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Sunrise Project

Air Quality and Greenhouse Gas Management Plan

August 2022

SUNRISE PROJECT

AIR QUALITY AND GREENHOUSE GAS MANAGEMENT PLAN

REVISION 3

1 AUGUST 2022
Project No. CTL-17-03
2020-CTEQ-0000-68YB-0001

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1 INTRODUCTION

The Sunrise Project (the Project) is a nickel cobalt scandium open cut mining project situated near the village of Fifield, approximately 350 kilometres (km) west-northwest of Sydney, in New South Wales (NSW) (Figure 1).

The Project includes the establishment and operation of the following:

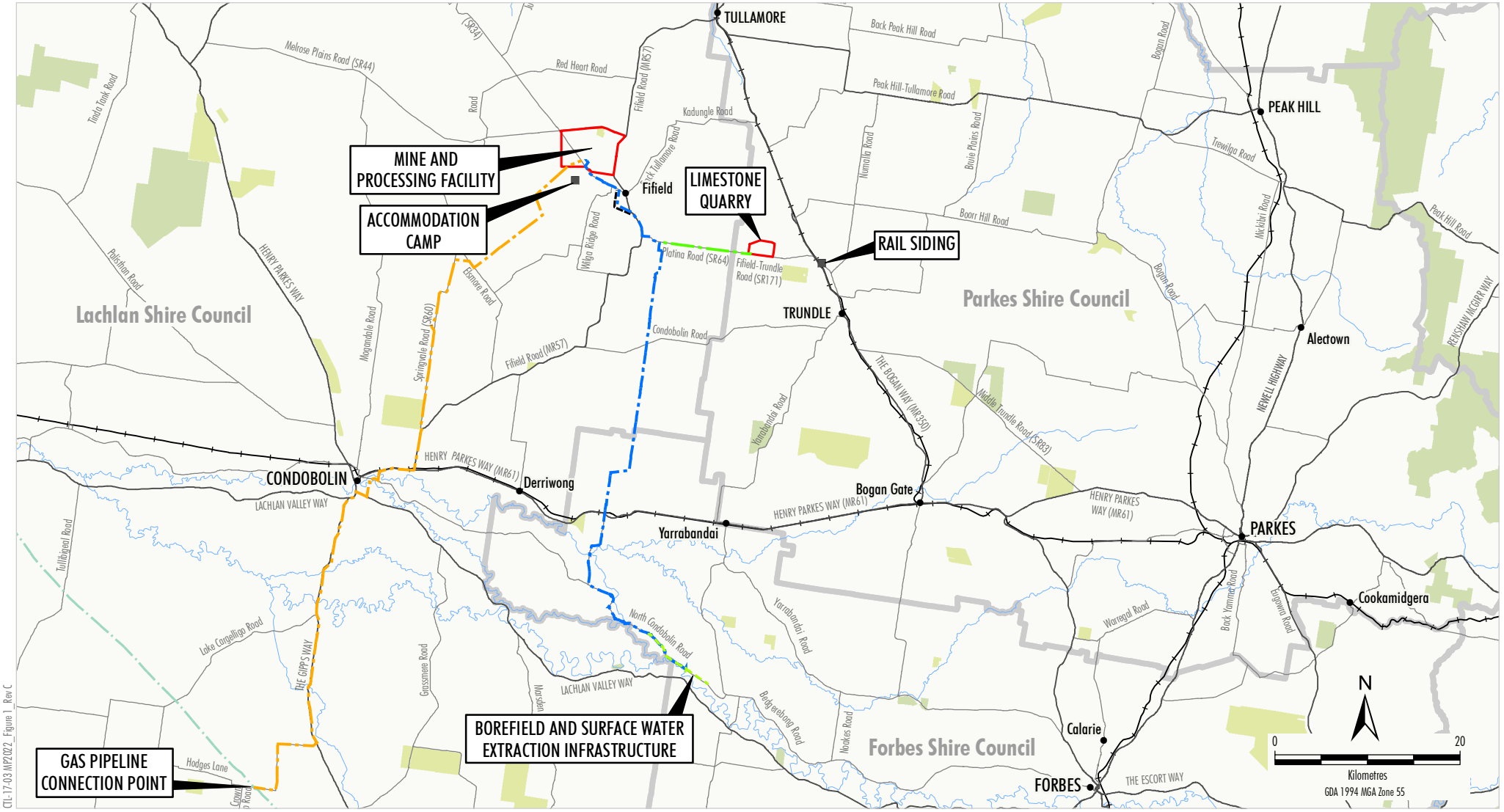
- mine (including the processing facility);
- limestone quarry;
- rail siding;
- gas pipeline;
- borefield, surface water extraction infrastructure and water pipeline;
- accommodation camp; and
- associated transport activities and transport infrastructure (e.g. the Fifield Bypass, road and intersection upgrades).

SRL Ops Pty Ltd owns the rights to develop the Project. SRL Ops Pty Ltd is a wholly owned subsidiary of Sunrise Energy Metals Limited (SEM) [1].

Development Consent DA 374-11-00 for the Project was issued under Part 4 of the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act) in 2001. Seven modifications to Development Consent DA 374-11-00 have since been granted under the EP&A Act:

- 2005 – to allow for an increase of the autoclave feed rate, limestone quarry extraction rate and adjustments to ore processing operations;
- 2006 – to allow for the reconfiguration of the borefield;
- 2017 – to allow for the production of scandium oxide;
- 2017 – to amend hazard study requirements;
- 2018 – to relocate the accommodation camp;
- 2018 – to implement opportunities to improve the overall efficiency of the Project; and
- 2022 – to implement changes to optimise the construction and operation of the Project.

[1] SEM was previously Clean TeQ Holdings Limited (Clean TeQ).



Source: Sunrise Energy Metals (2021); Clean TeQ (2017, 2018, 2020); Black Range Minerals (2000); NSW Spatial Services (2022)

CTL-17-03 MP2022_Figure 1_Rev C

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SUNRISE PROJECT

Regional Location

Figure 1

1.1 PURPOSE AND SCOPE

This Air Quality and Greenhouse Gas Management Plan (AQGGMP) has been prepared by SEM to satisfy the requirements of Conditions 23 and 24, Schedule 3 of Development Consent DA 374-11-00 (Table 1).

Table 1
Specific Development Consent Conditions

Project Development Consent DA 374-11-00 Schedule 3	**Section Where Addressed in this AQGGMP**
Air Quality and Greenhouse Gas Management Plan	
23. *Prior to carrying out any development under this consent after 6 May 2017, unless otherwise agreed by the Planning Secretary, the Applicant must prepare an Air Quality and Greenhouse Gas Management Plan for the development to the satisfaction of the Planning Secretary. This plan must:*	This AQGGMP
(a) be prepared in consultation with the EPA;	Section 2
(b) outline the procedure for notifying property owners and occupiers likely to be affected by dust from the operations;	Section 10.2
(c) describe the measures that would be implemented to ensure compliance with the relevant air quality criteria and operating conditions of this consent;	Section 8
(c1) describe the measures that would be implemented to minimise the release of greenhouse gas emissions from the development;	Section 8
(c2) include interim rehabilitation where necessary to minimise the area exposed for dust generation;	Section 8
(d) include an air quality monitoring program that:	
• *includes real-time monitoring;*	Section and 9
• *supports proactive and reactive air quality management strategies;*	Sections 8.1 and 9
• *includes monitoring of the sulphuric acid plant stack emissions, including continuous monitoring of in-stack pollutant concentrations;*	To be included in future versions of the AQGGMP prior to commencing operations.
• *includes key performance indicators;*	Section 6
• *evaluates and reports on:* – *baseline monitoring;* – *compliance against the air quality operating conditions;* – *compliance against the air quality criteria in this consent;* – *the effectiveness of the air quality management system; and*	 Section 4.1 Section 11 Section 9 Section 11
• *considers what real-time and/or regular reporting on air quality monitoring data would be useful to provide regularly on the Applicant's website;*	Sections 9, 11 and 12
(e) defines what constitutes an air quality incident, and includes a protocol for identifying and notifying the Department and relevant stakeholders of any air quality incidents.	Section 12.1
24. *The Applicant must implement the approved Air Quality and Greenhouse Gas Management Plan for the development.*	Section 3.3.1

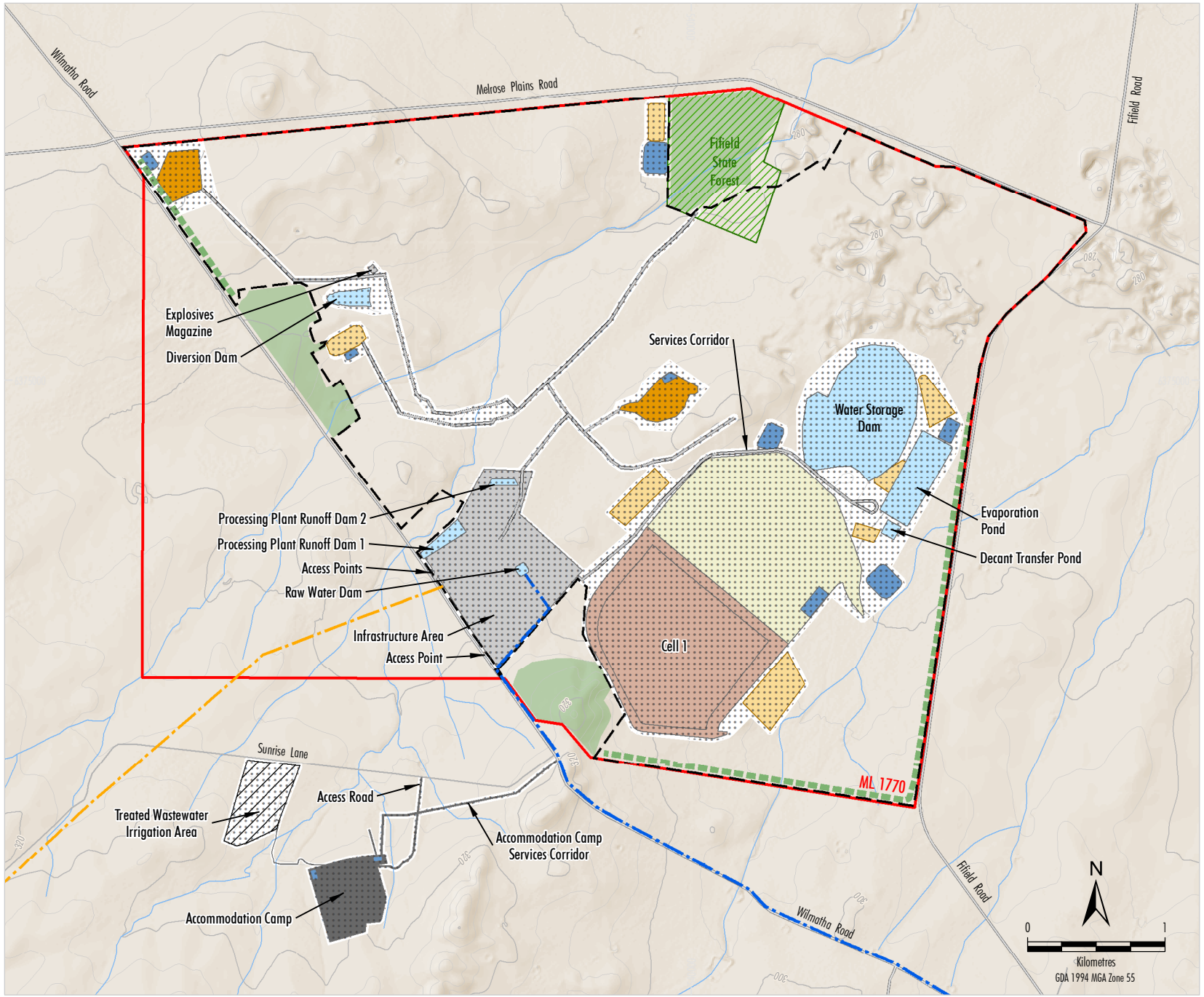
Note: EPA refers to the NSW Environment Protection Authority.

On 5 July 2018, the Planning Secretary of the Department of Planning and Environment (DPE) (the Planning Secretary) approved the progressive submission of environmental management plans for the Project in accordance with Condition 12, Schedule 2 of Development Consent DA 374-11-00. The scope of this AQGGMP is specifically related to the following initial Project construction activities:

- development of the mine, including:
  - site establishment and earthworks;
  - construction of site access roads and haul roads;
  - processing facility earthworks;
  - establishment of temporary facilities required for construction activities (e.g. offices, lay down areas, communications infrastructure);
  - construction of the mine infrastructure area including the offices, workshops, warehouse, laboratory and amenities buildings, fuel storage areas, potable water treatment plant and car parking facilities;
  - construction of the tailings storage facility and evaporation pond;
  - construction of water management infrastructure including the raw water dam, water storage dam and sediment dams;
  - construction and operation of the concrete batch plant;
  - development of gravel and clay borrow pits (including blasting and crushing);
  - installation of appropriate fencing and barriers to ensure public safety and security for mining and construction;
  - other associated minor infrastructure, plant, equipment and activities;
- development and operation of the accommodation camp;
- development and operation of the borefield, surface water extraction infrastructure and water pipeline[2]; and
- road upgrades.

The general arrangement of the mine and processing facility during the initial construction activities is shown on Figure 2.

[2] The water pipeline includes the Fifield Bypass and Alternative Pipeline Route alignments.



LEGEND

- State Forest
- Mining Lease Boundary (ML)
- Approved Surface Development Area
- Initial Construction Activities
- Surface Development Area
- Processing Facility
- Tailings Storage Facility
- Topsoil Stockpile
- Accommodation Camp
- Water Storage
- Sediment Dam
- Laydown Area
- Borrow Pit
- Vegetation Screening
- Existing Open Woodland to be Maintained
- Gas Pipeline
- Water Pipeline

Source: Sunrise Energy Metals (2021); Clean TeQ (2017, 2018, 2020); Black Range Minerals (2000); NSW Spatial Services (2022)

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Mine and Processing Facility General Arrangement (Initial Construction Activities)

Figure 2

1.2 STRUCTURE OF THIS AIR QUALITY AND GREENHOUSE GAS MANAGEMENT PLAN

The remainder of this AQGGMP is structured as follows:

Section 2: Describes the review and update of this AQGGMP.

Section 3: Outlines the statutory requirements applicable to this AQGGMP.

Section 4: Outlines the existing environment including baseline data and sensitive receptors in the vicinity of the Project.

Section 5: Outlines the relevant criteria applicable to the Project.

Section 6: Details the specific performance indicators SEM proposes to use to guide the implementation of the air quality management measures and judge their performance.

Section 7: Describes potential dust generating activities at the Project.

Section 8: Describes the management and control measures to be implemented, where relevant, at the Project.

Section 9: Outlines the air quality monitoring program components including locations, frequency and parameters.

Section 10: Provides a contingency plan to manage unprecedented impacts and their consequences.

Section 11: Describes the program to review and report on the effectiveness of management measures and improvement of environmental performance.

Section 12: Describes the protocol for management and reporting of incidents, complaints and non-compliances with statutory requirements.

Section 13: Provides references cited in this AQGGMP.

2 AIR QUALITY AND GREENHOUSE GAS MANAGEMENT PLAN REVIEW AND UPDATE

The previous version of this AQGGMP was approved by DPE on 29 August 2019. The AQGGMP has been updated to include minor revisions and to reflect the determination of Modification 7. The AQGGMP was provided to the NSW EPA in May 2022 for the purposes of consultation in accordance with Condition 23, Schedule 3 of Development Consent DA 374-11-00. The EPA provided comments on the 22 June 2022 and these comments have been incorporated in this AQGGMP.

Consistent with the Planning Secretary's approval for the progressive submission of environmental management plans on 5 July 2018, this AQGGMP, the scope of which covers the initial Project construction activities will be re-submitted for approval prior to the commencement of construction of the limestone quarry, rail siding and gas pipeline, as well as prior to the commencement of mining operations.

In accordance with Condition 6, Schedule 5 of Development Consent DA 374-11-00, this AQGGMP will be reviewed, and if necessary revised (to the satisfaction of the Planning Secretary), within three months of the submission of:

- an Annual Review (Condition 5, Schedule 5);
- an incident report (Condition 8, Schedule 5);
- an independent environmental audit (Condition 10, Schedule 5); or
- any modification to the conditions of Development Consent DA 374-11-00 (unless the conditions require otherwise).

The reviews would be undertaken to ensure this AQGGMP is updated on a regular basis and to incorporate any recommended measures to improve the environmental performance of the Project.

Within four weeks of conducting a review of this AQGGMP, the Planning Secretary will be advised of the outcomes of the review and any revised documents submitted to the Planning Secretary for approval.

If agreed with the Planning Secretary, a revision to this AQGGMP required under Development Consent DA 374-11-00 may be prepared without undertaking consultation with all parties nominated under the relevant condition of Development Consent DA 374-11-00.

The revision status of this AQGGMP is indicated on the title page of each copy. The approved AQGGMP will be made publicly available on the SEM website, in accordance with Condition 12, Schedule 5 of Development Consent DA 374-11-00.

3 STATUTORY REQUIREMENTS

SEM's statutory obligations relevant to air quality management are contained in:

- the conditions of Development Consent DA 374-11-00;
- relevant licences and permits, including conditions attached to mining leases; and
- other relevant legislation.

Obligations relevant to this AQGGMP are described below.

3.1 DEVELOPMENT CONSENT

The conditions of Development Consent DA 374-11-00 relevant to the content and structure of this AQGGMP are described below. A comprehensive list of all conditions in Development Consent DA 374-11-00 relevant to air quality is provided in Appendix A.

3.1.1 Air Quality and Greenhouse Gas Management Plan Requirements

Conditions 23 and 24, Schedule 3 of Development Consent DA 374-11-00 requires the preparation and implementation of an AQGGMP (refer Table 1). In accordance with Condition 24 of Development Consent DA 374-11-00, SEM will implement this AQGGMP.

In addition, specific air quality and greenhouse gas requirements in Development Consent DA 374-11-00 are provided in Appendix A.

3.1.2 Management Plan (General) Requirements

Condition 4, Schedule 5 of Development Consent DA 374-11-00 outlines the general management plan requirements that are also applicable to the preparation of this AQGGMP. Table 2 presents these requirements and indicates where each is addressed within this AQGGMP. Other general Development Consent DA 374-11-00 requirements relevant to the preparation of this AQGGMP are provided in Appendix B.

Table 2
Management Plan (General) Requirements

Schedule 5, Development Consent DA 374-11-00	AQGGMP Section
Management Plan Requirements ***4.*** *The Applicant must ensure that the management plans required under this consent are prepared in accordance with any relevant guidelines, are consistent with other plans prepared for other stakeholders, and include:*	
(a) detailed baseline data;	Section 4.1
(b) a description of: • *the relevant statutory requirements (including any relevant approval, licence or lease conditions);*	Section 3
• *any relevant limits or performance measures/criteria;*	Section 5
• *the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures;*	Section 6

Table 2
Management Plan (General) Requirements (Continued)

Schedule 5, Development Consent DA 374-11-00	AQGGMP Section
(c) a description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria;	Section 8
(d) a program to monitor and report on the: • *impacts and environmental performance of the development;* • *effectiveness of any management measures (see c above);*	Sections 9, 11 and 12
(e) a contingency plan to manage any unpredicted impacts and their consequences;	Section 10
(f) a program to investigate and implement ways to improve the environmental performance of the development over time;	Section 11
(g) a protocol for managing and reporting any: • *incidents;* • *complaints;* • *non-compliances with statutory requirements; and* • *exceedances of the impact assessment criteria and/or performance criteria; and*	Section 12.1 Section 12.2 Section 12.3 Sections 8, 10 and 12
(h) a protocol for periodic review of the plan. *Note: The Planning Secretary may waive some of these requirements if they are unnecessary or unwarranted for particular management plans.*	Section 11

3.2 LICENCES, PERMITS AND LEASES

In addition to the requirements of Development Consent DA 374-11-00, all activities at or in association with the Project will be undertaken in accordance with the following licences, permits and leases which have been issued or are pending issue:

- Mining Lease 1770 issued by the NSW Minister for Resources under the NSW *Mining Act 1992*.
- Mining Operations Plan(s) submitted and approved by the Resources Regulator.
- Environment Protection Licence (EPL) 21146 issued under the NSW *Protection of the Environment Operations Act 1997* (POEO Act).
- Water supply works, water use approvals and water access licences (WALs) issued under the NSW *Water Management Act 2000* including:
  - Water Supply Works Approval 70CA614098 for the Project borefield.
  - Water Supply Works Approval 70WA617095 for the surface water extraction infrastructure and water pipeline.
  - WAL 32068 in the Upper Lachlan Alluvial Groundwater Source (Upper Lachlan Alluvial Zone 5 Management Zone) for 3,154 share components under the *Water Sharing Plan for the Lachlan Alluvial Groundwater Sources 2020*.
  - WAL 39837 in the Upper Lachlan Alluvial Groundwater Source (Upper Lachlan Alluvial Zone 5 Management Zone) for 766 share components under the *Water Sharing Plan for the Lachlan Alluvial Groundwater Sources 2020*.

  - WAL 28681 in the Lachlan Fold Belt Murray-Darling Basin (MDB) Groundwater Source (Lachlan Fold Belt MDB [Other] Management Zone), for 243 share components under the *Water Sharing Plan for the NSW Murray Darling Basin Fractured Rock Groundwater Sources 2020*.
  - WAL 6679 for 123 share components (General Security) under the *Water Sharing Plan for the Lachlan Regulated River Water Source 2016*.
  - WAL 1798 in the Lachlan Regulated River Water Source, for 300 share components (General Security) under the *Water Sharing Plan for the Lachlan Regulated River Water Source 2016*.
  - WAL 42370 in the Lachlan Regulated River Water Source, for zero share components (High Security) under the *Water Sharing Plan for the Lachlan Regulated River Water Source 2016*.
- Groundwater licences for monitoring bores under the *Water Management Act 2000*.
- Aboriginal Heritage Impact Permits (AHIPs) (AHIP #C0003049 and AHIP #C0003887) issued under the NSW *National Parks and Wildlife Act 1974*.
- Mining and workplace health and safety related approvals.
- Permits under the *Roads Act 1993*.
- Heavy Vehicle Authorisation Permit 119039v3 issued under the *Heavy Vehicle National Law Act 2012.*
- Crown Land Licences issued under the *Crown Land Management Act 2016*.

3.3 OTHER LEGISLATION

SEM will conduct the Project consistent with the requirements of Development Consent DA 374-11-00 and any other legislation applicable to an approved Part 4 Project under the EP&A Act.

In addition to the statutory obligations described in Sections 3.1 and 3.2, the following NSW Acts (and their Regulations) may be applicable to the conduct of the Project:

- *Aboriginal Land Rights Act 1983;*
- *Biodiversity Conservation Act 2016;*
- *Biosecurity Act 2015;*
- *Crown Land Management Act 2016;*
- *Contaminated Land Management Act 1997;*
- *Dams Safety Act 2015;*
- *Dangerous Goods (Road and Rail Transport) Act 2008;*
- *Energy and Utilities Administration Act 1987;*
- EP&A Act;
- *Fisheries Management Act 1994;*
- *Forestry Act 2012;*
- *Mining Act 1992;*
- *National Parks and Wildlife Act 1974;*
- *Pipelines Act 1967;*

- POEO Act;
- *Rail Safety (Adoption of National Law) Act 2012;*
- *Roads Act 1993;*
- *Water Act 1912;*
- *Water Management Act 2000;*
- *Work Health and Safety Act 2011; and*
- *Work Health and Safety (Mines and Petroleum Sites) Act 2013.*

Other guidelines and standards that were considered during the preparation of this AQGGMP include, but are not limited to, the *Approved Methods for the Sampling and Analysis of Air Pollutants in NSW* (NSW EPA, 2022) and the *Approved Methods for the Modelling and Assessment of Air Pollutants in NSW* (NSW EPA, 2017).

Commonwealth Acts which may also be applicable to the conduct of the Project include:

- *Environment Protection and Biodiversity Conservation Act 1999; and*
- *Native Title Act 1993.*

Relevant licences or approvals required under these Acts will be obtained as required.

4 EXISTING ENVIRONMENT

The Project is located approximately 350 km west-northwest of Sydney, near the village of Fifield, NSW (Figure 1).

The substances considered in this AQGGMP are those identified in Development Consent DA 374-11-00 that have potential to affect the general health and amenity of the community and the surrounding environment. This includes particulate matter, which refers to particles of varying size and composition that are defined as follows:

- Total Suspended Particulate matter (TSP) – refers to the total dust particles that are suspended in the air and nominally defined with an upper size range of 30 micrometres (µm).
- PM_{10} – refers to particulate matter with an aerodynamic diameter less than or equal to 10 µm.
- $PM_{2.5}$ – refers to particulate matter with an aerodynamic diameter less than or equal to 2.5 µm.
- Deposited dust – refers to the largest dust particles in the air. These particles rarely travel far from the source as they rapidly settle under gravity.

Other substances relevant to mining and processing operations, such as oxides of nitrogen, as well as odour, are not considered in this plan.

4.1 BASELINE DATA

4.1.1 Site-specific Monitoring Data

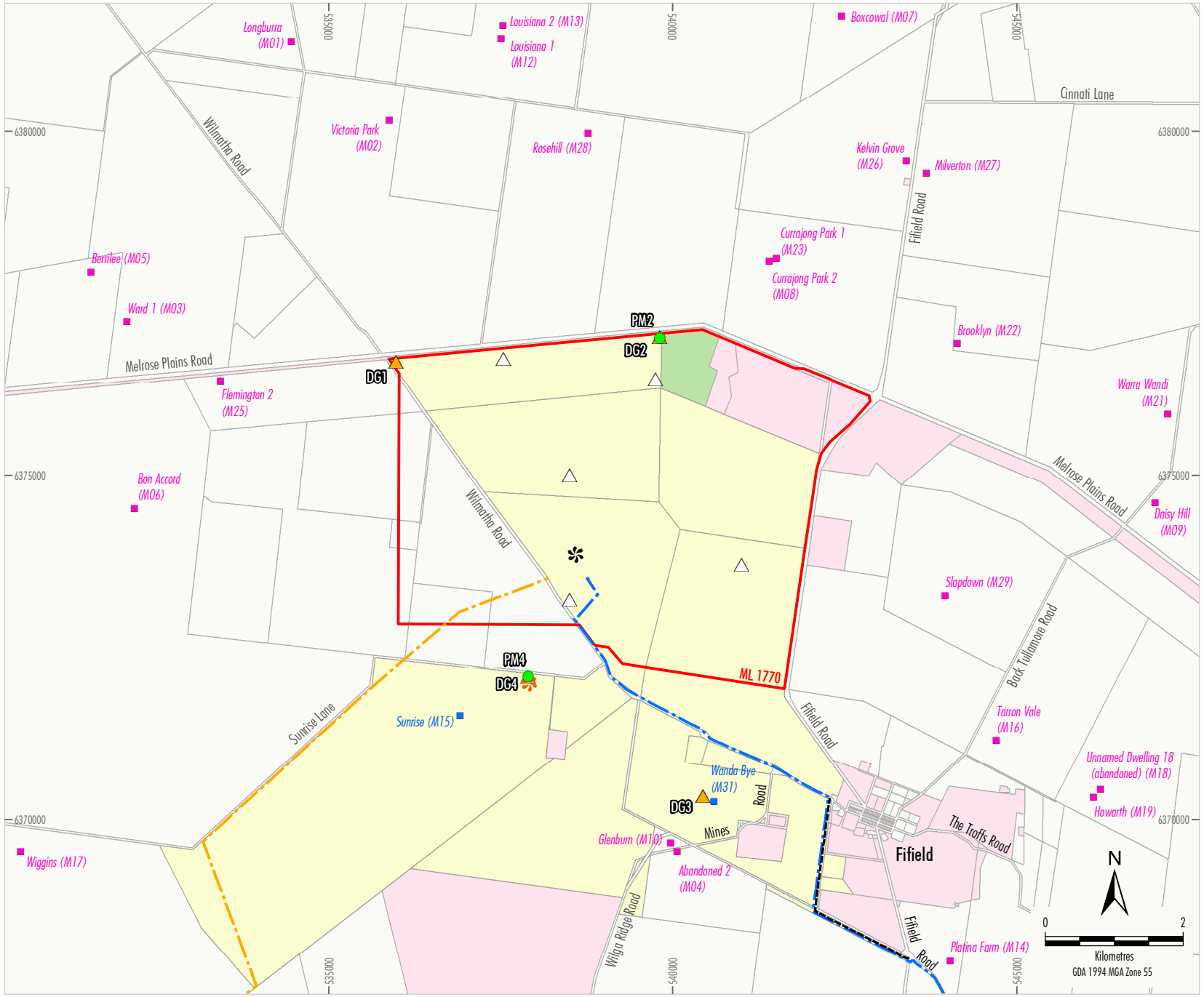
Dust in the vicinity of the Project was monitored by a series of five dust gauges (Figure 3) during the period September 1997 to August 2000 to support the Project's Environmental Impact Statement (EIS). The dust gauges measured deposited dust levels on a monthly basis. The average measured dust deposition across all five monitoring sites was 2.5 grams per square metre per month (g/m²/month).

Monitoring of background dust deposition is undertaken by SEM at four locations (DG1 to DG4) in the vicinity of the mine and processing facility (Figure 3). A summary of the existing dust deposition data is provided in Table 3. Background dust deposition levels were below the relevant dust deposition criteria (4 g/m^2/month) based on all available data (Sunrise Energy Metals, 2022).

Background concentrations of PM_{10} and $PM_{2.5}$ have been monitored by SEM at two locations (PM2 and PM4) in the vicinity of the mine and processing facility (Figure 3) since November 2019.

A summary of the measured background levels is provided in Table 4. The measured background levels were below the relevant PM_{10}, $PM_{2.5}$ and TSP criteria when extraordinary events (e.g. dust storms and regional bushfire activity) were excluded. However, levels were generally higher in 2019 and early 2020 due to drought conditions and associated extraordinary events.

As TSP is not monitored in the vicinity of the Project, it is assumed that average PM_{10} concentrations are 40% of TSP concentrations based on the relationship between measured TSP and PM_{10} levels at collocated monitoring sites (NSW Minerals Council, 2000).



LEGEND

- Mining Lease Boundary (ML)
- Gas Pipeline
- Water Pipeline
- Fifield Bypass
- Sunrise Energy Metals Owned Land
- Crown Land
- Fifield State Forest
- Private Landholder
- Mine-owned Dwelling
- Private Dwelling

EIS Monitoring Sites

- Dust Deposition
- Meteorological Station

Construction Phase Monitoring Sites

- Dust Deposition
- $PM_{2.5}$ and PM_{10}
- Meteorological Station

Source: Sunrise Energy Metals (2022); Clean TeQ (2017, 2018); Black Range Minerals (2000); NSW Spatial Services (2022)

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Air Quality and Meteorological Monitoring Sites

Figure 3

CTL-17-03 MP2022_AQ_201A

Table 3
Measured Annual Average Deposited Dust at the Project (g/m^2/month)

Year	Criterion	DG1	DG2	DG3	DG4	All
2019	4.0	3.4	2.8	2.5	3.0	2.9
2020		3.1	2.6	2.3	3.2	2.8
2021		2.1	1.0	3.7	1.8	2.1
EIS (2000)	-	-	-	-	-	2.5

After: Sunrise Energy Metals (2022).

Table 4
Measured and Estimated Annual Average TSP, PM_{10} and $PM_{2.5}$ at the Project

Year	PM_{10} (µg/m^3)		$PM_{2.5}$ (µg/m^3)		TSP[1] (µg/m^3)	
	PM2	PM4	PM2	PM4	PM2	PM4
2020	10.4	12.9	3.6	4.25	26	32
2021	12.5	11.8	4.2	3.9	31	30
Criterion	25		8		90	

After: Sunrise Energy Metals (2022).

1 Estimated based on PM_{10} being 40% of TSP levels (NSW Minerals Council, 2000).

4.2 METEOROLOGICAL CONDITIONS

An on-site meteorological monitoring station was installed in September 1998 to provide baseline data for the Project EIS and was removed in 1999.

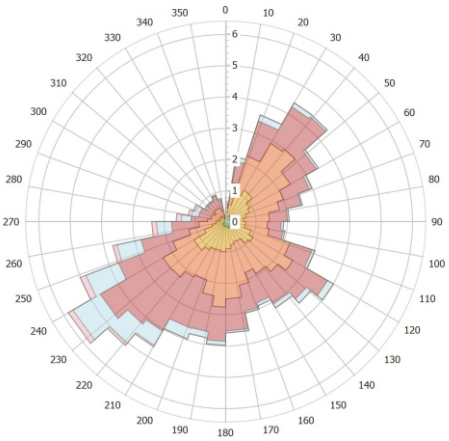
A new Project automatic meteorological station (AWS) was installed in November 2018 (Figure 3). The wind roses generated from the Project AWS, present wind direction and wind speed as a percentage of time for 2019 to 2021 (Figure 4).

Winds are predominantly from the southwest/west and northeast/east with some variations by season and from year-to-year.

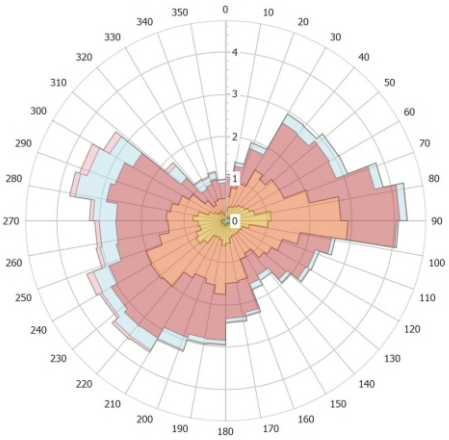
4.3 SENSITIVE RECEPTORS

Relevant receptors that may experience air quality impacts associated with the initial construction activities of the Project are shown on Figure 3.

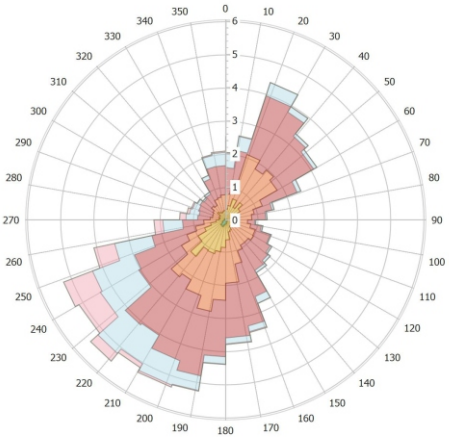
Given the progressive nature of the construction activities associated with the water pipeline, sensitive receivers in the vicinity of the water pipeline alignment would be unlikely to be exposed to significant air quality impacts.



2021



2020



2019

CTL-17-03 MP2022_Blast_001A

Source: Sunrise Energy Metals (2022)

LEGEND
Wind Direction Variable: WD Avg
Dependent Variable: WS Avg

- < 0.5
- < 1.5
- 1.5 - 3.0
- 3.0 - 5.5
- 5.5 - 8.0
- 8.0 - 20.60
- >= 20.60

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Annual Wind Roses 2019 - 2021
(Project Automatic Weather Station)

Figure 4

5 AIR QUALITY CRITERIA

5.1 DEVELOPMENT CONSENT DA 374-11-00

5.1.1 Air Quality Criteria

Condition 21, Schedule 3 of Development Consent DA 374-11-00 requires that SEM shall ensure that all reasonable and feasible avoidance and mitigation measures are employed so that particulate matter emissions generated by the development do not cause exceedances of the criteria listed in Tables 5, 6 and 7 at any residence on privately-owned land.

Table 5
Long-term Impact Assessment Criteria for Particulate Matter

Pollutant	Averaging Period	[d] Criterion
TSP matter	Annual	[a] 90 µg/m³
Particulate matter <10 µm (PM_{10})	Annual	[a] 25 µg/m³
Particulate matter <2.5 µm ($PM_{2.5}$)	Annual	[a] 8 µg/m³

Source: Development Consent DA 374-11-00.

Table 6
Short-term Impact Assessment Criteria for Particulate Matter

Pollutant	Averaging Period	[d] Criterion
Particulate matter <10 µm (PM_{10})	24 hour	[a] 50 µg/m³
Particulate matter <2.5 µm ($PM_{2.5}$)	24 hour	[a] 25 µg/m³

Source: Development Consent DA 374-11-00.

Table 7
Long-term Impact Assessment Criteria for Deposited Dust

Pollutant	Averaging Period	Maximum Increase in Deposited Dust Level	Maximum Total Deposited Dust Level
[c] Deposited dust	Annual	[b] 2 g/m²/month	[a] 4 g/m²/month

Source: Development Consent DA 374-11-00.

Notes to Tables 5 to 7:

µg/m³ = micrograms per cubic metre; g/m²/month = grams per square metre per month.

[a] Total impact (i.e. incremental increase in concentrations due to the development plus background concentrations due to all other sources).

[b] Incremental impact (i.e. incremental increase in concentrations due to the development on its own).

[c] Deposited dust is to be assessed as insoluble solids as defined by Standards Australia, AS/NZS3580.10.1:2003: Methods for Sampling and Analysis of Ambient Air – Determination of Particulate Matter – Deposited Matter – Gravimetric Method.

[d] Excludes extraordinary events such as bushfires, prescribed burning, dust storms, sea fog, fire incidents or any other activity agreed by the Planning Secretary.

5.1.2 Operating Conditions

Condition 22, Schedule 3 of Development Consent DA 374-11-00 requires that SEM:

(a) minimise:

- *dust emissions from the development;*
- *the surface disturbance of the development, including implementing interim rehabilitation strategies to stabilise areas prone to dust generation that cannot be permanently rehabilitated; and*
- *the greenhouse gas emissions of the development;*

(b) carry out any monitoring required by the EPA, and publish the results of this monitoring on its website.

5.2 ENVIRONMENT PROTECTION LICENCE 21146

There are no specific air quality criteria included in EPL 21146. Condition O3 of EPL 21146 includes conditions relating to the management of dust, which are consistent with the operating conditions required by Condition 22, Schedule 3 of Development Consent DA 374-11-00. The air monitoring requirements required by Condition M2.2 of EPL 21146 are consistent with the air quality monitoring program described in Section 9 of this AQGGMP.

6 PERFORMANCE INDICATORS

The following air quality related key performance indicators will be used to judge the performance of the Project:

- results of monitoring are compliant with the air quality criteria in Section 5; and
- complaints are minimised and appropriate management actions are implemented following receipt of a complaint (Section 12.2).

Section 10 details the Contingency Plan to be implemented to manage any unpredicted impacts. Sections 11 and 12 detail the reporting that will be undertaken by SEM.

7 DUST GENERATING SOURCES

7.1 INITIAL CONSTRUCTION ACTIVITIES

Typically, dust generation associated with initial construction activities of the Project would be due to:

- traffic on unsealed roads, or across unsealed surfaces;
- loading and unloading of materials;
- re-handling of materials;
- clearing of vegetation and topsoil stripping;
- wind erosion from exposed areas;
- dozers operating on material;
- stockpiling materials, including topsoil and gravels;
- grading roads; and
- developing trenches for the water pipeline.

Relative to mining operations, the scale of emissions generating during initial construction activities will be small and there is low risk for any actual impact to occur at sensitive receptors.

8 AIR QUALITY MANAGEMENT AND CONTROL MEASURES

SEM will minimise dust emissions, surface disturbance and greenhouse gas emissions of the development in accordance with Condition 22, Schedule 3 of Development Consent DA 374-11-00.

The effectiveness of air quality and greenhouse gas management and control measures at the Project will be assessed and continually improved through monitoring (Section 9).

8.1 DUST MANAGEMENT AND CONTROL MEASURES

The primary measures that will be implemented to control/minimise dust emissions from the initial construction activities of the Project, including construction of the accommodation camp and water infrastructure, are summarised in Table 8.

Management and control measures may not be limited to those listed in Table 8. For example, if elevated dust levels are recorded, or excessive visible dust emissions from site are observed (e.g. due to high winds), operations on site would be assessed and modified, if required, to minimise dust emissions. Modifications to site operations will include the application of additional dust control measures such as increased watering to minimise the potential for off-site dust impacts.

Table 8
Dust Management and Control Measures

Target	Management and Control Measure
General	• Site inductions will include air quality requirements to ensure employee and contractor awareness of potential dust impacts, especially with respect to the nearest sensitive receptors.
Disturbed Areas	• Only the minimum area necessary for construction activities will be disturbed. • Cleared areas will be watered, as required. • Where any exposed areas, stockpiles, etc. are predicted to be inactive for one month or more, a cover crop will be established, where required. • Where surface development areas are not required for ongoing operational activities, interim rehabilitation will be completed where necessary to minimise the area exposed for dust generation.
Material Stockpiling and Handling	• Long-term stockpiles will be revegetated as soon as practicable following completion. • Water carts will be used on stockpile areas to minimise dust generation as necessary. • Material handling and stripping/ripping will be avoided or postponed if excessive dust lift-off occurs. Material with low moisture content will be sprayed with water prior to and/or during handling if necessary to control visible dust. • The drop height will be minimised when loading or unloading material as far as practicable. • Spillage from loading/unloading will be minimised and cleaned up as soon as practicable.
Roads	• Roads will be constructed in a proper manner and consideration will be given to constructing all major haul roads using material with low silt/fines content. • Speed limits will be imposed on all roads. • Water carts will be utilised as necessary to minimise excessive visible dust. • Road vehicles will remain on formed roads and tracks where practicable.

8.2 GREENHOUSE GAS EMISSIONS

The primary source of greenhouse gas emissions at the Project is the release of carbon dioxide (CO_2) and methane (CH_4) during the combustion of diesel fuel.

Greenhouse gas emissions at the Project will be minimised through the efficient use of diesel fuel by the mobile fleet:

- minimising the re-handling of material;
- optimising diesel consumption through logistics analysis and planning (e.g. review of the mine plan to optimise haul lengths, dump locations, reduction of engine idle times and minimising the road gradients);
- maintaining the mobile fleet in good operating order, including training staff on continuous improvement strategies regarding efficient use of plant and equipment.

Greenhouse gas emissions from the Project will be tracked and reported each year in the Annual Review, prepared in accordance with Condition 5, Schedule 5 of Development Consent DA 374-11-00, and through the National Greenhouse and Energy Reporting Scheme, if the relevant reporting thresholds are met.

9 AIR QUALITY MONITORING PROGRAM

To assess compliance with the relevant criteria that supports proactive and reactive air quality management strategies, air quality monitoring (including real-time monitoring) will be conducted at various locations that are considered representative of sensitive receivers in the areas that may be potentially influenced by initial construction activities.

The Project air quality and meteorological monitoring system is summarised in Table 9 and Figure 3.

Table 9
Project Air Quality and Meteorological Monitoring System

Site ID	EPA ID	Location			Frequency	Parameter
		General Description	Easting	Northing		
Air Quality Monitoring						
DG1	1	North-west corner of the mine, west of the northern waste rock emplacement	535976	6376652	Monthly	Dust deposition
DG2	2	Northern boundary of the mine, east of the northern waste rock emplacement	539810	6377009		
DG3	3	Adjacent the Wanda Bye homestead	540439	6370343		
DG4	4	Adjacent the accommodation camp	537902	6372074		
PM2	2	Northern boundary of the mine, east of the northern waste rock emplacement	539812	6376987	Continuous	PM_{10} and $PM_{2.5}$
PM4	4	Adjacent the accommodation camp	537902	6372074		
Meteorological Monitoring						
MET	AWS	Automatic weather station	537917	6371976	Continuous	Meteorological data

9.1 AIR QUALITY MONITORING METHODS

9.1.1 Dust Deposition

Monthly dust deposition monitoring has commenced at four dust deposition gauges around the Project (Figure 3 and Table 9). Deposited dust will be assessed as insoluble solids as defined by Standards Australia AS/NZS 3580.10.1:2016: *Methods for sampling and analysis of ambient air – Determination of particulate matter – Deposited matter – Gravimetric Method*.

9.1.2 PM_{10} and $PM_{2.5}$

Real-time air quality monitoring will be undertaken by continuously monitoring PM_{10} and $PM_{2.5}$ at two locations in the vicinity of the Project and will be in place prior to the commencement of construction activities on Mining Lease 1770, in accordance with Condition M2.2 of EPL 21146. (Figure 3 and Table 9). Monitoring of PM_{10} and $PM_{2.5}$ will be conducted using Teledyne API T640x monitors (the T640x monitor). SEM has consulted with the EPA regarding the use of the T640x monitors and the EPA indicated on 5 August 2019 that it "considers the Teledyne API T640x technology as appropriate for monitoring ambient fine particles (PM_{10} and $PM_{2.5}$) in NSW".

9.2 DATA VALIDATION AND COMPLIANCE ASSESSMENT

Where monitoring indicates elevated readings above the prescribed criteria (Section 5.1.1), SEM will initiate an assessment of the data to determine the validity of the elevated reading and whether an exceedance has occurred.

Data validation will be assessed according to the following escalating review and assessment process and will include consideration of prevailing meteorological conditions at the time, where relevant (note Level 2 and 3 validation assessment will be applied as necessary).

- Level 1: First pass data review and evaluation. For example, comparison to trends over a year or similar simple and effective means to identify potentially erroneous or outlier data. At this stage, it is also necessary to establish if an elevated reading has been influenced by one of the following factors:
  - Extreme events, such as:
    - dust storms;
    - bushfires;
    - prescribed burning;
    - fire incidents;
    - illegal activities; or
    - other activities agreed by the Planning Secretary.
  - Irregular activities near monitoring sites, such as:
    - contamination from bird droppings, insects, etc.;
    - adjacent land use activities; and
    - exposed areas of soil around the monitoring site.
  - Reasonableness of data (e.g. is the equipment operating properly, providing reliable data and calibrated correctly?).
- Level 2: Where data is assessed to be potentially invalid, an analysis of the available data (e.g. field records, laboratory notes, calibrations, etc.) will be undertaken, which may include site inspection of the monitoring equipment.
- Level 3: Where anomalous or potentially invalid data is found and the issue is significant (e.g. may indicate an exceedance or equipment fault) and a Level 1 and 2 evaluation cannot determine the cause, engage a professional air quality expert to examine the issue.

In the event that an exceedance of an air quality criterion is considered to have occurred, SEM will implement the Contingency Plan (Section 10).

9.3 AIR QUALITY MONITORING DATA REPORTING

SEM will provide the following regular reporting of air quality monitoring data collected in accordance with the AQGGMP (including the results of the real-time monitoring) on its website:

- publishing of monitoring data in accordance with Section 66(6) of the POEO Act, as required by EPL 21146; and
- review of monitoring results within the Annual Review (Section 11.1).

SEM considers that reporting of this air quality monitoring data will be useful to provide on the SEM website.

No real-time reporting of air quality monitoring results on the SEM website is proposed, given the Air Quality Assessment (Jacobs, 2021) for the Project predicted there would be no exceedances at private receivers in the vicinity of the Project and is not considered to be justified.

10 CONTINGENCY PLAN

In the event that an exceedance of an air quality criterion is considered to have occurred, as per the compliance protocol in Section 9.2, SEM will implement the following Contingency Plan:

- SEM will report the incident in accordance with Section 12.1.
- SEM will apply adaptive management (Section 10.1).
- SEM will identify the appropriate course of action with respect to the identified impact(s), in consultation with technical specialists, the DPE and any other relevant agencies, as necessary. For example, contingency measures, such as, but not limited to, those described in Section 10.2.
- SEM will, in the event there is a dispute over the proposed remedial course of action or if the actions conflict with current approvals, submit a report describing the proposed course of action to the DPE for approval.
- SEM will implement the appropriate course of action to the satisfaction of the DPE.

10.1 ADAPTIVE MANAGEMENT

In accordance with Condition 3, Schedule 5 of Development Consent DA 374-11-00, SEM will assess and manage risks to comply with the criteria and/or performance measures outlined in Schedule 3 of Development Consent DA 374-11-00.

Where any exceedance of these criteria and/or performance measures occurs, at the earliest opportunity, SEM will:

- take all reasonable and feasible measures to ensure that the exceedance ceases and does not recur;
- consider all reasonable and feasible options for remediation and submit a report to the DPE describing these options and preferred remediation measures; and
- implement remediation measures as directed by the Planning Secretary.

10.2 POTENTIAL CONTINGENCY MEASURES

Potential contingency measures will be reviewed during revisions of this AQGGMP. Key potential contingency measures to be implemented (following completion of the compliance assessment protocol as described in Section 9.2) may include the following:

- SEM will notify (in writing) the affected landowners and tenants of the exceedance at the earliest opportunity and provide them with regular air quality monitoring results, until the results show that the Project is complying with the air quality criteria.
- SEM will, on request, implement reasonable and feasible at-receiver controls, in accordance with Condition 3, Schedule 5 of Development Consent DA 374-11-00, where a breach of the relevant criteria has occurred.
- SEM will investigate and implement further air quality controls, if monitoring results indicate this is required.

SEM will also implement any preferred contingency measures identified to address an incident (Section 12.1).

11 REVIEW AND IMPROVEMENT OF ENVIRONMENTAL PERFORMANCE

11.1 ANNUAL REVIEW

In accordance with Condition 5, Schedule 5 of Development Consent DA 374-11-00, SEM will review the environmental performance of the Project by the end of March each year (for the previous calendar year) to the satisfaction of the Planning Secretary.

In relation to air quality management, the Annual Review will (where relevant):

- describe the development (including any rehabilitation) that was carried out in the past calendar year, and the development that is proposed to be carried out over the current calendar year;
- include a comprehensive review of the monitoring results and complaints records of the development over the past year, which includes a comparison of these results against the:
    - relevant statutory requirements, limits or performance measures/criteria;
    - monitoring results of previous years; and
    - relevant predictions in the EIS;
- identify any non-compliance over the last year, and describe what actions were (or are being) taken to ensure compliance;
- identify any trends in the monitoring data over the life of the development;
- identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and
- describe what measures will be implemented over the next year to improve the environmental performance of the development.

Based on consideration of the above points, the Annual Review will determine the effectiveness of relevant management measures implemented at the Project.

The Annual Review will be made publicly available on the SEM website.

11.2 INDEPENDENT ENVIRONMENTAL AUDIT

In accordance with Condition 10, Schedule 5 of Development Consent DA 374-11-00, an independent environmental audit of the Project will be conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Planning Secretary. The audit will be prepared in accordance with the relevant *Independent Audit Post Approval Requirements* (DPE, 2020) (or its latest version) and include consultation with the relevant agencies (DPE, NSW EPA).

The independent environmental audit will assess the environmental performance of the Project and assess whether the Project is complying with the requirements of Development Consent DA 374-11-00. In addition, the independent environmental audit will assess the adequacy of this AQGGMP and, if necessary, appropriate measures or actions to improve the environmental performance of the Project or this AQGGMP will be recommended.

An independent environmental audit will be conducted within one year of the commencement of the development under this consent, after 6 May 2017, and every 3 years thereafter, unless the Planning Secretary directs otherwise.

In accordance with Condition 11, Schedule 5 of Development Consent DA 374-11-00, within 3 months of commissioning the independent environmental audit, or as otherwise agreed by the Planning Secretary, SEM will submit a copy of the independent environmental audit report to the Planning Secretary, together with its response to any recommendations contained in the independent environmental audit report.

The independent environmental audit, and SEM's response to the recommendations in the audit, will be made publicly available on the SEM website, in accordance with Condition 12, Schedule 5 of Development Consent DA 374-11-00.

12 REPORTING PROTOCOL

In accordance with Condition 4(g), Schedule 5 of Development Consent DA 374-11-00, SEM has developed protocols for managing and reporting the following:

- incidents;
- complaints;
- non-compliances with statutory requirements; and
- exceedances of the impact assessment criteria and/or performance criteria.

These protocols are described in detail in SEM's Environmental Management Strategy.

In accordance with Condition 9, Schedule 5 of Development Consent DA 374-11-00, SEM will provide regular reporting on the environmental performance of the Project on the SEM website.

12.1 INCIDENT REPORTING

An incident (as defined in Development Consent DA 374-11-00) is a set of circumstances that causes or threatens to cause material harm to the environment and/or breaches or exceeds the limits or performance measures/criteria in Development Consent DA 374-11-00.

In the event that review of air quality monitoring data indicates an incident has occurred, the incident will be reported in accordance with Condition 8, Schedule 5 of Development Consent DA 374-11-00. The Planning Secretary will be notified in writing via the Major Projects Portal immediately after SEM becomes aware of an incident. The notification will identify the Project name and development application number, and set out the location and nature of the incident.

Subsequent notification will be given and reports submitted in accordance with the requirements set out in Appendix 6 of Development Consent DA 374-11-00. A written incident notification addressing the requirements set out below will be submitted to the Planning Secretary via the Major Projects Portal within seven days after SEM becomes aware of an incident. Written notification of an incident will:

- identify the development and application number;
- provide details of the incident (date, time, location, a brief description of what occurred and why it is classified as an incident);
- identify how the incident was detected;
- identify when SEM became aware of the incident;
- identify any actual or potential non-compliance with conditions of consent;
- describe what immediate steps were taken in relation to the incident;
- identify further action(s) that will be taken in relation to the incident; and
- identify a project contact for further communication regarding the incident.

Within 30 days of the date on which the incident occurred or as otherwise agreed to by the Planning Secretary, SEM will provide the Planning Secretary, relevant councils, and any other relevant public authorities (as determined by the Planning Secretary) with a detailed report on the incident addressing all requirements below, and such further reports as may be requested by the Planning Secretary.

- a summary of the incident;
- outcomes of an incident investigation, including identification of the cause of the incident;
- details of the corrective and preventative actions that have been, or will be, implemented to address the incident and prevent recurrence; and
- details of any communication with other stakeholders regarding the incident.

12.2 COMPLAINTS

SEM will maintain a Community Complaints Line (tel: 1800 952 277) and email address (community@sunriseem.com) for the sole purpose of receiving community contacts and complaints. The Community Complaints Line number will be available on the website and included in SEM's advertising and community communication tools. The Community Complaints line will be staffed 24 hours a day, seven days a week during construction and operations. SEM will respond to callers on the next business day. If the issue is urgent a member of the leadership team will be contacted immediately.

SEM has developed a procedure that outlines its commitment to receiving, resolving and recording complaints received from the community. Detailed records of each complaint resolution are kept in SEM's record management systems.

Complaints will be investigated within 24 hours of receipt. The cause of the complaint will be analysed and actions to resolve the complaint taken as soon as possible. In complex cases where resolution will take more than 48 hours, SEM will commit to update the community member regularly until the complaint is resolved.

In accordance with Condition 12(a), Schedule 5 of Development Consent DA 374-11-00, a complaints register will be made available on the SEM website and updated monthly.

12.3 NON-COMPLIANCE WITH STATUTORY REQUIREMENTS

A protocol for managing and reporting non-compliances with statutory requirements has been developed as a component of SEM's Environmental Management Strategy and is described below.

Compliance with all approvals plans and procedures is the responsibility of all personnel (staff and contractors) employed on or in association with SEM and the Project.

SEM will undertake regular inspections, internal audits and initiate directions identifying any remediation/rectification work required, and areas of actual or potential non-compliance.

As described in Section 12.1, SEM will report incidents in accordance with Condition 8, Schedule 5 of Development Consent DA 374-11-00

A review of the Project compliance with all conditions in Development Consent DA 374-11-00 and Mining Lease 1770 will be undertaken prior to (and included within) each Annual Review (Section 11.1).

Additionally, in accordance with Condition 10, Schedule 5 of Development Consent DA 374-11-00, an independent environmental audit (Section 11.2) will be conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Planning Secretary to assess whether SEM is complying with the requirements in Development Consent DA 374-11-00.

12.4 EXCEEDANCES OF IMPACT ASSESSMENT CRITERIA AND/OR PERFORMANCE CRITERIA

A protocol for managing and reporting exceedances of impact assessment criteria and/or performance criteria is provided is Section 10.

12.5 ACCESS TO INFORMATION

In accordance with Condition 12, Schedule 5 Development Consent DA 374-11-00, SEM will make the following information publicly available on its website as relevant to the stage of the development:

- the EIS (as specified in the Definitions section of Development Consent DA 374-11-00);
- current statutory approvals for the development;
- approved strategies, plans or programs required under the conditions of the consent;
- a comprehensive summary of the monitoring results of the development, which have been reported in accordance with the various plans and programs approved under the conditions of the consent;
- a complaints register, which is to be updated on a monthly basis;
- any independent environmental audit, and SEM's response to the recommendations in any audit;
- any other matter required by the Planning Secretary; and
- keep this information up to date, to the satisfaction of the Planning Secretary.

12.6 NOTIFICATION OF ENVIRONMENTAL HARM

In accordance with Condition R2 of EPL 21146, SEM will notify the EPA by telephoning the Environment Line (131 555) immediately after it becomes aware of an incident causing or threatening material harm to the environment.

Furthermore, SEM will provide written details of the notification to the EPA within seven days of the date the incident occurred in accordance with Condition R2.2 of EPL 21146.

13 REFERENCES

Department of Environment and Conservation (2007) *Approved Methods for the Sampling and Analysis of Air Pollutants in NSW.*

Environment Protection Authority (2022) *Approved Methods for the Modelling and Assessment of Air Pollution in NSW.*

ENVIRON Australia Pty Limited (2015) *Air Quality and Greenhouse Gas Assessment for the Proposed Cobbora Coal Project.*

Jacobs (2021) Sunrise Project – *Project Execution Plan Modification.*

NSW Minerals Council (2000) *Particular Matter Emissions from Mining*.

Pacific Environment Limited (2015) *Bylong Coal Project Air Quality and Greenhouse Gas Impact Assessment.*

Ramboll Environ (2017) *Syerston Project Modification 4 Air Quality Assessment.*

Sunrise Energy Metals (2022) *Sunrise Project Annual Review 2021.*

APPENDIX A

AIR QUALITY RELATED DEVELOPMENT CONSENT DA 374-11-00 CONDITIONS

Table A1
Air Quality Related Development Consent DA 374-11-00

<table>
<tr><th>Development Consent DA 374-11-00</th><th>AQGGMP Section</th></tr>
<tr><td>Schedule 3</td><td></td></tr>
<tr><td>AIR QUALITY
Odour
18. The Applicant must ensure that no offensive odours are emitted from the development, as defined under the POEO Act.</td><td>Section 4</td></tr>
<tr><td>Air Quality – Mine
19. The Applicant must ensure that gaseous emissions from the development at the mine comply with the requirements of any EPL or the relevant requirements of the Protection of the Environment Operations (Clean Air) Regulation 2021 and the Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (2016) (or its latest version).</td><td>To be included in future versions of the AQGGMP prior to commencement of operations.</td></tr>
<tr><td>20. On submission of an application for an Environment Protection Licence, the Applicant must provide an air quality impact assessment to ensure the impacts of the proposal are appropriately assessed and demonstrate compliance with the relevant requirements of the Protection of the Environment Operations (Clean Air) Regulation 2021.</td><td>The EPA considered the Modification 4 Air Quality and Greenhouse Gas Assessment during the preparation of EPL 21146.</td></tr>
<tr><td>Air Quality Criteria - Development
21. The Applicant must ensure that all reasonable and feasible avoidance and mitigation measures are employed so that particulate matter emissions generated by the development do not cause exceedances of the criteria listed in Tables 6, 7 and 8 at any residence on privately owned land.

Table 6: Long term impact assessment criteria for particulate matter
<table>
<tr><th>Pollutant</th><th>Averaging Period</th><th>d Criterion</th></tr>
<tr><td>TSP Matter</td><td>Annual</td><td>a 90 µg/m³^a</td></tr>
<tr><td>Particulate matter < 10 µm (PM10)</td><td>Annual</td><td>a 25 µg/m³^a</td></tr>
<tr><td>Particulate matter < 2.5 µm (PM2.5)</td><td>Annual</td><td>a 8 µg/m³^a</td></tr>
</table>
Table 7: Short term impact assessment criterion for particulate matter
<table>
<tr><th>Pollutant</th><th>Averaging Period</th><th>d Criterion</th></tr>
<tr><td>Particulate matter < 10 µm (PM10)</td><td>24 hour</td><td>a 50 µg/m³</td></tr>
<tr><td>Particulate matter < 2.5 µm (PM2.5)</td><td>24 hour</td><td>a 25 µg/m³</td></tr>
</table>
Table 8: Long term impact assessment criteria for deposited dust
<table>
<tr><th>Pollutant</th><th>Averaging period</th><th>Maximum increase in deposited dust level</th><th>Maximum total deposited dust level</th></tr>
<tr><td>c Deposited Dust</td><td>Annual</td><td>b 2 g/m²/month</td><td>a 4 g/m²/month</td></tr>
</table>
Notes to Tables 6-8:
a. Total impact (i.e. incremental increase in concentrations due to the development plus background concentrations due to all other sources).
b. Incremental impact (i.e. incremental increase in concentrations due to the development on its own).</td><td>Sections 5 and 8</td></tr>
</table>

Table A1 (Continued)
Air Quality Related Development Consent DA 374-11-00 Conditions

Development Consent DA 374-11-00	AQGGMP Section
c) *Deposited dust is to be assessed as insoluble solids as defined by Standards Australia, AS/NZS 3580.10.1:2003: Methods for Sampling and Analysis of Ambient Air - Determination of Particulate Matter - Deposited Matter - Gravimetric Method.* d) *Excludes extraordinary events such as bushfires, prescribed burning, dust storms, sea fog, fire incidents or any other activity agreed by the Planning Secretary.*	
Operating Conditions 22. *The Applicant must:* • *minimise:* • *dust emissions from the development;* • *the surface disturbance of the development, including implementing interim rehabilitation strategies to stabilise areas prone to dust generation that cannot be permanently rehabilitated;* • *the greenhouse gas emissions of the development;* • *carry out any monitoring required by the EPA, and publish the results of this monitoring on its website.*	Section 8 Sections 9, 11 and 12
Air Quality and Greenhouse Gas Management Plan 23. *Prior to carrying out any development under this consent after 6 May 2017, unless otherwise agreed by the Planning Secretary, the Applicant must prepare an Air Quality and Greenhouse Gas Management Plan for the development to the satisfaction of the Planning Secretary. This plan must:*	
(a) *be prepared in consultation with the EPA;*	Section 2
(b) *outline the procedure for notifying property owners and occupiers likely to be affected by dust from the operations;*	Section 10.2
(c) *describe the measures that would be implemented to ensure compliance with the relevant air quality criteria and operating conditions of this consent;*	Section 8
(c1) *describe the measures that would be implemented to minimise the release of greenhouse gas emissions from the development;*	Section 8
(c2) *include interim rehabilitation where necessary to minimise the area exposed for dust generation;*	Section 8
(d) *include an air quality monitoring program that:*	
• *includes real-time monitoring;*	Section 9
• *supports proactive and reactive air quality management strategies;*	Sections 8.1 and 9
• *includes monitoring of the sulphuric acid plant stack emissions, including continuous monitoring of in-stack pollutant concentrations;*	To be included in future versions of the AQGGMP prior to commencing operations.
• *includes key performance indicators;*	Section 6
• *evaluates and reports on:* – *baseline monitoring;* – *compliance against the air quality operating conditions;* – *compliance against the air quality criteria in this consent;* – *the effectiveness of the air quality management system; and*	 Section 4.1 Section 11 Section 9 Section 11
• *considers what real-time and/or regular reporting on air quality monitoring data would be useful to provide regularly on the Applicant's website;*	Sections 9, 11 and 12

Table A1 (Continued)
Air Quality Related Development Consent DA 374-11-00 Conditions

Development Consent DA 374-11-00	AQGGMP Section
(e) defines what constitutes an air quality incident, and includes a protocol for identifying and notifying the Department and relevant stakeholders of any air quality incidents.	Section 12.1
24. The Applicant must implement the approved Air Quality and Greenhouse Gas Management Plan for the development.	Section 3.1.1
Air Quality Verification *24A. The Applicant must provide an Air Quality Verification Report to the satisfaction of the EPA, that confirms all sulphuric acid plant and power generation facility stack emission discharges including from diesel generators will comply with the relevant requirements of the Protection of the Environment Operations (Clean Air) Regulation 2021 and best practice emissions concentrations.*	An Air Quality Verification Report will be provided upon construction of the processing facility.
Meteorological Monitoring *25. Prior to carrying out any development under this consent after 6 May 2017, the Applicant must ensure that there is a suitable meteorological station operating in the vicinity of the mine site that complies with the requirements in the Approved Methods for Sampling of Air Pollutants in New South Wales guideline. Once established, this meteorological station must operate for the remainder of the life of the development.*	Section 4.2

APPENDIX B

GENERAL DEVELOPMENT CONSENT DA 374-11-00 CONDITIONS

Table B1
General Development Consent DA 374-11-00 Conditions

Development Consent DA 374-11-00 Schedule 5	AQGGMP Section
Adaptive Management 3. *The Applicant must assess and manage development-related risks to ensure that there are no exceedances of the criteria and/or performance measures in Schedule 3. Any exceedance of these criteria and/or performance measures constitutes a breach of this consent and may be subject to penalty or offence provisions under the EP&A Act or EP&A Regulation.* *Where any exceedance of these criteria and/or performance measures has occurred, the Applicant must, at the earliest opportunity:* *a) take all reasonable and feasible steps to ensure that the exceedance ceases and does not recur;* *b) consider all reasonable and feasible options for remediation (where relevant) and submit a report to the Department describing those options and any preferred remediation measures or other course of action; and* *c) implement remediation measures as directed by the Planning Secretary to the satisfaction of the Planning Secretary.*	Section 10.1
Management Plan Requirements 4. *The Applicant must ensure that the management plans required under this consent are prepared in accordance with any relevant guidelines, are consistent with other plans prepared for other stakeholders, and include:* *a) detailed baseline data;* *b) a description of:* • *the relevant statutory requirements (including any relevant approval, licence or lease conditions);* • *any relevant limits or performance measures/criteria;* • *the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures;* *c) a description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria;* *d) a program to monitor and report on the:* • *impacts and environmental performance of the development;* • *effectiveness of any management measures (see c above);* *e) a contingency plan to manage any unpredicted impacts and their consequences;* *f) a program to investigate and implement ways to improve the environmental performance of the development over time;*	Section 4 Section 3 Section 5 Section 6 Section 8 Sections 9, 10, 11 and 12 Section 10 Section 11

Table B1 (Continued)
General Development Consent DA 374-11-00 Conditions

Development Consent DA 374-11-00 Schedule 5	AQGGMP Section
g) a protocol for managing and reporting any: • *incidents;* • *complaints;* • *non-compliances with statutory requirements; and* • *exceedances of the impact assessment criteria and/or performance criteria; and* *h) a protocol for periodic review of the plan.* *Note: The Planning Secretary may waive some of these requirements if they are unnecessary or unwarranted for particular management plans.*	Section 12.1 Section 12.2 Section 12.3 Sections 10 and 11 Section 2
Annual Review *5. By the end of March each year, the Applicant must review the environmental performance of the development for the previous calendar year to the satisfaction of the Planning Secretary. This review must:* *a) describe the development (including any rehabilitation) that was carried out in the past calendar year, and the development that is proposed to be carried out over the current calendar year;* *b) include a comprehensive review of the monitoring results and complaints records of the development over the past year, which includes a comparison of these results against the:* • *relevant statutory requirements, limits or performance measures/criteria;* • *monitoring results of previous years; and* • *relevant predictions in the EIS;* *c) identify any non-compliance over the last year, and describe what actions were (or are being) taken to ensure compliance;* *d) identify any trends in the monitoring data over the life of the development;* *e) identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and* *f) describe what measures will be implemented over the next year to improve the environmental performance of the development.*	Section 11.1
Revision of Strategies, Plans and Programs *6. Within 3 months of the submission of:* *a) annual review under condition 5 above;* *b) incident report under condition 8 below;* *c) audit under condition 10 below; or* *d) any modification to the conditions of this consent (unless the conditions require otherwise), the Applicant must review and, if necessary, revise the strategies, plans, and programs required under this consent to the satisfaction of the Planning Secretary.*	Section 2

Table B1 (Continued)
General Development Consent DA 374-11-00 Conditions

Development Consent DA 374-11-00 Schedule 5	AQGGMP Section
Where this review leads to revisions in any such document, then within 4 weeks of the review the revised document must be submitted to the Planning Secretary for approval. *Note: This is to ensure the strategies, plans and programs are updated on a regular basis, and incorporate any recommended measures to improve the environmental performance of the development.*	Section 2
Community Consultative Committee *7. The Applicant must establish and operate a CCC for the development to the satisfaction of the Planning Secretary, in accordance with the Community Consultative Committee Guidelines for State Significant Project (2016), or its latest version. The Applicant must ensure at least one CCC meeting is held prior to any development at the mine, unless the Planning Secretary agrees otherwise.* *Notes:* • *The CCC is an advisory committee. The Department and other relevant agencies are responsible for ensuring that the Applicant complies with this consent.* • *In accordance with the guideline, the Committee should be comprised of an independent chair and appropriate representation from the Applicant, Councils, and the local community.*	Refer to EMS
REPORTING ***Incident Reporting*** *8. The Planning Secretary must be notified in writing via the Major Projects website immediately after the Applicant becomes aware of an incident. The notification must identify the development (including the development application number and the name of the development) and set out the location and nature of the incident. Subsequent notification must be given and reports submitted in accordance with the requirements set out in Appendix 6.*	Section 12.1
Regular Reporting *9. The Applicant must provide regular reporting on the environmental performance of the development on its website, in accordance with the reporting arrangements in any plans or programs approved under the conditions of this consent.*	Sections 11.1 and 12.1
AUDITING *10. Within 1 year of the commencement of the development after 6 May 2017, and every 3 years thereafter, unless the Planning Secretary directs otherwise, the Applicant must commission and pay the full cost of an Independent Environmental Audit of the development. This audit must:* *aa) be prepared in accordance with the relevant Independent Audit Post Approval Requirements (DPIE 2020) or its latest version;* *a) be conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Planning Secretary;* *b) include consultation with the relevant agencies;* *c) assess the environmental performance of the development and assess whether it is complying with the requirements in this consent;* *d) include a comprehensive Hazard Audit of the development in accordance with the Department's publication Hazardous Industry Planning Advisory paper No. 5 - Hazard Audit Guidelines, including a review of the Site Safety Management System and all entries made in the incident register since the previous Audit.*	Section 11.2

Table B1 (Continued)
General Development Consent DA 374-11-00 Conditions

Development Consent DA 374-11-00 Schedule 5	AQGGMP Section
e) review the adequacy of any approved strategy, plan or program required under the abovementioned approvals; and *(f) recommend measures or actions to improve the environmental performance of the development, and/or any strategy, plan or program required under these approvals.*	
g) include consultation with the relevant agencies; *h) assess the environmental performance of the development and assess whether it is complying with the requirements in this consent;~~,~~* *i) include a comprehensive Hazard Audit of the development in accordance with the Department's publication Hazardous Industry Planning Advisory paper No. 5 - Hazard Audit Guidelines, including a review of the Site Safety Management System and all entries made in the incident register since the previous Audit.* *j) review the adequacy of any approved strategy, plan or program required under the abovementioned approvals; and* *k) recommend measures or actions to improve the environmental performance of the development, and/or any strategy, plan or program required under these approvals.* *Note: This audit team must be led by a suitably qualified auditor, and include experts in water resources, noise, air quality, ecology, and any other fields specified by the Planning Secretary.* *11. Within 3 months of commissioning this audit, or as otherwise agreed by the Planning Secretary, the Applicant must submit a copy of the audit report to the Planning Secretary, together with its response to any recommendations contained in the audit report.*	Section 11.2
ACCESS TO INFORMATION 12. *The Applicant must:* *a) make the following information publicly available on its website as relevant to the stage of the development:* • *the EIS;* • *current statutory approvals for the development;* • *approved strategies, plans or programs required under the conditions of this consent;* • *a comprehensive summary of the monitoring results of the development, which have been reported in accordance with the various plans and programs approved under the conditions of this consent;* • *a complaints register, which is to be updated on a monthly basis;* • *any independent environmental audit, and the Applicant's response to the recommendations in any audit; and* • *any other matter required by the Planning Secretary; and* *b) keep this information up to date, to the satisfaction of the Planning Secretary.*	Section 12.5