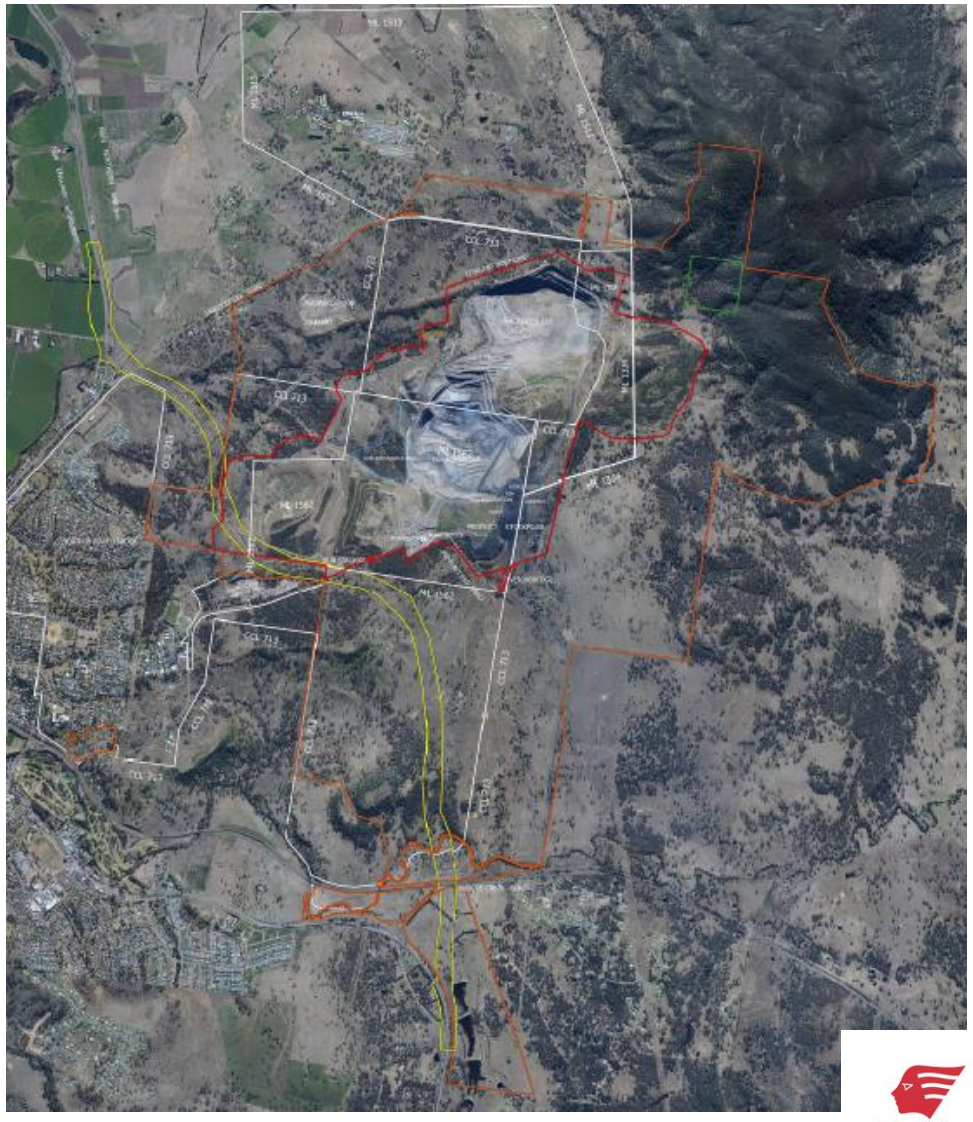
MUSWELLBROOK COAL

1. Commenced operating in 1907
2. History of underground and open cut mining
3. Current open cut operations located approximately 3km NE of Muswellbrook
4. Owned by Idemitsu Australia
5. Idemitsu Australia has been operating in Australia since 1978 and is an Australian subsidiary of Japanese company Idemitsu Kosan Company Limited.



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MUSWELLBROOK COAL COMPANY

HISTORY OF MUSWELLBROOK COAL

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1. MCC first started production in 1907 in No 1 Mine, which was an underground operation.
2. The pit top was located at the southern end of Queen Street, adjacent to the railway line.
3. The coal from this mine was used by the NSW railways and in a power station operated by MCC that supplied electricity to the mine and Muswellbrook township.
4. Over its 115 year history, MCC has mined approximately 200 million tonnes of coal.

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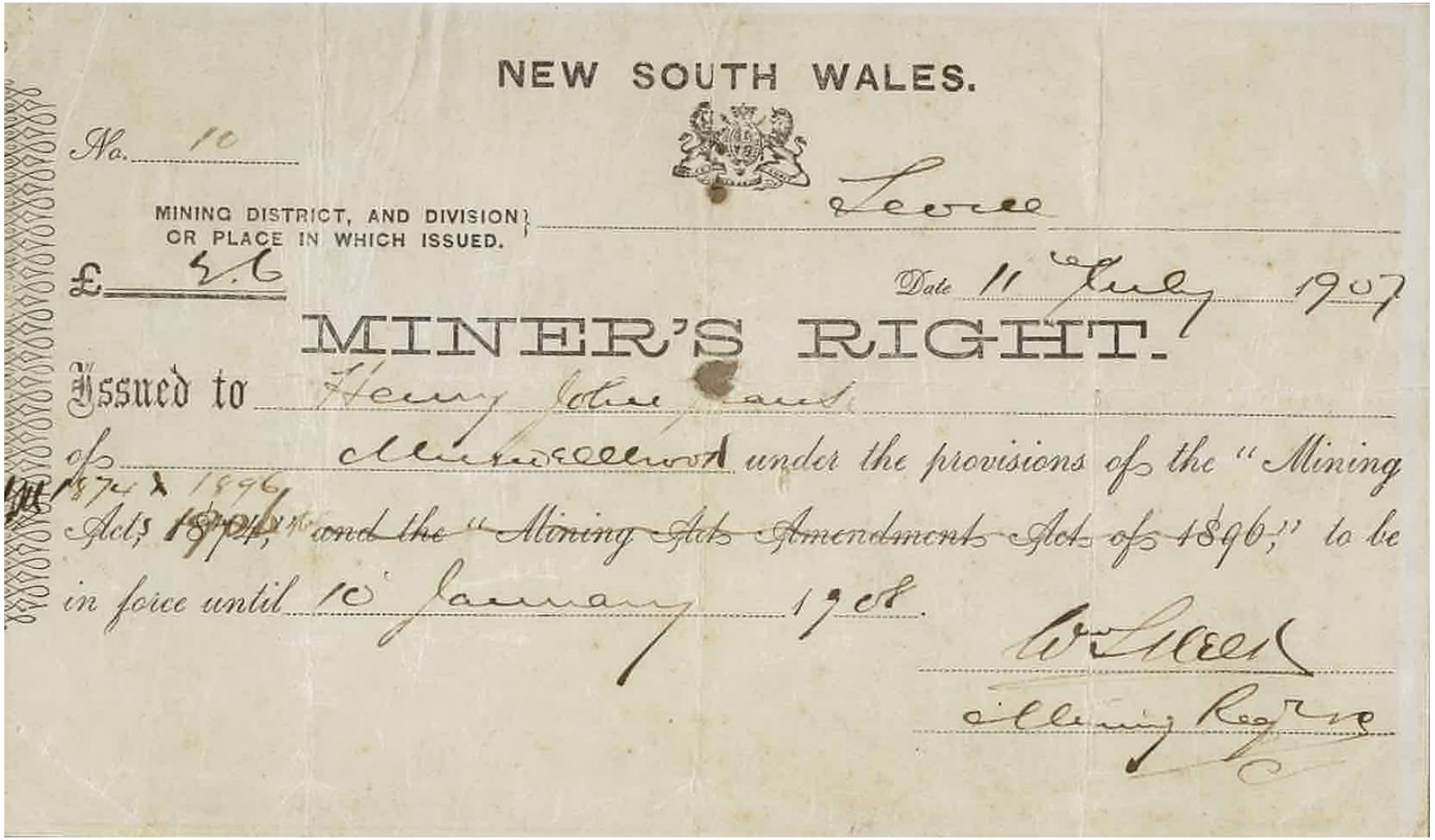
MUSWELLBROOK COAL COMPANY

HISTORY OF MUSWELLBROOK COAL



NEW SOUTH WALES.

No. 10

MINING DISTRICT, AND DIVISION OR PLACE IN WHICH ISSUED. Tenterfield

£ 2.6

Date 11 July 1907

MINER'S RIGHT.

Issued to Henry John Faust

of Muswellbrook under the provisions of the "Mining Acts 1874 & 1896 ~~1894~~, ~~and the "Mining Acts Amendment Act of 1896;"~~ to be in force until 10 January 1908.

W. Allen

Mining Registrar

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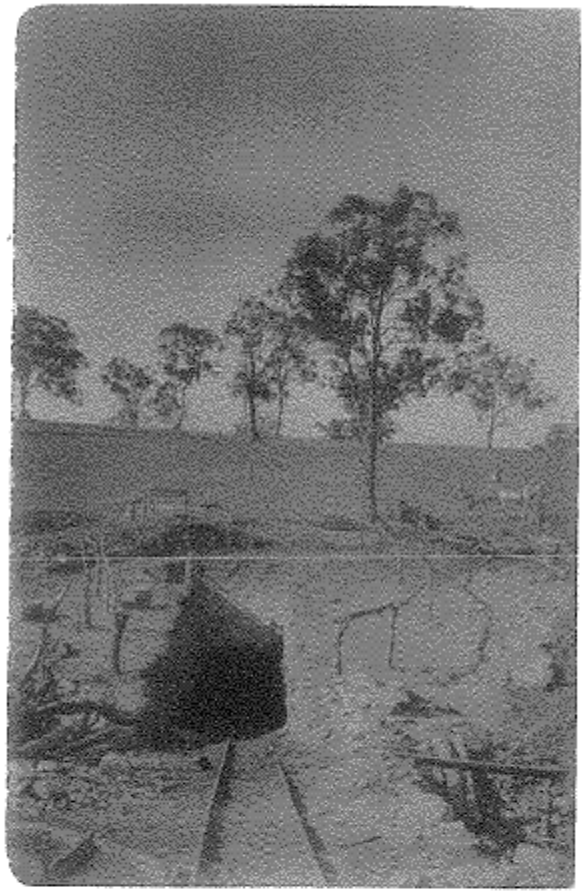
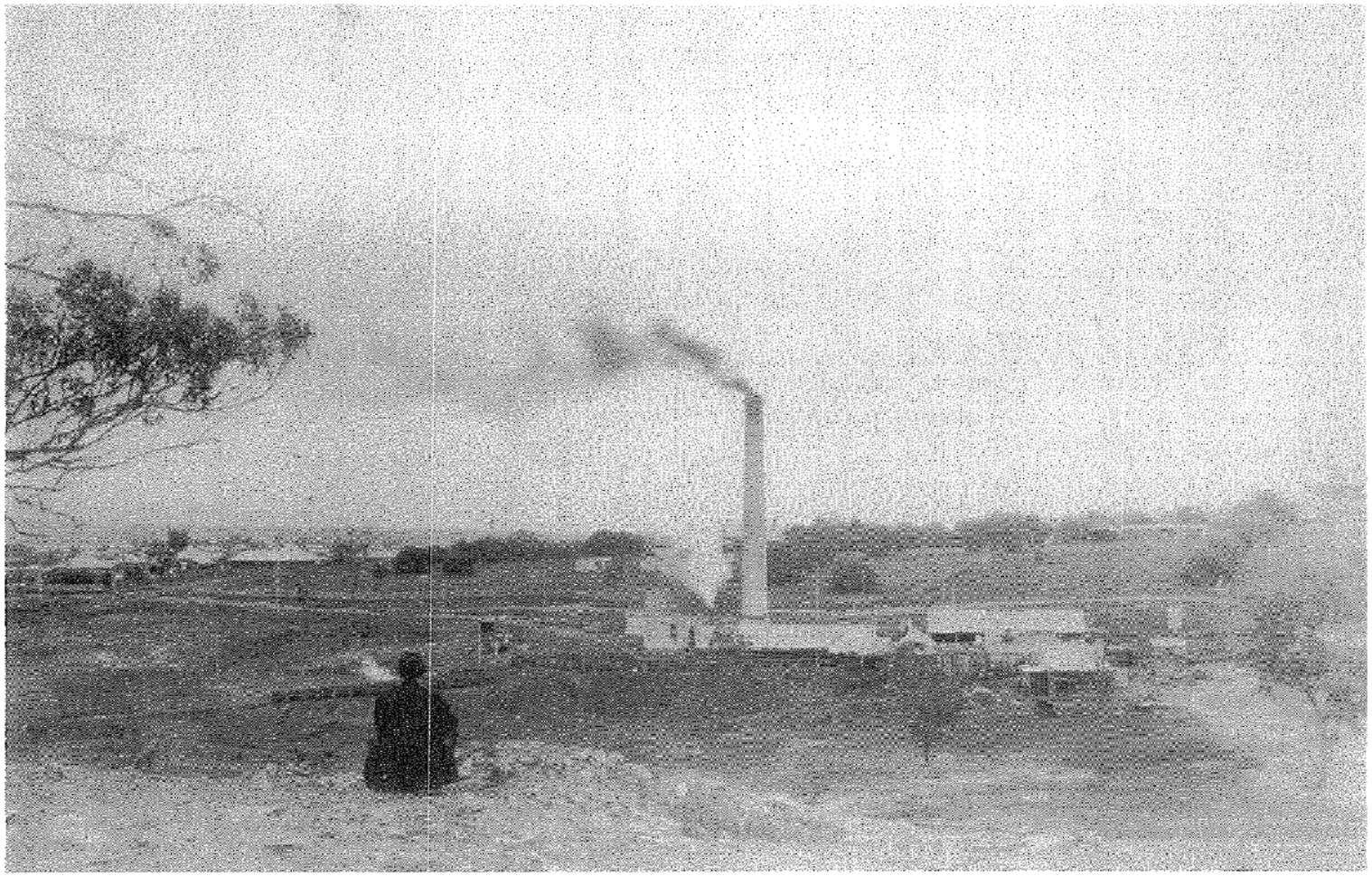
HISTORY OF MUSWELLBROOK COAL

1909 – Muswellbrook Mine Entrance



Original entrance to No. 1 Colliery - October 1909
(Photo taken by Fred Meares)

HISTORY OF MUSWELLBROOK COAL



"Two smokers" - Muswellbrook No. 1 Colliery pit top and power station viewed from Ironbark Ridge - about 1921. (Coal Co. Photo)

1917 – Power to the People

HISTORY OF MUSWELLBROOK COAL

1929 – Muswellbrook No. 1 underground mine

- 10ft Coal without band or impurity
- 164 coal workers employed

HISTORY OF MUSWELLBROOK COAL

20th November 1944 – Muswellbrook mine commenced open cut mining operations (first open cut mine in the southern hemisphere)

HISTORY OF MUSWELLBROOK COAL

1946 – Muswellbrook No. 1

Personal Protective Equipment (PPE)

HISTORY OF MUSWELLBROOK COAL

1971 – The End of the Pit Pony

- 42 horses used at the height of production.
- Replacement with new technology

HISTORY OF MUSWELLBROOK COAL

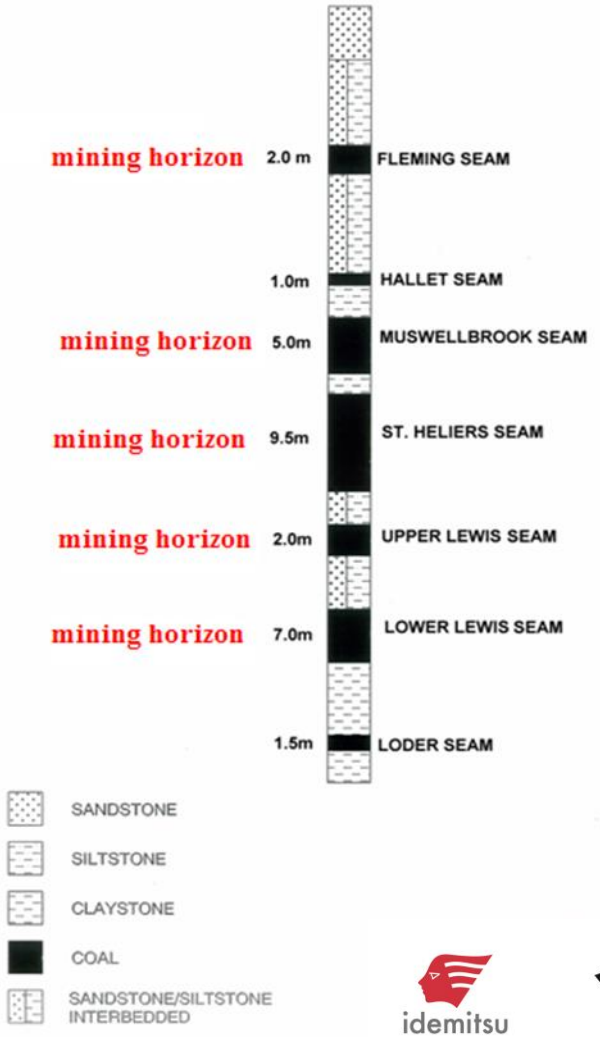
1970 – Muswellbrook No.1 Open Cut Mining Operations

HISTORY OF MUSWELLBROOK COAL

Muswellbrook No.1 Open Cut

HISTORY OF MUSWELLBROOK COAL

1980 – Muswellbrook No. 2 Underground began



HISTORY OF MUSWELLBROOK COAL

1989 - Idemitsu acquired the Muswellbrook Mine

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HISTORY OF MUSWELLBROOK COAL

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CURRENT OPERATIONS

1. Approved for Open Cut Mining
2. Coal is processed on site and hauled to RCT before loading onto trains and sent to Port of Newcastle
3. Mining Operations approved until 31 December 2022
4. All the land on which MCC operates is mine owned
5. Surrounding land uses include:
    - Muswellbrook Shire Council's (MSC) Waste Management Facility
    - Agricultural activities such as grazing of beef cattle
    - A light industrial estate
    - Rural-residential areas
    - Muswellbrook urban area
    - St Heliers Correctional Centre
    - TfNSW Muswellbrook Bypass

APPROVED FINAL LANDUSE

1. Approximately 50% pasture and 50% native vegetation
2. Slopes ≤14 degrees with the exception of the highwall in Open Cut 2 (slopes up to 65 degrees)
3. Two final voids that will partially fill with water
4. Habitat corridor linking Skellatar Ridge and Bells Mountain
5. Drainage patterns to be compatible with the drainage of the surrounding area.

REHABILITATION OBJECTIVES

Rehabilitation Feature	Objectives
Mine site (as a whole of the disturbed land and water)	Safe, stable and non-polluting, fit for purpose of the intended postmining land uses(s). Final landforms designed to incorporate natural microrelief and natural drainage lines, which, where reasonable and feasible, further avoid straight run drainage drop structures, to integrate with surrounding landforms.
Rehabilitation materials	Materials (including topsoils, substrates and seeds of the disturbed areas) are recovered, appropriately managed and used effectively as resources in the rehabilitation.
Landforms	Final landforms sustain the intended land use for the post-mining domain(s). Final landforms are consistent with and complement the topography of the surrounding region to minimise the visual prominence of the final landforms in the post mining landscape. Final landforms incorporate design relief patterns and principles for consistency with natural drainage.
Final Voids	Minimise to the greatest extent practicable: • The size and depth of the final void • The drainage catchment of the final void • Any high wall instability risk • Risk of flood interaction (flows in and out of the void) Maximise, to the greatest extent practicable, integration of the final void landform with the natural terrain features of the surrounding landscape.
Water Quality	Water retained on site should be fit for the intended land use(s) for the post-mining domain(s).
Native flora and fauna habitat and corridors	Size, locations and species of native tree lots and corridors are established to sustain biodiversity habitats. Species are selected that re-establish and complement regional and local diversity. The Native Vegetation Belt / Fauna Corridor links with the existing vegetation near Bells Mountain and Skelletar Ridge.
Post-mining agricultural pursuits	The land capability classification for the relevant nominated agricultural pursuit for each domain is established and self - sustaining with the aim of being achieved within 5 years of land use establishment (first planting of vegetation). Demonstrate the long - term sustainable grazing of rehabilitated pasture is achieved, including sloping landforms.

MINE CLOSURE PLANNING

1. MCC has engaged Subject Matter Experts to assist in the development of an internal executable Closure Plan.
2. This plan includes the outcomes of technical studies and internal strategies.
3. It does not consider any alternate final reuse of the site.
4. Bulk earthworks and rehabilitation continue to progress in accordance with the RMP & Forward Program. This work is scheduled to be completed by the end of 2026.
5. Regular updates provided to Muswellbrook Shire Council and Resources Regulator including site visits.

MINE CLOSURE STUDIES

1. Groundwater
2. Surface Water
3. Contaminated Land
4. Ecology
5. Geochemistry
6. Demolition
7. Mine Sealing
8. Subsidence
9. Heritage
10. Socio-Economic
11. Waste Management
12. Borehole Sealing
13. Spontaneous Combustion
14. Hazardous Materials
15. Methane and other gases
16. Landform Stability
17. Stakeholder Consultation

WORKFORCE SUPPORT

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1. Mental Health Talks
2. Mental Health First Aid Training for Staff
3. Training opportunities provided for operators and maintenance personnel
4. Financial support sessions
5. Job application and resume preparation sessions
6. Building resilience in the Face of Change sessions
7. Pre-employment medicals offered to assist with transitioning to a new job
8. Farewell lunches and gifts for exiting workers
9. Ongoing updates to workers

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STAKEHOLDER ENGAGEMENT

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1. A Stakeholder Engagement Plan has been developed
2. Stakeholders include workforce, Idemitsu Australia, regulators, local and regional community, local parliamentary members, business groups, media, other government agencies, other interested parties
3. Ongoing consultation through newsletters, website, meetings, phone calls

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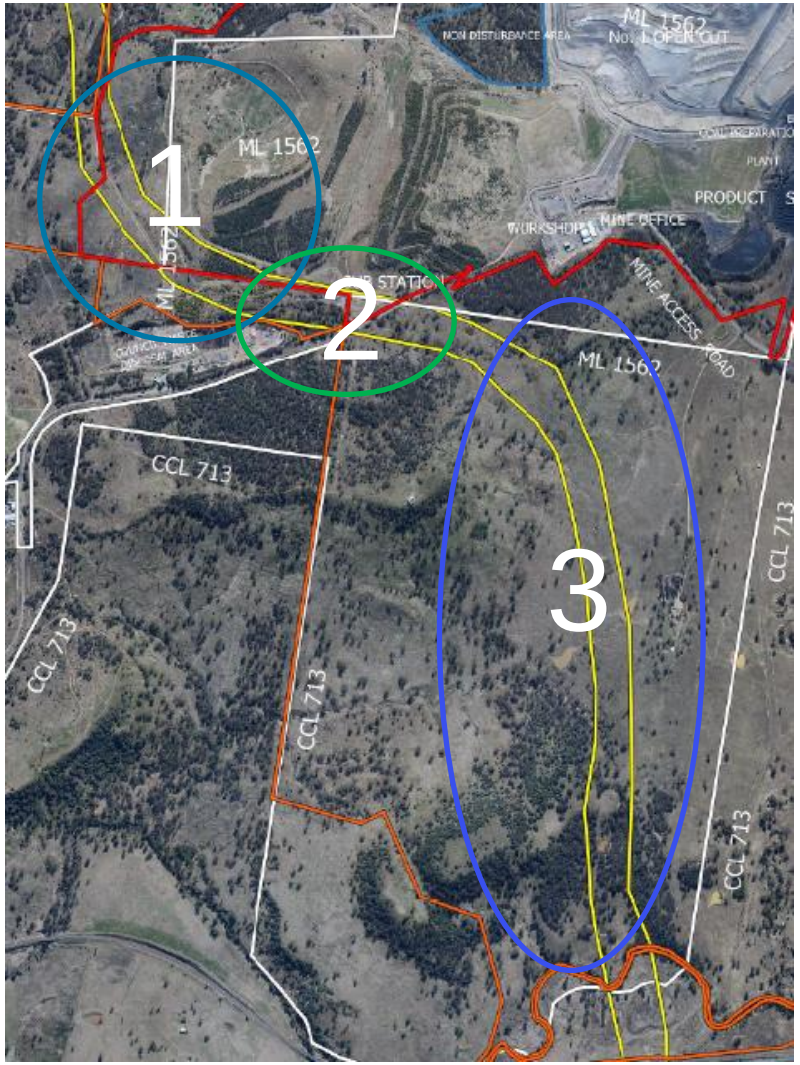
CHALLENGES FOR MINE CLOSURE

Third Party Landform Requests – Regional Waste Facility

CHALLENGES FOR MINE CLOSURE

Muswellbrook Bypass

1. Rehabilitation Area
2. Habitat Corridor
3. Future Land Uses



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CHALLENGES/OPPORTUNITIES FOR MINE CLOSURE

1. Weather
2. Appropriate resourcing
3. Satisfying all stakeholders expectations
4. Alternate final land uses

FUTURE LANDUSE PLANNING

Current site view

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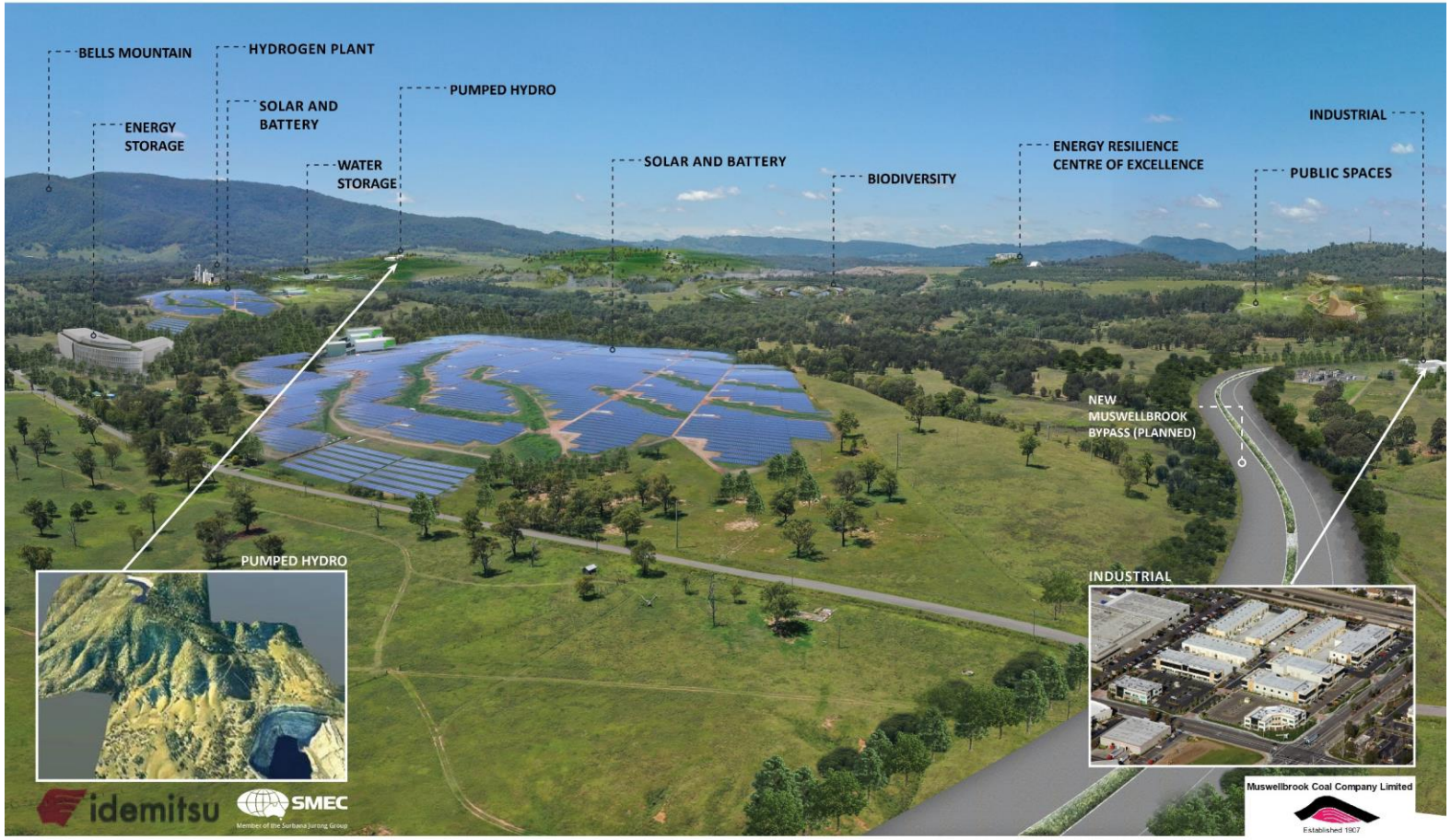
FUTURE LANDUSE PLANNING

Planned and potential developments



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FUTURE LANDUSE PLANNING

Muswellbrook Clean Industries Precinct: Energy Transition Opportunity

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After 115 years Muswellbrook represents a once in a generation opportunity to stimulate economic growth following exhaustion of a Coal mine.

- Muswellbrook is a unique combination of:
  - An exhausted Coal Mine;
  - A well positioned renewable energy asset with potential for large scale Pumped hydro, Solar, Battery and Hydrogen;
- Tier One international Partners with expertise and willingness to develop renewable energy projects having spent more than $3.5m on developing opportunities at the site.
- Significant job creation opportunities are available through the planned training, industrial and technology hub and the individual projects.
- Federal designation of the site as Hydrogen Hub and associated funding, and State Government co-operation to stimulate training, industrial and technology developments at the site would significantly increase job creation potential of the site.
- Successful in progressing through the NSW Government Pumped Hydro Recoverable Grants Program, jointly submitted by Idemitsu and AGL.

Projects Under Study	Stage
Pumped Hydro (250MW/8 Hour)	**Feasibility**
Large Scale Solar and Battery (150MW plus)	**Feasibility**
Hydrogen	Concept
Training and Industrial Precinct	Concept

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QUESTIONS/COMMENTS

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