



Establishment of Two Mine Operator Areas at Mt Arthur

Legal and Practical Requirements and
Challenges from a Mine Surveying
Perspective

BHP

About BHP

We are a leading global resources company

- Our purpose is to create long-term shareholder value through the discovery, acquisition, development and marketing of natural resources.
- Our strategy is to own and operate large, long-life, low-cost, expandable, upstream assets diversified by commodity, geography and market.
- Iron ore, metallurgical coal, copper, oil, gas and energy coal.
- We have a global footprint



Our Charter

Our Values

- **Sustainability** – Putting health and safety first, being environmentally responsible and supporting our communities.
- **Integrity** – Doing what is right and doing what we say we will do.
- **Respect** – Embracing openness, trust, teamwork, diversity and relationships that are mutually beneficial.
- **Performance** – Achieving superior business results by stretching our capabilities.
- **Simplicity** – Focusing our efforts on the things that matter most.
- **Accountability** – Defining and accepting responsibility and delivering on our commitments.

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We are successful when:

Our people start each day with a sense of purpose and end the day with a sense of accomplishment.
Our teams are inclusive and diverse.
Our communities, customers and suppliers value their relationships with us.
Our asset portfolio is world-class and sustainably developed.
Our operational discipline and financial strength enables our future growth.
Our shareholders receive a superior return on their investment.

Andrew Mackenzie

Andrew Mackenzie
Chief Executive Officer

May 2017

Mt Arthur Coal

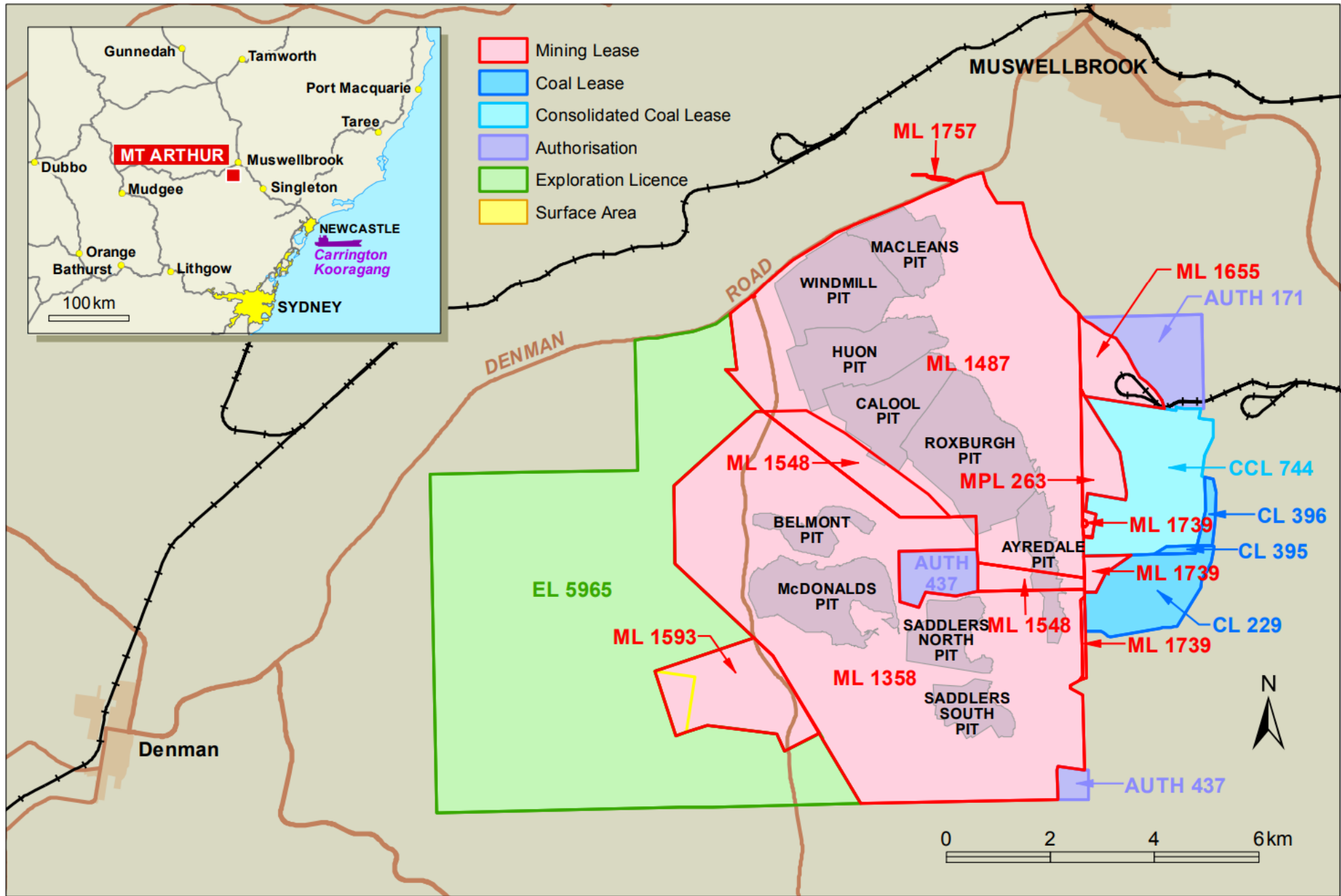
Our Operation

- 1950's- Bayswater No1 UG
- 1960's- Bayswater No2 OC
- 1990's- Bayswater No3 OC
- Mt Arthur North Open Cut was approved in 2001
- The Mt Arthur Underground project 2006-2009

Mt Arthur Open Cut Extension approved in 2010

- 19 Hydraulic Excavators (6 Thiess)
- 2 Electric Rope Shovels
- >125 Mtpa Overburden
- >25 Mtpa ROM Coal





Mt Arthur Coal- Survey

Our Team

- 6 Surveyors, 5 working an even time roster.
- Latest technology including Fixed Wing and Multi-rotor UAV's & Laser Scanners with Drive units.
- Owner-operated mining equipment fitted with HP-GPS and Machine Guidance.



Mining Operation vs Colliery Holding

Mining Operation- WHS (Mines and Petroleum Sites) Act 2013

- Mine Holder has the Right or Entitlement to carry out mining operations at the mine
- The Mine Operator means the Mine Holder OR another person who has been appointed
- There may be more than one mine operator for a mine (so that there are different mine operators for different parts of a mine)
- Mining Operations include exploration, mining, material handling, processing, construction & rehabilitation

Colliery Holding- Mining Act 1992

- Holder of a Mining Lease/s for coal must have the area registered as a Colliery Holding
- Colliery Holdings may consist of multiple Mining Operations
- Each mining operation has a unique RT number/s. The DP&E records all RT numbers associated with the Colliery on The Register for Collieries and Projects

WHS (Mines and Petroleum Sites) Regulation 2014-

If more than one mine operator is appointed for different parts of a mine under this clause, each of those parts is taken to be a separate mine for the purposes of this Regulation.

Thiess Operations at Mt Arthur

December
2016

- Thiess contracted to move topsoil- 1 Excavator

Early 2017

- Thiess utilised to move OB and Coal in southern end of Mt Arthur on a SMU hire

October
2018

- Thiess Fleet >5 Excavators
- 5 Year BCM based Total Services Contract announced, target start of April 2019

April 2019

- Thiess commence mining under BCM contract
- Transition to providing full mine planning + drill & blast services

July 2019

- Thiess Appointed Mine Operator for the southern part of Mt Arthur Mine
- Thiess assume full statutory responsibilities, mine planning + drill & blast services

Transition to Separate Mine Operator

Supervision

Prior to April 1st

One Thiess Assistant Surveyor

- Provide supervision to Thiess Surveyor OR
- Continue to survey all work areas personally and with BHP team under supervision

From April 1st

- Registered Mine Surveyor commenced with Thiess
- Able to provide appropriate level of supervision to Survey Assistants

SDD 2015

When a survey is carried out in accordance with these Directions the Nominated Mining Surveyor must exercise such personal oversight and direction of the work as is necessary to ensure that the Nominated Mining Surveyor has the knowledge to certify all aspects of the survey

Operations and Safety

From April 1st – June 30th

- Thiess Commence mining under BCM contract
- Operating under Mt Arthur (BHP) SMS
- Single Mine Operator (BHP) with all statutory functions
- Nominated Mine Surveyor for entire Mining Operation

From July 1st

- Thiess Appointed Mine Operator for the southern part of Mt Arthur Mine
- Both mines operate under separate SMS
- Thiess assume full statutory responsibilities at Mt Arthur South

Department and Legislative Requirements

Appointment and notification of operator of a mine or petroleum site form

- Name and contact details of the mine operator
- When the appointment takes effect
- Details of the location of the mine

Work Health and Safety (Mines and Petroleum Sites) Regulation 2014

- The mine holder must give the mine operator all relevant information held by or under the control of the mine holder e.g. A mine survey plan prepared under clause 122

DP&E Drafting- No formal application form

- Mine Survey Plan for RT808 charted to Suspension of Operations
- Issue of 2 new RT numbers for each Mining Operation RT808A and RT808B

Thiess- Notification of other matters (including reportable events) form

- Commencement of mining operations at the mine
- Details of people within the management structure that have responsibility for the management of work health and safety at the mine- statutory position holders



FORM | WHS (MINES AND PETROLEUM SITES) LEGISLATION

Appointment and notification of operator of a mine or petroleum site

June 2019

This form must be completed by the mine holder or petroleum site holder, including when that holder is the operator of the mine or petroleum site.

Read the [Appointment and notification of a mine operator guide](#) or [Appointment and notification of a petroleum operator guide](#) before completing this form.

1. Details of mine or petroleum site

Name of mine or petroleum site	█
Site address of mine or petroleum site	█
Type of notification	<input type="checkbox"/> New mine or petroleum site <input type="checkbox"/> Appointment of a new operator of a mine or petroleum site. What is the name of the previous operator? █ <input type="checkbox"/> Change of name of an existing mine or petroleum site. What was the previous name of the mine or petroleum site? █
Land title identification reference(s)	█



NSW Resources Regulator 1



Provision of Survey Information

Work Health and Safety (Mines and Petroleum Sites) Regulation 2014

- A mine survey plan prepared under clause 122

Company Supplied Information under contract

- Provide site coordinate system details and survey control points, as agreed
- Statutory Plans

Outside of contract

- Location of misfires
- Coal roof and floor survey data
- Site Services
- Start surfaces for beginning of BCM contract

Impacts of the Statutory Boundary

What is Barrier Mining?

Extraction or drilling activities taking place within

- 20m from external boundary
- 20m of any adjacent mine
- UG mine- 40m of outcrop of seam

Does Barrier Mining HRA Notification Apply?

WHS (Mines and Petroleum Sites) Regulation 2014-

If more than one mine operator is appointed for different parts of a mine under this clause, each of those parts is taken to be a separate mine for the purposes of this Regulation.

Resistance to own the Barrier Mining Notification

Decision was made to place statutory boundary in a location that would remove the need to conduct Barrier Mining



Impacts of the Statutory Boundary

Dumping

Nothing prevents the dumping of materials up to the Statutory Boundary

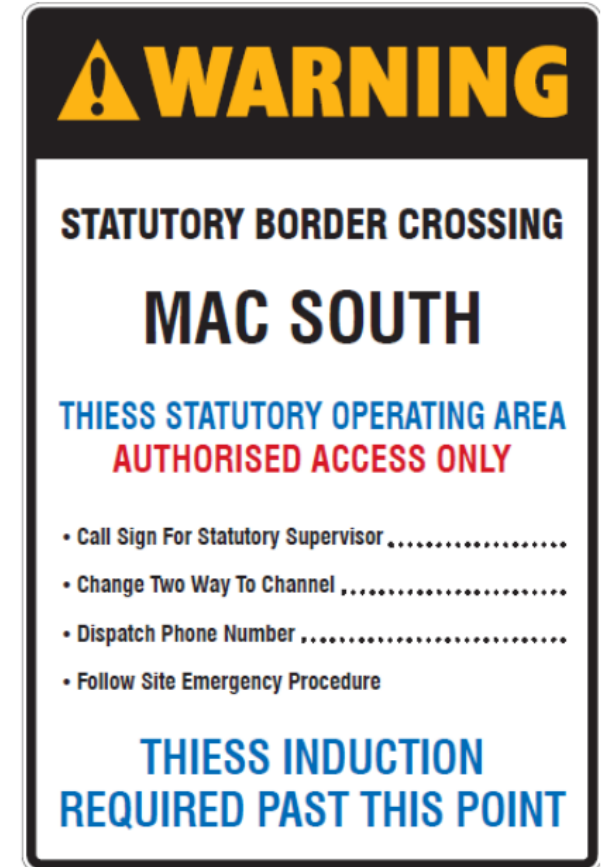
Shared (Interaction) Areas

Shared area in place for ROM. Operates under BHP SMS

Crossing of Boundaries

Permitted, provided individuals

- Inducted for both operations.
- If working- relevant competencies for task
- Carry GPS PED

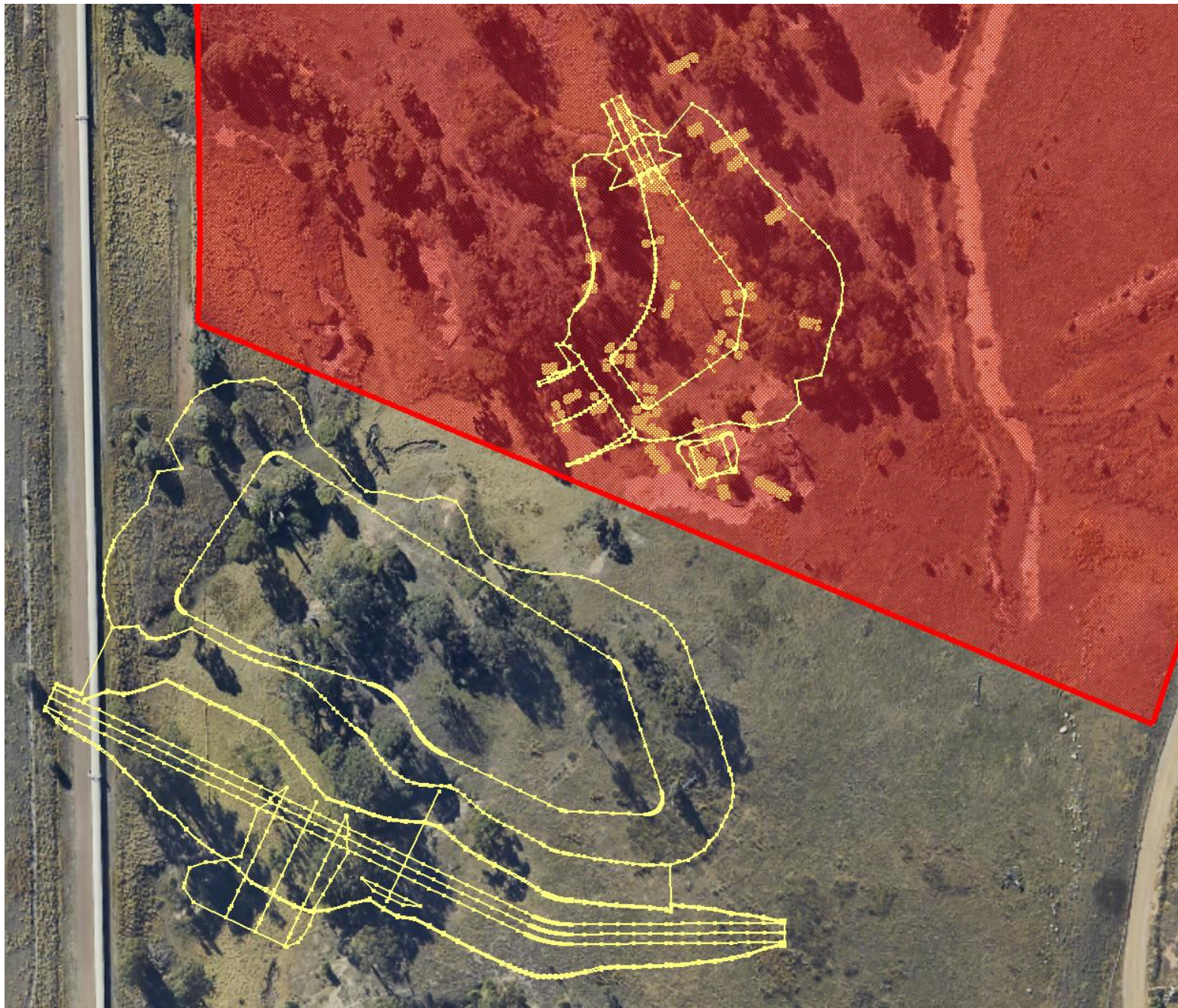


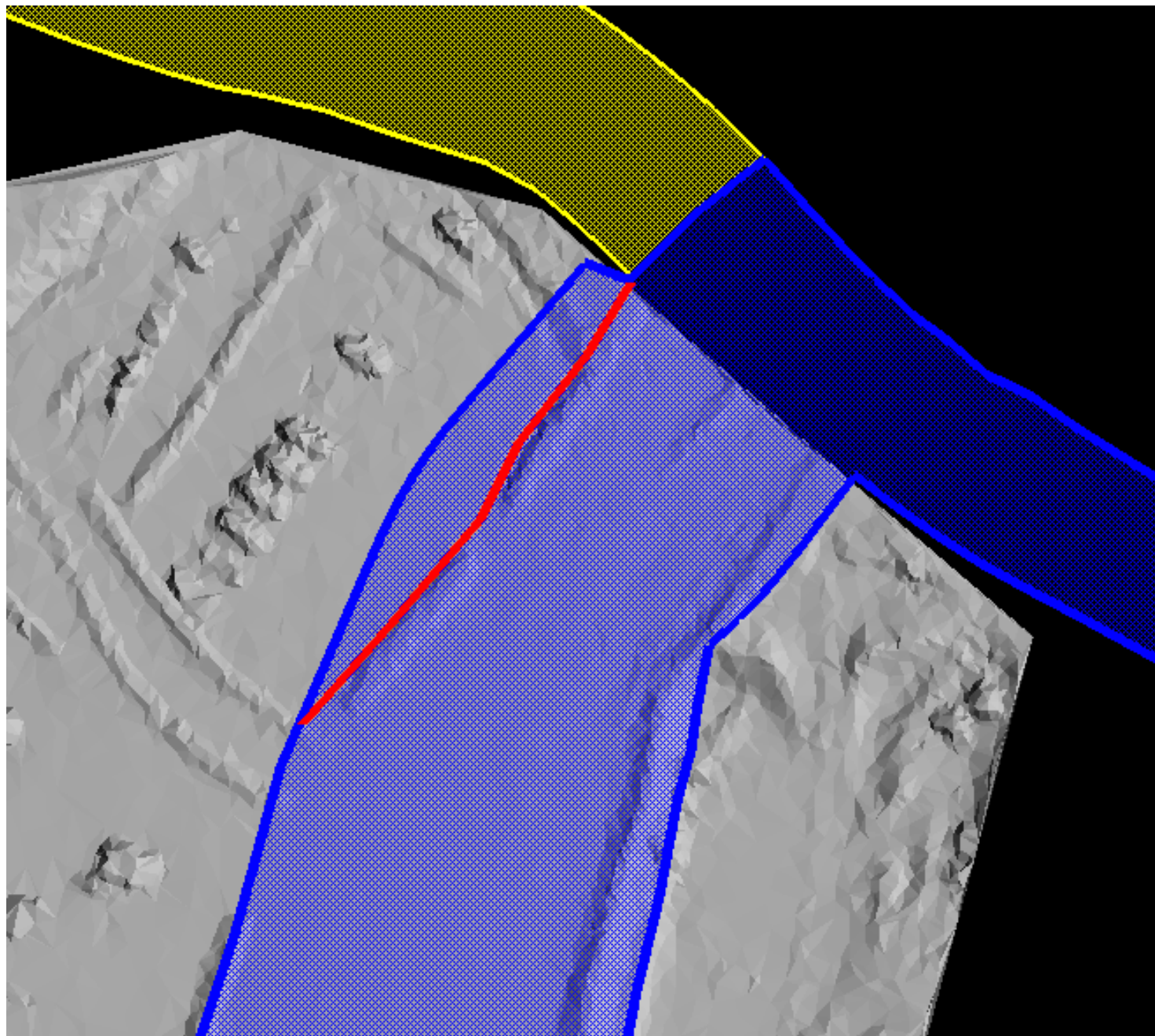
Last Minute Changes



Last-Last Minute Changes







Future Requirements

- **Statutory Boundary Change ~ December 2019**

Area currently under Thiess Mining Operation returned to BHP to allow rope shovel to continue operating efficiently

- **Statutory Boundary Change ~ December 2020**

Area of shovel operation returned to Thiess for dump space requirements

- **MGA 2020**

How do we manage transition to MGA 2020?

- **End of Total Services Contract?**

Renewal? Expansion? Consolidation of Mining Operations and RT's?



Important Lessons and Takeaways

- Process for Department relatively simple
- General lack of understanding of Mine Surveying Requirements and Responsibilities- We can just move the boundary!
- Resistance to ownership of HRA Notification and numerous changes to boundary location
- Advantages of having separate operations, but certain obligations can't be discharged
- Digital Submission of Shapefiles, which is required in NSW, allows for much more detailed information to be attributed to survey data. E.g lineage

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