SOUTH32

Illawarra
Metallurgical
Coal

COMMUNITY HANDBOOK | SOUTH32 - ILLAWARRA METALLURGICAL COAL

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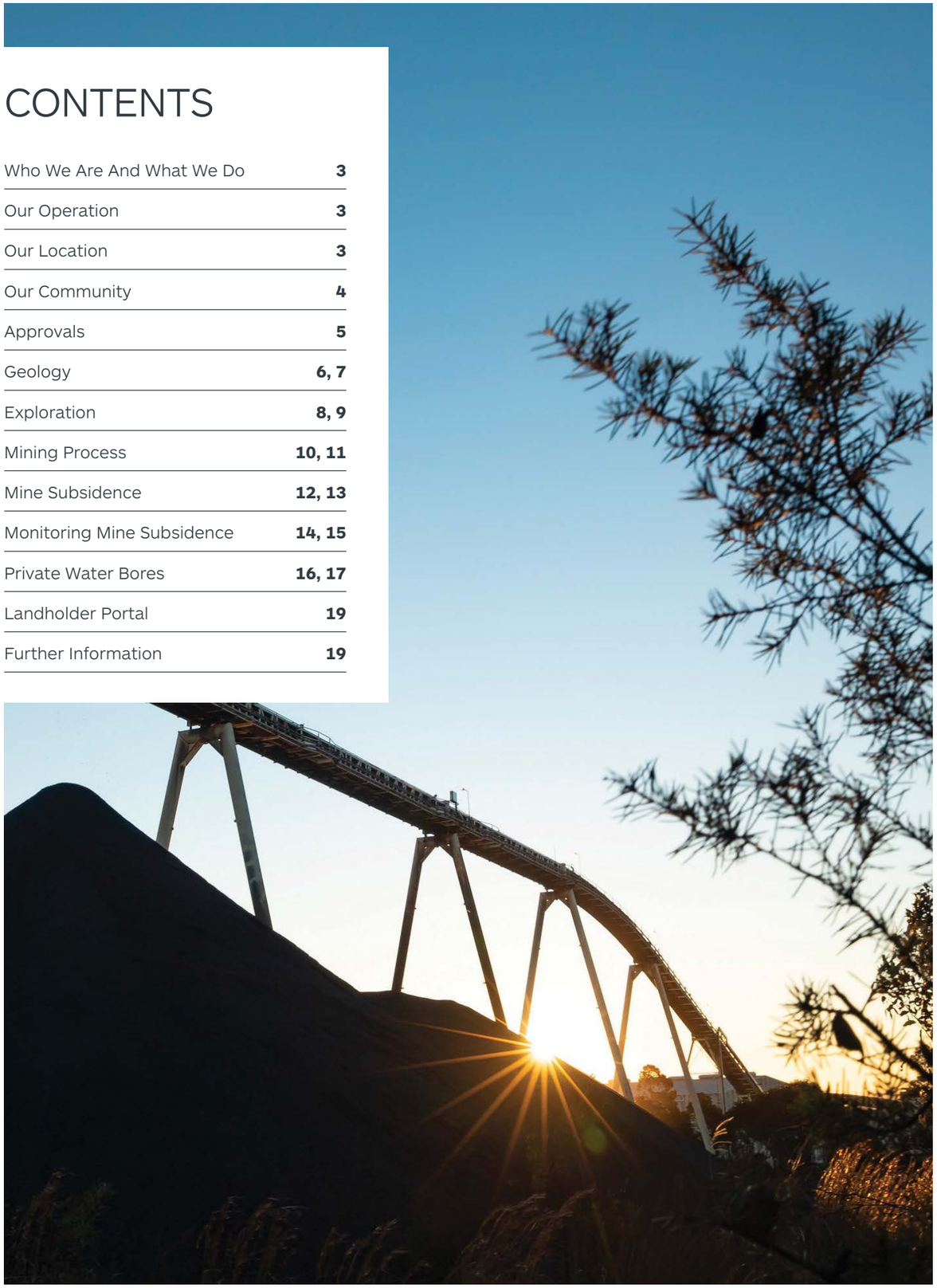


WHO WE ARE AND WHAT WE DO

South32 is a globally diversified mining and metals company, headquartered in Australia with operations in Australia, Southern Africa and South America.

In the Illawarra and Macarthur regions of New South Wales, we operate |Illawarra Metallurgical Coal (IMC), producing high-quality coal used for steelmaking.

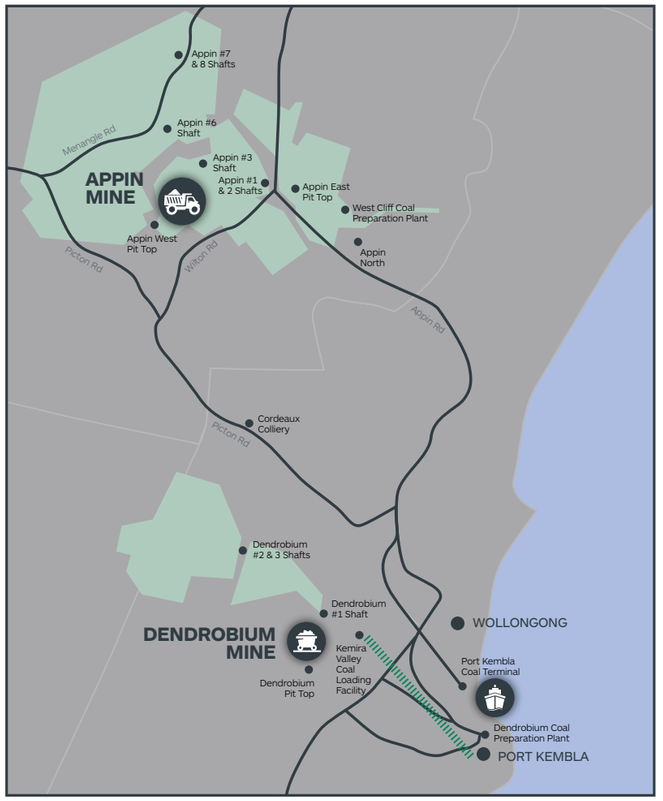
OUR OPERATION

Metallurgical coal is a key ingredient in the steelmaking process. Our underground mines at Appin and Dendrobium produce some of the highest quality metallurgical coal in the world.

Metallurgical coal from our Appin Mine is processed at our coal preparation plant at West Cliff before being transported by road to Port Kembla, while coal from our Dendrobium Mine is sent by rail to Port Kembla for processing. We provide local steel manufacturers with our product, supporting local business and regional jobs

We also manage the Port Kembla Coal Terminal on behalf of a consortium of partners. Our coal is used to create countless products – from seat belt buckles and Colorbond® roofs to life saving medical equipment. It's also part of the planes, trains and automobiles that help keep us connected.

OUR LOCATION



APPIN MINE

DENDROBIUM MINE

RAILWAY LINE

ROAD

Denotes previous and future mining in accordance with relevant consents

OUR COMMUNITY

We are proud of our 85-year history and contribution to the Illawarra and Macarthur Regions. We are pleased to do our part to help build stronger, healthier and happier and communities.

We create value in the communities where we operate and make a positive contribution by providing raw materials for manufacturing, paying taxes and royalties, providing jobs, developing local suppliers, and investing in community programs.

We believe trust and transparency are essential to the way we operate. This means being in touch with the broader community, considering different perspectives and working together to create shared values.

We facilitate regular, open, and inclusive dialogue to understand the expectations, needs, concerns and interests of our stakeholders. **The Appin Mine Community Consultative Committee** and **Dendrobium Community Consultative Committee** meet bi-monthly to openly discuss our activities, performance, community engagement, community investment and any other matters important to local communities.

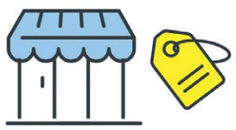
We also work closely with landholders. Our community portal offers transparency on our operation and individualised online support specific to your property.

Annual expenditure of A$800 million a year in the Illawarra region, of which A$300 million is spent with more than 200 locally based suppliers.

We contribute approximately A$208 million in royalties to the NSW government annually.

Provide jobs for approximately 1,800 people, with more than 90% of wages paid to workers residing in the Illawarra and Macarthur areas.

Contributes more than A$1 million a year to support local community groups and organisations.



APPROVALS

Several levels of approval are required before mining can commence.

Exploration Licenses

Before we can mine coal, we need to understand where the resource is, the quality of the resource and the geological features of the coal seam. We gain this understanding by exploring areas in advance of mining, using a range of techniques. With this knowledge, experts can determine the locations most suited to mining, helping us mine in a way that is safe, sustainable, and efficient.

As we use exploration data to determine locations most suited to mining, where we explore does not necessarily mean that mining will follow. The information collected through exploration helps to inform future mine plans.

Our exploration activities follow strict guidelines and approvals under the NSW Mining Act 1992.

Development Consent

Further applications are required before mining happens. New mining projects and any expansion of existing projects require a development consent under the Environmental Planning and Assessment Act 1979. If mining development is determined as approved by the consent authority, conditions are imposed on the consent to minimise potential environmental impacts and optimise the economic and social outcomes of the project.

Mining Leases

A development consent must be in place before a mining lease can be granted. A mining lease gives the holder the exclusive right to mine for minerals over a specific area of land and enables a title holder to continue ownership of a title over an area during the period between exploration and mining. Rehabilitation requirements and environmental performance conditions are attached to all mining leases issued.

Please visit our website to view our Bulli Seam Operations Project approval documents at https://www.south32.net/what-we-do/our-locations/australia/illawarra-metallurgical-coal/documents.

Extraction Plan

Secondary Government approvals are required periodically to confirm how any potential impacts of mining will be eliminated, mitigated, or managed. This approval is facilitated through the preparation and submission of an Extraction Plan by the mine operator to the NSW Department of Planning and Environment. If the Department approves the plan, mining in the associated area can commence.

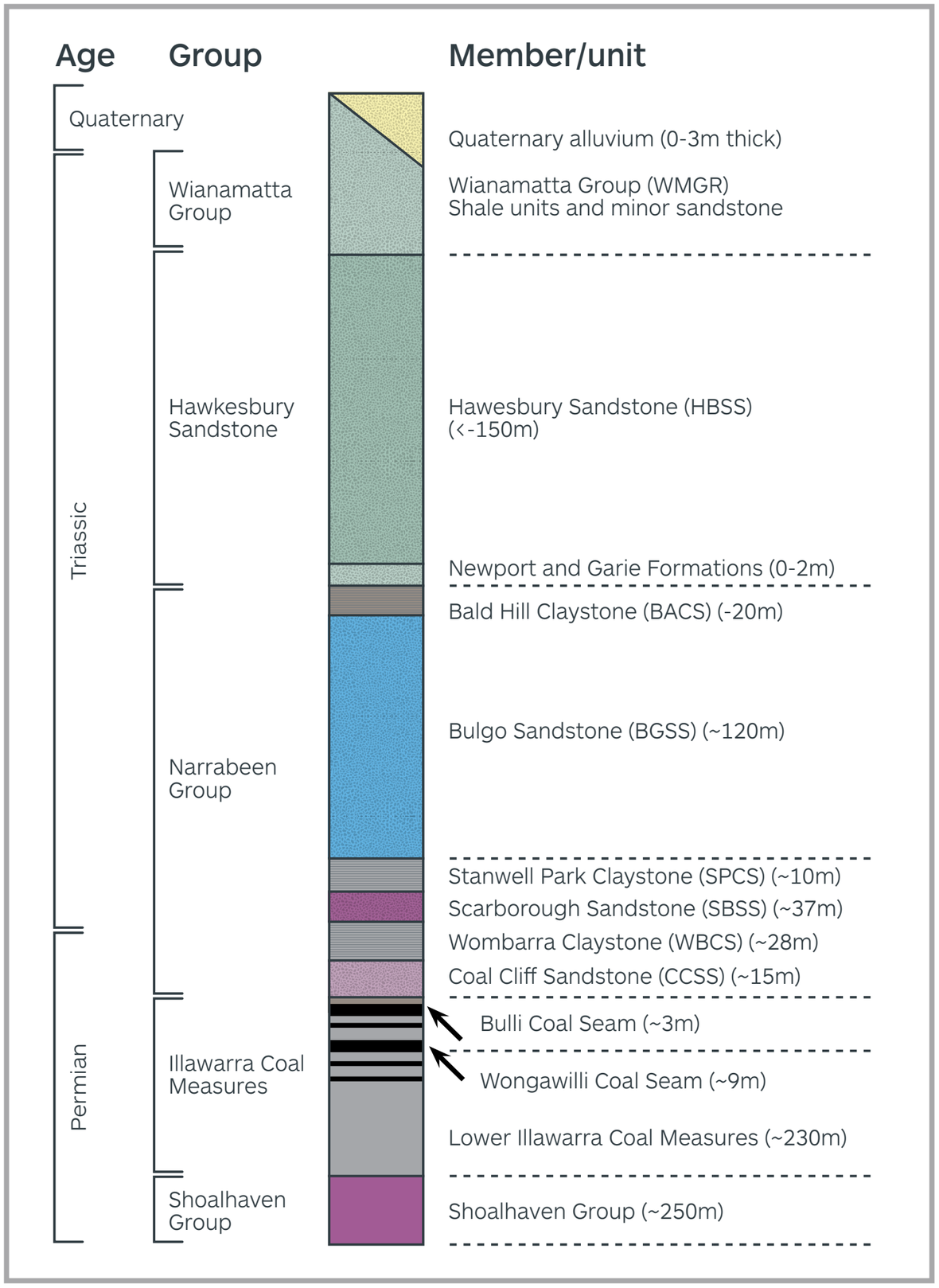
An extraction plan is a management document that contains predictions about the amount of subsidence that is expected, and how the effects of subsidence will be managed. It describes how approved mining operations are to be undertaken, managed, monitored, reported, and remediated. The document provides the community with transparency about the environmental management of the development.

GEOLOGY

Our Appin Mine is located within the Southern Coalfields of the Sydney Basin which is renowned for its premium quality metallurgical coal.

We extract coal from the Bulli Coal Seam about 500 to 750 metres underground using the longwall mining method and conduct extensive ground monitoring prior to and after mining.

The Bulli Coal Seam thickness varies between 2.8 metres to 3.3 metres.



EXPLORATION

Where exploration activities occur on private property, we seek to enter into a formal agreement with the landholder, and work with them to ensure our activities are conducted efficiently, while minimising any impacts to the environment.

These agreements detail how and when we would access the property, consideration of potential impacts, rehabilitation of the land, and compensation.

We use exploration data to determine locations most suited to mining. Exploration in a certain location does not necessarily mean that mining will follow. The information collected through exploration helps to inform future mine plans.

EXPLORATION TECHNIQUES

Our exploration techniques include borehole drilling, 2D and 3D seismic surveying and aeromagnetic surveying.

Borehole drilling

A vertical hole is drilled from the surface down to the coal seam, between 400 metres and 800 metres below the surface. Most boreholes drilled include a cored section, where a sample of rock is returned to the surface and analysed by geologists. The coal sample is sent to the laboratory for further detailed analysis. Once complete, the entire borehole is sealed with grout from the base to the surface, and its position recorded by a surveyor.

Seismic survey

Seismic surveys are used to produce a detailed image of the underground geology, using vibrations. The difference between 2D and 3D seismic is the level of detail obtained from the survey. Sensors (or 'geophones') are laid along the ground surface to measure the vibration response from the numerous rock formations. Various methods are used to induce the vibrations which may include handheld machines and trucks.

Aeromagnetic survey

A low flying plane or helicopter with special monitoring equipment collects magnetic field data. This method provides a lot of data over a large area and can be used to plan more targeted exploration activities including borehole drilling.

MINING PROCESS

1 DEVELOPMENT

Before we start mining a longwall, we develop underground roadways to provide access for workers, machinery, and services such as water, ventilation and electricity. These roadways shape the rectangle longwalls to be mined.

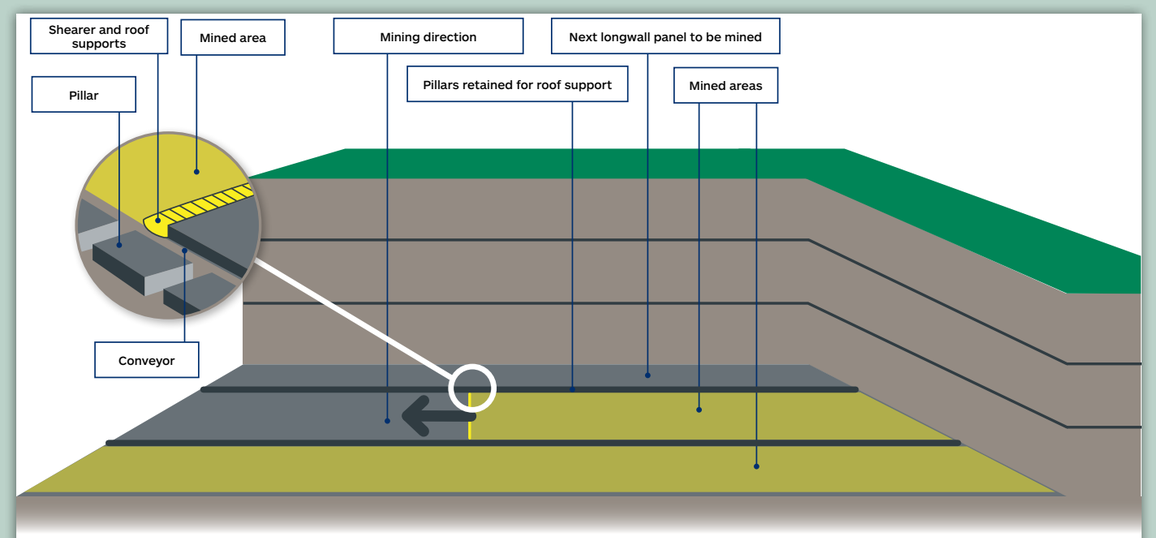
The development roadways do not create subsidence.

2 LONGWALL MINING

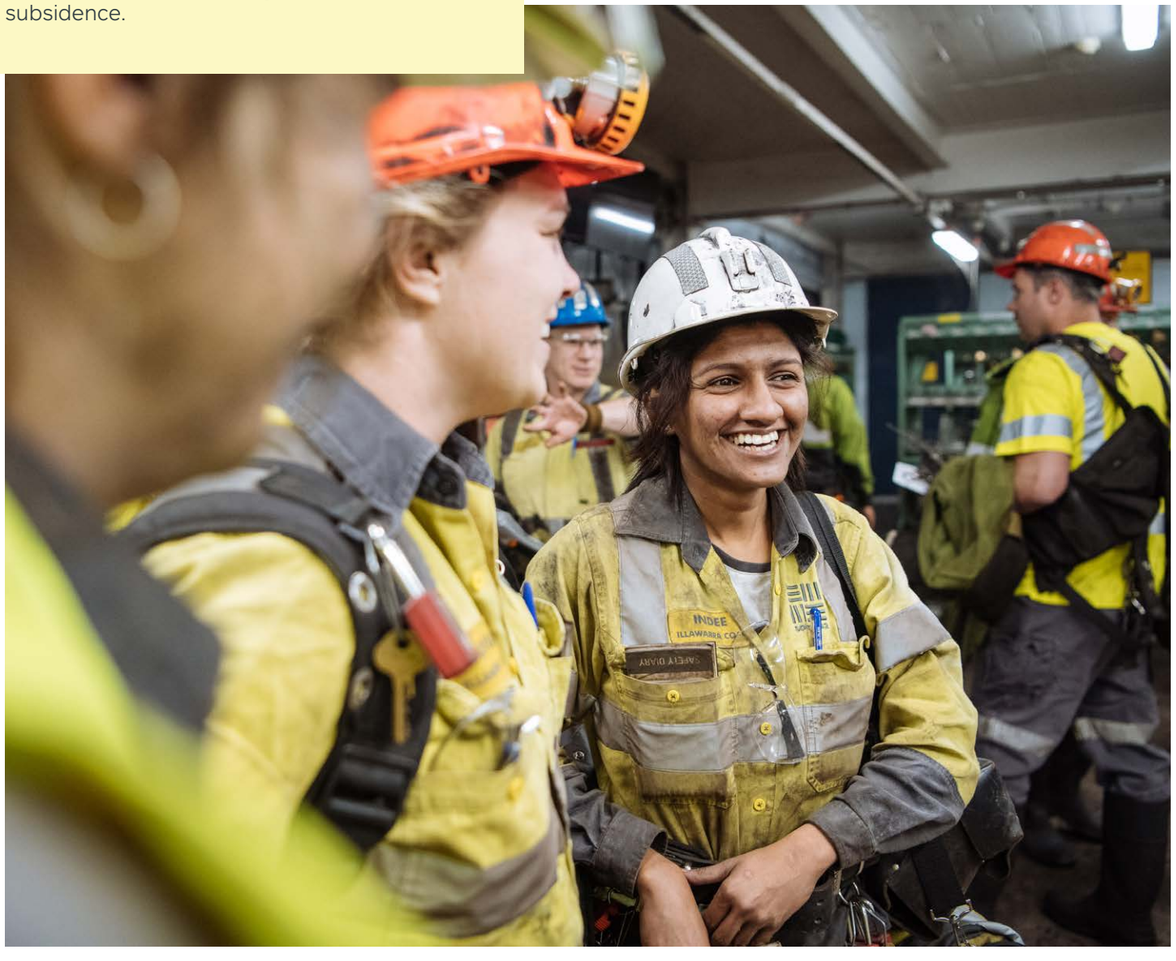
The longwall mining method involves removing coal from the large, rectangular block defined by the roadways.

Coal is cut using a shearer, which shaves coal from the longwall. The shearer operates across the longwall face – moving forward on tracks as coal is continuously removed. The removed coal falls onto a conveyor behind the shearer to transport it to the surface.

To support the roof of the longwall during the mining process, large mechanical roof supports or 'chocks' hold up the area where the shearer is working. The chocks move with the shearer and allow the roof to safely fall behind the working area, forming what is known as the 'goaf'. The falling roof is what causes movement on the surface known as subsidence.



An illustration of an underground mine using the longwall mining technique.

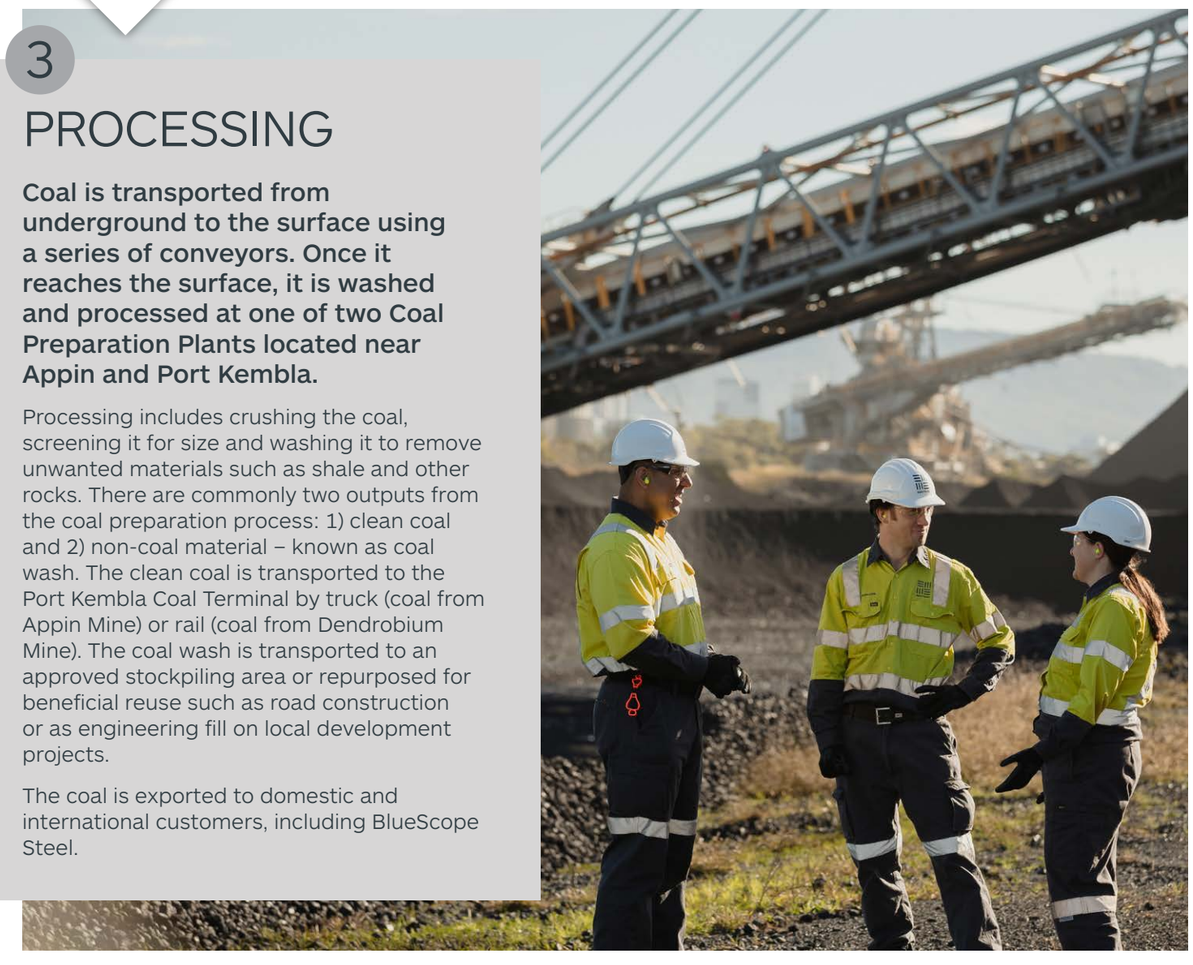


3 PROCESSING

Coal is transported from underground to the surface using a series of conveyors. Once it reaches the surface, it is washed and processed at one of two Coal Preparation Plants located near Appin and Port Kembla.

Processing includes crushing the coal, screening it for size and washing it to remove unwanted materials such as shale and other rocks. There are commonly two outputs from the coal preparation process: 1) clean coal and 2) non-coal material – known as coal wash. The clean coal is transported to the Port Kembla Coal Terminal by truck (coal from Appin Mine) or rail (coal from Dendrobium Mine). The coal wash is transported to an approved stockpiling area or repurposed for beneficial reuse such as road construction or as engineering fill on local development projects.

The coal is exported to domestic and international customers, including BlueScope Steel.



MINE SUBSIDENCE

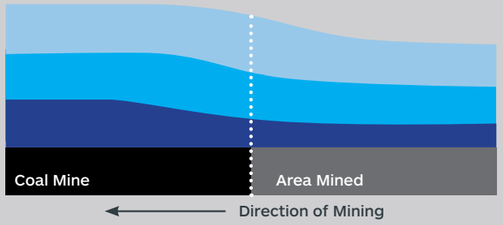
Coal is mined about 500 to 750 metres underground using the longwall method which involves mining in long rectangular blocks using special machinery.

After the coal is removed, the land above can move to fill the space left behind. This movement on the surface is known as mine subsidence.

Mine subsidence can vary between tilts (a change in the slope of the land) and strains (a change in the length of the ground).

If you live close to an area that is being mined, you may experience mine subsidence on your property.

TILT AND STRAIN



TILT **occurs when there is a change in the slope of the land.**

It can be temporary or permanent. Structures are generally affected by tilt if they remain at a significant angle once subsidence is complete.

STRAIN **is a change in the length of the ground.**

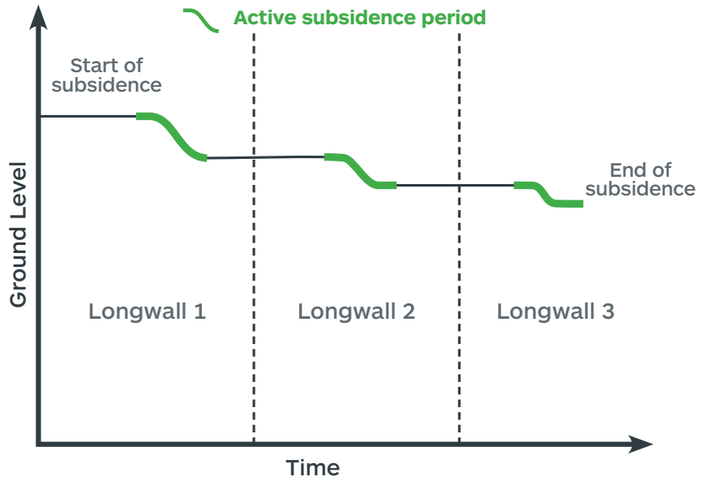
The ground moves together so it is usually not noticeable. Occasionally buildings may shift with the ground movement. Sometimes minor damage can occur including jamming of windows and doors, cracks in brickwork and internal walls, and separation of joints in paving.

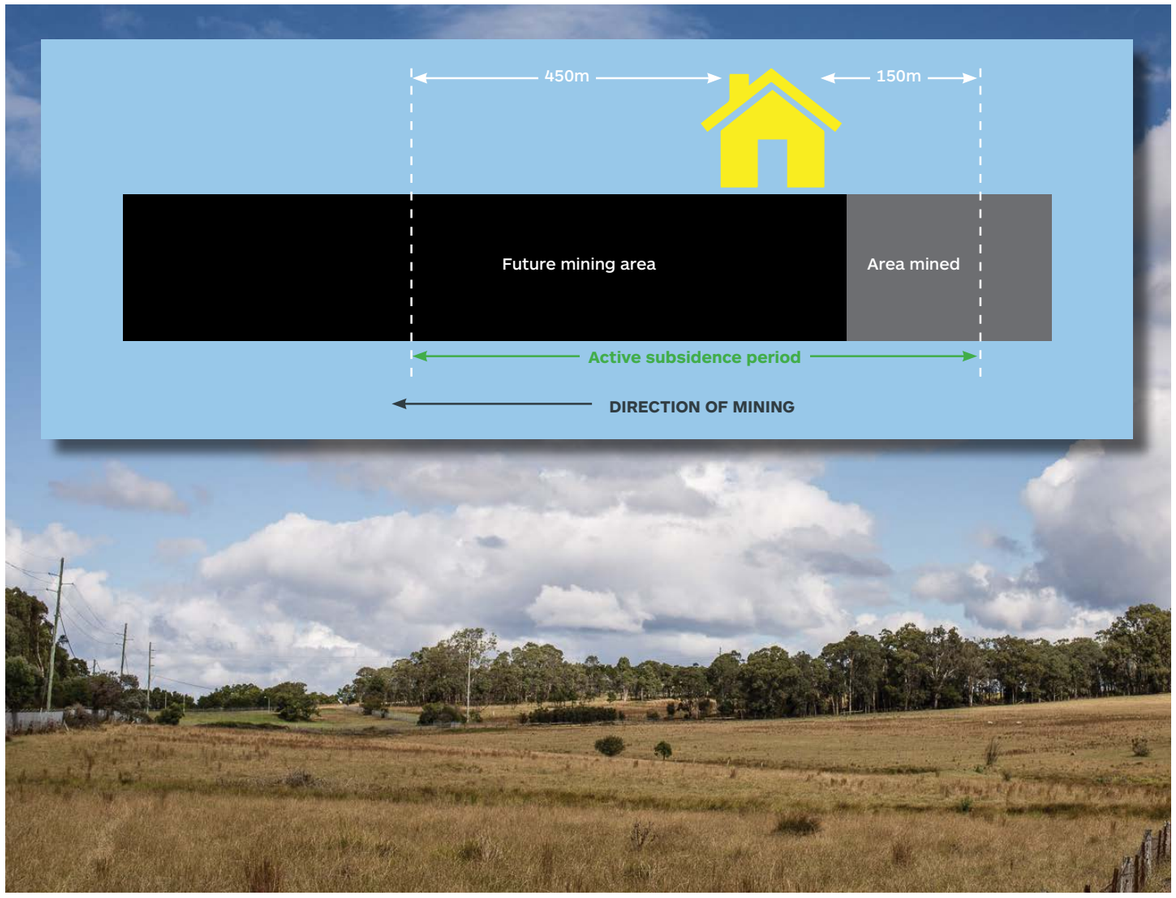
INCREMENTAL SUBSIDENCE

In some cases, a land area might be impacted by mine subsidence from more than one longwall. The ground can move in this area after each longwall is mined. This is known as incremental subsidence.

When mining a longwall, we expect most subsidence movement at a property when the mining activity is 150 metres before the property and 450 metres past the property.

We call this the 'active subsidence period'. The active subsidence period generally lasts about three months.





MONITORING MINE SUBSIDENCE

We recognise that landholders want to be informed of our activities. Before mining under private property, we make every effort to meet with impacted landholders to discuss what to expect once mining commences.

Importantly, we outline arrangements for a series of pre-mining inspections to record current property conditions to ensure any movement is accurately recorded. The inspections also identify potential mitigation or monitoring actions that should be completed by Illawarra Metallurgical Coal or the landholder prior to mining. Many landholders have found this a valuable record.

A typical survey mark.

The inspections vary depending on what built and natural features are on the property.

Inspections can include:

Structural inspection

A condition report and assessment of structures such as houses and sheds, involving a visual inspection inside and outside. Tanks, driveways and retaining walls will also be inspected.

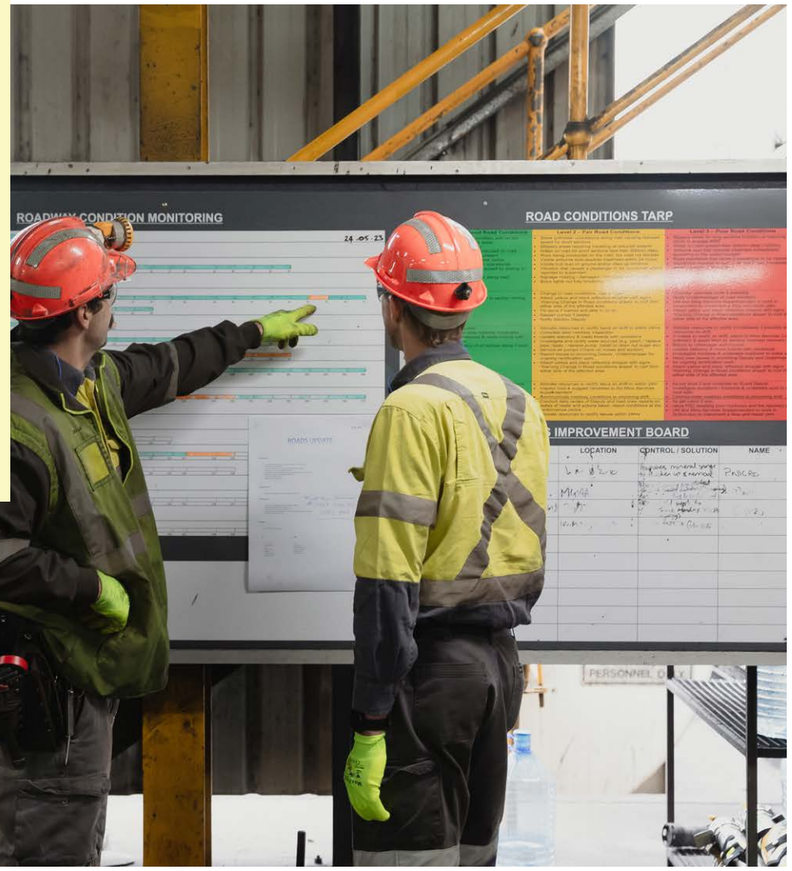
Geotechnical inspection

A condition report of dams and an assessment of steep slopes, involving a visual inspection of the land.

Survey

Monitoring of subsidence around built futures including dams. This involves installation of physical survey marks and multiple surveys during mining.

The reports of the inspections will be available to landholders for their records.



COMMUNICATING WITH YOU

If your property is in an area that may be impacted by subsidence – what information can you expect from us?

We will communicate with you regularly, if your property is within the subsidence area of the extraction plan.

Based on those inspections and predicted subsidence movements, we will develop a Specific Property Subsidence Management plan for your property which includes the forecast mining dates. We will provide an update on mining progress every three months until all mining activities that affect your property are complete.

We will also let you know when you are within the active subsidence period, as this is the most likely time when mine subsidence may occur.

If you want to ensure that we have your up-to-date postal address and email, feel free to get in touch with us through our toll-free Community Call Line on **1800 102 210** or email **illawarracommunity@south32.net**

MY PROPERTY HAS BEEN DAMAGED BY SUBSIDENCE – WHAT DO I DO?

Your rights are protected by law and you can seek compensation to fix damage caused by mine subsidence through the New South Wales government agency, Subsidence Advisory NSW.

Signs of damage from mine subsidence range from hairline cracks and jammed doors and windows, to impacts on retaining walls. Generally, buildings impacted by mine subsidence remain safe and can be used until they are repaired.

To lodge a claim with Subsidence Advisory NSW and learn more about the process, call (02) 4677 6500 or visit www.subsidenceadvisory.nsw.gov.au.

Claims for damage must be raised within 12 months of the damage first being observed.

Subsidence Advisory NSW will manage your claim throughout the process and liaise with us as required. This ensures an independent process is maintained.

PRIVATE WATER BORES

GROUNDWATER

We understand access to groundwater is important to landholders in the area, and we consider any potential change to characteristics of the underground aquifer as part of our proactive approach to subsidence management.

The quality and quantity of groundwater can vary widely across New South Wales. In the Wollondilly region aquifers of the Hawkesbury Sandstone provide the main source of usable groundwater.

APPROVED WATER BORES

If you are wishing to install a water bore you will require a Water Supply Work Approval, which includes approval to take water under a Basic Landholder Right.

This ensures that the construction or use of the bore does not impact on the water source, environment or other water users. If your water bore does not have a Water Supply Work Approval, Illawarra Metallurgical Coal encourages you to contact the NSW Natural Resources Access Regulator (NRAR) to discuss your licencing and approval options. A decision will then be handed down by NRAR regarding future approvals and conditions of the water bore.

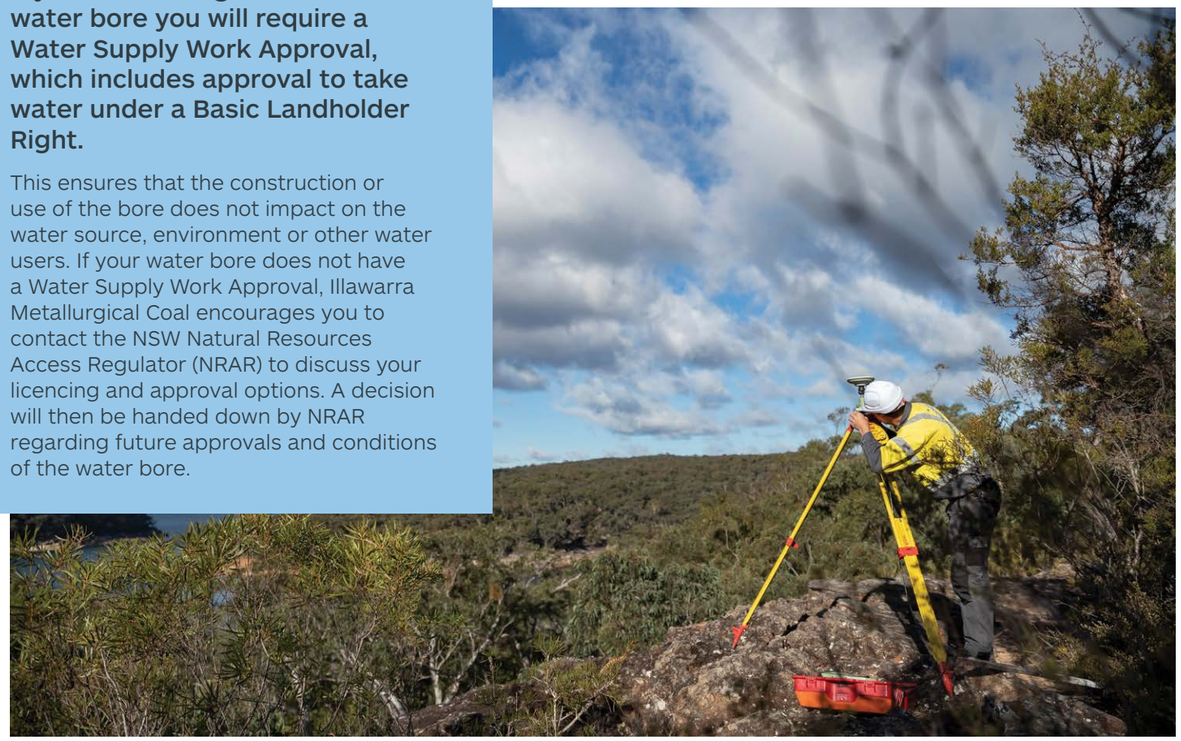
POTENTIAL CHANGES TO AQUIFER CHARACTERISTICS

In the Wollondilly area usable aquifers of the Hawkesbury Sandstone are typically protected from mining impacts due to the presence of the Bald Hill Claystone which acts as a seal between the harvested groundwater and the Bulli Coal Seam.

The Hawkesbury Sandstone is where most water bores are located and generally provides good quality water.

Although, it contains naturally occurring iron which can cause staining of equipment over time and would require regular maintenance.

As part of our proactive management on water bore impacts, we engage with landholders early to develop plans to minimise potential impacts to water access, including bore optimisation strategies to ensure access to water is maintained.



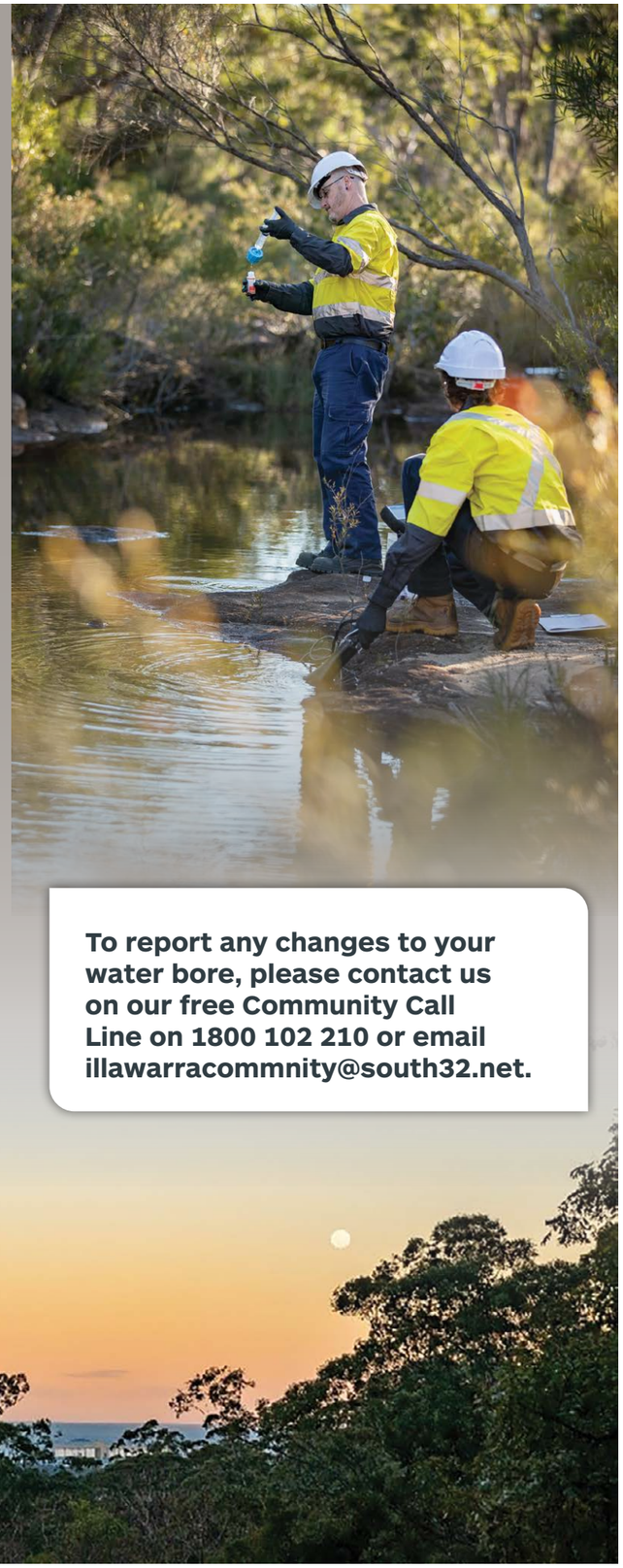
MONITORING WATER BORES

Baseline monitoring of water bores is required in areas where underground mining is likely within the next five years. The baseline monitoring process typically consists of installing flowmeters and piezometers on water bores and collecting the data. The data assists us to understand the water bore performance and harvest requirements prior to mining.

Assessing this data, we consult with the landholder on a redesign of the water bore pumping system configuration and associated infrastructure to mitigate potential mining impacts to the aquifer.

If an impact occurs during the mining process, we will further consult you to develop a Water Management Plan to cover interim arrangements, such as water deliveries, until further measures can be practically implemented.

Your rights are protected under the Mining Act 1992 and the Compensatory Water Supply provisions provided by the NSW Government under the Bulli Seam Operations' Project Approval.



To report any changes to your water bore, please contact us on our free Community Call Line on 1800 102 210 or email illawarracommnity@south32.net.

COMMUNITY PORTAL

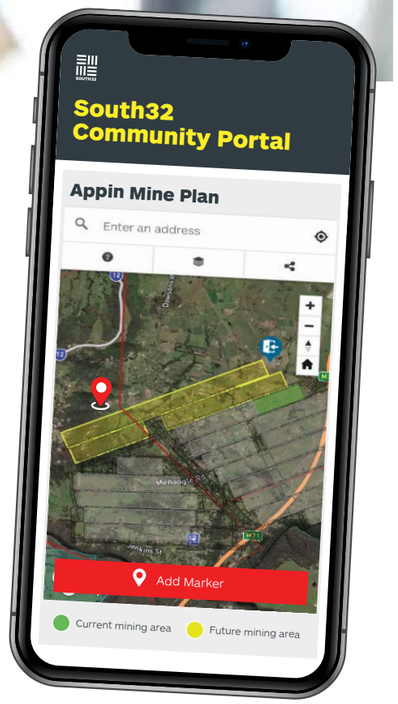
We're a business with a purpose and believe trust and transparency are essential to the way we operate.

Please visit our community portal https://community.s32illawarra.com.au to find out more about our operations and current projects.

Easily search your property by address to view its location in relation to the mine plan by scanning the QR code.

Please fill the data collection form in the Extraction Plan project if you have been contacted by South32 and your property is in the extraction plan area.

- This portal will offer you the option to:
- Individualise online support for your property;
- Co-develop specific property management plans;
- Discuss potential impacts relating to subsidence; and
- Arrange surveys and monitoring during active mining periods.



FURTHER INFORMATION

If you would like to speak with us about our activities, call our free Community Call Line on **1800 102 210** or email **illawarracommunity@south32.net**

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