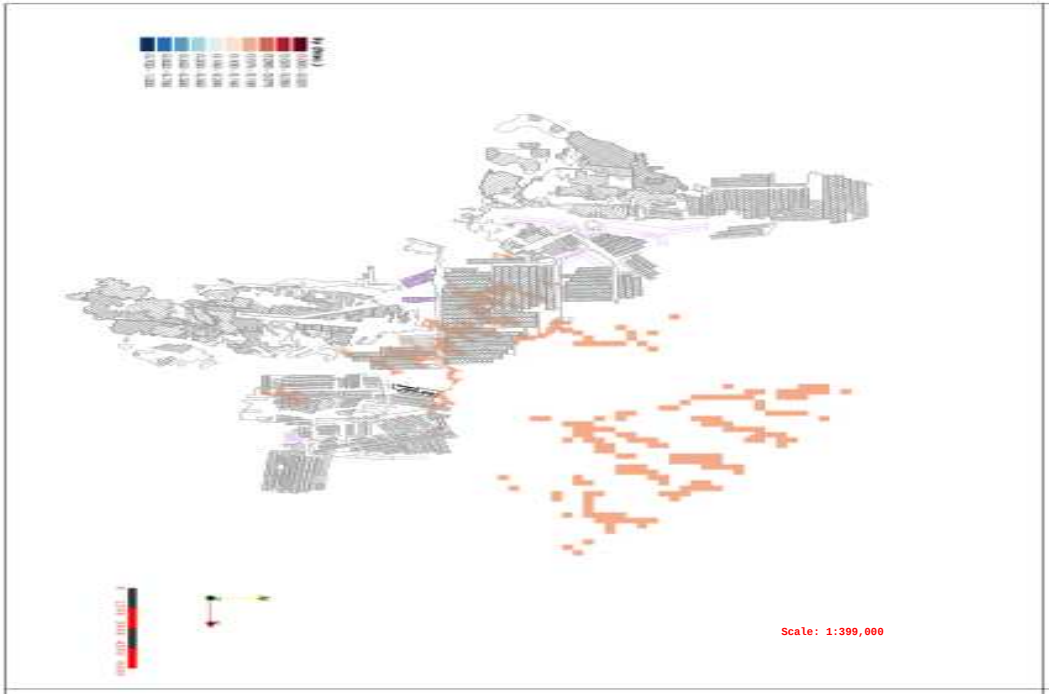
Steady-State (SP001):

September 2025 (SP144):

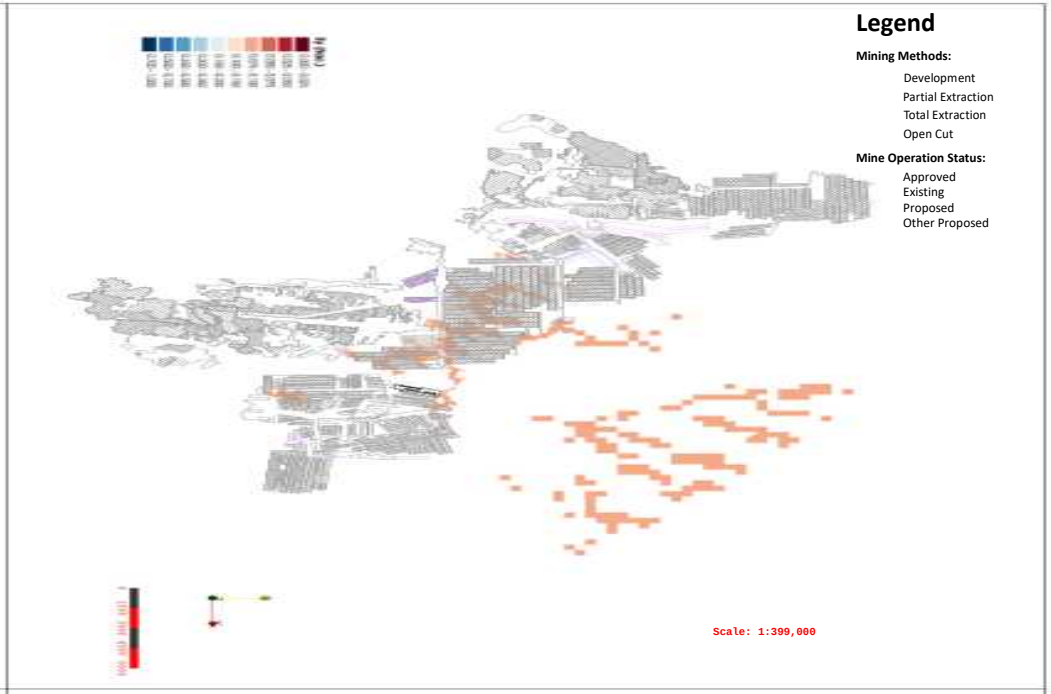
n/a

n/a

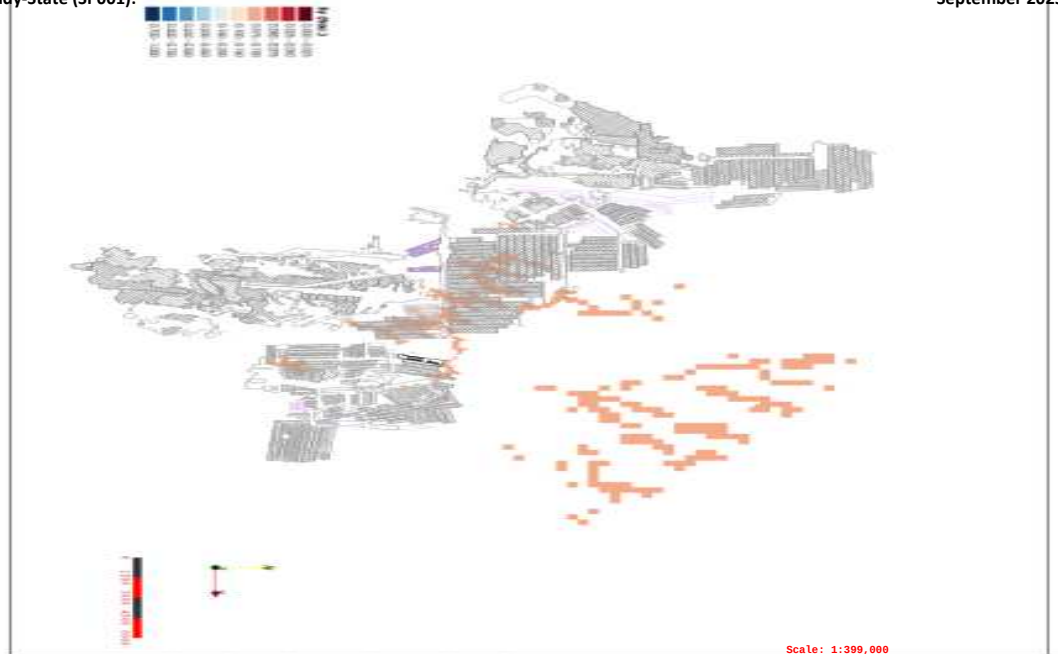
Figure E1c-08: Modelled Specific Storage (1/m) Quasi Steady-State (SP001) - Layer 29 to Layer 30



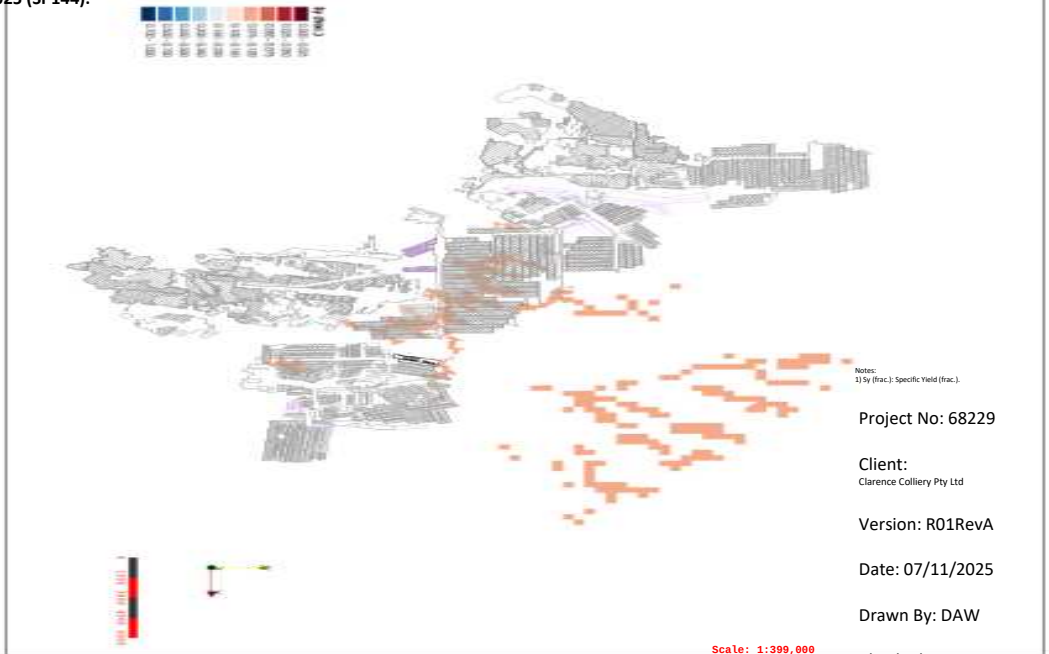
Steady-State (SP001):



September 2025 (SP144):



September 2026 (SP148):



December 2049 (SP241):

Legend

Mining Methods:

- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:

- Approved
- Existing
- Proposed
- Other Proposed

Notes:
1) Sy (frac.): Specific Yield (frac.).

Project No: 68229

Client:
Clarence Colliery Pty Ltd

Version: R01RevA

Date: 07/11/2025

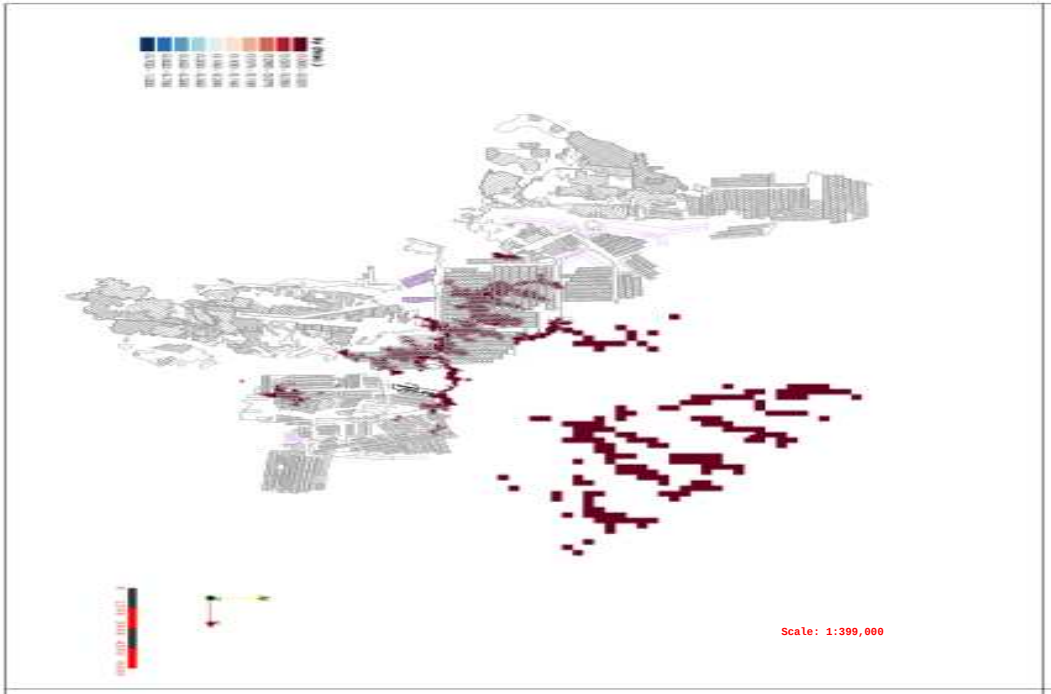
Drawn By: DAW

Checked By: JRWB

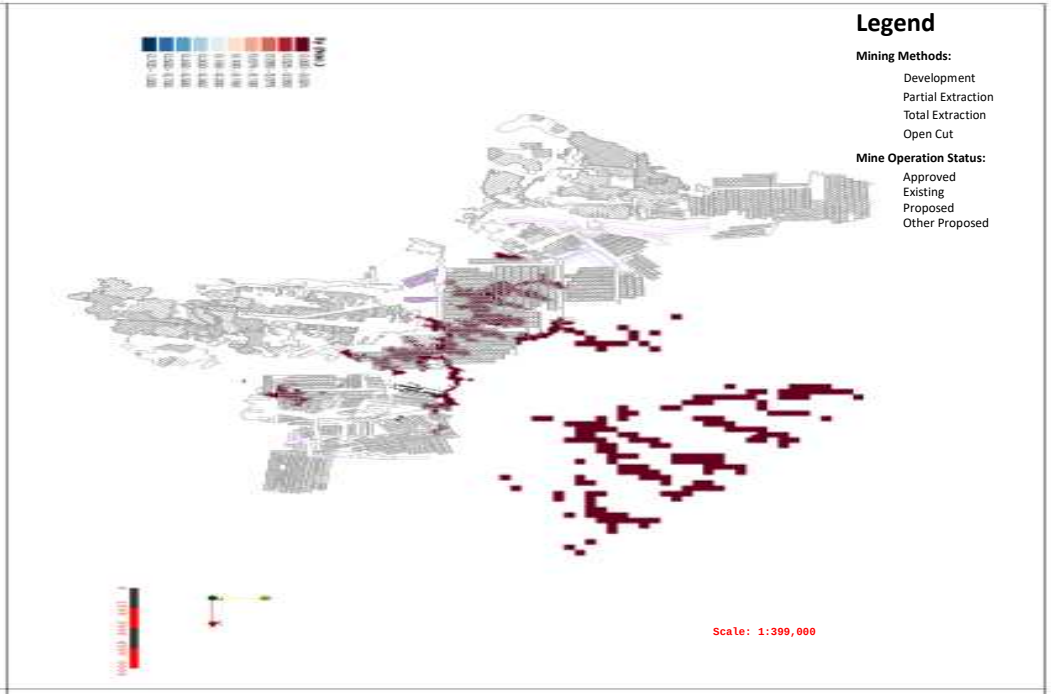
File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EPI\Figures\Grapher\68229_R01RevA_D059_Plan_Sy\68229_R01RevA_D059_Plan_Sy_L01.grf

Reference: 68229_R01RevA_PRO_02a

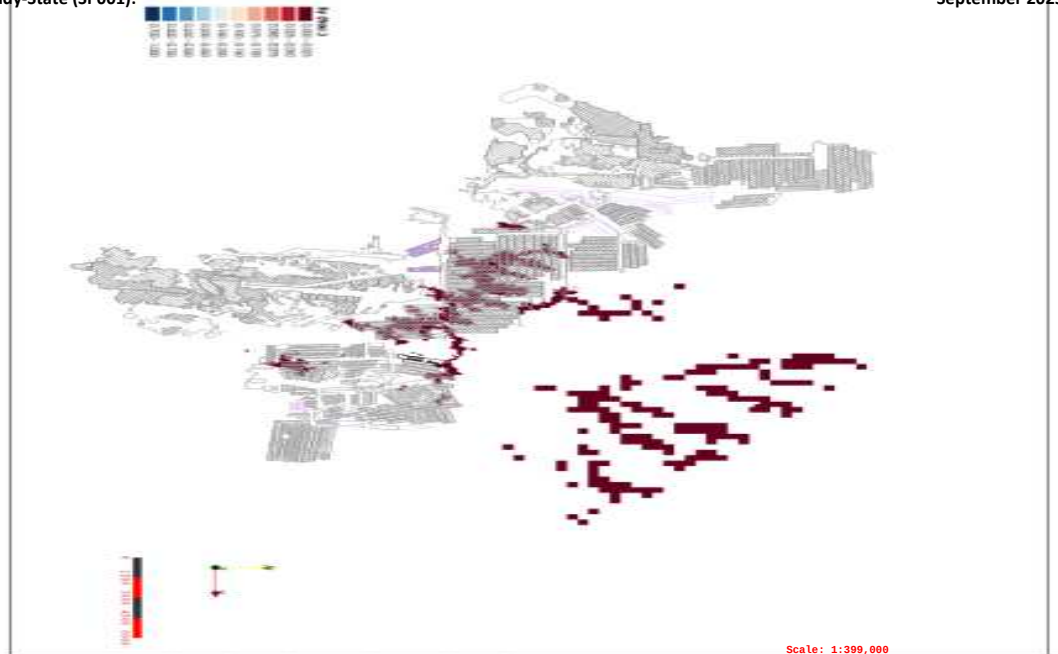
Figure E1d-01: Modelled Specific Yield (frac.) - Layer 01



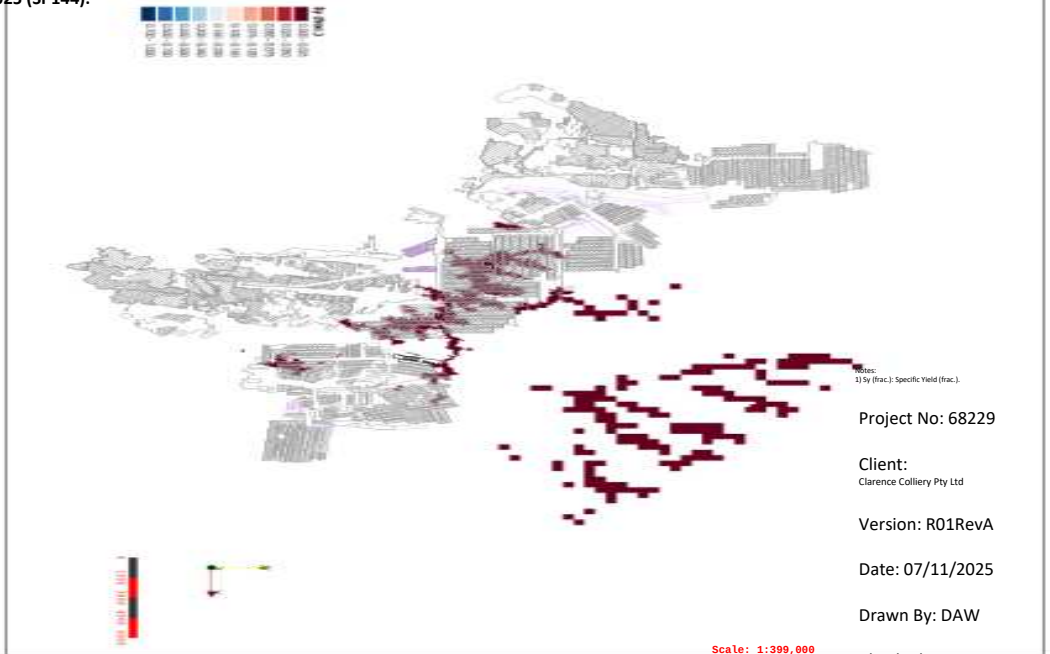
Steady-State (SP001):



September 2025 (SP144):



September 2026 (SP148):



December 2049 (SP241):

Project No: 68229

Client:
Clarence Colliery Pty Ltd

Version: R01RevA

Date: 07/11/2025

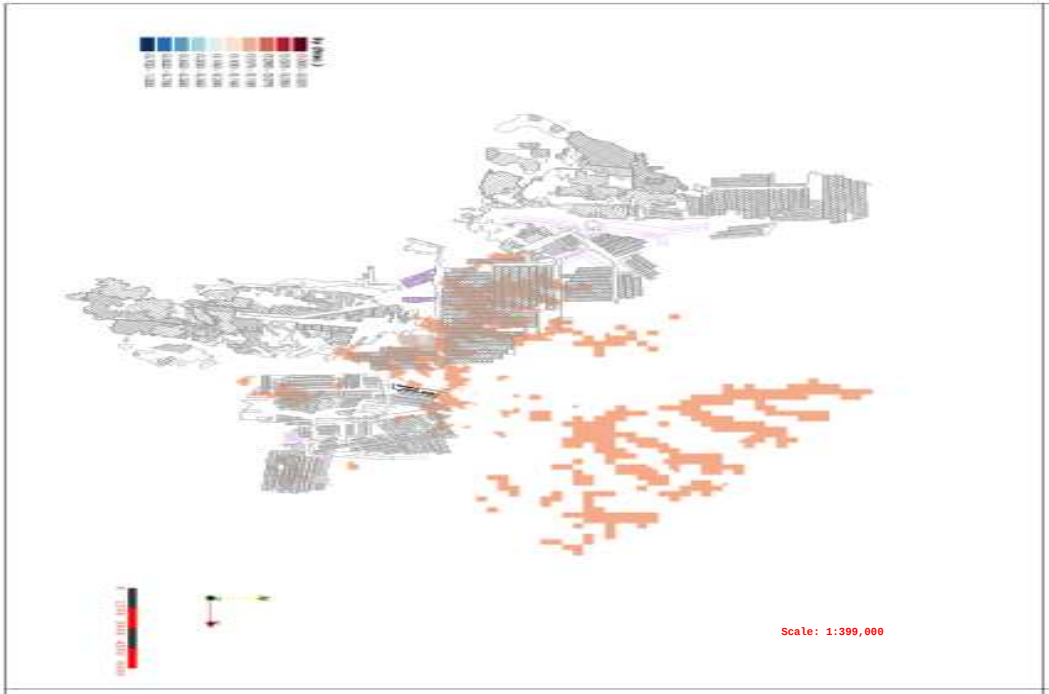
Drawn By: DAW

Checked By: JRWB

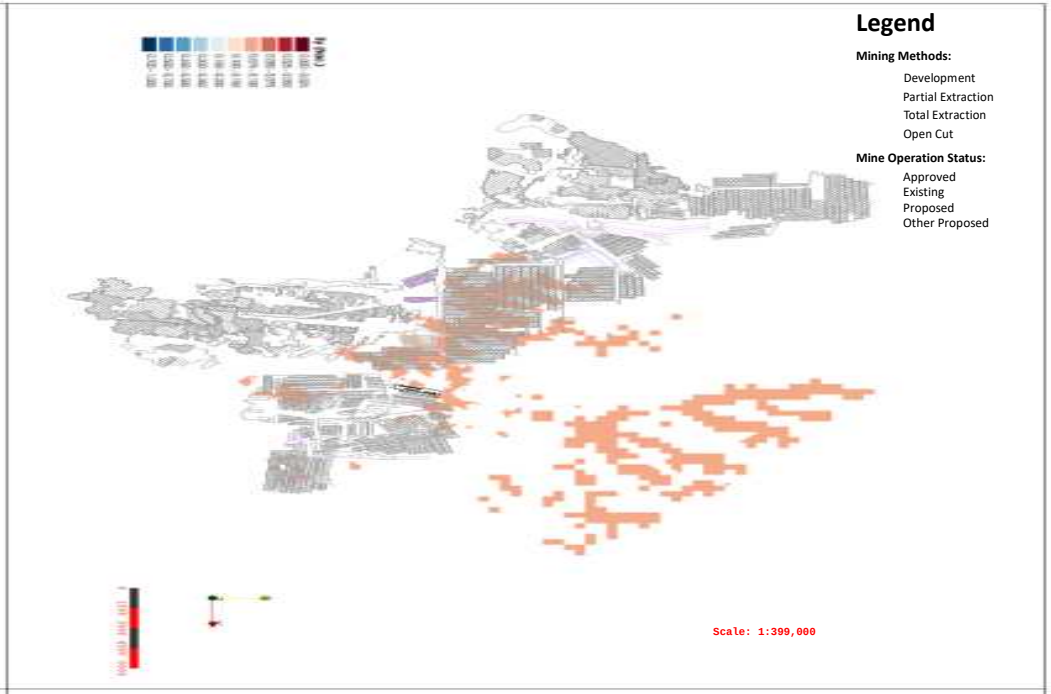
File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EPI\Figures\Grapher\68229_R01RevA_D059_Plan_Sy\68229_R01RevA_D059_Plan_Sy_L02.grf

Reference: 68229_R01RevA_PRO_02a

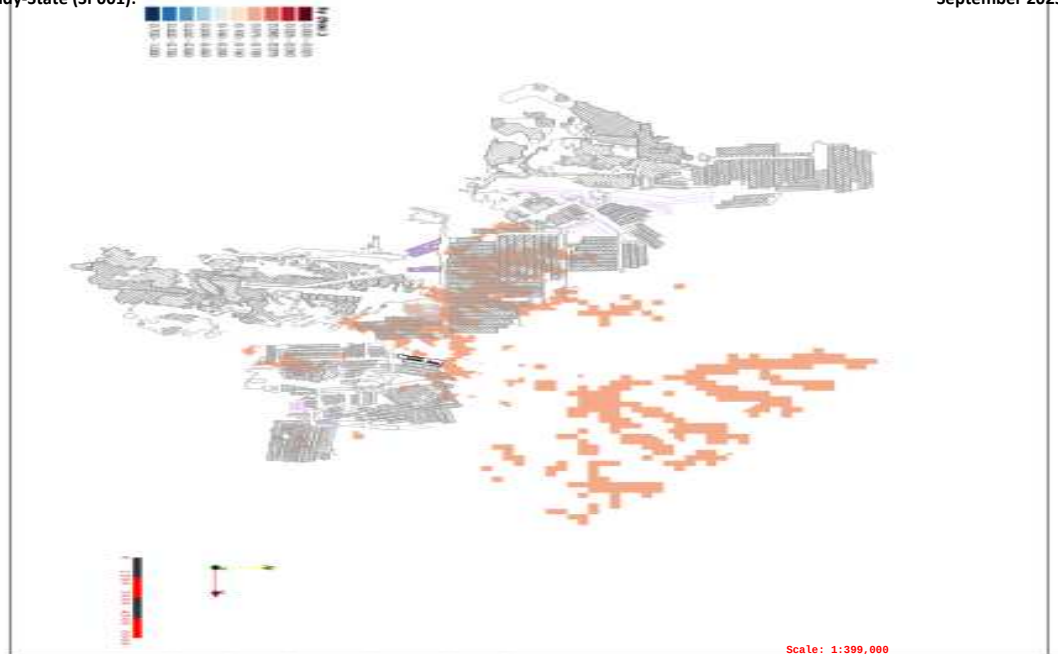
Figure E1d-02: Modelled Specific Yield (frac.) - Layer 02



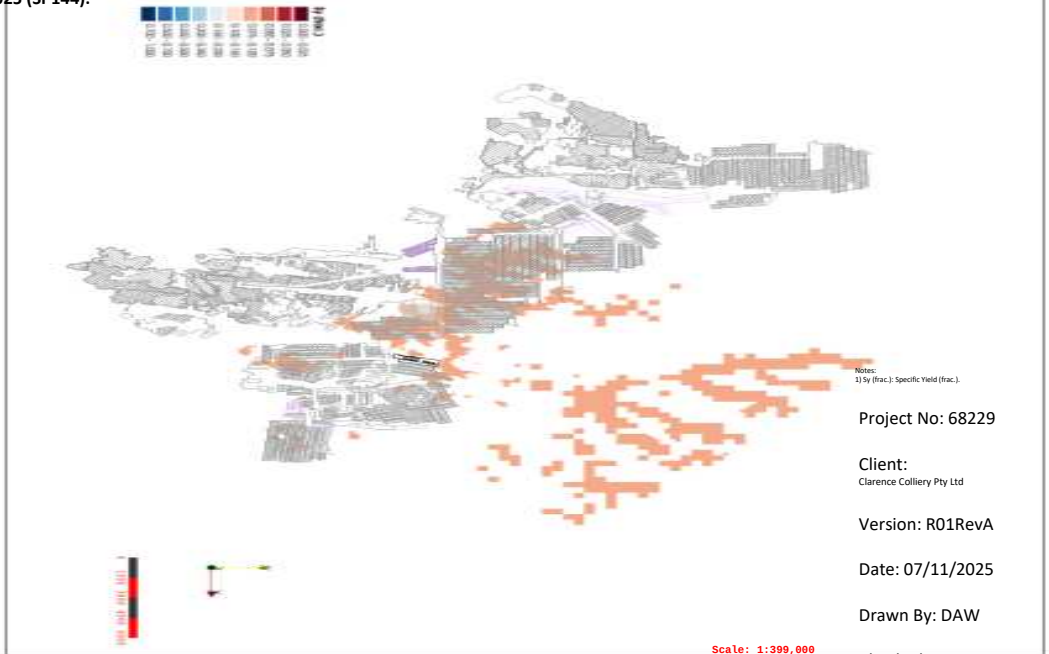
Steady-State (SP001):



September 2025 (SP144):



September 2026 (SP148):



December 2049 (SP241):

Legend

Mining Methods:

- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:

- Approved
- Existing
- Proposed
- Other Proposed

Notes:
1) Sy (frac.): Specific Yield (frac.).

Project No: 68229

Client:
Clarence Colliery Pty Ltd

Version: R01RevA

Date: 07/11/2025

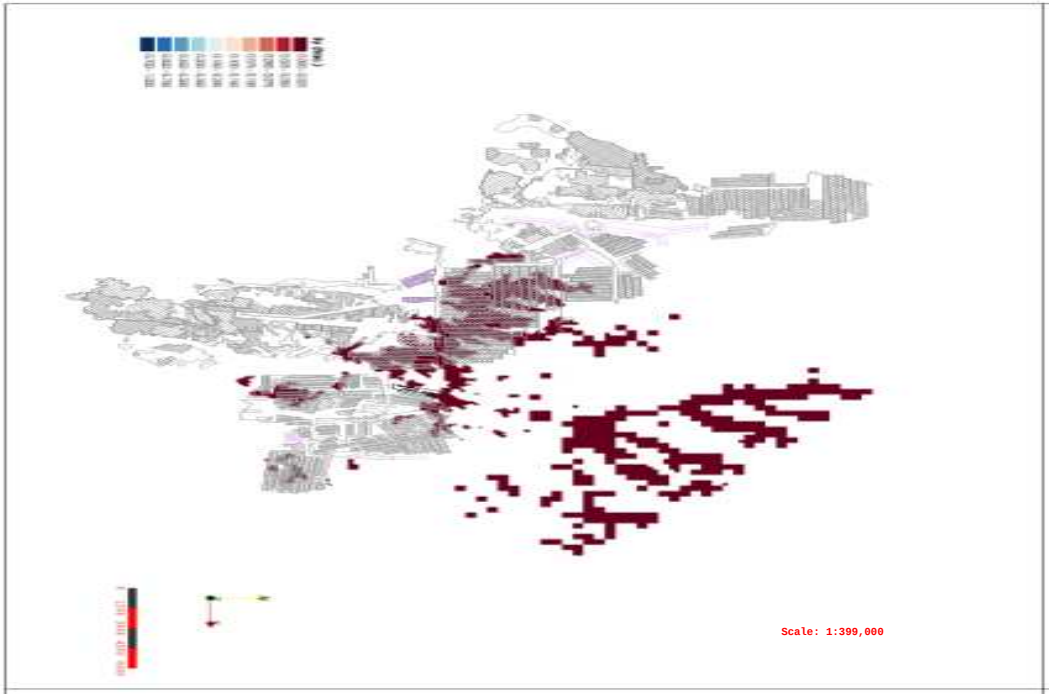
Drawn By: DAW

Checked By: JRWB

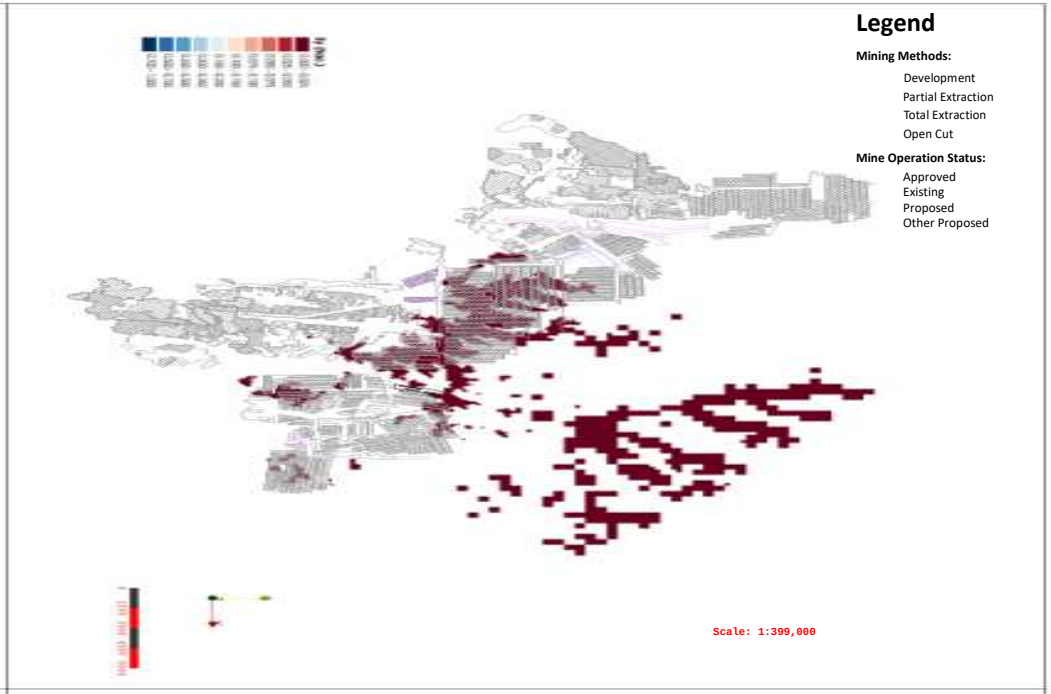
File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EPI\Figures\Grapher\68229_R01RevA_D059_Plan_Sy\68229_R01RevA_D059_Plan_Sy_L03.grf

Reference: 68229_R01RevA_PRO_02a

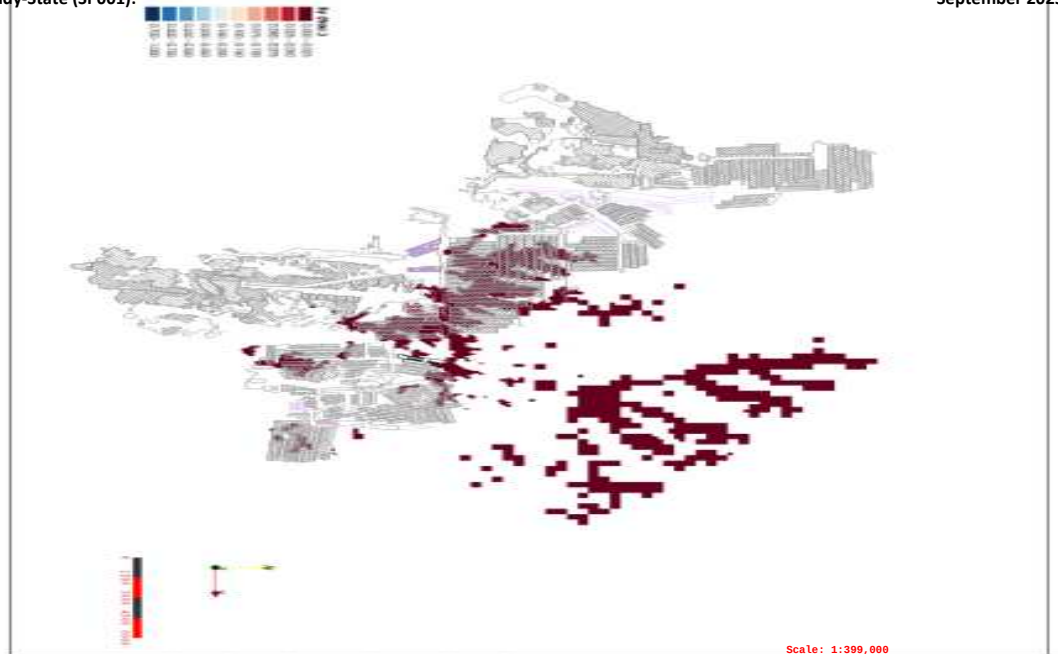
Figure E1d-03: Modelled Specific Yield (frac.) - Layer 03



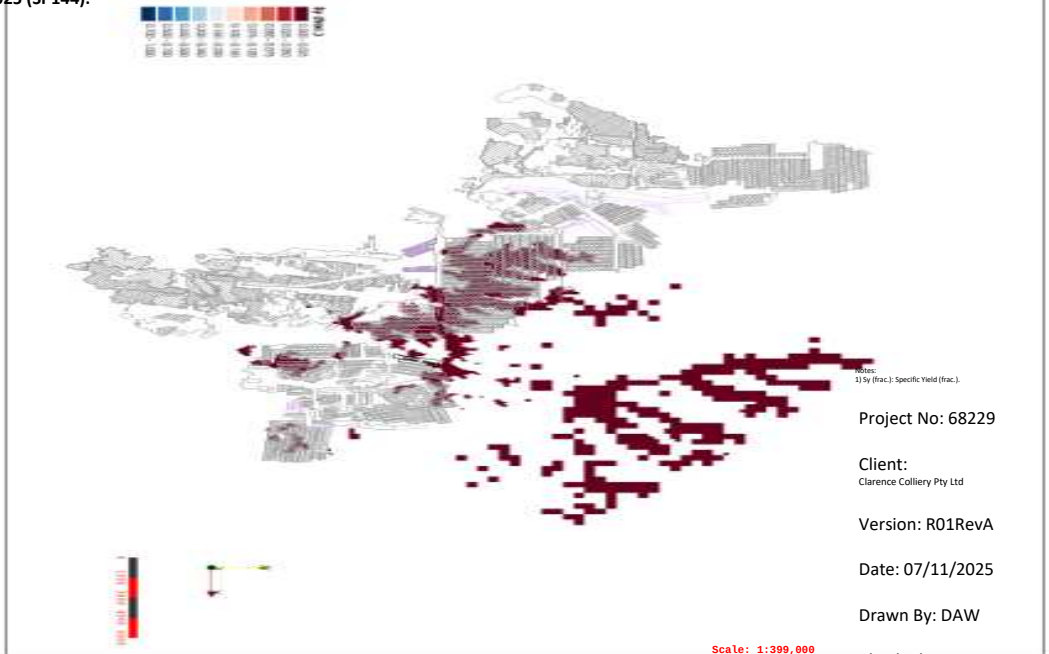
Steady-State (SP001):



September 2025 (SP144):



September 2026 (SP148):



December 2049 (SP241):

Legend

Mining Methods:

- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:

- Approved
- Existing
- Proposed
- Other Proposed

Notes:
1) Sy (frac.): Specific Yield (frac.).

Project No: 68229

Client:
Clarence Colliery Pty Ltd

Version: R01RevA

Date: 07/11/2025

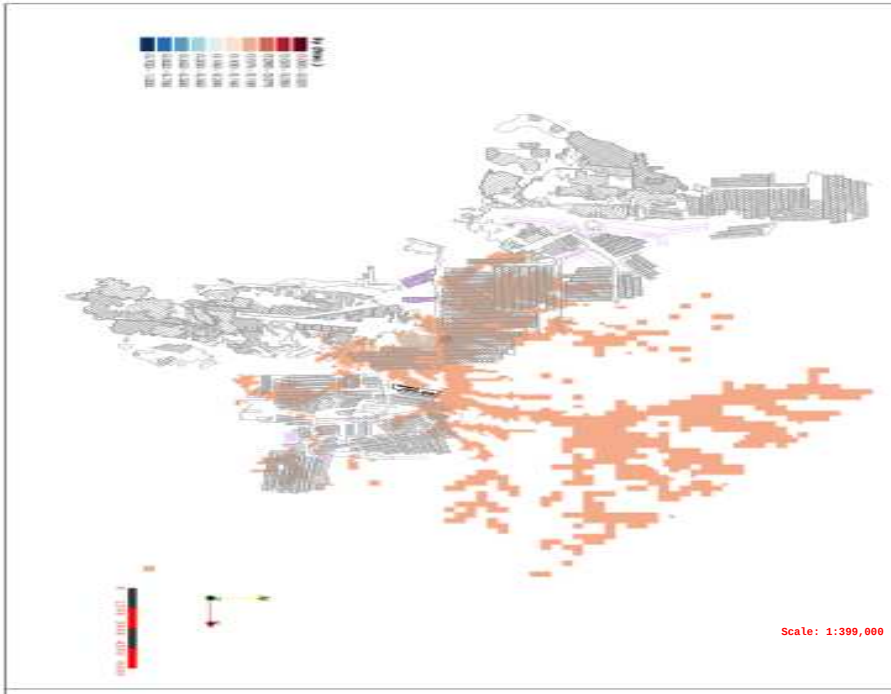
Drawn By: DAW

Checked By: JRWB

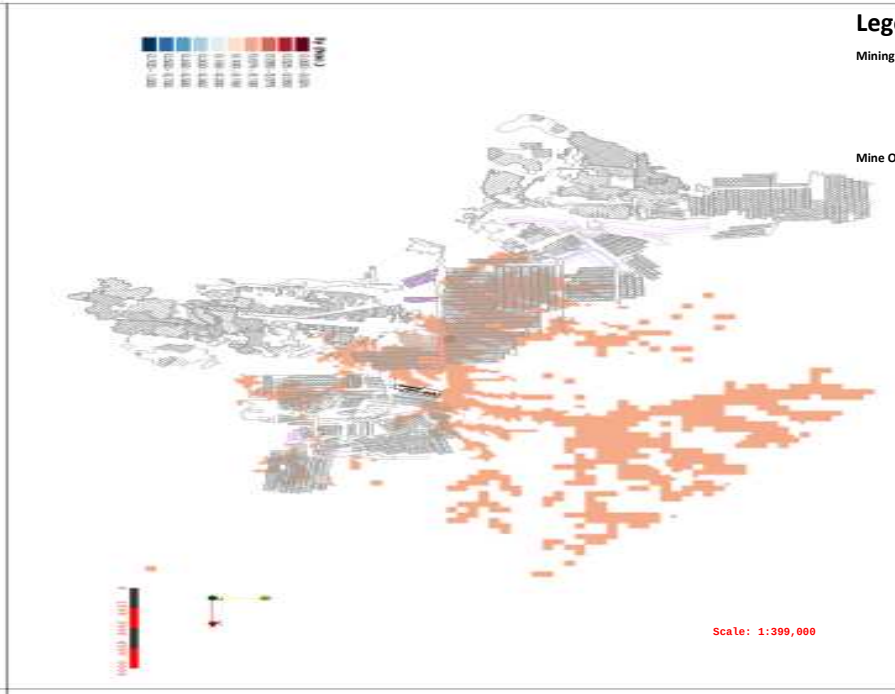
File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EPI\Figures\Grapher\68229_R01RevA_D059_Plan_Sy\68229_R01RevA_D059_Plan_Sy_L04.grf

Reference: 68229_R01RevA_PRO_02a

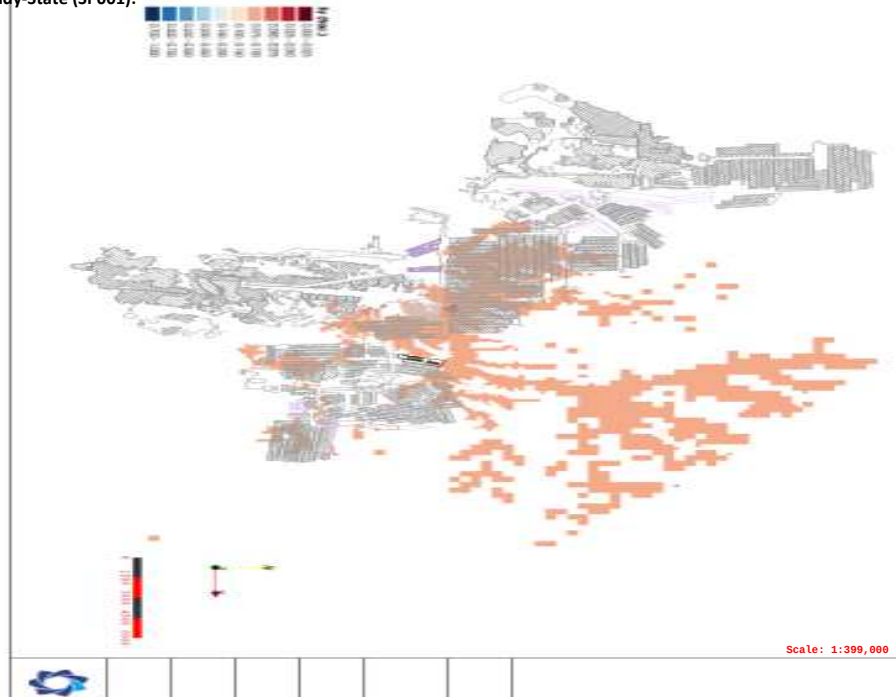
Figure E1d-04: Modelled Specific Yield (frac.) - Layer 04



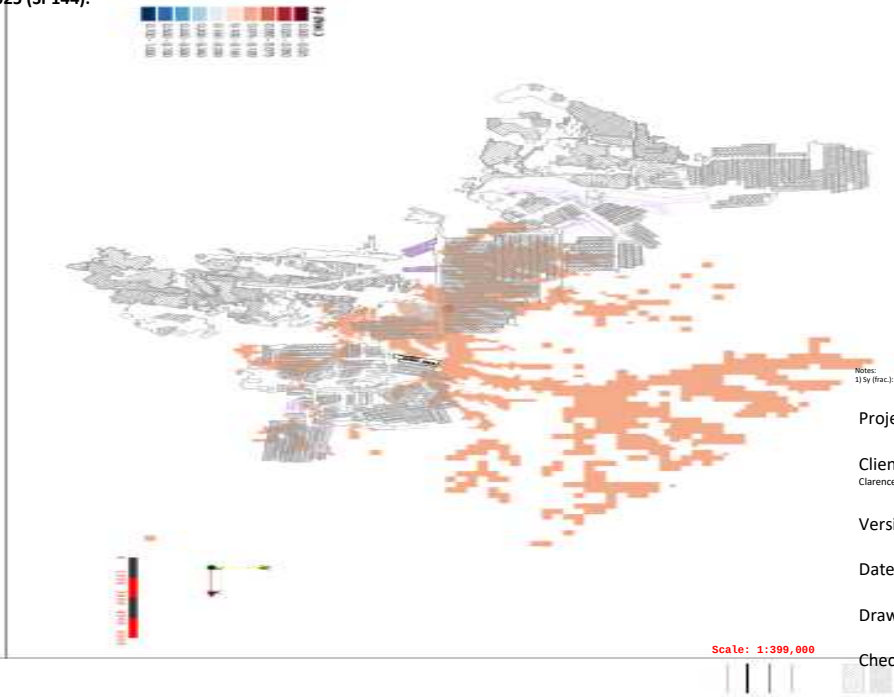
Steady-State (SP001):



September 2025 (SP144):



September 2026 (SP148):



December 2049 (SP241):

Legend

Mining Methods:

- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:

- Approved
- Existing
- Proposed
- Other Proposed

Notes:
1) Sy (frac.): Specific Yield (frac.).

Project No: 68229

Client:
Clarence Colliery Pty Ltd

Version: R01RevA

Date: 07/11/2025

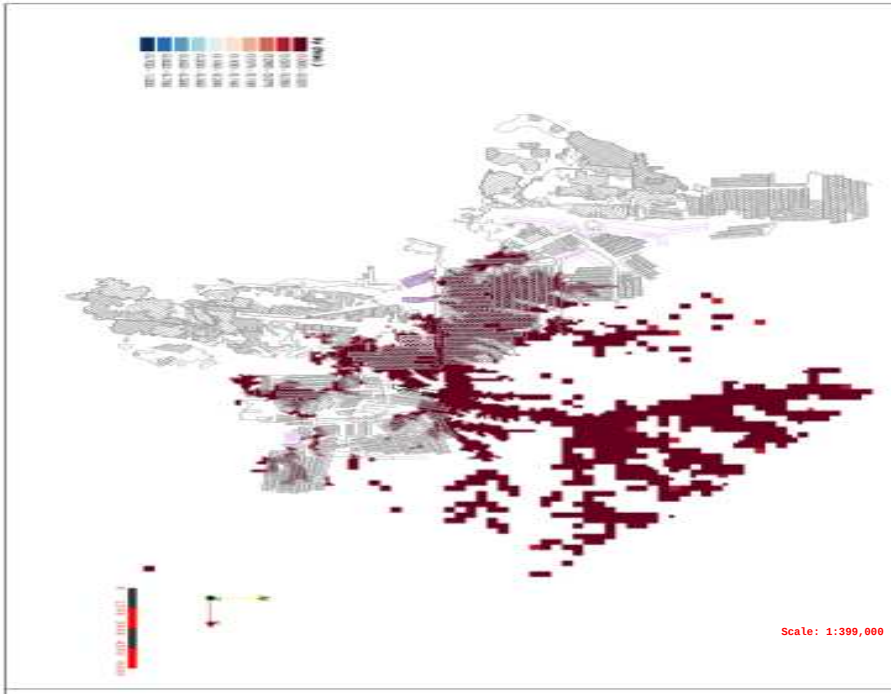
Drawn By: DAW

Checked By: JRWB

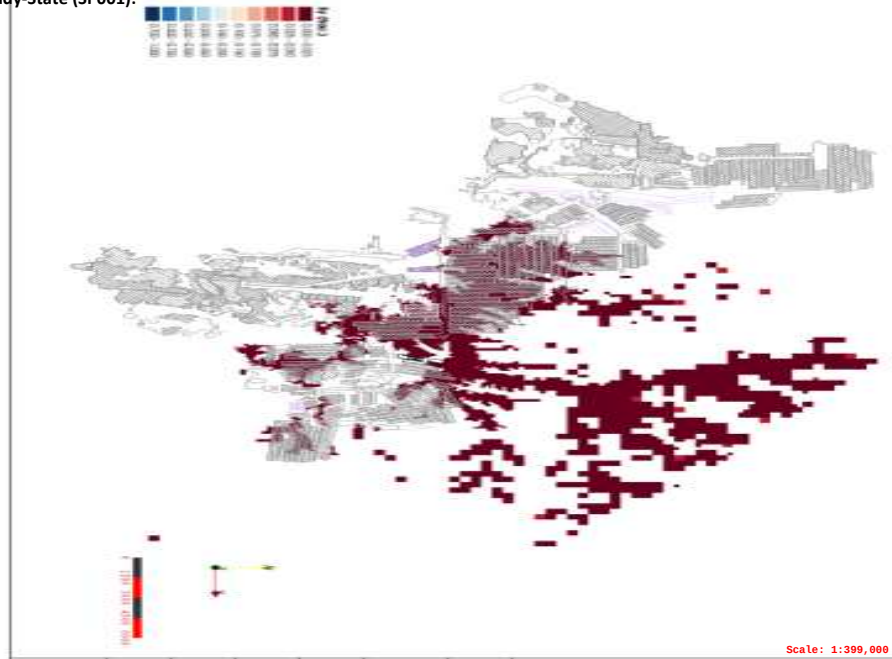
File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EPI\Figures\Grapher\68229_R01RevA_D059_Plan_Sy\68229_R01RevA_D059_Plan_Sy_L05.grf

Reference: 68229_R01RevA_PRO_02a

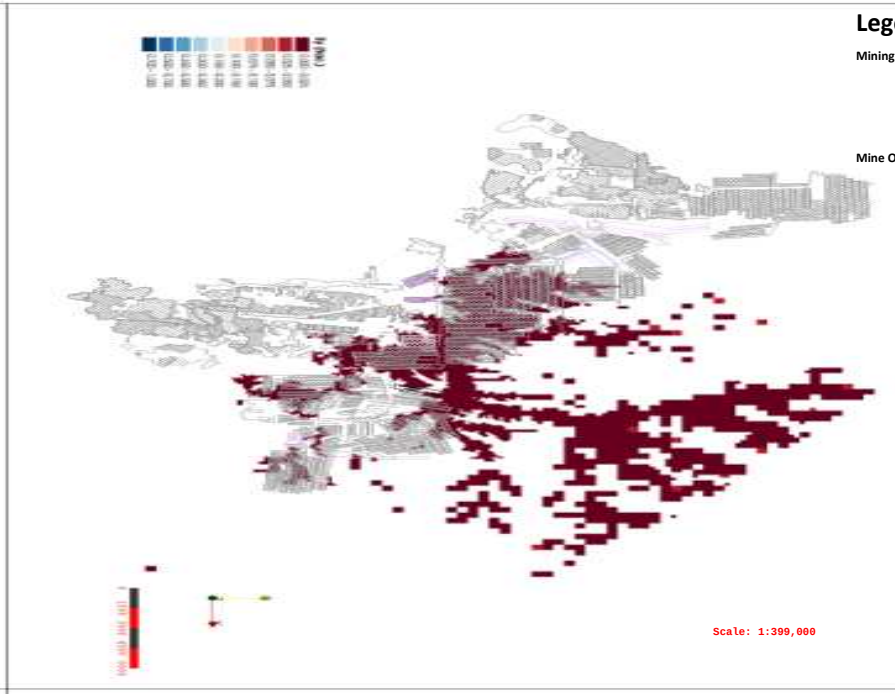
Figure E1d-05: Modelled Specific Yield (frac.) - Layer 05



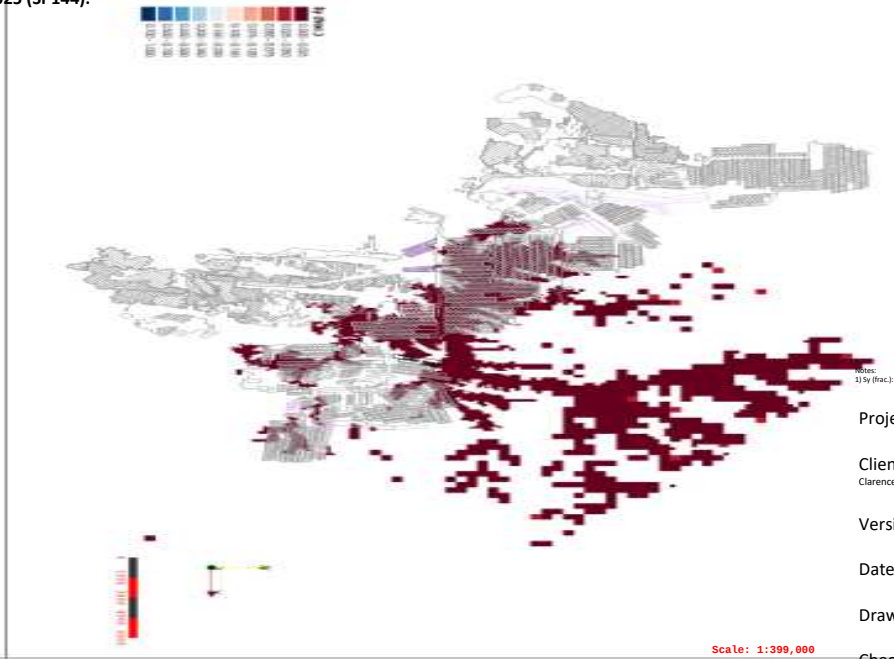
Steady-State (SP001):



September 2026 (SP148):



September 2025 (SP144):



December 2049 (SP241):

Figure E1d-06: Modelled Specific Yield (frac.) - Layer 06

Notes:
1) Sy (frac.): Specific Yield (frac.).

Project No: 68229

Client:
Clarence Colliery Pty Ltd

Version: R01RevA

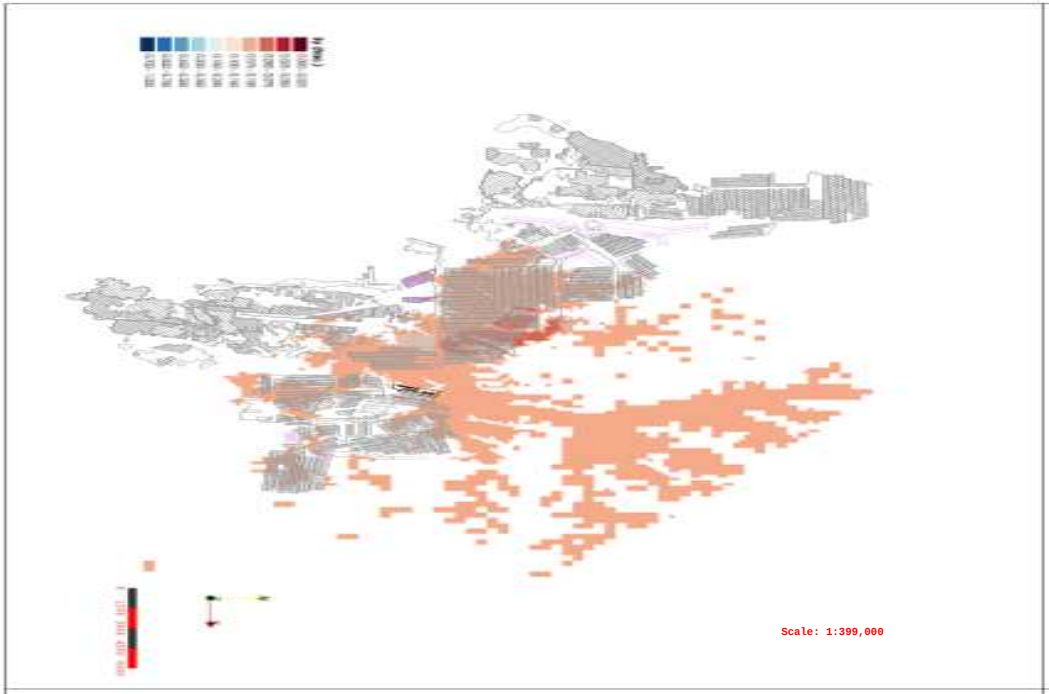
Date: 07/11/2025

Drawn By: DAW

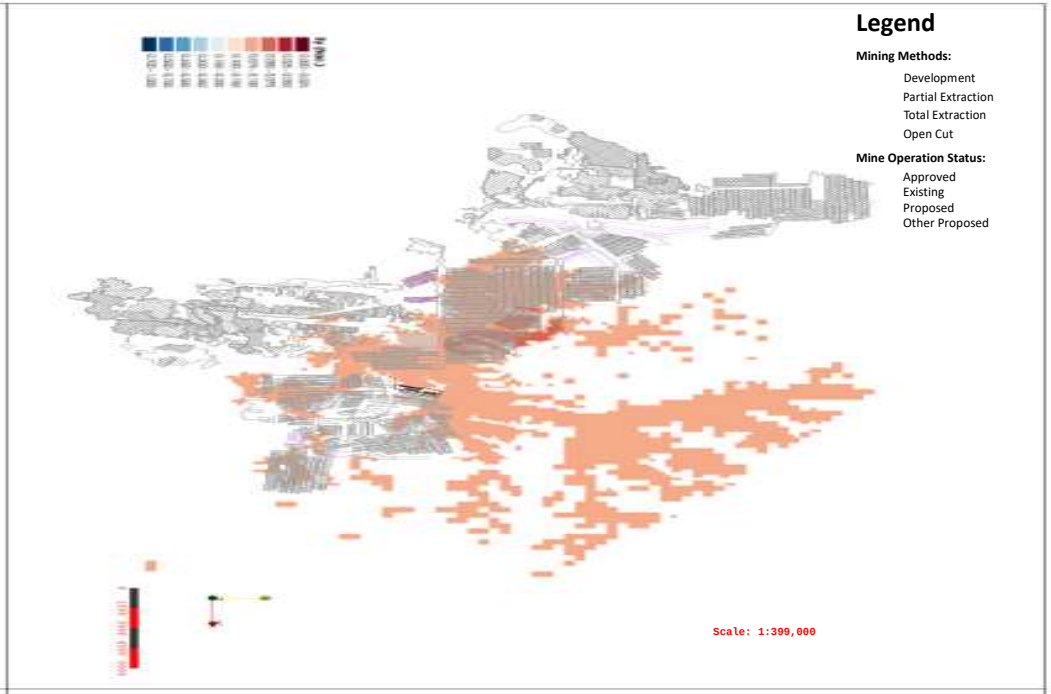
Checked By: JRWB

File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EPI\Figures\Grapher\68229_R01RevA_D059_Plan_Sy\68229_R01RevA_D059_Plan_Sy_L06.grf

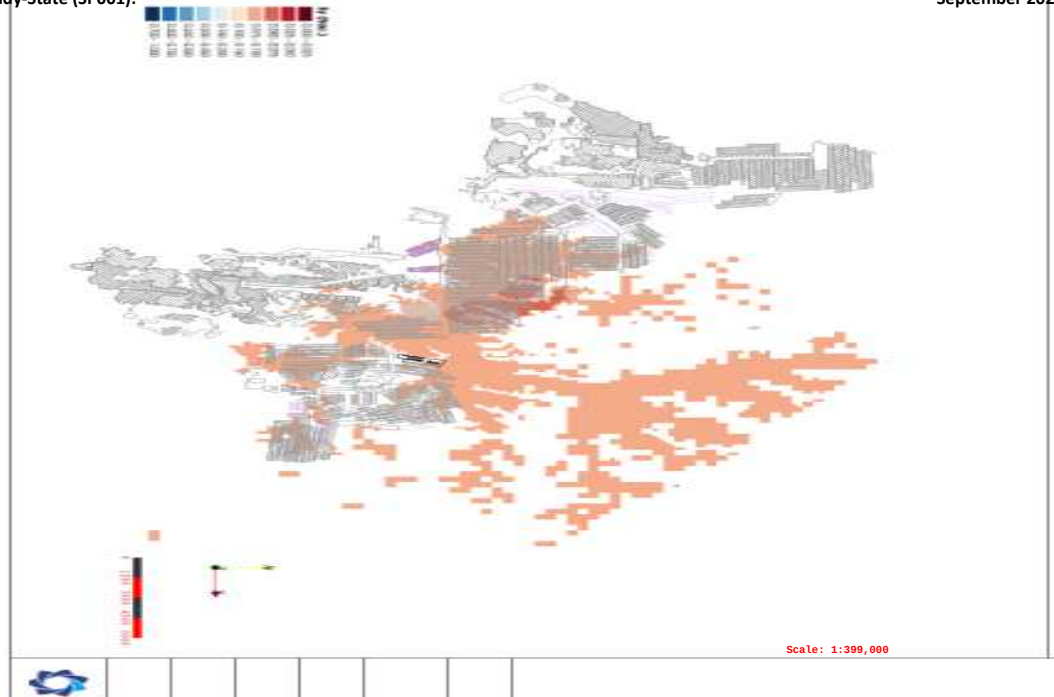
Reference: 68229_R01RevA_PRO_02a



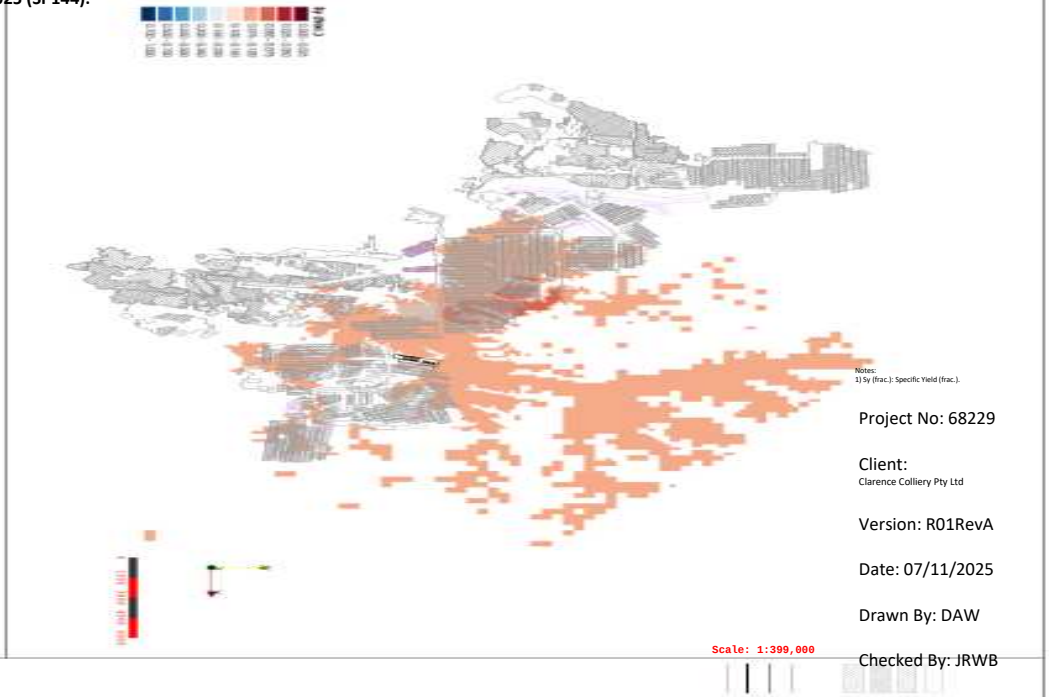
Steady-State (SP001):



September 2025 (SP144):



September 2026 (SP148):



December 2049 (SP241):

Legend

Mining Methods:

- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:

- Approved
- Existing
- Proposed
- Other Proposed

Notes:
1) Sy (frac.): Specific Yield (frac.).

Project No: 68229

Client:
Clarence Colliery Pty Ltd

Version: R01RevA

Date: 07/11/2025

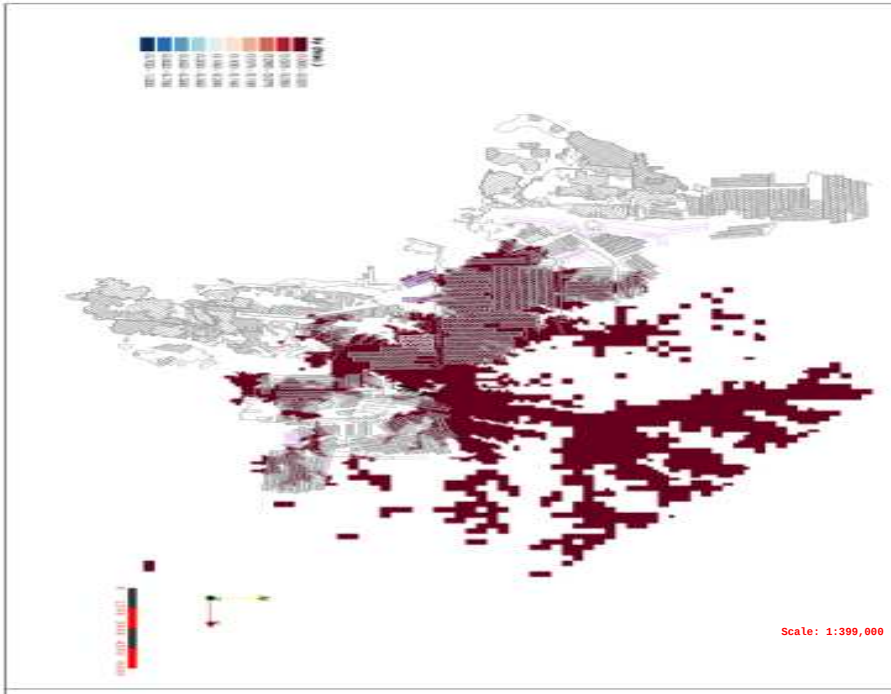
Drawn By: DAW

Checked By: JRWB

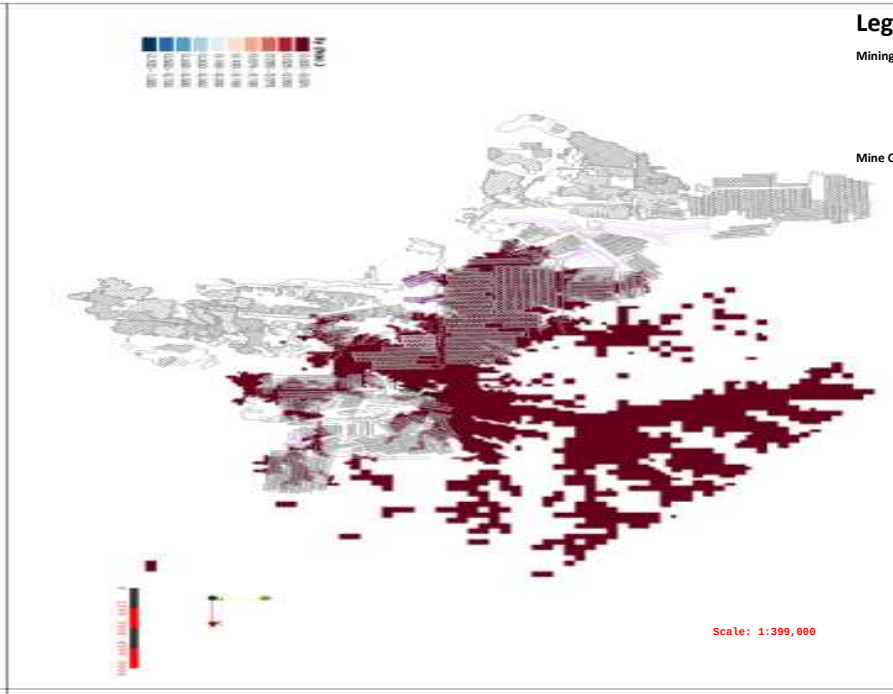
File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EPI\Figures\Grapher\68229_R01RevA_D059_Plan_Sy\68229_R01RevA_D059_Plan_Sy_L07.grf

Reference: 68229_R01RevA_PRO_02a

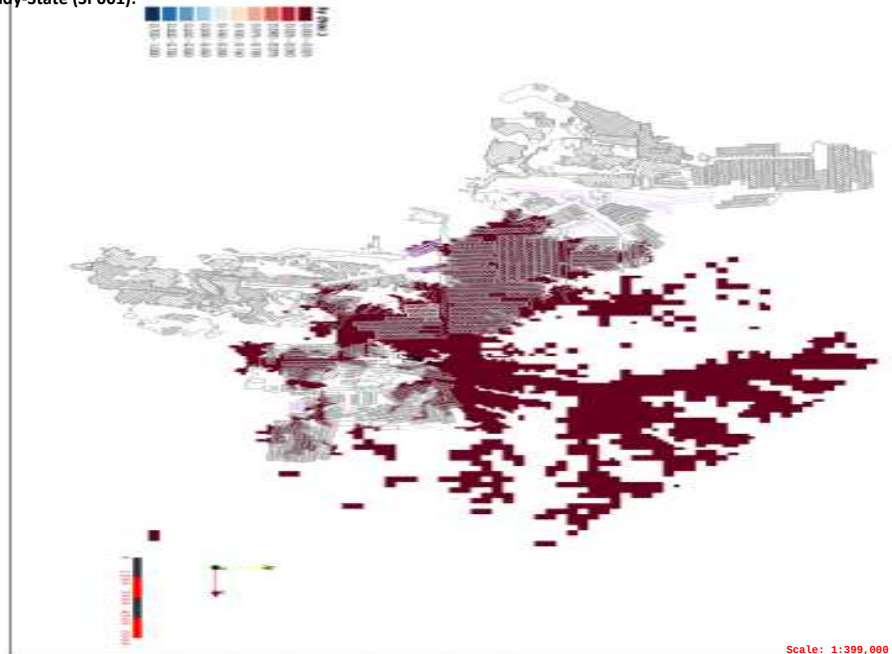
Figure E1d-07: Modelled Specific Yield (frac.) - Layer 07



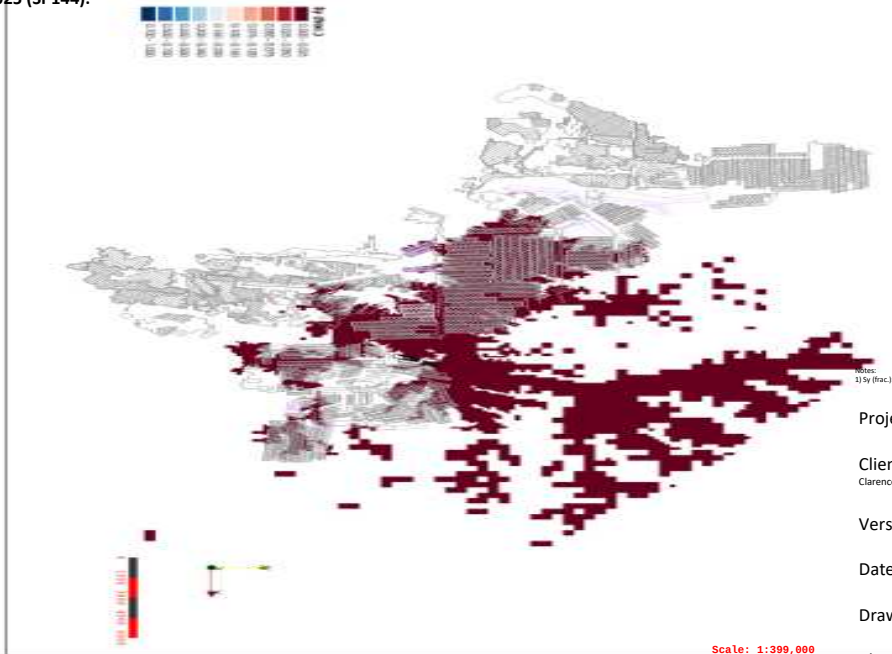
Steady-State (SP001):



September 2025 (SP144):



September 2026 (SP148):



December 2049 (SP241):

Legend

Mining Methods:

- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:

- Approved
- Existing
- Proposed
- Other Proposed

Notes:
1) Sy (frac.): Specific Yield (frac.).

Project No: 68229

Client:
Clarence Colliery Pty Ltd

Version: R01RevA

Date: 07/11/2025

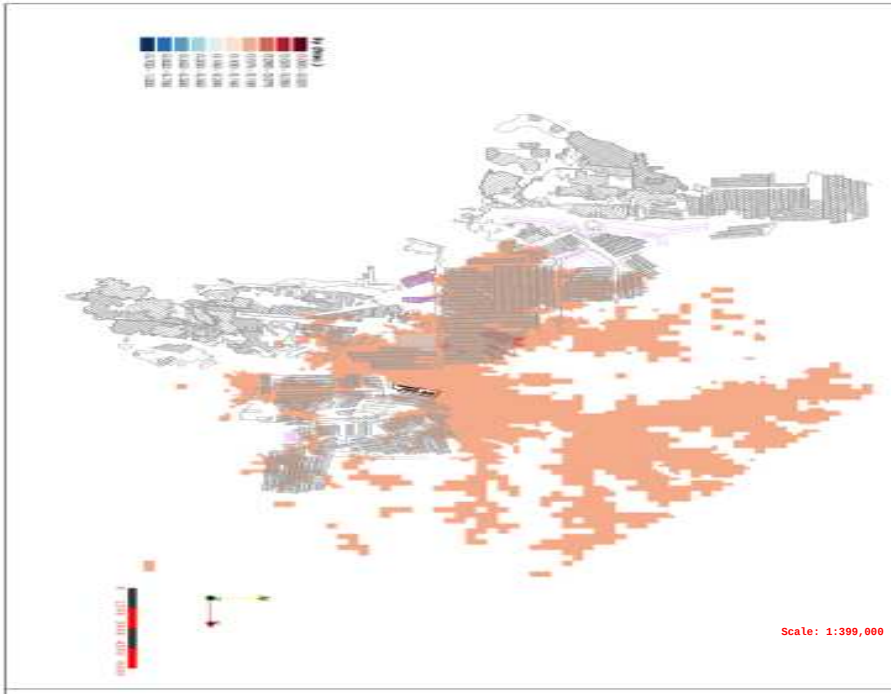
Drawn By: DAW

Checked By: JRWB

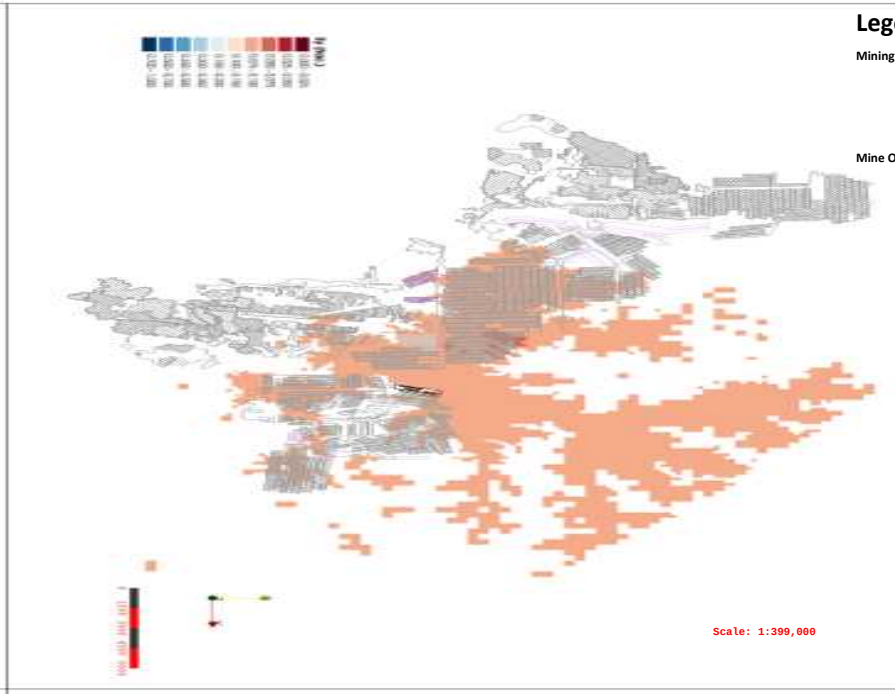
File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EPI\Figures\Grapher\68229_R01RevA_D059_Plan_Sy\68229_R01RevA_D059_Plan_Sy_L08.grf

Reference: 68229_R01RevA_PRO_02a

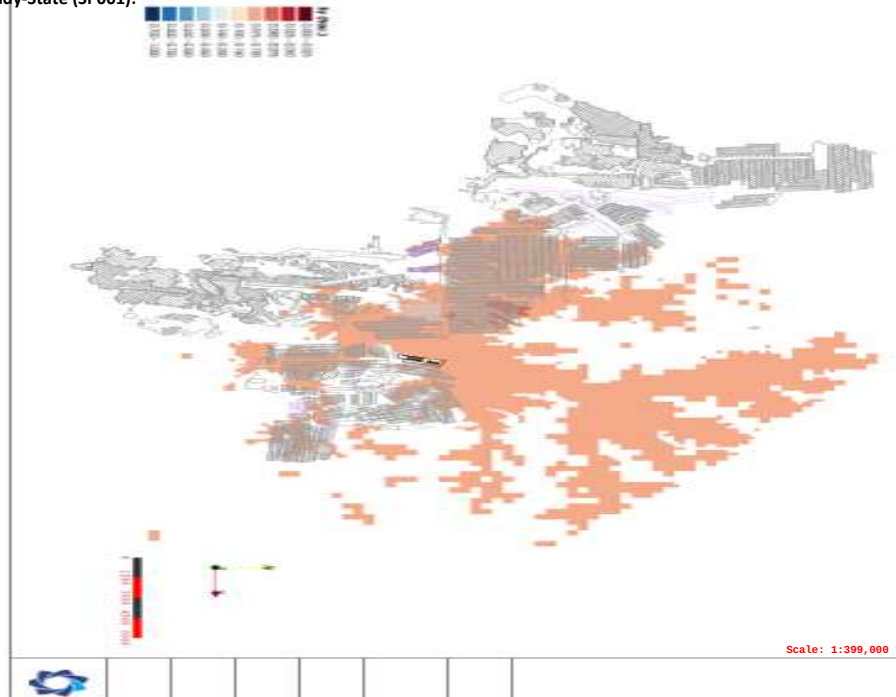
Figure E1d-08: Modelled Specific Yield (frac.) - Layer 08



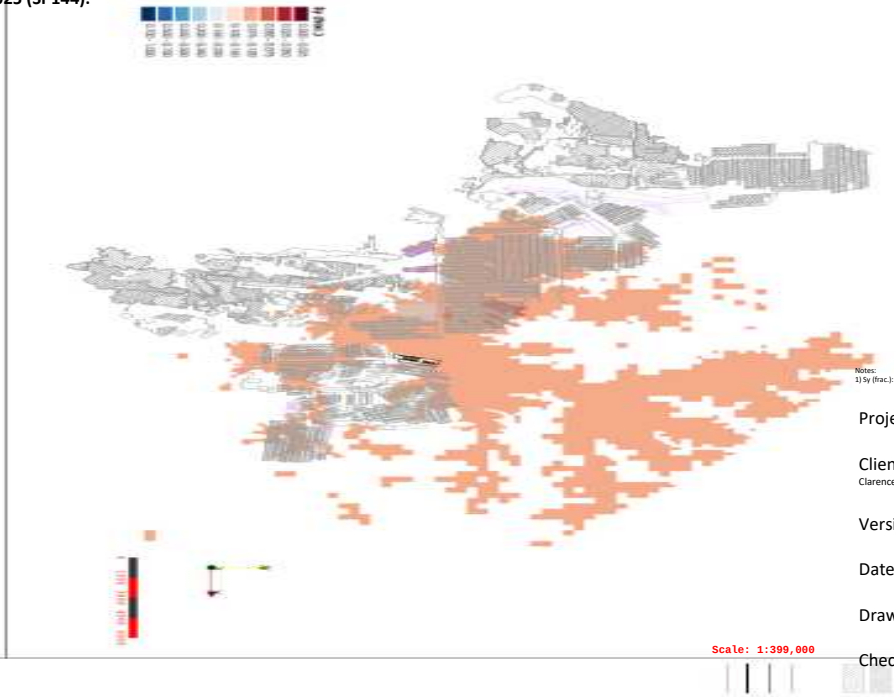
Steady-State (SP001):



September 2025 (SP144):



September 2026 (SP148):



December 2049 (SP241):

Legend

Mining Methods:

- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:

- Approved
- Existing
- Proposed
- Other Proposed

Notes:
1) Sy (frac.): Specific Yield (frac.).

Project No: 68229

Client:
Clarence Colliery Pty Ltd

Version: R01RevA

Date: 07/11/2025

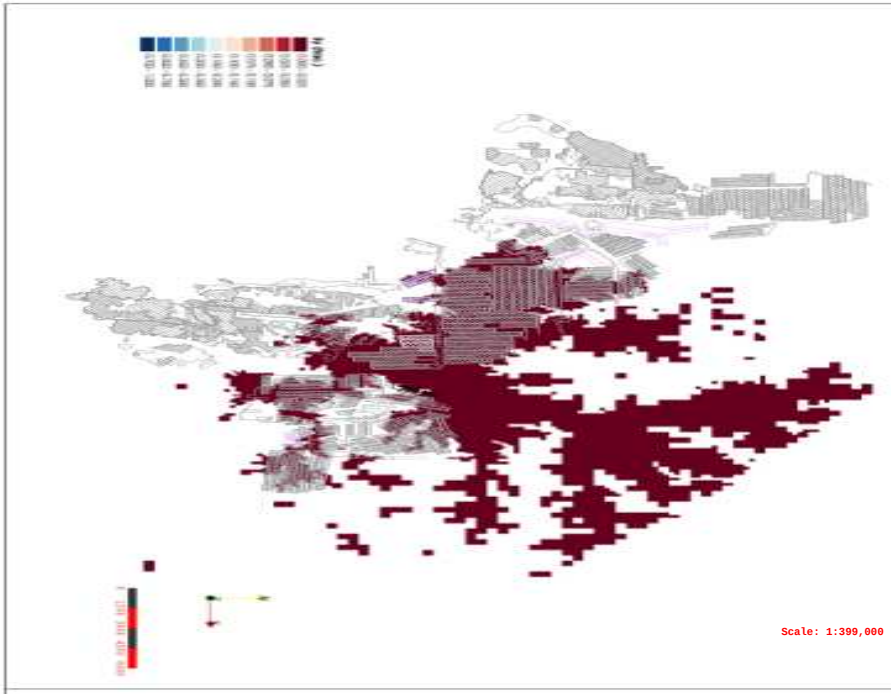
Drawn By: DAW

Checked By: JRWB

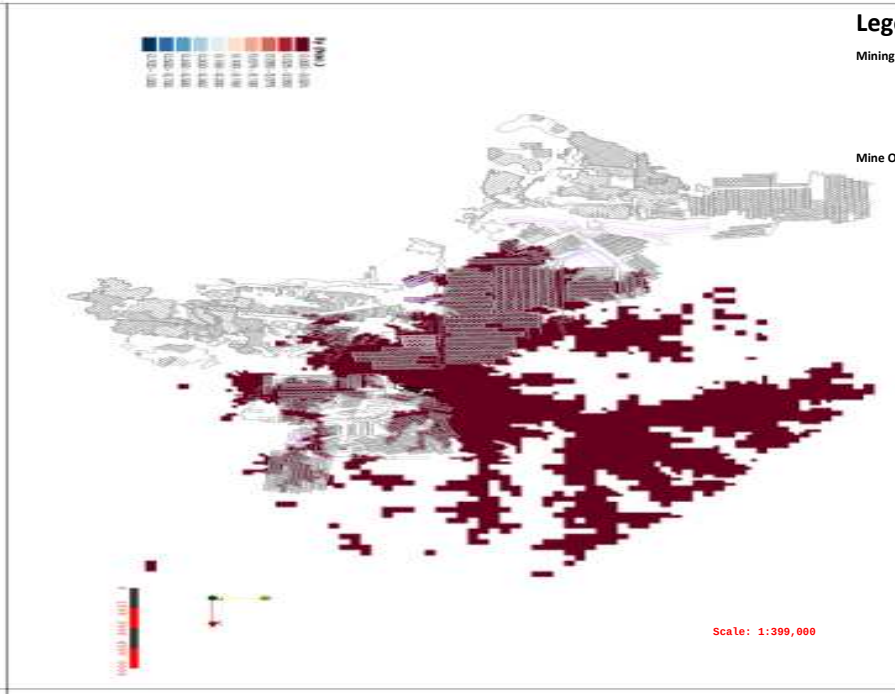
File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EPI\Figures\Grapher\68229_R01RevA_D059_Plan_Sy\68229_R01RevA_D059_Plan_Sy_L09.grf

Reference: 68229_R01RevA_PRO_02a

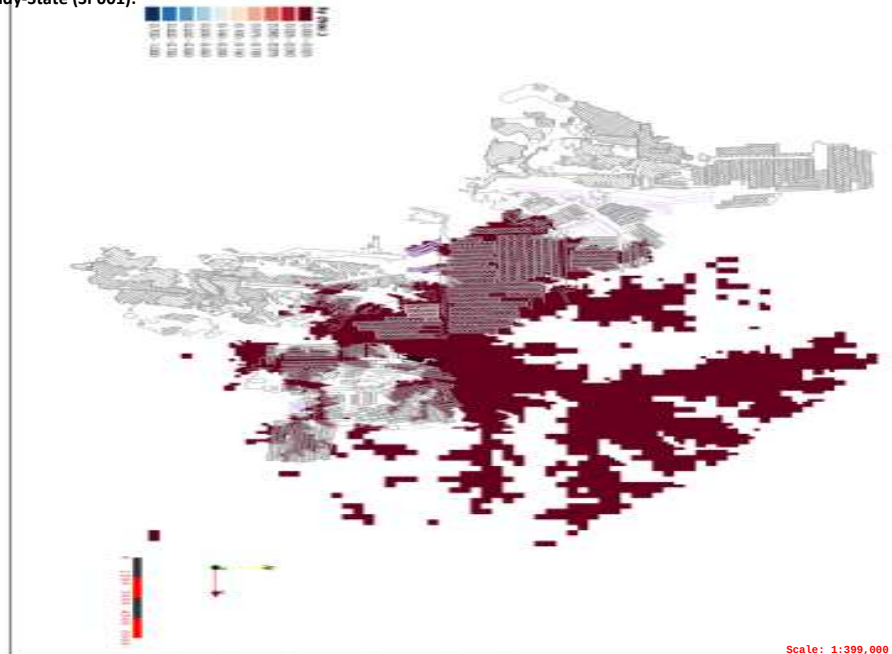
Figure E1d-09: Modelled Specific Yield (frac.) - Layer 09



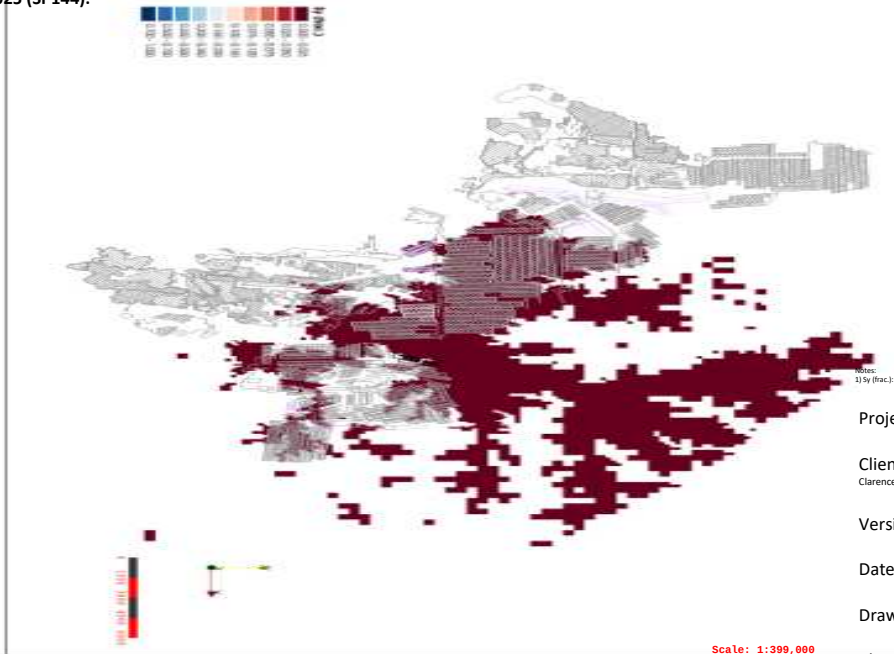
Steady-State (SP001):



September 2025 (SP144):



September 2026 (SP148):



December 2049 (SP241):

Legend

Mining Methods:

- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:

- Approved
- Existing
- Proposed
- Other Proposed

Notes:
1) Sy (frac.): Specific Yield (frac.).

Project No: 68229

Client:
Clarence Colliery Pty Ltd

Version: R01RevA

Date: 07/11/2025

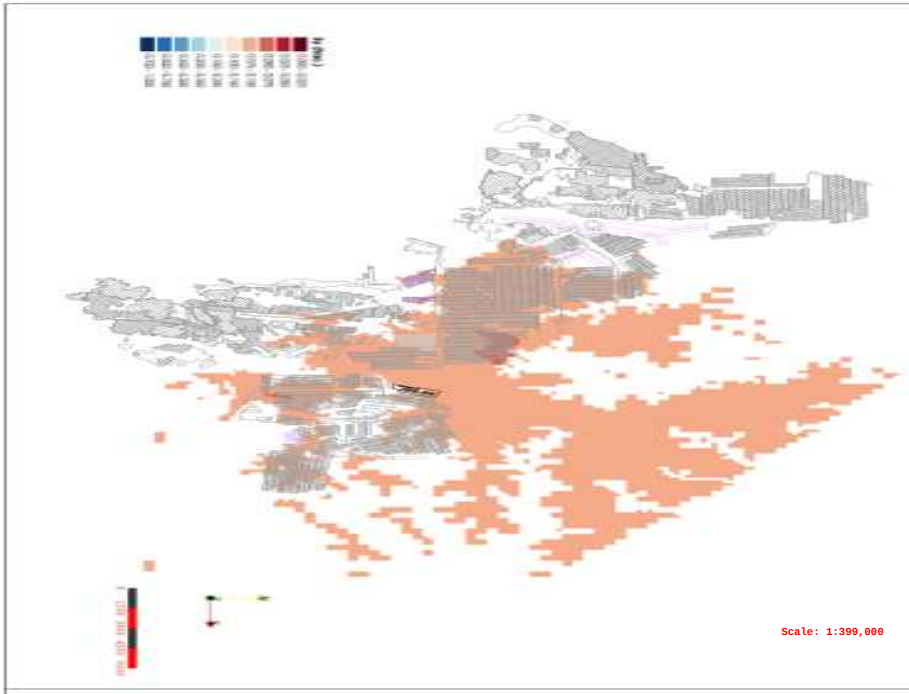
Drawn By: DAW

Checked By: JRWB

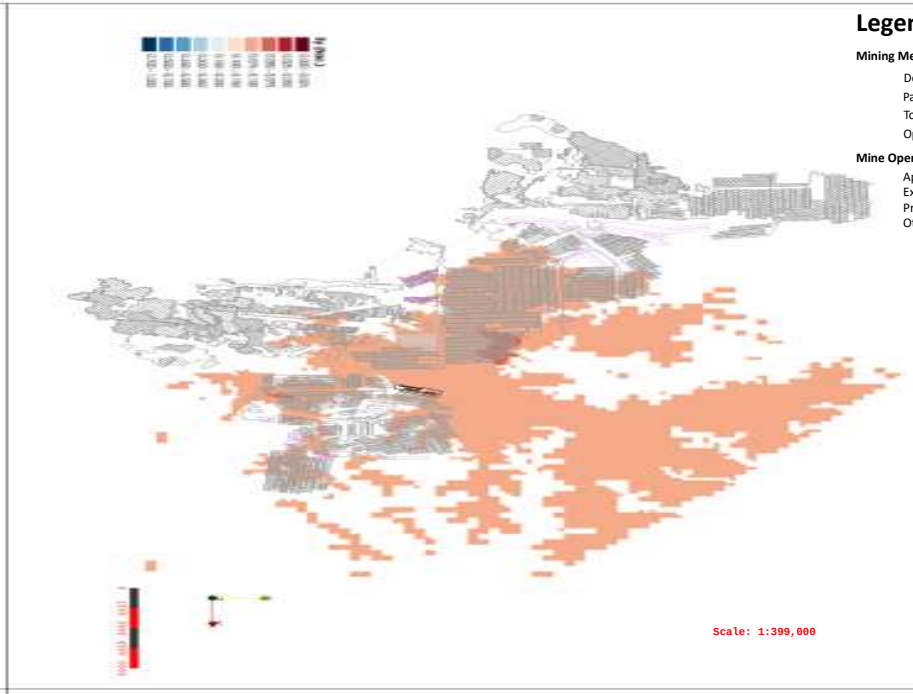
File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EPI\Figures\Grapher\68229_R01RevA_D059_Plan_Sy_L10.grf

Reference: 68229_R01RevA_PRO_02a

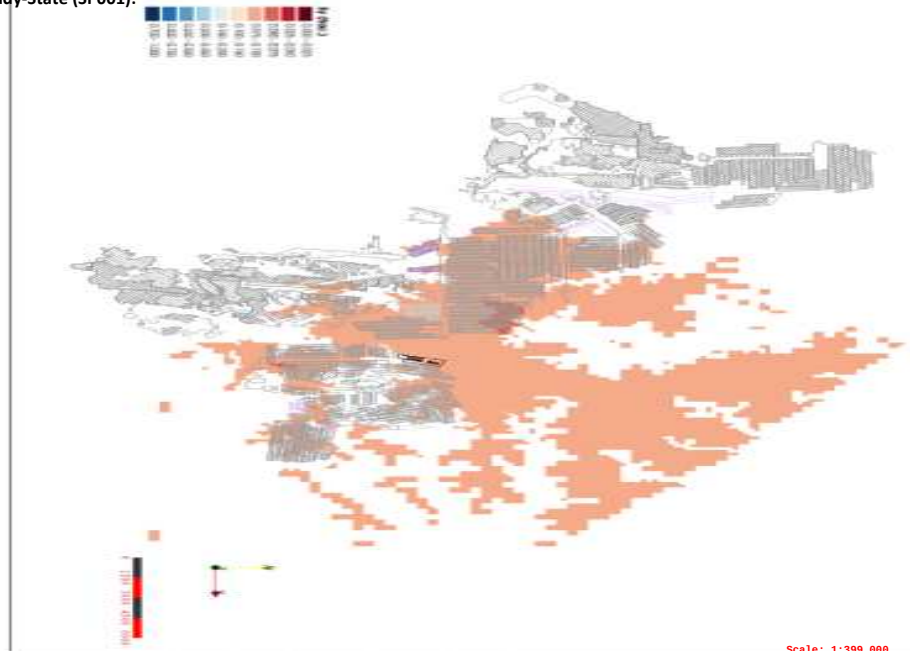
Figure E1d-10: Modelled Specific Yield (frac.) - Layer 10



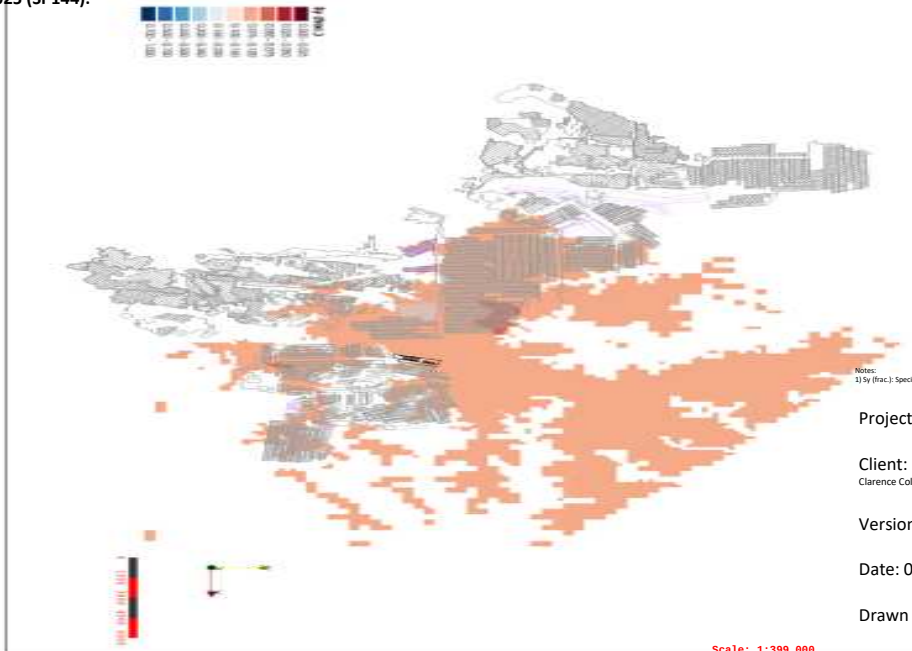
Steady-State (SP001):



September 2025 (SP144):



September 2026 (SP148):



December 2049 (SP241):

Legend

Mining Methods:

- Development
- Partial Extraction
- Total Extraction
- Open Cut

Mine Operation Status:

- Approved
- Existing
- Proposed
- Other Proposed

Notes:
1) Sy (frac.): Specific Yield (frac.).

Project No: 68229

Client:
Clarence Colliery Pty Ltd

Version: R01RevA

Date: 07/11/2025

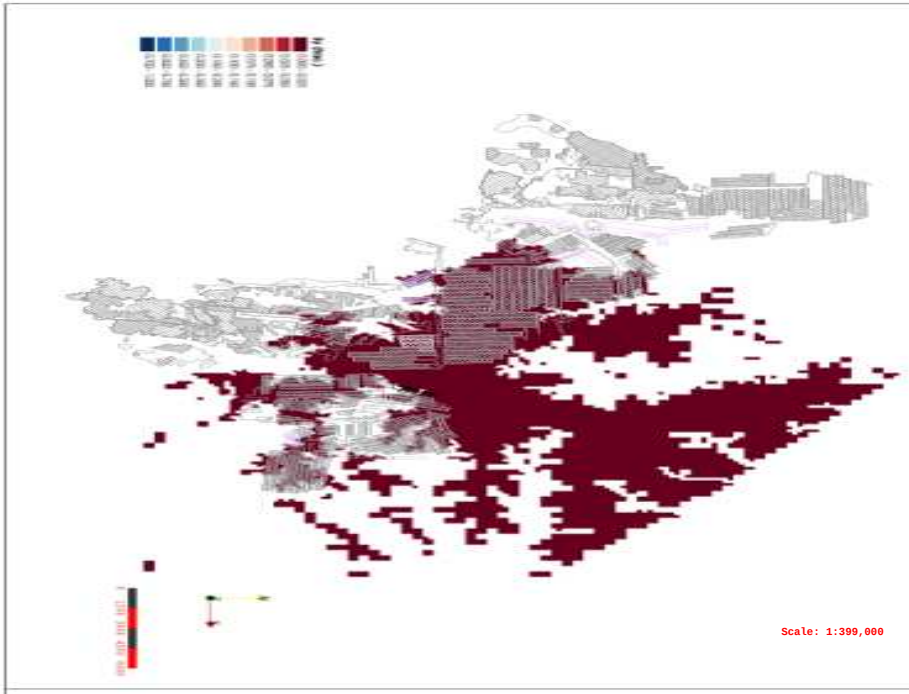
Drawn By: DAW

Checked By: JRWB

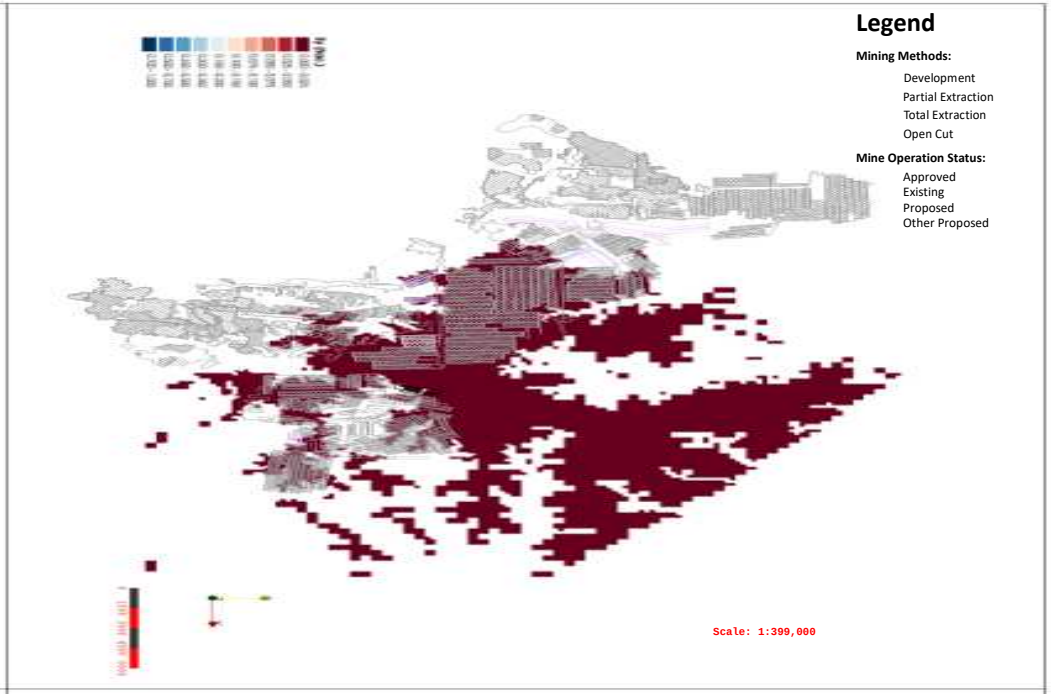
File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EPI\Figures\Grapher\68229_R01RevA_D059_Plan_Sy\68229_R01RevA_D059_Plan_Sy_L11.grf

Reference: 68229_R01RevA_PRO_02a

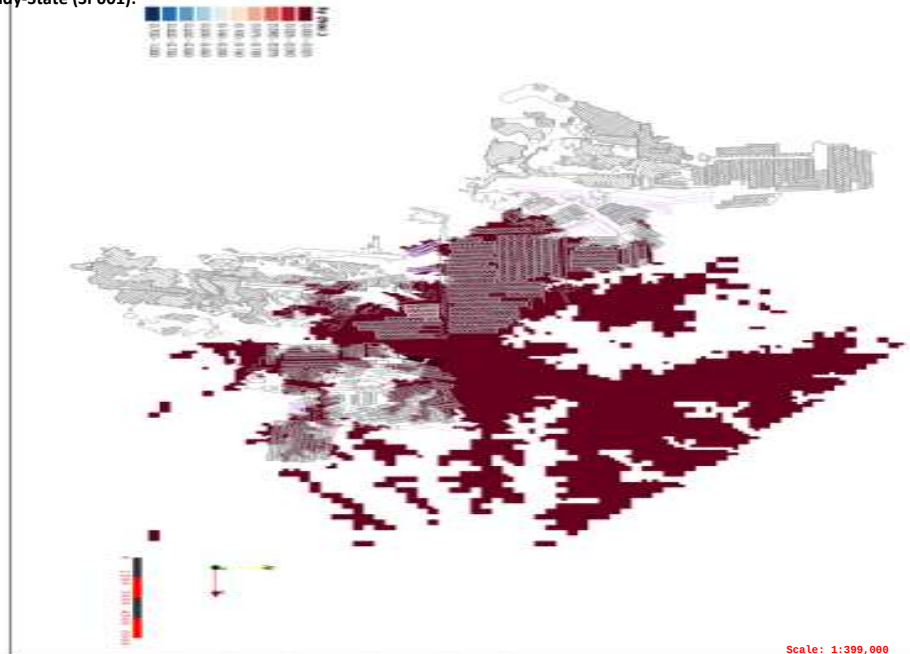
Figure E1d-11: Modelled Specific Yield (frac.) - Layer 11



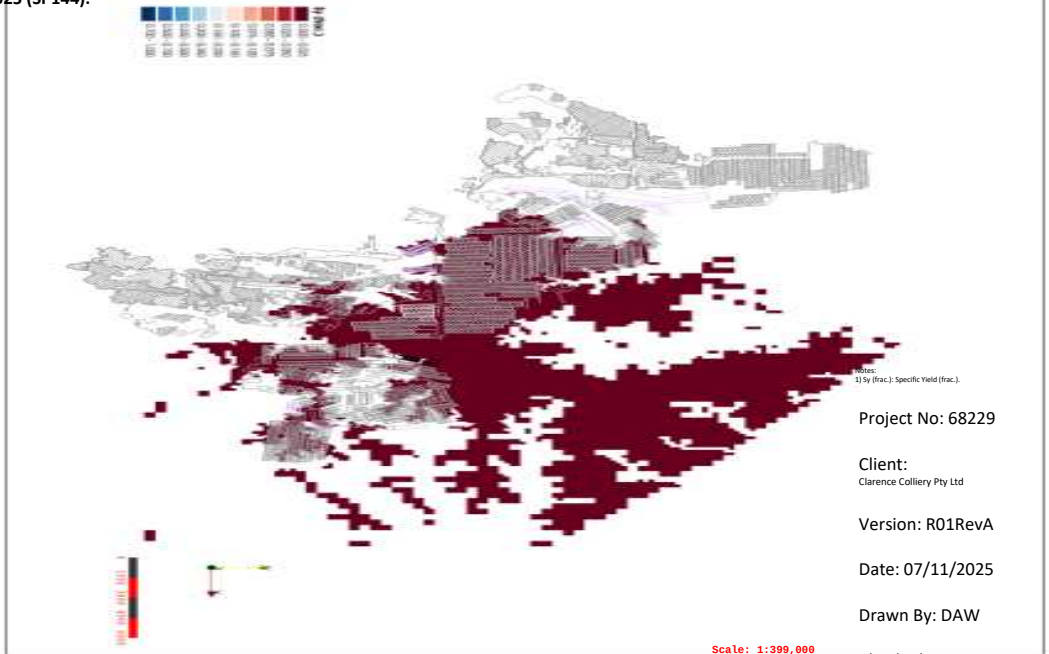
Steady-State (SP001):



September 2025 (SP144):



September 2026 (SP148):



December 2049 (SP241):

File Path: N:\Projects\CentennialCoal\ClarenceColliery\68229_UpdateTo918EPI\Figures\Grapher\68229_R01RevA_D059_Plan_Sy\68229_R01RevA_D059_Plan_Sy_L12.grf
Reference: 68229_R01RevA_PRO_02a

Figure E1d-12: Modelled Specific Yield (frac.) - Layer 12