



GLENCORE

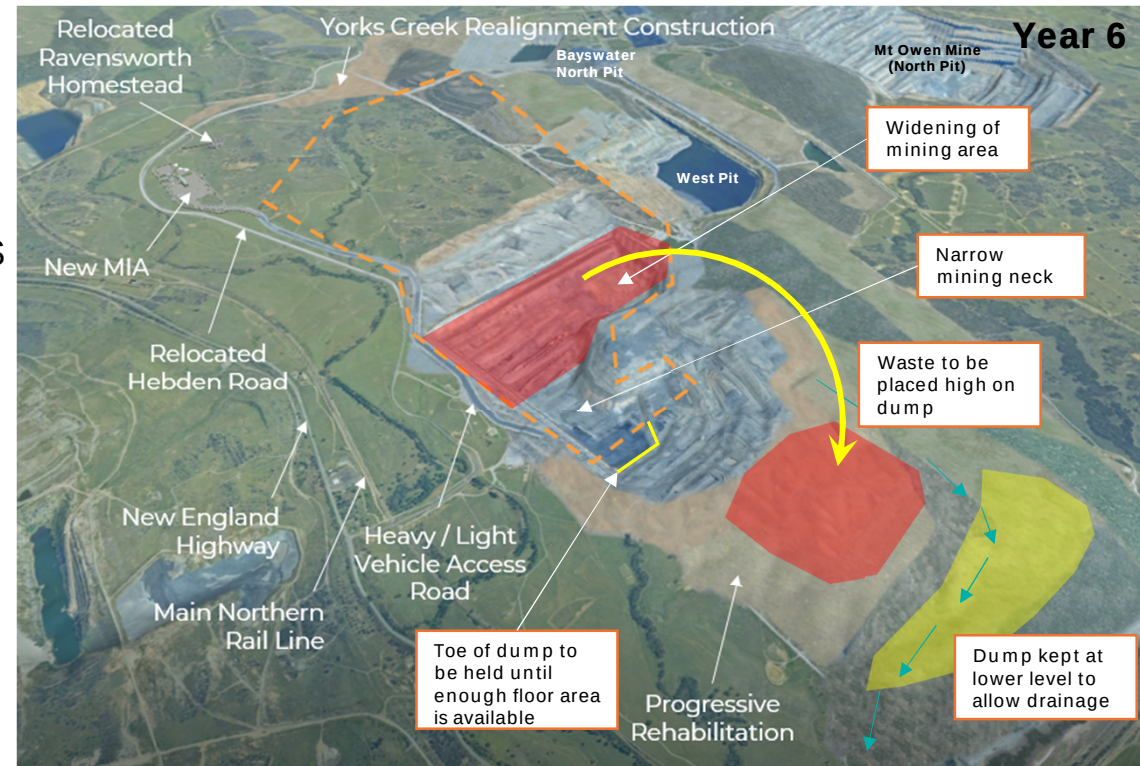
Glendell Continued Operations & Mount Owen Continued Operations Mod 4 Applicant Meeting

Meeting with Independent Planning Commission

10 March 2022

Mining Methods

- Not considered reasonable and feasible to fill other voids at Mt Owen Complex
 - Additional costs associated with increased length of haulage, additional fuel burn (greenhouse gas considerations), requirement for additional trucks (amenity impacts) – particularly in early years of mining as located greatest distance from Mt Owen voids
 - Bayswater North Pit void is an integral part of GRAWTS (becomes available as water storage in 2024) – Mt Owen currently lacking significant onsite water storage
- Current proposed dump height of 200mAHD driven by:
 - Requirement to keep southern area of dump at lower level to allow drainage of final landform – this reduces area available for dumping in early years
 - Need to hold back the toe of the dump while the mining area moves through the narrow neck and widens to the east
 - Once floor of pit is reached and enough floor area is available then toe of dump can move forward (northwards) creating dump capacity

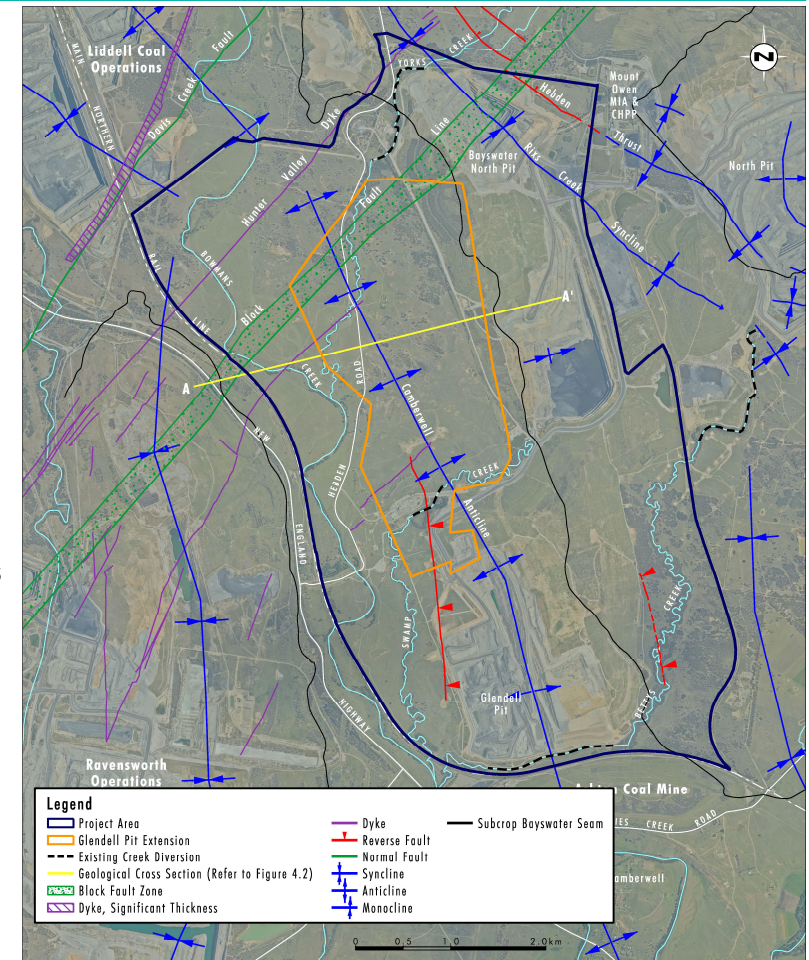
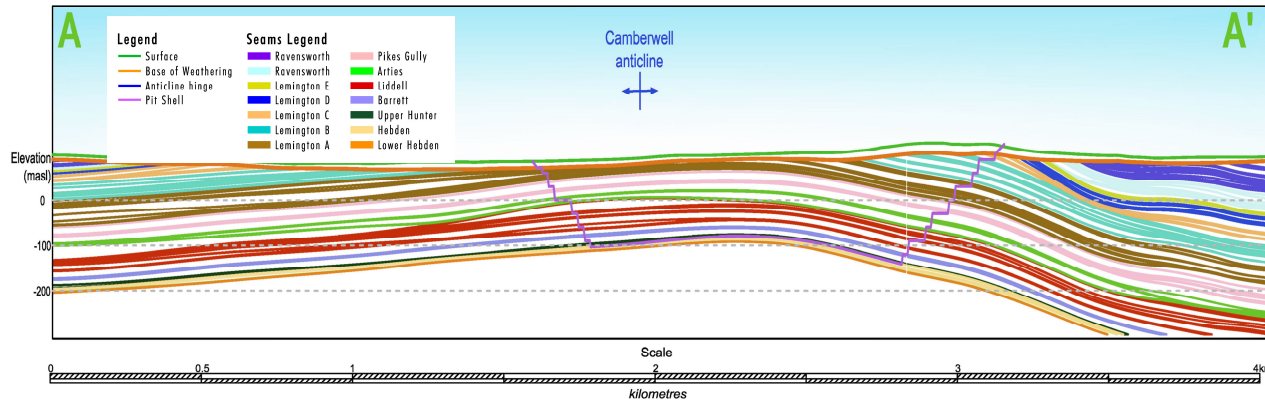


Glendell Continued Operations & Mount Owen Continued Operations Mod 4

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Gas content and ability to pre-drain gas

- Scope 1 fugitive emissions - approximately 99.5% is estimated to be methane (CH_4) with remainder being CO_2
- Pre-drainage in the proposed mining area is not practical, reasonable, or feasible due to a number of key factors:
 - Proposed mining area comprises > 150 coal plies varying in thickness from 0.2m to 1.8m; majority of coal plies are less than 1.5m in thickness
 - Geological features such as anticlines and faults with strata dips ranging from 2 to 15 degrees
 - **Proposed mining area is a low gas environment ($<1\text{m}^3/\text{t}$) with over 90% of mining area having a gas content $<4\text{m}^3/\text{t}$**
- Gas drainage is undertaken in underground mines which generally have in situ gas contents of $9\text{m}^3/\text{t}$, which is reduced to around $4\text{m}^3/\text{t}$ with pre-drainage activities

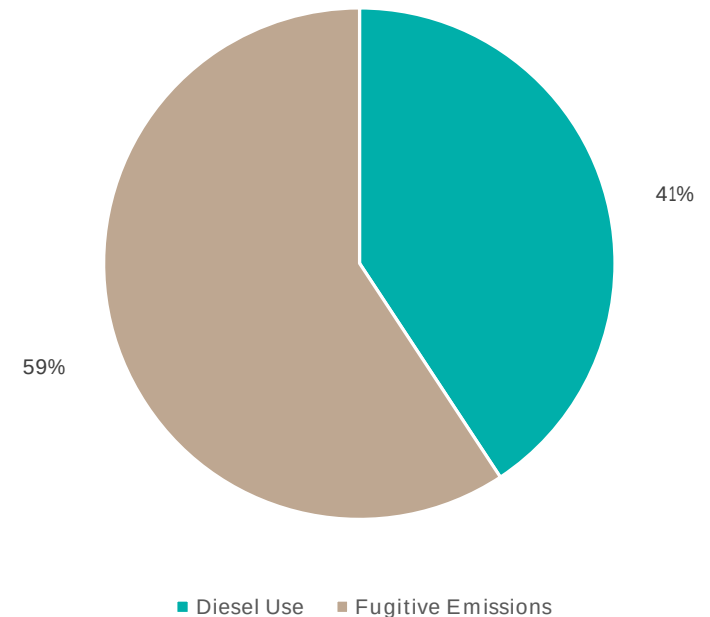


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Consideration of Greenhouse Gas Mitigation Measures

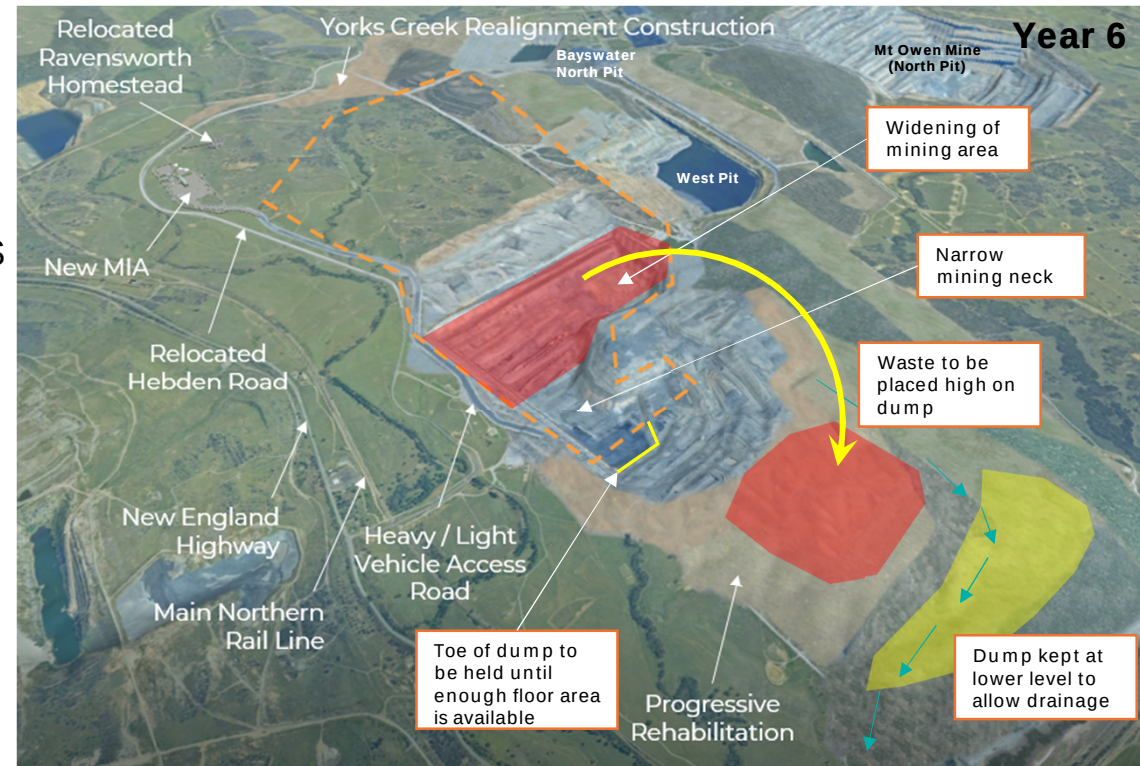
- Scope 1 and 2 emissions are mitigated through energy efficiency initiatives and optimising productivity
- Scope 2 emissions predominately associated with electricity use at Mt Owen CHPP
- Over 40% of the Project's Scope 1 emissions are from the combustion of diesel to operate the mining fleet
- Glencore's mine planning process optimises operational productivity through scheduling, haul road ramp design, haul road design and equipment selection
- Mitigation measures to minimise emissions from diesel combustion include:
 - limiting the length of material haulage routes (where feasible), thus minimising transport distances and associated fuel consumption
 - selecting equipment and vehicles that have high energy efficiency
 - scheduling activities so that equipment and vehicle operation is optimised

Breakdown of Scope 1 Emissions by Source



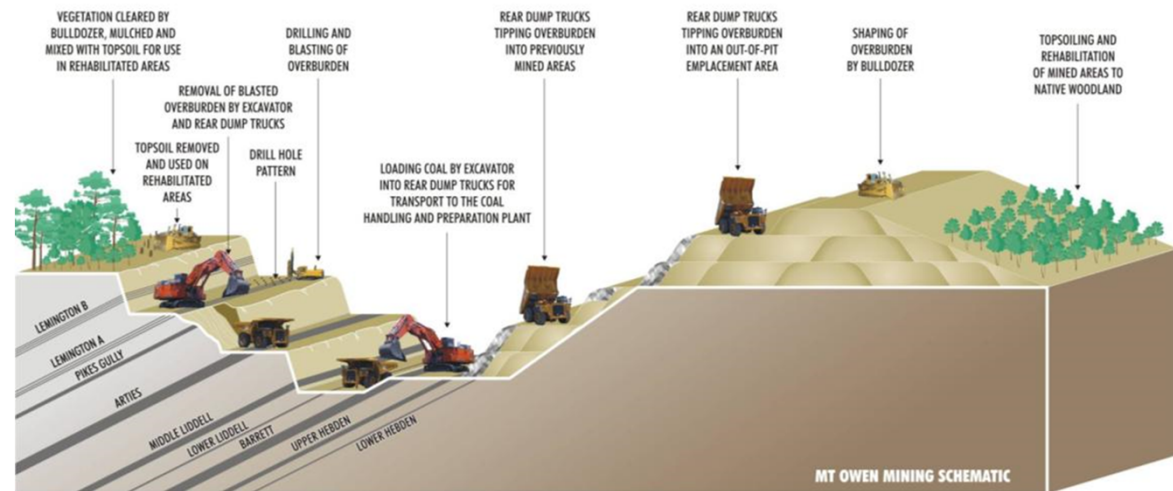
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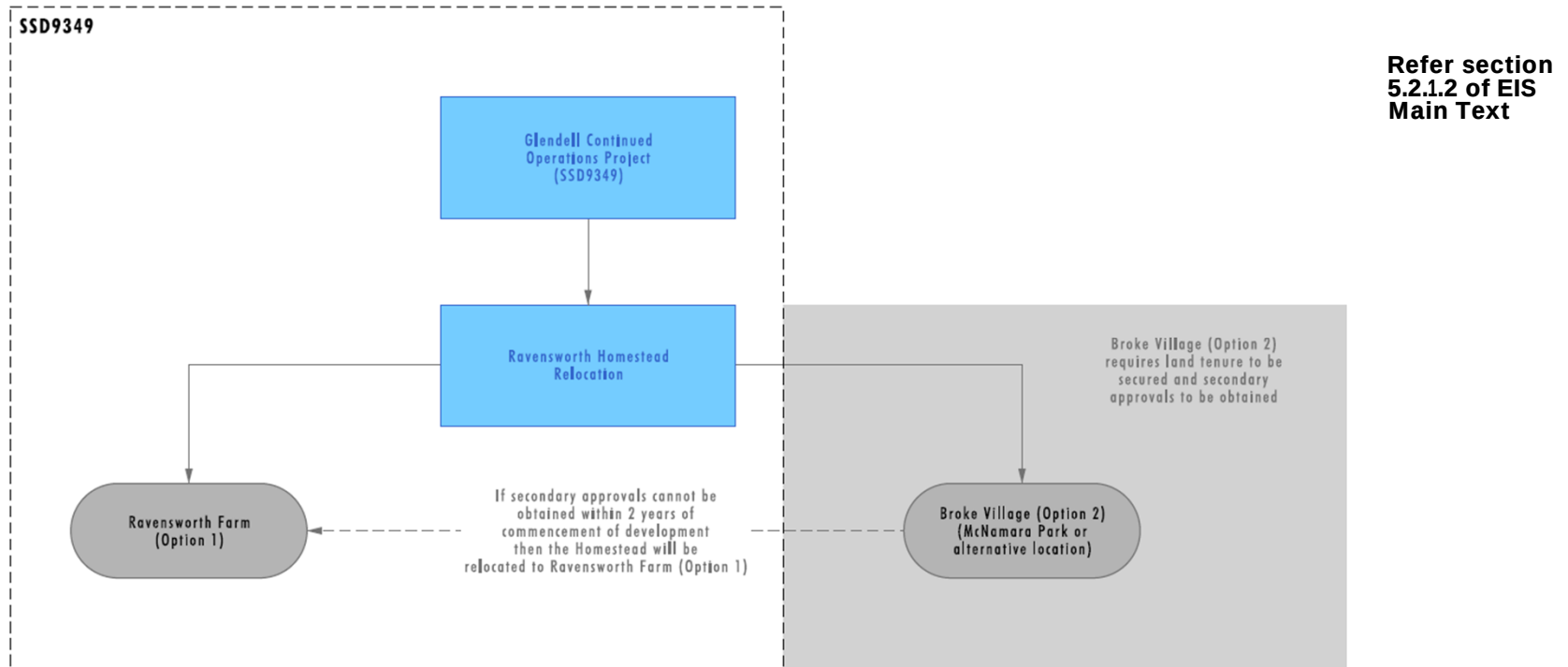


Rehabilitation Process

- Rehabilitation is incorporated into the mining process with vegetation communities aligning to approved landform. These communities align with local vegetation communities.
- Remnant areas impacted by Project will be cleared using established practices.
- Pre-strip (remnant vegetation) are reviewed for sustainability of resources:
 - Topsoil availability and quality – soil being stripped is heavily degraded.
 - Ecological value – Salvaged woody debris and mulched vegetation material will be used in rehabilitation areas. Any available tree seed is collected.
- Direct placement of topsoil to limit storage where possible. If topsoil is stockpiled, it is seeded with a suitable cover crop to minimise weed species and air quality impacts.
- Following topsoil spreading on shaped areas the topsoil may be treated with ameliorants such as gypsum.
- Final treatment includes contour ripping to minimize erosion and direct seeding of species.
- Early succession species such as acacias are used to assist in establishing fast growing cover for other species. The acacias die off after 5-10 years (longer for some species) and allow other tree species to emerge. This process simulates natural recovery processes, encourages natural nutrient recycling and assists in resilience of rehabilitation areas.

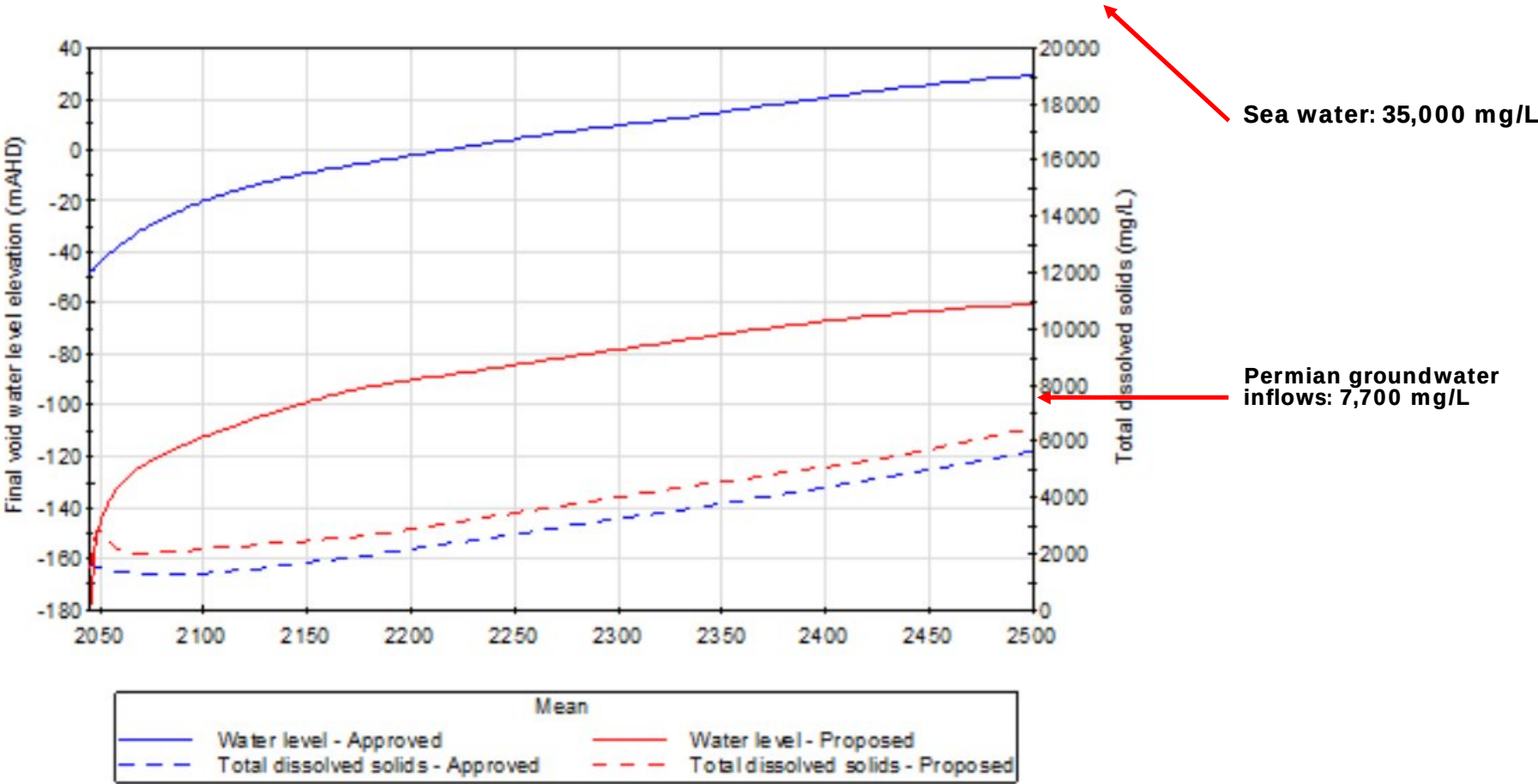


Approval Pathway



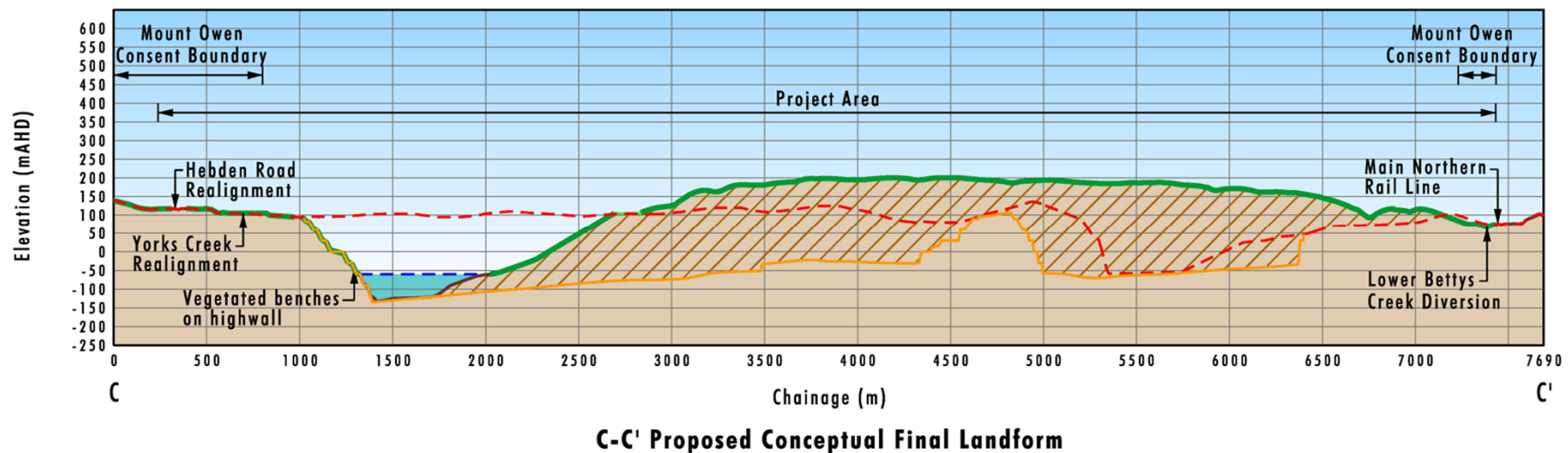
- Ravensworth Farm (Option 1) – approval included as part of SSD development consent i.e. requires no further statutory approvals
- Broke Village (Option 2) – requires land tenure (Crown Land, NT not extinguished) to be secured and secondary approvals (rezoning, DA) to be obtained

Forecast water level and TDS in approved and proposed final void



Water – Final Void and Water Level Recovery in mined area

- Groundwater inflows and rainfall infiltration through spoil will result in increasing water levels within spoil in mined area irrespective of whether void present or removed.
- Void operates as an important mechanism for managing water levels in spoil and avoid risk of discharge to environment – requires full consideration of mined area, including backfilled sections of void.
- Detailed modelling of regional groundwater impacts and impacts on void recovery – integrated with final void water balance modelling to understand void fill levels and water quality
- Modelling of complete backfill of voids indicated high likelihood of seepage from pit in southern end as groundwater levels recover within spoil.



Final Void

Aspect	Approved conceptual final landform (current Glendell Pit)	Proposed conceptual final landform (the Project)
Final void catchment (ha)	339	321
Final landform spoil catchment (ha)	181	258
Completion of mining (Year)	2025	2045
Maximum available storage (GL)	50	250
Equilibrium water level (m AHD)	29	-60
Freeboard at equilibrium water level (m)	41	140
Time to reach equilibrium water level (years)	450	450
TDS of water in final void at equilibrium water level (mg/L)	5,700	6,500
TDS of Groundwater (Permian) (mg/L)	7,700	7,700

Economics – Peer Review

- Difference of opinion between the CIE Peer Review and EY/Umwelt regarding the interpretation of Economic Assessment Guidelines in relation to CBA analysis
 - Key differences relate to valuation of supplier and employee benefits and attribution of GHG costs to NSW in CBA
- Both the EY and the CIE assessments conclude the Project would have net benefits to NSW.
- CIE Peer Review did not challenge any of the CGE modelling estimates of benefits to Gross State Product (GSP) or Gross Regional Product (GRP).
- EY and Umwelt maintain that the estimates in the EY assessment remain appropriate and are entirely consistent with the Guidelines and include a sensitivity analysis around various assumptions.
- Detailed responses provided in EY Addendum F (August 2021) and Umwelt letter dated 20 December 2021 as to why the exclusion of worker and supplier benefits in the CBA assessment is inappropriate.
- Conclusion by The CIE that there are limited employee and supplier benefits to NSW from the Project (relative to base case of mining finishing in 2023) is contrary to CIE's own assessment of benefits to the Australian economy from mining contained in the Report *Estimating the economic benefits of mining expansion and further productivity reforms* dated 27 May 2021 (The CIE, 2021)

VPA / Hebden Road closure / Road Maintenance

VPA / Closure of section of Hebden Road

- VPA amount of \$5.15m accepted by Council though terms still to be agreed
- Glencore seek linkage between terms of VPA (and subsequent payment) and closure of Hebden Road
 - Without linkage there is nothing to prevent Council from collecting VPA but delaying or preventing the Project by withholding the formal closure of the road
 - Closure of section of Hebden Road is at discretion of Singleton Council
- Glencore will not commence Project until agreement to close Hebden Road has been reached
- VPA terms proposed by Glencore cover all aspects of the closure of Hebden Road, the transfer of the closed road to Glencore, the ongoing maintenance of Hebden Road and the Project generally
- Glencore seeks alternate wording for conditions A14 and A15 to provide greater surety of process – refer Glencore letter to DPE dated 17 February 2022

VPA / Hebden Road closure / Road Maintenance

Road Maintenance

- Current Road Maintenance condition (B100) allows Council to capture additional value on top of the current VPA
- Glencore believe that any road maintenance contribution should form part of the VPA, which is in keeping with the original intent of developer contributions to ensure Councils can recoup increased costs associated with a Project
- We note that other than potential road maintenance costs, the Project will place no additional demand on Council services
- Alternate wording for condition B100 (Road Maintenance) proposed (refer letter dated 17 February 2022) consistent with other recent approvals – road maintenance associated with construction and decommissioning works

Noise – Night-time sleep disturbance criteria

- Letter provided to DPE in response to application of Noise Policy for Industry (NPfI) – specifically in relation to sleep disturbance criteria and application of the NPfI
- Glencore view the approach taken by IPC for Mangoola Continued Operations (an extension of existing operations) and Maxwell Project to be correct and consistent with NPfI – sleep disturbance criteria of 52 dB ($L_{A \text{ Max}}$)

