APPENDIX H Air Quality and Greenhouse Gas Assessment



Jacobs

Hunter Valley Operations Continuation Project

Air Quality and Greenhouse Gas Assessment

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HV Operations Pty Limited

EMM Consulting Pty Ltd



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Acronyms and definitions

Abbreviation	Definition
ВоМ	Bureau of Meteorology
CALMET	Meteorological model for the CALPUFF air dispersion model
CALPUFF	Computer-based air dispersion model
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DA	Development Approval
DEC	Department of Environment and Conservation
DPE	Department of Planning and Environment (formerly Department of Planning, Industry and Environment or DPIE)
EPA	NSW Environment Protection Authority
EPL	Environment Protection Licence
GHG	Greenhouse gas
HVAS	High volume air sampler
HVO	Hunter Valley Operations
HVO Complex	Hunter Valley Operations North and South operations
HVO JV	Hunter Valley Operations Joint Venture comprising Glencore and Yancoal which own HVO and associated assets
Jacobs	Jacobs Group (Australia) Pty Limited
MIA	Mine Infrastructure Area
Mtpa	Million tonnes per annum
NGER	National Greenhouse Gas and Energy Reporting
NEPM	National Environment Protection Measure
NEPC	National Environment Protection Council of Australia
NO ₂	Nitrogen dioxide
NPI	National Pollutant Inventory
OEH	Office of Environment and Heritage, now part of the Department of Planning, Industry and Environment as Environment, Energy and Science
PA	Project Approval
PM _{2.5}	Particulate matter with equivalent aerodynamic diameters less than 2.5 microns
PM ₁₀	Particulate matter with equivalent aerodynamic diameters less than 10 microns
POEO Act	Protection of the Environment Operations (POEO) Act 1997
ROM	Run-of-mine
SSD	State Significant Development
TAPM	The Air Pollution Model – a meteorological and air dispersion model developed by CSIRO
TEOM	Tapered Element Oscillating Microbalance
TSF	Tailings storage facility
TSP	Total suspended particulate matter
VLAMP	Voluntary Land Acquisition and Mitigation Policy (NSW Government)



Executive Summary

HV Operations Pty Ltd (HVO) is proposing the continuation of open cut mining beyond the current approved extent, depth and life at the Hunter Valley Operations North and South mines (HVO Complex). The proposal is referred to as the HVO Continuation Project (the Project). Approval is sought under Part 4, Division 4.1 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). This report provides an assessment of the potential air quality and greenhouse gas impacts of the Project.

The air quality assessment involved identifying the key air quality issues, characterising the existing environment, quantifying emissions to air and modelling the potential impact of the Project on local air quality. The modelling was carried out in accordance with the assessment procedures prescribed by the NSW Environment Protection Authority (EPA). Greenhouse gas emissions were estimated in accordance with the principles of the Greenhouse Gas Protocol.

The key air quality issues were identified as construction dust, operational dust, operational post-blast fume and operational diesel exhaust. These issues were the focus of the assessment.

A detailed review of the existing environment was carried out including an analysis of historically measured concentrations of key quality indicators from representative monitoring stations. This review included an analysis of site-specific monitoring data. The following conclusions were made in relation to the existing environment:

- Meteorological conditions do not vary significantly from year to year, except for rainfall, and conditions in 2014 were identified as most representative of the long term, local conditions around the HVO Complex. Consideration of an alternative representative meteorological year did not change the assessment outcomes.
- Air quality conditions are strongly correlated to the climatic conditions. For example, there was a
 deterioration in air quality conditions between 2017 and early 2020 that were heavily influenced by
 drought, dust storms and bushfires. These conditions were not unique to the Hunter Valley.

The key outcomes of the modelling and subsequent assessment are:

- Construction activities have the potential to increase the overall dust emissions in the early phase of the Project (that is, first one to three years) but these increases are not of a magnitude that will change the air quality outcomes determined for private sensitive receptors from modelling of operational dust emissions. Nevertheless, appropriate management and monitoring would need to continue during the construction phase.
- Operational dust emissions due to the ongoing mining activities are not expected to cause adverse air quality impacts at the nearby local communities. Modelling potential impacts led to the following specific outcomes:
 - Maximum 24-hour average PM₁₀ concentrations would be within the range of historically measured days above the criteria, excluding extraordinary events. The review of recent and historical air quality monitoring data showed that, in the representative year, all monitoring locations recorded between one and six days above the air quality criteria set by the EPA for project assessment purposes. Based on the modelling the Project is not anticipated to change this outcome. The potential for the Project activities to cause exceedances of the criteria can be managed through existing site air quality management measures and this approach has been successfully demonstrated by the site compliance history.
 - Annual average PM₁₀ concentrations would comply with EPA air quality assessment criteria at all private sensitive receptors not subject to existing air quality acquisition rights, however an increased air quality impact risk was identified for one property in Jerrys Plains (308) in the later years of the Project (around Year 11). The modelled non-compliance with EPA assessment criteria at this property was determined as "unlikely to eventuate" based on (1) historical monitoring in this area that show PM₁₀ concentrations 25% lower than the criteria (2) modelled maximum proposed coal extraction rates and (3) a conservative approach to modelling operational controls.

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- Maximum 24-hour average PM_{2.5} concentrations would be within the range of historically measured days above the criteria, excluding extraordinary events. The review of recent and historical air quality monitoring data showed that, in the representative year, all monitoring locations recorded between one and two days above the air quality criteria. Based on the modelling the Project is not anticipated to change this outcome.
- Annual average PM_{2.5} concentrations would comply with EPA air quality assessment criteria at all
 private sensitive receptors not subject to existing air quality acquisition rights, however an increased air
 quality impact risk was identified for one property in Jerrys Plains (308) in the later years of the Project
 (around Year 11).
- Annual average TSP concentrations would comply with EPA air quality assessment criteria at all private sensitive receptors not subject to existing air quality acquisition rights. That is, the Project would not be the cause of exceedances.
- Annual average deposited dust levels would comply with EPA air quality assessment criteria at all private sensitive receptors not subject to existing air quality acquisition rights. That is, the Project would not be the cause of exceedances.
- Dust concentrations and deposition levels would comply with NSW Government Voluntary Land Acquisition and Mitigation Policy criteria at all private sensitive receptors not subject to existing air quality acquisition rights however there is potential for criteria (annual average PM_{10} and $PM_{2.5}$) to be exceeded on up to two privately owned properties.
- Operational post blast fume emissions are not expected to result in any adverse air quality impacts (as nitrogen dioxide and odour), based on modelling which showed compliance with EPA air quality assessment criteria.
- Operational diesel exhaust emissions associated with off-road vehicles and equipment are not expected to result in any adverse air quality impacts, based on modelling which showed compliance with EPA air quality assessment criteria.
- The estimated annual average Scope 1 and 2 greenhouse gas emissions from the Project represent approximately 0.25% of Australia's 2020 emissions. Coal produced by HVO is predominantly exported to countries which are either signatories to the Paris Agreement and / or have announced or adopted domestic laws or policies to achieve their emissions targets. Whilst emissions from the end use of the coal have been calculated as Scope 3 emissions for the purposes of the Project assessment, the HVO customers account for these same emissions as Scope 1 emissions and are required to comply with their respective countries' emissions targets.
- HVO is actively engaged in minimising greenhouse gas emissions associated with their coal operations and supporting the NSW Government objectives of net-zero emissions by 2050.
- HVO will continue to implement air quality and greenhouse gas emission management measures that are
 consistent with best practice for the industry. In addition, the existing air quality trigger levels will be
 reviewed to make sure these will mitigate the potential air quality risks, particularly in the Jerrys Plains area.
- A review of the existing air quality monitoring locations will be undertaken prior to the commencement of the Project to make sure that the monitoring network provides adequate coverage of the Project area and recognises the potential air quality impacts from this assessment. Any changes to the monitoring network will also be included in a revised Air Quality and Greenhouse Gas Management Plan.

The conclusions outlined above are consistent with the desired performance outcome for the Project which is to minimise air quality and greenhouse gas impacts to reduce risks to human health and the environment to the greatest extent practicable through the design, construction and operation of the Project.

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Important note about your report

The sole purpose of this report and the associated services performed by Jacobs is to quantify the potential air quality and greenhouse gas impacts of the Hunter Valley Operations Continuation Project in accordance with the scope of services set out in the contract between Jacobs and the Client. That scope of services, as described in this report, was developed with the Client.

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1. Introduction

1.1 Background

Hunter Valley Operations Pty Ltd is proposing the continuation of open cut mining beyond the current approved extent, depth and life at the Hunter Valley Operations North and South mines (HVO Complex). The proposal is referred to as the HVO Continuation Project (the Project). Approval is sought under Part 4, Division 4.1 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). This report provides an assessment of the potential air quality and greenhouse gas impacts of the Project.

1.2 Existing Operations

HVO is a multi-pit open cut mining complex approximately 24 kilometres (km) north-west of Singleton in the Hunter Valley of New South Wales (NSW) (Figure 1). HVO comprises two mine sites separated by the Hunter River, HVO North and HVO South. While the two mine sites are approved under separate development consents, they are operated as one complex with fully integrated environmental management systems.

The existing HVO North operation comprises the approved mining areas of West Pit, Mitchell Pit and Carrington Pit, as shown in **Figure 2**. It operates under development consent DA 450-10-2003 which allows extraction of up to 22 million tonnes per annum (Mtpa) of run-of-mine (ROM) coal until 12 June 2025.

HVO South operates under Project Approval (PA) 06_0261 and comprises the approved mining areas of Riverview Pit and Cheshunt Pit, where mining activities currently take place, and the Riverview South East Extension and South Lemington Pits 1 and 2. PA 06_0261 allows the extraction of up to 20 Mtpa of ROM coal until 24 March 2030.

Mining across HVO is undertaken using dragline and truck and shovel methods. ROM coal from HVO North and South is currently processed at the Hunter Valley (HV) Coal Preparation Plant (CPP) and/or the Howick CPP (both at HVO North), from which product coal is predominantly transported via overland conveyor to the HV load point (HVLP) or Newdell LP and via rail to the Port of Newcastle for export. The Lemington CPP (LCPP) and associated rail loop, which is approved under PA 06_0261 and would process and rail coal from HVO South, is yet to be constructed.

HVO is owned by subsidiary companies of Yancoal and Glencore, as participants in the unincorporated HVO Joint Venture (JV). HV Operations Pty Ltd is the appointed manager of the JV.



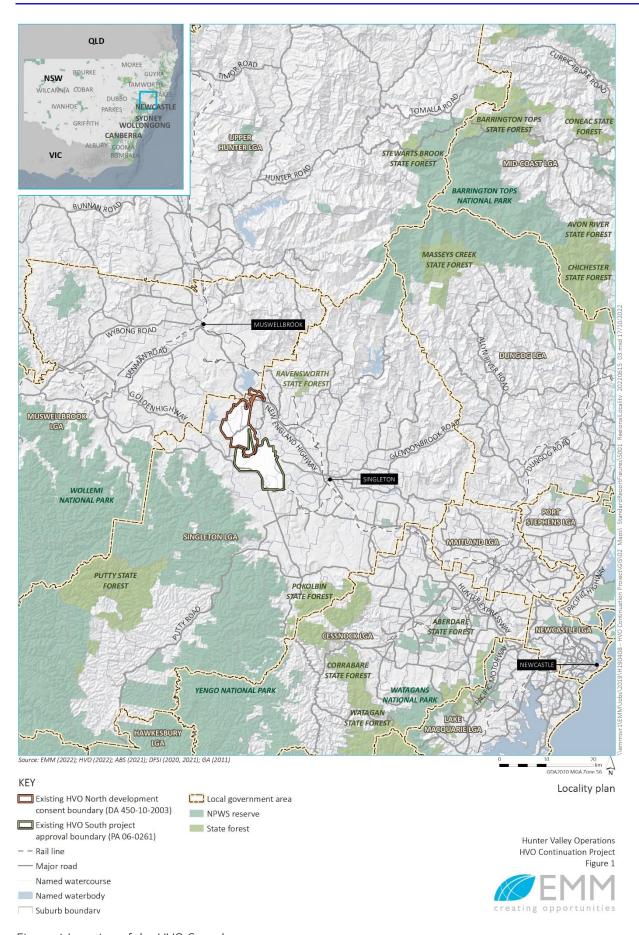


Figure 1 Location of the HVO Complex



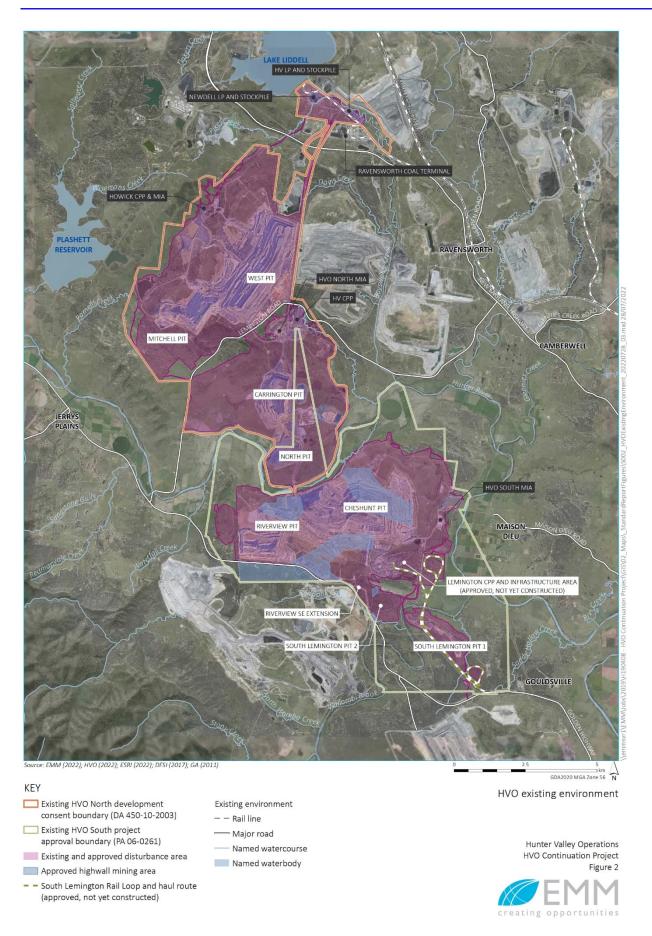


Figure 2 Components of the existing HVO Complex



1.3 Project Description

The HVO Continuation Project (the Project) broadly comprises the continuation of the life of HVO North and HVO South, from the current approved mining completion dates of 2025 and 2030 respectively, to the end of 2050 at HVO North and 2045 at HVO South. The continuation of mining across the HVO Complex will increase resource recovery from the existing operation, predominantly by mining through previously mined areas and to the extent of existing mining tenements and extracting coal from deeper seams at HVO North.

At HVO South an extension to the life of the mine is proposed to facilitate improved mine sequencing outcomes and reduction in mining rate. The Project proposes a reduced mining footprint at HVO South compared to what is approved for extraction, with the previously approved coal extraction in the Riverview South East Extension area and South Lemington Pits 1 and 2 proposed to be removed from mine plan (and future approvals) for the Project. However, some rehabilitation works will be required to be undertaken in the South Lemington Pit 1 area, as part of the mine closure process. The approved shorter rail loop option associated with the LCPP has also been removed from the Project.

A number of infrastructure upgrades and changes are also required to facilitate the Project (and are included as part of it), including realignment of part of Lemington Road, relocation of transmission and telecommunication lines, an upgrade of the Newdell LP including construction of a new product stockpile and train loading bin, an upgrade of the HVLP product stockpile including an extension to the existing coal stockpile, and improvements to Lake James and Parnells Dam.

To enable the Project to proceed, two new State significant development (SSD) consents are required; one for HVO North and one for HVO South, under Part 4, Division 4.1 of the EP&A Act. The Project will seek to maintain separate development consents for HVO North and South, as is currently the case. Given that the two mine sites operate as one complex, one Environmental Impact Statement (EIS) has been prepared to support the two development applications required for the Project.

This air quality and greenhouse gas assessment forms part of the EIS and provides an assessment of the potential impacts of the Project. It also assesses the potential incremental impacts of the continuation of HVO North and HVO South given separate development consents are being sought for each operation. It documents the assessment methods and results, initiatives to avoid and minimise air quality and greenhouse gas impacts and additional mitigation and management measures proposed to address residual impacts not able to be avoided.

The project description is provided in Chapter 4 of the EIS (EMM, 2022). The key components of the Project as they relate to HVO North and HVO South are individually listed below. The proposed conceptual layout of the Project, inclusive of both HVO North and South, is provided in **Figure 3**.

The key changes proposed by the Project to the approved HVO North operations include:

- an extension to the life of the mine until the end of 2050;
- extraction of coal to the base of the Barrett seam across the HVO North mining area. Existing operations are
 approved to extract coal to the base of the Barrett seam in the West Pit; however, are only approved to the
 base of the shallower Bayswater seam in Carrington Pit;
- extraction of an additional approximate 400 Million tonnes (Mt) of run of mine (ROM) coal through the
 extraction of coal from deeper seams and a small increase in the mining extent (between the existing West
 and Mitchell Pits and Carrington Pit);
- infrastructure upgrades, as listed below:
 - realignment of Lemington Road and new bridge over the Hunter River. While the proposed realigned corridor is partly within the HVO South development consent boundary, the realignment is required to enable the progression of mining from the Mitchell and West pits into the Carrington area at HVO North. The works associated with the road realignment therefore form part of the HVO North Project;



- HVO North site access road relocation off the existing Lemington Road;
- an increase in the capacity of Parnell's Dam from approximately 1 gigalitres (GL) to 4 GL;
- realignment of transmission and telecommunication lines that are currently within the proposed mining footprint;
- HVO North Mine Infrastructure Area (MIA) upgrade;
- ancillary activities as required to facilitate operations;
- access roads to facilitate service provider access;
- use of demountable/temporary buildings in construction compounds as required;
- upgrade of the existing Newdell LP train loading facility and construction of a new product stockpile; or
- extension of the HVLP product coal stockpile, including the closure of a section of Liddell Station Road.
- coal haulage from the HVCPP to the Ravensworth ROM pad, via internal haul roads;
- revised tailings management strategy;
- amendments to the approved final landform;
- progressive rehabilitation throughout the mine life; and
- changes to the development consent boundary to incorporate the changes listed above.

Other than as set out above, all activities that are currently approved under the existing HVO North approval are intended to continue. Key aspects and outcomes of the approved development at HVO North that will remain the same under the Project include the following:

- the maximum allowable annual coal extraction and processing rate;
- annual operational workforce numbers and associated traffic generation;
- approved heights of overburden emplacement areas;
- receipt of ROM coal from HVO South via internal haul roads for processing at all CPP facilities approved for HVO North;
- continued avoidance of the Aboriginal heritage site known as Carrington Mine Colluvial Deposit 1 (CM-CD1); and
- the ridge between Jerrys Plains and HVO North will remain, continuing to provide an effective amenity barrier.

The key changes proposed by the Project to the existing approved operations at HVO South include:

- an extension of the life of the mine until the end of 2045;
- a reduction in the approved maximum ROM coal extraction rate from 20 Mtpa to 18 Mtpa;
- changes to the approved mine sequencing (although noting that mining within the two primary open cut pits; Riverview and Cheshunt, will remain generally within the same footprint as approved);
- removal of coal extraction from the mine plan from the Riverview South East Extension, South Lemington Pit 1 and South Lemington Pit 2 mining areas;
- infrastructure upgrades and changes to that currently approved, as listed below:
 - removal of the LCPP short rail loop option;
 - removal of the approved conveyor from HVO South to the HVCPP at HVO North (the conveyor has not been constructed);
 - construction of the Cheshunt and Riverview flood protection levees;
 - realignment of transmission lines;



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- enlargement of Lake James from approximately 0.7 GL to 2 GL;
- additional tailings pipelines and pumps;
- ancillary activities as required to facilitate operations;
- access roads to facilitate service provider access; and
- use of demountable/temporary buildings in construction compounds as required.
- revision and implementation of the tailings strategy; and
- amendments to final landform due to rescheduling and or infrastructure relocations, progressive rehabilitation will be undertaken throughout the mine life.

Other than as set out above, all activities that are currently approved under the existing HVO South approval are intended to continue. Key aspects of the approved development at HVO South that will remain the same under the Project include the following:

- the coal seams to be extracted (i.e. no increase in the depth of mining);
- the extent of approved mining areas within the Riverview and Cheshunt Pits;
- approved heights of overburden emplacement areas;
- construction of the LCPP and associated rail loop (long option only);
- transfer of coal from HVO South to HVO North for processing; and
- annual workforce numbers and associated traffic generation.

The following key terms are used throughout this assessment to describe the Project:

- HVO Complex comprises both HVO North and HVO South operations.
- The Project the Project in its entirety, encompassing the continuation of the life of the complex; ie, both HVO North and HVO South, within their respective proposed development consent boundaries, as illustrated in Figure 3.
- Project Area The area that is the subject of the two development applications, ie, the proposed development consent boundary for HVO North and the proposed development consent boundary for HVO South.
- Existing and approved disturbance area Areas that are disturbed and/or approved to be disturbed under the current development consents that apply to the HVO Complex.
- Approved mining area The areas within the approved disturbance area that have been previously assessed and approved under the NSW EP&A Act for mining operations.
- Additional disturbance area The areas that will be disturbed by the Project that are outside of the existing and approved disturbance area.
- Proposed mining area, HVO North Areas where coal extraction will take place for the Project at HVO North and includes:
 - areas already disturbed by mining that will be re-disturbed to facilitate coal extraction in the deeper Barrett seam;
 - areas not previously approved for mining (eq the area between the Mitchell Pit and Carrington Pit); and
 - areas approved but not yet disturbed (eg the Carrington West Wing area).
- **Proposed mining area, HVO South** Comprises the Riverview Pit and Cheshunt Pit, where coal extraction will continue under the Project, down to the Bayswater seam.
- Areas not carried forward The HVO South proposed mining footprint does not include the previously
 approved South Lemington Pit 1, South Lemington Pit 2, or the Riverview South East Extension, as coal



extraction is not proposed in these areas as part of the Project. However, rehabilitation activities will be required in some areas and form part of the Project.

- **Transmission line corridors** Two categories of transmission line corridors have been defined for the purpose of quantifying the extent of disturbance for the Project:
 - realigned transmission lines (ie new transmission line easements) the extent of disturbance will be limited to transmission line poles/towers and an access road for maintenance along the alignment, as well as vegetation management to maintain safe powerline clearance; and
 - existing transmission line easements to be decommissioned disturbance will be confined to existing access tracks and cleared areas.
- Realigned Lemington Road corridor The corridor extends from the Comleroi Road intersection with the Golden Highway at the southern end of the new alignment, along the Comleroi Road alignment around the south-eastern side of HVO South, and then extends in a northerly direction to join the existing Lemington Road at a point approximately 2.3 km south of the New England Highway/Lemington Road intersection. The corridor also allows for two options with respect to the connection to the Golden Highway; one assuming that the Golden Highway is realigned by United Wambo as approved under SSD 7142, and a second option that connects with the current alignment of the Golden Highway.
- **Project disturbance area** this area is a combination of the additional disturbance area and the existing and approved disturbance area, minus the areas not being carried forward by the Project.



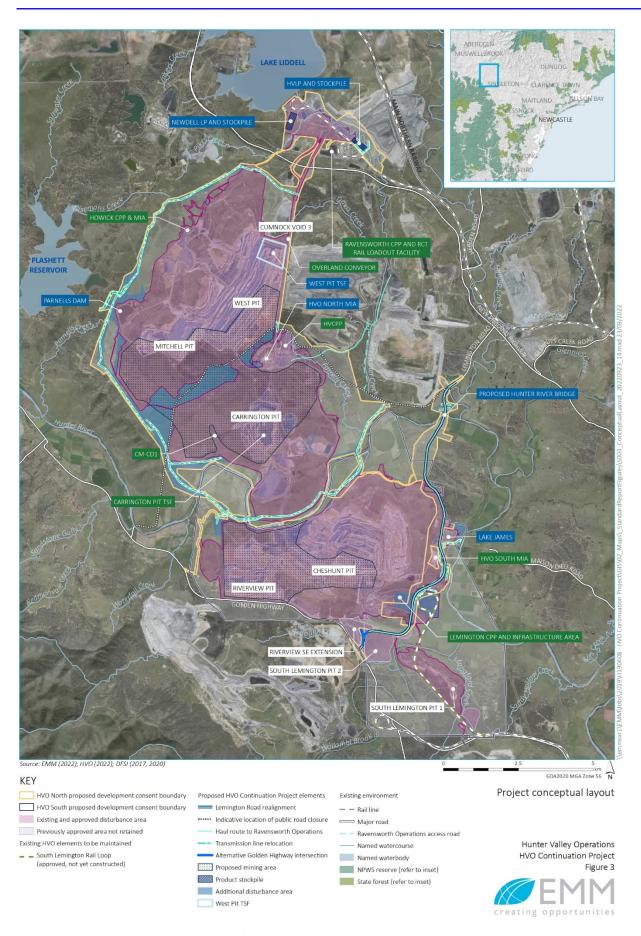


Figure 3 Proposed conceptual layout of the Project



1.4 Performance Outcome

The desired performance outcome for the Project relating to air quality and greenhouse gas is to minimise air quality and greenhouse gas impacts to reduce risks to human health and the environment to the greatest extent practicable through the design, construction, and operation of the Project.

1.5 SEARs and Relevant Guidelines

This air quality and greenhouse gas assessment has been prepared following the appropriate guidelines, policies and industry requirements, and following consultation with stakeholders including community members and relevant government agencies.

Guidelines and policies referenced in this assessment include:

- Approved Methods and Guidance for the Modelling and Assessment of Air Pollutants in NSW (EPA, 2022)
 (Approved Methods)
- Approved Methods for the Sampling and Analysis of Air Pollutants in NSW (EPA, 2022b)
- Coal Mine Particulate Matter Control Best Practice Site Specific Determination Guideline (OEH, 2011)
- Generic Guidance and Optimum Model Settings for the CALPUFF Modelling System for Inclusion in the Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (TRC, 2011)
- National Greenhouse Accounts Factors (DISER, 2021)
- Voluntary Land Acquisition and Mitigation Policy for State Significant Mining, Petroleum and Extractive Industry Developments 2018 (DPIE, 2018)

This assessment has also been prepared in accordance with requirements of the NSW Department of Planning and Environment (DPE). These were set out in the Secretary's Environmental Assessment Requirements (SEARs) for the Project, issued on 11 March 2021. **Table 1** outlines the SEARs relevant to this assessment along with a reference to where these are addressed.

Table 1 SEARs relevant to air quality and greenhouse gas

Secretary's requirement	Where addressed in this report	
Air quality – including:		
 a detailed assessment of potential construction and operational air quality impacts, in accordance with the Approved Methods for the Modelling and Assessment of Air Pollutants in NSW, and with a particular focus on particulate matter (PM_{2.5} and PM₁₀) emissions, and having regard to the Voluntary Land Acquisition and Mitigation Policy; Cumulative – including a detailed assessment of the cumulative impacts of the development, in combination with other existing and approved mining projects in the locality, with a particular focus on air quality, noise, traffic and social impacts, as well as impacts on water resources 	Construction impacts are discussed in Section 5.1 and 7.1. Operational impacts are discussed in Sections 5.2 to 5.4 and Sections 7.2 to 7.5 including assessment in accordance with the Approved Methods and assessment against the VLAMP.	
- an assessment of the likely greenhouse gas emissions of the development	Greenhouse gas emissions are discussed in Sections 3.2, 4.4, 5.5, 8 and 9.5.	

To inform the preparation of the SEARs, the DPE invited other government agencies to recommend matters to be addressed in the EIS. The NSW Environment Protection Authority (EPA) raised matters that are relevant to the air quality and greenhouse gas assessment. These matters raised are listed in **Table 2** and have been taken into account in preparing this assessment, as indicated in the table.



Table 2 Agency assessment recommendations relevant to air quality and greenhouse gas

Agency	Where addressed in this report
Environment Protection Authority	
 Identify the existing air quality environment and identify applicable air quality goals (i.e. ground level concentrations for pollutants and odour assessment criteria) in line with relevant guidance/standards; 	Applicable criteria are outlined in Section 3.1. The existing environment is discussed in Section 4.
 Identify potential air quality and odour sources and impacts (including point source emissions from any site-based plant and equipment and/or fugitive dust or other emissions) during both construction and operational stages and identify best practice mitigation measures (pollution control) and strategies to minimise point and/or fugitive and/or odour emissions/impacts (with proposed timing), including monitoring, in line with relevant guidance/standards; and 	Key air quality issues have been identified in Section 2. Sources and emissions have been identified in Section 5. Potential impacts have been discussed in Section 7. Monitoring and management measures are outlined in Section 9.
- Include an emission inventory of all sources of air emissions.	Included in Appendix D

1.6 Report Structure

The report is structured as follows:

- **Section 1** Introduces the Project with a summary of the Project background, Project description, performance outcomes and SEARs.
- Section 2 Identifies the key air quality and greenhouse gas issues to be addressed.
- Section 3 Outlines the key legislative and policy assessment requirements for air quality and greenhouse gas.
- Section 4 Discusses key features of the existing environment including surrounding land uses, sensitive receptors, and local meteorological and air quality conditions.
- Section 5 Provides an overview of the methods used to assess the potential for air quality and greenhouse gas impacts.
- Section 7 Provides an assessment of the potential construction and operational air quality impacts including potential cumulative impacts.
- Section 8 Provides an assessment of the potential greenhouse gas emissions.
- Section 9 Outlines the measures to mitigate or otherwise effectively manage and monitor potential impacts.
- Section 10 Provides the conclusions of the assessment.



2. Key Issues

Air quality issues can arise when emissions from an industry or activity lead to deterioration in the ambient air quality. Potential air quality issues have been identified from a review of the Project and associated activities. This identification process has considered the types of emissions to air and proximity of these emission sources to sensitive receptors.

Emissions to air from the Project could occur from a variety of activities including material handling, material transport, processing and wind erosion from exposed areas. These emissions could occur in both the construction and operational phases of the Project.

The most commonly associated emission to air from open cut coal mining is dust, also referred to as particulate matter. Key classifications of particulate matter include:

- Total suspended particulates (TSP)
- Particulate matter with equivalent aerodynamic diameter of 10 microns or less (PM₁₀)
- Particulate matter with equivalent aerodynamic diameter of 2.5 microns or less (PM_{2.5})
- Deposited dust

Plant and equipment exhausts also have the potential to generate emissions that include carbon monoxide (CO), oxides of nitrogen (NO_x) and particulate matter, and to a lesser extent sulphur dioxide (SO₂). Post-blast fume has the potential to generate NO_x emissions which, in turn, can oxidise to the more harmful and odorous nitrogen dioxide (NO₂). Spontaneous combustion of coal also has the potential to cause odour and visible smoke issues.

The area around HVO contains various emission sources that will influence the local air quality. Consequently the potential cumulative impacts are an important issue to address.

The key issues for construction will be:

- Emissions of particulate matter (TSP, PM₁₀, PM_{2.5} and deposited dust) including those from machinery exhausts
- Greenhouse gas emissions

The key issues for operation will be:

- Emissions of particulate matter (TSP, PM₁₀, PM_{2.5} and deposited dust)
- Post-blast fume (NO₂) and odour
- Diesel exhaust (PM₁₀, PM_{2.5} and NO₂)
- Odour and other substances, such as visible emissions or smoke / fine particulates, due to the potential spontaneous combustion of coal
- Greenhouse gas emissions

These issues are the focus of this assessment.



3. Policy Setting

3.1 Air Quality Criteria

Air quality is typically quantified by the concentrations of substances in the ambient air. Air pollution occurs when the concentration (or some other measure of intensity) of one or more substances known to cause health, nuisance and/or environmental effects, exceeds a certain level. With regard to human health and nuisance effects, the substances most relevant to the Project have been identified, from **Section 2**, as particulate matter in various forms and NO_2 .

The existing development consents for HVO North (DA 450-10-2003) and HVO South (PA 06_0261) require HVO to "ensure that all reasonable and feasible mitigation measures are employed so that particulate matter emissions generated by the development do not cause exceedances" of criteria for PM₁₀, PM_{2.5}, TSP and deposited dust. **Table 3** shows the existing development consent criteria. The existing Environment Protection Licence (EPL 640) for HVO does not include specific air quality limits but includes requirements to minimise dust emissions and to monitor air quality.

Table 3 Existing development consent criteria

Air quality indicator	Averaging time	^d Air quality criteria from DA 450-10- 2003 (HVO North)	Air quality impact assessment criteria from PA 06_0261 (HVO South)
Particulate matter	24 hour	^b 50 μg/m³	^b 50 μg/m³
(PM ₁₀)	Annual	^a 30 μg/m ³	^{a d} 25 μg/m ³
Particulate matter	24 hour	Nil	^b 25 μg/m³
(PM _{2.5})	Annual	Nil	^{a d} 8 μg/m³
Particulate matter (TSP)	Annual	³ 90 μg/m³	^{а d} 90 µg/m ³
	Annual (maximum increase)	^b 2 g/m²/month	Nil
^c Deposited dust	Annual (maximum total)	^a 4 g/m ² /month	Nil

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

The EPA has developed criteria for a range of air quality indicators including particulate matter and NO_2 that are used for the assessment of specific projects such as the HVO Continuation Project. These criteria are outlined in the "Approved Methods for the Modelling and Assessment of Air Pollutants in NSW" (EPA, 2022), hereafter referred to as the Approved Methods. Most of the EPA criteria referred to in this report have been drawn from national standards for air quality set by the National Environment Protection Council of Australia (NEPC) as part of the National Environment Protection Measures (NEPMs) (NEPC, 2021).

The Project has been assessed in terms of its ability to comply with the air quality criteria set by the EPA as part of the Approved Methods. These criteria are outlined in **Table 4** and apply to existing and potentially sensitive receptors, where the Approved Methods defines a sensitive receptor as "a location where people are likely to work or reside; this may include a dwelling, school, hospital, office or public recreational area". This definition has also been interpreted as places of near-continuous occupation.

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/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, fire incidents or any other activity agreed to by the Secretary.



Table 4 EPA air quality assessment criteria

Air quality indicator	Averaging time	Assessment criterion*
D :: 1 : (DM)	24-hour	50 μg/m³
Particulate matter (PM ₁₀)	Annual	25 μg/m³
	24-hour	25 μg/m³
Particulate matter (PM _{2.5})	Annual	8 μg/m³
Particulate matter (TSP)	Annual	90 μg/m³
	Annual (maximum increase)	2 g/m²/month
Deposited dust	Annual (maximum total)	4 g/m²/month
NII. II. (100.)	1-hour	164 μg/m³
Nitrogen dioxide (NO ₂)	Annual	31 μg/m³

^{*}Source: Table 11 of the Approved Methods.

The EPA air quality assessment criteria relate to the total concentration of pollutants in the air (that is, cumulative) and not just the contribution from Project-specific sources. Therefore, some consideration of background levels needs to be made when using these criteria to assess the potential impacts. In situations where background levels are elevated the proponent must "demonstrate that no additional exceedances of the impact assessment criteria will occur as a result of the proposed activity and that best management practices will be implemented to minimise emissions of air pollutants as far as is practical" (EPA, 2022). Section 4 provides further discussion of background levels.

In December 2015 the Australian Government announced a National Clean Air Agreement (Agreement). This Agreement aims to reduce air pollution and improve air quality via the following main actions:

- The introduction of emission standards for new non-road spark ignition engines and equipment.
- Measures to reduce air pollution from wood heaters.
- Strengthened ambient air quality reporting standards for particle pollution.

The strengthening of ambient air quality reporting standards for particle pollution is relevant to the Project. Specifically, and at the time, the following was agreed:

"Taking into account the latest scientific evidence of health impacts, Ministers agreed to strengthen national ambient air quality reporting standards for airborne fine particles. Ministers agreed to adopt reporting standards for annual average and 24-hour PM_{2.5} particles of 8 μ g/m³ and 25 μ g/m³ respectively, aiming to move to 7 μ g/m³ and 20 μ g/m³ respectively by 2025. Ministers also agreed to establish an annual average standard for PM₁₀ particles of 25 μ g/m³. Victoria and the Australian Capital Territory will set, and South Australia will consider setting, a more stringent annual average PM₁₀ standard of 20 μ g/m³ in the state, while ensuring nationally consistent monitoring and reporting against the agreed National Environment Protection Measure standards. The decision was also taken to review PM₁₀ standards in 2018. The review will be co-led by the NSW and Victorian governments, in discussion with other jurisdictions."

On 25 February 2016, an amendment to the Ambient Air Quality NEPM entered into force and introduced the new national air quality standards for PM₁₀ and PM_{2.5}, as noted above. The EPA subsequently revised its PM₁₀ and PM_{2.5} assessment criteria as part of an update to the Approved Methods. These revised criteria are reflected in **Table 4** and took effect from 20 January 2017 onwards. There is currently no State legislation regarding the aim to move to more stringent PM_{2.5} criteria by 2025. Accordingly, the Project is assessed against the current criteria detailed in the Approved Methods as these criteria would be applied by the consent authority in accordance with the provisions of Clause 12AB of the State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007 (Mining SEPP) (2018 amendment).



The NSW Voluntary Land Acquisition and Mitigation Policy (NSW Government, 2018) (VLAMP) includes the NSW Government's policy for voluntary mitigation and land acquisition to address dust (particulate matter) impacts from State significant mining, petroleum and extractive industry developments. The VLAMP brings the air quality criteria in line with the NEPM standards and EPA assessment criteria.

From the VLAMP, voluntary mitigation rights may apply where, even with best practice management, the development contributes to exceedances of the criteria in **Table 5** at any residence or workplace on privately owned land.

Table 5 VLAMP mitigation criteria for particulate matter

Air quality indicator	Averaging time	Mitigation criterion	Impact type
D :: 1 : (DM)	24-hour	50 μg/m³**	Human health
Particulate matter (PM ₁₀)	Annual	25 μg/m³*	Human health
	24-hour	25 μg/m³**	Human health
Particulate matter (PM _{2.5})	Annual	8 µg/m³*	Human health
Particulate matter (TSP)	Annual	90 μg/m³*	Amenity
	Annual (maximum increase)	2 g/m²/month**	Amenity
Deposited dust	Annual (maximum total)	4 g/m²/month*	Amenity

^{*} Cumulative impact (i.e. increase in concentrations due to the development plus background concentrations due to all other sources).

Voluntary acquisition rights may apply where, even with best practice management, the development contributes to exceedances of the criteria in **Table 6** at any residence or workplace on privately owned land, or on more than 25% of any privately owned land where there is an existing dwelling or where a dwelling could be built under existing planning controls.

Table 6 VLAMP acquisition criteria for particulate matter

Air quality indicator	Averaging time	Acquisition criterion	Impact type
D :: 1 : (D11)	24-hour	50 μg/m³ **	Human health
Particulate matter (PM ₁₀)	Annual	25 μg/m³*	Human health
D .: 1 (D11 .)	24-hour	25 μg/m³**	Human health
Particulate matter (PM _{2.5})	Annual	8 μg/m³*	Human health
Particulate matter (TSP)	Annual	90 μg/m³*	Amenity
D :: 1.1 .	Annual (maximum increase)	2 g/m²/month**	Amenity
Deposited dust	Annual (maximum total)	4 g/m²/month*	Amenity

^{*} Cumulative impact (i.e. increase in concentrations due to the development plus background concentrations due to all other sources).

The particulate matter levels for comparison with the criteria in **Table 5** and **Table 6** must be calculated in accordance with the Approved Methods.

^{**} Incremental impact (i.e. increase in concentrations due to the development alone), with **zero allowable exceedances** of the criteria over the life of the development.

^{**} Incremental impact (i.e. increase in concentrations due to the development alone), with up to **five allowable exceedances** of the criteria over the life of the development.



3.2 Greenhouse Gas

Greenhouse gases (GHG) is a collective term for a range of trace gases that are known to absorb terrestrial infrared radiation in the atmosphere, where they cause a planetary greenhouse effect. Global warming is warming of the atmosphere caused by increasing quantities of GHGs. GHGs include:

- Carbon dioxide (CO₂); by far the most abundant GHG, primarily released during fuel combustion.
- Methane (CH₄); generated from the anaerobic decomposition of carbon-based material (including enteric fermentation and waste disposal in landfills).
- Nitrous oxide (N₂O); generated from industrial activity, fertiliser use and production.
- Hydrofluorocarbons (HFCs); commonly used as refrigerant gases in cooling systems.
- Perfluorocarbons (PFCs); used in a range of applications including solvents, medical treatments and insulators.
- Sulphur hexafluoride (SF₆); used as a cover gas in magnesium smelting and as an insulator in heavy duty switch gear.

It is common practice to aggregate the emissions of these gases to the equivalent emission of carbon dioxide. This provides a simple figure for comparison of emissions against targets. Aggregation is based on the potential of each gas to contribute to global warming relative to carbon dioxide and is known as the global warming potential (GWP). The resulting number is expressed as carbon dioxide equivalent (or CO_2 -e).

GHG emissions that form an inventory can be split into three categories known as 'Scopes'. Scopes 1, 2 and 3 are defined by the Greenhouse Gas Protocol (GHG Protocol)¹ and can be summarised as follows:

- Scope 1 Direct emissions from sources that are owned or operated by the organisation (examples include combustion of diesel in company owned vehicles or used in on-site generators).
- Scope 2 Indirect emissions associated with the import of energy from another source (examples include importation of electricity or heat).
- Scope 3 Other indirect emissions (other than Scope 2 energy imports) which are a direct result of the operations of the organisation but from sources not owned or operated by them (examples include business travel by air or rail and product usage).

The purpose of differentiating between the scopes of emissions is to avoid the potential for double counting, where two or more organisations assume responsibility for the same emissions.

Final 16

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¹ The Greenhouse Gas Protocol is a collaboration between the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD). The Protocol provides guidance on the calculation and reporting of carbon footprints.



4. Existing Environment

This section provides a description of the environmental characteristics in the study area, including a review of recent and historical meteorological and ambient air quality conditions. In this context the study area has been defined by a 20 km by 22 km region that includes a range of industrial, farming, business, residential and other activities. **Figure 4** shows the study area extent as well as the location of the nearest local communities.

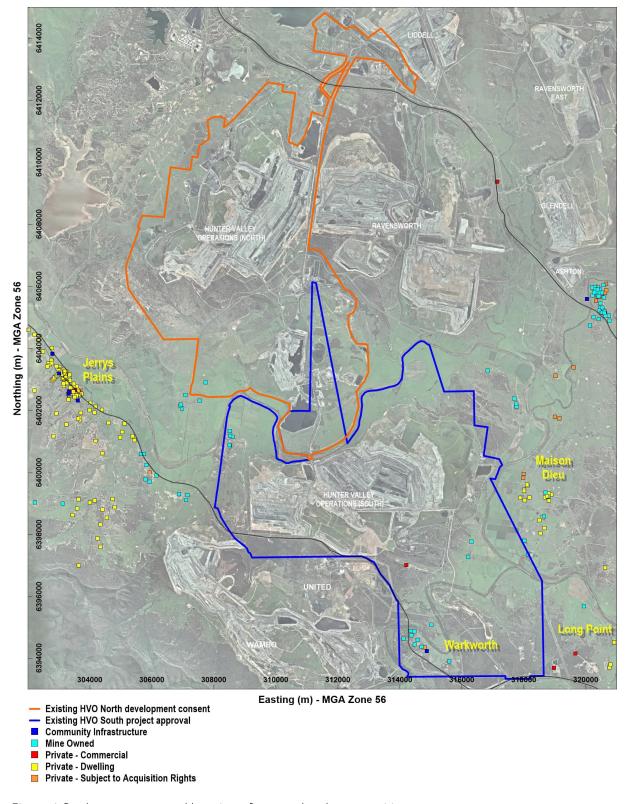


Figure 4 Study area extent and location of nearest local communities



4.1 Local Setting

The HVO Complex is located in a predominantly rural-residential area in the upper Hunter Valley of NSW, approximately 24 kilometres northwest of Singleton. The majority of the HVO Complex is located within the Singleton local government area (LGA) with a small, northern portion located within Muswellbrook LGA.

The HVO Complex is positioned near the floor of the Hunter Valley at elevations that range from approximately 50 to 200 metres (m) above sea level. The ranges of the Hunter Valley rise to over 700 m. **Figure 5** shows a pseudo three-dimensional representation of the local terrain.

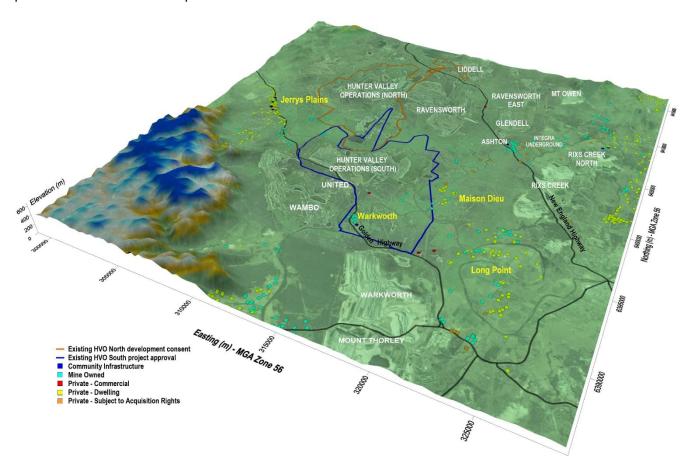


Figure 5 Pseudo three-dimensional representation of the local terrain

Main roads within the study area include the Golden Highway to the southwest and the New England Highway to the northeast. Local industry and agricultural activities include power stations, coal mines, cattle grazing, cropping, horse studs and wineries. The Hunter Valley Gliding Club is located near Warkworth, and neighbouring residential areas near the Project (**Figure 4**) include:

- Jerrys Plains
- Warkworth
- Maison Dieu
- Long Point

4.2 Meteorology

One of the objectives of this review was to develop an understanding of any existing air quality issues and to identify the main factors that have influenced air quality conditions. Meteorological conditions are important for determining the transport of emissions, and the potential influences on air quality. In addition, meteorological



data are often used with concurrent air quality data to determine potential contributions from sources of interest. This section provides an analysis of the meteorological conditions around the HVO Complex and identifies the datasets that are representative of the long term, local conditions.

There is an extensive meteorological monitoring network in the Hunter Valley and most mining companies are required to operate at least one meteorological station as part of their development consent. HVO operates two meteorological stations, referred to as "HVO Corporate" and "Cheshunt". The DPE also conducts meteorological monitoring in the Hunter Valley as part of their Upper Hunter Air Quality Monitoring Network. **Figure 6** shows the location of the HVO and DPE meteorological stations.

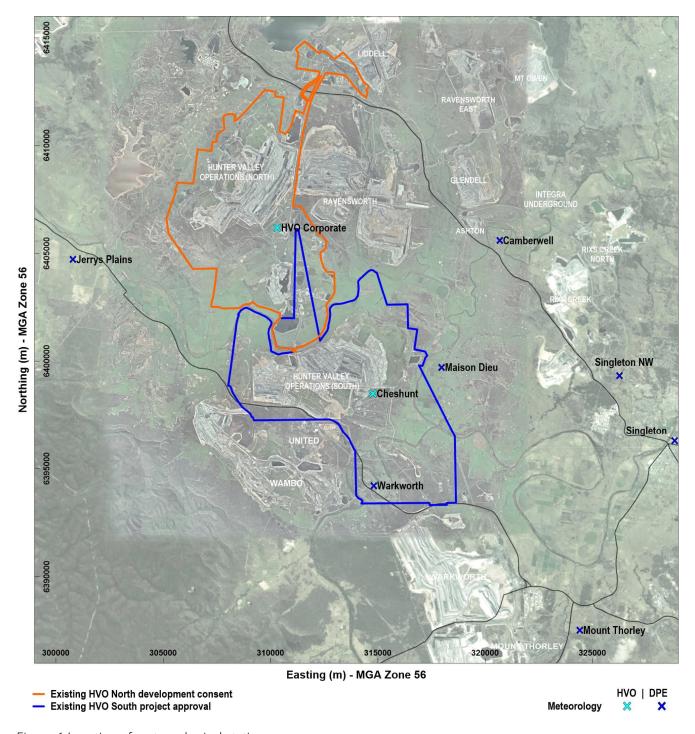


Figure 6 Location of meteorological stations



The EPA prescribes the minimum requirements for meteorological data that are to be used for air quality assessments. These requirements are outlined in the Approved Methods and include minimum data capture rates, siting and operation, and data preparation. Two types of meteorological stations are described by the EPA:

- "Site specific"; and
- "Site representative".

Data from site-specific meteorological stations are preferred for air quality assessments however site representative data are also acceptable provided that, with analysis of a minimum five years or records, the data adequately describe the expected meteorological conditions at the site of interest. From the EPA descriptions (EPA, 2022) there will be multiple meteorological stations collecting data that can be classified as representative of conditions around the HVO Complex.

Data from the two HVO meteorological stations, Corporate and Cheshunt, have been analysed in order to characterise the local conditions and to identify representative datasets. A minimum five years of data is required by the EPA (2022) however this assessment has considered all available data, eight years in total, to provide additional coverage of potential variations. The analysis involved comparing statistics from the data collected at each station for each calendar year to determine a year-long dataset that most closely reflects the longer term, local conditions. Wind data were primarily used for this purpose although rainfall data have also been considered.

Wind-roses have been prepared from the data collected at the Corporate and Cheshunt stations in the most recent eight year period (2013 to 2020 inclusive). The wind-roses (**Figure 7** and **Figure 8**) show the frequency of wind speeds and wind directions based on hourly records for each location. The circular format of the wind rose shows the direction from which the wind blew and the length of each "spoke" around the circle shows how often the wind blew from that direction. The different colours of each spoke provide details on the speed of the wind from each direction.

The most common winds in the area are from the southeast and west to northwest. This pattern of winds Is common for many parts of the Hunter Valley and reflects the northwest-southeast alignment of the valley. There are seasonal variations in the wind patterns, not shown by **Figure 7** and **Figure 8**, but various other studies (for example Jacobs, 2019) as well as **Appendix A** show that winds in summer are typically from the southeast and winds in winter are typically from the northwest. It is also clear from **Figure 7** and **Figure 8** that, for both locations, the wind patterns were similar across all eight years of data presented. This suggests that wind patterns do not vary significantly from year to year, and potentially the data from any of the years presented could be considered as representative of the longer-term conditions.



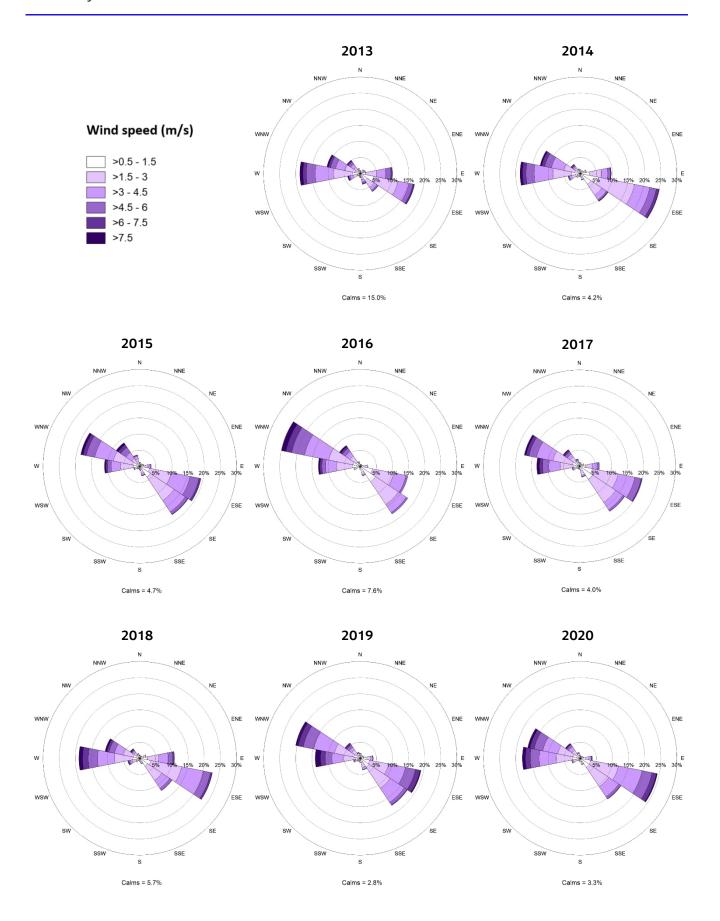


Figure 7 Annual wind-roses for data collected at the HVO Corporate meteorological station



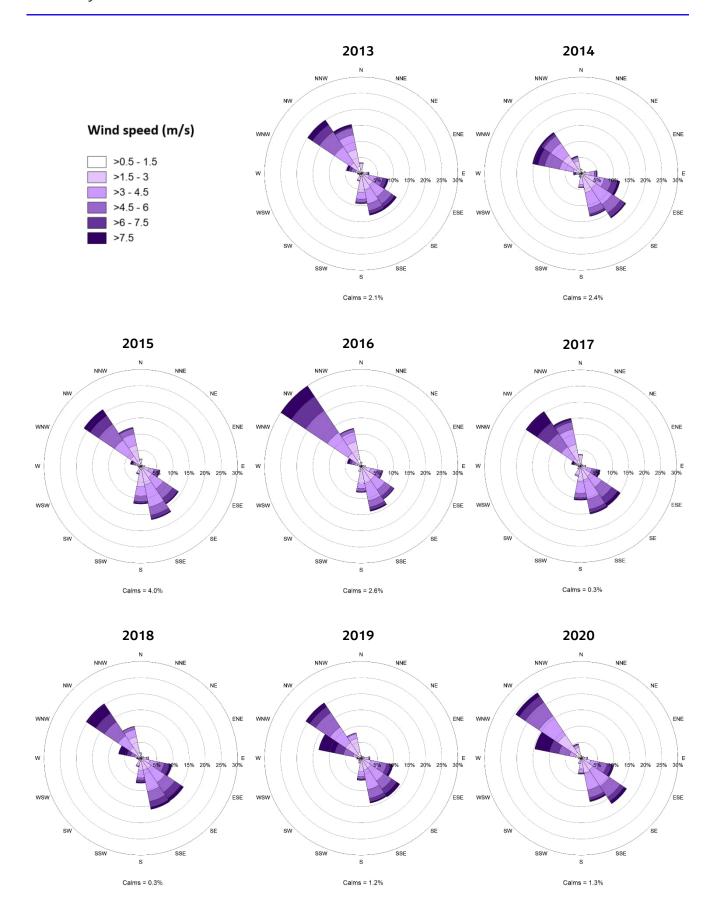


Figure 8 Annual wind-roses for data collected at the Cheshunt meteorological station



Figure 9 shows the hourly wind speed data from HVO Corporate and Cheshunt meteorological stations (some data gaps were observed due to logging issues). These data show that wind speeds are generally lower in autumn and higher in spring with maximum wind speeds reaching around 12 to 14 metres per second. Rainfall data have also been presented. The rainfall data show the effect of the drought from 2017 to 2019, with annual rainfall at least 30 per cent lower than the long-term average of 662 mm (based on 61 years of data collected by the Bureau of Meteorology between 1959 to 2020). Repository issues led to some data gaps in 2015 and 2016.

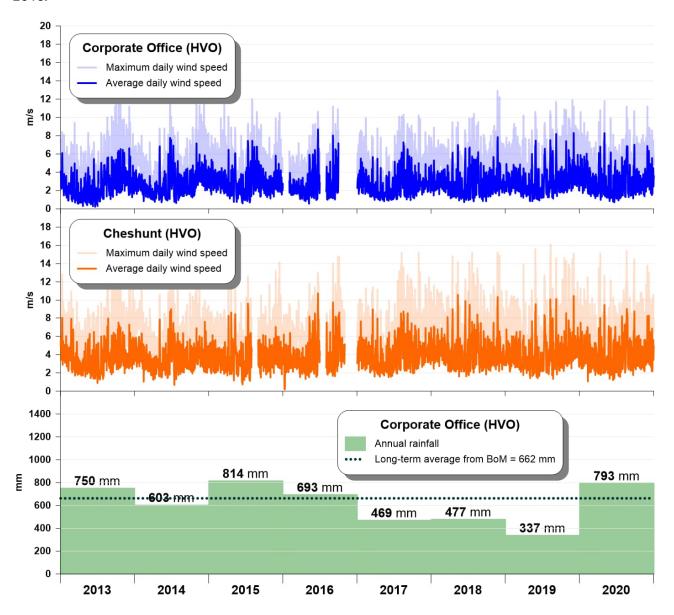


Figure 9 Wind speed and rainfall data collected between 2013 and 2020



Table 7 provides annual wind statistics for the 2013 to 2020 calendar years. The Cheshunt meteorological station recorded higher wind speeds than the HVO Corporate station due to its more exposed location and higher elevation. The only unusual statistic was the percentage of calms at HVO Corporate in 2013; around three times higher than subsequent years. Some data gaps also existed in the 2016 records due to repository issues.

Table 7 Statistics from meteorological data collected between 2013 and 2020

Statistic	2013	2014	2015	2016	2017	2018	2019	2020	2013-2020
Percentage complete (%)									
HVO Corporate	99	100	100	58	100	100	100	99	94
Cheshunt	100	100	91	75	100	100	99	99	95
Mean wind speed (m/s)								
HVO Corporate	2.6	2.7	2.9	2.6	2.7	2.8	3.1	3.0	2.8
Cheshunt	3.7	3.6	3.7	3.8	4.1	4.2	4.2	4.1	3.9
Percentage of calm	ns (<= 0.5 m	/s)							
HVO Corporate	15.0	4.2	4.7	7.6	4.0	5.7	2.8	3.3	5.8
Cheshunt	2.1	2.4	4.0	2.6	0.3	0.3	1.2	1.3	1.7
Percentage of wind speeds >6 m/s									
HVO Corporate	5.5	5.3	5.3	5.4	4.7	6.1	8.4	6.9	6.0
Cheshunt	13.4	11.8	12.1	15.7	17.6	20.3	19.0	17.5	16.0
Rainfall (mm)									
HVO Corporate	750	603	814	693	469	477	337	793	

Data from the 2014 calendar year have been identified as being representative of the long term, local conditions around the HVO Complex and suitable for informing the air quality impacts of the Project. This outcome was based on HVO Corporate and Cheshunt data that showed:

- High data capture rate (i.e. 100%), meeting the EPA's requirement for a minimum 90% complete dataset.
- Similar wind patterns to other years.
- Rainfall near the long-term average, and closest to the long-term average of all other years assessed.
- Availability of concurrent air quality monitoring data.

Section 4.3 also shows that air quality conditions in 2014 were similar to other years and not adversely influenced by bushfire activity or extreme conditions. Methods used for incorporating the 2014 data into modelling for the Project are discussed in detail in **Section 5**. Annual and seasonal wind-roses from data collected at HVO Corporate and Cheshunt in 2014 are provided in **Appendix A**.

4.3 Air Quality

There is an extensive air quality monitoring network in the Hunter Valley and most mining companies are required to operate multiple monitoring stations as part of their development consent. The DPE also conducts monitoring as part of their Upper Hunter Air Quality Monitoring Network. This section examines the recent and historical air quality conditions around the HVO Complex and establishes the appropriate background levels to be considered for assessment of the Project.

It should be noted that air quality monitoring data represent the contributions from all sources that have at some stage been upwind of each monitor. In the case of particulate matter (as PM_{10}) for example, a measurement may contain contributions from many sources such as from mining activities, construction works, bushfires and 'burning off', agricultural activities, industry, vehicles, roads, wind-blown dust from nearby and remote areas, fragments of pollens, moulds, and so on.



4.3.1 Extraordinary Events

Air quality in many parts of NSW, including the Hunter Valley, was adversely influenced by drought conditions between 2017 and early 2020 with lower than average rainfall. A deterioration in air quality conditions in recent years was not unique to the Hunter Valley and extraordinary events, beyond normal conditions, have been identified as part of annual reviews of monitoring data.

In their "Annual Air Quality Statement 2018" the DPE concluded that particle levels increased across NSW due to dust from the widespread, intense drought and smoke from bushfires and hazard reduction burning (OEH, 2019). The DPE subsequently concluded, from their "Annual Air Quality Statement 2019", that air quality in NSW was greatly affected by the continuing intense drought conditions and unprecedented extensive bushfires during 2019. In addition, the continued "intense drought has led to an increase in widespread dust events throughout the year" (DPIE, 2020).

The influence of drought conditions on air quality is evident in the DPE's monitoring data. **Figure 10** shows the rolling annual average PM_{10} concentrations from data collected at various rural and urban air quality monitoring sites since 2011. These data clearly show an increase in PM_{10} concentrations at all rural and urban locations from 2017 onwards, reflecting the onset of drought conditions, and increased bushfire activity in 2019 and into early 2020.

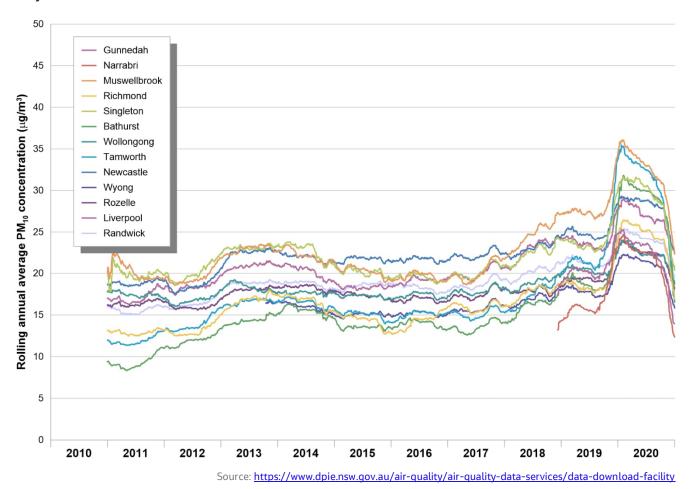


Figure 10 Annual average PM₁₀ concentrations from various NSW air quality monitoring sites

Table 8 identifies the numbers of days identified by the DPE as extraordinary events from 2013 to 2020. This information shows that there was an increase in the number of extraordinary (air quality related) events from 2017 through to 2020. These conditions were particularly evident in late 2019 and early 2020 due to a period of unprecedented bushfires in Australia, predominantly across southeast Australia, but also affecting a reported 4 million hectares of land in NSW since early November 2019. The bushfires adversely affected air quality across



many parts of NSW and a total of 66 days in 2019 were subsequently declared as extraordinary events by the DPE.

Table 8 Days declared as extraordinary events

Year	Number of days identified by the DPE as extraordinary events
2013	6
2014	1
2015	4
2016	1
2017	7
2018	15
2019	66
2020	24

The use of years with elevated air quality levels, largely driven by extraordinary events or extreme climatic conditions (or both) are avoided in modelling studies primarily because they do not address the definition of representative. In addition, extraordinary events cannot be reliably simulated in air dispersion models as it is not possible to identify all possible factors that led to these events, for example, the factors that influence the time, location and intensity of bushfires. This context has been considered in the analysis below.

4.3.2 Particulate Matter (as PM₁₀)

Air quality criteria for PM_{10} are usually set to protect against adverse health impacts. HVO has a network of PM_{10} monitors near the HVO Complex to assist with operations management and to determine ongoing compliance with the HVO North development consent and HVO South project approval. Monitoring of PM_{10} is required under EPL 640 and the DPE also monitors PM_{10} as part of their Upper Hunter Air Quality Monitoring Network. **Figure 11** shows the HVO and DPE monitoring locations.



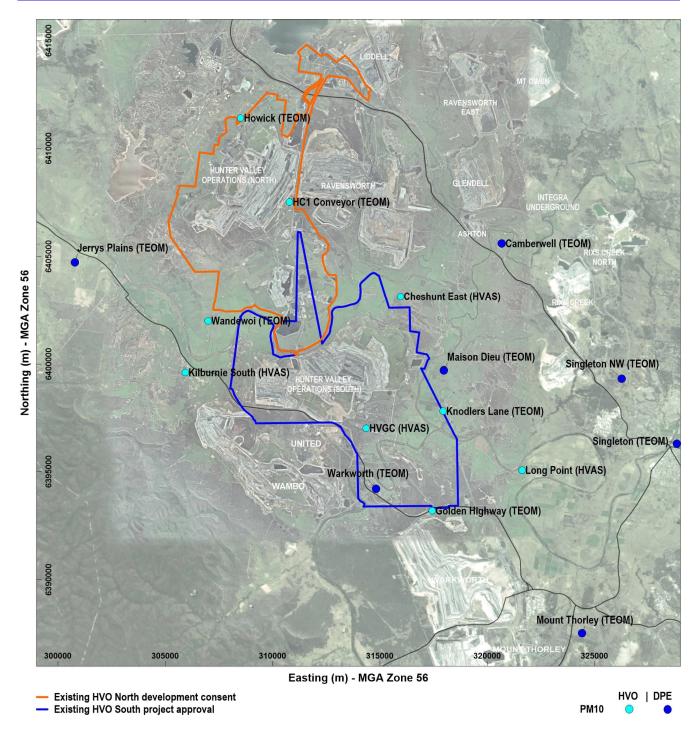


Figure 11 Location of PM₁₀ monitors

The monitors that are most representative of the nearest neighbouring residential areas are:

- Jerrys Plains (DPE)
- Kilburnie South (HVO)
- Knodlers Lane (HVO)
- Long Point (HVO)
- Maison Dieu (DPE)
- Warkworth (DPE)



Figure 12 shows the measured 24-hour average PM₁₀ concentrations from each representative monitoring site for data collected between 2013 and 2020. It is important to note that **Figure 12** shows the EPA criterion that will be used to assess the Project not the criteria from the HVO North development consent and HVO South project approval. As noted in **Section 3.1** the EPA assessment criteria for PM₁₀ relate to the total concentration of pollutants in the air (that is, cumulative) and not just the contribution from Project-specific sources. The PM₁₀ criteria in the HVO North development consent and HVO South project approval relate to the increment of the development. The Annual Reviews explain any data gaps and provide the assessments of the monitoring data against the HVO North development consent and HVO South project approval.

Table 9 provides a summary of all data and **Appendix B** provides additional analysis including discussion of the conditions that have influenced the measured concentrations.

The data can be summarised as follows:

- PM_{10} concentrations increased from 2017 to 2020 coinciding with drought conditions and lower than average rainfall. These conditions led to increases in the number of days when the 24-hour average PM_{10} concentration exceeded 50 μ g/m³ (the EPA assessment criterion) and increases in the annual average PM_{10} concentrations. The increases in PM_{10} concentrations were not unique to the Hunter Valley.
- There are seasonal variations with higher PM₁₀ concentrations generally occurring in the warmer months.
- There are diurnal variations with higher PM₁₀ concentrations generally occurring in the morning (around 9 am) and evening (around 7 pm).
- Each location is unique in terms of the wind directions that are associated with higher PM₁₀ concentrations.

The PM₁₀ monitoring data are reviewed by HVO as part of annual reporting and with consideration of extraordinary events, as outlined in **Section 4.3.1**. These reviews have shown that HVO has complied with the PM₁₀ criteria specified in the HVO North development consent and HVO South project approval over the last nine years (2013 to 2021) except on three occasions; the Hunter Valley Gliding Club (29 July 2017), Knodlers Lane (28 July 2021) and Cheshunt East (12 September 2021).



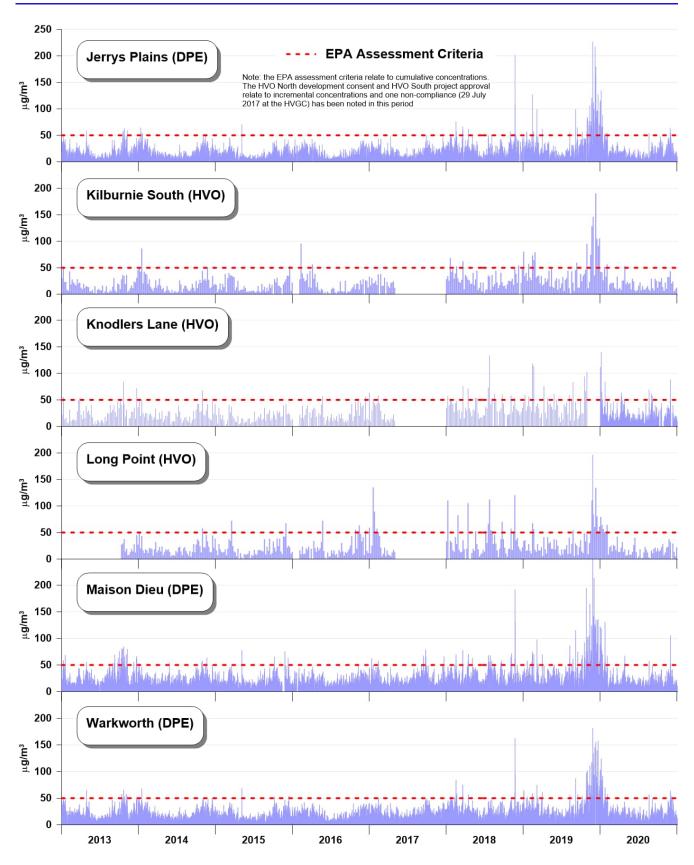


Figure 12 Measured 24-hour average PM₁₀ concentrations



Table 9 Summary of measured PM_{10} concentrations

Year	Jerrys Plains	Kilburnie South	Knodlers Lane	Long Point	Maison Dieu	Warkworth	EPA assessment criterion	DA 450-10- 2003 / PA 06_0261	
Maximum 24	Maximum 24-hour average in μg/m³								
2013	63	52	84	45	84	65	50	⁶ 50 / ⁶ 50	
2014	64	86	67	58	64	68	50	⁵50 / ⁵50	
2015	70	53	41	72	77	68	50	⁶ 50 / ⁶ 50	
2016	43	95	63	72	48	42	50	⁵50 / ⁵50	
2017	51	38	58	135	79	51	50	⁶ 50 / ⁶ 50	
2018	201	68	134	120	192	162	50	⁶ 50 / ⁶ 50	
2019	227	190	118	134	446	182	50	⁶ 50 / ⁶ 50	
2020	135	56	140	79	131	124	50	⁵50 / ⁵50	
Number of da	ays above 50 μg	ı/m³							
2013	6	1	5	0	28	8	-	-	
2014	6	1	1	2	6	2	-	-	
2015	1	1	0	2	5	3	-	-	
2016	0	2	4	6	0	0	-	-	
2017	1	0	2	3	9	1	-	-	
2018	11	4	14	12	23	15	-	-	
2019	54	14	12	10	66	57	-	-	
2020	18	3	11	5	18	18	-	-	
Annual avera	ige in μg/m³								
2013	19	16	25	21	26	21	30	°30 / °30	
2014	18	19	22	20	23	21	30	°30 / °30	
2015	15	16	17	19	20	18	30	°30 / °30	
2016	17	17	23	21	20	19	30	°30 / °30	
2017	18	20	25	30	23	22	25	°30 / °30	
2018	24	27	37	33	28	26	25	°30 / °25	
2019	32	42	42	31	38	33	25	°30 / °25	
2020	21	20	22	21	23	24	25	°30 / °25	

 $[^]a$ 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).



4.3.3 Particulate Matter (as PM_{2.5})

Air quality criteria for PM_{2.5} are usually set to protect against adverse health impacts. Historically the closest monitoring stations to the HVO Complex that measure PM_{2.5} have been located at Camberwell and Singleton. Both of these stations are operated by the DPE. There has however been an increase in the number of PM_{2.5} monitoring stations near the HVO Complex. HVO commenced monitoring of PM_{2.5} using high volume air samplers at Kilburnie South and Maison Dieu in September 2019 following approval of PA 06_0261 Modification 5. The United Wambo JV also commenced monitoring of PM_{2.5} using beta attenuation monitors in June 2020 at two locations referred to as Kelly and Thelander. **Figure 13** shows the HVO, DPE and United Wambo JV monitoring locations.

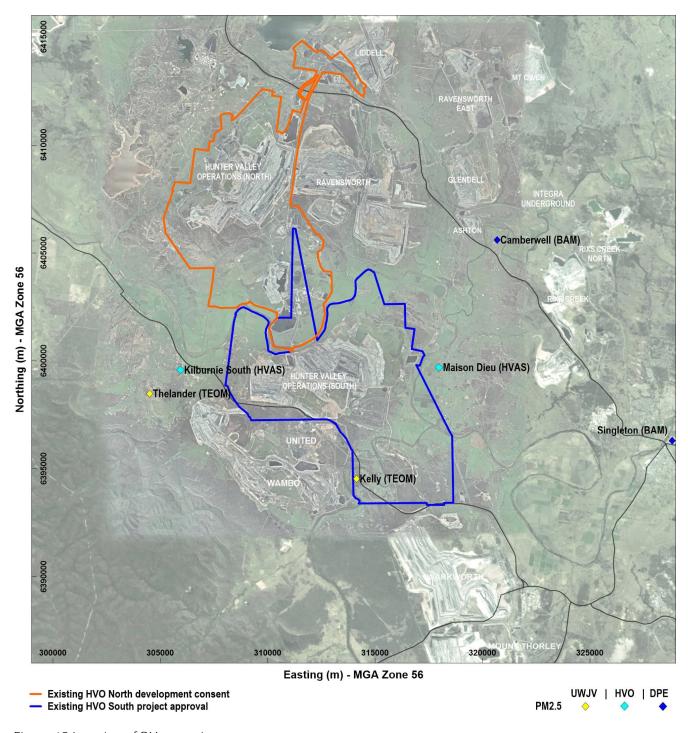


Figure 13 Location of PM_{2.5} monitors



Figure 14 shows the measured 24-hour average $PM_{2.5}$ concentrations from all identified monitoring sites for data collected between 2013 and 2020. The increased bushfire activity in late 2019 and early 2020 is evident in these data with $PM_{2.5}$ concentrations exceeding the EPA assessment criterion at all locations where data were available. The measurements from Kilburnie South and Maison Dieu did not follow the same trends as those from the other monitors so additional analysis was carried out (**Appendix B**). This analysis indicated that the measurements from the Kelly and Thelander locations would be most representative of $PM_{2.5}$ levels near HVO.

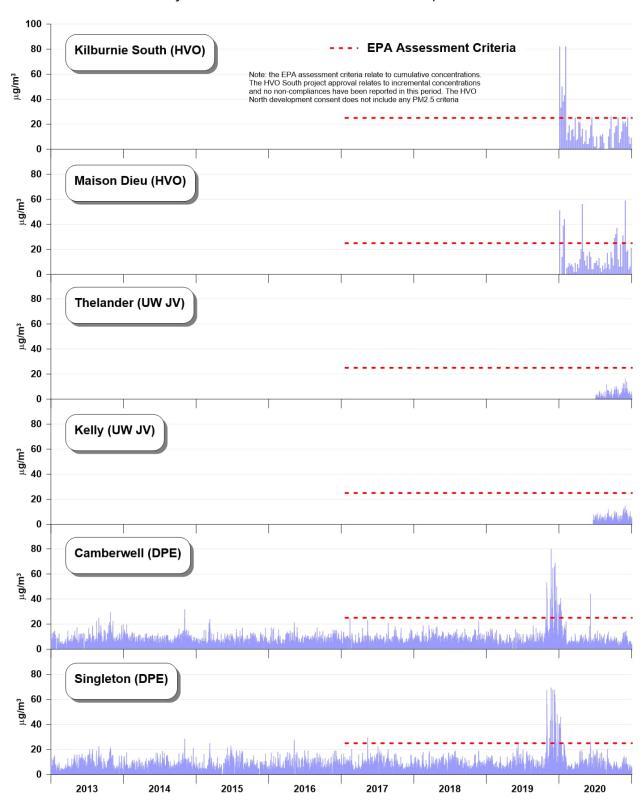


Figure 14 Measured 24-hour average PM_{2.5} concentrations



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Table 10 summarises the measured $PM_{2.5}$ concentrations from data collected between 2013 and 2020. Again, these data show the effect of the increased bushfire activity in late 2019 and early 2020 with $PM_{2.5}$ concentrations exceeding the EPA assessment criterion at all locations where data were available. Annual averages have approached or exceeded 8 μ g/m³ (the EPA criterion introduced in 2017) in all years of data from Camberwell, Singleton and Newcastle. The more recent data from Kelly and Thelander indicate that $PM_{2.5}$ concentrations are lower near HVO. Based on the analysis from **Appendix B**, and the availability of data points, the measurements from Kelly and Thelander were taken to be the most representative of $PM_{2.5}$ levels near HVO.

Table 10 Summary of measured PM_{2.5} concentrations

Year	Camberwell	Singleton	Kilburnie South¹	Maison Dieu¹	Kelly²	Thelander ²	Newcastle	EPA assessment criterion	DA 450-10- 2003 / PA 06_0261
Maximum 3	24-hour averag	no in ua /m³					_	о	· ·
							1.5		,
2013	30	23	-	-	-	-	15	-	-/-
2014	32	29	-	-	-	-	21	-	-/-
2015	24	25	-	-	-	-	30	-	-/-
2016	21	28	-	-	-	-	66	-	-/-
2017	25	30	-	-	-	-	18	25	-/-
2018	23	19	-	-	-	-	20	25	- / ^b 25
2019	80	69	-	-	-	-	96	25	- / ^b 25
2020	44	46	43	59	15	17	79	25	- / ^b 25
Number of	days above 25	μg/m³							
2013	1	0	-	-	-	-	0	-	-
2014	1	1	-	-	-	-	0	-	-
2015	0	0	-	-	-	-	1	-	-
2016	0	2	-	-	-	-	1	-	-
2017	0	1	-	-	-	-	0	-	-
2018	0	0	-	-	-	-	0	-	-
2019	24	20	-	-	-	-	25	-	-
2020	8	5	2	5	0	0	6	-	-
Annual ave	rage in µg/m³								
2013	8.2	7.9	-	-	-	-	8.8	-	-/-
2014	7.8	7.8	-	-	-	-	8.1	-	-/-
2015	7.2	7.6	-	-	-	-	7.9	-	-/-
2016	7.5	7.9	-	-	-	-	7.8	-	-/-
2017	7.4	8.2	-	-	-	-	7.4	8	-/-
2018	8.4	8.1	-	-	-	-	7.8	8	- / ª8
2019	10.5	10.9	-	-	-	-	10.9	8	- / ª8
2020	7.6	8.4	16.0	14.8	5.2	4.2	8.2	8	- / ª8

¹ Data available from September 2019. Analysis from **Appendix B** indicated that these data did not follow expected trends.

PM_{2.5} concentrations are strongly influenced by combustion-related sources such as bushfires, motor vehicles and wood smoke from domestic heating. The *Upper Hunter Fine Particle Characterisation Study* (OEH, 2013)

² Data available from June 2020.

^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).



investigated the factors which contributed to elevated $PM_{2.5}$ concentrations in the Hunter Valley. This study identified a clear seasonal trend with higher $PM_{2.5}$ concentrations occurring in the cooler months, and predominantly due to wood smoke from domestic heating. Specifically, in Singleton, wood smoke accounted for an average of approximately 14% of the total $PM_{2.5}$, peaking at around 38% in winter.

4.3.4 Particulate Matter (as TSP)

Air quality criteria for TSP are usually set to protect against nuisance amenity impacts. Monitoring of TSP is carried out by HVO at six locations (**Figure 15**) and the measurements are used to determine ongoing compliance with the HVO North development consent and HVO South project approval.

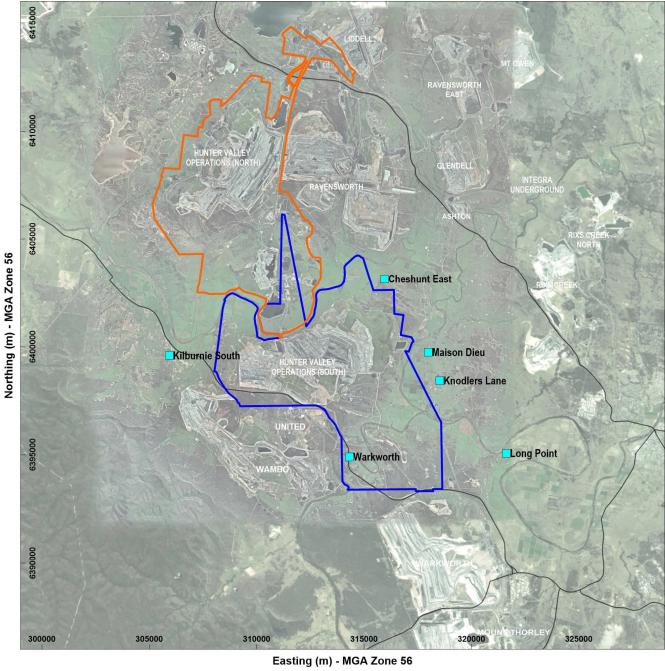


Figure 15 Location of TSP monitors

- Existing HVO North development consent

- Existing HVO South project approval

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TSP HVO



The monitors that are most representative of the nearest local communities are:

- Kilburnie South (HVO)
- Knodlers Lane (HVO)
- Long Point (HVO)
- Maison Dieu (HVO)
- Warkworth (HVO)

Table 11 shows the annual average TSP concentrations from each representative monitoring site for data collected between 2013 and 2020. Annual average TSP concentrations were clearly higher in 2018 and 2019 than in the preceding five years. Again this outcome was influenced by the drought conditions and lower than average rainfall. The increases in TSP concentrations were not unique to the Hunter Valley.

Table 11 Summary of measured TSP concentrations

Year	Kilburnie South	Knodlers Lane	Long Point	Maison Dieu	Warkworth	EPA assessment criterion	DA 450-10- 2003 / PA 06_0261
Annual avera	ge in µg/m³						
2013	49	81	62	65	56	90	°90 / °90
2014	57	66	57	62	54	90	°90 / °90
2015	58	54	62	53	52	90	°90 / °90
2016	54	68	59	50	43	90	°90 / °90
2017	75	74	81	58	63	90	°90 / °90
2018	108	105	105	83	80	90	ª90 / ª90
2019	145	122	88	125	99	90	°90 / °90
2020	83	74	57	63	76	90	°90 / °90

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

The TSP monitoring data are reviewed by HVO as part of annual reporting and with consideration of extraordinary events, as outlined in **Section 4.3.1**. These reviews have shown that HVO has complied with the TSP criteria specified in the HVO North development consent and HVO South project approval.

4.3.5 Deposited Dust

Air quality criteria for deposited dust are usually set to protect against nuisance amenity impacts. Monitoring of deposited dust relates to the collection of particles that settle from the ambient air. Insoluble and soluble matter is separated by filtration and the mass of dried insoluble solids is determined gravimetrically. The exposure period is 30 ± 2 days and one result (of insoluble solids) is obtained every month.

Monitoring of deposition dust is carried out by HVO at ten locations (**Figure 16**) and the measurements are used to determine ongoing compliance with the HVO North development consent. The HVO South project approval does not contain deposited dust criteria.



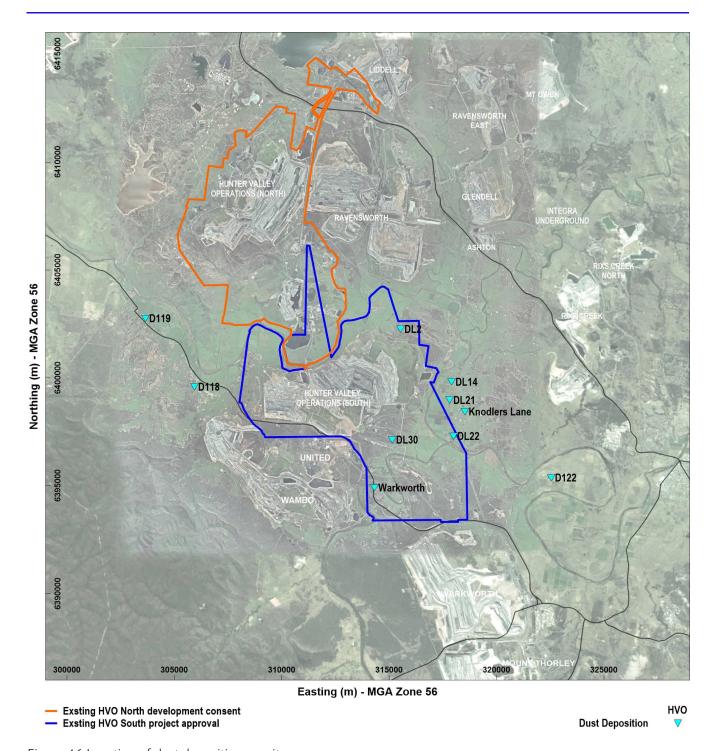


Figure 16 Location of dust deposition monitors

The monitors that are most representative of the nearest neighbouring residential area are:

- D119 at Jerrys Plains
- D118 at Kilburnie South
- Knodlers Lane
- D122 at Long Point
- DL14 at Maison Dieu
- Warkworth



Table 12 shows the annual average deposited dust levels from each representative monitoring site for data collected between 2013 and 2020. Two locations, Kilburnie South and Warkworth, have experienced deposited dust levels above the $4 \text{ g/m}^2/\text{month}$ criterion in one or more of the past eight years. No other location has experienced deposited dust levels above the $4 \text{ g/m}^2/\text{month}$ criterion in the past eight years.

Table 12 Summary of measured deposited dust

Year	Jerrys Plains (D119)	Kilburnie South (D118)	Knodlers Lane	Long Point (D122)	Maison Dieu (DL14)	Warkworth	EPA assessment criterion	DA 450-10- 2003 / PA 06_0261	
Annual avera	Annual average in g/m²/month								
2013	2.6	2.2	2.6	3.5	1.9	3.3	4	a4/-	
2014	2.5	3	1.4	2.7	2	2.8	4	a4/-	
2015	2.9	2.2	1.5	2.6	2.2	3	4	a4/-	
2016	1.7	2.4	1.5	3.4	1.3	3.1	4	a4/-	
2017	2	2.8	2.3	3.0	2	4.2	4	a4/-	
2018	2.4	3.7	2.3	4.0	1.9	4.2	4	a4/-	
2019	3.2	4.8	2.2	3.6	2.3	5.3	4	a4/-	
2020	3.5	3.8	1.8	3.3	1.8	5.5	4	a4/-	

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

The deposited dust monitoring data are reviewed by HVO as part of annual reporting and with consideration of extraordinary events, as outlined in **Section 4.3.1**. These reviews have shown that HVO has complied with the deposited dust criteria specified in the HVO North development consent.

4.3.6 Nitrogen Dioxide (NO₂)

Table 13 provides a summary of the measured NO_2 concentrations from Singleton, the closest known air quality monitoring site which records this air quality indicator. These data show that the maximum NO_2 concentrations have not exceeded the, then applicable. EPA's 1-hour average assessment criterion of 246 μ g/m³ (now 164 μ g/m³). Annual averages have not exceeded the, then applicable, EPA's annual average assessment criterion of 62 μ g/m³.

Table 13 Summary of measured NO₂ concentrations

Year	Singleton	EPA assessment criterion							
Maximum 1-ho	Maximum 1-hour average in μg/m³								
2013	84	246							
2014	74	246							
2015	66	246							
2016	66	246							
2017	74	246							
2018	72	246							
2019	76	246							
2020	68	246							
Annual average	· in µg/m³								
2013	18	62							
2014	16	62							
2015	16	62							



Year	Singleton	EPA assessment criterion
2016	16	62
2017	17	62
2018	16	62
2019	14	62
2020	12	62

Nitrogen dioxide is a component of NO_x . Emissions of NO_x from combustion related sources will include both nitric oxide (NO) and NO_2 . In general, at the point of emission, NO will comprise the greatest proportion of the total NO_x emission. Typically, this is 90% by volume of the NO_x . The remaining 10% will comprise mostly NO_2 . Ultimately however, much of the NO emitted into the atmosphere is oxidised to NO_2 . The rate at which this oxidisation takes place depends on prevailing atmospheric conditions including temperature, humidity and the presence of other substances in the atmosphere such as ozone. It can vary from a few minutes to many hours. The rate of conversion is important because from the point of emission to the point of maximum ground-level concentration there will be an interval of time during which some oxidation will take place. If the dispersion is sufficient to have diluted the plume to the point where the concentration is very low, then the level of oxidation is unimportant. However, if the oxidation is rapid and the dispersion is slow then high concentrations of NO_2 can occur.

The NO_x monitoring data in the Hunter Valley show that percentage of NO_2 in the NO_x is inversely proportional to the total NO_x concentration, and when NO_x concentrations are high, the percentage of NO_2 in the NO_x is typically of the order of 20%. This is demonstrated by **Figure 17** which shows that, for high NO_x concentrations, the NO_2 to NO_x ratio reduces to less than 20%.

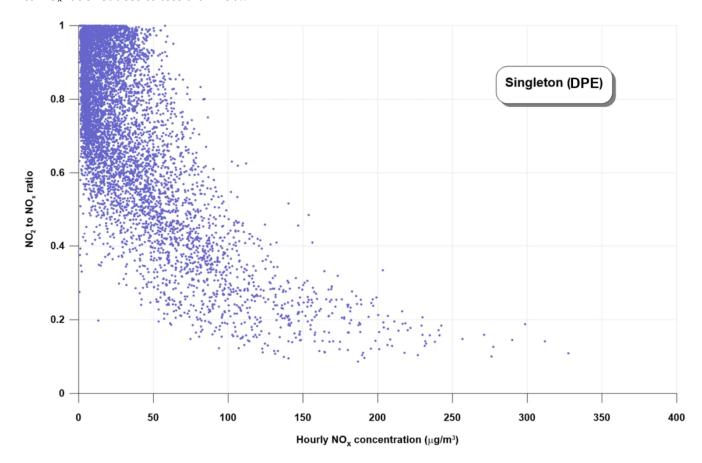


Figure 17 Measured NO₂ to NO_x ratios from hourly average data collected at Singleton in 2014



4.4 Greenhouse Gas

The National Greenhouse and Energy Reporting (Measurement) Determination 2008 (Measurement Determination) provides methods, criteria and measurement standards for calculating and reporting greenhouse gas emissions and energy data under the NGER Act. It covers scope 1 and scope 2 emissions and energy production and consumption. The Measurement Determination is used for historical reporting of activities.

Greenhouse gas emissions from the HVO Complex are calculated using the Measurement Determination and reported in accordance with the NGER Act. **Table 14** shows the reported GHG emissions for recent years. The decrease in reported Scope 1 emissions after 2014/15 was largely due to HVO adopting a more accurate method of reporting fugitive emissions (i.e. Method 2 instead of Method 1).

Lat	ole i	14	Re	port	ed	green	house	gas	emissic	ns

D .:	ROM coal	Direct emission	Direct emission intensity	
Reporting year	production (Mt)	Scope 1	Scope 2	(Mt CO ₂ -e/Mt ROM)
2013/2014	17.67	1.12	0.13	0.07
2014/2015	17.58	1.11	0.12	0.07
2015/2016	17.75	0.48	0.12	0.03
2016/2017	20.48	0.55	0.12	0.03
2017/2018	18.85	0.62	0.11	0.04
2018/2019	18.63	0.58	0.11	0.04
2019/2020	18.80	0.56	0.11	0.04
2020/2021	14.87	0.56	0.09	0.04

4.5 Summary of Existing Environment

The review of the existing environment led to the following observations:

- Meteorological conditions do not vary significantly from year to year, except for rainfall, and conditions in 2014 were identified as most representative of the long term, local conditions around the HVO Complex.
- Air quality conditions are strongly correlated to the climatic conditions. For example, there was a
 deterioration in air quality conditions between 2017 and 2019 that were heavily influenced by drought,
 dust storms and bushfires. These conditions were not unique to the Hunter Valley.

One of the objectives for reviewing the air quality monitoring data was to determine appropriate background levels to be added to Project contributions for the assessment of potential cumulative impacts. For this objective, it was important to identify appropriate data from monitoring stations that are sufficiently close to the Project but not adversely influenced by those sources which are proposed for modification, such as mining operations. This is to avoid double-counting.

For PM $_{10}$, an hourly variable background concentration dataset was derived by adopting the minimum measured non-zero PM $_{10}$ average concentration from all DPE monitors near the Project for each hour in the representative year (2014). A key assumption to this approach was that the minimum value from these sites reflected a location that was not being influenced by emissions from the sources or operations in the models for the Project. A similar approach was not possible for PM $_{2.5}$ as representative monitoring only commenced in 2019 onwards and were not being collected in the representative year (2014). It was therefore assumed that the background PM $_{2.5}$ concentrations would follow the same profile as the derived background PM $_{10}$ concentrations but with an annual average that matched the available and more recently (2020) measured PM $_{2.5}$ concentrations near the Project, at the Kelly monitoring location, as described in **Section 4.3.3**.

Figure 18 shows a graphical representation of the assumed background PM_{10} and $PM_{2.5}$ concentrations that were used in this assessment and added to the model results for the Project. As can be seen from Figure 18 these background concentrations have been inferred from the measurement data. The statistics of the resultant datasets (included in Table 15) indicate that this approach, and its inherent assumptions, produce estimated background levels which are similar to actual measurements in the study area.

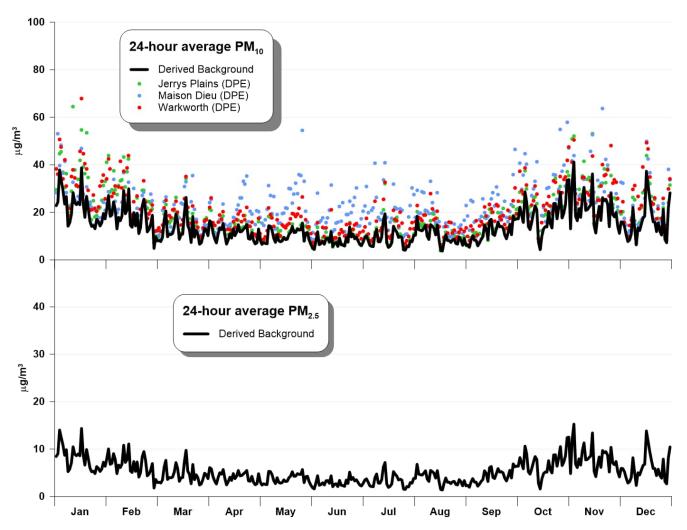


Figure 18 Background PM₁₀ and PM_{2.5} concentrations as inferred from the measurement data

Table 15 shows the assumed background levels that apply at sensitive receptors, taking into account the objectives described above. These levels (or approach) have been added to Project contributions to determine the potential cumulative impacts.



Table 15 Assumed background levels that apply at sensitive receptors

Air quality indicator	Averaging time(s)	Assumed background level that applies at sensitive receptors	Notes				
Particulate matter (PM ₁₀)	24-hour Annual	Variable by day (see Figure 18)	An hourly variable background dataset was derived (see Figure 18) and added to the model results. This dataset was created by using the minimum measured non-zero PM ₁₀ concentration from all DPE monitors for each hour in the representative year (2014). Statistics from the resultant dataset are as follows: - Maximum 24-hour average = $41 \mu g/m^3$ - Annual average = $14 \mu g/m^3$ The data derived above have been added to the modelled Project contributions for the assessment of potential cumulative impacts, in accordance with EPA guidelines.				
Particulate matter (PM _{2.5})	24-hour Annual	Variable by day (see Figure 18)	An hourly variable background dataset was derived (see Figure 18) and added to the model results. It was assumed that the background PM _{2.5} concentrations would follow the same profile as the derived background PM ₁₀ concentrations but with an annual average that matched the available and more recently (2020) measured PM _{2.5} concentrations near the Project, as described in Section 4.3.3. Statistics from the resultant dataset are as follows: - Maximum 24-hour average = 15.3 μ g/m ³ - Annual average = 5.2 μ g/m ³ The data derived above are more conservative than historical estimates (for example, TAS, 2017) and have been added to the modelled Project contributions for the assessment of potential cumulative impacts, in accordance with EPA guidelines.				
Particulate matter (TSP)	Annual	57 μg/m³	Annual average TSP concentration in the representative year (2014) from Kilburnie South, a location least likely to be influenced by contributions from modelled sources.				
Deposited dust	Annual	2.5 g/m²/month	Annual average deposited dust level in the representative year (2014) from Jerrys Plains, a location least likely to be influenced by contributions from modelled sources.				
Nitrogen dioxide	1-hour	74 μg/m³	Maximum 1-hour average NO_2 concentration in the representative year (2014) from Singleton.				
(NO ₂)	Annual 16 μg/m³		Annual average NO_2 concentration in the representative year (2014) from Singleton.				



5. Assessment Methodology

This assessment has followed the procedures outlined in the Approved Methods (EPA, 2022). The Approved Methods include guidelines for the preparation of meteorological data, reporting requirements and air quality assessment criteria to assess the significance of potential impacts.

One of the main objectives of this assessment was to determine air quality outcomes for the neighbouring residential areas near the Project. These areas include Jerrys Plains, Warkworth, Maison Dieu and Long Point.

Specific methodologies for each of the identified key issues (from Section 2) are described below.

5.1 Construction Dust

Dust emissions from construction works have the potential to cause nuisance impacts if not properly managed. In practice, it is not possible to realistically quantify impacts using modelling. To do so would require knowledge of weather conditions for the period in which work will be taking place in each location on the site. The potential significance and impacts of construction dust have therefore been determined from a qualitative review, taking into consideration the intensity, scale, location and duration of the proposed works. **Section 7.1** provides the assessment of construction dust.

5.2 Operational Dust

Operational dust has been quantified by modelling. The choice of model has considered the expected transport distances for the emissions, as well as the potential for temporally and spatially varying flow fields due to influences of the locally complex terrain, non-uniform land use, and potential for stagnation conditions characterised by calm or very low wind speeds with variable wind directions. The CALPUFF model has been selected. This model is specifically listed in the Approved Methods and has been used to predict ground-level particulate matter concentrations and deposition levels due to the Project and other sources. Concentrations and deposition levels have been simulated for every hour of the representative year and results at local communities and sensitive receptors have then been compared to the relevant air quality assessment criteria.

Figure 19 shows and overview of the model inputs. Appendix C provides details of all model settings.

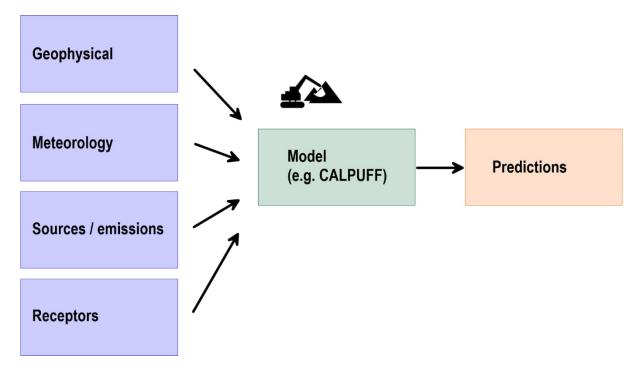


Figure 19 Overview of model inputs



Dust (particulate matter) is the most significant emission to air during the operational phase of the Project and estimates of these emissions are required by the dispersion model. Total dust emissions have been estimated for selected operational scenarios using the material handling schedule, equipment listing and mine plans combined with emission factors from:

- Emission Estimation Technique Manual for Mining (NPI, 2012); and
- AP 42 (US EPA 1985 and updates).

The Project production schedule has been used to identify a range of future operational years to be assessed. **Figure 20** shows the estimated ROM coal and overburden movements over the life of the Project. There are no specific guidelines or procedures which define an adequate level of information to demonstrate that selected scenarios are representative of worst-case impacts. The worst-case for one location may be different to the worst-case for another location so it is important to consider scenarios of mining at various locations and intensities as well as potential for cumulative effects with other existing or approved operations.

Five future operational scenarios have been selected; Year 3, Year 7, Year 11, Year 18 and Year 22. These years address the maximum material handling quantities, maximum haul distances, varying proximities to local communities, and combined interactions with other existing or approved mining operations.

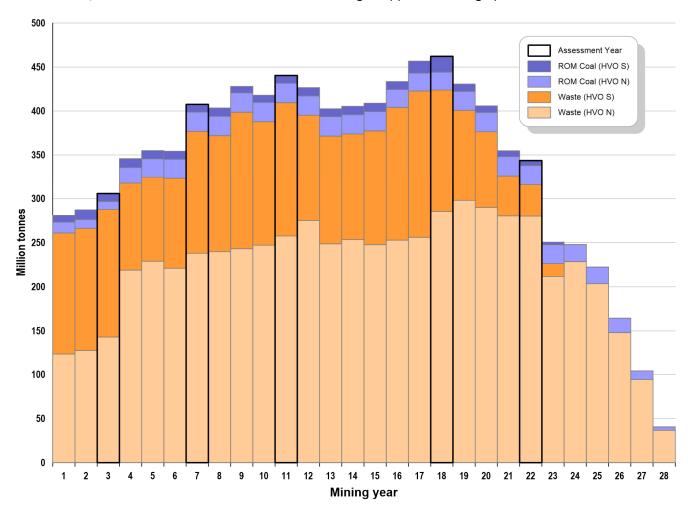


Figure 20 Estimated ROM coal and overburden movements over the life of the Project

A scenario for a historical, representative year (2014) was also developed to evaluate the performance of the model. For this scenario the model results were compared to monitored results to determine the level of confidence that can be assumed for the future scenarios. The assessment focussed primarily on the performance of the model for predicting PM_{10} as the air quality review (**Section 4.3**) showed that PM_{10} was a key air quality issue due to a higher number of historical exceedances of EPA assessment criteria. TSP and deposited dust were



also considered. It was not possible to evaluate the performance of the model for predicting $PM_{2.5}$ or NO_2 as there are insufficient $PM_{2.5}$ or NO_x monitors in the model domain to allow for a comparison between measured and modelled levels.

The modelling has considered contributions from the Project as well as from existing, surrounding mining operations, and in the case of future operating scenarios, approved mining operations. **Table 16** shows the assumed ROM coal production data from each operation in the model domain. The data for 2014 were derived from the Annual Review produced by each mining operation and available on their respective websites. The Annual Reviews also included overburden handling quantities and plans showing the mining locations which are important for determining site dust emissions.

Production data and location of mining operations for future mining scenarios have been sourced from publicly available materials including relevant assessment documents (i.e. Environmental Assessments, EIS etc.) for the existing and approved operations. These have been included in the model for future mining scenarios reflective of their current approved life and maximum approved production limit in accordance with the development consent in place at the time of completing this assessment. Estimated production quantities for the Project were provided by HVO.

Table 16 Assumed ROM coal production from each mining operation in the model domain

	ROM	coal production	on (Mtpa). Fu	ture calendar	years are ind	licative
Operation	2014	Year 3 (2025)	Year 7 (2029)	Year 11 (2033)	Year 18 (2040)	Year 22 (2044)
HVO North (DA 450-10-2003)	9.4	Figure 20	Figure 20	Figure 20	Figure 20	Figure 20
HVO South (MP 06_0261)	8.6	Figure 20	Figure 20	Figure 20	Figure 20	Figure 20
Ashton Coal Underground (DA 309-11-2001-i) ***	2.8	-	-	-	-	-
Glendell Mine* (SSD-9349)	4.4	10	10	10	10	10
Integra Underground (PA 08_0101) **	0.8	4.5	4.5	4.5	-	-
Liddell Mine (DA 305-11-01)	6.7	-	-	-	-	-
Mt Owen Mine (SSD-5850)	10	10	10	10	-	-
Mt Thorley Mine (SSD 6465)	6.3	10	10	10	-	-
Ravensworth Mine (09_0176)	10.9	16	16	16	16	-
Rixs Creek North Mine (MP 08_0102)	C&M	6	6	6	-	-
Rixs Creek South Mine (SSD 6300)	2.8	3.6	3.6	3.6	3.6	-
United Wambo Mine (SSD-7142)	-	10	10	10	10	-
Wambo Mine (DA 305-7-2003 & DA 177-8-2004)	5.4	17.75	17.75	17.75	17.75	-
Warkworth Mine (SSD 6464)	11.4	18	18	18	-	-

^{*} Application was recently (28/10/22) refused after the completion of modelling for the Project. Model is therefore conservative. ** Likely to close at the end of 2023. Kept in this assessment for conservatism. *** Modification 11 now approved up to the end of 2035. This will not have any material impact on the current assessment outcomes. C&M: operation in care and maintenance.

Table 17, **Table 18** and **Table 19** summarise the estimated annual TSP, PM₁₀ and PM_{2.5} emissions, respectively, due to the Project as well as all other operating, or assumed to be operating, mines in the model domain. It should be noted that the main intent of the inventories was to capture the most significant emission sources that may affect off-site air quality. Not every source will be captured. However, the contribution of emissions from sources not identified will be captured in the air quality monitoring data and these data have been added to the predicted Project contributions. Full details on the emission calculations, including assumptions, emission controls and allocation of emissions to modelled locations are provided in **Appendix D**.



Table 17 Estimated TSP emissions

	Annual TSP emissions (kg/y). Future calendar years are indicative							
Operation	2014	Year 3 (2025)	Year 7 (2029)	Year 11 (2033)	Year 18 (2040)	Year 22 (2044)		
HVO North	4,676,091	7,346,725	12,253,254	12,819,896	13,416,021	13,445,626		
HVO South	7,851,589	7,269,485	6,671,135	6,966,646	6,994,480	2,527,939		
Ashton Coal Underground ¹	114,780	-	-	-	-	-		
Glendell Mine* 1	2,411,539	3,274,887	3,274,887	5,017,124	2,992,017	2,992,017		
Integra Underground ¹	114,683	115,112	115,112	115,112	-	-		
Liddell Mine ¹	3,688,178	-	-	-	-	-		
Mt Owen Mine ¹	3,370,232	4,308,656	4,308,656	2,548,849	-	-		
- Ravensworth East ¹	1,312,714	-	-	-	-	-		
Mt Thorley (inc Warkworth Mine) ²	4,287,021	6,340,276	6,340,276	6,340,276	-	-		
Ravensworth Mine ¹	5,941,622	7,440,069	7,440,069	7,440,069	7,440,069	-		
Rixs Creek North Mine ¹	210,391	2,163,828	2,163,828	2,163,828	-	-		
Rixs Creek South Mine ¹	2,199,466	2,635,613	2,635,613	2,635,613	1,660,436	-		
United Wambo Mine (inc Wambo) ²	2,338,708	4,090,555	3,878,712	3,869,962	1,509,285	-		

^{*} Application was recently (28/10/22) refused after the completion of modelling for the Project. Model is therefore conservative. ¹ From method outlined in Jacobs, 2019. ² From method outlined in Jacobs, 2018.

Table 18 Estimated PM₁₀ emissions

	Annual PM ₁₀ emissions (kg/y). Future calendar years are indicative							
Operation	2014	Year 3 (2025)	Year 7 (2029)	Year 11 (2033)	Year 18 (2040)	Year 22 (2044)		
HVO North	1,564,716	2,485,357	3,890,963	4,088,883	4,324,304	4,322,811		
HVO South	2,487,886	2,431,378	2,160,977	2,273,657	2,225,077	878,496		
Ashton Coal Underground ¹	37,909	-	-	-	-	-		
Glendell Mine* 1	721,190	1,037,423	1,037,423	1,522,894	936,928			
Integra Underground ¹	37,863	38,066	38,066	38,066	-	-		
Liddell Mine ¹	1,147,692	-	-	-	-	-		
Mt Owen Mine ¹	1,034,433	1,357,907	1,357,907	828,949	-	-		
- Ravensworth East ¹	394,549	-	-	-	-	-		
Mt Thorley (inc Warkworth Mine) ²	1,436,640	2,046,153	2,046,153	2,046,153	-	-		
Ravensworth Mine ¹	1,940,467	2,414,566	2,414,566	2,414,566	2,414,566	-		
Rixs Creek North Mine ¹	108,449	691,822	691,822	691,822	-	-		
Rixs Creek South Mine ¹	682,901	811,805	811,805	811,805	511,437	-		
United Wambo Mine (inc Wambo) ²	784,068	1,350,845	1,265,919	1,295,987	505,434	-		

^{*} Application was recently (28/10/22) refused after the completion of modelling for the Project. Model is therefore conservative. ¹ From method outlined in Jacobs, 2019. ² From method outlined in Jacobs, 2018.



Table 19 Estimated PM_{2.5} emissions

Operation	Annual $PM_{2.5}$ emissions (kg/y) . Future calendar years are indicative									
	2014	Year 3 (2025)	Year 7 (2029)	Year 11 (2033)	Year 18 (2040)	Year 22 (2044)				
HVO North	265,529	383,166	587,421	620,603	654,496	663,428				
HVO South	401,543	381,116	346,319	365,612	352,706	1476,82				
Ashton Coal Underground ¹	3,530	-	_	-	-	-				
Glendell Mine* 1	130,163	191,639	191,639	287,474	173,953	173,953				
Integra Underground ¹	3,523	3,554	3,554	3,554	-	-				
Liddell Mine ¹	180,926	-	-	-	-	-				
Mt Owen Mine ¹ - Ravensworth East ¹	150,460 69,396	207,027	207,027	134,230 -	-	-				
Mt Thorley (inc Warkworth Mine) ²	217,559	305,553	305,553	305,553	-	-				
Ravensworth Mine ¹	290,083	345,834	345,834	345,834	345,834	-				
Rixs Creek North Mine ¹	15,779	111,572	111,572	111,572	-	-				
Rixs Creek South Mine ¹	118,692	133,542	133,542	133,542	84,131	-				
United Wambo Mine (inc Wambo) ²	127,642	214,775	204,971	209,031	81,522	-				

^{*} Application was recently (28/10/22) refused after the completion of modelling for the Project. Model is therefore conservative. ¹ From method outlined in Jacobs, 2019. ² From method outlined in Jacobs, 2018.

Emission estimates for 2014 were based on the production and material handling quantities contained in the respective Annual Reviews. Estimates for future years were based on the maximum approved production rates as per the relevant development consents with some exceptions as noted in the tables. It has also been assumed that the proposed but not yet approved projects will be operating in the future. These assumptions mean that the model predictions will likely over-state actual impacts as the mines are not likely to operate at their maximum approved production rate in each year.

Emissions from other mining operations were important for quantifying the potential cumulative impacts. Two approaches were considered for estimating emissions from other mining operations. These approaches included:

- Deriving emission estimates from previously published EIS data; or
- Recalculating emissions from other mines in the model domain specifically for this assessment.

The approach of recalculating emissions from other mining operations in the model domain has been chosen for this assessment, where detailed inventories were not available. This approach has been favoured because it maintains consistency in the emission calculation methods for all mining operations. It also has the following advantages over recent EIS data:

- TSP, PM₁₀ and PM_{2.5} can be separated for each activity for each mining operations. To date, most EIS air quality assessments have only calculated TSP emissions, with PM₁₀ and PM_{2.5} emissions derived from regional ratios such as those published by the SPCC (1986).
- The proportions of wind sensitive, wind insensitive and wind erosion activities can be more accurately defined. Historical assessments have often applied fixed ratios of these three activity types, usually based on information from the Mt Arthur Mine EIS (URS 2000).
- Pit retention can be modelled and the adjusted emissions can be made specific to each activity and the hourly wind speed.



 Triggered control factors can be modelled. For example, the effect of rainfall for suppressing dust from exposed areas can be simulated for relevant hours in the year.

There are also disadvantages to the approach of recalculating emissions from other mines. The main disadvantages are potential inconsistencies between the emission estimates and other published EIS emissions data, and the inability to precisely match source locations to future mine plans. However, it will be seen in **Section 7**, that the emission estimation approach combined with model setup assumptions has produced results which do not underestimate average concentrations at the key sensitive receptor locations.

The modelling has assumed that operations will be managed in accordance with the existing Air Quality and Greenhouse Gas Management Plan, however there will be additional operational controls in place at the HVO Complex that will also have a direct effect on emissions to air. Specifically, HVO is committed to the continued implementation of operational controls during adverse weather conditions in order to minimise impacts. The operational controls will result in reduced levels of activity at the HVO Complex relative to the capacity considered as part of the current air quality modelling. In practice these operational controls, which will vary on a daily basis, will lead to lower emissions to air than for unconstrained activities. Consequently the estimated emissions in **Table 17**, **Table 18** and **Table 19** should represent conservative estimates, as these further detailed operational controls are not included, and it follows that the modelled impacts of the Project will also be conservative. That is, the modelled impacts are likely to over-state actual impacts to some extent.

Mining operations were represented by a series of volume sources located according to the location of activities for each modelled scenario. Emissions from the dust generating activities at each operations were assigned to one or more of source location (refer to **Appendix D** for details of the allocations).

Dust emissions for all modelled mine-related sources have been considered to fit in one of three categories, as follows:

- Wind insensitive sources, where emissions are relatively insensitive to wind speed (for example, dozers).
- Wind sensitive sources, where emissions vary with the hourly wind speed, raised to the power of 1.3, a
 generic relationship published by the US EPA (1987). This relationship has been applied to sources such as
 loading and unloading of waste to/from trucks and results in increased emissions with increased wind
 speed.
- Wind sensitive sources, where emissions also vary with the hourly wind speed, but raised to the power of 3, a generic relationship published by Skidmore (1998). This relationship has been applied to sources including wind erosion from stockpiles, overburden emplacement areas or active pits, and results in increased emissions with increased wind speed.

Emissions from each volume source were developed on an hourly time step, taking into account the level of activity at that location and, in some cases, the hourly wind speed. This approach ensured that light winds corresponded with lower dust generation and higher winds, with higher dust generation.

Blasting activities and associated emissions were assumed to take place only during daylight hours. Blasting is allowed from 7 am to 6 pm Monday to Saturday however 9 am to 5 pm has been assumed for the modelling as this is the most common period for blasting. All other activities have been modelled for 24 hours per day.

Pit retention (that is, retention of dust particles within the open pits) has been included in the model simulations. The pit retention calculation determines the fraction of dust emitted in the pit that may escape the pit. The "escaped fraction" is a function of the gravitational settling velocity of the particles and the wind speed and is shown by the following relationship (US EPA, 1995).



Equation 1:

$$\varepsilon = \frac{1}{\left(1 + \frac{v_g}{\left(\alpha U_r\right)}\right)}$$

where

 ε = escaped fraction for the particle size category

 V_g = gravitational settling velocity (m/s)

 U_r = approach wind speed at 10 m (m/s)

 α = proportionality constant in the relationship between flux from the pit and the product of U_r and concentration in the pit (0.029)

To model the effect of pit retention, the emissions from mining sources within the open pits have been reduced, as per the calculation above. This approach means that much of the coarser dust would remain trapped in the pits. Typically, five per cent of the PM_{10} emissions are trapped in the pit using this calculation.

Finally, the model results at identified sensitive receptors were then compared with the EPA air quality assessment criteria, previously discussed in **Section 3.1**. Contour plots have also been created to show the spatial distribution of model results. **Section 7.2** provides the assessment of operational dust.

5.3 Operational Post Blast Fume

Blasting activities have the potential to result in fume and particulate matter emissions. Particulate matter emissions from blasting are produced from the modelling discussed in **Section 5.2**. Post-blast fume has also been quantified by modelling.

Post-blast fume can be produced in non-ideal explosive conditions of the ammonium nitrate/fuel oil (ANFO) and is visible as an orange / brown plume. The fumes comprise of NO_x including NO and NO_z and from the NO_x monitoring in the Hunter Valley (Section 4.3.6) the percentage of NO_z in the NO_x is inversely proportional to the total NO_x concentration. When NO_x concentrations are high, the percentage of NO_z in the NO_x is typically of the order of 20%.

The methodology for the operational post-blast fume modelling is outlined below:

- Blasts modelled as single volume sources in locations indicative of the centre of HVO North and HVO South.
- Release heights of 20 m, effective plume heights of 40 m, initial horizontal spread (sigma y) of 25 m and initial vertical spread (sigma z) of 10 m. These are conservative estimates based on the data presented by Attalla *et al.* (2008). No plume rise due to buoyancy was modelled, which is again a conservative assumption.
- Emissions assumed to occur every hour between 9 am and 5 pm. It is noted that blasting is allowed from 7 am to 6 pm Monday to Saturday however 9 am to 5 pm has been assumed for the modelling as this is the most common period for blasting.
- Blasting could be on any day of the week (a conservative assumption as, in accordance with the current development consent and project approval, blasting cannot occur on Sundays or public holidays unless written approval is obtained from the administering authority).
- NO $_{\rm x}$ emissions based on data presented in the Queensland *Guidance Note for the management of oxides in open cut blasting* (DEEDI, 2011). It was conservatively assumed that the initial NO $_{\rm 2}$ concentration in the plume would be 7 ppm (14.4 mg/m $^{\rm 3}$) based on the Rating 2 Fume Category in the Queensland Guidance Note. Of the 469 blasts that occurred between January 2019 to December 2020, 77% were rated as category 0, 13% were rated as category 1, 9% were rated as category 2 and 1% were rated as category 3. The assumption of a blast fume rating of 2 for every hour is therefore very conservative.



- The initial NO₂ concentration in the plume was converted to a total NO_x emission rate based on a detailed measurement program of NO_x in blast plumes in the Hunter Valley made by Attalla et al. (2008) which found that the NO:NO₂ ratio was typically 27:1, giving a NO_x:NO₂ ratio of approximately 18.6 g NO_x/g NO₂.
- Calculated emission of 356 g/s of NO_x per blast and an emission release time of 5 minutes.
- 20% of the NO_x is NO₂ at the points of maximum 1-hour average concentrations and at sensitive receptors.

Model results for post-blast fume have been compared to the applicable EPA air quality assessment criterion for NO_2 ; that is 164 μ g/m³ as a 1-hour average and taking background levels into account. **Section 7.2.5** provides the assessment of operational post blast fume.

5.4 Operational Diesel Exhaust

Emissions from diesel exhausts associated with off-road vehicles and equipment at mine sites are often deemed a lower air quality impact risk than dust emissions from the material handling activities. This is because of the relatively few emission sources involved, for example when compared to a busy motorway, and the large distances between the sources and sensitive receptors. Nevertheless, a review of the potential impacts has been carried out, including modelling to quantify the potential impacts.

The most significant emissions from diesel exhausts are products of combustion including CO, NO_x , PM_{10} and $PM_{2.5}$. It is the NO_x , or more specifically NO_2 , and PM_{10} (including $PM_{2.5}$) which have been assessed. DPE monitoring data have shown that CO concentrations have not exceeded relevant air quality criteria at rural or urban monitoring stations in NSW, indicating that this indicator represents a much lower air quality risk.

The modelling for operational dust (Section 5.2) has considered emission factors that represent the contribution from both wheel generated particulates and the exhaust particulates. These emission factors, including with control factors, are based on measured emissions which included diesel particulates in the form of both PM_{10} and $PM_{2.5}$. The emission factors are also likely to include more diesel exhaust particulate than from a modern truck as the factors were developed on the basis of emissions from trucks measured in the 1980s (that is, older trucks). Todoroski Air Sciences has also reported (TAS, 2016) that several studies, reported to the EPA, confirmed that a control factor of 85% can be maintained, representing all components of the truck haulage emission. This information highlights that the potential impacts of diesel exhaust emissions (as PM_{10} and $PM_{2.5}$) are represented in the model results for operational dust (Section 7.2).

Table 20 provides the explicit estimates of PM_{10} and $PM_{2.5}$ emissions due only to diesel plant and equipment exhausts. Emission factors for "Industrial off-road vehicles and equipment" from the EPA's 2008 Air Emissions Inventory (EPA, 2012) were used for the calculations and it has been assumed that there will be no reduction to emissions in the future; a conservative approach. These factors relate to diesel exhaust and evaporative emissions.

Table 20 Estimated PM₁₀ and PM_{2.5} emissions from diesel engines

Parameter	Year 3 (2025)	Year 7 (2029)	Year 11 (2033)	Year 18 (2040)	Year 22 (2044)	
Estimated fuel usage (kL) (source: HVO)	141,420	155,566	193,804	225,416	169,304	
PM ₁₀ calculations						
Diesel exhaust emission factor (kg/kL)	2.84	2.84	2.84	2.84	2.84	
Diesel exhaust emissions - all equipment (kg/y)	401,634	441,807	550,403	640,181	480,823	
PM _{2.5} calculations						
Diesel exhaust emission factor (kg/kL)	2.75	2.75	2.75	2.75	2.75	
Diesel exhaust emissions - all equipment (kg/y)	389,585	428,553	533,891	620,976	466,398	



Emissions of NO_x from diesel exhausts have been estimated using fuel consumption data, provided by HVO, and an emission factor from the EPA's Air Emissions Inventory for 2008 (EPA, 2012). **Table 21** shows the calculations. Again, it has been assumed that there will be no reduction to emissions in the future; a conservative approach.

Table 21 Estimated NO_x emissions from diesel engines

Parameter	Year 3 (2025)	Year 7 (2029)	Year 11 (2033)	Year 18 (2040)	Year 22 (2044)
Estimated fuel usage (kL) (source: HVO)	141,420	155,566	193,804	225,416	169,304
NO _x calculations					
Exhaust emission factor (kg/kL)	40.77	40.77	40.77	40.77	40.77
Exhaust emissions - all equipment (kg/y)	5,765,705	6,342,418	7,901,386	9,190,206	6,902,516

The NO_x emission estimates for Year 18 from **Table 21** have been explicitly modelled to provide an indication of the off-site NO_2 concentrations due to diesel exhaust emissions. **Section 7.4** provides the assessment of operational diesel exhaust.

5.5 Greenhouse Gas Emissions

The GHG inventory in this document has been calculated in accordance with the principles of the GHG Protocol and based primarily on the National Greenhouse Accounts (NGA) Factors as the NGA Factors are referred to in the SEARs for the purposes of project assessment. The NGA Factors is not published for the purposes of reporting under the NGER Act.

The initial actions for a greenhouse gas inventory are to determine the sources of greenhouse gas emissions, assess their likely significance and set a boundary for the assessment. Creating an inventory of the likely GHG emissions associated with the Project has the benefit of determining the scale of the emissions and providing a baseline from which to develop and deliver GHG reduction options.

The results of this assessment are presented in terms of the previously mentioned 'Scopes' to help understand the direct and indirect impacts of the Project. The GHG Protocol (and similar reporting schemes) dictates that reporting Scope 1 and 2 sources is mandatory, whilst reporting Scope 3 sources is optional. Reporting significant Scope 3 sources is recommended. Scope 3 emissions are a consequence of the activities of the company, but occur from sources not owned or controlled by the company. Some examples of Scope 3 activities include the extraction and production of purchased materials, transportation of purchased fuels, and use of sold products (i.e. burning of coal) and services. The inventory for this assessment includes all significant sources of GHGs (Scopes 1, 2 and 3) associated with the Project.

GHG emissions associated with operation of the HVO Complex are well understood, given that the mine is currently operating. Future projections of production, fuel usage and electricity usage (from HVO) were used to determine the additional greenhouse gas emissions from the Project. **Table 22** shows the key emission sources that have been considered in this assessment as well as the greenhouse gas emission estimation methodologies.

Table 22 Greenhouse gas emission sources and estimation methodologies

Activity	Description	Scope(s)	Emission estimation methodology
Construction			
Diesel usage	Combustion of diesel fuel from mobile and stationary plant and equipment.	1, 3	Emission factors from NGA Factors (DISER, 2021).
Vegetation	Loss of carbon sink due to removal of vegetation.	1	Calculated using "Carbon Gauge" developed by the Transport Authorities Greenhouse Group (TAGG, 2013) with total emissions



Activity	Description	Scope(s)	Emission estimation methodology
			distributed over the mine life in proportion to the ROM coal. Vegetation assumed to be "Class D Open woodlands". Biomass class set to "Class 3:100-150 (tonnes of dry matter per hectare [t dry matter/ha])" based on Project location.
Materials	Embodied energy of materials	3	Emission factors from the Infrastructure Sustainability Materials Calculator (ISMC) Version 2.0, developed by the ISCA (ISCA, 2019) including life cycle inventories and weighting factors (LCI, 2016).
Materials transport	Transport of materials to site	3	Emission factors from the Infrastructure Sustainability Materials Calculator (ISMC) Version 2.0, developed by the ISCA (ISCA, 2019) including life cycle inventories and weighting factors (LCI, 2016).
Operation			
Diesel usage	Combustion of diesel fuel from mobile and stationary plant and equipment.	1, 3	Emission factors from NGA Factors (DISER, 2021).
Fugitive	Fugitive emissions from the extraction of coal.	1	Emission factor of $0.014 t CO_2$ -e/t ROM based on historical NGERS reporting using Method 2 of Measurement Determination. Fugitive emissions post mining (for open cut mines) will reduce over time as mine voids fill with water, reducing the gas desorption from the coal.
Blasting	Detonation of explosives used for blasting.	1	Emission factors from NGA Factors (DCC, 2008). Blasting emissions are not reported in recent NGA Factors publications.
Electricity	Electricity usage.	2, 3	Emission factors from NGA Factors (DISER, 2021).
Transport (rail)	Transport of product coal by rail to port.	3	Emission factors from the Department for Environment, Food and Rural Affairs (DEFRA) (2019), based on "Freighting goods / freight train". 150 km assumed distance from mine to port.
Transport (shipping)	Transport of product coal by ship to market.	3	Emission factors from DEFRA (2019), based on "Freighting goods / cargo ship, bulk carrier". 8,000 km assumed distance from port to market (nominally South Korea, Japan).
Energy production	Combustion of thermal coal in power generators by end users.	3	Emission factors from NGA Factors (DISER, 2021).
Coking coal	Combustion of coking coal by end users.	3	Emission factors from NGA Factors (DISER, 2021).

Section 8 provides the assessment of greenhouse gas emissions.



6. Air Quality Model Performance

The performance of the model for simulating existing air quality conditions has been evaluated. This involved comparing model results with measurements for the representative year using information on meteorological and operating conditions at the time in order to establish the likely confidence in the model for future operations.

It should be noted that the ROM coal production at HVO in the representative year (2014) was 18 Mt compared to the approved limit of 38 Mt under previous consents (i.e. 40% lower) and that modelling for the future operations has been carried out assuming up to the proposed maximum material handling quantities at HVO. This means that results from modelling actual production in the representative year will be lower than results from modelling maximum approved production in the representative year. The results for potential future operations, based on maximum production, have been assessed in this context.

The model performance has been evaluated for operational dust impacts including:

- Maximum 24-hour average PM₁₀ concentrations;
- Annual average PM₁₀ concentrations;
- Annual average TSP concentrations; and
- Annual average dust deposition.

Model performance was not evaluated for $PM_{2.5}$ or NO_2 as there are insufficient monitors in the model domain to allow for a comparison between measured and modelled levels.

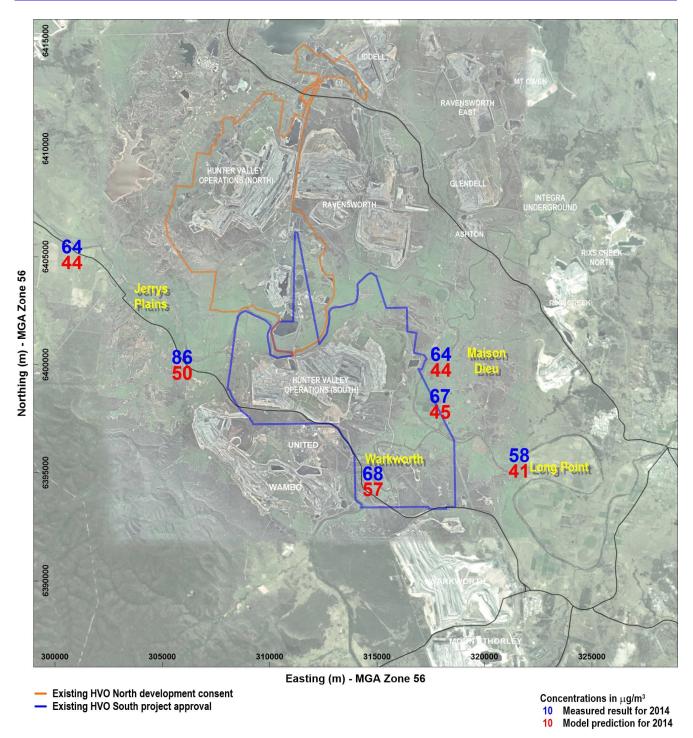
Figure 21 shows a comparison of measured and modelled maximum 24-hour average PM_{10} concentrations, based on conditions in 2014. As noted above, these comparisons are useful for determining the confidence in the model predictions for future operations. It should be noted that only one data point is available for each location (that is, the highest value). Figure 21 shows that the model results for maximum 24-hour averages are typically 25 percent lower than the measured result, depending on the location. These results highlight the difficultly in modelling short-term (24-hour average) concentrations and the highly variable nature of daily PM_{10} concentrations that can often be influenced by events that could not be anticipated.

Appendix E provides more detailed comparisons between the measured and modelled results for all percentiles. These comparisons indicated that the modelled maximum 24-hour average PM_{10} concentrations aligned with the measurements as follows:

- 9th highest measurement from Jerrys Plains.
- 14th highest measurement from Maison Dieu.
- Between 1st and 2nd highest measurement from Warkworth.

Again, this variability highlights that PM_{10} concentrations are often influenced by events that cannot be anticipated as seen in **Section 4.3**.



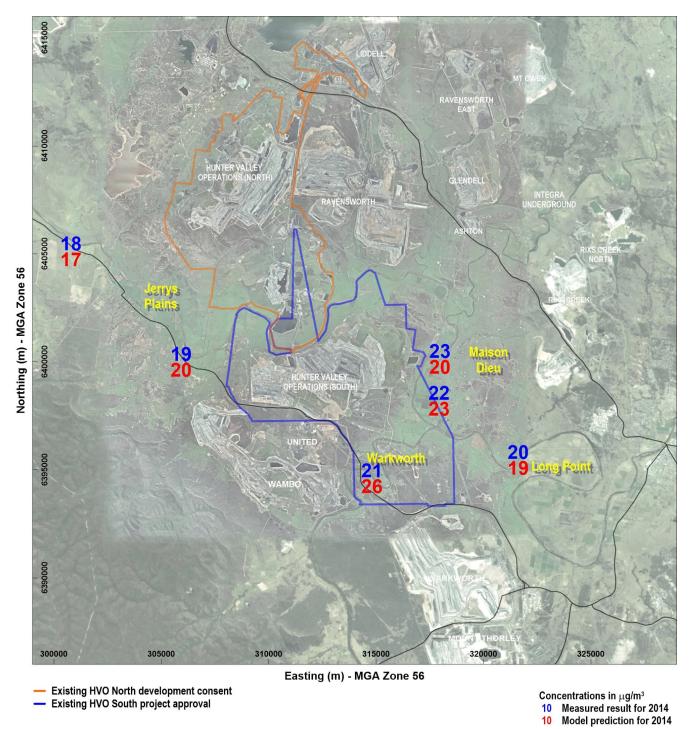


EPA assessment criterion is $50 \mu g/m^3$.

Figure 21 Comparison of measured and modelled maximum 24-hour average PM₁₀ concentrations



Figure 22 shows a comparison of the measured and modelled annual average PM_{10} concentrations for 2014. Annual averages are a more reliable statistic than maxima as there are more data points available; that is, 365 days versus one day. The comparison shows that the model results are typically within 1 μ g/m³ of the measurements. The exceptions to this are Warkworth, with an over-prediction of 5 μ g/m³, and the Maison Dieu monitoring location, with an under-prediction of 3 μ g/m³ (although there is also over-prediction at the nearby Knodlers Lane monitor). But overall the comparison indicates that the model is performing well for key sensitive receptor locations. Similar performance may be expected for the simulations of future conditions.

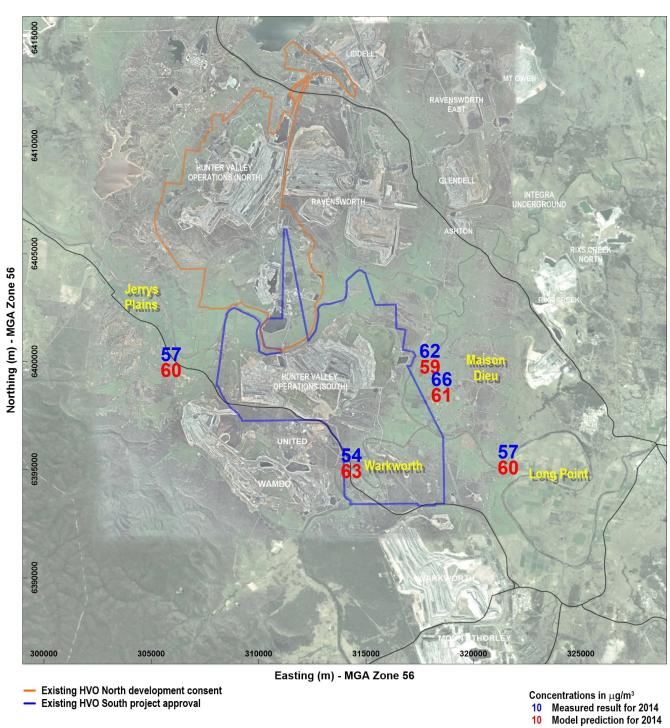


EPA assessment criterion is $25 \mu g/m^3$.

Figure 22 Comparison of measured and modelled annual average PM_{10} concentrations



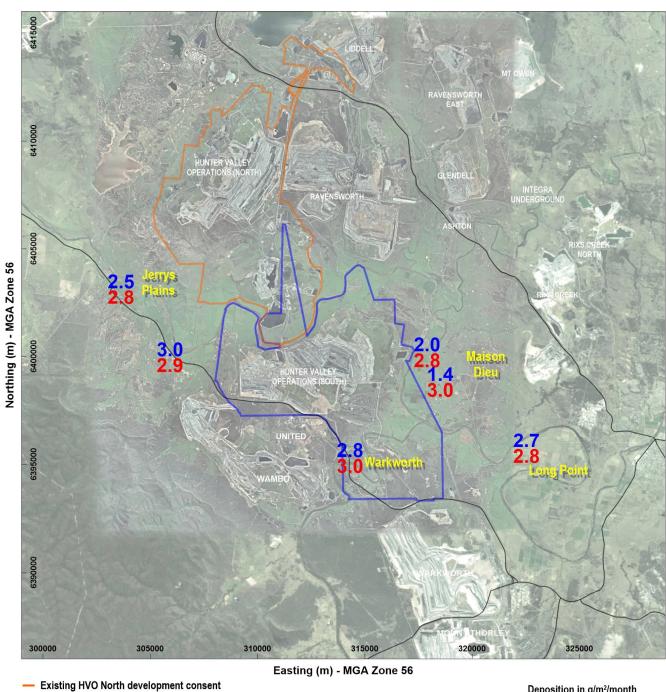
Figure 23 shows a comparison of the measured and modelled annual average TSP concentrations for 2014. This figure shows that the model results range from eight per cent lower to 17 per cent higher than the measurements, depending on the location.



EPA assessment criterion is $90 \mu g/m^3$.

Figure 23 Comparison of measured and modelled annual average TSP concentrations

Figure 24 shows a comparison of the measured and modelled annual average dust deposition levels for 2014. The model results are higher than the measurements at all but one location. Similar performance may therefore be expected from the models of future conditions.



Existing HVO South project approval

Deposition in g/m²/month 10 Measured result for 2014

0 Model prediction for 2014

EPA assessment criterion is $4 g/m^2/month$.

Figure 24 Comparison of measured and modelled annual average deposited dust



7. Air Quality Assessment

This section provides an assessment of the identified key air quality issues, from Section 2.

7.1 Construction Dust

Air quality impacts during construction would largely result from dust generated during earthworks and other engineering activities associated with the proposed construction works. Specifically, these works will primarily include:

- Upgrade of the existing Newdell LP and train loading facility and construction of a new product stockpile or extension of the HVLP product coal stockpile.
- Realignment of a section of Lemington Road and new bridge over the Hunter River.
- Realignment of sections of transmission and telecommunication lines.
- Construction of various water management infrastructure including flood protection levees, diversion drains, and enlargement of dams (Lake James and Parnells Dam).
- Construction of a haul road to Ravensworth Operations.

Given the uncertainties related to weather conditions, methods, sequences and material handling quantities, modelling of operational dust (Section 7.2) has not explicitly included contributions from construction related activities. However, an assessment of the potential cumulative effects between construction activities and mining operations has been undertaken based on indicative estimates of material handling quantities as well as assumptions on how the construction activities may occur.

Table 23 shows indicative estimates of material handling quantities for all key construction works, as supplied by HVO. These estimates include excavation, fill, gravel, concrete, and soil, among other materials necessary for specific activities. It is anticipated that most of the construction works will occur in Year 1 to 3. The estimates in **Table 23** will include doubling counting with mine waste but have, nevertheless, been used to develop a construction dust (TSP, PM_{10} and $PM_{2.5}$) emissions inventory for comparison with the Year 3 (2025) mine operational emission inventories.

Table 23 Indicative estimates of construction material handling quantities

Works	Indicative timing Year 1 = approx. 2023	Indicative volume of earth / material moved (cubic metres)
Construction Phase 1		
Tailings pipeline connection (HVO to Liddell)	Year 1-3	117,100
Transmission and telecommunication line relocations	Year 1-3	20,500
HVLP product stockpile extension	Year 1-3	57,400
HV MIA upgrades	Year 1-3	11,100
HVO North access road relocation	Year 1-3	33,800
Lake James enlargement	Year 1-3	584,900
Lemington Road realignment	Year 1-3	923,400
Mitchell Dam (Dam 2N)	Year 1-3	167,400
Mitchell clean water diversion	Year 1-3	143,800
Newdell LP upgrades and new product stockpile	Year 1-3	842,100
North Pit TSF flood protection levee	Year 1-3	154,500
Parnells Dam enlargement	Year 1-3	1,806,300



Works	Indicative timing Year 1 = approx. 2023	Indicative volume of earth / material moved (cubic metres)		
Future Construction Works				
Haul road from HVO to Ravensworth Operations	Year 3-4	2,128,100		
Cheshunt flood protection levee	Year 8	302,500		
Mitchell flood protection levee	Year 10	323,700		
Lemington CPP and rail (Year 13-15)	Year 13-15	605,100		
Total	-	8,221,700		

The material handling quantities from **Table 23** have been used to develop a construction dust emissions inventory based on the following conservative assumptions:

- All construction phase 1 works will occur concurrently.
- The combined total exposed areas of all work sites (approximately 398 ha) will be susceptible to wind erosion.
- Dust generating activities for construction works will include excavators loading to trucks, haulage by trucks
 of 50 t capacity, unloading trucks, and continuous wind erosion from exposed areas.
- Trucks will transport the estimated material volumes over unsealed routes for approximately one kilometre.
 Water carts will be used for dust suppression.

Table 24 shows the calculated annual emissions due to construction works including the emission estimates for the general operational mining activities (Year 3) for comparison. A conservative approach was taken for all assumptions listed above meaning that the resultant construction emission estimates in **Table 24** will represent maximum upper limits.

Table 24 Estimated emissions due to construction works for the Project

Atm	Annual emissions in Year 3	Construction as a percentage of			
Air quality indicator	Construction	Mining operation	operation		
TSP	477,052	14,616,209	3%		
PM ₁₀	216,977	4,916,734	4%		
PM _{2.5}	31,105	764,283	4%		

Table 24 shows that construction emissions have the potential to increase annual operational emissions in Year 3 by a maximum of 3% for TSP, 4% for PM_{10} and 4% for $PM_{2.5}$. These increases are not of a magnitude that will change the air quality outcomes of private sensitive receptors, as described in **Section 7.2**. Consequently, it has been concluded that the proposed construction works are unlikely to cause adverse air quality impacts. However, as for mining operations, it is important that exposed areas be stabilised as quickly as possible and that appropriate dust suppression methods be used to keep dust impacts to a minimum. Dust management will require the use of water carts, the defining of trafficked areas, the imposition of site vehicle speed limits and constraints on work under extreme unfavourable weather conditions, such as dry wind conditions. Monitoring would also need to continue during the construction phase to assess compliance with consent criteria.



7.2 Operational Dust

This section provides an assessment of the Project in terms of operational mining dust, based on the methodology described in **Section 5.2**. Model results have been assessed for each of the key particulate matter classifications. For readability, the results have been presented in terms of the contributions from HVO Complex however the individual contributions from HVO North and HVO South can be found in **Appendix F**.

7.2.1 Particulate Matter (as PM₁₀)

Figure 25 shows the modelled maximum 24-hour average PM_{10} concentrations due to the Project for each assessment scenario. The EPA does not prescribe a project only assessment criteria for 24-hour average PM_{10} , but the VLAMP refers to 50 μ g/m³ for the purposes of determining land acquisition and mitigation. The modelling shows that the 50 μ g/m³ criterion would not be exceeded at any private sensitive receptor. It should be noted that Warkworth Hall (ID 102) and the Hunter Valley Gliding Club (ID 833) are not considered to be sensitive receptors as they are not regularly occupied.

Compliance with the EPA's 24-hour average PM_{10} criterion of 50 $\mu g/m^3$ has also been assessed. This criterion relates to the total concentration in the air (that is, cumulative) and not just the contribution from the Project. As noted in **Section 4.3**, most locations around the HVO Complex, and in fact NSW, have historically recorded one or more days each year when the 24-hour average PM_{10} concentration exceeded 50 $\mu g/m^3$. The model has therefore been configured to show the number of days each year above 50 $\mu g/m^3$ and an assessment of whether the Project would cause additional exceedances has been made.

Figure 26 shows the modelled number of days above 50 μg/m³ due to HVO, other mining operations and other sources of PM₁₀. These results show that, for a representative year, the residential communities of Jerrys Plains, Maison Dieu and Long Point are expected to experience in the order of between one and five days per year when PM₁₀ concentrations exceed 50 μg/m³. This result is within the range of historically measured days when PM₁₀ concentrations have exceeded 50 μg/m³, with the exception of extraordinary years such as those years with increased occurrence of dust storms and bushfires. The review of recent and historical air quality monitoring data (**Section 4.3**) showed that, in the representative year (2014), all monitoring locations recorded between one and six days above 50 μg/m³. Based on the modelling the Project is not anticipated to change this outcome.

Additional investigation of the potential for the Project to cause an exceedance of the EPA assessment criteria has been carried out. This involved examining contemporaneous background and mining contributions for each day in the modelling year, referred to as a "Level 2" assessment by the Approved Methods.

Figure 27 and **Figure 28** show the time series of 24-hour average PM₁₀ concentrations at the nearest properties around Maison Dieu and Jerrys Plains; the two closest residential areas. At Maison Dieu (**Figure 27**) the modelling indicates that PM₁₀ concentrations are unlikely to exceed 50 μ g/m³, not including extraordinary events. At Jerrys Plains (**Figure 28**) the modelled indicates that the highest risk of PM₁₀ concentrations exceeding 50 μ g/m³ would be when contributions from background sources and other mines are elevated and predominantly around Year 11. The modelling indicates that the combined contributions of HVO North and HVO South have the potential to cause an exceedance of 50 μ g/m³ on up to five days in Year 11, with a maximum combined contribution of 13 μ g/m³. It is suggested that the potential to cause exceedances of 50 μ g/m³ can be managed through existing HVO air quality management measures, described in **Section 9**. This approach has been demonstrated by the site compliance history.

Figure 29 shows the modelled annual average PM_{10} concentrations due to the Project. There are no applicable "project only" assessment criteria from the EPA but it can be seen from these results that the contribution of the Project to annual average PM_{10} concentrations at the nearest local communities would be in the order of 5 μ g/m³ or less.

Figure 30 shows the modelled annual average PM_{10} concentrations due to the Project, other mining operations and other sources of PM_{10} . These results indicate compliance with the EPA's assessment criterion for annual average PM_{10} (25 μ g/m³) at all private sensitive receptors (not subject to air quality acquisition rights) with the



exception of Property 308 in Year 11. This result has been influenced by the combined contributions from the Project (with active mining moving closer to Jerrys Plains in later years), other mining operations and other sources of PM_{10} . Annual average contributions have been modelled to be 5.5 μ g/m³ from the combined contributions of HVO North and HVO South. It is suggested that the modelled non-compliance at property 308 is a conservative estimate and will not eventuate given that:

- Historical air quality monitoring (Section 4.3) has shown that annual average PM₁₀ concentrations near this location in non-extraordinary years have not exceeded 21 μg/m³ with levels ranging from 16 to 21 μg/m³.
- Modelling was carried out using a maximum proposed coal extraction rate which, at 18 Mtpa for HVO South, is lower than the approved extraction rate (20 Mtpa).

Nevertheless, continued monitoring of PM₁₀ in the Jerrys Plains area will be required to evaluate the contributions of the Project and, if approved, compliance with development consent criteria.

Table 25 provides a summary of the modelled operational PM_{10} concentrations at locations representative of the nearest residential areas, reflecting the conclusions outlined above. **Appendix F** provides tabulated results for all locations including the splits between HVO North and HVO South.

Table 25 Modelled operational PM_{10} concentrations at local communities

Representative receptors	Due	Due to Project (HVO Complex)				Cumulative						
(property ID)*	Y3 2025	Y7 2029	Y11 2033	Y18 2040	Y22 2044	2014	Y3 2025	Y7 2029	Y11 2033	Y18 2040	Y22 2044	Criterion
Maximum 24-hour average PM ₁₀	(µg/m³)											
Jerrys Plains (308)	16	17	18	27	18	50	55	53	58	55	47	50
Jerrys Plains (321)	11	14	16	29	23	49	47	48	52	59	51	50
Long Point (139) – off map	16	17	17	18	12	41	42	42	42	41	41	50
Maison Dieu (161)	28	18	19	24	28	44	46	47	47	46	41	50
Warkworth (102)	12	18	25	27	11	56	66	65	65	50	41	50
Number of days exceeding 50 μg,	/m³ PM ₁₀											
Jerrys Plains (308)	0	0	0	0	0	0	3	2	6	2	0	-
Jerrys Plains (321)	0	0	0	0	0	0	0	0	1	1	1	_
Long Point (139) – off map	0	0	0	0	0	0	0	0	0	0	0	_
Maison Dieu (161)	0	0	0	0	0	0	0	0	0	0	0	-
Warkworth (102)	0	0	0	0	0	2	36	27	24	0	0	_
Annual average PM ₁₀ (µg/m³)												
Jerrys Plains (308)	2.3	3.2	3.9	5.5	2.9	20	24	23	27	23	17	25
Jerrys Plains (321)	2.6	3.4	3.9	5.3	3.0	19	20	20	22	21	17	25
Long Point (139) – off map	2.7	2.9	2.9	3.0	1.9	19	20	20	20	18	16	25
Maison Dieu (161)	3.2	3.6	4.1	5.0	5.1	20	22	22	22	21	19	25
Warkworth (102)	2.0	2.9	3.8	3.8	1.8	26	38	37	35	21	16	25

^{*} Warkworth Hall (102) and the Hunter Valley Gliding Club (833) are not considered to be sensitive receptors as they are not regularly occupied.



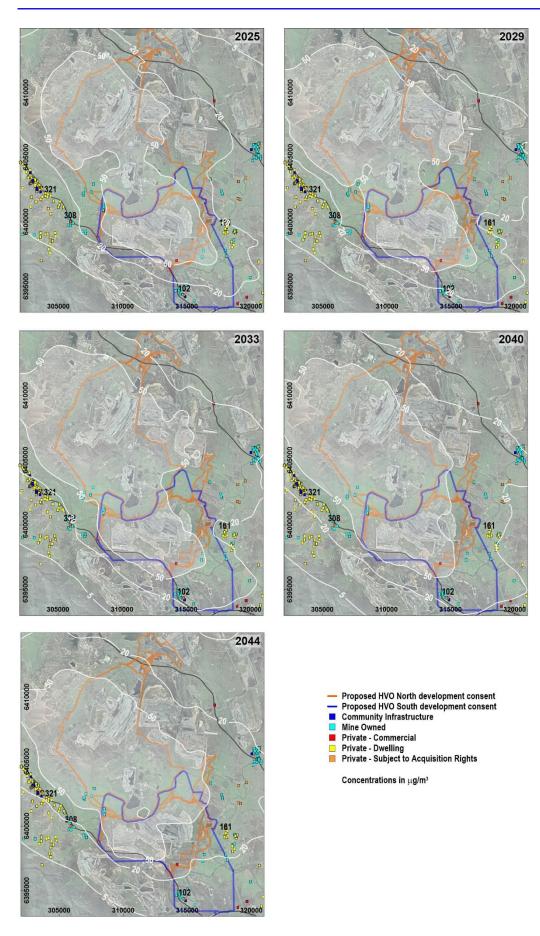


Figure 25 Modelled maximum 24-hour average PM₁₀ due to the Project



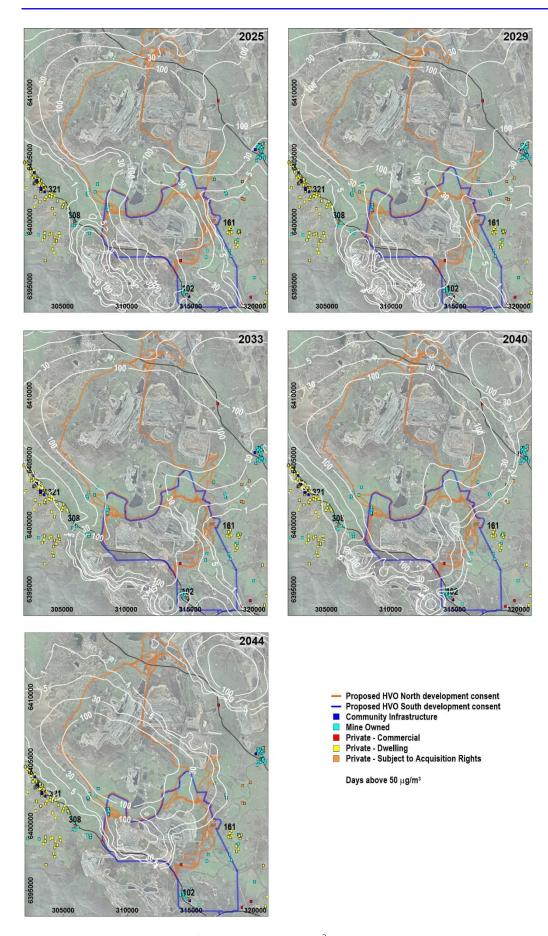


Figure 26 Modelled number of days above 50 $\mu g/m^3$ PM₁₀ due to the Project and other sources



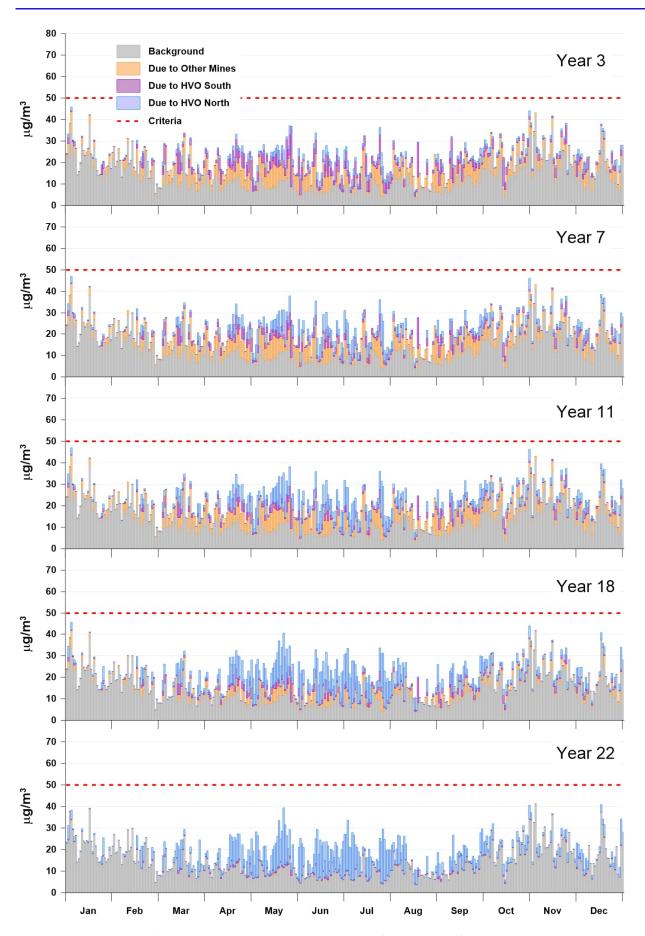


Figure 27 Time series of 24-hour average PM₁₀ at Maison Dieu (property 161)

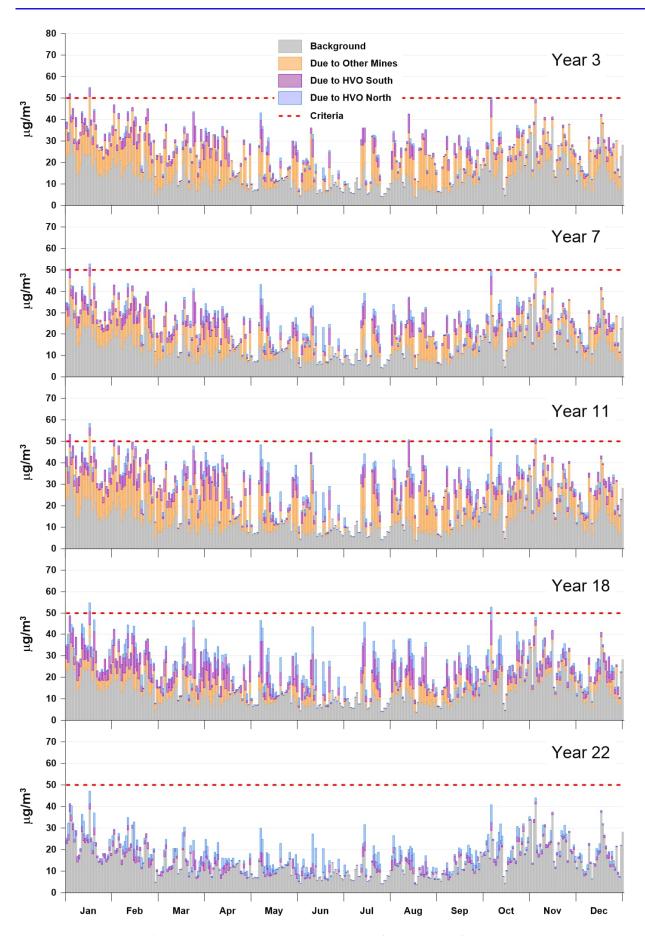


Figure 28 Time series of 24-hour average PM₁₀ at Jerrys Plains (property 308)



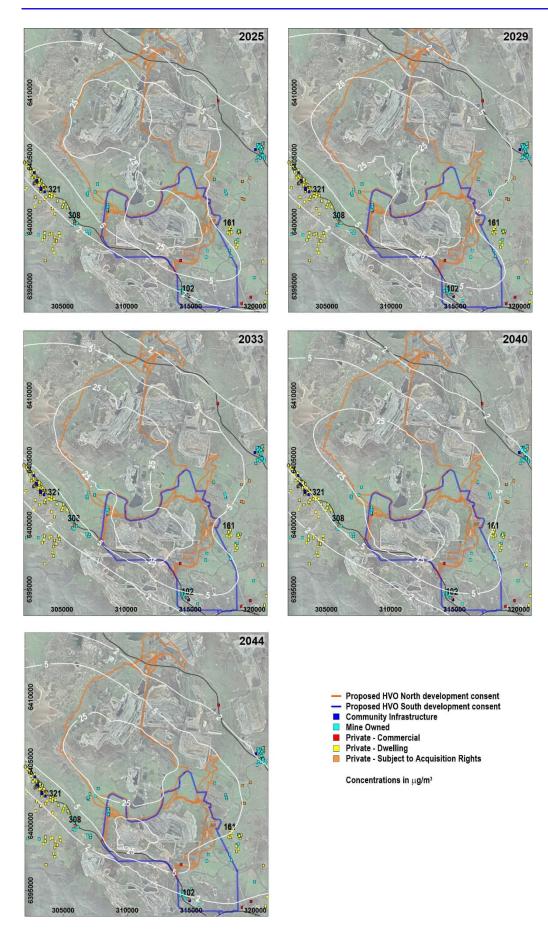


Figure 29 Modelled annual average PM_{10} due to the Project



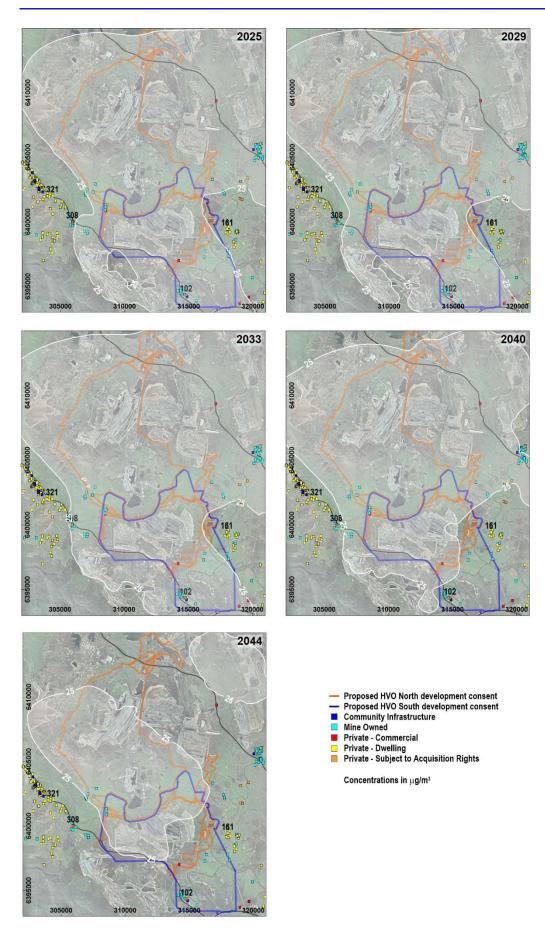


Figure 30 Modelled annual average PM₁₀ due to the Project and other sources



7.2.2 Particulate Matter (as PM_{2.5})

Figure 31 shows the modelled maximum 24-hour average $PM_{2.5}$ concentrations due to the Project for each assessment scenario. The EPA does not prescribe a project only assessment criteria for 24-hour average $PM_{2.5}$, but the VLAMP refers to 25 μ g/m³ for the purposes of determining land acquisition and mitigation. The modelling shows that the 25 μ g/m³ criterion would not be exceeded at any private sensitive receptor.

Compliance with the EPA's 24-hour average $PM_{2.5}$ criterion of 25 $\mu g/m^3$ has also been assessed. This criterion relates to the total concentration in the air (that is, cumulative) and not just the contribution from the Project. As noted in **Section 4.3**, most locations around the HVO Complex have historically recorded one or more days each year when the 24-hour average $PM_{2.5}$ concentration exceeded 25 $\mu g/m^3$. The model has therefore been configured to show the number of days each year above 25 $\mu g/m^3$ and an assessment of whether the Project would cause additional exceedances has been made.

Figure 32 shows the modelled number of days above $25 \mu g/m^3$ due to HVO, other mining operations and other sources of PM_{2.5}. These results show that, for a representative year, the residential communities of Jerrys Plains, Maison Dieu and Long Point are expected to experience one or less days per year when PM_{2.5} concentrations exceed $25 \mu g/m^3$. This result is within the range of historically measured days when PM_{2.5} concentrations have exceeded $25 \mu g/m^3$, with the exception of extraordinary years such as those years with increased occurrence of dust storms and bushfires. The review of recent and historical air quality monitoring data (Section 4.3) showed that, in the representative year (2014), all monitoring locations recorded between one and two days above $25 \mu g/m^3$. Based on the modelling the Project is not anticipated to change this outcome.

Figure 33 shows the modelled annual average PM_{2.5} concentrations due to the Project. There are no applicable "project only" criteria from the EPA but it can be seen from these results that the contribution of the Project to annual average PM_{2.5} concentrations at the nearest local communities would be in the order of 1 to $2 \mu g/m^3$.

Figure 34 shows the modelled annual average $PM_{2.5}$ concentrations due to the Project, other mining operations and other sources of $PM_{2.5}$. These results indicate compliance with the EPA's assessment criterion for annual average $PM_{2.5}$ (8 μ g/m³) at all private sensitive receptors not subject to air quality acquisition rights, except for property 308 in Year 11 (although 308 is entitled to voluntary noise acquisition rights with the UWJV). It is noted that some distant areas, such as Camberwell, are anticipated to experience annual average $PM_{2.5}$ above 8 μ g/m³ however these locations are not directly adjacent to HVO. That is, the primary influence on air quality will be other sources or operations. Nevertheless, continued monitoring of $PM_{2.5}$ will be required to evaluate the contributions of the Project and, if approved, compliance with development consent criteria.

Table 26 provides a summary of the modelled operational $PM_{2.5}$ concentrations at the identified local communities, reflecting the conclusions outlined above. **Appendix F** provides tabulated results for all locations including the splits between HVO North and HVO South.

Table 26 Modelled operational PM_{2.5} concentrations at local communities

Representative receptors	Du	Due to Project (HVO Complex)				Cumulative						
(property ID)*	Y3 2025	Y7 2029	Y11 2033	Y18 2040	Y22 2044	2014	Y3 2025	Y7 2029	Y11 2033	Y18 2040	Y22 2044	Criterion
Maximum 24-hour average Pl	M _{2.5} (μg/	'm³)										
Jerrys Plains (308)	4.1	4.6	4.7	8.3	6.2	17	17	17	19	18	17	25
Jerrys Plains (321)	3.2	4.4	4.7	8.3	7.5	16	16	16	17	18	17	25
Long Point (139) – off map	3.2	3.7	3.8	4.1	2.6	15	15	15	15	15	15	25
Maison Dieu (161)	6.3	4.7	5.1	5.8	5.6	16	16	16	16	16	15	25
Warkworth (102)	3.7	4.5	5.7	5.7	3.1	18	20	19	19	17	15	25
Number of days exceeding 25 μg/m³ PM _{2.5}												
Jerrys Plains (308)	0	0	0	0	0	0	0	0	0	0	0	_



Representative receptors	Du	Due to Project (HVO Complex)				Cumulative						
(property ID)*	Y3 2025	Y7 2029	Y11 2033	Y18 2040	Y22 2044	2014	Y3 2025	Y7 2029	Y11 2033	Y18 2040	Y22 2044	Criterion
Jerrys Plains (321)	0	0	0	0	0	0	0	0	0	0	0	-
Long Point (139) – off map	0	0	0	0	0	0	0	0	0	0	0	-
Maison Dieu (161)	0	0	0	0	0	0	0	0	0	0	0	-
Warkworth (102)	0	0	0	0	0	0	0	0	0	0	0	-
Annual average PM _{2.5} (µg/m³)											
Jerrys Plains (308)	0.5	0.8	0.9	1.3	0.8	6.6	7.0	7.0	8.3	7.3	6.0	8
Jerrys Plains (321)	0.6	0.8	0.9	1.3	0.9	6.4	6.5	6.7	7.1	6.9	6.1	8
Long Point (139) – off map	0.6	0.7	0.7	0.7	0.5	6.4	6.6	6.7	6.7	6.2	5.7	8
Maison Dieu (161)	0.8	0.9	1.0	1.2	1.2	6.9	7.2	7.3	7.3	6.9	6.4	8
Warkworth (102)	0.5	0.7	0.9	0.9	0.5	7.5	10.6	9.9	9.4	6.7	5.7	8

^{*} Warkworth Hall (102) and the Hunter Valley Gliding Club (833) are not considered to be sensitive receptors as they are not regularly occupied.



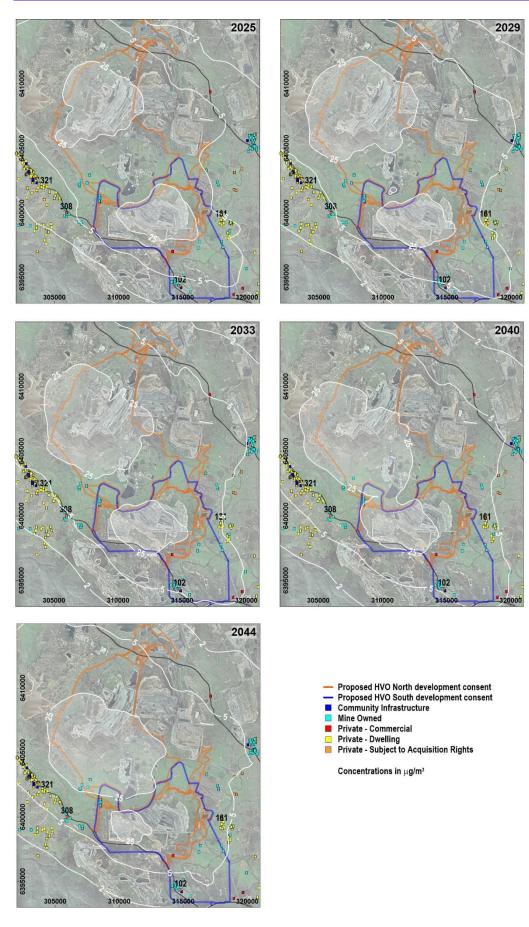


Figure 31 Modelled maximum 24-hour average PM_{2.5} due to the Project



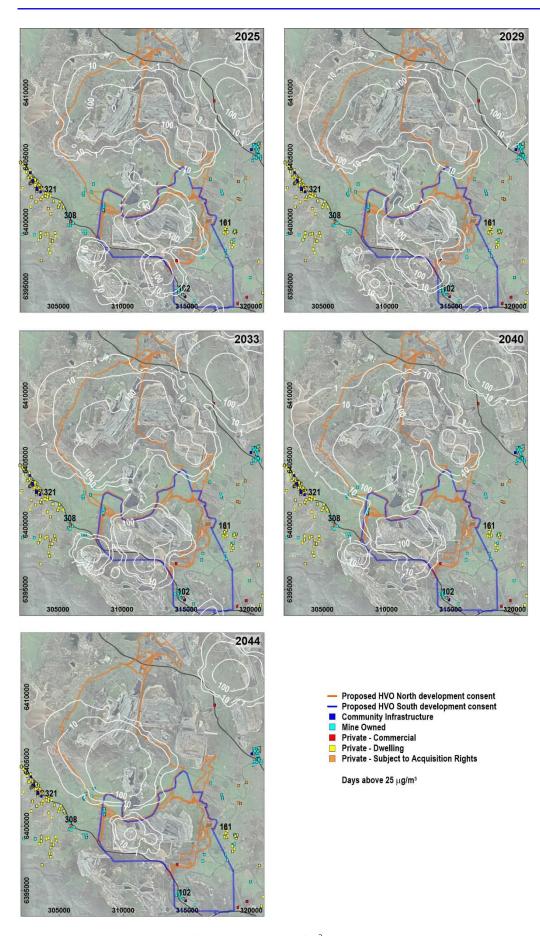


Figure 32 Modelled number of days above 25 $\mu g/m^3$ PM_{2.5} due to the Project and other sources



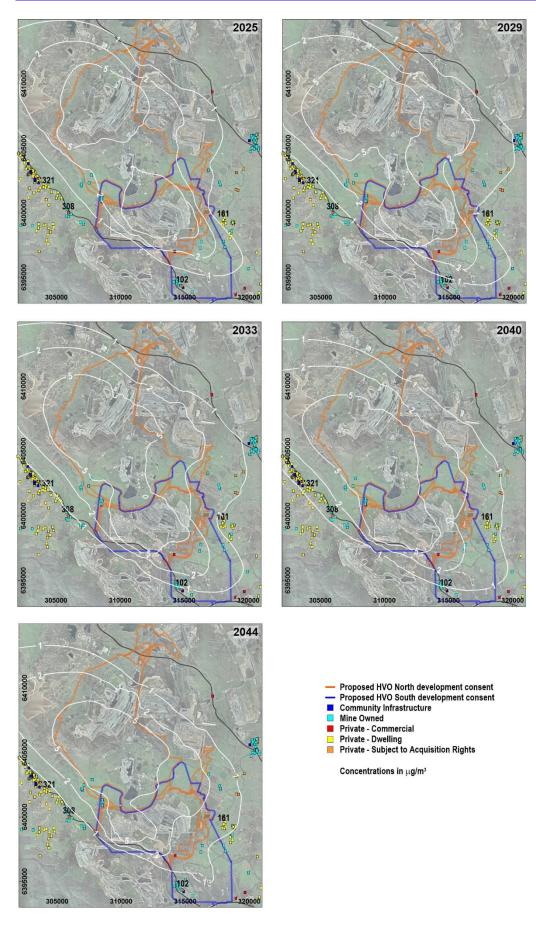


Figure 33 Modelled annual average PM_{2.5} due to the Project



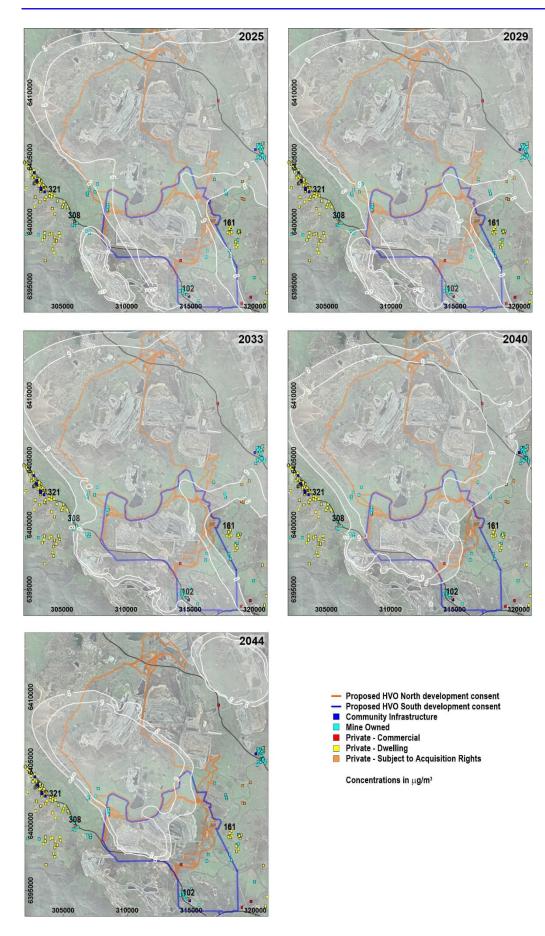


Figure 34 Modelled annual average PM_{2.5} due to the Project and other sources



7.2.3 Particulate Matter (as TSP)

Figure 35 shows the modelled annual average TSP concentrations due to the Project. There are no applicable "project only" criteria from the EPA but it can be seen from these results that the contribution of the Project to annual average TSP concentrations at the nearest local communities would be in the order of 2 to $5 \mu g/m^3$.

Figure 36 shows the modelled annual average TSP concentrations due to the Project, other mining operations and other sources of TSP. These results indicate compliance with the EPA's assessment criterion for annual average TSP (90 μ g/m³) at all private sensitive receptors not subject to air quality acquisition rights. Consequently, the Project is not anticipated to cause adverse air quality impacts in terms of TSP concentrations.

Table 27 provides a summary of the modelled operational TSP concentrations at the identified local communities, reflecting the conclusions outlined above. **Appendix F** provides tabulated results for all locations including the splits between HVO North and HVO South.

Table 27 Modelled operational TSP concentrations at local communities

Representative receptors	Due	to Proj	ect (HV	O Comp	lex)	Cumulative						
(property ID)*	Y3 2025	Y7 2029	Y11 2033	Y18 2040	Y22 2044	2014	Y3 2025	Y7 2029	Y11 2033	Y18 2040	Y22 2044	Criterion
Annual average TSP (µg/m³)												
Jerrys Plains (308)	1.3	1.9	2.6	3.1	1.4	61	62	62	67	63	58	90
Jerrys Plains (321)	1.6	2.0	2.4	2.9	1.4	60	60	60	62	61	58	90
Long Point (139) – off map	2.5	2.4	2.4	2.1	1.0	60	60	60	60	59	58	90
Maison Dieu (161)	2.6	2.0	2.2	2.7	2.7	60	60	60	60	60	60	90
Warkworth (102)	0.7	1.3	2.3	1.8	0.8	63	73	71	71	61	58	90

^{*} Warkworth Hall (102) and the Hunter Valley Gliding Club (833) are not considered to be sensitive receptors as they are not regularly occupied.



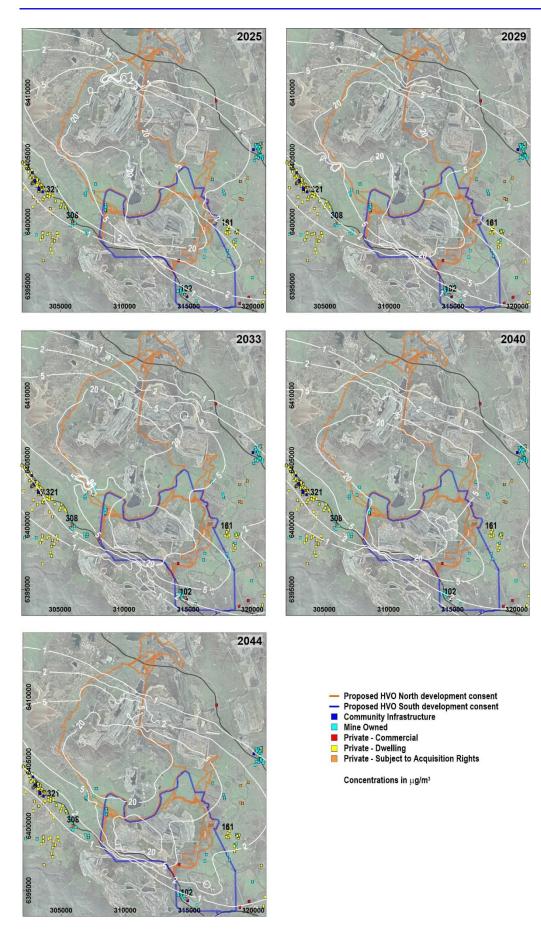


Figure 35 Modelled annual average TSP due to the Project



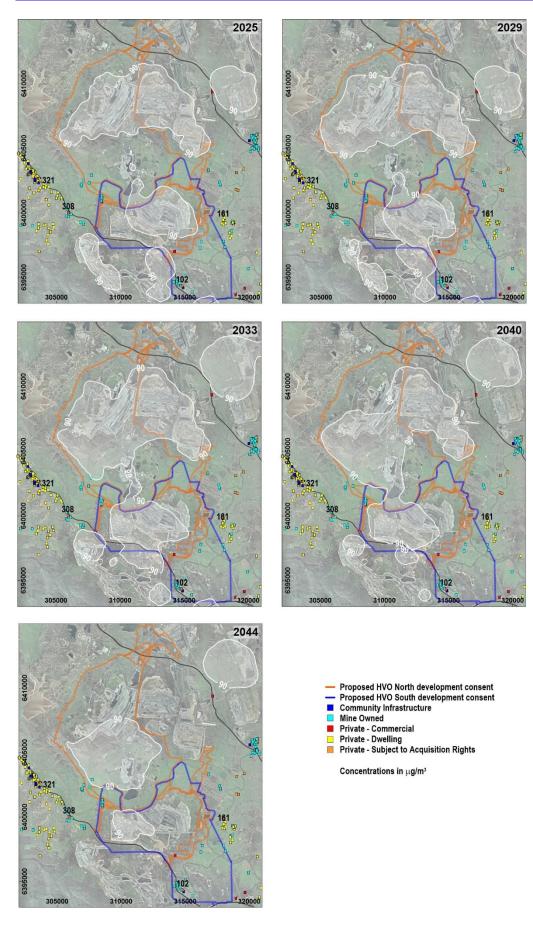


Figure 36 Modelled annual average TSP due to the Project and other sources



7.2.4 Deposited Dust

Figure 37 shows the modelled annual average deposited dust levels due to the Project. These results show that the EPA's assessment criterion for incremental deposited dust due to the Project on its own (2 $g/m^2/month$) will not be exceeded at private sensitive receptors. Figure 38 shows the modelled annual average deposited dust levels due to the Project, other mining operations and other sources of deposited dust. These results indicate compliance with the EPA's assessment criterion for total deposited dust (4 $g/m^2/month$) at all private sensitive receptors not subject to air quality acquisition rights. Consequently, the Project is not anticipated to cause adverse air quality impacts in terms of deposited dust levels.

Table 28 provides a summary of the modelled operational deposited dust levels at the identified local communities, reflecting the conclusions outlined above. **Appendix F** provides tabulated results for all locations including the splits between HVO North and HVO South.

Table 28 Modelled operational deposited dust at local communities

Denverentative recentors	Due	e to Proj	ect (HV	O Comp	lex)	Cumulative					6	
Representative receptors (property ID)*	Y3 2025	Y7 2029	Y11 2033	Y18 2040	Y22 2044	2014	Y3 2025	Y7 2029	Y11 2033	Y18 2040	Y22 2044	Criterion **
Annual average deposited dust (g/m²/month)												
Jerrys Plains (308)	0.2	0.2	0.3	0.4	0.2	2.9	3.0	3.1	3.5	3.2	2.7	4
Jerrys Plains (321)	0.2	0.2	0.3	0.4	0.2	2.8	2.9	2.9	3.0	2.9	2.7	4
Long Point (139) – off map	0.3	0.3	0.3	0.3	0.1	2.8	2.9	2.9	2.9	2.8	2.6	4
Maison Dieu (161)	0.3	0.2	0.3	0.3	0.3	2.8	2.9	2.8	2.8	2.9	2.8	4
Warkworth (102)	0.1	0.1	0.2	0.2	0.1	3.1	4.1	3.9	3.8	2.9	2.6	4

^{*} Warkworth Hall (102) and the Hunter Valley Gliding Club (833) are not considered to be sensitive receptors as they are not regularly occupied. ** Project only criterion is 2 g/m²/month. Cumulative criterion is 4 g/m²/month.



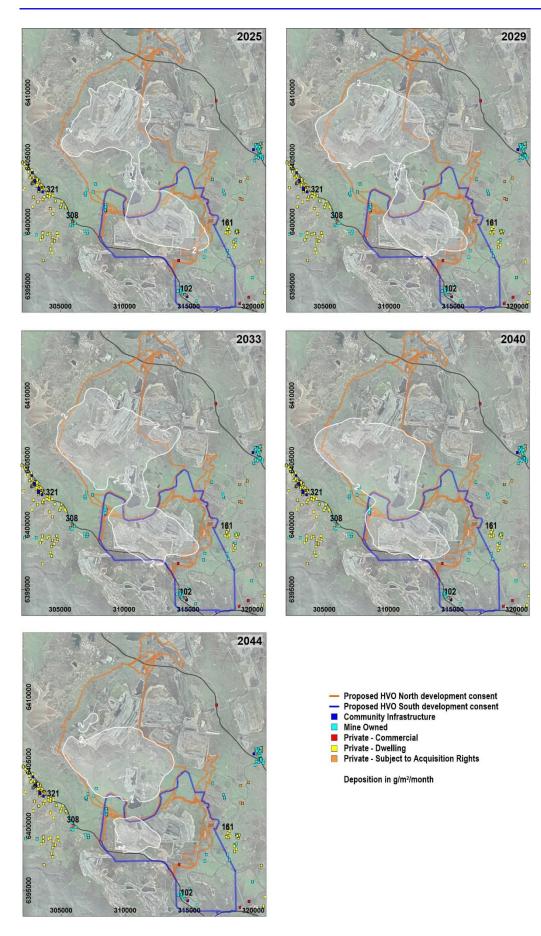


Figure 37 Modelled annual average deposited dust due to the Project



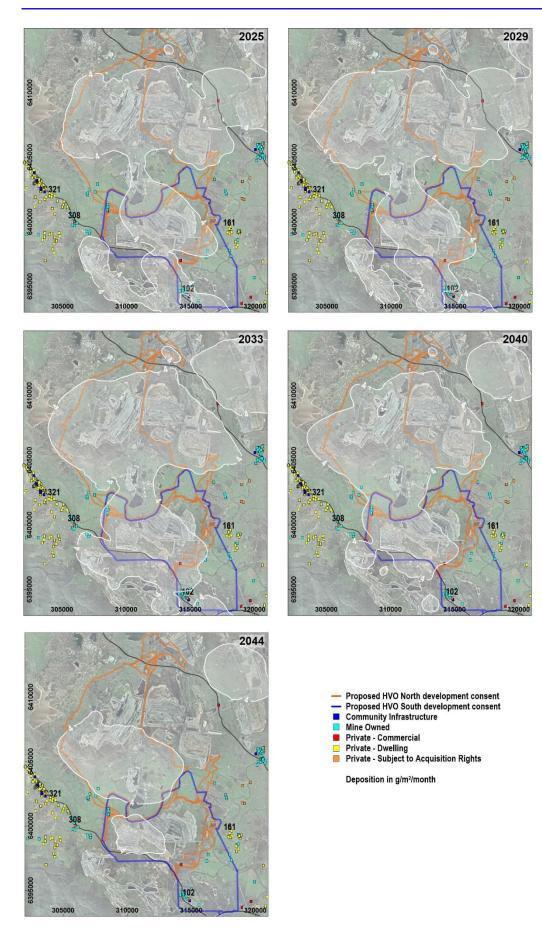


Figure 38 Modelled annual average deposited dust due to the Project and other sources



7.2.5 VLAMP Assessment

As noted in **Section 3.1**, the VLAMP specifies that voluntary acquisition rights may apply where, even with best practice management, the development contributes to exceedances of the criteria in **Table 6** at any residence or workplace on privately owned land, or on more than 25% of any privately owned land where there is an existing dwelling or where a dwelling could be built under existing planning controls.

Figure 39 shows the maximum extent of VLAMP criteria based on all assessment years and for all relevant air quality indicators. **Table 29** provides an assessment of the model results against the VLAMP criteria.

Table 29 Assessment against VLAMP criteria

Air quality indicator	Averaging time	Acquisition criterion	Assessment outcome from modelling					
	24-hour	50 μg/m ³ **	Compliance					
PM ₁₀	Annual	25 μg/m³*	Project may contribute to an exceedance of the criteria on more than 25% of privately owned land where there is an existing dwelling for the following landholdings: - 3//700476 (Property 308) - 5//251617, 8//3005, 9//3005 (Property 121)					
	24-hour	25 μg/m³**	Compliance					
PM _{2.5}	Annual	8 μg/m³*	Project may contribute to an exceedance of the criteria on more than 25% of privately owned land where there is an existing dwelling for the following landholdings: - 3//700476 (Property 308) - 5//251617, 8//3005, 9//3005 (Property 121)					
TSP	Annual	90 μg/m³*	Compliance					
Deposited	Annual (increase)	2 g/m²/month **	Compliance					
dust	Annual (total)	4 g/m²/month*	Compliance					

^{*} Cumulative impact (i.e. increase in concentrations due to the development plus background concentrations due to all other sources).

^{**} Incremental impact (i.e. increase in concentrations due to the development alone), with up to **five allowable exceedances** of the criteria over the life of the development.



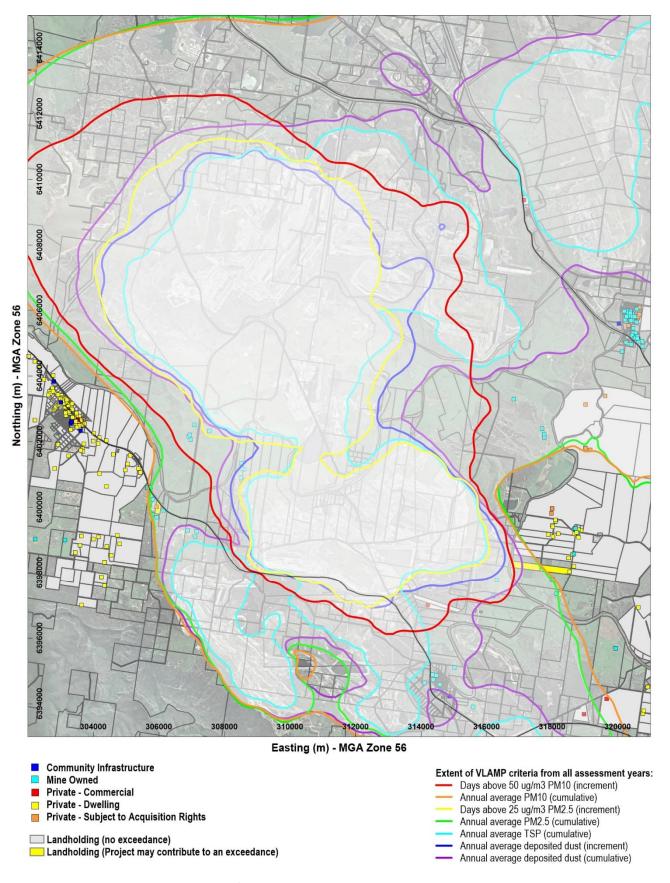


Figure 39 Modelled maximum extent of VLAMP criteria



7.3 Operational Post Blast Fume

Figure 40 shows the modelled maximum 1-hour average NO_2 concentrations due to post-blast fume, based on the methodology outlined in Section 5.3. These results show that, under worst-case meteorological conditions with a rated 3 fume, blasting every day between 9 am and 5 pm (the most common period for blasting) and maximum background NO_2 concentrations from Singleton, the maximum 1-hour average NO_2 concentrations will not exceed EPA's assessment criterion of $164 \, \mu g/m^3$ at any off-site sensitive receptor location.

While worst-case assumptions have been made with respect to time-of-day, fume rating and background levels, the modelling has been based on a blast positioned broadly in the middle of the proposed mining area. It is acknowledged that moving the assumed blast locations, for example further to the south or west, would lead to a corresponding shift in the contours, potentially changing the modelled extent of impacts. However, this potential will be managed through the design process for each individual blast which will be designed to comply with relevant criteria. The potential for post-blast fume impacts will be identified prior to all blasts, taking into account the specific parameters of each blast, to avoid worst-case conditions and to minimise fume emissions from blasting, in accordance with contemporary conditions of approval.

HVO has developed a pre-blasting procedure which covers fume management. A site-specific blast management plan will be implemented during operations, including key fume management actions, such as defining the potential risk zone based upon weather patterns and obtaining permissions to fire based on an assessment of real-time weather conditions.

The potential for odour impacts due to blasting has also been considered. This has been done by comparing the odour threshold (concentration) for NO_2 with the modelled NO_2 concentrations due to blasting. The odour threshold for NO_2 has been reported by the World Health Organisation (WHO) to range between $100 \, \mu g/m^3$ and $410 \, \mu g/m^3$. Figure 41 shows the modelled 99^{th} percentile 1-hour average NO_2 concentrations, due to blasting. The results have been presented in this form as the EPA criteria for odour assessment criteria are frequency based and relate to 99^{th} percentiles. A peak-to-mean ratio of 2.3 was used to convert the model's 1-hour average predictions to nose-response times. The model results of NO_2 at the nearest sensitive receptors are less than $20 \, \mu g/m^3$. These results are at the lower end of the odour threshold range reported by the WHO which suggests that the odour impacts can be managed with appropriate blasting procedures.

Based on the dispersion modelling, with predominantly worst-case assumptions, and proposed implementation of site-specific pre-blast procedures it has therefore been concluded that the Project will not lead to adverse air quality impacts with respect to post blast fume. It is noted that historical Annual Reviews have reported that, prior to 2017, there were periodic complaints (up to 5) relating to blast fume and odour. However, more recent Annual Reviews from 2018 onwards have not reported any complaints relating to blast fume and odour.



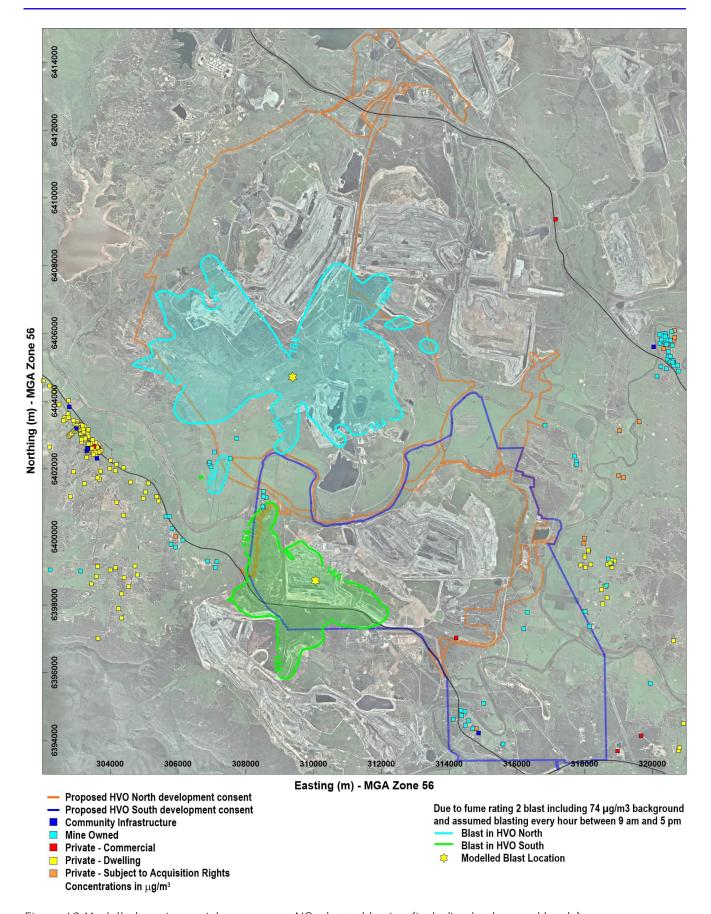


Figure 40 Modelled maximum 1-hour average NO₂ due to blasting (including background levels)



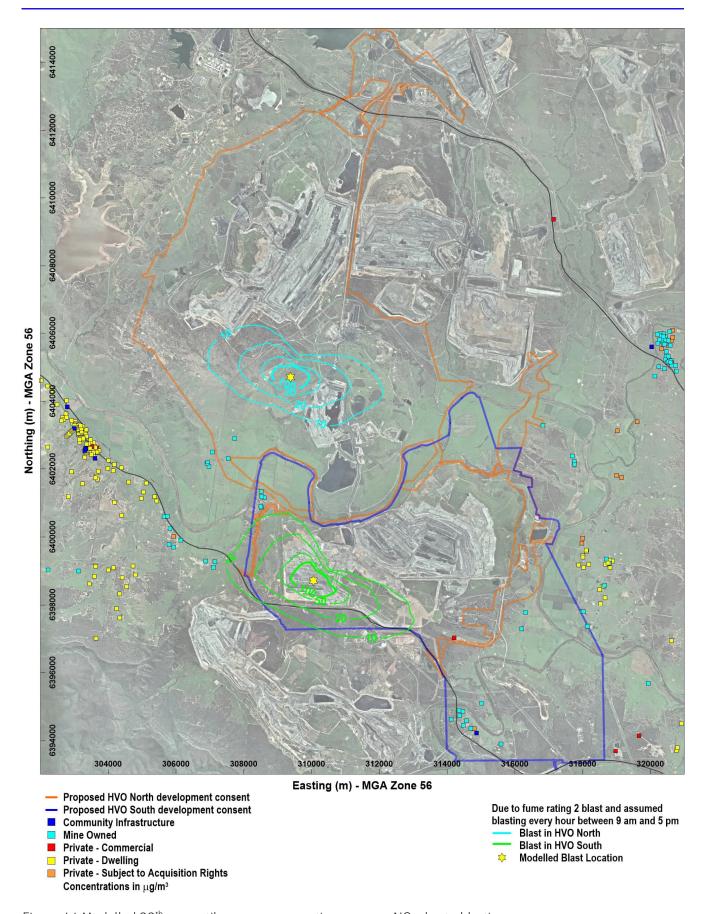


Figure 41 Modelled 99^{th} percentile nose-response time average NO_2 due to blasting



7.4 Operational Diesel Exhaust

Figure 42 shows the modelled maximum 1-hour average NO_2 concentrations due to diesel exhaust emissions at the HVO Complex, based on the methodology outlined in **Section 5.4**. These results assume that 20% of the NO_x is NO_2 at the locations of maximum ground-level concentrations and a maximum background concentration of $74 \, \mu g/m^3$. The results show compliance with the EPA's $164 \, \mu g/m^3$ assessment criterion at all sensitive receptors.

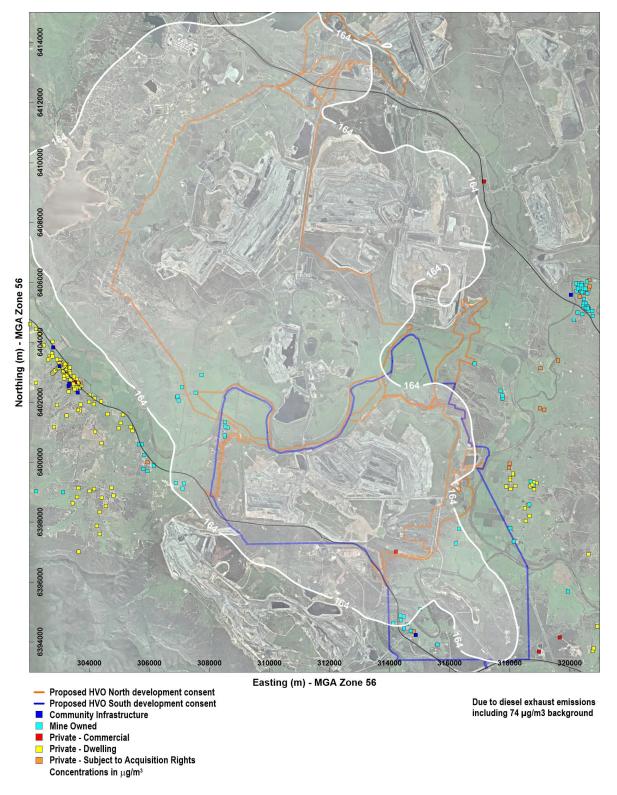


Figure 42 Modelled maximum 1-hour average NO₂ due to diesel exhausts (including background levels)



Figure 43 shows the modelled annual average NO_2 concentrations. These results assume that 79% of the NO_x is NO_2 (the annual average conversion rate), and 16 $\mu g/m^3$ background levels. The results show compliance with the EPA's 31 $\mu g/m^3$ assessment criterion at all sensitive receptors. It has therefore been concluded that the Project will not lead to adverse air quality impacts with respect to diesel exhaust.

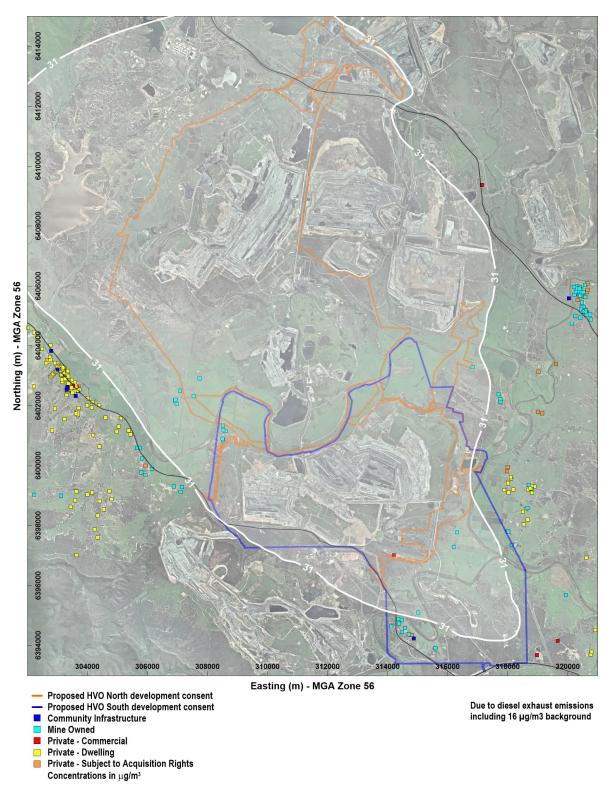


Figure 43 Modelled annual average NO₂ due to diesel exhausts (including background levels)



7.5 Spontaneous Combustion

"Self-heating" occurs when coal and other carbonaceous materials undergo an exothermic reaction when exposed to oxygen in the air, to generate heat. This process causes the temperature of the material to rise which in turn accelerates the oxidation and, in turn, the heat generation process. As the material temperature rises above about 70°C the temperature acceleration is rapid enough to result in ignition of the material. This ignition is referred to as spontaneous combustion.

The propensity of coal (or carbonaceous material) to self-heat and potentially combust is governed by many factors but most commonly by the type of coal, the carbon content, the size of the particles, the material temperature, the presence of oxygen and quantity of coal. Spontaneous combustion results in the emission of noxious gases including carbon dioxide, carbon monoxide, sulphur dioxide, hydrogen sulphide, nitrogen oxides and a range of volatile organic compounds.

The emissions to air have the potential to lead to the following hazards:

- Adverse health effects due to inhalation;
- Nuisance effects due to odour;
- Fire and hot material;
- Subsidence;
- Smoke and effects on visibility.

The only known spontaneous combustion risk area is located near the Newdell LP. This area continues to be actively monitored and managed. HVO will continue to evaluate and manage potential issues associated with spontaneous combustion. **Section 9.4** provides a summary of the relevant management measures.



8. Greenhouse Gas Assessment

8.1 Project Emissions

Table 30 shows the estimated emissions of greenhouse gases due to all identified GHG-generating activities. Over the lifetime of the Project, from 2023 to 2050, Scope 1 and 2 emissions (i.e. direct emissions as per shaded cells) are estimated to average 1.26 Mt CO_2 -e per year. **Appendix G** provides more detailed breakdowns of the estimated emissions for each activity by mining year including breakdowns by construction and operation.

Table 30 Summary of estimated greenhouse gas emissions

Post d	Estimated	Estimated greenhouse gas emissions (Mt CO ₂ -e)							
Period	Scope 1	Scope 2	Scope 3						
Annual average	1.19	0.07	41.67						
Total over life of Project (2023-2050)	33.28	1.88	1,166.86						

Table 31 provides a breakdown of the greenhouse gas emissions by operation including estimates of the emission intensities and comparisons to other operations. These data show that the direct (Scope 1 and 2) emission intensity of the HVO Complex would be, on average, 0.05 t CO_2 -e/t ROM coal. This result is within the range of emission intensities published by other operations (i.e. $0.03 \text{ to } 0.07 \text{ t CO}_2$ -e/t ROM coal). Some differences can also be explained by the features of each operation. For example, there is generally a higher emission intensity for operations that mine deeper seams, such as HVO.

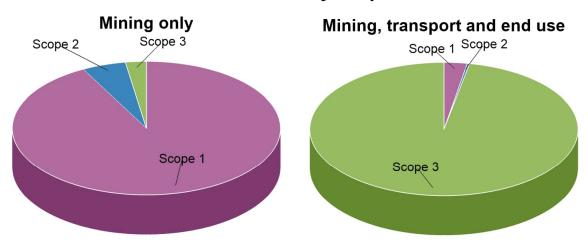
Table 31 Greenhouse gas emission intensity and comparisons with other operations

Operation	ROM (Mt/y)	Scope 1 and 2 (Mt CO ₂ -e/y)	Intensity (t CO ₂ -e/t ROM)
Project (2023-2050)			
HVO North	18.87	0.78	0.04
HVO South	7.44	0.48	0.06
HVO Complex	26.31	1.26	0.05
Other operations for con	nparison		
Mt Pleasant	16	0.54	0.03
Mangoola	13.5	0.46	0.03
Warkworth	18	0.47	0.03
Bengalla	15	0.77	0.05
Mt Arthur	32	2.2	0.07

Figure 44 shows the estimated direct and indirect emissions by scope and by activity. These estimates show that fugitive emissions from coal extraction and diesel usage would be the most significant direct (Scope 1) emissions. As diesel fuel consumption represents nearly half of estimated direct emissions, the existing measures are generally focused on minimising greenhouse gas emissions through the efficient use of diesel (see Section 9.5). Section 9 outlines the management measures for the Project including those relevant to the minimisation of greenhouse gas emissions.



Breakdown by scope



Breakdown by activity

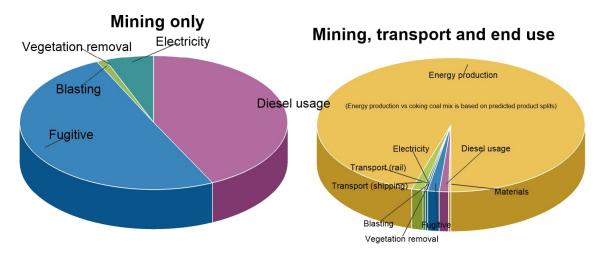


Figure 44 Summary of greenhouse gas emissions by scope and activity

8.2 Potential Impacts of the Project

The Commonwealth Department of Industry, Science, Energy and Resources (DISER) (2022) provides a National Greenhouse Gas Inventory, where statistics on emissions per annum are stored, and detailed analysis of sources can be determined. To develop the context for this assessment, the impacts of the emissions projected in this assessment have been compared with the latest emissions officially recorded on the National Greenhouse Gas Inventory. The latest available annual data through the inventory is from 2020.

Table 32 presents these national and state figures in context with the projected emissions from the Project. The convention is to compare the Project emissions with the national and state figures however the national and state figures will already include contributions from the approved operation. This means that it would be more relevant to present the Project increment. Nevertheless, the estimated annual average Scope 1 and 2 emissions from the Project $(1.26 \text{ Mt CO}_2-\text{e})$ represent approximately 0.25% of Australia's 2020 emissions.



Table 32 Greenhouse gas emissions in the National and State context

Parameter	Value
National and State statistics	
2020 Total Australia GHG emissions (Mt CO ₂ -e)	497.7
2020 Total NSW GHG emissions (Mt CO ₂ -e)	132.4
Project statistics	
Average projected GHG emissions per year (Mt CO ₂ -e)	1.26
Proportion of 2020 total Australia emissions	0.25%
Proportion of 2020 total NSW emissions	0.95%

In addition to the direct emissions associated with the Project, the following emissions sources are relevant to operations:

- Rail and sea transport of the product coal to customers; and
- Combustion of the product coal by customers.

The indirect sources listed above have been classified as Scope 3 for the Project as the emissions, while a result of the activities at HVO, are from sources not owned or operated by HVO. As noted in **Section 3.2** the purpose of differentiating between the scopes of emissions is to avoid the potential for double counting, where two or more organisations assume responsibility for the same emissions. Coal produced by HVO is predominantly exported to Asian markets. These countries are either signatories to the Paris Agreement and / or have announced or adopted domestic laws or policies to achieve their emissions targets.

To gain an understanding of the Project in the context of the global coal market and global greenhouse gas emissions, the Project's annual coal production volume can be compared to the current global coal demand and the Project's greenhouse gas emissions can be compared to total estimated anthropogenic greenhouse gas emissions. The International Energy Agency (IEA) estimates the current global coal demand to be in the order of 5,644 Mt of coal per annum (in 2021 according to the IEA, 2022). The proposed peak production rate of the Project (HVO North and HVO South) of just under 40 Mt ROM or 28 Mt of product represents approximately 0.5% of the current estimated global coal demand. Demand for coal will vary over the life of the Project. Under the various scenarios, the IEA predicts that future demand for coal will range from 3,024 to 5,149 Mt in 2030, and from 539 to 3,828 Mt in 2050. In all scenarios the production from HVO will continue to represent a relatively low percentage at less than 0.8% by 2030 and less than 0.5% by 2050.

The Projects contribution to global climate change effects would be proportional to its contribution to global greenhouse gas emissions. These emissions would be small in the context of global greenhouse gas emissions (approximately 50 gigatonnes CO₂-e). It is acknowledged that all sources of greenhouse gas emissions will contribute in some way towards the potential global, national, state and regional effects of climate change.

8.3 Potential Impacts on the Project

The potential impacts of climate change on the Project cannot be determined with a high degree of confidence. This is because of inherent uncertainties associated with the climate change projections. For example, Dowdy et al. (2015) project a generally drier climate, whereas NARCliM (2015) projects a wetter climate. Nevertheless, average temperatures are likely to rise in the Project area, with more frequent extreme temperature events. Rainfall has the potential to both increase and decrease with heavier rainfall events likely to become more frequent.



8.4 Greenhouse Gas Policies

The NSW Government's "Strategic Statement on Coal Exploration and Mining in NSW" (2020) notes that:

"Ending or reducing NSW thermal coal exports while there is still strong long-term global demand would likely have little or no impact on global carbon emissions. Most coal consumers would be likely to source their coal from elsewhere, and much of this coal would be lower quality compared to NSW coal."

That is, should the Project be rejected, global coal demand would be satisfied by alternative sources of coal of lower quality that would otherwise be consumed.

One of the Federal Governments key policy measures, designed to achieve a 43% emissions reduction below 2005 levels by 2030 target from the recently commenced *Climate Change Act 2022*, is the proposed amendments to the safeguard mechanism. The safeguard mechanism is a component of the Emissions Reduction Fund; the Australian Governments central climate change policy tool administered by the Clean Energy Regulator. The aim of the safeguard mechanism is to ensure emissions reductions purchased through the Emissions Reduction Fund are not displaced by significant increase in emissions elsewhere in the economy.

The safeguard mechanism applies to 215 designated large facilities (facilities that emit more than 100,000 t CO2e Scope 1 emissions per year) and requires that the net covered emissions of GHG from the operation of a designated large facility do not exceed the baseline applicable to the facility. HVO is a designated large facility as defined by the NGER Act. The safeguard mechanism therefore applies to HVO, and HVO will be subject to the emissions reduction requirements contained within it.



9. Monitoring and Management

Monitoring and management is discussed below in the context of the identified air quality and greenhouse gas issues for the Project.

9.1 Particulate Matter

Table 33 summarises the standard emission management measures, currently implemented at the HVO Complex in accordance with the approved Air Quality and Greenhouse Gas Management Plan. These measures will continue to be adopted as part of the Project.

The dust management measures proposed for the Project have been compared to the measures outlined in the "NSW Coal Benchmarking Study: International Best Practice Measures to Prevent and/or Minimise Emissions of Particulate Matter from Coal Mining" (Donnelly et al, 2011). This comparison, as per **Table 33**, shows that the proposed measures are consistent with best practice dust mitigation measures. In some instances Donnelly et al (2011) identified control measures that were not common practice, or reasonable and/or feasible to apply at any mine in NSW. For example, air extraction to bag filters for drilling operations.

Table 33 Particulate matter emission management measures

Activity	Emission management measures	Assumed emission control (%) (NPI, 2012, Donelly et al, 2011)	Measures identified from Donnelly et al (2011)	Consistent with best practice
Topsoil stripping	Watering of haul routes Restricting vehicle speeds Ceasing operations when visible dust is generated Minimise advance clearing to reduce exposed area for wind erosion	50	Control measures for this activity are not specifically identified but can be inferred from the bulldozer information below.	Υ
Drilling	Use of water suppression during drilling Dust curtains Ceasing operations when excessive visible dust is sustained.	70	"Best practice control measures include air extraction to a bag filter. No mines were found to use this practice."	N
Blasting	Pre-blast checks including review of meteorological conditions	0	"Best practice control measures include delaying shot to avoid unfavourable weather conditions and minimising the area blasted"	Υ
Hauling overburden / coal	Watering of haul routes Regular maintenance of haul routes Restricting vehicle speeds Clearly marked haul routes Fleet optimisation to reduce vehicle kilometres travelled	85	"Control measures include watering, grading, well- defined haul routes, speed limits to 40 km/h and/or the use of suppressants."	Υ



Activity	Emission management measures	Assumed emission control (%) (NPI, 2012, Donelly et al, 2011)	Measures identified from Donnelly et al (2011)	Consistent with best practice
Loading and unloading of overburden	Minimisation of material drop height during loading Having less wind exposed dump locations to use during high wind conditions Modifying or ceasing operations during adverse dust conditions	0	"Current practices adopted to control emissions from loading and dumping overburden were found to be water application, minimisation of drop heights and suspension or modification of activities during adverse weather conditions. Best practice control measures were identified as minimising drop heights and / or the application of water".	Y
Unloading coal to ROM hoppers	Water sprays	70	"Best practice control measures for minimising emissions from the ROM hopper is enclosure with air extraction to a fabric filter or other control device. No mines in the GMR adopt this approach."	N
Handling coal at CHPP	Water sprays	70	Control measures for this process are not specifically identified.	N/A
Dozers on coal stockpiles	Modify or cease operations during dusty conditions Reduced travel speed during dusty conditions	50	"Best practice control measures include minimising the travel speed and distance travelled by bulldozers and the application of water to keep travel routes moist"	Υ
Conveyors	Covered / enclosure Belt cleaning Water sprays	70	"The use of wind shielding on conveyor sides, water sprays at conveyor transfers, enclosure of transfer points, and, soft-loading chutes."	Υ
Wind erosion	Primary rehabilitation and temporary seeding/ stabilisation of long term inactive overburden dumps.	60	"Control measures include watering exposed areas, minimising areas of disturbance, progressive rehabilitation and use of suppressants"	Y
Wind erosion from product stockpiles	Water sprays used in adverse wind conditions	50	Control measures include avoidance, surface stabilisation, enclosure, wind speed reduction.	Υ



The key measures that will continue to be implemented as part of the Project include:

- minimising the area of disturbed land at any one time, in line with the approved Rehabilitation Management Plan
- implementation of timely progressive rehabilitation
- adopting controls for haul road dust emissions
- review of meteorological conditions prior to blasting
- consideration of meteorological conditions in planning the loading and unloading of overburden
- applying water and using dust curtains when drilling blast patterns
- minimising fall distance during loading and unloading of overburden
- utilising water carts on ROM coal stockpile areas
- maintaining the existing covered conveyors and belt cleaning
- maintaining and servicing machinery, exhaust systems and plant equipment in accordance with contemporary maintenance practices
- implementation of the Trigger Action Response Plan (TARP) process and investigating dust levels when the TARP process is enacted to identify likely sources of dust
- using temporary rehabilitation and stabilisation measures on long term inactive overburden areas that are not ready for final rehabilitation.

In addition to the measures listed above, both proactive and reactive dust control strategies informed by real-time dust and meteorological monitoring systems are currently implemented at the HVO Complex. Reactive air quality management will continue to assess the need to modify the activities in response to the following triggers:

- visual conditions, such as excessive visible dust
- meteorological conditions, such as dry, strong wind conditions
- ambient air quality conditions (that is, elevated short-term PM₁₀ concentrations).

Proactive air quality management involve the discussion and planning of activities in advance of potentially adverse conditions. Specifically, the pro-active air quality management approach includes:

- a system that provides personnel with a daily forecast of expected dust risk in the vicinity of the operation
- communication of the dust forecast at daily operational meetings
- alerting operations of the potential requirement to modify the planned mining activities, as appropriate, to minimise or avoid the potential dust impacts.

As part of the implementation of the Project the existing Air Quality and Greenhouse Gas Management Plan will be reviewed and updated. The Air Quality and Greenhouse Gas Management Plan will be revised to detail the implementation of monitoring and management controls to manage air quality impacts associated as required.

A review of the existing air quality monitoring locations will be undertaken prior to the commencement of the Project to make sure that the monitoring network provides adequate coverage of the Project area, particularly in areas identified by the modelling with a potential for increased air quality impact risk. Any changes to the monitoring network will also be included in a revised Air Quality and Greenhouse Gas Management Plan.

It is anticipated that the existing EPL will be revised under the *Protection of the Environment (Operations) Act* 1997 (POEO Act). Relevant to air quality, the EPL includes requirements to minimise dust emissions and to monitor air quality. Also relevant is the *Protection of the Environment Operations (Clean Air) Regulation 2010* which prescribes requirements for motor vehicle emissions (among other sources). Motor vehicle emissions would be addressed by regular maintenance of all vehicles associated with the Project.



9.2 Post Blast Fume

HVO applies a pre-blasting risk assessment process which covers fume management. A site-specific blast management plan will be implemented during operations, including key fume management actions, such as defining the potential risk zone based upon weather patterns and obtaining permissions to fire based on an assessment of real-time weather conditions.

9.3 Diesel Exhaust

The proposed mitigation measures to manage diesel combustion emissions aim to address the equipment maintenance and engine replacement strategies from the NSW Coal Mining Benchmarking Study: Best practice measures for reducing non-road diesel exhaust emissions" (EPA, 2014).

The emission control measures proposed by HVO include:

- Servicing all machinery in accordance with original equipment manufacturer recommendations for maintenance.
- Targeting the maintenance to ensure, as far as reasonably practical, equipment remains fit for purpose over its whole life cycle.

9.4 Spontaneous Combustion

HVO will continue to evaluate and manage potential issues associated with spontaneous combustion as documented in the approved Air Quality and Greenhouse Gas Management Plan.

HVO is committed to the management of potential air quality issues associated with spontaneous combustion. This commitment is demonstrated by the application of a hierarchy of management controls. HVO's hierarchy of controls applied to spontaneous combustion will continue to be as follows:

- **Elimination** Where possible, processing and shipping of coal for its end use before the oxidation reaction that leads to spontaneous combustion occurs.
- **Separation** Where material has or is showing signs of spontaneous combustion it is stockpiled separate from other inert coals to avoid spreading the heating.
- Engineering Controls that minimise the impact of hot material such as selective digging and/or burying.
- Procedures Including early identification of spontaneous combustion; dealing with heated materials; provision of protective or first response capacity; and preparing for / cleaning up after spontaneous combustion.

9.5 Greenhouse Gas Emissions

Mitigation of GHG emissions is inherent in the development of the mine plan. For example, reducing fuel usage by mobile plant and equipment is an objective of mine planning and good practice. Hence, savings of GHG emissions are attributable to appropriate mine planning. The mitigation measures to reduce the level of future GHG emissions from HVO are documented in the Air Quality and Greenhouse Gas Management Plan.

It is anticipated that the Clean Energy Regulator will set a calculated emissions baseline determination under the provisions of the National Greenhouse and Energy Reporting (Safeguard) Rule 2015, and likely based on calculated emissions from the Project (see **Table 14**). Any limits on fugitive emissions should relate to the rate of coal extraction rather than to annual predictions of emissions and should allow for some deviation in emission rates from predicted emissions. HVO will acknowledge the baseline determination and performance measures and modify operations, where reasonable and feasible, to minimise greenhouse gas emissions.



10. Conclusions

This report has provided an assessment of the potential air quality and greenhouse gas impacts of the HVO Continuation Project. In summary, the air quality assessment involved identifying the key air quality issues, characterising the existing environment, quantifying emissions to air and modelling the potential impact of the Project on local air quality. The modelling was carried out in accordance with the assessment procedures prescribed by the EPA. Greenhouse gas emissions were estimated in accordance with the principles of the Greenhouse Gas Protocol.

The key air quality issues were identified as construction dust, operational dust, operational post-blast fume and operational diesel exhaust. These issues were the focus of the assessment.

A detailed review of the existing environment was carried out including an analysis of historically measured concentrations of key quality indicators from representative monitoring stations. This included analysis of eight years of site-specific monitoring data. The following conclusions were made in relation to the existing environment:

- Meteorological conditions do not vary significantly from year to year, except for rainfall, and conditions in 2014 were identified as most representative of the long term, local conditions around the HVO Complex. Consideration of an alternative representative meteorological year does not change the assessment outcomes.
- Air quality conditions are strongly correlated to the climatic conditions. For example, there was a
 deterioration in air quality conditions between 2017 and early 2020 that were heavily influenced by
 drought, dust storms and bushfires. These conditions were not unique to the Hunter Valley.

The key outcomes of the modelling and subsequent assessment are:

- Construction activities have the potential to increase the overall dust emissions in the early phase of the Project (that is, first one to three years) but these increases are not of a magnitude that will change the air quality outcomes determined for private sensitive receptors from modelling of operational dust emissions.
 Nevertheless, appropriate management and monitoring would need to continue during the construction phase.
- Operational dust emissions due to the ongoing mining activities are not expected to cause adverse air quality impacts at the nearby local communities. Modelling potential impacts led to the following specific outcomes:
 - Maximum 24-hour average PM₁₀ concentrations would be within the range of historically measured days above the criteria, excluding extraordinary events. The review of recent and historical air quality monitoring data showed that, in the representative year, all monitoring locations recorded between one and six days above the air quality criteria set by the EPA for project assessment purposes. Based on the modelling the Project is not anticipated to change this outcome. The potential for the Project activities to cause exceedances of the criteria can be managed through existing site air quality management measures and this approach has been successfully demonstrated by the site compliance history.
 - Annual average PM₁₀ concentrations would comply with EPA air quality assessment criteria at all private sensitive receptors not subject to existing air quality acquisition rights however an increased air quality impact risk was identified for one property in Jerrys Plains (308) in the later years of the Project (around Year 11). The modelled non-compliance with EPA assessment criteria at this property was determined as "unlikely to eventuate" based on (1) historical monitoring in this area that show PM₁₀ concentrations 25% lower than the criteria (2) modelled maximum proposed coal extraction rates and (3) a conservative approach to modelling operational controls.
 - Maximum 24-hour average PM_{2.5} concentrations would be within the range of historically measured days above the criteria, excluding extraordinary events. The review of recent and historical air quality monitoring data showed that, in the representative year, all monitoring locations recorded between



one and two days above the air quality criteria. Based on the modelling the Project is not anticipated to change this outcome.

- Annual average PM_{2.5} concentrations would comply with EPA air quality assessment criteria at all
 private sensitive receptors not subject to existing air quality acquisition rights, however an increased air
 quality impact risk was identified for one property in Jerrys Plains (308) in the later years of the Project
 (around Year 11).
- Annual average TSP concentrations would comply with EPA air quality assessment criteria at all private sensitive receptors not subject to existing air quality acquisition rights. That is, the Project would not be the cause of exceedances.
- Annual average deposited dust levels would comply with EPA air quality assessment criteria at all private sensitive receptors not subject to existing air quality acquisition rights. That is, the Project would not be the cause of exceedances.
- Dust concentrations and deposition levels would comply with NSW Government VLAMP criteria at all
 private sensitive receptors not subject to existing air quality acquisition rights however there is
 potential for criteria (annual average PM₁₀ and PM_{2.5}) to be exceeded on up to two privately owned
 properties where a dwelling could be built under existing planning controls.
- Operational post blast fume emissions are not expected to result in any adverse air quality impacts (as nitrogen dioxide and odour), based on modelling which showed compliance with EPA air quality assessment criteria.
- Operational diesel exhaust emissions associated with off-road vehicles and equipment are not expected to result in any adverse air quality impacts, based on modelling which showed compliance with EPA air quality assessment criteria.
- The estimated annual average Scope 1 and 2 greenhouse gas emissions from the Project represent approximately 0.25% of Australia's 2020 emissions. Coal produced by HVO is predominantly exported to countries which are either signatories to the Paris Agreement and / or have announced or adopted domestic laws or policies to achieve their emissions targets. Whilst emissions from the end use of the coal have been calculated as Scope 3 emissions for the purposes of the Project assessment, the HVO customers account for these same emissions as Scope 1 emissions and are required to comply with their respective countries' emissions targets.
- HVO is actively engaged in minimising greenhouse gas emissions associated with their coal operations and supporting the NSW Government objectives of net-zero emissions by 2050.
- HVO will continue to implement air quality and greenhouse gas emission management measures that are consistent with best practice for the industry. In addition, the existing air quality trigger levels will be reviewed to make sure these will mitigate the potential air quality risks, particularly in the Jerrys Plains area.
- A review of the existing air quality monitoring locations will be undertaken prior to the commencement of
 the Project to make sure that the monitoring network provides adequate coverage of the Project area and
 recognises the potential air quality impacts from this assessment. Any changes to the monitoring network
 will also be included in a revised Air Quality and Greenhouse Gas Management Plan.

The conclusions outlined above are consistent with the desired performance outcome for the Project which is to minimise air quality and greenhouse gas impacts to reduce risks to human health and the environment to the greatest extent practicable through the design, construction and operation of the Project.



11. References

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Appendix A. Annual and seasonal wind-roses

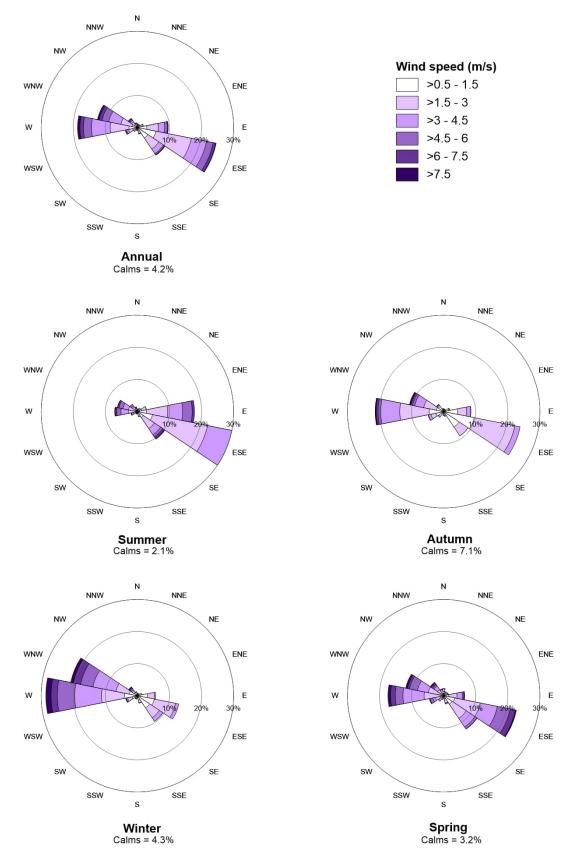


Figure A1 Annual and seasonal wind-roses for data collected at the HVO Corporate meteorological station in 2014





Figure A2 Annual and seasonal wind-roses for data collected at the Cheshunt meteorological station in 2014



Appendix B. Air quality data analysis

Figure B1 shows the measured PM_{10} concentrations by time of day and wind speed. The highest short-term (1-hour average) PM_{10} concentrations could be at any time of day but, on average, the concentrations are typically highest in the morning (around 9 am) and evening (around 7 pm). This pattern may be explained by poorer dispersion conditions in the morning and evening whereby any dust emissions disperse more slowly and allow higher concentrations to exist for extended periods of time. Also, the higher average concentrations in the morning and evening may be associated with increased anthropogenic (human) activity at these times, for example the use of wood heaters.

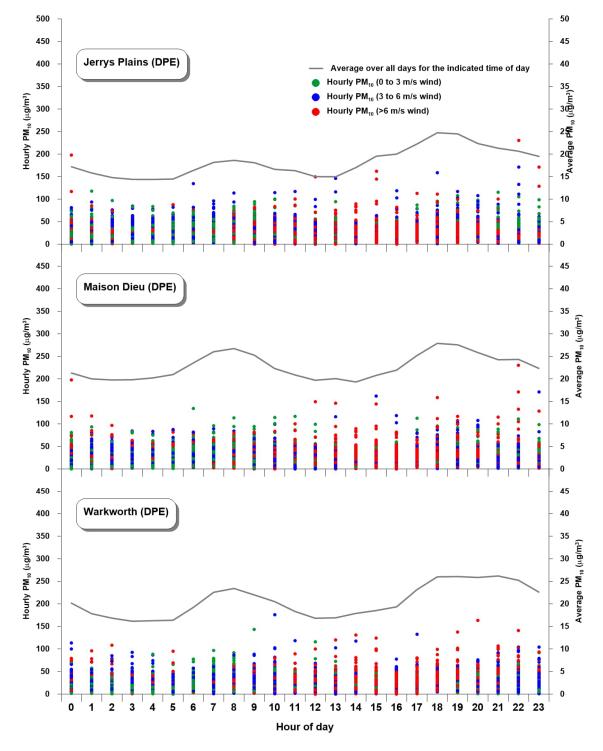


Figure B1 Measured PM_{10} concentrations by time of day and wind speed (2014 data)



Figure B2 shows the measured PM_{10} concentrations by wind direction. Each location is unique in terms of the wind directions that are associated with higher PM_{10} concentrations.

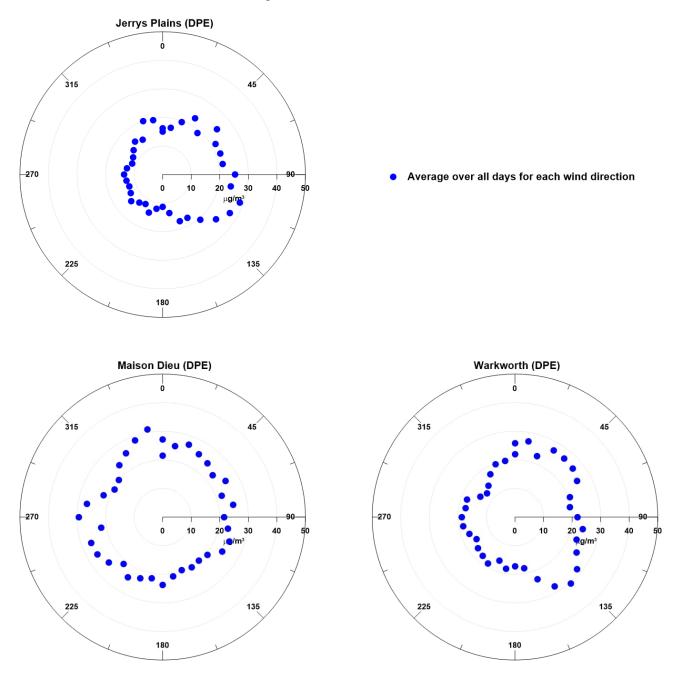


Figure B2 Measured PM_{10} concentrations by wind direction (2014 data)



Figure B3 shows the measured 24-hour average PM_{2.5} concentrations from various locations in 2020. The instrumentation was as follows:

- High Volume Air Samplers at Kilburnie South and Maison Dieu.
- Beta Attenuation Monitors at Camberwell, Singleton, Newcastle, Kelly and Thelander.

The data from **Figure B3** indicates that the measured PM_{2.5} concentrations at Kilburnie South and Maison Dieu were unusual and did not follow the same trends that were measured by the other monitors. In particular, it would have been anticipated that the measurements from Kilburnie South and Thelander were more closely aligned given their close proximity. Based on these observations, and the availability of more data points, the measurements from Kelly and Thelander were taken to be more representative of PM_{2.5} levels near HVO than the measurements from Kilburnie South and Maison Dieu.

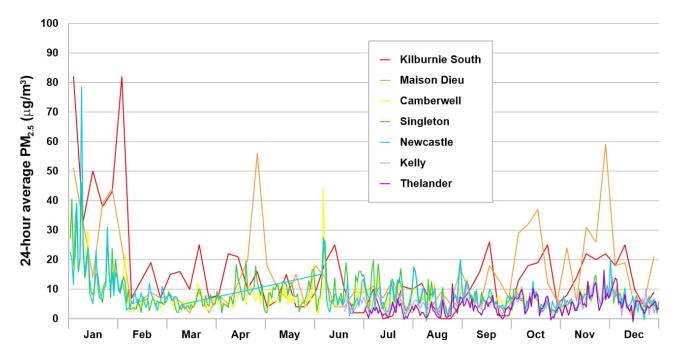


Figure B3 Measured 24-hour average PM_{2.5} concentrations in 2020



Appendix C. Model settings and setup

Geophysical

Figure C1 shows the model grid, land-use and terrain information, as used by CALMET. It is noted that the extent of some land-uses will change over time, such as mining areas, however the model sensitivity has been tested and changes from grassland to barren land (i.e. mining areas) were found to have very little influence on the dispersion modelling results.

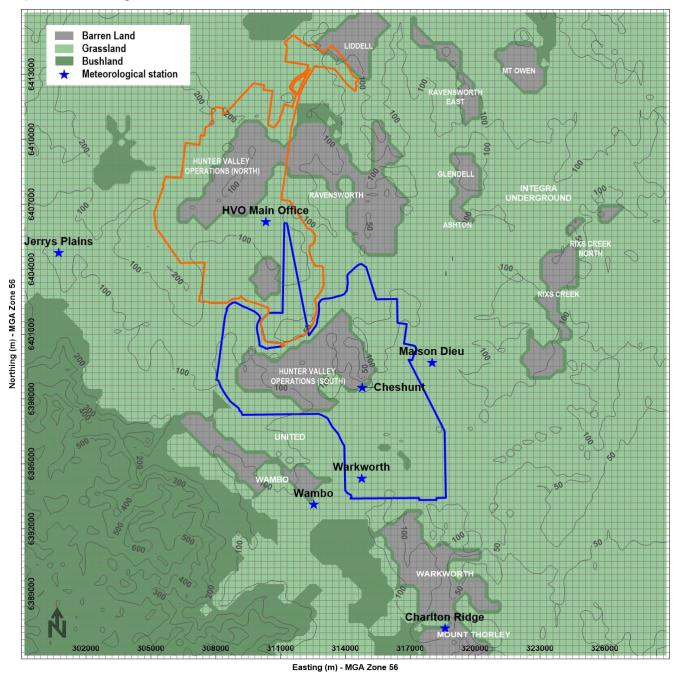


Figure C1 Model domain, grid, land use and terrain information

Figure C2 shows a snapshot of winds at 10 metres above ground-level as simulated by the CALMET model under stable conditions. This plot shows the effect of the topography on local winds, for this particular hour, and highlights the non-uniform wind patterns in the area, further supporting the use of a non-steady-state model such as CALPUFF.

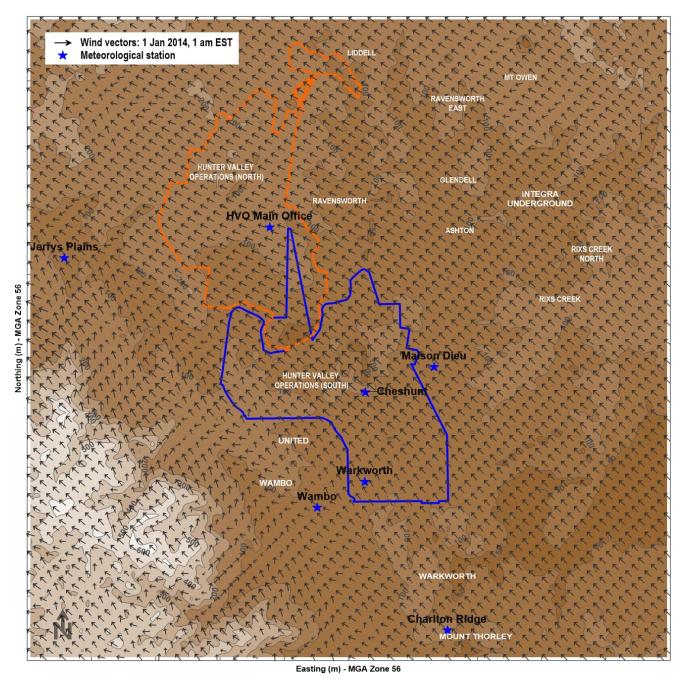


Figure C2 Example of CALMET simulated ground-level wind flows

Meteorology

The CALPUFF model, through the CALMET meteorological pre-processor, simulates complex meteorological patterns that exist in a particular region. The necessary upper air data for CALMET were generated by the CSIRO's prognostic model, TAPM, and the required surface observation data were sourced from local weather stations. CALMET was used to produce a year-long, three-dimensional output of meteorological conditions for input to the CALPUFF air dispersion model. The meteorological modelling followed the guidance of TRC (2011) and adopted the "observations" mode.



Table C1 Model settings and inputs for TAPM

Parameter	Value(s)
Model version	4.0.5
Number of grids (spacing)	4 (30 km, 10 km, 3 km, 1 km)
Number of grids point	35 x 35 x 25
Year(s) of analysis	2014
Centre of analysis	32°29′ S, 151°00′ E
Terrain data source	30 m Shuttle Research Topography Mission (SRTM)
Land use data source	Default
Meteorological data assimilation	Corporate meteorological station. Radius of influence = 10 km. Number of vertical levels for assimilation = 4

Table C2 Model settings and inputs for CALMET

Parameter	Value(s)
Model version	6.334
Terrain data source(s)	30 m SRTM and Project DEM. Higher resolution topographical data were not necessary in order to develop wind fields that reflect the influence of terrain and effects that are important for dispersion of emissions from the Project to the sensitive receptor areas.
Land use data source(s)	Digitised from aerial imagery
Meteorological grid domain	30 km x 30 km
Meteorological grid resolution	0.3 km
Meteorological grid dimensions	100 x 100 x 9 grid points
Meteorological grid origin	299000 mE, 6386000 mN. MGA Zone 56
Surface meteorological stations	Charlton Ridge: wind speed, wind direction, temperature and humidity Cheshunt: wind speed, wind direction, temperature and humidity HVO Corporate: wind speed, wind direction, temperature and humidity Jerrys Plains: wind speed, wind direction, temperature and humidity Maison Dieu: wind speed, wind direction, temperature and humidity Wambo: wind speed, wind direction and temperature Warkworth: wind speed, wind direction, temperature and humidity TAPM (at location of HVO Corporate): ceiling height, cloud cover and air pressure
Upper air meteorological stations	Upper air data file for the location of the HVO Corporate meteorological station, derived by TAPM. Biased towards surface observations (-1, -0.8, -0.6, -0.4, -0.2, 0, 0, 0, 0)
Simulation length	8760 hours (1 Jan 2014 to 31 Dec 2014)
R1, R2	0.5, 1
RMAX1, RMAX2	5, 20
TERRAD	5

Table C3 Model settings and inputs for CALPUFF

Parameter	Value(s)
Model version	6.42
Computational grid domain	100 x 100
Chemical transformation	None
Dry deposition	Yes
Wind speed profile	ISC rural



Parameter	Value(s)
Puff element	Puff
Dispersion option	Turbulence from micrometeorology
Time step	3600 seconds (1 hour)
Terrain adjustment	Partial plume path
Number of volume sources	See below. Height = 5 m, SY = 20 m, SZ = 10 m.
Number of discrete receptors	1003. See below.



Sources

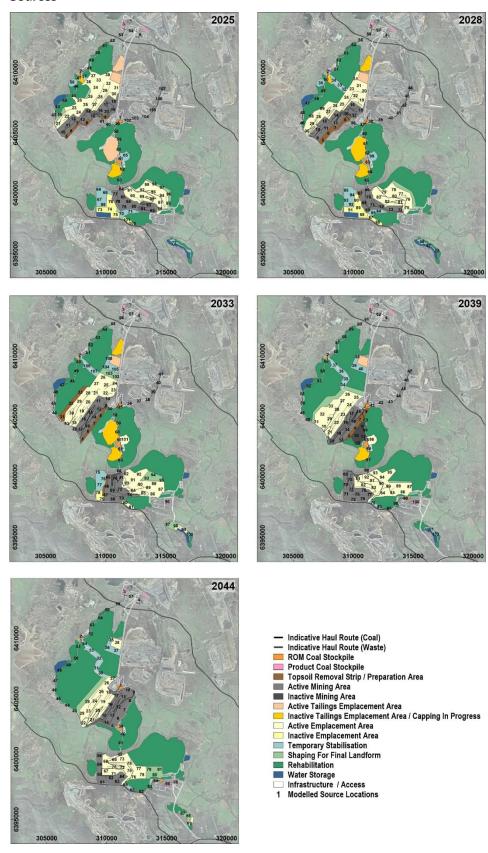


Figure C3 Location of modelled sources of operational dust emissions



Receptors

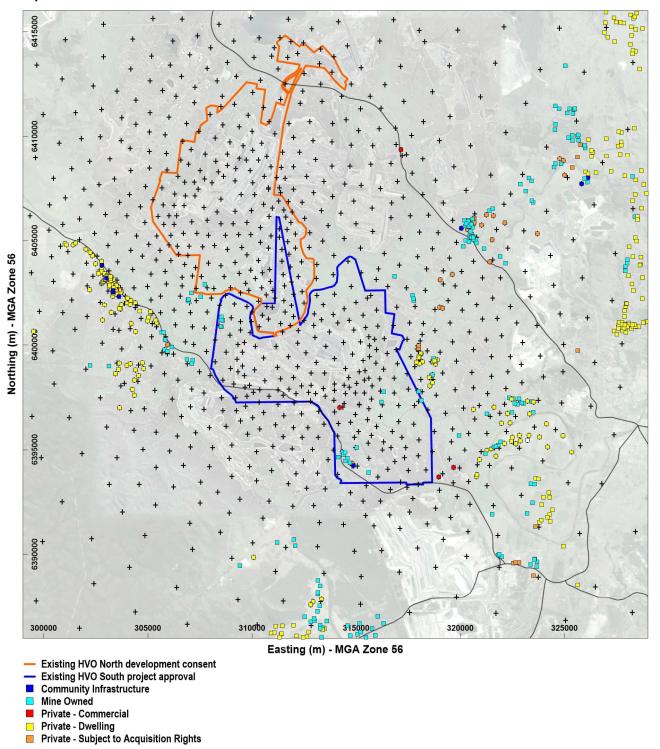


Figure C4 Location of model receptors



Appendix D. Emission calculations

Emission factors

A catinida.		Emission factor		Units	Source
Activity	TSP	PM ₁₀	PM _{2.5}	Units	Source
Stripping topsoil	E _{TSP} = 0.029	E _{PM10} = 0.0073 x E _{TSP}	E _{PM2.5} = 0.05 x E _{TSP}	kg/t	US EPA / NPI
Drilling	E _{TSP} = 0.59	E _{PM10} = 0.52 x E _{TSP}	E _{PM2.5} = 0.03 x E _{TSP}	kg/hole	US EPA / NPI
Blasting	$E_{TSP} = 0.00022 \text{ x A}^{1.5}$	E _{PM10} = 0.52 x E _{TSP}	E _{PM2.5} = 0.03 x E _{TSP}	kg/blast	US EPA / NPI
Loading material / dumping overburden	$E_{TSP} = 0.74 \times 0.0016 \times ((U/2.2)^{1.3}/(M/2)^{1.4})$	$E_{PM10} = 0.35 \times 0.0016 \times ((U/2.2)^{1.3}/(M/2)^{1.4})$	$E_{PM2.5} = 0.053 \times 0.0016 \times ((U/2.2)^{1.3}/(M/2)^{1.4})$	kg/t	US EPA / NPI
Hauling on unsealed roads	E _{TSP} = 4	E _{PM10} = 0.3 x E _{TSP}	E _{PM2.5} = 0.03 x E _{TSP}	kg/VKT	SPCC
Dozers shaping overburden	$E_{TSP} = 2.6 \text{ x } (S^{1.2}/M^{1.3})$	$E_{PM10} = 0.3375 \text{ x } (S^{1.5}/M^{1.4})$	E _{PM2.5} = 0.105 x E _{TSP}	kg/hour	US EPA / NPI
Dozers working on coal	$E_{TSP} = 35.6 \text{ x } (S^{1.2}/M^{1.3})$	$E_{PM10} = 6.33 \text{ x } (S^{1.5}/M^{1.4})$	E _{PM2.5} = 0.022 x E _{TSP}	kg/hour	US EPA / NPI
Loading coal	$E_{TSP} = 0.58 / M^{1.2}$	$E_{PM10} = 0.0447 / M^{0.9}$	E _{PM2.5} = 0.019 x E _{TSP}	kg/t	US EPA / NPI
Unloading coal	E _{TSP} = 0.01	E _{PM10} = 0.0042	E _{PM2.5} = 0.019 x E _{TSP}	kg/t	NPI
Miscellaneous transfer	$E_{TSP} = 0.74 \times 0.0016 \times ((U/2.2)^{1.3}/(M/2)^{1.4})$	$E_{PM10} = 0.35 \times 0.0016 \times ((U/2.2)^{1.3}/(M/2)^{1.4})$	$E_{PM2.5} = 0.053 \times 0.0016 \times ((U/2.2)^{1.3}/(M/2)^{1.4})$	kg/t	US EPA / NPI
Loading product coal to trains	E _{TSP} = 0.0004	E _{PM10} = 0.00017	E _{PM2.5} = 0.05 x E _{TSP}	kg/t	NPI
Wind erosion from exposed areas	E _{TSP} = 0.1	E _{PM10} = 0.5 x E _{TSP}	E _{PM2.5} = 0.075 x E _{TSP}	kg/ha/h	US EPA
Grading roads	$E_{TSP} = 0.0034 \times s^{2.5}$	$E_{PM10} = 0.00336 \times s^2$	$E_{PM2.5} = 0.0001054 \times s^{2.5}$	kg/VKT	US EPA / NPI

A = blast area (m²) U = wind speed (m/s) M = moisture content (%) S = silt content (%) s = speed (km/h)

HVO North 2014

HVO NOITH 2014	Δηημο	l emissions	(ka/v)				TSP	l Di	/10	PM2.5	1			1/2	riables				
	Alliua		(Kg/y)				137	FI	110	FIVIZ.3	<u> </u>		_	Val	Tables				\rightarrow
Activity	TSP	PM10	PM2.5	Control (%)	Intensity	Units	Factor	Factor	Units	Factor	Area (m2)	(ws/2.2)^1.3	Moisture (%)	Drop distance (m)	kg/VKT	t/truck	km/trip	Silt (%)	Speed (km/h)
Stripping topsoil by scraper	7029	1769	351	50	484782	t/y	0.029 kg/t	0.0073	kg/t	0.001 kg/t	-	-	-		-	-	-	-	-
Drilling overburden (or coal)	8352	4343	251	70	47185	holes/y	0.59 kg/hole	0.31	kg/hole	0.018 kg/hole	-	-	-	-	-	-	-	-	-
Blasting overburden (or coal)	77692	40400	2331	0	89	blasts/y	874.2 kg/blast	454.6	kg/blast	26.2 kg/blast	25087	-	-	-	-	-	-	-	-
Excavators loading overburden to trucks	107454	50823	7696	0	70898855	t/y	0.00152 kg/t	0.00072	kg/t	0.0001 kg/t	-	1.28	2	-	-	-	-	-	-
Hauling overburden from pit to dump	1203508	355647	36105	85	70898855	t/y	0.11317 kg/t	0.03344	kg/t	0.003 kg/t	-	-	-	-	4	240	7	-	
Unloading overburden to dump inc rejects	113380	53626	8120	0	74808855	t/y	0.00152 kg/t	0.00072	kg/t	0.0001 kg/t	-	1.28	2	-	-	-	-	-	-
Dozers shaping overburden	755629	183955	79341	0	45152	h/y	16.7 kg/h	4.07415	kg/h	1.757 kg/h	-	-	2	-	-	-	-	10	-
Dozers working on overburden for rehabilitation	29379	7152	3085	0	1756	h/y	16.7 kg/h	4.07415	kg/h	1.757 kg/h	-	-	2	-	-	-	-	10	-
Dozers working on coal	142453	41050	3134	0	10661	h/y	13.4 kg/h	3.9	kg/h	0.294 kg/h	-	-	8	-	-	-	-	5	-
Loading ROM coal to trucks	272165	39142	5171	0	5690000	t/y	0.04783 kg/t	0.00688	kg/t	0.001 kg/t	-	-	8	-	-	-	-	-	-
Hauling ROM coal from pit to hopper / ROM pad (HVCPP)	92928	27461	2788	85	3095650	t/y	0.20013 kg/t	0.05914	kg/t	0.006 kg/t	-	-	-	-	4	190	9.8	-	-
Hauling ROM coal from pit to ROM pad (Howick CPP)	66131	19542	1984	85	1269944	t/v	0.34716 kg/t	0.10259	kg/t	0.010 kg/t	-	-	-	-	4	190	17	-	
Hauling ROM coal from pit to hopper / ROM pad (RCPP)	10083	2980	302	85	156743	t/y	0.42884 kg/t	0.12673		0.013 kg/t	-	-	-	-	4	190	21	-	-
Hauling ROM coal from pit to hopper / ROM pad (LCPP)	0	0	0	85	0	t/v	0.00000 kg/t	0	kq/t	0.000 kg/t	-	-	-	-	4	190	0	-	-
Unloading ROM coal to hopper / ROM pad (HVCPP)	9287	3901	176	70	3095650	t/y	0.01 kg/t	0.0042	kg/t	0.000 kg/t	-	-	-	-	-	-	-	-	-
Unloading ROM coal to ROM pad (Howick CPP)	3810	1600	72	70	1269944	t/v	0.01 kg/t	0.0042	kq/t	0.000 kg/t	-	-	-	-	-	-	-	-	-
Unloading ROM coal to hopper / ROM pad (RCPP)	470	197	9	70	156743	t/v	0.01 kg/t	0.0042	kg/t	0.000 kg/t	-	-	-	-	-	-	-	-	-
Unloading ROM coal to hopper / ROM pad (LCPP)	0	0	0	70		t/y	0.01 kg/t	0.0042	kg/t	0.000 kg/t	-	-	-	-	-	-	-	-	-
ROM coal rehandle to hopper (HVCPP)	18574	7801	353	0	1857390		0.01 kg/t	0.0042	kg/t	0.000 kg/t	-	-	-	-	-	-	-	-	-
ROM coal rehandle to hopper (Howick CPP)	12699	5334	241	0	1269944	t/y	0.01 kg/t	0.0042	kg/t	0.000 kg/t	-	-	-	-	-	-	-	-	-
ROM coal rehandle to hopper (RCPP) (RSO)	0	0	0	0	0	t/y	0.01 kg/t	0.0042	kg/t	0.000 kg/t	-	-	-	-	-	-	-	-	-
ROM coal rehandle to hopper (LCPP)	0	0	0	0	0	t/y	0.01 kg/t	0.0042	kg/t	0.000 kg/t	-	-	-	-	-	-	-	-	-
Transferring ROM coal by conveyor to HVCPP	202	96	14	70	3095650	t/y	0.00022 kg/t	0.00010	kg/t	0.0000 kg/t	-	1.28	8	-	-	-	-	-	-
Transferring ROM coal by conveyor to Howick CPP	83	39	6	70	1269944	t/y	0.00022 kg/t	0.00010	kg/t	0.0000 kg/t	-	1.28	8	-	-	-	-	-	-
Transferring ROM coal by conveyor to RCPP (RSO)	0	0	0	70	0	t/v	0.00022 kg/t	0.00010	kg/t	0.0000 kg/t	-	1.28	8	-	-	-	-	-	
Transferring ROM coal by conveyor to LCPP	0	0	0	70	0	t/y	0.00022 kg/t	0.00010	kg/t	0.0000 kg/t	-	1.28	8	-	-	-	-	-	-
Handling coal at HVCPP inc rejects	2080	984	30	70	6373192	t/y	0.00109 kg/t	0.00051	kg/t	0.0000 kg/t	-	1.28	8	-	-	-	-	-	-
Handling coal at Howick CPP inc rejects	415	196	6	70	1269944	t/y	0.00109 kg/t	0.00051	kg/t	0.0000 kg/t	-	1.28	8	-	-	-	-	-	-
Handling coal at RCPP (RSO)	0	0	0	70	0	t/y	0.00109 kg/t	0.00051	kg/t	0.0000 kg/t	-	1.28	8	-	-	-	-	-	-
Handling coal at LCPP inc rejects	0	0	0	70	0	t/y	0.00109 kg/t	0.00051	kg/t	0.0000 kg/t	-	1.28	8	-	-	-	-	-	
Dozers / loaders on ROM coal stockpiles	84852	24452	1867	50	12700	h/y	13.4 kg/h	3.9	kg/h	0.294 kg/h	-	-	8	-	-	-	-	5	-
Dozers on product coal stockpiles	31693	8542	697	50	8474	h/y	7.5 kg/h	2.0	kg/h	0.165 kg/h	-	-	10	-	-	-	-	4	-
Conveyer to product stockpiles	618	292	44	70	12927949	t/y	0.00016 kg/t	0.00008	kg/t	0.0000 kg/t	-	1.28	10	-	-	-	-	-	-
Hauling product from Howick CPP to Newdell LP	131881	38972	3956	85	981930	t/y	0.89538 kg/t	0.26459	kg/t	0.027 kg/t	-	-	-	-	4	65	15	-	-
Loading product coal to trains	5564	2365	278	0	13909879	t/y	0.00040 kg/t	0.00017	kg/t	0.0000 kg/t	-	-	-	-	-	-	-	-	-
Wind erosion from active and inactive pits	365196	182598	27390	0	417	ha	876.0 kg/ha/y	438.0	kg/ha/y	65.7 kg/ha/y	-	-	-	-	-	-	-	-	-
Wind erosion from active, inactive and shaped dumps	649063	324531	48680	0	741	ha	876.0 kg/ha/y	438.0	kg/ha/y	65.7 kg/ha/y	-	-	-	-	-	-	-	-	-
Wind erosion from temporary stabilisation	0	0	0	60	0	ha	876.0 kg/ha/y	438.0	kg/ha/y	65.7 kg/ha/y	-	-	-	-	-	-	-	-	-
Wind erosion from ROM coal stockpiles	7943	3972	596	50	18	ha	876.0 kg/ha/y	438.0	kg/ha/y	65.7 kg/ha/y	-	-	-	-	-	-	-	-	
Wind erosion from product coal stockpile	12300	6150	923	50	28	ha	876.0 kg/ha/y		kg/ha/y	65.7 kg/ha/y	-	-	-	-	-	-1	-	-	
Grading roads	42404	14992	465	50	137794	km	0.61547 kg/VKT	0.2176	kg/VKT	0.007 kg/VKT	-	-	-	-	-	-1	-	-	8
Dragline(s) working on overburden	0			0		bcm/y	0.03 kg/bcm		kg/bcm	0.002 kg/bcm	-	-	2	7	-	-	-	-	
<u> </u>									Ť	1					\rightarrow		\neg	\neg	\neg
Total	4265317	1454902	236463												\rightarrow	$\overline{}$	\rightarrow	$\overline{}$	\rightarrow

Prodcution data from HVO (2015)

HVO South 2014

HVO South 2014																				
	Annua	l emissions	(kg/y)				TSP		PM	10	PM2.5					Variables	3			
Activity	TSP	PM10	PM2.5	Control (%)	Intensity	Units	Factor	Units	Factor	Units	Factor Units	Area (m2)	(ws/2.2)^1.3	Moisture (%)	Drop distance (m)	kg/VKT	vtruck	km/trip	Sitt (%)	Speed (km/h)
Stripping topsoil by scraper	4244	1068	212	50	292702		0.029 kg/t	0.	0.0073	kg/t	0.001 kg/t	-	-	-	-		- 1	_	-	-
Drilling overburden (or coal)	21304	11078	639	70	120361	holes/v	0.59 kg/ho	ole	0.31	ka/hole	0.018 kg/hole	-	-	-	-		-		-	
Blasting overburden (or coal)	187753	97632	5633	0	192	blasts/y	977.3 kg/bla	last !	508.2	kg/blast	29.3 kg/blast	27022	-	-	-	1	-	_	-	
Excavators loading overburden to trucks	232282	109863	16636	0	153261145	t/v	0.00152 kg/t		00072		0.0001 kg/t	-	1.28	2	-	1	-	_	-	-
Hauling overburden from pit to dump	2601608	768797	78048		153261145		0.11317 kg/t		33442		0.003 kg/t	-	-	-	-	4	240	7	-	
Unloading overburden to dump inc rejects	232282	109863	16636		153261145		0.00152 kg/t		00072		0.0001 kg/t	-	1.28	2	-		-	_	-	
Dozers shaping overburden	1632604	397451	171423	0	97554		16.7 kg/h		74149 I		1.757 kg/h	-	-	2			-		10	
Dozers working on overburden for rehabilitation	63319	15415	6649	0			16.7 kg/h		74149 I		1.757 kg/h	-	-	2			-		10	
Dozers working on coal	226274	65205	4978	0	16933		13.4 kg/h		3.9		0.294 kg/h	-	-	- 8			-		5	
Loading ROM coal to trucks	588336	84612	11178	0			0.04783 kg/t		06879		0.001 kg/t	-	-	8			-		-	
Hauling ROM coal from pit to hopper / ROM pad (HVCPP)	949035	280448	28471	85	12245949		0.51665 kg/t		52675		0.015 kg/t	-	-		-	4	190	25.3	-	
Hauling ROM coal from pit to ROM pad (Howick CPP)	0.0000	0	0	85		t/y	0.00000 kg/t	10.10		kg/t	0.000 kg/t	-	-		-	4	190	0		
Hauling ROM coal from pit to hopper / ROM pad (RCPP)	0	0	0	85		t/v	0.42884 kg/t	0.12	26726 I		0.013 kg/t	-	-		-	4	190	21		
Hauling ROM coal from pit to hopper / ROM pad (LCPP)	0	0	0	85		t/v	0.00000 kg/t	02		kg/t	0.000 kg/t		-		_	4	190	0		
Unloading ROM coal to hopper / ROM pad (HVCPP)	36738	15430	698	70	12245949		0.01 kg/t	0	0.0042		0.000 kg/t	-	_		_		- 100			
Unloading ROM coal to ROM pad (Howick CPP)	00700	0	000	70		t/v	0.01 kg/t		0.0042		0.000 kg/t	-	-		-		-			
Unloading ROM coal to hopper / ROM pad (RCPP)	0	0	0	70		t/v	0.01 kg/t		0.0042		0.000 kg/t		_		<u> </u>			$\overline{}$		
Unloading ROM coal to hopper / ROM pad (LCPP)	0	0	0	70		t/v	0.01 kg/t		0.0042		0.000 kg/t	-	_		-		_	-		
ROM coal rehandle to hopper (HVCPP)	73476	30860	1396	0	7347570		0.01 kg/t		0.0042		0.000 kg/t		_		<u> </u>	+-		-		
ROM coal rehandle to hopper (Howick CPP)	0	0	0	0		t/v	0.01 kg/t		0.0042		0.000 kg/t					+		-		$-\exists$
ROM coal rehandle to hopper (RCPP) (RSO)	0	0	0	0		t/v	0.01 kg/t		0.0042		0.000 kg/t					+		-		-
ROM coal rehandle to hopper (LCPP)	0	0	0	0		t/v	0.01 kg/t		0.0042		0.000 kg/t		-			+		—		
Transferring ROM coal by conveyor to HVCPP	799	378	57	70	12245949		0.00022 kg/t		00010		0.000 kg/t		1.28	8		1		—		
Transferring ROM coal by conveyor to Howick CPP	0	0	0	70		t/v	0.00022 kg/t		00010		0.0000 kg/t		1.28	8		+		—	_	
Transferring ROM coal by conveyor to RCPP (RSO)	0	0	0	70		t/v	0.00022 kg/t		00010		0.0000 kg/t		1.28	8		1	-	\dashv		
Transferring ROM coal by conveyor to LCPP	0	0	0	70		t/v	0.00022 kg/t		00010		0.0000 kg/t		1.28	8		1	-	\dashv		
Handling coal at HVCPP inc rejects	3997	1891	57	70	12245949		0.00022 kg/t		00010		0.0000 kg/t	-	1.28	8		\vdash	-		_	
Handling coal at Howick CPP inc rejects	0	0	0	70		t/v	0.00109 kg/t		00051 I		0.0000 kg/t	-	1.28	8		\vdash	-			
Handling coal at RCPP (RSO)	0	0	0	70			0.00109 kg/t		00051 I		0.0000 kg/t	-	1.28	8		\vdash	-			
Handling coal at LCPP inc rejects	0	0	0	70		t/y t/v	0.00109 kg/t		00051 00051		0.0000 kg/t	-	1.28	8		├	-			
Dozers / loaders on ROM coal stockpiles	0	0	0	50		- /						-	1.20	8			-		5	
Dozers on product coal stockpiles	0	0	0	50		h/y	13.4 kg/h 7.5 kg/h		3.9		0.294 kg/h 0.165 kg/h	-	-	10		╙	-		4	
	0	0	0	70		h/y			2.0 I 00008 I		0.0000 kg/t	-	4 20	10		╙	-		4	
Conveyer to product stockpiles			-			t/y	0.00016 kg/t					-	1.28	10	-	1	-			
Hauling product from Howick CPP to Newdell LP	0	0	0	85		t/y	0.89538 kg/t		64594		0.027 kg/t	-	-		-	4	65	15		
Loading product coal to trains	421308	0	0 31598	0		t/y	0.00040 kg/t		00017		0.0000 kg/t	-	-		-	├	-			
Wind erosion from active and inactive pits		210654		0		ha	876.0 kg/ha		438.0		65.7 kg/ha/y		-		-		-			
Wind erosion from active, inactive and shaped dumps	531235	265617	39843	0		ha	876.0 kg/ha		438.0		65.7 kg/ha/y	-	-	-	_		-			
Wind erosion from temporary stabilisation	0	0	0	60		ha	876.0 kg/ha		438.0		65.7 kg/ha/y	-	-		_		-			
Wind erosion from ROM coal stockpiles	7366	3683	552	50		ha	876.0 kg/ha		438.0 I		65.7 kg/ha/y	-	-	-	-		-			
Wind erosion from product coal stockpile	0	0	0	50		ha	876.0 kg/ha		438.0		65.7 kg/ha/y	-	-	-	-	─ ─	-			
Grading roads	92824	32818	1017	50	301639		0.61547 kg/Vk		0.2176		0.007 kg/VKT	-	-		-		-			8
Dragline(s) working on overburden	0	0	0	0	0	bcm/y	0.03 kg/bc	cm	0.01	kg/bcm	0.002 kg/bcm	-	-	2	7		-			
T	700075	050050	445705													\vdash				
Total	7906784	2502762	415723																	

Prodcution data from HVO (2015)

HVO North 2025

HVO North 2025			<i>a</i> () I			то.			110	D140.5					,				
	Annua	l emissions	(kg/y)			TSI	Р	PN	110	PM2.5				\ \	/ariables				
Activity	TSP	PM10	PM2.5	Control (%)	Intensity Units	Factor	Units	Factor	Units	Factor	Area (m2)	(ws/2.2)^1.3	Moisture (%)	Drop distance (m)	kg/VKT	t/truck	km/trip	Silt (%)	Speed (km/h)
Stripping topsoil by scraper	12950	3260	648	50	893132 t/y	0.029 k	kg/t	0.0073	kg/t	0.001 kg/t	-	-	-	-	-	-	-	-	-
Drilling overburden (or coal)	46442	24150	1393	70	262383 holes/y	0.59 k	kg/hole	0.31	kg/hole	0.018 kg/hole	-	-	-	-	-	-	-	-	
Blasting overburden (or coal)	333163	173245	9995	0	326 blasts/y	1022.9 k	kg/blast	531.9	kg/blast	30.7 kg/blast	27857	-	-	-	-	-	-	-	
Excavators loading overburden to trucks	226339	107052	16211	0	149340305 t/v	0.00152 k		0.00072	kg/t	0.0001 kg/t	-	1.28	2	-	-	-	-	-	
Hauling overburden from pit to dump	2535052	749129	76052	85	149340305 t/v	0.11317 k	kg/t	0.033442	kg/t	0.003 kg/t	-	-	-	-	4	240	7	-	
Unloading overburden to dump inc rejects	231492	109489	16580	0	152739962 t/v	0.00152 k	kg/t	0.00072	kg/t	0.0001 kg/t	-	1.28	2	-	-	-	-	-	
Dozers shaping overburden	1205202	293402	126546	0	72015 h/y	16.7 k		4.074149	ka/h	1.757 kg/h	-	-	2	-	-	-	-	10	
Dozers working on overburden for rehabilitation	46859	11408	4920	0		16.7 k		4.074149		1.757 kg/h	-	-	2	-	-	-	-	10	
Dozers working on coal	227208	65474	4999	0	17003 h/y	13.4 k	ka/h	3.9	kg/h	0.294 kg/h	-	-	8	-	-	-	-	5	
Loading ROM coal to trucks	434094	62430	8248	0	9075360 t/v	0.04783 k		0.006879		0.001 kg/t	-	-	8	-	-	-	-	-	
Hauling ROM coal from pit to hopper / ROM pad (HVCPP)	148217	43799	4447	85	4937459 t/v	0.20013 k		0.059139		0.006 kg/t	-	-	-	-	4	190	9.8	-	
Hauling ROM coal from pit to ROM pad (Howick CPP)	105476	31169	3164	85	2025519 t/y	0.34716 k		0.102588		0.010 kg/t	-	-	-	-	4	190	17	-	
Hauling ROM coal from pit to hopper / ROM pad (RCPP)	16082	4752	482	85	250000 t/v	0.42884 k		0.126726		0.013 kg/t	-	-	-	-	4	190	21	-	
Hauling ROM coal from pit to hopper / ROM pad (LCPP)	0	0	0	85	0 t/v	0.00000 k			kg/t	0.000 kg/t	-	-	-	-	4	190	0	-	
Unloading ROM coal to hopper / ROM pad (HVCPP)	14812	6221	281	70	4937459 t/y	0.01 k		0.0042		0.000 kg/t	-		-	-	-				
Unloading ROM coal to ROM pad (Howick CPP)	6077	2552	115	70	2025519 t/y	0.01 k		0.0042		0.000 kg/t	-	-	-	-	-	-		-	
Unloading ROM coal to hopper / ROM pad (RCPP)	750	315	14	70	250000 t/y	0.01 k		0.0042		0.000 kg/t	-		-	-	-				
Unloading ROM coal to hopper / ROM pad (LCPP)	0	0.0	0	70	0 t/y	0.01 k		0.0042		0.000 kg/t	-		-	-	-	-			
ROM coal rehandle to hopper (HVCPP)	29625	12442	563	0	2962475 t/y	0.01 k		0.0042		0.000 kg/t			-	-			-		
ROM coal rehandle to hopper (Howick CPP)	20255	8507	385	0	2025519 t/y	0.01 k		0.0042		0.000 kg/t			-	-	_	_			
ROM coal rehandle to hopper (RCPP) (RSO)	0	0	000	0	0 t/y	0.01 k		0.0042		0.000 kg/t			-	-	_	_			
ROM coal rehandle to hopper (LCPP)	0	0	0	0	0 t/y	0.01 k		0.0042		0.000 kg/t			-		_		-		
Transferring ROM coal by conveyor to HVCPP	322	152	23	70	4937459 t/y	0.00022 k		0.00010		0.000 kg/t		1.28	8	-		-	-	-	
Transferring ROM coal by conveyor to Howick CPP	132	63	9	70	2025519 t/y	0.00022 k		0.00010		0.0000 kg/t		1.28	8	-		-	-	-	
Transferring ROM coal by conveyor to RCPP (RSO)	0	03	0	70	0 t/y	0.00022 k		0.00010		0.0000 kg/t		1.28	8		-	-	$\overline{}$	-	
Transferring ROM coal by conveyor to LCPP	0	0	0	70	0 t/y	0.00022 k		0.00010		0.0000 kg/t		1.28	8		-	-	$\overline{}$	-	
Handling coal at HVCPP inc rejects	2527	1195	36	70	7742780 t/y	0.00022 F		0.00010		0.0000 kg/t		1.28	8				\rightarrow	\rightarrow	
Handling coal at Howick CPP inc rejects	661	313	9	70	2025519 t/y	0.00109 k		0.00051		0.0000 kg/t		1.28	8				\rightarrow	\rightarrow	
Handling coal at RCPP (RSO)	001	0	0	70	0 t/v	0.00109 k		0.00051		0.0000 kg/t		1.28	8				\rightarrow	\rightarrow	
Handling coal at LCPP inc rejects	0	0	0	70	0 t/v	0.00109 k		0.00051		0.0000 kg/t		1.28	8	-			\rightarrow	\rightarrow	
Dozers / loaders on ROM coal stockpiles	84852	24452	1867	50	12700 h/y	13.4 k			kg/h	0.294 kg/h		1.20	8				\rightarrow	5	
Dozers on product coal stockpiles	31693	8542	697	50	8474 h/y	7.5 k			kg/h	0.294 kg/li 0.165 kg/h	-	-	10	-	-	-	-	4	
Conveyer to product stockpiles	569	269	41	70		0.00016		0.00008		0.105 kg/li	-	1.28	10	-	-	-	-	-4	
Hauling product from Howick CPP to Newdell LP	200762	59327	6023	85	1494789 t/y	0.89538 k		0.264594		0.0000 kg/t	-	1.20	10	-	4	65	15	\dashv	
	5366	2281	268			0.00040 k		0.264594		0.027 kg/t 0.0000 kg/t	-	-	-	-	4	65	15		
Loading product coal to trains Wind erosion from active and inactive pits	432523	216261	32439	0	13414717 t/y 494 ha	876.0 k			kg/t kg/ha/y	65.7 kg/ha/y	-	-	-	-	-	-			
Wind erosion from active and inactive pits Wind erosion from active, inactive and shaped dumps	810399	405200	60780	0	925 ha	876.0 k			kg/ha/y	65.7 kg/ha/y	-	-	-	-	-	-	-	-	
Wind erosion from active, inactive and snaped dumps Wind erosion from temporary stabilisation	42125	21063	3159	60	120 ha	876.0 k			kg/ha/y	65.7 kg/ha/y	-	-	-		-	-			
Wind erosion from ROM coal stockpiles	15309	7655	1148	50	35 ha				kg/ha/y		-	-	-	-	-	-			
Wind erosion from ROW coal stockpiles Wind erosion from product coal stockpile	11755	5877	882	50	35 na 27 ha	876.0 k			kg/na/y	65.7 kg/ha/y 65.7 kg/ha/y	-	-	-	-	-	-			
						876.0 k			J		-	-	-	-	-	-			
Grading roads	67633	23912	741	50	219778 km	0.61547 k			kg/VKT	0.007 kg/VKT	-	-	-	7	-	-			
Dragline(s) working on overburden	0	0	0	0	0 bcm/y	0.03 k	kg/bcm	0.01	kg/bcm	0.002 kg/bcm	-	-	2	- /	-	-			
Total	7246725	2485357	383166														\longrightarrow	\longrightarrow	
Total	1340125	∠480307	303100																

HVO South 2025

HVU South 2025	Δηημα	emissions	(ka/v)			TSP	PM10	PM2.5	1			\/·	ariables				
	Aiiiuai		(1.9/3)			101	TIVITO	1 1012.5				V.			$\overline{}$	$\overline{}$	
Activity	TSP	PM10	PM2.5	Control (%)	Intensity Units	Factor	Factor	Factor	Area (m2)	(ws/2.2)^1.3	Moisture (%)	Drop distance (m)	kg/VKT	/truck	km/trip	Silt (%)	Speed (km/h)
Stripping topsoil by scraper	0	0	0	50	0 t/y	0.029 kg/t	0.0073 kg/t	0.001 kg/t	-	-	-	-	-	-	-	-	-
Drilling overburden (or coal)	26837	13955	805	70	151622 holes/y	0.59 kg/hole	0.31 kg/hole	0.018 kg/hole	-	-	-	-	-	-	-	-	-
Blasting overburden (or coal)	219419	114098	6583	0	262 blasts/y	838.4 kg/blast	436.0 kg/blast	25.2 kg/blast	24399	-	-	-	-	-	-	-	-
Excavators loading overburden to trucks	228393	108024	16358	0	150695240 t/y	0.00152 kg/t	0.00072 kg/t	0.0001 kg/t	-	1.28	2	-	-	-	-	-	-
Hauling overburden from pit to dump	2558052	755925	76742	85	150695240 t/y	0.11317 kg/t	0.033442 kg/t	0.003 kg/t	-	-	-	-	4	240	7	-	
Unloading overburden to dump inc rejects	228393	108024	16358	0	150695240 t/y	0.00152 kg/t	0.00072 kg/t	0.0001 kg/t	-	1.28	2	-	-	-	-	-	
Dozers shaping overburden	1208199	294131	126861	0	72194 h/y	16.7 kg/h	4.074149 kg/h	1.757 kg/h	-	-	2	-	-	-	-	10	
Dozers working on overburden for rehabilitation	46859	11408	4920	0	2800 h/y	16.7 kg/h	4.074149 kg/h	1.757 kg/h	-	-	2	-	-	-	-	10	
Dozers working on coal	167453	48254	3684	0	12532 h/y	13.4 kg/h	3.9 kg/h	0.294 kg/h	-	-	8	-	-	-	-	5	
Loading ROM coal to trucks	435394	62617	8272	0	9102541 t/y	0.04783 kg/t	0.006879 kg/t	0.001 kg/t	-	-	8	-	-	-	-	-	
Hauling ROM coal from pit to hopper / ROM pad (HVCPP)	702328	207544	21070	85	9062541 t/y	0.51665 kg/t	0.152675 kg/t	0.015 kg/t	-	-	-	-	4	190	25.3	-	
Hauling ROM coal from pit to ROM pad (Howick CPP)	0	0	0	85	0 t/y	0.00000 kg/t	0 kg/t	0.000 kg/t	-	-	-	-	4	190	0	-	
Hauling ROM coal from pit to hopper / ROM pad (RCPP)	0	0	0	85	0 t/y	0.42884 kg/t	0.126726 kg/t	0.013 kg/t	-	- 1	-	-	4	190	21	-	
Hauling ROM coal from pit to hopper / ROM pad (LCPP)	0	0	0	85	0 t/y	0.00000 kg/t	0 kg/t	0.000 kg/t	-	-	-	-	4	190	0	-	
Unloading ROM coal to hopper / ROM pad (HVCPP)	27188	11419	517	70	9062541 t/v	0.01 kg/t	0.0042 kg/t	0.000 kg/t	-	-	-	-	-	-	-	-	
Unloading ROM coal to ROM pad (Howick CPP)	0	0	0	70	0 t/y	0.01 kg/t	0.0042 kg/t	0.000 kg/t	-	- 1	-	-	-	-	-	-	
Unloading ROM coal to hopper / ROM pad (RCPP)	0	0	0	70	0 t/y	0.01 kg/t	0.0042 kg/t	0.000 kg/t	-	-	-	-	-	-	-	-	
Unloading ROM coal to hopper / ROM pad (LCPP)	0	0	0	70	0 t/v	0.01 kg/t	0.0042 kg/t	0.000 kg/t	-	-		-	-	-	-	-	
ROM coal rehandle to hopper (HVCPP)	54375	22838	1033	0	5437525 t/v	0.01 kg/t	0.0042 kg/t	0.000 kg/t	-	-		-	-	-	-	-	
ROM coal rehandle to hopper (Howick CPP)	0	0	0	0	0 t/y	0.01 kg/t	0.0042 kg/t	0.000 kg/t	-	-	-	-	-	-	-	-	
ROM coal rehandle to hopper (RCPP) (RSO)	0	0	0	0	0 t/y	0.01 kg/t	0.0042 kg/t	0.000 kg/t	-	-	-	-	-	-	-	-	
ROM coal rehandle to hopper (LCPP)	0	0	0	0	0 t/v	0.01 kg/t	0.0042 kg/t	0.000 kg/t	-	-	-	-	-	-	-	-	
Transferring ROM coal by conveyor to HVCPP	592	280	42	70	9062541 t/y	0.00022 kg/t	0.00010 kg/t	0.0000 kg/t	-	1.28	8	-	-	-	-	-	
Transferring ROM coal by conveyor to Howick CPP	0	0	0	70	0 t/v	0.00022 kg/t	0.00010 kg/t	0.0000 kg/t	-	1.28	8	-	-	-	-	-	
Transferring ROM coal by conveyor to RCPP (RSO)	0	0	0	70	0 t/y	0.00022 kg/t	0.00010 kg/t	0.0000 kg/t	-	1.28	8	-	-	-	-	-	
Transferring ROM coal by conveyor to LCPP	0	0	0	70	0 t/y	0.00022 kg/t	0.00010 kg/t	0.0000 kg/t	-	1.28	8	-	-	-	-	-	
Handling coal at HVCPP inc rejects	2958	1399	42	70	9062541 t/y	0.00109 kg/t	0.00051 kg/t	0.0000 kg/t	-	1.28	8		-	-	-	-	
Handling coal at Howick CPP inc rejects	0	0	0	70	0 t/y	0.00109 kg/t	0.00051 kg/t	0.0000 kg/t	-	1.28	8		-	-	-	-	
Handling coal at RCPP (RSO)	0	0	0	70	0 t/v	0.00109 kg/t	0.00051 kg/t	0.0000 kg/t	-	1.28	8		-	-	-	-	
Handling coal at LCPP inc rejects	0	0	0	70	0 t/v	0.00109 kg/t	0.00051 kg/t	0.0000 kg/t	-	1.28	8	-	-	-	-	-	
Dozers / loaders on ROM coal stockpiles	0	0	0	50	0 h/y	13.4 kg/h	3.9 kg/h	0.294 kg/h	-	-	8	-	-	-	-	5	
Dozers on product coal stockpiles	0	0	0	50	0 h/y	7.5 kg/h	2.0 kg/h	0.165 kg/h	-	-	10	-	-	-	-	4	
Conveyer to product stockpiles	0	0	0	70	0 t/v	0.00016 kg/t	0.00008 kg/t	0.0000 kg/t	-	1.28	10	-	-	-	-	-	
Hauling product from Howick CPP to Newdell LP	0	0	0	85	0 t/v	0.89538 kg/t	0.264594 kg/t	0.027 kg/t	-	-	-	-	4	65	15	-	
Loading product coal to trains	0	0	0	0	0 t/v	0.00040 kg/t	0.00017 kg/t	0.0000 kg/t	-			-	-	-			
Wind erosion from active and inactive pits	511922	255961	38394	0	584 ha	876.0 kg/ha/y	438.0 kg/ha/y	65.7 kg/ha/y	-	-		-	-	-	-	-	
Wind erosion from active, inactive and shaped dumps	688263	344132	51620	0	786 ha	876.0 kg/ha/y	438.0 kg/ha/y	65.7 kg/ha/y	-	-		-	-	-	-	-	
Wind erosion from temporary stabilisation	94167	47083	7063	60	269 ha	876.0 kg/ha/y	438.0 kg/ha/y	65.7 kg/ha/y	-	-		-	-	-	-+	-	
Wind erosion from ROM coal stockpiles	0	0	0	50	0 ha	876.0 kg/ha/y	438.0 kg/ha/y	65.7 kg/ha/y	_	-		_		-			
Wind erosion from product coal stockpile	0	0	0	50	0 ha	876.0 kg/ha/y	438.0 kg/ha/y	65.7 kg/ha/y	_	-		_		-			
Grading roads	68694	24287	753	50	223226 km	0.61547 kg/VKT	0.2176 kg/VKT	0.007 kg/VKT	_	-		_		-			8
Dragline(s) working on overburden	0	0	0	0	0 bcm/y	0.03 kg/bcm	0.01 kg/bcm	0.002 kg/bcm	_	-	2	7		-			
					0 20/y	0.00	5.5. ng/25m	3.002 ng/20111	\vdash						\rightarrow	\rightarrow	
Total	7269485	2431378	381116						\vdash						\rightarrow	\rightarrow	
·	. 200 .00	0 .0.0	5510				L L									-	

HVO North 2029

HVO North 2029			<i>a</i> () I						110	DM0.5									
	Annua	l emissions	(kg/y)			18	SP	PN	<i>I</i> 10	PM2.5				\	/ariables				
Activity	TSP	PM10	PM2.5	Control (%)	Intensity	Factor	Units	Factor	Units	Factor	Area (m2)	(ws/2.2)^1.3	Moisture (%)	Drop distance (m)	kg/VKT	t/truck	km/trip	Silt (%)	Speed (km/h)
Stripping topsoil by scraper	16212	4081	811	50	1118048 t/y	0.029	kg/t	0.0073	kg/t	0.001 kg/t	-	-	-	-	-	-	-	-	
Drilling overburden (or coal)	66840	34757	2005	70	377626 holes/y	0.59	kg/hole	0.31	kg/hole	0.018 kg/hole	-	-1	-	-	-	-	-	-	
Blasting overburden (or coal)	546229	284039	16387	0	548 blasts/y	997.2	kg/blast	518.6	kg/blast	29.9 kg/blast	27390	-	-	-	-	-	-	-	
Excavators loading overburden to trucks	376298	177979	26951	0	248284550 t/v	0.00152		0.00072		0.0001 kg/t	-	1.28	2	-	-	-	-	-	
Hauling overburden from pit to dump	4214630	1245458	126439	85	248284550 t/v	0.11317	kg/t	0.033442	kg/t	0.003 kg/t	-	-	-	-	4	240	7	-	
Unloading overburden to dump inc rejects	385550	182355	27614	0	254388925 t/v	0.00152	kg/t	0.00072	kg/t	0.0001 kg/t	-	1.28	2	-	-	-	-	-	
Dozers shaping overburden	2027713	493639	212910	0	121164 h/y	16.7		4.074149	ka/h	1.757 kg/h	-	-	2	-	-	-	-	10	
Dozers working on overburden for rehabilitation	46859	11408	4920	0	2800 h/v	16.7		4.074149		1.757 kg/h	-	-	2		-	-	-	10	
Dozers working on coal	406928	117263	8952	0	30453 h/y	13.4	ka/h	3.9	kg/h	0.294 kg/h	-	-	8	-	-	-	-	5	
Loading ROM coal to trucks	1052308	151338	19994		22000000 t/y	0.04783		0.006879		0.001 kg/t	-	-	8	-	-	-	-	-	
Hauling ROM coal from pit to hopper / ROM pad (HVCPP)	347135	102581	10414	85	11563863 t/y	0.20013		0.059139		0.006 kg/t	-	-	-	-	4	190	9.8	-	
Hauling ROM coal from pit to ROM pad (Howick CPP)	312442	92329	9373	85	6000000 t/y	0.34716		0.102588		0.010 kg/t	-	-	-	-	4	190	17	-	
Hauling ROM coal from pit to hopper / ROM pad (RCPP)	271772	80311	8153	85	4436137 t/y	0.40842		0.120692		0.012 kg/t	-	-	-	-	4	190	20	-	
Hauling ROM coal from pit to hopper / ROM pad (LCPP)	0	0	0	85	0 t/y	0.16337		0.048277		0.005 kg/t	-	-	-	-	4	190	8	-	
Unloading ROM coal to hopper / ROM pad (HVCPP)	34692	14570	659	70	11563863 t/y	0.01		0.0042		0.000 kg/t	-	-	-	-	-		-		
Unloading ROM coal to ROM pad (Howick CPP)	18000	7560	342	70	6000000 t/y	0.01		0.0042		0.000 kg/t	-	-	-	-	-	-		-	
Unloading ROM coal to hopper / ROM pad (RCPP)	13308	5590	253	70	4436137 t/y	0.01		0.0042		0.000 kg/t	-	-	-	-	-				
Unloading ROM coal to hopper / ROM pad (LCPP)	0	0	0	70	0 t/y	0.01		0.0042		0.000 kg/t	-	-	-	-	-	-			
ROM coal rehandle to hopper (HVCPP)	69383	29141	1318	0	6938318 t/y	0.01		0.0042		0.000 kg/t	-		-		-		-		
ROM coal rehandle to hopper (Howick CPP)	60000	25200	1140	0	6000000 t/y	0.01		0.0042		0.000 kg/t	-	_	-	-	-	_			
ROM coal rehandle to hopper (RCPP) (RSO)	0	0	0	0	0 t/y	0.01		0.0042		0.000 kg/t	-	_	-	-	-	_			
ROM coal rehandle to hopper (LCPP)	0	0	0	0	0 t/y	0.01		0.0042		0.000 kg/t			-		_		-		
Transferring ROM coal by conveyor to HVCPP	755	357	54		11563863 t/y	0.00022		0.00010		0.000 kg/t	-	1.28	8	-	-	-	-	-	
Transferring ROM coal by conveyor to Howick CPP	392	185	28	70	6000000 t/y	0.00022		0.00010		0.0000 kg/t	-	1.28	8		-	-	-	-	
Transferring ROM coal by conveyor to RCPP (RSO)	0	0	0	70	0 t/y	0.00022		0.00010		0.0000 kg/t		1.28	8		-	-	$\overline{}$	-	
Transferring ROM coal by conveyor to LCPP	0	0	0	70	0 t/y	0.00022		0.00010		0.0000 kg/t		1.28	8		-	-	$\overline{}$	-	
Handling coal at HVCPP inc rejects	4989	2360	71	70	15282947 t/y	0.00022		0.00010		0.0000 kg/t		1.28	8		-		\rightarrow	\rightarrow	
Handling coal at Howick CPP inc rejects	1959	926	28	70	6000000 t/y	0.00109		0.00051		0.0000 kg/t	-	1.28	8		-		\rightarrow	\rightarrow	
Handling coal at RCPP (RSO)	1939	0	0	70	0 t/v	0.00109		0.00051		0.0000 kg/t	-	1.28	8		-		\rightarrow	\rightarrow	
Handling coal at LCPP inc rejects	0	0	0	70	0 t/y	0.00109		0.00051		0.0000 kg/t	-	1.28	8		-		\rightarrow	\rightarrow	
Dozers / loaders on ROM coal stockpiles	84852	24452	1867	50	12700 h/y	13.4			kg/h	0.294 kg/h		1.20	8		-		\rightarrow	5	
Dozers on product coal stockpiles	32373	8725	712	50	8656 h/y		kg/h		kg/h	0.294 kg/h	-		10		- 1		-	4	
Conveyer to product stockpiles	857	405	61		17941887 t/y	0.00016		0.00008		0.105 kg/t	-	1.28	10	-	-	-	-	-4	
Hauling product from Howick CPP to Newdell LP	585226	172939	17557	85	4357355 t/y	0.89538		0.264594		0.0000 kg/t 0.027 kg/t	-	1.20	10	-	4	65	15	\dashv	
Loading product coal to trains	8920	3791	446		22299242 t/y	0.00040		0.204394		0.027 kg/t	-			- 1	4	00	15	\dashv	
Wind erosion from active and inactive pits	318508	159254	23888	0	364 ha		kg/t kg/ha/y		kg/ha/y	65.7 kg/ha/y	-	-	-	-	-	-			
Wind erosion from active and inactive pits Wind erosion from active, inactive and shaped dumps	724115	362057	54309	0	827 ha						-	-	-	-	-		\dashv	\dashv	
Wind erosion from active, inactive and snaped dumps Wind erosion from temporary stabilisation	84437	42218	6333	60	827 na 241 ha		kg/ha/y kg/ha/y		kg/ha/y	65.7 kg/ha/y	-	-	-	-	-	-			
									kg/ha/y	65.7 kg/ha/y	-	-	-	-	-	-			
Wind erosion from ROM coal stockpiles	15309	7655	1148	50	35 ha		kg/ha/y		kg/ha/y	65.7 kg/ha/y	-	-	-	-	-	-			
Wind erosion from product coal stockpile	14376	7188	1078	50	33 ha		kg/ha/y		kg/ha/y	65.7 kg/ha/y	-	-	-	-	-	-			
Grading roads	109887	38851	1204	50	357086 km	0.61547			kg/VKT	0.007 kg/VKT	-	-	-	-	-	-	-		
Dragline(s) working on overburden	0	0	0	0	0 bcm/y	0.03	kg/bcm	0.01	kg/bcm	0.002 kg/bcm	-	-	2	7	-	-	-	-	
Tatal	40050051	0000000	507464																
Total	12253254	3890963	587421					<u> </u>	<u> </u>										

HVO South 2029

HVO 300tili 2029	Annual	emissions	(kg/y)				TSP	PM	10	PM2.5	5				\	/ariables				
Activity	TSP	PM10	PM2.5	Control (%)	Intensity	Units	Factor		Units	Factor	Units	Area (m2)	(ws/2.2)^1.3	Moisture (%)	Drop distance (m)	kg/VKT	Vtruck	km/trip	Silt (%)	Speed (km/h)
Stripping topsoil by scraper	1143	288	57	50	78815 t/y		0.029 kg/t	0.0073	kg/t	0.001 kg	g/t	-	-	-	-	-	-	-	-	-
Drilling overburden (or coal)	24892	12944	747	70	140635 holes	s/y	0.59 kg/hole	0.31	kg/hole	0.018 kg	/hole	-	-	-	-	-	-1	-	-	-
Blasting overburden (or coal)	182916	95116	5487	0	249 blast	ts/y	733.9 kg/blast	381.6	kg/blast	22.0 kg	/blast	22325	-1	-	-	-	-1	-	-	-
Excavators loading overburden to trucks	219641	103884	15731	0	144920821 t/y		0.00152 kg/t	0.00072	kg/t	0.0001 kg	g/t	-	1.28	2	-	-	-	-	-	-
Hauling overburden from pit to dump	2460031	726959	73801	85	144920821 t/y		0.11317 kg/t	0.033442	kg/t	0.003 kg	ı/t	-	-	-	-	4	240	7	-	
Unloading overburden to dump inc rejects	219641	103884	15731	0	144920821 t/y		0.00152 kg/t	0.00072	kg/t	0.0001 kg	ı/t	-	1.28	2	-	-	- 1	-	-	
Dozers shaping overburden	1232292	299996	129391	0	73634 h/y		16.7 kg/h	4.074149	kg/h	1.757 kg	ı/h	-	-	2	-	-	- 1	-	10	
Dozers working on overburden for rehabilitation	46859	11408	4920	0	2800 h/y		16.7 kg/h	4.074149		1.757 kg		-	-	2		-	-	-	10	
Dozers working on coal	175333	50525	3857	0	13121 h/y		13.4 kg/h	3.9		0.294 kg		-	-	8		-	-	-	5	
Loading ROM coal to trucks	416623	59917	7916	0	8710095 t/y		0.04783 kg/t	0.006879		0.001 kg		-	-	8		-	- 1	-	- 1	
Hauling ROM coal from pit to hopper / ROM pad (HVCPP)	653783	193198	19613	85	8436137 t/y		0.51665 kg/t	0.152675		0.015 kg		-				4	190	25.3	-	
Hauling ROM coal from pit to ROM pad (Howick CPP)	000700	0	0	85	0 t/y		0.00000 kg/t		kg/t	0.000 kg		_		_		4	190	0		
Hauling ROM coal from pit to hopper / ROM pad (RCPP)	0	0	0	85	0 t/y		0.40842 kg/t	0.120692		0.000 kg						4	190	20		
Hauling ROM coal from pit to hopper / ROM pad (RCPP)	0	0	0	85	0 t/y		0.16337 kg/t	0.120032		0.012 kg		-				4	190	8	\rightarrow	
Unloading ROM coal to hopper / ROM pad (HVCPP)	25308	10630	481	70	8436137 t/y		0.10337 kg/t	0.046277		0.003 kg		-	-		-		190	0	-	
Unloading ROM coal to ROM pad (Howick CPP)	23306	0	0	70	0 t/y		0.01 kg/t	0.0042		0.000 kg		-		-	-	-	-		\rightarrow	
Unloading ROM coal to hopper / ROM pad (RCPP)	0	0	0	70	0 t/y		0.01 kg/t	0.0042		0.000 kg		-						- 1	-	
Unloading ROM coal to hopper / ROM pad (RCPP)	0	0	0	70		_						-	-		-	-	-	-	\rightarrow	
	•	-		-	0 t/y	_	0.01 kg/t	0.0042		0.000 kg		-		-				-	-	
ROM coal rehandle to hopper (HVCPP)	50617	21259	962	0	5061682 t/y	_	0.01 kg/t	0.0042		0.000 kg		-	-	-	-	-	-	-		
ROM coal rehandle to hopper (Howick CPP)	0	0	0	0	0 t/y		0.01 kg/t	0.0042		0.000 kg		-	-	-	-	-	-	-		
ROM coal rehandle to hopper (RCPP) (RSO)	0	0	0	0	0 t/y		0.01 kg/t	0.0042		0.000 kg		-	-	-	-	-	-	-		
ROM coal rehandle to hopper (LCPP)	0	0	0	0	0 t/y		0.01 kg/t	0.0042		0.000 kg		-		-	-	-	-	-		
Transferring ROM coal by conveyor to HVCPP	551	260	39	70	8436137 t/y		0.00022 kg/t	0.00010		0.0000 kg		-	1.28	8		-	-	-		
Transferring ROM coal by conveyor to Howick CPP	0	0	0	70	0 t/y		0.00022 kg/t	0.00010		0.0000 kg		-	1.28	8		-	-	-		
Transferring ROM coal by conveyor to RCPP (RSO)	0	0	0	70	0 t/y		0.00022 kg/t	0.00010		0.0000 kg		-	1.28	8		-	-	-	-	-
Transferring ROM coal by conveyor to LCPP	0	0	0	70	0 t/y		0.00022 kg/t	0.00010		0.0000 kg		-	1.28	8		-	-	-	-	-
Handling coal at HVCPP inc rejects	2754	1302	39	70	8436137 t/y		0.00109 kg/t	0.00051		0.0000 kg		-	1.28	8		-	-	-	-	-
Handling coal at Howick CPP inc rejects	0	0	0	70	0 t/y		0.00109 kg/t	0.00051	kg/t	0.0000 kg	g/t	-	1.28	8		-	-	-	-	-
Handling coal at RCPP (RSO)	0	0	0	70	0 t/y		0.00109 kg/t	0.00051	kg/t	0.0000 kg	y/t	-	1.28	8	-	-	-	-	-	-
Handling coal at LCPP inc rejects	0	0	0	70	0 t/y		0.00109 kg/t	0.00051	kg/t	0.0000 kg		-	1.28	8		-	-	-	-	-
Dozers / loaders on ROM coal stockpiles	0	0	0	50	0 h/y		13.4 kg/h	3.9	kg/h	0.294 kg	g/h	-	-	8	-	-	-	-	5	-
Dozers on product coal stockpiles	0	0	0	50	0 h/y		7.5 kg/h	2.0	kg/h	0.165 kg	y/h	-	-	10	-	-	-	-	4	-
Conveyer to product stockpiles	0	0	0	70	0 t/y		0.00016 kg/t	0.00008	kg/t	0.0000 kg	ı/t	-	1.28	10	-	-	-1	-	-	
Hauling product from Howick CPP to Newdell LP	0	0	0	85	0 t/y		0.89538 kg/t	0.264594	kg/t	0.027 kg	ı/t	-	-	-	-	4	65	15	-	
Loading product coal to trains	0	0	0	0	0 t/v		0.00040 kg/t	0.00017		0.0000 kg	1/t	-	-	-	-	-	-	-	-	
Wind erosion from active and inactive pits	281190	140595	21089	0	321 ha		876.0 kg/ha/y	438.0	kg/ha/y	65.7 kg	/ha/y	-	-	-	-	-	- 1	-	-	
Wind erosion from active, inactive and shaped dumps	543181	271590	40739	0	620 ha		876.0 kg/ha/y	438.0	kg/ha/y	65.7 kg	ı/ha/v	-	-	-	-	-	-	-		
Wind erosion from temporary stabilisation	66294	33147	4972	60	189 ha		876.0 kg/ha/y		kg/ha/y	65.7 kg		-	-	-	-	-	-	-	-	
Wind erosion from ROM coal stockpiles	0	0	0	50	0 ha		876.0 kg/ha/y		kg/ha/y	65.7 kg		-	-	-	-	-	-	-	-	
Wind erosion from product coal stockpile	0	0	0	50	0 ha		876.0 kg/ha/y	438.0		65.7 kg		-		-	_	-	-	-		
Grading roads	68088	24073	746	50	221256 km		0.61547 kg/VKT	0.2176		0.007 kg		_		-	_		-			- 8
Dragline(s) working on overburden	0	0	0	0	0 bcm/	/v	0.03 kg/bcm		kg/bcm	0.002 kg		_		2	7		-			
Stagming of Overbarden					O DOTTO		0.00 119/20111	0.01		0.002 Kg	, 20111		-		 ' 	-	-	-	\rightarrow	
Total	6671135	2160977	346319																$\equiv \pm$	

HVO North 2033

HVO North 2033			(leaded)			TSP	PM10	PM2.5				1/	a si a la la a				
	Annuai	emissions	(kg/y)			15P	PIVITO	PIVIZ.5				V	ariables				
Activity	TSP	PM10	PM2.5	Control (%)	Intensity Units	Factor	Factor	Factor	Area (m2)	(ws/2.2)^1.3	Moisture (%)	Drop distance (m)	kg/VKT	<i>t</i> /truck	km/trip	Silt (%)	Speed (km/h)
Stripping topsoil by scraper	10558	2658	528	50	728115 t/y	0.029 kg/t	0.0073 kg/t	0.001 kg/t	-	-	-	-	-	-	-	-	-
Drilling overburden (or coal)	65002	33801	1950	70	367240 holes/y	0.59 kg/hole	0.31 kg/hole	0.018 kg/hole	-	-	-	-	-	-	-	-	-
Blasting overburden (or coal)	552841	287477	16585	0	519 blasts/y	1064.8 kg/blast	553.7 kg/blast	31.9 kg/blast	28613	-	-	-	-	-1	-	-	
Excavators loading overburden to trucks	407385	192682	29178	0	268795927 t/y	0.00152 kg/t	0.00072 kg/t	0.0001 kg/t	-	1.28	2	-	-	-	-	-	
Hauling overburden from pit to dump	4562811	1348348	136884	85	268795927 t/y	0.11317 kg/t	0.033442 kg/t	0.003 kg/t	-	- 1	-	-	4	240	7	-	
Unloading overburden to dump inc rejects	416364	196929	29821	0	274720041 t/y	0.00152 kg/t	0.00072 kg/t	0.0001 kg/t	-	1.28	2	-	-	-	-	-	
Dozers shaping overburden	2141260	521281	224832	0	127948 h/y	16.7 kg/h	4.074149 kg/h	1.757 kg/h	-	-	2		-	-	-	10	
Dozers working on overburden for rehabilitation	46859	11408	4920	0	2800 h/y	16.7 kg/h	4.074149 kg/h	1.757 kg/h	-	-	2	-	-	-	-	10	-
Dozers working on coal	342006	98555	7524	0	25594 h/y	13.4 kg/h	3.9 kg/h	0.294 kg/h	-	-	8	-	-	-	-	5	-
Loading ROM coal to trucks	1052308	151338	19994	0		0.04783 kg/t	0.006879 kg/t	0.001 kg/t	-	-	8	-	-	-	-	-	
Hauling ROM coal from pit to hopper / ROM pad (HVCPP)	369298	109131	11079	85	12302153 t/y	0.20013 kg/t	0.059139 kg/t	0.006 kg/t	-	-	-	-	4	190	9.8	-	
Hauling ROM coal from pit to ROM pad (Howick CPP)	319794	94502	9594	85	6000000 t/y	0.35533 kg/t	0.105002 kg/t	0.011 kg/t	-	-		-	4	190	17.4	-	
Hauling ROM coal from pit to hopper / ROM pad (RCPP)	222011	65606	6660	85	3697847 t/v	0.40025 kg/t	0.118278 kg/t	0.012 kg/t	-	-	-	-	4	190	19.6	-	
Hauling ROM coal from pit to hopper / ROM pad (LCPP)	0	0	0	85	0 t/y	0.16337 kg/t	0.048277 kg/t	0.005 kg/t	-	-		-	4	190	8	-	
Unloading ROM coal to hopper / ROM pad (HVCPP)	36906	15501	701	70	12302153 t/y	0.01 kg/t	0.0042 kg/t	0.000 kg/t	-	-		-	-	-	-	-	
Unloading ROM coal to ROM pad (Howick CPP)	18000	7560	342	70	6000000 t/y	0.01 kg/t	0.0042 kg/t	0.000 kg/t	-	-	-	-	-	-	-	-	
Unloading ROM coal to hopper / ROM pad (RCPP)	11094	4659	211	70	3697847 t/y	0.01 kg/t	0.0042 kg/t	0.000 kg/t	-	-		-	-	-	-		
Unloading ROM coal to hopper / ROM pad (LCPP)	0	0	0	70	0 t/y	0.01 kg/t	0.0042 kg/t	0.000 kg/t	-	-		-	-	-	-		
ROM coal rehandle to hopper (HVCPP)	73813	31001	1402	0	7381292 t/y	0.01 kg/t	0.0042 kg/t	0.000 kg/t	-	-		-	-	-	-		
ROM coal rehandle to hopper (Howick CPP)	60000	25200	1140	0	6000000 t/y	0.01 kg/t	0.0042 kg/t	0.000 kg/t	-	-		-	-	-	-	-	
ROM coal rehandle to hopper (RCPP) (RSO)	0	0	0	0	0 t/y	0.01 kg/t	0.0042 kg/t	0.000 kg/t	-	-		-	-	-	-	-	
ROM coal rehandle to hopper (LCPP)	0	0	0	0	0 t/y	0.01 kg/t	0.0042 kg/t	0.000 kg/t	-			-	-	-	-		
Transferring ROM coal by conveyor to HVCPP	803	380	58	70	12302153 t/y	0.00022 kg/t	0.00010 kg/t	0.0000 kg/t	-	1.28	8	-	-	-	-		
Transferring ROM coal by conveyor to Howick CPP	392	185	28	70	6000000 t/y	0.00022 kg/t	0.00010 kg/t	0.0000 kg/t	-	1.28	8	-	-	-	-		
Transferring ROM coal by conveyor to RCPP (RSO)	0	0	0	70	0 t/y	0.00022 kg/t	0.00010 kg/t	0.0000 kg/t	-	1.28	8	-	-	-	-	-	
Transferring ROM coal by conveyor to LCPP	0	0	0	70	0 t/y	0.00022 kg/t	0.00010 kg/t	0.0000 kg/t	-	1.28	8	-	-	-	-	-	
Handling coal at HVCPP inc rejects	5272	2493	76	70	16149249 t/y	0.00109 kg/t	0.00051 kg/t	0.0000 kg/t	_	1.28	8			-			
Handling coal at Howick CPP inc rejects	1959	926	28	70	6000000 t/y	0.00109 kg/t	0.00051 kg/t	0.0000 kg/t	_	1.28	8		-	-		-	
Handling coal at RCPP (RSO)	0	0	0	70	0 t/y	0.00109 kg/t	0.00051 kg/t	0.0000 kg/t	_	1.28	8		-	-		-	
Handling coal at ICPP inc rejects	0	0	0	70	0 t/y	0.00109 kg/t	0.00051 kg/t	0.0000 kg/t	-	1.28	8	_	-	-		-	
Dozers / loaders on ROM coal stockpiles	84852	24452	1867	50	12700 h/y	13.4 kg/h	3.9 kg/h	0.294 kg/h	-	1.20	8	_	-	-		5	
Dozers on product coal stockpiles	31788	8567	699	50	8499 h/y	7.5 kg/h	2.0 kg/h	0.165 kg/h			10		_	_		4	
Conveyer to product stockpiles	868	410	62	70	18165314 t/y	0.00016 kg/t	0.00008 kg/t	0.0000 kg/t		1.28	10		-	-	-	-	
Hauling product from Howick CPP to Newdell LP	590399	174468	17712	85	4395871 t/y	0.89538 kg/t	0.264594 kg/t	0.027 kg/t		1.20	- 10		4	65	15	\rightarrow	
Loading product coal to trains	9024	3835	451	00	22561185 t/y	0.00040 kg/t	0.00017 kg/t	0.0000 kg/t		-			-	- 00	10	\rightarrow	
Wind erosion from active and inactive pits	324390	162195	24329	0	370 ha	876.0 kg/ha/y	438.0 kg/ha/y	65.7 kg/ha/y								\rightarrow	
Wind erosion from active and inactive pits Wind erosion from active, inactive and shaped dumps	850043	425022	63753	0	970 ha	876.0 kg/ha/y	438.0 kg/ha/y	65.7 kg/ha/y				1	-	- 1		\rightarrow	
Wind erosion from temporary stabilisation	62023	31011	4652	60	177 ha	876.0 kg/ha/y	438.0 kg/ha/y	65.7 kg/ha/y				1	-	- 1		\rightarrow	
Wind erosion from ROM coal stockpiles	15309	7655	1148	50	35 ha	876.0 kg/ha/y	438.0 kg/ha/y	65.7 kg/ha/y				1	-	- 1		\rightarrow	
Wind erosion from product coal stockpiles	14377	7188	1078	50	33 ha	876.0 kg/ha/y	438.0 kg/ha/y	65.7 kg/ha/y	-	-		-		-		\rightarrow	
Grading roads	120090	42458	1316	50	390242 km	0.61547 kg/VKT	0.2176 kg/VKT	0.007 kg/VKT		-		-		-		-	- 8
Dragline(s) working on overburden	120090	42458	0	0	0 bcm/y	0.61547 kg/VK1	0.2176 kg/VK1	0.007 kg/VK1	-	-	2	7		-		-	
Diaginie(s) working on overbuiden	0	0	0	- 0	U DCITI/y	U.U3 Kg/DCIII	U.U I Kg/DCIII	0.002 kg/bcm		-		- 1	-	-		-	
Total	12819896	4088883	620603										-	-		\rightarrow	
Iotai	12013030	7000003	020003													$\overline{}$	

HVO South 2033

HVO 90utii 2033	Annual	emissions	(kg/v)			TSP	PM10	PM2.5				Va	riables				
	1		. 5.11			1 1		1 1							-	$\neg \neg$	
Activity	TSP	PM10	PM2.5	Control (%)	Intensity Units	Factor	Factor	Factor	Area (m2)	(ws/2.2)^1.3	Moisture (%)	Drop distance (m)	kg/VKT	<i>t</i> /truck	km/trip	Silt (%)	Speed (km/h)
Stripping topsoil by scraper	3939	991	197	50	271632 t/y	0.029 kg/t	0.0073 kg/t	0.001 kg/t	-	-	-	-	-	-	-	-	-
Drilling overburden (or coal)	22870	11892	686	70	129208 holes/y	0.59 kg/hole	0.31 kg/hole	0.018 kg/hole	-	-	-	-	-	-	-	-	-
Blasting overburden (or coal)	176668	91868	5300	0	221 blasts/y	798.6 kg/blast	415.3 kg/blast	24.0 kg/blast	23619	-	-	-	-	-	-	-	-
Excavators loading overburden to trucks	227732	107711	16311	0	150259307 t/y	0.00152 kg/t	0.00072 kg/t	0.0001 kg/t	-	1.28	2	-	-	-	-	-	-
Hauling overburden from pit to dump	2550652	753739	76520	85	150259307 t/y	0.11317 kg/t	0.033442 kg/t	0.003 kg/t	-	-	-	-	4	240	7	-	-
Unloading overburden to dump inc rejects	227732	107711	16311	0	150259307 t/y	0.00152 kg/t	0.00072 kg/t	0.0001 kg/t	-	1.28	2	-	-	-	-	-	-
Dozers shaping overburden	1284996	312827	134925	0	76783 h/y	16.7 kg/h	4.074149 kg/h	1.757 kg/h	-	-	2	-	-	-	-	10	-
Dozers working on overburden for rehabilitation	46859	11408	4920	0	2800 h/y	16.7 kg/h	4.074149 kg/h	1.757 kg/h	-	-	2	-	-	-	-	10	-
Dozers working on coal	228437	65828	5026	0		13.4 kg/h	3.9 kg/h	0.294 kg/h	-	-	8	-	-	-	-	5	-
Loading ROM coal to trucks	420820	60521	7996	0	8797847 t/y	0.04783 kg/t	0.006879 kg/t	0.001 kg/t	-	-	8	-	-	-	-	-	
Hauling ROM coal from pit to hopper / ROM pad (HVCPP)	596567	176290	17897	85	7697847 t/v	0.51665 kg/t	0.152675 kg/t	0.015 kg/t	-	-	-	-	4	190	25.3	-	
Hauling ROM coal from pit to ROM pad (Howick CPP)	0	0	0	85	0 t/y	0.00000 kg/t	0 kg/t	0.000 kg/t	-	-	-	-	4	190	0	-	
Hauling ROM coal from pit to hopper / ROM pad (RCPP)	0	0	0	85	0 t/y	0.40025 kg/t	0.118278 kg/t	0.012 kg/t	-	-	-	-	4	190	19.6	-	
Hauling ROM coal from pit to hopper / ROM pad (LCPP)	0	0	0	85	0 t/y	0.16337 kg/t	0.048277 kg/t	0.005 kg/t	1 -	-	-	-	4	190	8	-	
Unloading ROM coal to hopper / ROM pad (HVCPP)	23094	9699	439	70	7697847 t/y	0.01 kg/t	0.0042 kg/t	0.000 kg/t		-	-	-	-	-	-		
Unloading ROM coal to ROM pad (Howick CPP)	0	0	0	70	0 t/y	0.01 kg/t	0.0042 kg/t	0.000 kg/t	-	-	-	-	-	-	-		
Unloading ROM coal to hopper / ROM pad (RCPP)	0	0	0	70	0 t/y	0.01 kg/t	0.0042 kg/t	0.000 kg/t	-	_		-	-	-			
Unloading ROM coal to hopper / ROM pad (LCPP)	0	0	0	70	0 t/y	0.01 kg/t	0.0042 kg/t	0.000 kg/t	-	-	-		-	-			
ROM coal rehandle to hopper (HVCPP)	46187	19399	878	0	4618708 t/y	0.01 kg/t	0.0042 kg/t	0.000 kg/t	-	-	-		-	-			
ROM coal rehandle to hopper (Howick CPP)	0	0	0.0	0	0 t/y	0.01 kg/t	0.0042 kg/t	0.000 kg/t	-				-	-			
ROM coal rehandle to hopper (RCPP) (RSO)	0	0	0	0	0 t/y	0.01 kg/t	0.0042 kg/t	0.000 kg/t	-				-	-			
ROM coal rehandle to hopper (LCPP)	0	0	0	0	0 t/y	0.01 kg/t	0.0042 kg/t	0.000 kg/t					-	-			
Transferring ROM coal by conveyor to HVCPP	503	238	36	70	7697847 t/y	0.00022 kg/t	0.00010 kg/t	0.0000 kg/t	-	1.28	8		-	-		$-\pm$	
Transferring ROM coal by conveyor to Howick CPP	000	0	0	70	0 t/y	0.00022 kg/t	0.00010 kg/t	0.0000 kg/t	-	1.28	8		-				
Transferring ROM coal by conveyor to RCPP (RSO)	0	0	0	70	0 t/y	0.00022 kg/t	0.00010 kg/t	0.0000 kg/t		1.28	8						
Transferring ROM coal by conveyor to LCPP	0	0	0	70	0 t/y	0.00022 kg/t	0.00010 kg/t	0.0000 kg/t		1.28	8	_	-	-	-		
Handling coal at HVCPP inc rejects	2513	1188	36	70	7697847 t/y	0.00022 kg/t	0.00010 kg/t	0.0000 kg/t		1.28	8		-	-		\rightarrow	
Handling coal at Howick CPP inc rejects	2313	0	0	70	0 t/y	0.00109 kg/t	0.00051 kg/t	0.0000 kg/t		1.28	8					\rightarrow	-
Handling coal at RCPP (RSO)	0	0	0	70	0 t/y	0.00109 kg/t	0.00051 kg/t	0.0000 kg/t	 	1.28	8		-		$\overline{}$	-	-
Handling coal at LCPP inc rejects	0	0		70	0 t/y	0.00109 kg/t	0.00051 kg/t	0.0000 kg/t		1.28	8		-		\rightarrow	-	
Dozers / loaders on ROM coal stockpiles	0	0	0	50	0 h/y	13.4 kg/h	3.9 kg/h	0.294 kg/h	1	1.20	8		-		-	5	
Dozers on product coal stockpiles	0	0	0	50	0 h/y	7.5 kg/h	2.0 kg/h	0.294 kg/li 0.165 kg/h	-	-	10	-	-	-		- 4	
Conveyer to product stockpiles	0	0	0	70	0 t/y	0.00016 kg/t	0.00008 kg/t	0.0000 kg/t	-	1.28	10		-		-		
	0	-							-	1.20	10	-	4		45		
Hauling product from Howick CPP to Newdell LP	0	0	0	85	0 t/y	0.89538 kg/t	0.264594 kg/t	0.027 kg/t	-				4	65	15	\rightarrow	
Loading product coal to trains	320017	160008	24001	0	0 t/y 365 ha	0.00040 kg/t	0.00017 kg/t	0.0000 kg/t	-				-			\rightarrow	
Wind erosion from active and inactive pits		324965	48745	0	742 ha	876.0 kg/ha/y	438.0 kg/ha/y	65.7 kg/ha/y	1						\rightarrow	\rightarrow	
Wind erosion from active, inactive and shaped dumps	649930					876.0 kg/ha/y	438.0 kg/ha/y	65.7 kg/ha/y	-	-	-	-	-	-			
Wind erosion from temporary stabilisation	60708	30354	4553	60	173 ha	876.0 kg/ha/y	438.0 kg/ha/y	65.7 kg/ha/y	-	-	-	-	-	-			
Wind erosion from ROM coal stockpiles	0	0	0	50	0 ha	876.0 kg/ha/y	438.0 kg/ha/y	65.7 kg/ha/y	-	-	-	-	-	-			
Wind erosion from product coal stockpile	0	0	0	50	0 ha	876.0 kg/ha/y	438.0 kg/ha/y	65.7 kg/ha/y	-	-	-	-	-	-	-		-
Grading roads	76425	27020	838	50	248348 km	0.61547 kg/VKT	0.2176 kg/VKT	0.007 kg/VKT	-	-	-	-	-	-			8
Dragline(s) working on overburden	0	0	0	0	0 bcm/y	0.03 kg/bcm	0.01 kg/bcm	0.002 kg/bcm	-	-	2	7	-	-		-	
Total	0000040	2273657	365612												\longrightarrow	\longrightarrow	
Total	0900046	22/305/	305012													$\overline{}$	

HVO North 2040

HVO North 2040	Annual	omingions	(ka/u)			TSP	PM10	PM2.5	1			\//	ariables				
	Aiiiuai	emissions	(Ng/y)			105	FIVITO	FIVIZ.3	<u> </u>			V	anables	-			
Activity	TSP	PM10	PM2.5	Control (%)	Intensity Units	Factor	Factor	Factor	Area (m2)	(ws/2.2)^1.3	Moisture (%)	Drop distance (m)	kg/VKT	t/truck	km/trip	Silt (%)	Speed (km/h)
Stripping topsoil by scraper	16029	4035	801	50	1105425 t/y	0.029 kg/t	0.0073 kg/t	0.001 kg/t	-	-	-	-	-	-	-	-	-
Drilling overburden (or coal)	58213	30271	1746	70	328889 holes/y	0.59 kg/hole	0.31 kg/hole	0.018 kg/hole	-1	-	-	-	-	-	-	-	
Blasting overburden (or coal)	506326	263290	15190	0	439 blasts/y	1152.9 kg/blast	599.5 kg/blast	34.6 kg/blast	30170	-	-	-	-	-	-	-	-
Excavators loading overburden to trucks	451299	213452	32323	0	297770841 t/y	0.00152 kg/t	0.00072 kg/t	0.0001 kg/t	-	1.28	2	-	-	-	-	-	-
Hauling overburden from pit to dump	5054660	1493694	151640	85	297770841 t/v	0.11317 kg/t	0.033442 kg/t	0.003 kg/t	-	-	-	-	4	240	7	-	-
Unloading overburden to dump inc rejects	463067	219018	33166	0	305535288 t/v	0.00152 kg/t	0.00072 kg/t	0.0001 kg/t	-	1.28	2	-	-	-	-	-	
Dozers shaping overburden	2178975	530463	228792	0	130202 h/y	16.7 kg/h	4.074149 kg/h	1.757 kg/h	-	-	2		-	-	-	10	-
Dozers working on overburden for rehabilitation	46859	11408	4920	0		16.7 kg/h	4.074149 kg/h	1.757 kg/h	-	-	2		-	-		10	-
Dozers working on coal	348044	100295	7657	0	26046 h/y	13.4 kg/h	3.9 kg/h	0.294 kg/h	-	-	8		-	-		5	
Loading ROM coal to trucks	970962	139640	18448	0		0.04783 kg/t	0.006879 kg/t	0.001 kg/t	-	-	8		-	-		-	
Hauling ROM coal from pit to hopper / ROM pad (HVCPP)	493250	145759	14797	85	16431287 t/y	0.20013 kg/t	0.059139 kg/t	0.006 kg/t	-	-	-	-	4	190	9.8		
Hauling ROM coal from pit to ROM pad (Howick CPP)	300218	88717	9007	85	5568713 t/y	0.35941 kg/t	0.106209 kg/t	0.011 kg/t	-	-	-	-	4	190	17.6		
Hauling ROM coal from pit to hopper / ROM pad (RCPP)	0	0	0	85	0 t/v	0.39208 kg/t	0.115864 kg/t	0.012 kg/t	-	-	-	-	4	190	19.2		
Hauling ROM coal from pit to hopper / ROM pad (LCPP)	0	0	0	85	0 t/v	0.16337 kg/t	0.048277 kg/t	0.005 kg/t	-	-	-	-	4	190	8		
Unloading ROM coal to hopper / ROM pad (HVCPP)	49294	20703	937	70	16431287 t/y	0.01 kg/t	0.0042 kg/t	0.000 kg/t	-	_	-	-	-				
Unloading ROM coal to ROM pad (Howick CPP)	16706	7017	317	70	5568713 t/y	0.01 kg/t	0.0042 kg/t	0.000 kg/t	-	-	-	-	-	-	-		
Unloading ROM coal to hopper / ROM pad (RCPP)	0	0	0	70	0 t/y	0.01 kg/t	0.0042 kg/t	0.000 kg/t	-		-	-	-	-			
Unloading ROM coal to hopper / ROM pad (LCPP)	0	0	0	70	0 t/v	0.01 kg/t	0.0042 kg/t	0.000 kg/t	-		-	-	-	-			
ROM coal rehandle to hopper (HVCPP)	98588	41407	1873	0	9858772 t/y	0.01 kg/t	0.0042 kg/t	0.000 kg/t	-					-			
ROM coal rehandle to hopper (Howick CPP)	55687	23389	1058	0	5568713 t/y	0.01 kg/t	0.0042 kg/t	0.000 kg/t	-				-	-			
ROM coal rehandle to hopper (RCPP) (RSO)	0	0	0	0	0 t/y	0.01 kg/t	0.0042 kg/t	0.000 kg/t	-				-	-			
ROM coal rehandle to hopper (LCPP)	0	0	0	0	0 t/y	0.01 kg/t	0.0042 kg/t	0.000 kg/t	_				_				
Transferring ROM coal by conveyor to HVCPP	1073	507	77	70	16431287 t/y	0.00022 kg/t	0.00010 kg/t	0.000 kg/t	-	1.28	8		-		-	$\overline{}$	
Transferring ROM coal by conveyor to Howick CPP	364	172	26	70	5568713 t/y	0.00022 kg/t	0.00010 kg/t	0.0000 kg/t	-	1.28	8		-	-	-	$\overline{}$	
Transferring ROM coal by conveyor to RCPP (RSO)	0	0	0	70	0 t/y	0.00022 kg/t	0.00010 kg/t	0.0000 kg/t	-	1.28	8		-	-	-	$\overline{}$	
Transferring ROM coal by conveyor to LCPP	0	0	0	70	0 t/y	0.00022 kg/t	0.00010 kg/t	0.0000 kg/t	-	1.28	8		-	-	-	$\overline{}$	
Handling coal at HVCPP inc rejects	6677	3158	96	70	20455695 t/y	0.00022 kg/t	0.00051 kg/t	0.0000 kg/t		1.28	8				-	-	-
Handling coal at Howick CPP inc rejects	1818	860	26	70	5568713 t/y	0.00109 kg/t	0.00051 kg/t	0.0000 kg/t	-	1.28	8				\rightarrow	\rightarrow	-
Handling coal at RCPP (RSO)	0	0	0	70	0 t/y	0.00109 kg/t	0.00051 kg/t	0.0000 kg/t	-	1.28	8				\rightarrow	\rightarrow	-
Handling coal at LCPP inc rejects	0	0	0	70	0 t/y	0.00109 kg/t	0.00051 kg/t	0.0000 kg/t	-	1.28	8				\rightarrow	\rightarrow	
Dozers / loaders on ROM coal stockpiles	111577	32153	2455	50	16700 h/y	13.4 kg/h	3.9 kg/h	0.294 kg/h	-	1.20	8				\rightarrow	5	-
Dozers on product coal stockpiles	32356	8720	712	50	8651 h/y	7.5 kg/h	2.0 kg/h	0.294 kg/h	-		10				\rightarrow	4	
Conveyer to product stockpiles	1128	533	81	70	23607881 t/y	0.00016 kg/t	0.00008 kg/t	0.0000 kg/t	-	1.28	10		-	-	\rightarrow	4	
Hauling product from Howick CPP to Newdell LP	540057	159591	16202	85	4021042 t/y	0.89538 kg/t	0.264594 kg/t	0.0000 kg/t 0.027 kg/t	-	1.20	10	-	4	65	15	\rightarrow	
	11052	4697		0	27628923 t/y			0.027 kg/t	-			-	4	65	15	-	
Loading product coal to trains Wind erosion from active and inactive pits	460807	230403	553 34561	0	526 ha	0.00040 kg/t 876.0 kg/ha/y	0.00017 kg/t 438.0 kg/ha/y	65.7 kg/ha/y	-			-					
Wind erosion from active and mactive pits Wind erosion from active, inactive and shaped dumps	899204	449602	67440	0	1026 ha				-			-			-	-	
Wind erosion from active, inactive and snaped dumps Wind erosion from temporary stabilisation	78783	39392	5909	60	225 ha	876.0 kg/ha/y 876.0 kg/ha/y	438.0 kg/ha/y 438.0 kg/ha/y	65.7 kg/ha/y 65.7 kg/ha/y		-	-	-	-	-			
		7654		50	35 ha					-	-	-	-	-			
Wind erosion from ROM coal stockpiles	15309		1148			876.0 kg/ha/y	438.0 kg/ha/y	65.7 kg/ha/y	-	-	-	-	-	-			
Wind erosion from product coal stockpile	14377	7188	1078	50	33 ha	876.0 kg/ha/y	438.0 kg/ha/y	65.7 kg/ha/y	-	-	-	-	-	-			
Grading roads	133264	47116	1461	50	433050 km	0.61547 kg/VKT	0.2176 kg/VKT	0.007 kg/VKT	-	-	-	-	-	-			8
Dragline(s) working on overburden	0	0	0	0	0 bcm/y	0.03 kg/bcm	0.01 kg/bcm	0.002 kg/bcm	-	-	2	7	-	-	-+		
Total	13416021	4324304	654496											-	\rightarrow	\rightarrow	
rotai	10710021	TUL+304	004490														

HVO South 2040

HVO South 2040			(1 t- A				00		140	DM	0.5					/:-l-1					
	Annua	l emissions	(kg/y)			1	SP	PI	<i>I</i> 10	PM	2.5		Variables								
Activity	TSP	PM10	PM2.5	Control (%)	Intensity	Factor	Units	Factor	Units	Factor	Units	Area (m2)	(ws/2.2)^1.3	Moisture (%)	Drop distance (m)	kg/VKT	t/truck	km/trip	Silt (%)	Speed (km/h)	
Stripping topsoil by scraper	0	0	0	50	0 t/v	0.029		0.0073	kg/t	0.001	kg/t	-	-	-	-	-	-	-	-		
Drilling overburden (or coal)	40561	21092	1217	70	229158 holes/y		kg/hole		kg/hole		kg/hole	-	-	-	-	-	-	-	-		
Blasting overburden (or coal)	319260	166015	9578	0	362 blasts/y	883.1	kg/blast	459.2	kg/blast	26.5	kg/blast	25257	-	-	-	-	-	-	-		
Excavators loading overburden to trucks	219022	103592	15687	0	144512505 t/y	0.00152	kg/t	0.00072		0.0001		-	1.28	2	-	-	-	-	-		
Hauling overburden from pit to dump	2453100	724911	73593		144512505 t/y	0.11317		0.033442		0.003		-	-	-	-	4	240	7	-		
Unloading overburden to dump inc rejects	219022	103592	15687	0	144512505 t/v	0.00152	kg/t	0.00072	kg/t	0.0001	kg/t	-	1.28	2	-	-	-	-	-		
Dozers shaping overburden	1235293	300727	129706	0	73813 h/y		kg/h	4.074149	kg/h	1.757	kg/h	-	-	2	-	-	-	-	10		
Dozers working on overburden for rehabilitation	46859	11408	4920	0	2800 h/y	16.7	kg/h	4.074149	kg/h	1.757	kg/h	-	-	2	-	-	-	-	10		
Dozers working on coal	290245	83639	6385	0	21721 h/y	13.4	kg/h	3.9	kg/h	0.294	kg/h	-	-	8	-	-	-	-	5		
Loading ROM coal to trucks	859244	123573	16326	0		0.04783	kg/t	0.006879	kg/t	0.001		-	-	8	-	-	-	-	-		
Hauling ROM coal from pit to hopper / ROM pad (HVCPP)	276568	81728	8297	85	3568713 t/y	0.51665	kg/t	0.152675	kg/t	0.015	kg/t	-	-	-	-	4	190	25.3	-		
Hauling ROM coal from pit to ROM pad (Howick CPP)	0	0	0	85	0 t/y	0.00000	kg/t	0	kg/t	0.000	kg/t	-	-	-	-	4	190	0	-		
Hauling ROM coal from pit to hopper / ROM pad (RCPP)	0	0	0		0 t/y	0.39208	kg/t	0.115864	kg/t	0.012	kg/t	-			-	4	190	19.2	-		
Hauling ROM coal from pit to hopper / ROM pad (LCPP)	350	103	10	85	14275 t/y	0.16337	kg/t	0.048277	kg/t	0.005	kg/t	-	-	-	-	4	190	8	-		
Unloading ROM coal to hopper / ROM pad (HVCPP)	10706	4497	203	70	3568713 t/y	0.01	kg/t	0.0042		0.000	kg/t	-	-	-	-	-	-1	-	-		
Unloading ROM coal to ROM pad (Howick CPP)	0	0	0	70	0 t/y		kg/t	0.0042	kg/t	0.000		-	-	-	-	-	-[-	-		
Unloading ROM coal to hopper / ROM pad (RCPP)	0	0	0	70	0 t/y		kg/t	0.0042	kg/t	0.000		-	-	-	-	-	-[-	-		
Unloading ROM coal to hopper / ROM pad (LCPP)	43	18	1	70	14275 t/y	0.01	kg/t	0.0042	kg/t	0.000	kg/t	-	-	-	-	-	-[-	-		
ROM coal rehandle to hopper (HVCPP)	21412	8993	407	0	2141228 t/y	0.01	kg/t	0.0042	kg/t	0.000	kg/t	-	-	-	-	-	-	-	-		
ROM coal rehandle to hopper (Howick CPP)	0	0	0			0.01	kg/t	0.0042		0.000		-	-	-	-	-	-	-	-		
ROM coal rehandle to hopper (RCPP) (RSO)	0	0	0	0	0 t/y	0.01	kg/t	0.0042	kg/t	0.000	kg/t	-	-	-	-	-	-	-	-		
ROM coal rehandle to hopper (LCPP)	86	36	2				kg/t	0.0042		0.000		-	-	-	-	-	-	-	-		
Transferring ROM coal by conveyor to HVCPP	233	110	17	70	3568713 t/y	0.00022		0.00010		0.0000		-	1.28	8	-	-	-	-	-		
Transferring ROM coal by conveyor to Howick CPP	0	0	0		0 t/y	0.00022		0.00010		0.0000		-	1.28	8	-	-	-	-	-		
Transferring ROM coal by conveyor to RCPP (RSO)	0	0	0		0 t/y	0.00022		0.00010		0.0000		-	1.28	8	-	-	-	-	-		
Transferring ROM coal by conveyor to LCPP	1	0	0		14275 t/y	0.00022		0.00010		0.0000		-	1.28	8	-	-	-	-	-		
Handling coal at HVCPP inc rejects	1165	551	17	70	3568713 t/y	0.00109		0.00051		0.0000		-	1.28	8	-	-	-	-	-		
Handling coal at Howick CPP inc rejects	0	0	0		0 t/y	0.00109		0.00051		0.0000		-	1.28	8	-	-	-	-	-		
Handling coal at RCPP (RSO)	0	0	0		0 t/y	0.00109		0.00051		0.0000		-	1.28	8	-	-	-	-	-		
Handling coal at LCPP inc rejects	5		0		14275 t/y	0.00109		0.00051		0.0000		-	1.28	8	-	-	-	-	-		
Dozers / loaders on ROM coal stockpiles	0	0	0		0 h/y		kg/h		kg/h	0.294		-	-	8	-	-	-	-	5		
Dozers on product coal stockpiles	0	-	0	50	0 h/y		kg/h		kg/h	0.165		-	-	10	-	-	-	-	4		
Conveyer to product stockpiles	0	0	0		0 t/y	0.00016		0.00008		0.0000		-	1.28	10	-	-	-	-			
Hauling product from Howick CPP to Newdell LP	0	0	0		0 t/y	0.89538		0.264594		0.027		-	-	-	-	4	65	15			
Loading product coal to trains	0	0	0		0 t/y	0.00040		0.00017		0.0000		-	-	-	-	-	-	-			
Wind erosion from active and inactive pits	313265	156633	23495	0			kg/ha/y		kg/ha/y		kg/ha/y	-	-	-	-	-	-	-			
Wind erosion from active, inactive and shaped dumps	590540	295270	44290	0			kg/ha/y		kg/ha/y		kg/ha/y	-	-	-	-	-	-	-			
Wind erosion from temporary stabilisation	20683	10342	1551	60	59 ha		kg/ha/y		kg/ha/y		kg/ha/y	-	-	-	-	-	-	-			
Wind erosion from ROM coal stockpiles	3487	1743	262	50	8 ha		kg/ha/y		kg/ha/y		kg/ha/y	-	-	-	-	-	-	-	-		
Wind erosion from product coal stockpile	3937	1968	295	50	9 ha		kg/ha/y		kg/ha/y		kg/ha/y	-	-	-	-	-	-	-			
Grading roads	69393	24534	761	50	225497 km	0.61547			kg/VKT		kg/VKT	-	-	-		-	-	-			
Dragline(s) working on overburden	0	0	0	0	0 bcm/y	0.03	kg/bcm	0.01	kg/bcm	0.002	kg/bcm	-	-	2	7	-	-	-			
Total	6004400	2225077	352706			-							-						\longrightarrow		
Total	0994480	2225077	352706				1														

HVO North 2044

HVO North 2044																				
	Annua	l emissions	(kg/y)				TS	SP	PN	/110	PM2.5					Variables				
Activity	TSP	PM10	PM2.5	Control (%)	Intensity	Units	Factor	Units	Factor	Units	Factor	Area (m2)	(ws/2.2)^1.3	Moisture (%)	Drop distance (m)	kg/VKT	v⁄truck	km/trip	Sitt (%)	Speed (km/h)
Stripping topsoil by scraper	0	0	0	50		t/v	0.029	kg/t	0.0073	kg/t	0.001 kg/t	-	-	-	-		-	-	-	-
Drilling overburden (or coal)	69597	36191	2088	70	393205	holes/v	0.59	ka/hole	0.31	ka/hole	0.018 kg/hole	-	-	-	-		-	-	-	
Blasting overburden (or coal)	603025	313573	18091	0	538	blasts/y	1120.7	kg/blast	582.8	kg/blast	33.6 kg/blast	29606	-	-	-		-	-	-	
Excavators loading overburden to trucks	443030	209541	31730	0	292314347	t/v	0.00152		0.00072		0.0001 kg/t	-	1.28	2	-		-	-	-	-
Hauling overburden from pit to dump	4962036	1466323	148861		292314347		0.11317		0.033442		0.003 kg/t	-	-	-	-	4	240	7	-	-
Unloading overburden to dump inc rejects	451607	213598	32345		297973754		0.00152		0.00072		0.0001 kg/t	-	1.28	2	-		-		-	-
Dozers shaping overburden	2344071	570655	246128	0			16.7		4.074149		1.757 kg/h	-	-	2			-		10	
Dozers working on overburden for rehabilitation	46859	11408	4920	0			16.7		4.074149		1.757 kg/h	-	-	2			-		10	-
Dozers working on coal	351144	101188	7725	0	26278	.,	13.4			kg/h	0.294 kg/h	-	-	8			-		5	-
Loading ROM coal to trucks	1052308	151338	19994	0	22000000		0.04783		0.006879		0.001 kg/t	-	-	8			-		-	
Hauling ROM coal from pit to hopper / ROM pad (HVCPP)	528333	156127	15850	85	17600000		0.20013		0.059139		0.006 kg/t	-	-	-	٠.	. 4	190	9.8	-	
Hauling ROM coal from pit to ROM pad (Howick CPP)	231820	68505	6955	85	4400000		0.35124		0.103795		0.011 kg/t	-		-	<u> </u>	4	190	17.2		
Hauling ROM coal from pit to hopper / ROM pad (RCPP)	0	0	0	85		t/v	0.38392		0.11345		0.012 kg/t	-			Η.	. 4	190	18.8		
Hauling ROM coal from pit to hopper / ROM pad (LCPP)	0	0	0	85		t/v	0.16337		0.048277		0.005 kg/t	-			١.	. 4	190	8		
Unloading ROM coal to hopper / ROM pad (HVCPP)	52800	22176	1003	70	17600000		0.10007		0.0042		0.000 kg/t	-			<u> </u>		- 100			
Unloading ROM coal to ROM pad (Howick CPP)	13200	5544	251	70	4400000		0.01		0.0042		0.000 kg/t	-		-	<u> </u>		-			
Unloading ROM coal to hopper / ROM pad (RCPP)	0	0	0	70		t/v	0.01		0.0042		0.000 kg/t	-			Η.	.—-	-			
Unloading ROM coal to hopper / ROM pad (LCPP)	0	0	0	70		t/v	0.01		0.0042		0.000 kg/t	-			١.	.——'	-	\rightarrow		
ROM coal rehandle to hopper (HVCPP)	105600	44352	2006	0	10560000		0.01		0.0042		0.000 kg/t				H .		_			
ROM coal rehandle to hopper (Howick CPP)	44000	18480	836	0	4400000		0.01		0.0042		0.000 kg/t			_				\rightarrow		$-\exists$
ROM coal rehandle to hopper (RCPP) (RSO)	0	0	000	0		t/v	0.01		0.0042		0.000 kg/t			_				\rightarrow		-
ROM coal rehandle to hopper (LCPP)	0	0	0	0		t/v	0.01		0.0042		0.000 kg/t	-				1	-			
Transferring ROM coal by conveyor to HVCPP	1149	543	82	70	17600000		0.00022		0.00010		0.000 kg/t		1.28	8	-		-			
Transferring ROM coal by conveyor to Howick CPP	287	136	21	70	4400000		0.00022		0.00010		0.0000 kg/t	1	1.28	8		1		-	_	
Transferring ROM coal by conveyor to RCPP (RSO)	0	0	0	70		t/v	0.00022		0.00010		0.0000 kg/t	-	1.28	8		1	-	-		
Transferring ROM coal by conveyor to LCPP	0	0	0	70		t/v	0.00022		0.00010		0.0000 kg/t	-	1.28	8		1	-	-		
Handling coal at HVCPP inc rejects	6994	3308	100	70	21426508		0.00022		0.00010		0.0000 kg/t	-	1.28	8		تصه	-	-	_	
Handling coal at Howick CPP inc rejects	1436	679	21	70	4400000		0.00109		0.00051		0.0000 kg/t	-	1.28	8		+	-			
Handling coal at RCPP (RSO)	1430		0	70			0.00109		0.00051		0.0000 kg/t	-	1.28	8		+	-			
Handling coal at LCPP inc rejects	0	0	0	70		t/y t/v	0.00109		0.00051		0.0000 kg/t	-	1.28	8		—	-			
Dozers / loaders on ROM coal stockpiles	111577	32153	2455	50	16700		13.4			kg/h	0.294 kg/h	-	1.20	8			-		5	
Dozers on product coal stockpiles	32918	8872	724	50	8801			kg/h			0.294 kg/fi 0.165 kg/h	-		10		└ ──	-		4	
	803	380	58	70	16812937					kg/h	0.165 kg/fi 0.0000 kg/t	-	4.00	10		1	-		4	
Conveyer to product stockpiles							0.00016		0.00008			-	1.28	10	-	1	-	- 45		
Hauling product from Howick CPP to Newdell LP	425996	125885	12780	85	3171791		0.89538		0.264594		0.027 kg/t	-	-	-	-	- 4	65	15		
Loading product coal to trains	7994	3397	400	0	19984728		0.00040		0.00017		0.0000 kg/t	-	-	-	-		-			
Wind erosion from active and inactive pits	468350	234175	35126	0	535			kg/ha/y		kg/ha/y	65.7 kg/ha/y	-	-	-	-		-			
Wind erosion from active, inactive and shaped dumps	836034	418017	62703	0	954			kg/ha/y		kg/ha/y	65.7 kg/ha/y	-	-	-	<u> </u>		-			
Wind erosion from temporary stabilisation	85984	42992	6449	60	245			kg/ha/y		kg/ha/y	65.7 kg/ha/y	-	-	-	<u> </u>		-			
Wind erosion from ROM coal stockpiles	15309	7654	1148	50		ha		kg/ha/y		kg/ha/y	65.7 kg/ha/y	-	-	-	-	+	-			
Wind erosion from product coal stockpile	14377	7189	1078	50		ha		kg/ha/y		kg/ha/y	65.7 kg/ha/y	-	-	-	-	 	-			
Grading roads	136988	48432	1501	50	445151		0.61547			kg/VKT	0.007 kg/VKT	-	-	-	-		-			8
Dragline(s) working on overburden	0	0	0	0	0	bcm/y	0.03	kg/bcm	0.01	kg/bcm	0.002 kg/bcm	-	-	2	7	 -	-			
T	10115055	100001:	000465									\vdash				<u></u>				
Total	13445626	4322811	663428																	

HVO South 2044

HVO South 2044	Annual	emissions	(kg/v)	1		TSP	PM10	PM2.5	1			V:	ariables				
	7.1111001	3.7110010113	(1.8/3/			101	1 11110	1 1012.0	 							$\overline{}$	
Activity	TSP	PM10	PM2.5	Control (%)	Intensity Units	Factor	Factor	Factor	Area (m2)	(ws/2.2)^1.3	Moisture (%)	Drop distance (m)	kg/VKT	t/truck	km/trip	Silt (%)	Speed (km/h)
Stripping topsoil by scraper	0	0	0	50	0 t/y	0.029 kg/t	0.0073 kg/t	0.001 kg/t	-	-	-	-	-	-	-	-	-
Drilling overburden (or coal)	6541	3401	196	70	36953 holes/y	0.59 kg/hole	0.31 kg/hole	0.018 kg/hole	-	-	-	-	-	-	-	-	-
Blasting overburden (or coal)	58660	30503	1760	0	60 blasts/y	973.3 kg/blast	506.1 kg/blast	29.2 kg/blast	26950	-	-	-	-	-	-	-	
Excavators loading overburden to trucks	49364	23348	3536	0	32570769 t/y	0.00152 kg/t	0.00072 kg/t	0.0001 kg/t	- 1	1.28	2	-	-	-1	-	-	
Hauling overburden from pit to dump	552889	163383	16587	85	32570769 t/y	0.11317 kg/t	0.033442 kg/t	0.003 kg/t	-	-	-	-	4	240	7	-	
Unloading overburden to dump inc rejects	49364	23348	3536	0	32570769 t/y	0.00152 kg/t	0.00072 kg/t	0.0001 kg/t	-	1.28	2	-	-	-	-	-	
Dozers shaping overburden	436224	106197	45804	0	26066 h/v	16.7 kg/h	4.074149 kg/h	1.757 kg/h	-	-	2	-	-	-	-	10	
Dozers working on overburden for rehabilitation	46859	11408	4920	0	2800 h/y	16.7 kg/h	4.074149 kg/h	1.757 kg/h	-	-	2	-	-	-	-	10	
Dozers working on coal	114770	33073	2525	0	8589 h/y	13.4 kg/h	3.9 kg/h	0.294 kg/h	-	-	8	-	-	-	-	5	
Loading ROM coal to trucks	273762	39371	5201	0	5723390 t/y	0.04783 kg/t	0.006879 kg/t	0.001 kg/t	-	-	8	-	-	-	-	-	
Hauling ROM coal from pit to hopper / ROM pad (HVCPP)	100747	29772	3022	85	1300000 t/y	0.51665 kg/t	0.152675 kg/t	0.015 kg/t	-	-	-	-	4	190	25.3	-	
Hauling ROM coal from pit to ROM pad (Howick CPP)	0	0	0	85	0 t/y	0.00000 kg/t	0 kg/t	0.000 kg/t	-	-	-	-	4	190	0	-	
Hauling ROM coal from pit to hopper / ROM pad (RCPP)	0	0	0	85	0 t/y	0.38392 kg/t	0.11345 kg/t	0.012 kg/t	-	-	-	-	4	190	18.8	-	
Hauling ROM coal from pit to hopper / ROM pad (LCPP)	127	38	4	85	5200 t/y	0.16337 kg/t	0.048277 kg/t	0.005 kg/t	-	-	-	-	4	190	8	-	
Unloading ROM coal to hopper / ROM pad (HVCPP)	3900	1638	74	70	1300000 t/y	0.01 kg/t	0.0042 kg/t	0.000 kg/t	-	-	-	-	-	-	-	-	
Unloading ROM coal to ROM pad (Howick CPP)	0	0	0	70	0 t/y	0.01 kg/t	0.0042 kg/t	0.000 kg/t	-	-	-	-	-	-	-	-	
Unloading ROM coal to hopper / ROM pad (RCPP)	0	0	0	70	0 t/y	0.01 kg/t	0.0042 kg/t	0.000 kg/t	-	-	-	-	-	-	-		
Unloading ROM coal to hopper / ROM pad (LCPP)	16	7	0	70	5200 t/y	0.01 kg/t	0.0042 kg/t	0.000 kg/t	-	-	-	-	-	-	-	-	
ROM coal rehandle to hopper (HVCPP)	7800	3276	148	0	780000 t/y	0.01 kg/t	0.0042 kg/t	0.000 kg/t	-	-	-	-	-	-	-	-	
ROM coal rehandle to hopper (Howick CPP)	0	0	0	0	0 t/y	0.01 kg/t	0.0042 kg/t	0.000 kg/t	-	-	-	-	-	-	-	-	
ROM coal rehandle to hopper (RCPP) (RSO)	0	0	0	0	0 t/y	0.01 kg/t	0.0042 kg/t	0.000 kg/t	-	-	-	-	-	-	-	-	
ROM coal rehandle to hopper (LCPP)	31	13	1	0	3120 t/y	0.01 kg/t	0.0042 kg/t	0.000 kg/t	-	-	-	-	-	-	-		
Transferring ROM coal by conveyor to HVCPP	85	40	6	70	1300000 t/y	0.00022 kg/t	0.00010 kg/t	0.0000 kg/t	-	1.28	8	-	-	-	-	-	
Transferring ROM coal by conveyor to Howick CPP	0	0	0	70	0 t/y	0.00022 kg/t	0.00010 kg/t	0.0000 kg/t	-	1.28	8	-	-	-	-	-	
Transferring ROM coal by conveyor to RCPP (RSO)	0	0	0	70	0 t/v	0.00022 kg/t	0.00010 kg/t	0.0000 kg/t	-	1.28	8	-		-	-		
Transferring ROM coal by conveyor to LCPP	0	0	0	70	5200 t/v	0.00022 kg/t	0.00010 kg/t	0.0000 kg/t	-	1.28	8	-		-	-		
Handling coal at HVCPP inc rejects	424	201	6	70	1300000 t/y	0.00109 kg/t	0.00051 kg/t	0.0000 kg/t	-	1.28	8	-	-	-	-		
Handling coal at Howick CPP inc rejects	0	0	0	70	0 t/y	0.00109 kg/t	0.00051 kg/t	0.0000 kg/t	-	1.28	8			-	-		
Handling coal at RCPP (RSO)	0	0	0	70	0 t/v	0.00109 kg/t	0.00051 kg/t	0.0000 kg/t	-	1.28	8			-	-		
Handling coal at ICPP inc rejects	2	1	0	70	5200 t/v	0.00109 kg/t	0.00051 kg/t	0.0000 kg/t		1.28	8	-		-	-		
Dozers / loaders on ROM coal stockpiles	0	0	0	50	0 h/y	13.4 kg/h	3.9 kg/h	0.294 kg/h	-	1.20	8	-		-	-	5	
Dozers on product coal stockpiles	0	0	0	50	0 h/y	7.5 kg/h	2.0 kg/h	0.165 kg/h			10			_	_	4	
Conveyer to product stockpiles	0	0	0	70	0 t/v	0.00016 kg/t	0.00008 kg/t	0.0000 kg/t		1.28	10	-	-	-	-		
Hauling product from Howick CPP to Newdell LP	0	0	0	85	0 t/y	0.89538 kg/t	0.264594 kg/t	0.000 kg/t		1.20	- 10		4	65	15		
Loading product roal to trains	0	0	0	00	0 t/y	0.00040 kg/t	0.00017 kg/t	0.0000 kg/t		-		-	-7	- 00	13	\rightarrow	
Wind erosion from active and inactive pits	200337	100168	15025	0	229 ha	876.0 kg/ha/y	438.0 kg/ha/y	65.7 kg/ha/y									
Wind erosion from active and inactive pilo Wind erosion from active, inactive and shaped dumps	583974	291987	43798	0	667 ha	876.0 kg/ha/y	438.0 kg/ha/y	65.7 kg/ha/y		-		-	-	-	-		
Wind erosion from temporary stabilisation	9321	4661	699	60	27 ha	876.0 kg/ha/y	438.0 kg/ha/y	65.7 kg/ha/y						-	-	-	
Wind erosion from ROM coal stockpiles	3487	1743	262	50	8 ha	876.0 kg/ha/y	438.0 kg/ha/y	65.7 kg/ha/y	 			- 1				-	
Wind erosion from product coal stockpiles	3937	1968	295	50	9 ha	876.0 kg/na/y	438.0 kg/ha/y	65.7 kg/ha/y	 					-		-	
						3			-	-	-	-	-	-	-		
Grading roads	25318	8951	277	50	82274 km	0.61547 kg/VKT	0.2176 kg/VKT	0.007 kg/VKT	-	-		7	-	-	-		8
Dragline(s) working on overburden	0	0	0	0	0 bcm/y	0.03 kg/bcm	0.01 kg/bcm	0.002 kg/bcm			2	- 1	-	-	-		
Total	2527939	878496	147682											-	-	\rightarrow	
10161	2021000	370-300	171002		I	<u> </u>	<u> </u>	<u> </u>								$\overline{}$	

Source allocations 2014 (HVO North)

```
---ACTIVITY SHMMARY----
ACTIVITY NAME : Stripping topsoil by scraper ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 7029 kg/y TSP 1769 kg/y PM10 351 kg/y PM2.5
 FROM SOURCES : 4
6789
ACTIVITY NAME : Drilling overburden (or coal)
ACTIVITY TYPE: Wind insensitive
DUST EMISSION: 8352 kg/y TSP 4343 kg/y PM10 251 kg/y PM2.5
 FROM SOURCES : 14
10 11 12 13 14 15 16 17 18 19 20 21 22 23
ACTIVITY NAME : Blasting overburden (or coal)
ACTIVITY TYPE: Wind insensitive
DUST EMISSION: 77692 kg/y TSP 40400 kg/y PM10 2331 kg/y PM2.5
FROM SOURCES : 14
10 11 12 13 14 15 16 17 18 19 20 21 22 23
HOURS OF DAY : 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1 1 1 0 0 0 0 0 0 0
ACTIVITY NAME : Excavators loading overburden to trucks
ACTIVITY TYPE : Wind sensitive
 DUST EMISSION: 107454 kg/y TSP 50823 kg/y PM10 7696 kg/y PM2.5
 FROM SOURCES
               14
10 11 12 13 14 15 16 17 18 19 20 21 22 23 HOURS OF DAY :
111111111111111111111111111
ACTIVITY NAME : Hauling overburden from pit to dump
ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 1203508 kg/y TSP 355647 kg/y PM10 36105 kg/y
PM2 5
FROM SOURCES
10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 HOURS OF DAY :
ACTIVITY NAME : Unloading overburden to dump inc rejects
ACTIVITY TYPE : Wind sensitive
DUST EMISSION : 113380 kg/y TSP 53626 kg/y PM10 8120 kg/y PM2.5
 FROM SOURCES
24 25 26 27 28 29 30 31 32 33 34 35 36 37
HOURS OF DAY
CTIVITY NAME : Dozers shaping overburden
ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 981792 kg/y TSP 239013 kg/y PM10 103088 kg/y
PM2.5
FROM SOURCES
24 25 26 27 28 29 30 31 32 33 34 35 36 37
HOURS OF DAY
ACTIVITY NAME : Dozers working on overburden for rehabilitation
ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 36965 kg/y TSP 8999 kg/y PM10 3881 kg/y PM2.5 FROM SOURCES : 7
31 32 33 34 35 36 37
ACTIVITY NAME : Dozers working on coal
ACTIVITY TYPE : Wind insensitive DUST EMISSION : 231387 kg/y TSP 66678 kg/y PM10 5091 kg/y PM2.5
 FROM SOURCES
             : 14
10 11 12 13 14 15 16 17 18 19 20 21 22 23
HOURS OF DAY
ACTIVITY NAME : Loading ROM coal to trucks
 ACTIVITY TYPE : Wind sensitive
DUST EMISSION : 272165 kg/y TSP 39142 kg/y PM10 5171 kg/y PM2.5
FROM SOURCES : 14
10 11 12 13 14 15 16 17 18 19 20 21 22 23
ACTIVITY NAME : Hauling ROM coal from pit to hopper / ROM pad
(HVCHPP)
ACCIVITY TYPE : Wind insensitive
DUST EMISSION : 116922 kg/y TSP 34551 kg/y PM10 3508 kg/y PM2.5
FROM SOURCES : 18
1 10 11 12 13 14 15 16 17 18 19 20 21 22 23 38 39 40
HOURS OF DAY
ACTIVITY NAME : Hauling ROM coal from pit to ROM pad (HCHPP)
ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 83206 kg/y TSP 24588 kg/y PM10 2496 kg/y PM2.5
FROM SOURCES : 19
2 10 11 12 13 14 15 16 17 18 19 20 21 22 23 41 42 43 44
HOURS OF DAY
ACTIVITY NAME : Hauling ROM coal from pit to hopper / ROM pad
(RCHPP)
ACTIVITY TYPE : Wind insensitive
```

```
FROM SOURCES : 25
5 10 11 12 13 14 15 16 17 18 19 20 21 22 23 38 39 40 54 55 56 57 58
59 60
 HOURS OF DAY
111111111111111111111111111
 ACTIVITY NAME : Hauling ROM coal from pit to hopper / ROM pad
ACCTIVITY TYPE : Wind insensitive
DUST EMISSION : 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
FROM SOURCES : 1
ACTIVITY NAME : Unloading ROM coal to hopper / ROM pad (HVCHPP)
 ACTIVITY TYPE : Wind sensitive
DUST EMISSION : 11685 kg/y TSP 4908 kg/y PM10 222 kg/y PM2.5
FROM SOURCES : 1
HOURS OF DAY
1111111111111111111111111111
ACTIVITY NAME : Unloading ROM coal to ROM pad (HCHPP)
ACTIVITY TYPE: Wind sensitive
DUST EMISSION: 4794 kg/y TSP 2013 kg/y PM10 91 kg/y PM2.5
 FROM SOURCES
HOURS OF DAY
ACTIVITY NAME : Unloading ROM coal to hopper / ROM pad (RCHPP)
ACTIVITY TYPE : Wind sensitive
DUST EMISSION : 592 kg/y TSP 248 kg/y PM10 11 kg/y PM2.5
FROM SOURCES : 1
 HOURS OF DAY
ACTIVITY NAME : Unloading ROM coal to hopper / ROM pad (LCHPP)
ACTIVITY TYPE : Wind sensitive
DUST EMISSION : 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
FROM SOURCES : 1
HOURS OF DAY
ACTIVITY NAME : ROM coal rehandle to hopper (HVCHPP)
ACTIVITY TYPE : Wind sensitive
DUST EMISSION : 23370 kg/y TSP 9815 kg/y PM10 444 kg/y PM2.5
 FROM SOURCES : 1
 HOURS OF DAY
ACTIVITY NAME : ROM coal rehandle to hopper (HCHPP)
 ACTIVITY TYPE : Wind sensitive
DUST EMISSION : 15978 kg/y TSP 6711 kg/y PM10 304 kg/y PM2.5
FROM SOURCES : 1
 HOURS OF DAY
ACTIVITY NAME : ROM coal rehandle to hopper (RCHPP) (RSO)
 ACTIVITY TYPE : Wind sensitive
 DUST EMISSION: 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
 FROM SOURCES
 HOURS OF DAY
ACTIVITY NAME : ROM coal rehandle to hopper (LCHPP)
 ACTIVITY TYPE : Wind sensitive
 DUST EMISSION: 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
 FROM SOURCES
 HOURS OF DAY
1111111111111111111111111111
 ACTIVITY NAME : Transferring ROM coal by conveyor to HVCHPP
ACTIVITY TYPE: Wind sensitive
DUST EMISSION: 254 kg/y TSP 120 kg/y PM10 18 kg/y PM2.5
 FROM SOURCES : 1
 HOURS OF DAY
ACTIVITY NAME : Transferring ROM coal by conveyor to HCHPP
ACTIVITY TYPE: Wind sensitive
DUST EMISSION: 104 kg/y TSP 49 kg/y PM10 7 kg/y PM2.5
 FROM SOURCES : 1
HOURS OF DAY
ACTIVITY NAME : Transferring ROM coal by conveyor to RCHPP (RSO)
ACTIVITY TYPE : Wind sensitive
DUST EMISSION : 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
FROM SOURCES : 1
5
HOURS OF DAY
ACTIVITY NAME : Transferring ROM coal by conveyor to LCHPP
 ACTIVITY TYPE : Wind sensitive DUST EMISSION : 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
FROM SOURCES : 1
```

DUST EMISSION : 12686 kg/y TSP 3749 kg/y PM10 381 kg/y PM2.5

Source allocations 2014 (HVO South)

```
--ACTIVITY SHMMARY----
ACTIVITY NAME: Stripping topsoil by scraper ACTIVITY TYPE: Wind insensitive
 DUST EMISSION : 4244 kg/y TSP 1068 kg/y PM10 212 kg/y PM2.5
 FROM SOURCES
69 70 71
HOURS OF DAY
ACTIVITY NAME : Drilling overburden (or coal)
ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 21304 kg/y TSP 11078 kg/y PM10 639 kg/y PM2.5
FROM SOURCES : 17
72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88
ACTIVITY NAME : Blasting overburden (or coal)
ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 187753 kg/y TSP 97632 kg/y PM10 5633 kg/y PM2.5
 FROM SOURCES
72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88
HOURS OF DAY : 0 0 0 0 0 0 0 0 1 1 1 1 1 1 1 1 0 0 0 0 0 0 0
ACTIVITY NAME : Excavators loading overburden to trucks
ACTIVITY TYPE : Wind sensitive
DUST EMISSION : 232282 kg/y TSP 109863 kg/y PM10 16636 kg/y
PM2 5
72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88
 HOURS OF DAY
ACTIVITY NAME : Hauling overburden from pit to dump
ACTIVITY TYPE: Wind insensitive DUST EMISSION: 2601608 kg/y TSP 768797 kg/y PM10 78048 kg/y
PM2.5
FROM SOURCES : 29
72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93
94 95 96 97 98 99 100
ACTIVITY NAME : Unloading overburden to dump inc rejects
ACTIVITY TYPE : Wind sensitive
DUST EMISSION : 232282 kg/y TSP 109863 kg/y PM10 16636 kg/y
PM2.5
FROM SOURCES : 12
89 90 91 92 93 94 95 96 97 98 99 100
ACTIVITY NAME : Dozers shaping overburden
ACTIVITY TYPE: Wind insensitive DUST EMISSION: 1495765 kg/y TSP 364138 kg/y PM10 157055 kg/y
PM2.5
 FROM SOURCES : 12
89 90 91 92 93 94 95 96 97 98 99 100
ACTIVITY NAME : Dozers working on overburden for rehabilitation ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 63599 kg/y TSP \, 15483 kg/y PM10 \, 6678 kg/y PM2.5 FROM SOURCES : 15 \,
89 90 91 92 93 94 95 96 97 98 99 100 101 102 103
ACTIVITY NAME : Dozers working on coal
ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 318074 kg/y TSP 91659 kg/y PM10 6998 kg/y PM2.5
 FROM SOURCES
                : 17
72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88
HOURS OF DAY :
ACTIVITY NAME : Loading ROM coal to trucks ACTIVITY TYPE : Wind sensitive
```

```
FROM SOURCES : 17
72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88
 HOURS OF DAY
ACTIVITY NAME : Hauling ROM coal from pit to hopper / ROM pad
(HVCHPP)
ACTIVITY TYPE: Wind insensitive
DUST EMISSION: 953224 kg/y TSP 281686 kg/y PM10 28597 kg/y
DM2 5
FROM SOURCES : 26
1 38 62 63 64 65 66 67 68 72 73 74 75 76 77 78 79 80 81 82 83 84 85
HOURS OF DAY
ACTIVITY NAME : Hauling ROM coal from pit to ROM pad (HCHPP) ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5 FROM SOURCES : 1
 FROM SOURCES
HOURS OF DAY
ACTIVITY NAME : Hauling ROM coal from pit to hopper / ROM pad
(RCHPP)
 ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
 FROM SOURCES : 1
HOURS OF DAY
ACTIVITY NAME : Hauling ROM coal from pit to hopper / ROM pad
(LCHPP)
 ACTIVITY TYPE : Wind insensitive
 DUST EMISSION: 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
 FROM SOURCES : 1
HOURS OF DAY
ACTIVITY NAME : Unloading ROM coal to hopper / ROM pad (HVCHPP)
ACTIVITY TYPE: Wind sensitive
DUST EMISSION: 36900 kg/y TSP 15498 kg/y PM10 701 kg/y PM2.5
 FROM SOURCES
HOURS OF DAY
ACTIVITY NAME : Unloading ROM coal to ROM pad (HCHPP)
 ACTIVITY TYPE : Wind sensitive
DUST EMISSION : 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
FROM SOURCES : 1
ACTIVITY NAME : Unloading ROM coal to hopper / ROM pad (RCHPP)
ACTIVITY TYPE: Wind sensitive
DUST EMISSION: 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
FROM SOURCES : 1
HOURS OF DAY
ACTIVITY NAME : Unloading ROM coal to hopper / ROM pad (LCHPP)
 ACTIVITY TYPE : Wind sensitive
 DUST EMISSION : 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
 FROM SOURCES
ACTIVITY NAME : ROM coal rehandle to hopper (HVCHPP)
 ACTIVITY TYPE : Wind sensitive DUST EMISSION : 73800 kg/y TSP 30996 kg/y PM10 1402 kg/y PM2.5
FROM SOURCES : 1
 HOURS OF DAY
ACTIVITY NAME : ROM coal rehandle to hopper (HCHPP)
ACTIVITY TYPE: Wind sensitive
DUST EMISSION: 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
 FROM SOURCES : 1
HOURS OF DAY
ACTIVITY NAME : ROM coal rehandle to hopper (RCHPP) (RSO)
 ACTIVITY TYPE : Wind sensitive
 DUST EMISSION : 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
 FROM SOURCES
 HOURS OF DAY
ACTIVITY NAME : ROM coal rehandle to hopper (LCHPP)
 ACTIVITY TYPE: Wind sensitive
DUST EMISSION: 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
 FROM SOURCES : 1
HOURS OF DAY
ACTIVITY NAME : Transferring ROM coal by conveyor to HVCHPP ACTIVITY TYPE : Wind sensitive
```

DUST EMISSION : 588336 kg/y TSP 84612 kg/y PM10 11178 kg/y PM2.5

```
DUST EMISSION: 803 kg/y TSP 380 kg/y PM10 58 kg/y PM2.5
HOURS OF DAY
ACTIVITY NAME : Transferring ROM coal by conveyor to HCHPP
ACTIVITY TYPE : Wind sensitive
DUST EMISSION : 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
FROM SOURCES : 1
HOURS OF DAY
ACTIVITY NAME : Transferring ROM coal by conveyor to RCHPP (RSO)
ACTIVITY TYPE : Wind sensitive
DUST EMISSION : 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
FROM SOURCES : 1
ACTIVITY NAME : Transferring ROM coal by conveyor to LCHPP
ACTIVITY TYPE : Wind sensitive
DUST EMISSION : 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5 FROM SOURCES : 1
ACTIVITY NAME : Handling coal at HVCHPP inc rejects
ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 4015 kg/y TSP 1899 kg/y PM10 58 kg/y PM2.5
FROM SOURCES : 1
HOURS OF DAY
ACTIVITY NAME : Handling coal at HCHPP inc rejects
ACTIVITY TYPE: Wind insensitive
DUST EMISSION: 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
 FROM SOURCES
HOURS OF DAY
Pit retention sources: 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88
```

Source allocations 2025 (HVO North)

```
ACTIVITY NAME : Stripping topsoil by scraper
ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 12950 kg/y TSP 3260 kg/y PM10 648 kg/y PM2.5
FROM SOURCES : 5
5 6 7 8 9
HOURS OF DAY
ACTIVITY NAME : Drilling overburden (or coal) ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 46442 \text{ kg/y TSP} 24150 kg/y PM10 1393 kg/y PM2.5 FROM SOURCES : 11
ACTIVITY NAME : Blasting overburden (or coal)
ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 333163 kg/y TSP 173245 kg/y PM10 9995 kg/y PM2.5
FROM SOURCES : 11
10 11 12 13 14 15 16 17 18 19 20
HOURS OF DAY
ACTIVITY NAME : Excavators loading overburden to trucks
ACTIVITY TYPE : Wind sensitive
DUST EMISSION : 226339 kg/y TSP 107052 kg/y PM10 16211 kg/y
FROM SOURCES
10 11 12 13 14 15 16 17 18 19 20 HOURS OF DAY :
111111111111111111111111111
ACTIVITY NAME : Hauling overburden from pit to dump
ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 2535052 kg/y TSP 749129 kg/y PM10 76052 kg/y
PM2 5
FROM SOURCES : 29
HOURS OF DAY
ACTIVITY NAME : Unloading overburden to dump inc rejects
ACTIVITY TYPE: Wind sensitive
DUST EMISSION: 231492 kg/y TSP 109489 kg/y PM10 16580 kg/y
FROM SOURCES
```

```
ACTIVITY NAME : Dozers shaping overburden
 ACTIVITY TYPE : Wind insensitiv
 DUST EMISSION: 1205202 kg/v TSP 293402 kg/v PM10 126546 kg/v
PM2 5
 FROM SOURCES
21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38
 HOURS OF DAY
1111111111111111111111111111
 ACTIVITY NAME : Dozers working on overburden for rehabilitation
 ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 46859 kg/y TSP 11408 kg/y PM10 4920 kg/y PM2.5
 FROM SOURCES
              : 5
33 34 35 36
HOURS OF DAY
ACTIVITY NAME : Dozers working on coal ACTIVITY TYPE : Wind insensitive
 DUST EMISSION : 227208 kg/y TSP 65474 kg/y PM10 4999 kg/y PM2.5
FROM SOURCES : 11
10 11 12 13 14 15 16 17 18 19 20
HOURS OF DAY :
ACTIVITY NAME : Loading ROM coal to trucks
 ACTIVITY TYPE : Wind sensitive
 DUST EMISSION : 434094 kg/y TSP 62430 kg/y PM10 8248 kg/y PM2.5
 FROM SOURCES
               11
10 11 12 13 14 15 16 17 18 19 20 HOURS OF DAY :
ACTIVITY NAME : Hauling ROM coal from pit to hopper / ROM pad
(HVCHPP)
ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 148217 kg/y TSP 43799 kg/y PM10 4447 kg/y PM2.5
FROM SOURCES : 14
10 11 12 13 14 15 16 17 18 19 20 39 40 41
 HOURS OF DAY
ACTIVITY NAME : Hauling ROM coal from pit to ROM pad (HCHPP)
 ACTIVITY TYPE : Wind insensitive DUST EMISSION : 105476 kg/y TSP 31169 kg/y PM10 3164 kg/y PM2.5
 FROM SOURCES
              : 18
10 11 12 13 14 15 16 17 18 19 20 21 42 43 44 45 46 47
HOURS OF DAY
ACTIVITY NAME : Hauling ROM coal from pit to hopper / ROM pad
(RCHPP)
 ACTIVITY TYPE: Wind insensitive
DUST EMISSION: 16082 kg/y TSP 4752 kg/y PM10 482 kg/y PM2.5
 FROM SOURCES
             : 20
10 11 12 13 14 15 16 17 18 19 20 39 40 41 102 103 104 105 106 107
ACTIVITY NAME : Hauling ROM coal from pit to hopper / ROM pad
(LCHPP)
ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5 FROM SOURCES : 1
 HOURS OF DAY
1111111111111111111111111
 ACTIVITY NAME : Unloading ROM coal to hopper / ROM pad (HVCHPP)
 ACTIVITY TYPE : Wind sensitive
DUST EMISSION : 14812 kg/y TSP 6221 kg/y PM10 281 kg/y PM2.5
FROM SOURCES : 1
HOURS OF DAY
ACTIVITY NAME : Unloading ROM coal to ROM pad (HCHPP)
ACTIVITY TYPE : Wind sensitive
DUST EMISSION : 6077 kg/y TSP 2552 kg/y PM10 115 kg/y PM2.5
 FROM SOURCES
HOURS OF DAY
ACTIVITY NAME : Unloading ROM coal to hopper / ROM pad (RCHPP)
 ACTIVITY TYPE : Wind sensitive
DUST EMISSION : 750 kg/y TSP 315 kg/y PM10 14 kg/y PM2.5
FROM SOURCES : 1
 FROM SOURCES
107
ACTIVITY NAME: Unloading ROM coal to hopper / ROM pad (LCHPP)
 ACTIVITY TYPE : Wind sensitive
 DUST EMISSION: 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
FROM SOURCES
HOURS OF DAY
ACTIVITY NAME : ROM coal rehandle to hopper (HVCHPP) ACTIVITY TYPE : Wind sensitive
 DUST EMISSION : 29625 kg/y TSP 12442 kg/y PM10 563 kg/y PM2.5
 FROM SOURCES
```

ACTIVITY NAME : ROM coal rehandle to hopper (HCHPP)

```
ACTIVITY TYPE : Wind sensitive
 DUST EMISSION : 20255 kg/y TSP 8507 kg/y PM10 385 kg/y PM2.5
FROM SOURCES : 1
HOURS OF DAY
ACTIVITY NAME : ROM coal rehandle to hopper (RCHPP) (RSO)
ACTIVITY TYPE: Wind sensitive
DUST EMISSION: 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
FROM SOURCES : 1
HOURS OF DAY
ACTIVITY NAME : ROM coal rehandle to hopper (LCHPP) ACTIVITY TYPE : Wind sensitive
DUST EMISSION : 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
 FROM SOURCES
ACTIVITY NAME : Transferring ROM coal by conveyor to HVCHPP
ACTIVITY TYPE : Wind sensitive
DUST EMISSION : 322 kg/y TSP 152 kg/y PM10 23 kg/y PM2.5
FROM SOURCES : 1
HOURS OF DAY
1111111111111111111111111111
ACTIVITY NAME : Transferring ROM coal by conveyor to HCHPP ACTIVITY TYPE : Wind sensitive
DUST EMISSION : 132 kg/y TSP 63 kg/y PM10 9 kg/y PM2.5
FROM SOURCES : 1
HOURS OF DAY
ACTIVITY NAME : Transferring ROM coal by conveyor to RCHPP (RSO)
ACTIVITY TYPE : Wind sensitive
DUST EMISSION : 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5 FROM SOURCES : 1
107
HOURS OF DAY
1111111111111111111111111111
ACTIVITY NAME : Transferring ROM coal by conveyor to LCHPP
ACTIVITY TYPE: Wind sensitive
DUST EMISSION: 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
FROM SOURCES : 1
ACTIVITY NAME : Handling coal at HVCHPP inc rejects
ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 2527 kg/y TSP 1195 kg/y PM10 36 kg/y PM2.5
HOURS OF DAY
ACTIVITY NAME : Handling coal at HCHPP inc rejects
ACTIVITY TYPE : Wind insensitive
 DUST EMISSION : 661 kg/y TSP 313 kg/y PM10 9 kg/y PM2.5
FROM SOURCES : 1
HOURS OF DAY
Pit retention sources: 10 11 12 13 14 15 16 17 18 19 20
```

Source allocations 2025 (HVO South)

```
----ACTIVITY SUMMARY----
 ACTIVITY NAME : Stripping topsoil by scraper
 ACTIVITY TYPE : Wind insensitive
 DUST EMISSION: 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
FROM SOURCES : 1
HOURS OF DAY
1111111111111111111111111111
ACTIVITY NAME : Drilling overburden (or coal)
ACTIVITY TYPE: Wind insensitive
DUST EMISSION: 26837 kg/y TSP 13955 kg/y PM10 805 kg/y PM2.5
FROM SOURCES : 9
77 78 79 80 81 82 83 84 85
HOURS OF DAY
ACTIVITY NAME : Blasting overburden (or coal)
ACTIVITY TYPE: Wind insensitive
DUST EMISSION: 219419 kg/y TSP 114098 kg/y PM10 6583 kg/y PM2.5
 FROM SOURCES
77 78 79 80 81 82 83 84 85
 HOURS OF DAY
0 0 0 0 0 0 0 0 0 1 1 1 1 1 1 1 1 0 0 0 0 0 0 0
 ACTIVITY NAME : Excavators loading overburden to trucks
ACTIVITY TYPE : Wind sensitive
```

```
DUST EMISSION: 228393 kg/y TSP 108024 kg/y PM10 16358 kg/y
FROM SOURCES : 9
77 78 79 80 81 82 83 84 85
HOURS OF DAY :
ACTIVITY NAME : Hauling overburden from pit to dump
ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 2558052 kg/y TSP 755925 kg/y PM10 76742 kg/y
PM2.5
FROM SOURCES : 23
77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98
HOURS OF DAY
ACTIVITY NAME : Unloading overburden to dump inc rejects ACTIVITY TYPE : Wind sensitive
DUST EMISSION : 228393 kg/y TSP 108024 kg/y PM10 16358 kg/y PM2.5
FROM SOURCES : 14
86 87 88 89 90 91 92 93 94 95 96 97 98 99
ACTIVITY NAME : Dozers shaping overburden
ACTIVITY TYPE: Wind insensitive
DUST EMISSION: 1208199 kg/y TSP 294131 kg/y PM10 126861 kg/y
PM2 5
FROM SOURCES
86 87 88 89 90 91 92 93 94 95 96 97 98 99
 HOURS OF DAY
ACTIVITY NAME : Dozers working on overburden for rehabilitation
 ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 46859 kg/y TSP 11408 kg/y PM10 4920 kg/y PM2.5
 FROM SOURCES : 4
HOURS OF DAY
ACTIVITY NAME : Dozers working on coal
ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 167453 kg/y TSP 48254 kg/y PM10 3684 kg/y PM2.5
 FROM SOURCES
77 78 79 80 81 82 83 84 85
HOURS OF DAY
ACTIVITY NAME : Loading ROM coal to trucks
 ACTIVITY TYPE : Wind sensitive DUST EMISSION : 435394 kg/y TSP 62617 kg/y PM10 8272 kg/y PM2.5
 FROM SOURCES
77 78 79 80 81 82 83 84 85
HOURS OF DAY :
 ACTIVITY NAME : Hauling ROM coal from pit to hopper / ROM pad
 ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 702328 kg/y TSP 207544 kg/y PM10 21070 kg/y
FROM SOURCES : 17
39 58 59 60 61 62 63 64 77 78 79 80 81 82 83 84 85
ACTIVITY NAME : Hauling ROM coal from pit to ROM pad (HCHPP)
 ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
FROM SOURCES : 10
1 77 78 79 80 81 82 83 84 85
ACTIVITY NAME : Hauling ROM coal from pit to hopper / ROM pad
(RCHPP)
 ACTIVITY TYPE : Wind insensitive
 DUST EMISSION: 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
 FROM SOURCES : 10
1 77 78 79 80 81 82 83 84 85
 HOURS OF DAY
ACTIVITY NAME : Hauling ROM coal from pit to hopper / ROM pad
(LCHPP)
 ACTIVITY TYPE : Wind insensitive
 DUST EMISSION: 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5 FROM SOURCES : 10
 FROM SOURCES
 77 78 79 80 81 82 83 84 85
HOURS OF DAY
ACTIVITY NAME : Unloading ROM coal to hopper / ROM pad (HVCHPP)
 ACTIVITY TYPE : Wind sensitive
 DUST EMISSION : 27188 kg/y TSP 11419 kg/y PM10 517 kg/y PM2.5
 FROM SOURCES
ACTIVITY NAME : Unloading ROM coal to ROM pad (HCHPP)
 ACTIVITY TYPE : Wind sensitive
 DUST EMISSION: 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5 FROM SOURCES: 1
 HOURS OF DAY
```

```
ACTIVITY NAME : Stripping topsoil by scraper
                                                                       ACTIVITY TYPE: Wind insensitive
DUST EMISSION: 16212 kg/y TSP 4081 kg/y PM10 811 kg/y PM2.5
ACTIVITY NAME : Unloading ROM coal to hopper / ROM pad (RCHPP)
 ACTIVITY TYPE : Wind sensitive
                                                                       FROM SOURCES : 4
DUST EMISSION : 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
                                                                       5 6 7 8
                                                                       HOURS OF DAY
FROM SOURCES : 1
                                                                       HOURS OF DAY
ACTIVITY NAME : Drilling overburden (or coal)
                                                                       ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 66840 kg/y TSP 34757 kg/y PM10 2005 kg/y PM2.5
FROM SOURCES : 10
ACTIVITY NAME : Unloading ROM coal to hopper / ROM pad (LCHPP) ACTIVITY TYPE : Wind sensitive DUST EMISSION : 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
                                                                       9 10 11 12 13 14 15 16 17 18
                                                                      FROM SOURCES : 1
ACTIVITY NAME : Blasting overburden (or coal)
                                                                       ACTIVITY TYPE: Wind insensitive DUST EMISSION: 546229 kg/y TSP 284039 kg/y PM10 16387 kg/y
 ACTIVITY NAME : ROM coal rehandle to hopper (HVCHPP)
ACTIVITY TYPE : Wind sensitive
DUST EMISSION : 54375 kg/y TSP 22838 kg/y PM10 1033 kg/y PM2.5
                                                                       PM2.5
                                                                       FROM SOURCES : 10
9 10 11 12 13 14 15 16 17 18
FROM SOURCES
                                                                       HOURS OF DAY
                                                                       ACTIVITY NAME : Excavators loading overburden to trucks
ACTIVITY NAME : ROM coal rehandle to hopper (HCHPP) ACTIVITY TYPE : Wind sensitive DUST EMISSION : 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
                                                                       ACTIVITY TYPE : Wind sensitive
                                                                        DUST EMISSION : 376298 kg/y TSP 177979 kg/y PM10 26951 kg/y
                                                                       PM2.5
FROM SOURCES : 1
                                                                       FROM SOURCES : 10
                                                                       9 10 11 12 13 14 15 16 17 18
HOURS OF DAY
                                                                       HOURS OF DAY
ACTIVITY NAME : ROM coal rehandle to hopper (RCHPP) (RSO)
                                                                       ACTIVITY NAME : Hauling overburden from pit to dump
ACTIVITY TYPE : Wind sensitive
DUST EMISSION : 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
FROM SOURCES : 1
                                                                       ACTIVITY TYPE : Wind insensitive DUST EMISSION : 4214630 kg/y TSP 1245458 kg/y PM10 126439 kg/y
                                                                       FROM SOURCES
                                                                       9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
58 59
                                                                      ACTIVITY NAME : ROM coal rehandle to hopper (LCHPP)
ACTIVITY TYPE: Wind sensitive
DUST EMISSION: 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
                                                                       ACTIVITY NAME : Unloading overburden to dump inc rejects
                                                                        ACTIVITY TYPE : Wind sensitive
FROM SOURCES : 1
                                                                        DUST EMISSION : 385550 kg/y TSP 182355 kg/y PM10 27614 kg/y
HOURS OF DAY
                                                                       PM2.5
FROM SOURCES : 15
                                                                       19 20 21 22 23 24 25 26 27 28 29 30 31 58 59
ACTIVITY NAME : Transferring ROM coal by conveyor to HVCHPP
                                                                       HOURS OF DAY :
                                                                       ACTIVITY TYPE : Wind sensitive
DUST EMISSION : 592 kg/y TSP 280 kg/y PM10 42 kg/y PM2.5 FROM SOURCES : 1
                                                                       ACTIVITY NAME : Dozers shaping overburden
                                                                       ACTIVITY TYPE : Wind insensitive
                                                                       DUST EMISSION : 2027713 kg/y TSP 493639 kg/y PM10 212910 kg/y PM2.5
HOURS OF DAY
FROM SOURCES
                                                                       19 20 21 22 23 24 25 26 27 28 29 30 31 58 59 HOURS OF DAY :
 ACTIVITY NAME : Transferring ROM coal by conveyor to HCHPP
ACTIVITY TYPE : Wind sensitive
DUST EMISSION: 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5 FROM SOURCES: 1
                                                                       {\tt ACTIVITY\ NAME\ :\ Dozers\ working\ on\ overburden\ for\ rehabilitation}
                                                                        ACTIVITY TYPE : Wind insensitive
                                                                       DUST EMISSION : 46859 kg/y TSP 11408 kg/y PM10 4920 kg/y PM2.5
FROM SOURCES
ACTIVITY NAME: Transferring ROM coal by conveyor to RCHPP (RSO)
                                                                       32 33 34 35
ACTIVITY TYPE: Wind sensitive
DUST EMISSION: 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
                                                                       FROM SOURCES : 1
                                                                        ACTIVITY NAME : Dozers working on coal
HOURS OF DAY :
                                                                       ACTIVITY TYPE : Wind insensitive DUST EMISSION : 406928 kg/y TSP 117263 kg/y PM10 8952 kg/y PM2.5
FROM SOURCES
                                                                                     : 10
ACTIVITY NAME : Transferring ROM coal by conveyor to LCHPP ACTIVITY TYPE : Wind sensitive \,
                                                                       9 10 11 12 13 14 15 16 17 18
                                                                       HOURS OF DAY
                                                                       11111111111111111111111111
DUST EMISSION : 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5 FROM SOURCES : 1
                                                                       ACTIVITY NAME : Loading ROM coal to trucks
ACTIVITY TYPE: Wind sensitive
DUST EMISSION: 1052308 kg/y TSP 151338 kg/y PM10 19994 kg/y
                                                                       PM2 5
ACTIVITY NAME : Handling coal at HVCHPP inc rejects
                                                                       FROM SOURCES
ACTIVITY TYPE : Wind insensitive
                                                                       9 10 11 12 13 14 15 16 17 18
 DUST EMISSION : 2958 kg/y TSP 1399 kg/y PM10 42 kg/y PM2.5
                                                                      FROM SOURCES : 1
                                                                       ACTIVITY NAME : Hauling ROM coal from pit to hopper / ROM pad
HOURS OF DAY
(HVCHPP)
                                                                       ACTIVITY TYPE: Wind insensitive
DUST EMISSION: 347135 kg/y TSP 102581 kg/y PM10 10414 kg/y
ACTIVITY NAME : Handling coal at HCHPP inc rejects
ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
                                                                       PM2.5
                                                                       FROM SOURCES
                                                                      FROM SOURCES : 1
HOURS OF DAY
ACTIVITY NAME : Hauling ROM coal from pit to ROM pad (HCHPP)
                                                                       ACTIVITY TYPE: Wind insensitive
DUST EMISSION: 312442 kg/y TSP 92329 kg/y PM10 9373 kg/y PM2.5
Pit retention sources: 77 78 79 80 81 82 83 84 85
                                                                       FROM SOURCES : 16
9 10 11 12 13 14 15 16 17 18 45 46 47 48 49 50
                                                                       HOURS OF DAY
                                                                       Source allocations
                                                                        ACTIVITY NAME : Hauling ROM coal from pit to hopper / ROM pad
2029 (HVO North)
```

----ACTIVITY SUMMARY----

ACTIVITY TYPE : Wind insensitive DUST EMISSION : 271772 kg/y TSP 80311 kg/y PM10 8153 kg/y PM2.5

```
FROM SOURCES : 19
 10 11 12 13 14 15 16 17 18 36 37 38 39 40 41 42 43 44
HOURS OF DAY :
ACTIVITY NAME : Hauling ROM coal from pit to hopper / ROM pad
ACTIVITY TYPE : Wind insensitive DUST EMISSION : 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
FROM SOURCES : 10
9 10 11 12 13 14 15 16 17 18
HOURS OF DAY
ACTIVITY NAME : Unloading ROM coal to hopper / ROM pad (HVCHPP)
ACTIVITY TYPE: Wind sensitive
DUST EMISSION: 34692 kg/y TSP 14570 kg/y PM10 659 kg/y PM2.5
 FROM SOURCES : 1
ACTIVITY NAME : Unloading ROM coal to ROM pad (HCHPP)
ACTIVITY TYPE : Wind sensitive
DUST EMISSION : 18000 kg/y TSP 7560 kg/y PM10 342 kg/y PM2.5
 FROM SOURCES : 1
ACTIVITY NAME : Unloading ROM coal to hopper / ROM pad (RCHPP)
ACTIVITY TYPE: Wind sensitive
DUST EMISSION: 13308 kg/y TSP 5590 kg/y PM10 253 kg/y PM2.5
 FROM SOURCES : 1
HOURS OF DAY
ACTIVITY NAME : Unloading ROM coal to hopper / ROM pad (LCHPP) ACTIVITY TYPE : Wind sensitive DUST EMISSION : 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
 FROM SOURCES
HOURS OF DAY :
ACTIVITY NAME : ROM coal rehandle to hopper (HVCHPP)
ACTIVITY TYPE : Wind sensitive
DUST EMISSION : 69383 kg/y TSP 29141 kg/y PM10 1318 kg/y PM2.5
 FROM SOURCES : 1
ACTIVITY NAME : ROM coal rehandle to hopper (HCHPP)
ACTIVITY TYPE : Wind sensitive
DUST EMISSION : 60000 kg/y TSP 25200 kg/y PM10 1140 kg/y PM2.5
FROM SOURCES : 1
HOURS OF DAY :
111111111111111111111111111
ACTIVITY NAME : ROM coal rehandle to hopper (RCHPP) (RSO)
 ACTIVITY TYPE : Wind sensitive
DUST EMISSION : 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
 FROM SOURCES : 1
44
ACTIVITY NAME : ROM coal rehandle to hopper (LCHPP)
 ACTIVITY TYPE : Wind sensitive
 DUST EMISSION: 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
FROM SOURCES : 1
HOURS OF DAY
111111111111111111111111111
ACTIVITY NAME : Transferring ROM coal by conveyor to HVCHPP
ACTIVITY TYPE : Wind sensitive
DUST EMISSION : 755 kg/y TSP 357 kg/y PM10 54 kg/y PM2.5
FROM SOURCES : 1
HOURS OF DAY
ACTIVITY NAME : Transferring ROM coal by conveyor to HCHPP ACTIVITY TYPE : Wind sensitive
DUST EMISSION : 392 kg/y TSP 185 kg/y PM10 28 kg/y PM2.5
 FROM SOURCES : 1
ACTIVITY NAME : Transferring ROM coal by conveyor to RCHPP (RSO)
 ACTIVITY TYPE : Wind sensitive
 DUST EMISSION: 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
 FROM SOURCES : 1
HOURS OF DAY
ACTIVITY NAME : Transferring ROM coal by conveyor to LCHPP ACTIVITY TYPE : Wind sensitive
 DUST EMISSION : 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
 FROM SOURCES
HOURS OF DAY
```

Source allocations 2029 (HVO South)

```
---ACTIVITY SUMMARY----
 ACTIVITY NAME: Stripping topsoil by scraper
ACTIVITY TYPE: Wind insensitive
DUST EMISSION: 1143 kg/y TSP 288 kg/y PM10 57 kg/y PM2.5
 FROM SOURCES
 HOURS OF DAY
ACTIVITY NAME : Drilling overburden (or coal)
 ACTIVITY TYPE : Wind insensitive
 DUST EMISSION : 24892 kg/y TSP 12944 kg/y PM10 747 kg/y PM2.5
 FROM SOURCES
68 69 70 71 72 84 85
 HOURS OF DAY
ACTIVITY NAME : Blasting overburden (or coal)
 ACTIVITY TYPE : Wind insensitive
 DUST EMISSION : 182916 kg/y TSP 95116 kg/y PM10 5487 kg/y PM2.5 FROM SOURCES : 7
68 69 70 71 72 84 85
 HOURS OF DAY
ACTIVITY NAME : Excavators loading overburden to trucks
 ACTIVITY TYPE: Wind sensitive
DUST EMISSION: 219641 kg/y TSP 103884 kg/y PM10 15731 kg/y
PM2.5
 FROM SOURCES : 7
68 69 70 71 72 84 85
ACTIVITY NAME : Hauling overburden from pit to dump
 ACTIVITY TYPE : Wind insensitive
 DUST EMISSION : 2460031 kg/y TSP 726959 kg/y PM10 73801 kg/y
PM2.5
FROM SOURCES : 18
68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85
ACTIVITY NAME : Unloading overburden to dump inc rejects
 ACTIVITY TYPE : Wind sensitive
 DUST EMISSION : 219641 kg/y TSP 103884 kg/y PM10 15731 kg/y
PM2.5
FROM SOURCES : 11
73 74 75 76 77 78 79 80 81 82 83
HOURS OF DAY :
ACTIVITY NAME : Dozers shaping overburden
ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 1232292 kg/y TSP 299996 kg/y PM10 129391 kg/y
PM2.5
 FROM SOURCES
               : 11
73 74 75 76 77 78 79 80 81 82 83 HOURS OF DAY :
ACTIVITY NAME : Dozers working on overburden for rehabilitation ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 46859 kg/y TSP 11408 kg/y PM10 4920 kg/y PM2.5
FROM SOURCES : 11
76 77 78 92 93 94 95 96 97 98 99
ACTIVITY NAME : Dozers working on coal
 ACTIVITY TYPE : Wind insensitive
 DUST EMISSION : 175333 kg/y TSP 50525 kg/y PM10 3857 kg/y PM2.5
FROM SOURCES : 7
68 69 70 71 72 84 85
ACTIVITY NAME : Loading ROM coal to trucks
 ACTIVITY TYPE : Wind sensitive
DUST EMISSION : 416623 kg/y TSP 59917 kg/y PM10 7916 kg/y PM2.5
 FROM SOURCES
68 69 70 71 72 84 85
```

```
HOURS OF DAY :
ACTIVITY NAME : Hauling ROM coal from pit to hopper / ROM pad
(HVCHPP)
ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 653783 kg/y TSP 193198 kg/y PM10 19613 kg/y
PM2.5
37 60 61 62 63 64 65 66 68 69 70 71 72 84 85
ACTIVITY NAME : Hauling ROM coal from pit to ROM pad (HCHPP)
 ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5 FROM SOURCES : 7
68 69 70 71 72 84 85
 HOURS OF DAY
ACTIVITY NAME : Hauling ROM coal from pit to hopper / ROM pad
(RCHPP)
ACTIVITY TYPE : Wind insensitive
 DUST EMISSION : 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5 FROM SOURCES : 7
FROM SOURCES : 7
68 69 70 71 72 84 85
ACTIVITY NAME : Hauling ROM coal from pit to hopper / ROM pad
(LCHPP)
 ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5 FROM SOURCES : 7
68 69 70 71 72 84 85
HOURS OF DAY
ACTIVITY NAME : Unloading ROM coal to hopper / ROM pad (HVCHPP)
 ACTIVITY TYPE : Wind sensitive
DUST_EMISSION: 25308 kg/y TSP 10630 kg/y PM10 481 kg/y PM2.5 FROM SOURCES: 1
HOURS OF DAY
ACTIVITY NAME : Unloading ROM coal to ROM pad (HCHPP)
 ACTIVITY TYPE: Wind sensitive
DUST EMISSION: 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
FROM SOURCES : 1
ACTIVITY NAME : Unloading ROM coal to hopper / ROM pad (RCHPP) ACTIVITY TYPE : Wind sensitive
DUST EMISSION: 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
 HOURS OF DAY
ACTIVITY NAME : Unloading ROM coal to hopper / ROM pad (LCHPP)
 ACTIVITY TYPE : Wind sensitive
 DUST EMISSION : 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
FROM SOURCES : 1
HOURS OF DAY
ACTIVITY NAME : ROM coal rehandle to hopper (HVCHPP)
ACTIVITY TYPE: Wind sensitive
DUST EMISSION: 50617 kg/y TSP 21259 kg/y PM10 962 kg/y PM2.5
 FROM SOURCES
HOURS OF DAY
ACTIVITY NAME : ROM coal rehandle to hopper (HCHPP) ACTIVITY TYPE : Wind sensitive
 DUST EMISSION : 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
FROM SOURCES : 1
ACTIVITY NAME : ROM coal rehandle to hopper (RCHPP) (RSO)
ACTIVITY TYPE: Wind sensitive
DUST EMISSION: 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
FROM SOURCES : 1
HOURS OF DAY
ACTIVITY NAME : ROM coal rehandle to hopper (LCHPP)
 ACTIVITY TYPE : Wind sensitive
DUST EMISSION: 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
 FROM SOURCES
ACTIVITY NAME : Transferring ROM coal by conveyor to HVCHPP
 ACTIVITY TYPE : Wind sensitive
DUST EMISSION : 551 kg/y TSP 260 kg/y PM10 39 kg/y PM2.5 FROM SOURCES : 1
 HOURS OF DAY :
```

```
ACTIVITY NAME : Transferring ROM coal by conveyor to HCHPP
ACTIVITY TYPE: Wind sensitive
DUST EMISSION: 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
FROM SOURCES : 1
HOURS OF DAY
ACTIVITY NAME : Transferring ROM coal by conveyor to RCHPP (RSO) ACTIVITY TYPE : Wind sensitive DUST EMISSION : 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
 FROM SOURCES
HOURS OF DAY
ACTIVITY NAME : Transferring ROM coal by conveyor to LCHPP
ACTIVITY TYPE: Wind sensitive
DUST EMISSION: 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
FROM SOURCES
1
HOURS OF DAY
11111111111111111111111111
ACTIVITY NAME : Handling coal at HVCHPP inc rejects
ACTIVITY TYPE: Wind insensitive
DUST EMISSION: 2754 kg/y TSP 1302 kg/y PM10 39 kg/y PM2.5
FROM SOURCES
HOURS OF DAY
ACTIVITY NAME : Handling coal at HCHPP inc rejects
ACTIVITY TYPE : Wind insensitive DUST EMISSION : 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
 FROM SOURCES
Pit retention sources: 68 69 70 71 72 73 74
```

Source allocations 2033 (HVO North)

```
-ACTIVITY SUMMARY----
 ACTIVITY NAME : Stripping topsoil by scraper ACTIVITY TYPE : Wind insensitive
 DUST EMISSION : 10558 kg/y TSP 2658 kg/y PM10 528 kg/y PM2.5
 FROM SOURCES
56789
ACTIVITY NAME : Drilling overburden (or coal)
ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 65002 kg/y TSP 33801 kg/y PM10 1950 kg/y PM2.5
FROM SOURCES : 8
10 11 12 13 14 15 16 17
HOURS OF DAY :
ACTIVITY NAME : Blasting overburden (or coal)
ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 552841 kg/y TSP 287477 kg/y PM10 16585 kg/y
PM2.5
 FROM SOURCES
10 11 12 13 14 15 16 17
HOURS OF DAY :
ACTIVITY NAME : Excavators loading overburden to trucks
ACTIVITY TYPE: Wind sensitive
DUST EMISSION: 407385 kg/y TSP 192682 kg/y PM10 29178 kg/y
PM2.5
 FROM SOURCES
10 11 12 13 14 15 16 17
HOURS OF DAY :
ACTIVITY NAME : Hauling overburden from pit to dump
 ACTIVITY TYPE : Wind insensitive DUST EMISSION : 4562811 kg/y TSP 1348348 kg/y PM10 136884 kg/y
PM2.5
FROM SOURCES : 21 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
ACTIVITY NAME : Unloading overburden to dump inc rejects
 ACTIVITY TYPE : Wind sensitive
 DUST EMISSION : 416364 kg/y TSP 196929 kg/y PM10 29821 kg/y
PM2.5
 FROM SOURCES
18 19 20 21 22 23 24 25 26 27 28 29 30
 HOURS OF DAY
ACTIVITY NAME : Dozers shaping overburden
ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 2141260 kg/y TSP 521281 kg/y PM10 224832 kg/y
```

```
FROM SOURCES : 13
18 19 20 21 22 23 24 25 26 27 28 29 30 HOURS OF DAY :
ACTIVITY NAME : Dozers working on overburden for rehabilitation ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 46859 kg/y TSP 11408 kg/y PM10 4920 kg/y PM2.5
31 32 33 104 105 106 107 108
ACTIVITY NAME : Dozers working on coal
ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 342006 kg/y TSP 98555 kg/y PM10 7524 kg/y PM2.5 FROM SOURCES : 8
10 11 12 13 14 15 16 17
HOURS OF DAY
ACTIVITY NAME : Loading ROM coal to trucks
ACTIVITY TYPE : Wind sensitive
DUST EMISSION : 1052308 kg/y TSP 151338 kg/y PM10 19994 kg/y
PM2.5
FROM SOURCES
10 11 12 13 14 15 16 17
ACTIVITY NAME : Hauling ROM coal from pit to hopper / ROM pad
(HVCHPP)
ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 369298 kg/y TSP 109131 kg/y PM10 11079 kg/y
PM2.5
FROM SOURCES
10 11 12 13 14 15 16 17 34 35
HOURS OF DAY :
ACTIVITY NAME : Hauling ROM coal from pit to ROM pad (HCHPP)
ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 319794 kg/y TSP 94502 kg/y PM10 9594 kg/y PM2.5
FROM SOURCES : 17
10 11 12 13 14 15 16 17 31 43 44 45 46 47 48 49 50
HOURS OF DAY :
ACTIVITY NAME : Hauling ROM coal from pit to hopper / ROM pad
(RCHPP)
ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 222011 kg/y TSP 65606 kg/y PM10 6660 kg/y PM2.5
 FROM SOURCES
10 11 12 13 14 15 16 17 34 35 36 37 38 39 40 41
HOURS OF DAY
ACTIVITY NAME : Hauling ROM coal from pit to hopper / ROM pad
ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5 FROM SOURCES : 1
ACTIVITY NAME : Unloading ROM coal to hopper / ROM pad (HVCHPP)
ACTIVITY TYPE: Wind sensitive
DUST EMISSION: 36906 kg/y TSP 15501 kg/y PM10 701 kg/y PM2.5
FROM SOURCES : 1
HOURS OF DAY
ACTIVITY NAME : Unloading ROM coal to ROM pad (HCHPP) ACTIVITY TYPE : Wind sensitive
DUST EMISSION : 18000 kg/y TSP 7560 kg/y PM10 342 kg/y PM2.5
ACTIVITY NAME : Unloading ROM coal to hopper / ROM pad (RCHPP)
ACTIVITY TYPE : Wind sensitive
DUST EMISSION : 11094 kg/y TSP 4659 kg/y PM10 211 kg/y PM2.5
FROM SOURCES : 1
HOURS OF DAY
ACTIVITY NAME : Unloading ROM coal to hopper / ROM pad (LCHPP)
ACTIVITY TYPE: Wind sensitive
DUST EMISSION: 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
FROM SOURCES : 1
HOURS OF DAY
ACTIVITY NAME : ROM coal rehandle to hopper (HVCHPP)
ACTIVITY TYPE: Wind sensitive

DUST EMISSION: 73813 kg/y TSP 31001 kg/y PM10 1402 kg/y PM2.5

FROM SOURCES: 1
111111111111111111111111111
ACTIVITY NAME : ROM coal rehandle to hopper (HCHPP)
ACTIVITY TYPE : Wind sensitive
DUST EMISSION : 60000 kg/y TSP 25200 kg/y PM10 1140 kg/y PM2.5
```

```
FROM SOURCES : 1
HOURS OF DAY
ACTIVITY NAME : ROM coal rehandle to hopper (RCHPP) (RSO)
 ACTIVITY TYPE : Wind sensitive
DUST EMISSION: 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
 FROM SOURCES
41
ACTIVITY NAME : ROM coal rehandle to hopper (LCHPP)
ACTIVITY TYPE : Wind sensitive

DUST EMISSION : 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5

FROM SOURCES : 1
FROM SOURCES
 HOURS OF DAY
ACTIVITY NAME : Transferring ROM coal by conveyor to HVCHPP
 ACTIVITY TYPE : Wind sensitive
DUST EMISSION : 803 kg/y TSP 380 kg/y PM10 58 kg/y PM2.5
FROM SOURCES
HOURS OF DAY
ACTIVITY NAME : Transferring ROM coal by conveyor to HCHPP
 ACTIVITY TYPE : Wind sensitive
DUST EMISSION : 392 kg/y TSP 185 kg/y PM10 28 kg/y PM2.5 FROM SOURCES : 1
 FROM SOURCES
HOURS OF DAY
ACTIVITY NAME : Transferring ROM coal by conveyor to RCHPP (RSO)
ACTIVITY TYPE: Wind sensitive
DUST EMISSION: 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
FROM SOURCES : 1
HOURS OF DAY
11111111111111111111111111
ACTIVITY NAME : Transferring ROM coal by conveyor to LCHPP
 ACTIVITY TYPE : Wind sensitive
 DUST EMISSION: 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
FROM SOURCES : 1
HOURS OF DAY
ACTIVITY NAME : Handling coal at HVCHPP inc rejects
ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 5272 kg/y TSP 2493 kg/y PM10 76 kg/y PM2.5
 FROM SOURCES
             : 1
1
 HOURS OF DAY
ACTIVITY NAME : Handling coal at HCHPP inc rejects
 ACTIVITY TYPE: Wind insensitive
DUST EMISSION: 1959 kg/y TSP 926 kg/y PM10 28 kg/y PM2.5
FROM SOURCES : 1
HOURS OF DAY
Pit retention sources: 10 11 12 13 14 15 16 17
```

Source allocations 2033 (HVO South)

```
----ACTIVITY SUMMARY----
 ACTIVITY NAME : Stripping topsoil by scraper ACTIVITY TYPE : Wind insensitive
 DUST EMISSION : 3939 kg/y TSP 991 kg/y PM10 197 kg/y PM2.5
 FROM SOURCES
               : 3
HOURS OF DAY
ACTIVITY NAME : Drilling overburden (or coal)
ACTIVITY TYPE: Wind insensitive
DUST EMISSION: 22870 kg/y TSP 11892 kg/y PM10 686 kg/y PM2.5
FROM SOURCES : 10
65 66 67 68 69 70 71 72 73 74
ACTIVITY NAME : Blasting overburden (or coal)
 ACTIVITY TYPE : Wind insensitive
 DUST EMISSION : 176668 kg/y TSP 91868 kg/y PM10 5300 kg/y PM2.5 FROM SOURCES : 10
65 66 67 68 69 70 71 72 73 74
HOURS OF DAY : 0 0 0 0 0 0 0 0 1 1 1 1 1 1 1 1 0 0 0 0 0 0 0
 ACTIVITY NAME : Excavators loading overburden to trucks
 ACTIVITY TYPE : Wind sensitive
DUST EMISSION : 227732 kg/y TSP 107711 kg/y PM10 16311 kg/y
PM2 5
FROM SOURCES : 10
```

```
65 66 67 68 69 70 71 72 73 74
                                                                         ACTIVITY TYPE : Wind sensitive
                                                                         DUST EMISSION: 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5 FROM SOURCES: 1
HOURS OF DAY :
                                                                         HOURS OF DAY
ACTIVITY NAME : Hauling overburden from pit to dump
                                                                        1111111111111111111111111
ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 2550652 kg/y TSP 753739 kg/y PM10 76520 kg/y
PM2.5
                                                                         ACTIVITY NAME: Unloading ROM coal to hopper / ROM pad (LCHPP)
                                                                         ACTIVITY TYPE: Wind sensitive
DUST EMISSION: 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
FROM SOURCES : 23 65 66 67 68 69 70 71 72 73 74 80 81 82 83 84 85 86 87 88 89 90 91
                                                                         FROM SOURCES : 1
HOURS OF DAY
HOURS OF DAY
                                                                        ACTIVITY NAME : Unloading overburden to dump inc rejects
ACTIVITY TYPE : Wind sensitive
DUST EMISSION : 227732 kg/y TSP 107711 kg/y PM10 16311 kg/y
                                                                         ACTIVITY NAME : ROM coal rehandle to hopper (HVCHPP)
ACTIVITY TYPE : Wind sensitive
DUST EMISSION : 46187 kg/y TSP 19399 kg/y PM10 878 kg/y PM2.5
PM2 5
                                                                         FROM SOURCES
HOURS OF DAY
                                                                        ACTIVITY NAME : Dozers shaping overburden
                                                                         ACTIVITY NAME : ROM coal rehandle to hopper (HCHPP)
ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 1284996 kg/y TSP 312827 kg/y PM10 134925 kg/y
                                                                         ACTIVITY TYPE: Wind sensitive
DUST EMISSION: 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
PM2.5
                                                                         FROM SOURCES : 1
 FROM SOURCES : 13
80 81 82 83 84 85 86 87 88 89 90 91 92
                                                                         HOURS OF DAY
111111111111111111111111111
                                                                         ACTIVITY NAME : ROM coal rehandle to hopper (RCHPP) (RSO) ACTIVITY TYPE : Wind sensitive DUST EMISSION : 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
 ACTIVITY NAME : Dozers working on overburden for rehabilitation
ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 46859 kg/y TSP 11408 kg/y PM10 4920 kg/y PM2.5
                                                                         FROM SOURCES
FROM SOURCES
             : 6
93 94 95 97 98 99
                                                                         HOURS OF DAY
HOURS OF DAY
                                                                        ACTIVITY NAME : ROM coal rehandle to hopper (LCHPP)
ACTIVITY NAME : Dozers working on coal
                                                                         ACTIVITY TYPE : Wind sensitive
ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 228437 kg/y TSP 65828 kg/y PM10 5026 kg/y PM2.5
                                                                         DUST EMISSION: 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5 FROM SOURCES: 1
FROM SOURCES : 10
65 66 67 68 69 70 71 72 73 74
                                                                         HOURS OF DAY
                                                                        1111111111111111111111111111
HOURS OF DAY :
ACTIVITY NAME : Transferring ROM coal by conveyor to HVCHPP
ACTIVITY NAME : Loading ROM coal to trucks
                                                                         ACTIVITY TYPE : Wind sensitive
DUST EMISSION : 503 kg/y TSP 238 kg/y PM10 36 kg/y PM2.5
ACTIVITY TYPE: Wind sensitive
DUST EMISSION: 420820 kg/y TSP 60521 kg/y PM10 7996 kg/y PM2.5
                                                                         FROM SOURCES : 1
FROM SOURCES : 10
65 66 67 68 69 70 71 72 73 74
                                                                         HOURS OF DAY
ACTIVITY NAME : Transferring ROM coal by conveyor to HCHPP
                                                                         ACTIVITY TYPE : Wind sensitive
ACTIVITY NAME : Hauling ROM coal from pit to hopper / ROM pad
(HVCHPP)
                                                                         DUST EMISSION: 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
HOUST EMISSION : 596567 kg/y TSP 176290 kg/y PM10 17897 kg/y
                                                                         HOURS OF DAY
FROM SOURCES : 18
                                                                        35 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74
ACTIVITY NAME : Transferring ROM coal by conveyor to RCHPP (RSO)
                                                                         ACTIVITY TYPE : Wind sensitive
                                                                         DUST EMISSION : 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
ACTIVITY NAME : Hauling ROM coal from pit to ROM pad (HCHPP)
                                                                         FROM SOURCES : 1
ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
                                                                         HOURS OF DAY
FROM SOURCES : 10
65 66 67 68 69 70 71 72 73 74
                                                                        HOURS OF DAY
                                                                         ACTIVITY NAME: Transferring ROM coal by conveyor to LCHPP
ACTIVITY TYPE : Wind sensitive
DUST EMISSION : 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
ACTIVITY NAME : Hauling ROM coal from pit to hopper / ROM pad
                                                                         FROM SOURCES
ACTIVITY TYPE : Wind insensitive
                                                                         HOTIRS OF DAY
DUST EMISSION: 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
                                                                        FROM SOURCES : 10
                                                                         ACTIVITY NAME : Handling coal at HVCHPP inc rejects
ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 2513 kg/y TSP 1188 kg/y PM10 36 kg/y PM2.5
65 66 67 68 69 70 71 72 73 74
FROM SOURCES : 1
ACTIVITY NAME : Hauling ROM coal from pit to hopper / ROM pad
                                                                        ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5 FROM SOURCES : 10
                                                                         ACTIVITY NAME : Handling coal at HCHPP inc rejects
                                                                         ACTIVITY TYPE: Wind insensitive

DUST EMISSION: 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5

FROM SOURCES: 1
65 66 67 68 69 70 71 72 73 74
ACTIVITY NAME : Unloading ROM coal to hopper / ROM pad (HVCHPP)
                                                                         HOURS OF DAY
 ACTIVITY TYPE : Wind sensitive
                                                                        DUST EMISSION : 23094 kg/y TSP 9699 kg/y PM10 439 kg/y PM2.5
                                                                        Pit retention sources: 68 69 70 71 72 73 74
FROM SOURCES : 1
HOURS OF DAY
ACTIVITY NAME : Unloading ROM coal to ROM pad (HCHPP) ACTIVITY TYPE : Wind sensitive
                                                                        Source allocations
DUST EMISSION : 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
                                                                         2040 (HVO North)
 FROM SOURCES
                                                                             --ACTIVITY SUMMARY----
ACTIVITY NAME: Stripping topsoil by scraper
ACTIVITY TYPE: Wind insensitive
DUST EMISSION: 16029 kg/y TSP 4035 kg/y PM10 801 kg/y PM2.5
```

ACTIVITY NAME : Unloading ROM coal to hopper / ROM pad (RCHPP)

```
FROM SOURCES : 4
                                                                         ACTIVITY NAME : Hauling ROM coal from pit to hopper / ROM pad
HOURS OF DAY
                                                                        (LCHPP)
                                                                         ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5 FROM SOURCES : 1
ACTIVITY NAME : Drilling overburden (or coal)
 ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 58213 kg/y TSP 30271 kg/y PM10 1746 kg/y PM2.5
                                                                         HOURS OF DAY
FROM SOURCES : 8
13 14 15 16 17 18 19 20
                                                                        ACTIVITY NAME : Unloading ROM coal to hopper / ROM pad (HVCHPP) ACTIVITY TYPE : Wind sensitive DUST EMISSION : 49294 kg/y TSP 20703 kg/y PM10 937 kg/y PM2.5
 ACTIVITY NAME : Blasting overburden (or coal)
                                                                         FROM SOURCES
ACTIVITY TYPE : Wind insensitive
                                                                        1
                                                                         HOURS OF DAY
DUST EMISSION : 506326 kg/y TSP 263290 kg/y PM10 15190 kg/y
                                                                        PM2.5
FROM SOURCES : 8
13 14 15 16 17 18 19 20
                                                                         ACTIVITY NAME : Unloading ROM coal to ROM pad (HCHPP)
HOURS OF DAY : 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 0
                                                                         ACTIVITY TYPE : Wind sensitive DUST EMISSION : 16706 kg/y TSP 7017 kg/y PM10 317 kg/y PM2.5
                                                                         FROM SOURCES
ACTIVITY NAME : Excavators loading overburden to trucks
                                                                        2
ACTIVITY TYPE : Wind sensitive
DUST EMISSION : 451299 kg/y TSP 213452 kg/y PM10 32323 kg/y
                                                                         HOURS OF DAY
                                                                        11111111111111111111111111
FROM SOURCES : 8
                                                                         ACTIVITY NAME : Unloading ROM coal to hopper / ROM pad (RCHPP)
ACTIVITY TYPE : Wind sensitive
DUST EMISSION : 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
                                                                         FROM SOURCES
ACTIVITY NAME : Hauling overburden from pit to dump
                                                                         HOURS OF DAY
ACTIVITY TYPE: Wind insensitive
DUST EMISSION: 5054660 kg/y TSP 1493694 kg/y PM10 151640 kg/y
                                                                        PM2.5
                                                                         ACTIVITY NAME : Unloading ROM coal to hopper / ROM pad (LCHPP)
                                                                         ACTIVITY TYPE: Wind sensitive
DUST EMISSION: 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
FROM SOURCES
13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33
HOURS OF DAY
                                                                         FROM SOURCES
ACTIVITY NAME : Unloading overburden to dump inc rejects
ACTIVITY TYPE: Wind sensitive
DUST EMISSION: 463067 kg/y TSP 219018 kg/y PM10 33166 kg/y
                                                                         ACTIVITY NAME : ROM coal rehandle to hopper (HVCHPP)
PM2.5
                                                                         ACTIVITY TYPE : Wind sensitive
DUST EMISSION : 98588 kg/y TSP 41407 kg/y PM10 1873 kg/y PM2.5
FROM SOURCES : 13
21 22 23 24 25 26 27 28 29 30 31 32 33
                                                                         FROM SOURCES : 1
HOURS OF DAY
                                                                        ACTIVITY NAME : Dozers shaping overburden ACTIVITY TYPE : Wind insensitive
                                                                         ACTIVITY NAME : ROM coal rehandle to hopper (HCHPP)
DUST EMISSION : 2178975 kg/y TSP 530463 kg/y PM10 228792 kg/y
                                                                         ACTIVITY TYPE : Wind sensitive
                                                                         DUST EMISSION : 55687 kg/y TSP 23389 kg/y PM10 1058 kg/y PM2.5 FROM SOURCES : 1
PM2.5
FROM SOURCES : 13
                                                                         FROM SOURCES
21 22 23 24 25 26 27 28 29 30 31 32 33
HOURS OF DAY
                                                                         HOURS OF DAY
ACTIVITY NAME : Dozers working on overburden for rehabilitation
                                                                         ACTIVITY NAME : ROM coal rehandle to hopper (RCHPP) (RSO)
ACTIVITY TYPE : Wind insensitive
                                                                         ACTIVITY TYPE : Wind sensitive
DUST EMISSION: 46859 kg/y TSP 11408 kg/y PM10 4920 kg/y PM2.5 FROM SOURCES: 7
                                                                         DUST EMISSION : 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5 FROM SOURCES : 1
 FROM SOURCES
47
                                                                         HOURS OF DAY
                                                                        ACTIVITY NAME : Dozers working on coal
                                                                         ACTIVITY NAME : ROM coal rehandle to hopper (LCHPP)
ACTIVITY TYPE: Wind insensitive
DUST EMISSION: 348044 kg/y TSP 100295 kg/y PM10 7657 kg/y PM2.5
                                                                         ACTIVITY TYPE: Wind sensitive
DUST EMISSION: 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
 FROM SOURCES
                                                                         FROM SOURCES : 1
13 14 15 16 17 18 19 20
HOURS OF DAY :
                                                                         HOURS OF DAY :
ACTIVITY NAME : Transferring ROM coal by conveyor to HVCHPP
                                                                         ACTIVITY TYPE : Wind sensitive
DUST EMISSION : 1073 kg/y TSP 507 kg/y PM10 77 kg/y PM2.5
DUST EMISSION : 970962 kg/y TSP 139640 kg/y PM10 18448 kg/y
FROM SOURCES
13 14 15 16 17 18 19 20
HOURS OF DAY :
                                                                        111111111111111111111111111
                                                                         ACTIVITY NAME : Transferring ROM coal by conveyor to HCHPP
                                                                         ACTIVITY TYPE: Wind sensitive
DUST EMISSION: 364 kg/y TSP 172 kg/y PM10 26 kg/y PM2.5
FROM SOURCES: 1
ACTIVITY NAME : Hauling ROM coal from pit to hopper / ROM pad
ACTIVITY TYPE : Wind insensitive
                                                                         FROM SOURCES
DUST EMISSION: 493250 kg/y TSP 145759 kg/y PM10 14797 kg/y PM2.5
                                                                         HOURS OF DAY
FROM SOURCES
                                                                        14 15 16 17 18 19 20
                                                                         ACTIVITY NAME : Transferring ROM coal by conveyor to RCHPP (RSO)
HOURS OF DAY
                                                                         ACTIVITY TYPE: Wind sensitive
DUST EMISSION: 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
ACTIVITY NAME : Hauling ROM coal from pit to ROM pad (HCHPP)
                                                                         FROM SOURCES : 1
ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 300218 kg/y TSP 88717 kg/y PM10 9007 kg/y PM2.5
                                                                         HOURS OF DAY
FROM SOURCES : 19
13 14 15 16 17 18 19 20 21 30 31 48 49 50 51 52 53 54 55
                                                                        ACTIVITY NAME : Transferring ROM coal by conveyor to LCHPP
                                                                         ACTIVITY TYPE: Wind sensitive

DUST EMISSION: 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5

FROM SOURCES: 1
ACTIVITY NAME : Hauling ROM coal from pit to hopper / ROM pad
(RCHPP)
ACTIVITY TYPE : Wind insensitive
                                                                        111111111111111111111111111
DUST EMISSION : 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
FROM SOURCES : 16
1 13 14 15 16 17 18 19 20 41 42 43 44 45 46 47
                                                                         ACTIVITY NAME : Handling coal at HVCHPP inc rejects
                                                                         ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 6677 kg/y TSP 3158 kg/y PM10 96 kg/y PM2.5
HOURS OF DAY
```

Source allocations 2040 (HVO South)

```
----ACTIVITY SUMMARY----
 ACTIVITY NAME : Stripping topsoil by scraper ACTIVITY TYPE : Wind insensitive
 DUST EMISSION: 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
FROM SOURCES : 9
69 70 71 72 73 74 75 76 77
 HOURS OF DAY :
ACTIVITY NAME : Drilling overburden (or coal)
 ACTIVITY TYPE : Wind insensitive
 DUST EMISSION : 40561 kg/y TSP 21092 kg/y PM10 1217 kg/y PM2.5
FROM SOURCES : 9
69 70 71 72 73 74 75 76 77
HOURS OF DAY :
ACTIVITY NAME : Blasting overburden (or coal)
 ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 319260 kg/y TSP 166015 kg/y PM10 9578 kg/y PM2.5
FROM SOURCES : 9
69 70 71 72 73 74 75 76 77
HOURS OF DAY :
0 0 0 0 0 0 0 0 0 1 1 1 1 1 1 1 1 0 0 0 0 0 0 0
 ACTIVITY NAME : Excavators loading overburden to trucks
 ACTIVITY TYPE: Wind sensitive
DUST EMISSION: 219022 kg/y TSP 103592 kg/y PM10 15687 kg/y
 FROM SOURCES
ACTIVITY NAME : Hauling overburden from pit to dump
 ACTIVITY TYPE: Wind insensitive
DUST EMISSION: 2453100 kg/y TSP 724911 kg/y PM10 73593 kg/y
PM2.5
 FROM SOURCES : 20
69 70 71 72 73 74 75 76 77 81 82 83 84 85 89 90 91 92 93 94
 HOURS OF DAY :
ACTIVITY NAME : Unloading overburden to dump inc rejects
 ACTIVITY TYPE : Wind sensitive DUST EMISSION : 219022 kg/y TSP 103592 kg/y PM10 15687 kg/y
PM2.5
FROM SOURCES : 11
81 82 83 84 85 89 90 91 92 93 94
ACTIVITY NAME : Dozers shaping overburden
 ACTIVITY TYPE : Wind insensitive
 DUST EMISSION : 1235293 kg/y TSP 300727 kg/y PM10 129706 kg/y
PM2.5
FROM SOURCES : 11
81 82 83 84 85 89 90 91 92 93 94
 HOURS OF DAY :
ACTIVITY NAME : Dozers working on overburden for rehabilitation
 ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 46859 kg/y TSP 11408 kg/y PM10 4920 kg/y PM2.5
FROM SOURCES : 5
79 80 86 87 88
ACTIVITY NAME : Dozers working on coal
 ACTIVITY TYPE : Wind insensitive DUST EMISSION : 290245 kg/y TSP 83639 kg/y PM10 6385 kg/y PM2.5
ACTIVITY NAME : Loading ROM coal to trucks
ACTIVITY TYPE : Wind sensitive
DUST EMISSION : 859244 kg/y TSP 123573 kg/y PM10 16326 kg/y
 FROM SOURCES
```

```
(HVCHPP)
HAVCHPY, ACTIVITY TYPE: Wind insensitive
DUST EMISSION: 276568 kg/y TSP 81728 kg/y PM10 8297 kg/y PM2.5
FROM SOURCES: 19
1 8 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 81 92
 HOURS OF DAY
ACTIVITY NAME : Hauling ROM coal from pit to ROM pad (HCHPP)
ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
FROM SOURCES : 1
HOURS OF DAY
ACTIVITY NAME : Hauling ROM coal from pit to hopper / ROM pad
(RCHPP)
ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
FROM SOURCES : 1
1
 HOURS OF DAY
ACTIVITY NAME : Hauling ROM coal from pit to hopper / ROM pad
 ACTIVITY TYPE : Wind insensitive
 DUST EMISSION : 350 kg/y TSP 103 kg/y PM10 10 kg/y PM2.5 FROM SOURCES : 15
69 70 71 72 73 74 75 76 77 78 79 80 97 98 99
 HOURS OF DAY
ACTIVITY NAME : Unloading ROM coal to hopper / ROM pad (HVCHPP)
 ACTIVITY TYPE : Wind sensitive
DUST EMISSION : 10706 kg/y TSP 4497 kg/y PM10 203 kg/y PM2.5
FROM SOURCES : 1
HOURS OF DAY
ACTIVITY NAME : Unloading ROM coal to ROM pad (HCHPP)
ACTIVITY TYPE: Wind sensitive
DUST EMISSION: 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
 FROM SOURCES
HOURS OF DAY
ACTIVITY NAME : Unloading ROM coal to hopper / ROM pad (RCHPP)
 ACTIVITY TYPE : Wind sensitive
DUST EMISSION : 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
FROM SOURCES : 1
 HOURS OF DAY
ACTIVITY NAME : Unloading ROM coal to hopper / ROM pad (LCHPP)
ACTIVITY TYPE: Wind sensitive
DUST EMISSION: 43 kg/y TSP 18 kg/y PM10 1 kg/y PM2.5
FROM SOURCES : 1
HOURS OF DAY
ACTIVITY NAME : ROM coal rehandle to hopper (HVCHPP)
 ACTIVITY TYPE : Wind sensitive
 DUST EMISSION : 21412 kg/y TSP 8993 kg/y PM10 407 kg/y PM2.5
 FROM SOURCES
ACTIVITY NAME : ROM coal rehandle to hopper (HCHPP)
 ACTIVITY TYPE : Wind sensitive
DUST EMISSION : 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
FROM SOURCES : 1
 HOURS OF DAY
1111111111111111111111111111
 ACTIVITY NAME : ROM coal rehandle to hopper (RCHPP) (RSO)
ACTIVITY TYPE: Wind sensitive
DUST EMISSION: 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
 FROM SOURCES : 1
 HOURS OF DAY
ACTIVITY NAME : ROM coal rehandle to hopper (LCHPP)
 ACTIVITY TYPE : Wind sensitive
 DUST EMISSION : 86 kg/y TSP 36 kg/y PM10 2 kg/y PM2.5
 FROM SOURCES
99
 HOURS OF DAY :
ACTIVITY NAME : Transferring ROM coal by conveyor to HVCHPP
 ACTIVITY TYPE : Wind sensitive
DUST EMISSION : 233 kg/y TSP 110 kg/y PM10 17 kg/y PM2.5
FROM SOURCES : 1
HOURS OF DAY
ACTIVITY NAME : Transferring ROM coal by conveyor to HCHPP ACTIVITY TYPE : Wind sensitive
```

ACTIVITY NAME : Hauling ROM coal from pit to hopper / ROM pad

```
DUST EMISSION: 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
HOURS OF DAY :
ACTIVITY NAME : Transferring ROM coal by conveyor to RCHPP (RSO)
ACTIVITY TYPE : Wind sensitive DUST EMISSION : 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
FROM SOURCES : 1
HOURS OF DAY
ACTIVITY NAME : Transferring ROM coal by conveyor to LCHPP
ACTIVITY TYPE : Wind sensitive
DUST EMISSION : 1 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
FROM SOURCES : 1
HOURS OF DAY
ACTIVITY NAME : Handling coal at HVCHPP inc rejects
ACTIVITY TYPE: Wind insensitive
DUST EMISSION: 1165 kg/y TSP 551 kg/y PM10 17 kg/y PM2.5
FROM SOURCES : 1
ACTIVITY NAME : Handling coal at HCHPP inc rejects
ACTIVITY TYPE : Wind insensitive DUST EMISSION : 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
FROM SOURCES : 1
HOURS OF DAY
Pit retention sources: 69 70 71 72 73 74 75 76 77
```

Source allocations 2044 (HVO North)

```
----ACTIVITY SUMMARY----
ACTIVITY NAME: Stripping topsoil by scraper ACTIVITY TYPE: Wind insensitive
 DUST EMISSION : 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
 FROM SOURCES : 13
ACTIVITY NAME : Drilling overburden (or coal)
ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 69597 kg/y TSP 36191 kg/y PM10 2088 kg/y PM2.5
FROM SOURCES : 13
5 6 7 8 9 10 11 12 13 14 15 16 17
HOURS OF DAY
ACTIVITY NAME : Blasting overburden (or coal)
 ACTIVITY TYPE : Wind insensitive
 DUST EMISSION : 603025 kg/y TSP 313573 kg/y PM10 18091 kg/y
FROM SOURCES : 13
5 6 7 8 9 10 11 12 13 14 15 16 17
HOURS OF DAY :
0 0 0 0 0 0 0 0 0 1 1 1 1 1 1 1 1 0 0 0 0 0 0 0
ACTIVITY NAME : Excavators loading overburden to trucks ACTIVITY TYPE : Wind sensitive DUST EMISSION : 443030 kg/y TSP 209541 kg/y PM10 31730 kg/y
FROM SOURCES : 13
ACTIVITY NAME : Hauling overburden from pit to dump
ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 4962036 kg/y TSP 1466323 kg/y PM10 148861 kg/y
PM2.5
FROM SOURCES : 25
5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28
HOURS OF DAY
DUST EMISSION : 451607 kg/y TSP 213598 kg/y PM10 32345 kg/y
FROM SOURCES : 12
HOURS OF DAY :
ACTIVITY NAME: Dozers shaping overburden
 ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 2344071 kg/y TSP 570655 kg/y PM10 246128 kg/y
FROM SOURCES : 12
18 19 20 21 22 23 24 25 26 27 28 29 HOURS OF DAY :
```

```
DUST EMISSION : 46859 kg/y TSP 11408 kg/y PM10 4920 kg/y PM2.5
 FROM SOURCES
30 31 32 33 34 35 36 37
 HOURS OF DAY
ACTIVITY NAME : Dozers working on coal
ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 351144 kg/y TSP 101188 kg/y PM10 7725 kg/y PM2.5
 FROM SOURCES
5 6 7 8 9 10 11 12 13 14 15 16 17
HOURS OF DAY :
 ACTIVITY NAME : Loading ROM coal to trucks
 ACTIVITY TYPE: Wind sensitive
DUST EMISSION: 1052308 kg/y TSP 151338 kg/y PM10 19994 kg/y
PM2.5
 FROM SOURCES : 13
5 6 7 8 9 10 11 12 13 14 15 16 17 HOURS OF DAY :
ACTIVITY NAME : Hauling ROM coal from pit to hopper / ROM pad
(HVCHPP)
 ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 528333 kg/y TSP 156127 kg/y PM10 15850 kg/y
PM2 5
 FROM SOURCES : 14
1 5 6 7 8 9 10 11 12 13 14 15 16 17 HOURS OF DAY :
ACTIVITY NAME : Hauling ROM coal from pit to ROM pad (HCHPP)
 ACTIVITY TYPE : Wind insensitive DUST EMISSION : 231820 kg/y TSP 68505 kg/y PM10 6955 kg/y PM2.5
 FROM SOURCES
              : 25
 6 7 8 9 10 11 12 13 14 15 16 17 21 22 29 43 44 45 46 47 48 49 50
51
 HOURS OF DAY :
ACTIVITY NAME : Hauling ROM coal from pit to hopper / ROM pad
(RCHPP)
 ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
FROM SOURCES : 1
ACTIVITY NAME : Hauling ROM coal from pit to hopper / ROM pad
(LCHPP)
 ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
 FROM SOURCES : 1
 HOURS OF DAY
ACTIVITY NAME : Unloading ROM coal to hopper / ROM pad (HVCHPP)
 ACTIVITY TYPE : Wind sensitive
 DUST EMISSION : 52800 kg/y TSP 22176 kg/y PM10 1003 kg/y PM2.5
 FROM SOURCES
 HOURS OF DAY
ACTIVITY NAME : Unloading ROM coal to ROM pad (HCHPP)
 ACTIVITY TYPE: Wind sensitive
DUST EMISSION: 13200 kg/y TSP 5544 kg/y PM10 251 kg/y PM2.5
 FROM SOURCES
 HOURS OF DAY
1111111111111111111111111111
 ACTIVITY NAME : Unloading ROM coal to hopper / ROM pad (RCHPP)
 ACTIVITY TYPE : Wind sensitive
DUST EMISSION : 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
 FROM SOURCES : 1
 HOURS OF DAY
ACTIVITY NAME : Unloading ROM coal to hopper / ROM pad (LCHPP) ACTIVITY TYPE : Wind sensitive DUST EMISSION : 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
 FROM SOURCES : 1
 HOURS OF DAY
ACTIVITY NAME : ROM coal rehandle to hopper (HVCHPP)
 ACTIVITY TYPE : Wind sensitive
     EMISSION : 105600 kg/y TSP 44352 kg/y PM10 2006 kg/y PM2.5
 FROM SOURCES : 1
 HOURS OF DAY
ACTIVITY NAME : ROM coal rehandle to hopper (HCHPP)
 ACTIVITY TYPE: Wind sensitive
DUST EMISSION: 44000 kg/y TSP 18480 kg/y PM10 836 kg/y PM2.5
 FROM SOURCES : 1
```

ACTIVITY TYPE : Wind insensitive

ACTIVITY NAME: Dozers working on overburden for rehabilitation

```
HOURS OF DAY :
ACTIVITY NAME : Hauling overburden from pit to dump
 ACTIVITY NAME : ROM coal rehandle to hopper (RCHPP) (RSO)
ACTIVITY NAME : ROW COAL PARAMETER OF HELP ACTIVITY TYPE : Wind sensitive DUST EMISSION : 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
                                                                              PM2 5
                                                                               FROM SOURCES : 17
ACTIVITY NAME : ROM coal rehandle to hopper (LCHPP)
ACTIVITY TYPE : Wind sensitive
DUST EMISSION : 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
                                                                               ACTIVITY TYPE : Wind sensitive
FROM SOURCES : 1
                                                                               FROM SOURCES : 10
                                                                              67 68 69 70 71 72 73 74 75 76
HOURS OF DAY :
HOURS OF DAY
111111111111111111111111111
ACTIVITY NAME : Transferring ROM coal by conveyor to HVCHPP ACTIVITY TYPE : Wind sensitive
DUST EMISSION : 1149 kg/y TSP 543 kg/y PM10 82 kg/y PM2.5
 FROM SOURCES : 1
                                                                              PM2 5
                                                                               FROM SOURCES
HOURS OF DAY
                                                                              67 68 69 70 71 72 73 74 75 76
ACTIVITY NAME : Transferring ROM coal by conveyor to HCHPP ACTIVITY TYPE : Wind sensitive
DUST EMISSION : 287 kg/y TSP 136 kg/y PM10 21 kg/y PM2.5 FROM SOURCES : 1
                                                                               FROM SOURCES
65 66 77 78 79 87 88
                                                                              HOURS OF DAY
ACTIVITY NAME : Transferring ROM coal by conveyor to RCHPP (RSO) ACTIVITY TYPE : Wind sensitive DUST EMISSION : 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
FROM SOURCES : 1
                                                                               FROM SOURCES
HOURS OF DAY
                                                                              58 59 60 61 62 63 64
ACTIVITY NAME : Transferring ROM coal by conveyor to LCHPP
ACTIVITY TYPE : Wind sensitive
DUST EMISSION : 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
                                                                               ACTIVITY TYPE : Wind sensitive
 FROM SOURCES : 1
                                                                               FROM SOURCES
HOURS OF DAY :
                                                                              58 59 60 61 62 63 64
HOURS OF DAY
 ACTIVITY NAME : Handling coal at HVCHPP inc rejects
ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 6994 kg/y TSP 3308 kg/y PM10 100 kg/y PM2.5
                                                                              (HVCHPP)
FROM SOURCES : 1
HOURS OF DAY :
ACTIVITY NAME : Handling coal at HCHPP inc rejects
ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 1436 kg/y TSP 679 kg/y PM10 21 kg/y PM2.5
FROM SOURCES : 1
HOURS OF DAY
                                                                              FROM SOURCES : 1
HOURS OF DAY
Pit retention sources: 5 6 7 8 9 10 11 12 13 14 15 16 17
                                                                               ACTIVITY TYPE : Wind insensitive
```

Source allocations 2044 (HVO South)

```
----ACTIVITY SUMMARY----
 ACTIVITY NAME : Stripping topsoil by scraper
ACTIVITY TYPE : Wind insensitive DUST EMISSION : 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
 FROM SOURCES
58 59 60 61 62 63 64
ACTIVITY NAME : Drilling overburden (or coal)
ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 6541 kg/y TSP 3401 kg/y PM10 196 kg/y PM2.5
 FROM SOURCES : 7
58 59 60 61 62 63 64
HOURS OF DAY :
111111111111111111111111111
ACTIVITY NAME : Blasting overburden (or coal)
ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 58660 kg/y TSP 30503 kg/y PM10 1760 kg/y PM2.5
FROM SOURCES : 7
58 59 60 61 62 63 64
HOURS OF DAY
0 0 0 0 0 0 0 0 0 1 1 1 1 1 1 1 1 0 0 0 0 0 0 0
 ACTIVITY NAME : Excavators loading overburden to trucks
 ACTIVITY TYPE : Wind sensitive
DUST EMISSION: 49364 kg/y TSP 23348 kg/y PM10 3536 kg/y PM2.5 FROM SOURCES: 7
 FROM SOURCES
58 59 60 61 62 63 64
 HOURS OF DAY
```

```
ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 552889 kg/y TSP 163383 kg/y PM10 16587 kg/y
58 59 60 61 62 63 64 67 68 69 70 71 72 73 74 75 76
ACTIVITY NAME : Unloading overburden to dump inc rejects
 DUST EMISSION : 49364 kg/y TSP 23348 kg/y PM10 3536 kg/y PM2.5
111111111111111111111111
ACTIVITY NAME : Dozers shaping overburden
ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 436224 kg/y TSP 106197 kg/y PM10 45804 kg/y
ACTIVITY NAME : Dozers working on overburden for rehabilitation
 ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 46859 kg/y TSP 11408 kg/y PM10 4920 kg/y PM2.5
ACTIVITY NAME : Dozers working on coal ACTIVITY TYPE : Wind insensitive
 DUST EMISSION : 114770 kg/y TSP 33073 kg/y PM10 2525 kg/y PM2.5 FROM SOURCES : 7
ACTIVITY NAME : Loading ROM coal to trucks
 DUST EMISSION : 273762 kg/y TSP 39371 kg/y PM10 5201 kg/y PM2.5
ACTIVITY NAME : Hauling ROM coal from pit to hopper / ROM pad
ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 100747 kg/y TSP 29772 kg/y PM10 3022 kg/y PM2.5
FROM SOURCES : 20
1 5 6 7 8 9 10 39 40 41 42 58 59 60 61 62 63 64 68 69
ACTIVITY NAME : Hauling ROM coal from pit to ROM pad (HCHPP)
 ACTIVITY TYPE : Wind insensitive DUST EMISSION : 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
ACTIVITY NAME : Hauling ROM coal from pit to hopper / ROM pad
DUST EMISSION: 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5 FROM SOURCES : 1
 HOURS OF DAY
111111111111111111111111111
 ACTIVITY NAME : Hauling ROM coal from pit to hopper / ROM pad
 ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 127 kg/y TSP \, 38 kg/y PM10 \, 4 kg/y PM2.5 FROM SOURCES : 12
58 59 60 61 62 63 64 65 66 82 83 84
ACTIVITY NAME : Unloading ROM coal to hopper / ROM pad (HVCHPP)
ACTIVITY TYPE: Wind sensitive
DUST EMISSION: 3900 kg/y TSP 1638 kg/y PM10 74 kg/y PM2.5
FROM SOURCES: 1
HOURS OF DAY
ACTIVITY NAME : Unloading ROM coal to ROM pad (HCHPP)
 ACTIVITY TYPE : Wind sensitive
 DUST EMISSION: 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
 FROM SOURCES
ACTIVITY NAME : Unloading ROM coal to hopper / ROM pad (RCHPP)
 ACTIVITY TYPE : Wind sensitive
 DUST EMISSION : 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5 FROM SOURCES : 1
 HOURS OF DAY
```

```
ACTIVITY NAME : Unloading ROM coal to hopper / ROM pad (LCHPP)
 ACTIVITY TYPE : Wind sensitive
DUST EMISSION : 16 kg/y TSP 7 kg/y PM10 0 kg/y PM2.5
 FROM SOURCES : 1
HOURS OF DAY
ACTIVITY NAME : ROM coal rehandle to hopper (HVCHPP)
ACTIVITY TYPE : Wind sensitive
DUST EMISSION : 7800 kg/y TSP 3276 kg/y PM10 148 kg/y PM2.5
 FROM SOURCES : 1
ACTIVITY NAME : ROM coal rehandle to hopper (HCHPP)
 ACTIVITY TYPE: Wind sensitive
DUST EMISSION: 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
FROM SOURCES: 1
ACTIVITY NAME : ROM coal rehandle to hopper (RCHPP) (RSO) ACTIVITY TYPE : Wind sensitive DUST EMISSION : 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
 FROM SOURCES : 1
HOURS OF DAY
ACTIVITY NAME : ROM coal rehandle to hopper (LCHPP)
 ACTIVITY TYPE: Wind sensitive
DUST EMISSION: 31 kg/y TSP 13 kg/y PM10 1 kg/y PM2.5
FROM SOURCES: 1
84
ACTIVITY NAME : Transferring ROM coal by conveyor to HVCHPP
ACTIVITY TYPE: Wind sensitive

DUST EMISSION: 85 kg/y TSP 40 kg/y PM10 6 kg/y PM2.5

FROM SOURCES: 1
 HOURS OF DAY
ACTIVITY NAME : Transferring ROM coal by conveyor to HCHPP
 ACTIVITY TYPE : Wind sensitive
 DUST EMISSION: 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5 FROM SOURCES: 1
ACTIVITY NAME : Transferring ROM coal by conveyor to RCHPP (RSO)
 ACTIVITY TYPE : Wind sensitive
 DUST EMISSION: 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5 FROM SOURCES: 1
 HOURS OF DAY
ACTIVITY NAME : Transferring ROM coal by conveyor to LCHPP ACTIVITY TYPE : Wind sensitive

DUST EMISSION : 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
 FROM SOURCES : 1
 HOURS OF DAY :
ACTIVITY NAME : Handling coal at HVCHPP inc rejects ACTIVITY TYPE : Wind insensitive
 DUST EMISSION : 424 kg/y TSP \, 201 kg/y PM10 \, 6 kg/y PM2.5 FROM SOURCES \, : 1 \,
ACTIVITY NAME : Handling coal at HCHPP inc rejects
ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 0 kg/y TSP 0 kg/y PM10 0 kg/y PM2.5
 FROM SOURCES : 1
HOURS OF DAY
Pit retention sources: 58 59 60 61 62 63 64
```



Appendix E. Model performance evaluations

This section provides information on the performance of the model for predicting measured PM_{10} concentrations. The performance evaluation has been carried out by modelling PM_{10} concentrations for the 2014 calendar year (based on mining and activities in 2014) and comparing these results to measurement data.

Figure E1 shows quantile-quantile plots of measured and modelled 24-hour average PM_{10} concentrations at Jerrys Plains, Maison Dieu and Warkworth. These plots show the measured data and model results paired by highest to lowest, and not matched in time. Dispersion models often encounter difficulties when trying to reproduce monitoring results for a single point, especially for the extreme statistics such as the maximum 24-hour average. The most significant factor is the limitation of using computers to model large, complex systems (this would be the case even if all the physics were perfectly correct). In addition, there are often extraordinary events that could not be anticipated. The quantile-quantile plots in **Figure E1** do however show that the model results are well within a factor of two for all percentiles.

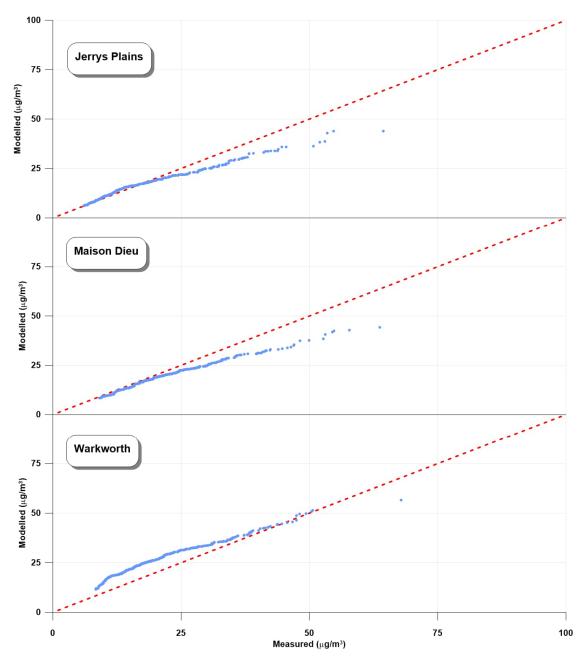


Figure E1 Quantile-quantile plots of measured and modelled 24-hour average PM₁₀ concentrations



Figure E2 shows a comparison of measured and modelled PM_{10} concentrations by wind direction. The model has reproduced similar PM_{10} concentration patterns to the measured data from each location, with some differences in magnitudes depending on the direction. At most the differences range from approximately 36 per cent lower to 66 per cent higher and are well within a factor of two for all wind directions.

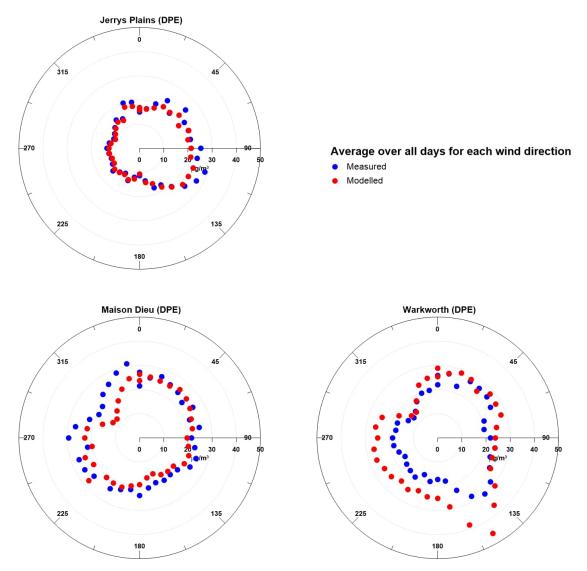


Figure E2 Comparison of measured and modelled PM₁₀ concentrations by wind direction

Figure E3 shows a comparison of measured and modelled PM_{10} concentrations by hour of day. The model has reproduced similar PM_{10} concentration patterns to the measured data from each location, including the morning and afternoon peaks. There is a clear over-prediction at Warkworth during night-time hours.

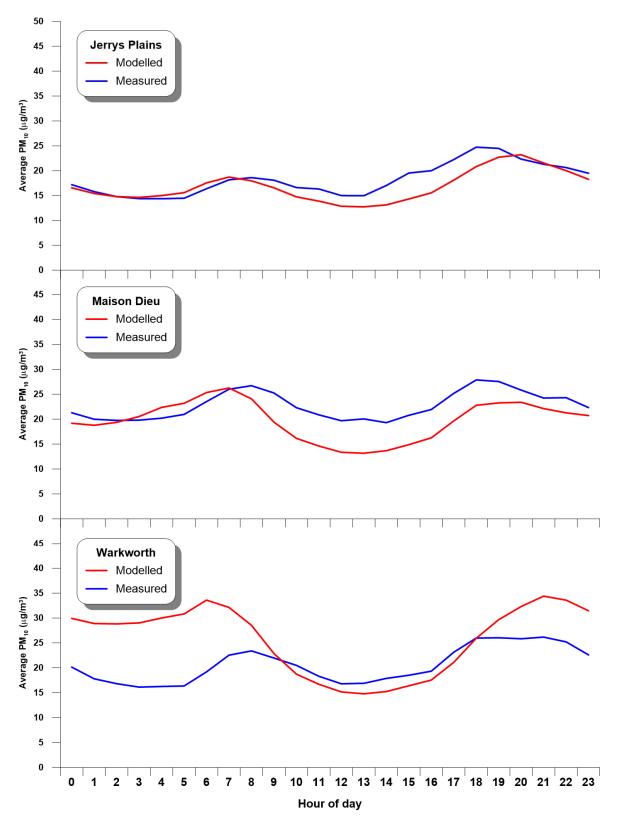


Figure E3 Comparison of measured and modelled PM_{10} concentrations by hour of day



Appendix F. Tabulated model results

		PM10 concentrations (ug/m	(3)	Project (HV	O N)			Pro	oject (H	VOS)			Proje	ct (HVC	Comple	ex)		Cun	nulative				
n	Status	Existing mitigation rights	Existing acquisition rights	2025	5029	2033	2040	2044	2025	6707	2033	2040	2014	5025	5029	2033	2040	5014	5025	5029	2033	2044	Criteria
1119 L14	Monitor Monitor	-	-		4 10 7 15			25	13	11 11	1 11	13	4 1:		13	17 19			47 4 44 4		52 46	58 51 45 41	
/arkworth	Monitor Monitor	-	-	1 2	2 3	4	6	7	21	15 18 15 16			10 2 7 2			31 18	32 26		50 5	3 83	67 58	56 42 54 46	
nodlers Lane L22	Monitor Monitor	-	-		6 12 4 8		18 15			26 23 36 29			3 2		23 33	19 29	20 25		43 4 45 4		45 45	44 41 43 41	
L21 122	Monitor Monitor	-	-		6 12	16		25	33	30 23 13 12	18	15	3 3	3 30		18		26 4	43 4 41 4	4 45	46 42	44 41 41 41	
L30 L2	Monitor Monitor	-		1 3	3 5	7	11	12	43	52 54 40 25	4 56	45	12 4	54	57	61 38	53	20 6	61 8 53 6	1 80	74 60	64 42 69 69	2
	Monitor Monitor	-	-	1 3	2 3	4	6	7	21	15 18 24 17	3 28		10 2	1 16		31 41	32 42		53 10 52 6		67 83	56 42 85 69	F
ong Point	Monitor Monitor	-	-	2 4	4 8	10	11	12		15 14 15 16	1 13	12	7 2	17	18	18			41 4 50 5	2 42	43	41 41 54 46	
/andewoi	Monitor Monitor	-	-	7 1	39			88		29 33	3 37	69	23 5	2 29		54 85	77	95 6	66 5 21 14	3 63	72 117	93 110 108 62	
olden Highway		-	-		1 3		5	5	13	11 14 28 23	1 15		4 1-	1 12		18	19	9 10		5 155	155 523	43 41 253 157	Ė
	Monitor Monitor	-			7 15	18		29	24	25 1 ² 10 15	1 12	10	3 2	1 25		19			14 4	6 47		46 41 49 41	
nodlers Lane	Monitor Monitor	-	-	2 :		12	18	21		32 23 6 6	3 23	19	4 3	34	27	23	22	22 4	45 4 44 4	6 45	45 46	44 41 47 44	
heshunt East	Monitor Monitor	-	-	8 1	34	38		55	21	24 17	7 13	10	2 2	2 27	37	41	42	56 6	62 6 74 9	8 77	83	85 69 85 44	•
NGC ong Point	Monitor	-	-		4 8	10	11	12	15	58 62 15 14	1 13		3 1	17		18	18		41 4	2 42	43	41 41	
	Monitor	-		2 :	5 9	11	13	11	23	15 16 15 16	16	23	7 2	3 16	18	18	26	16 5	50 5 50 5	4 53	58 58	54 46 54 46	6
laison Dieu	Monitor Monitor	-	-	3		18	23	29	24	25 15 25 14	1 12	10	3 2	1 25		19		29 4	14 4 14 4	6 47	47	45 41 46 41	
7	Monitor Private - Dwelling	-	-	0 0) 1	1	18	1	27 1	26 23 1 1	1 1	1	3 2	1 1	23	19	2	2 4	43 4 43 4	3 43	45 43	44 41 41 41	
	Private - Dwelling Private - Dwelling	-	-	0 (1	1		1	1 1	1 1		0	1 1	2	2	2		43 4 43 4		43 43	41 41 41 41	
02	Private - Subject to Acquisition Rights	Warkworth (Noise & AQ) [SSD6464)	Warkworth (Noise & AQ) [SSD6464)	1 :	2 3	4	5	6	18	11 16	3 23	24	8 1	12	18	25	27	11 5	56 6	65	65	50 41	
20	Private - Dwelling	HVOS (Noise & AQ) [06_0261]	-	3 (6 12	15	18	22	28	26 23	3 19	16	3 2	3 26	23	19	20	22 4	43 4	4 45	45	44 41	L
21	Private - Dwelling	HVOS (Noise & AQ) [06_0261]	-	2	5 11	14	18	22	23	23 23	3 21	17	4 2	3 23	23	21	20	22 4	43 4	4 45	45	44 41	L
22	Private - Dwelling	HVOS (Noise & AQ) [06_0261]	-	3 (6 13	16	18	22	28	26 23	3 18	15	3 2	3 26	23	18	20	22 4	43 4	4 45	45	44 41	\perp
23	Private - Dwelling	HVOS (Noise & AQ) [06_0261]	-	2 :	5 12	15	18	22	25	24 23	3 20	16	4 2	5 24	23	20	20	22 4	43 4	4 45	45	44 41	
24	Private - Dwelling	HVOS (Noise & AQ) [06_0261]	-	3 (6 13	16	18	22	28	26 22	2 18	15	3 2	3 26	22	18	20	22 4	43 4	5 46	45	44 41	
26	Private - Dwelling	Warkworth (Noise) [SSD6464)	-	1 :	2 5	6	7		12	12 12	2 13	13	4 1:	3 14	17	18	18	10 4	43 4	6 44	44	42 41	
27	Private - Dwelling	- Warkworth (Noise)	-	3 (16 15			3 1		16	16	18		14 4		45	43 41	
	Private - Dwelling	[SSD6464) Warkworth (Noise)	-	1 :		8			_	14 15			4 1		18	18	20		42 4		44	41 41	1
30	Private - Dwelling Private - Dwelling	[SSD6464)	-	2 4	4 8	9	10			15 15 15 15			3 1		19	18	19	13 4	41 4 41 4		43	41 41	\vdash
39	Private - Dwelling	Warkworth (Noise) [SSD6464)		2 4	4 8	9	10			14 14			3 1		17	17	18	12 4			42	41 41	Г
41 60	Private - Dwelling Private - Dwelling	- HVOS (Noise) [06_0261]	-		7 12				14 32	13 13 30 21			3 1-		13 21	14 18	16 23	15 4 27 4	41 4 43 4		43 46	41 41 45 41	E
61	Private - Dwelling Private - Dwelling	HVOS (Noise) [06_0261] HVOS (Noise) [06_0261]	-	3	7 15 7 15	18	22	27	28	28 17 28 18	7 14	11	3 3 2 3 2	3 28	18	19	24	28 4	14 4 14 4	6 47	47 47	46 41 46 41	
63	Private - Dwelling	HVOS (Noise) [06_0261]		3	7 15	18	22	27	25	26 15	12		3 2	5 26	16	19	23	28 4	14 4	6 47	47	46 41	
	Private - Dwelling Private - Dwelling	-	-		6 11		12	14	13	11 11 14 11	1 10	9	2 1:	3 14	12	13		14 4	41 4 41 4	2 43	43 43	41 41	
73	Private - Dwelling Private - Dwelling	-	-	2		10	11	12	13	13 10 14 13	3 11	11	2 1: 3 1-	1 16	17	14 16	17	13 4	42 4 41 4	1 42	43 42	41 41 41 41	
75	Private - Dwelling Private - Dwelling	-	-	3 5	5 10	- 11	11	12	13	13 12 13 12	2 10	9	2 1:	3 14	15	15 15	16 16	13 4	41 4 41 4	1 42	42 42	41 41 41 41	
	Private - Dwelling Private - Dwelling	-	-	3 5		10		12		13 11 11 9	7	7	2 1	1 12	13 12	13	16 15	13 4	41 4 41 4	1 42	42 42	41 41 41 41	
44	Private - Dwelling Private - Dwelling	- HVOS (Noise) [06_0261]	-	3 3	5 9 7 16					11 9 25 17		_	2 1		12 17	12 18	14 20		41 4 45 4		41 48	41 41 46 41	
45 46	Private - Dwelling Private - Dwelling	HVOS (Noise) [06_0261] HVOS (Noise) [06_0261]	-		7 16 B 16		20			25 16 23 15			3 2		16 17	18 19	21		45 4 46 4		48 49	46 41 47 41	
47 48	Private - Dwelling Private - Dwelling	HVOS (Noise) [06_0261]	-	3 5			20			23 14 13 11			3 2- 2 1:		17 14	19	21 16		46 4 41 4		49 42	47 41 41 41	
49 50	Private - Dwelling Private - Dwelling	-	-		5 10				11	12 10 8 7			2 1		13 10	13	15 13		41 4 41 4		42 41	41 41 41 41	Н
51	Private - Dwelling	- HVOS (Noise) [06_0261];	-	2 :	5 8	9	10	11	9	9 8	3 7	6	1 !	10	11	11	13	11 4	41 4	1 41	41	41 41	F
	Private - Subject to Acquisition Rights	Rav Ops (AQ) [DA 09_0176]	-	3	7 16	18	23	29	23	24 14	1 12	10	3 2	3 24	17	19	24	29 4	14 4	6 47	47	46 41	
	Private - Dwelling Private - Dwelling	HVOS (Noise) [06_0261] HVOS (Noise) [06_0261]	-		7 15 7 14					25 15 28 19		11 12	3 2			19 18			14 4 14 4		47 47	46 41 45 41	
61	Private - Dwelling	HVOS (Noise) [06_0261] Warkworth (Noise)	-	3 (6 14	17	21	25	32	29 21	1 16	13	3 3		21	18	23	26 4	14 4		46	45 41	
	Private - Dwelling Community	[SSD6464)	-	1 :	+				_	12 13	-			-		18			43 4		44	42 41	-
64	Infrastructure	" UWJV (Noise) [SSD7142];	-	1	1 3	4	5	5	17	10 16	5 22	23	8 1	3 12	17	24	26	11 5	57 6	66	66	49 41	-
66	Private - Dwelling	Wambo Coal Mine (Noise) [DA 305-7-2003]	-	0	1 1	1	1	1	1	1 1	1 2	2	1 :	2 1	2	3	3	2 4	43 4	3 43	43	42 41	
08	Private - Subject to Acquisition Rights	HVOS (Noise) [06_0261]; UWJV (Noise) [SSD7142]	UWJV (Noise) [SSD7142]	2 :	5 11	13	15	14	22	15 16	16	24	7 2	3 16	17	18	27	18 5	50 5	5 53	58	55 47	
10	Glencore Owned - Occupied	HVOS (Noise) [06_0261]; UWJV (Noise) [SSD7142]	UWJV (Noise) [SSD7142]	2 :	5 10	12	13	13	22	15 15	5 15	22	7 2	2 15	17	17	25	17 4	49 5	3 52	58	54 46	
11	Private - Dwelling	UWJV (Noise) [SSD7142]; HVOS (Noise) [06_0261]	-	2 (6 13	14	18	21	17	12 13	3 14	19	6 1	7 13	16	18	27	25 5	51 5	1 50	53	56 48	
17	Private - Dwelling	HVOS (Noise) [06_0261]; UWJV (Noise) [SSD7142]	-	2 (6 13	13	18	21	17	12 13	3 14	19	6 1	7 13	16	18	27	25	51 5	50	53	56 49	
21 22	Private - Dwelling Private - Dwelling	-	-	2 (21	15 14	11 13 10 12			5 1:		14	16 15			49 4 48 4		52 51	59 51 58 51	F
24	Private - Dwelling Private - Dwelling Private - Dwelling	-	-	2 :	5 10	10	23	21		11 12	2 12	15	4 1	1 11	14	15 23	28	22 4	48 4 45 4	7 48	51 52	58 51 55 47	F
27	Private - Dwelling	-	-	3 (6 14	19	31	30	11	8 9	10	13	4 1	1 10	16	24	36	32 4	45 4	6 48	52	55 47 54 48 57 48	3
30	Private - Dwelling Private - Dwelling	-	-	2 (6 13 6 13	15	28	30	12	9 10	9	12	4 1	1 9	15	20	33	32 4	45 4	6 48	53 52	55 46	6
31	Community Infrastructure	-	-		6 13				11	9 9			4 1			21			46 4		53	57 47	
32 33	Private - Dwelling Private - Dwelling	-	-		6 13	15	25	28	11	9 9	9	12	4 1	1 9		18		30 4	46 4 46 4	5 47	52 52	56 47 56 47	
35	Private - Dwelling Private - Dwelling	-	-	2		14	24	28	11	9 9	9	12	3 1 4 1	1 9	15	18	31	30 4	46 4 46 4	5 47	52 52	55 46 56 47	-
37	Private - Dwelling Private - Dwelling	-	-	2 :	5 12	14	25	29	11	9 9	9	12	4 1	1 10	14	18	31	31 4	46 4 46 4	6 47	52 52	56 47 56 48	3
38 39	Private - Dwelling Private - Dwelling	-	-		5 12	12	19	23	12	9 9	8 6	10	4 1: 3 1	1 9	14	18	25	25 4	46 4 45 4	5 46	52 50	57 48 54 46	5
40 41	Private - Dwelling Private - Dwelling	-	-	2 :	5 12 5 11	13	19	24	11	8 9	9	11	3 1	1 9	14	16 16	26	26 4	46 4 46 4	5 47	50 51	54 47 55 47	'
43	Private - Dwelling Private - Dwelling	-	-	2 :	5 11 5 11	13		24	11	9 9	9 9	11	3 1 3 1	1 9	14 14	16 16	27	26 4	46 4 46 4	5 47	51 51	55 47 55 47	,
44	Private - Dwelling Private - Dwelling	-	-	2 :	5 11	13	21	25	11	9 9	9 9	11	3 1	1 9	14	16 16	28	27 4	46 4 46 4	5 47	51 51	55 47 56 47	•
46	Private - Dwelling Private - Dwelling	-	-	2 :	5 11	13	22	26	11	9 9	9	12	4 1	1 10	14	17	29	28 4	46 4 46 4	6 47	51 52	56 48 57 48	3
48	Private - Dwelling Private - Dwelling	-	-	2 :	5 11 5 11	14	24	28	12	9 9	9	12	4 1:	2 10	14	17	31	31 4	46 4 46 4	6 47	52 52	57 48 56 48	3
50	Private - Dwelling	-	-	2 :	5 11 5 11	14	23	28	12	9 9	9 9	12	4 1:	2 10	14	17	30	30 4	46 4 46 4	6 47	52 52 52	57 48 57 48	3
52	Private - Dwelling Private - Dwelling	-	-	2 :	5 11	14	24	29	12	10 10	9	13	4 1:	2 10	14	17	32	31 4	46 4	6 48	52	57 49)
55	Private - Dwelling Private - Dwelling	-	-	2 :	5 11	14	25	29	12	10 10	9	13	4 1:	2 10	14	17	32	32 4	46 4 47 4	6 48	52 52	57 49 57 49)
57	Private - Dwelling Private - Dwelling	-	-	2 :	5 11 5 11	14	23	27	12	10 10 10 10	9	12	4 1:	2 10	14	17	30	30 4	46 4 46 4	6 47	52 52	57 49 57 48	3
	Private - Dwelling Private - Dwelling	-	-		5 11	14	24	28	12	10 10 10 10	9	13	4 1:	2 10	14	17 17	31	31 4	46 4 47 4	6 47	52 52	57 49 57 49)
61	Private - Dwelling Private - Dwelling	-	-	2 :		14	25	30	12	10 10 10 10	9	13	4 1:	2 11	14	17 18	32	32 4	47 4 47 4	6 48	52 52	58 49 58 49)
62 63	Private - Dwelling Private - Dwelling	-	-	2 :	5 10 5 11	14	24 23	29	12 12	10 10 10 10	9	13	4 1:	2 11	13 14	17 17	31 31	31 4	47 4 47 4	6 48 6 48	52 52	58 50 58 50)
66	Private - Dwelling	-	-		5 11	14	22	27		10 10			4 1:	2 10		17			47 4		52	57 49	

Modelled maxin	num 24-hour average P	M10 concentrations (ug/m	13)	Project (F	-IVO NI				Projec	et (HVO	(S)			Projec	~t (HVO	Comple	lve		C	umulativ	0				
				2025		033	940	1044	2014	2025	5029	2033	2044	4	52	620	033	2 2	Į .	025	620	033	040	44	interia
ID 368	Status Private - Dwelling	Existing mitigation rights	Existing acquisition rights	2	5	11 1	14 2	3 27	12	10	10	9	13	4 12		14	17	30	30	47	46	47	52 52	57 57	49 5
369 370	Private - Dwelling Private - Dwelling		-	2	5	11 '	13 2 13 2	1 26	12	9	10	9	12	4 12 4 12	10	13 14	17 17	30 29	30 28	46	46 46	47	52	57 57	49 5 48 5
371 372	Private - Dwelling Private - Dwelling	-	-	2	5	11 1	13 2 13 2	1 24	12	9	10	10	11	4 12 3 12	10	14	17 16	28	28 26	46	46 46	47	52	56 56	49 50 48 50
373 374	Private - Dwelling Private - Dwelling	-	-	2	5	10	13 2 13 2	1 25	12	10	10	10	12	4 12	10	13	16	28	28	47	46 46	47	51	57 56	49 50 49 50
375 376	Private - Dwelling Private - Dwelling	-	-	2 2	4	10	13 2 13 2	2 26	13	10	11	10		4 12 4 13 4 12	11	13	16 17	29	28		46 46	47	51 52	56 58 57	49 50 50 50
377 380 381	Private - Dwelling Private - Dwelling Private - Dwelling	-	-	2	4	10	13 2 12 2	1 22	12	9	10	10	12	4 13	10		17 16	29 26	29 25	47	46 46		51	56	49 50 49 50
382	Community Infrastructure	-	-	2			12 2 12 2			9		10		4 13		13	16	26 26	26 26		46		51 51	56 56	49 50 49 50
383 384	Private - Dwelling Private - Dwelling	-	-	2	4		12 2 13 2					10 10	12 12	4 13 4 12		13 13	16 16	27 27	27 26	47 47	46 46		52 51	57 57	49 50 49 50
385	Private - Dwelling Community	-	-	2		10	12 2	1 23	12	9	10	10	12	4 12	10	13	16	26	26	47	46	47	51	56	49 50
386	Infrastructure Private - Dwelling	-	-	2	- 1	- 1	12 2 12 2			1		10		3 12 4 13	1 1	13	15 16	25	24	46	46		50	55 58	48 50 50 50
390 391	Private - Dwelling Private - Commercial	-	-	2	4	10 '	12 2 12 2	2 23	13	10	11	11 11	13 13	4 13 4 13	11	13 13	16 16	27 26	26 26		46 46	47	52 51	57 57	50 50 50 50
392 393	Private - Dwelling Private - Dwelling	-	-	2	4		12 2 12 2		3 13 3 13	10		11		4 13 4 13		13 13	16 16	26 26	26 25		46 46		51 51	57 58	50 50 50 50
394 395	Private - Dwelling Private - Dwelling	-	-	2	4		12 2 12 2					11 11		4 13 4 13		13 13	16 16	26 27	25 27		46 46		51 52	57 58	50 50 51 50
396	Community Infrastructure	-	-	2	4	- 1	10 2					10		4 12		12	14	24	22		46		-	55	48 50
397 398	Private - Dwelling Private - Dwelling	-	-	2	4	9 .	11 2 11 2	1 20	12	9	10	11 10	12	4 13 4 12	10	13 13	15 15	26 25	24	47	46 46	47	51 50	57 55	50 50 49 50
399 400	Private - Dwelling Private - Dwelling		-	2	4	9 -	11 2 11 2	2 22	13	10	11	11	13	4 13	10	13 13	15 16	26 26	24 25	47	46 46	47	51 51	57 57	50 50 50 50
401 402	Private - Dwelling Private - Dwelling	-	-	2	4	9 .	11 2 12 2	2 22	13	10	11	10		4 13	10		16 16	26 26	25 25		46 46	47	51 51	57 57	50 50 50 50
403 404	Private - Dwelling Private - Dwelling Private - Dwelling	-	-	2	4	9 .	12 2 11 2	1 21	12	9	10	10	12	4 13 4 13	10	13	16 15	26 25	25	47	46 46	47	50	57 56	50 50 49 50
405 406 407	Private - Dwelling Private - Dwelling Private - Dwelling	-	-	2 2	4	10	12 2 12 2 11 2	2 23	13	10	11	10 10	13	4 13 4 13 4 12	10	13 13	16 16	26 26 25	25 25 23	47	46 46	47	51 51 50	57 57	50 50 50 50 48 50
408 409	Private - Dwelling Private - Dwelling Private - Dwelling		-	2 2	4	9 .	11 2 11 2 11 2	0 20	12	9	10	10 10	12	4 12 4 12 3 12	9	13 13	15 15 15	25 24 24	23 22 23	46	46 46	47	50	55 55 55	48 50 48 50 48 50
410	Community Infrastructure	-	-	2	4		11 2					10		3 12		13	15	25	24		46			55	48 50
411	Private - Dwelling Community	-	-	2			11 2					10		3 12		13	15	25	24		46		50	55	48 50
412 413	Infrastructure Private - Dwelling	-	-	2	4		11 2 11 2					9		3 12		13	15 15	24	23	46 46	46 46		50	55 54	48 50 48 50
414 415	Private - Dwelling Private - Dwelling	-	-	2		10	11 2 11 2	0 20	12	9	10	9	12	3 12	9	13	15 15	24	23	46	46 46	47	50	55 55	48 50 48 50
417 418	Private - Dwelling Private - Dwelling	-	-	2	5	11 '	13 2 12 2	1 26	12	10	10	9	12	4 12	10	14 14	17 16	29 26	28 25	46	46 46	47	52 51	57 56	49 50 48 50
419 420	Private - Dwelling Private - Dwelling	-	-	2	4	9 .	10 1 11 2	9 18	11	9	9 10	9 10	11 12	3 12 4 12	9	13 13	14 15	23 25	20	46 46	45 46	46 47	49 50	53 55	47 50 49 50
421 422	Private - Dwelling Private - Dwelling	-	-	2	4		13 2 13 2					10 10	13 13	4 13 4 13		13 13	17 17	28 28	28 28	47 47	46 46		52 52	58 57	50 50 50 50
423 425	Private - Dwelling Private - Dwelling	-	-	2	4	9	12 2 8 1	5 14	10	7	7	11	9	4 13	8	13 12	16 12	27 19	26 15	45	46 45	46	52 46	58 48	50 50 44 50
426 427	Private - Dwelling Private - Dwelling	-	-	2	5	9	9 1		12	9		7	10 12	3 10 4 12	9	11 13	11	19 22	15 18		45 45	46	46 47	47 51	44 50 45 50
428 429	Private - Dwelling Private - Dwelling	-	-	2	5	10	9 1 10 2	1 19	13	10		9 11	13	4 12	10	13 14	13 15	23 26	18 21	47	45 46	47	48 50	51 55	46 50 49 50
430 431	Private - Dwelling Private - Dwelling	-	-	2	5 6	10	9 1	1 20	14		11	11	14	4 12	10	13 14	13 15	24 26	19 21	47	46 47	48	48 50	53 56	47 50 49 50
432 433	Private - Dwelling Private - Dwelling	UWJV (Noise) [SSD7142]	-	2	4	9	8 1 7 1	3 13	13	9	9	9	13	4 13	10	12	13	19	17 15		46 46	46	48	48 47	44 50 44 50
434 436	Private - Dwelling Private - Dwelling	-	-	2		13	11 2 11 1	9 21	16		12	15	17	6 16	12	16 15	17	30 27	26		49 49	49	53 52	59 56	52 50 49 50
437 438 440	Private - Dwelling Private - Dwelling Private - Dwelling	-	-	2 2	6	12	19 3 17 2 10 1	5 24	9	7	8	10 8 11	10	4 11 3 9 5 15	8	16 14 14	24 20 16	35 29 24	25 21	45	46 45 49	47	51 48 51	53 50 53	48 50 47 50 46 50
451 452	Private - Dwelling Private - Dwelling	UWJV (Noise) [SSD7142] UWJV (Noise) [SSD7142]		1	3	6	6	7 7 7 8	12		10	9	12	4 12	8	10	11	14	9	47	47	47	49 48	47 47	46 50 43 50 43 50
453 454	Private - Dwelling Private - Dwelling	UWJV (Noise) [SSD7142] UWJV (Noise) [SSD7142]	-	1 1	3	5	5	6 7	10		8	8	10	3 10	7	9	10	12	8	46	46 46	46	47 48	46 46	43 50 43 50
455 456	Private - Dwelling Private - Dwelling	UWJV (Noise) [SSD7142] UWJV (Noise) [SSD7142]	-	1 1	2	4	4	5 6	8	5	7	7	8	2 8	6	7	8	10	7		46 46	46	48 47	45 45	43 50 43 50
457 458	Private - Dwelling Private - Dwelling	UWJV (Noise) [SSD7142] UWJV (Noise) [SSD7142]	-	1	2		3	4 4 5 5		5	4 6	4	5 7	2 5	5	6 7	5 7	8	5 6	46 45	46 45		47 46	44 44	43 50 43 50
459 460	Private - Dwelling Private - Dwelling	UWJV (Noise) [SSD7142] UWJV (Noise) [SSD7142]	-	1 1	2	5		6 7 6 7		7 6		8		3 10	7	9	9	12 11	8	46 45	46 46		47 46	45 45	43 50 43 50
462	Private - Dwelling Glencore Owned -	UWJV (Noise) [SSD7142]	-	1 2	5		14 1	6 6 5 15		5 15		7 15	8 22	6 21		7 16	17	10 26	7 19	45	45 54		46 57	45 54	43 50 47 50
464	Occupied Private - Dwelling		-	2	3	7	7 1	2 11	8	6	6	6	8	2 9	7	10	10	15	12	45	45	45	46	45	44 50
466	Private - Dwelling Private - Subject to	Rav Ops (AQ) [DA	Ashton (AQ & Noise)	2	5		9 1			7	7	6		2 9		12	13	19	18		45			49	44 50
471	Acquisition Rights Private - Dwelling	09_0176]; HVOS (AQ) [06_0261]	[DA309-11-2001-i]; Rav Ops (AQ) [DA 09_0176]	9			25 2	0 25		6	2	5	6	1 10		26	26	21	26		43			59 43	41 50 42 50
473 477	Private - Commercial	- UWJV (Noise) [SSD7142]	-	2	4	10	12 2	2 23	13			10		1 3 4 13 1 4	10	13	16	26	26	47	46	47	51	57	50 50
477 478 481	Private - Dwelling Private - Dwelling Private - Dwelling	UWJV (Noise) [SSD7142] UWJV (Noise) [SSD7142]	-	1 2	3	5	3 5 9 1	3 3 7 7 8 16	10	7		8	11	1 4 3 11 4 12	7	9 13	10 13	6 13 22	9 18	46	45 46 45	46		44 45 51	42 50 43 50 45 50
482	Private - Dwelling Community	-	-	2	5	11 '	14 2	4 29	12	10	10	9	13	4 12	10	14	17	31	31	46	46	47	52	57	49 50
483	Infrastructure Private - Dwelling	-	-	2			14 2 14 2			9		9	12	4 11		14	17	30	29 30		46		52 52	56 56	48 50 48 50
487 488	Private - Dwelling Private - Dwelling	-	-	3 2		13	18 2 15 2	7 25	10		9	9		3 10	9	16	22	31 26	27		45 45	48 47	49 47	51 49	48 50 46 50
489	Private - Dwelling Private - Subject to	- HVOS (Noise) [06_0261];	- Rav Ops (AQ) [DA	2		10	15 2	2 21	9	7	7	7	9	3 9	8	13	18	26	22	44	45	47	47	48	46 50
497	Acquisition Rights	Rav Ops (AQ) [DA 09_0176]	09_0176]	4			19 2					11	9	3 20		17	19	24	30		46		47	46	41 50
498	Private - Dwelling	HVO South (Noise)	Rixs Creek North (Noise)	3	8	16	18 2	0 24	25	24	16	12	11	3 25	24	17	19	21	24	45	47	48	48	46	41 50
	Private - Subject to	Rixs Creek North (Noise)	[PA08_0102] (lots 2//1111313 & 3//1111313); Ashton (AQ & Noise)																						
499	Acquisition Rights	[PA08_0102]; Rixs Creek South (AQ) [SSD 6300]	[DA309-11-2001-i]; Rixs Creek South (AQ) [SSD 6300] (lots 2//1111313 & 3//1111313)	8	13	22 2	21 1	8 23	8 6	5	4	5	5	1 8	13	23	21	20	24	53	55	62	58	50	41 50
507	Community Infrastructure	-	-	3	6	10	9	7 6	3 2	2	2	2	2	1 4	6	10	9	7	6	44	57	57	56	41	41 50
511	Community Infrastructure	-	-	3	5	8	8	6 6	3 2	2	2	2	2	1 3	5	9	9	6	6	42	46	46	46	41	41 50
592	Private - Subject to Acquisition Rights	Rixs Creek North (Noise) [PA08_0102]; MOCO (AQ) [SSD-5850]; IUG (Noise) [PA08_0101]	Rixs Creek North (Noise) [PA08_0102]; MOCO (AQ) [SSD-5850]	4	6	10	9	7 7	2	2	2	2	2	1 4	6	10	9	7	7	43	48	48	48	41	41 50
596	Private - Subject to Acquisition Rights	Rixs Creek North (Noise & AQ) [PA08_0102]; Glendell (Noise) [DA 80/952]; IUG (Noise) [PA08_0101]	Rixs Creek North (Noise & AQ) [PA08_0102]; IUG (Noise) [PA08_0101]	5	8	14	15 1	4 14	4	3	3	3	3	1 5	8	15	17	15	15	58	94	94	94	45	41 50
598	Private - Subject to Acquisition Rights Private - Subject to	MOCO (AQ) [SSD-5850]	MOCO (AQ) [SSD-5850]	3	5		_	6 6	-	2		2		1 3		10	8	6	6	_	_		-	-	41 50
599	Acquisition Rights	MOCO (AQ) [SSD-5850]	MOCO (AQ) [SSD-5850] MOCO (AQ) [SSD-5850]	3	6	10	8	6 6	3	2	2	2	2	1 4	6	10	8	6	6	47	57	58	56	41	41 50
613	Private - Subject to Acquisition Rights	-	vacant lots 31//6842 and 2//1175728 within landholding only	3	6	10	8	6 6	3	2	2	2	2	1 4	6	10	8	6	6	47	57	58	56	41	41 50
614	Private - Dwelling	-		3	6	10	8	6 6	3	2	2	2	2	1 4	6	10	8	6	6	47	57	58	56	41	41 50

Modelled max	imum 24-hour average F	PM10 concentrations (ug/n	13)	Projec	t (HVO	N)				Projec	HVO	S)				Proiec:	(HVO	Compl	ex)			Cumul	ative					
				4	52	620	033	040					8	9	4	4	52	620	8	040	044	4	025	53	33	90	4	Cnteria
ID 619	Private - Subject to Acquisition Rights	Existing mitigation rights MOCO (AQ) [SSD-5850]; Giendell (Noise) [DA 80/952]; Rixs Creek North (Noise) [PA08_0102]; Rixs Creek South (AQ) [SSD	Existing acquisition rights MOCO (AQ) [SSD-5850]; Riss Creek South (AQ) [SSD 6300]	7	12	17	19	18		500 4	5007	2029	2033 8	2040	1	8	12	18	20	19	19	62	51	56	9 49	45	41	50
621	Private - Subject to Acquisition Rights	Rixs Creek North (Noise & AQ) [PA08_0102]; Rixs Creek South (AQ) [SSD 6300]	Rixs Creek North (Noise) [PA08_0102]; Ashton (AQ) [DA309-11-2001-i]	8	13	21	19	19	24	5	4	4	4	4	1	8	13	22	19	21	25	57	60	61	60	52	41	50
623	Community Infrastructure	-	-	8	14	21	20	21	23	4	4	3	3	3	1	9	14	22	21	22	23	67	55	61	56	50	41	50
624	Private - Subject to Acquisition Rights	MOCO (AQ) [SSD-5850]; Rixs Creek South (AQ) [SSD 6300]	MOCO (AQ) [SSD-5850]; Riss Creek South (AQ) [SSD 6300]. Note - acquisitions apply to all 9 contigious lots 1/2/48748, 2/9/758214, 3/9/758214, 4/9/758214, 7/9/758214, 8/9/758214, 9/9/758214	8	14	21	20	21	23	4	4	3	3	3	1	9	14	21	21	22	23	65	55	61	55	50	41	50
626	Private - Subject to Acquisition Rights	Glendell (Noise) [DA 80/952]; MOCO (AQ) [SSD-5850]; Rixs Creek North (Noise) [PA08_0102]; Rixs Creek South (AQ) [SSD 6300]	MOCO (AQ) [SSD-5850]; Riss Creek South (AQ) [SSD 6300]. Note - acquisitions apply to both contigious lots 1/8/758214 and 2/8/758214	8	13	20	21	21	22	4	4	3	3	3	1	8	14	20	22	21	22	68	56	62	55	50	41	50
627	Private - Subject to Acquisition Rights	Glendell (Noise) [DA 80/952]; MOCO (AQ) [SSD-5850]; Rixs Creek North (Noise) [PA08_0102]; Rixs Creek South (AQ) [SSD 6300] Glendell (Noise) [DA	MOCO (AQ) [SSD-5850]; Riss Creek South (AQ) [SSD 6300]	8	13	19	21	20	20	4	4	3	3	3	1	8	13	19	22	20	21	68	55	61	54	49	41	50
628	Private - Subject to Acquisition Rights	80/952]; MOCO (AQ) [SSD-5850]; Rixs Creek North (Noise) [PA08_0102]; Rixs Creek South (AQ) [SSD 6300]	MOCO (AQ) [SSD-5850]; Rixs Creek South (AQ) [SSD 6300] MOCO (AQ) [SSD-5850];	8	12	18	20	19	20	4	4	3	3	3	1	8	13	19	21	20	20	68	54	61	53	48	41	50
629	Private - Subject to Acquisition Rights	MOCO (AQ) [SSD-5850]; Rixs Creek North (AQ) [PA08_0102]; Rixs Creek South (AQ) [SSD 6300]	Riss Creek South (AQ) [SSD 6300]. Note - acquisitions apply to both contigious lots 103//852484 and 104//852484	8	12	19	21	18	18	4	4	3	3	3	1	8	12	20	22	19	19	72	55	62	53	48	41	50
735	Private - Commercial Community	-	-	11	16			13		7	7	6	5		1	11	16	26	20	14	15		132	132	89		42	50
797	Infrastructure Community	-	-	12	18	28	23	14		7	7	6	5	3	1	12	18	29	24	15	16	76	138	138	93	60	43	50
799	Infrastructure	-	-	12	18		23	14		7	7	6	5	3	1	12	18	29	24	15	16	76	138		93	60	43	50
800 829	Private - Commercial Private - Commercial	-	-	12	18 2	28 5	23 6		7	14	14	6 15	16	3 16	5		18 17	29 19	24 19	15 20	16 10	76 44	138 47			60 43	43 41	50 50
830 833	Private - Commercial Private - Commercial	-	-	1	2 3	- 4 6	5 7	9		14 56	15 58	15 65	14 60	15 67	5 22	15 57	17 61	18 69	18 66	19 73	9 30	45 75	49 97	49 104	50 92	43 87	41 45	50 50
834	Private - Commercial			2	4	10	12	22	23	13	10	11	11	13	4	13	11	13	16	27	26	47	46	47	52	58	50	50
835 836	Private - Dwelling Private - Dwelling			2	5 5	- 11	14			12 12	10 9	10	9	12 12	4	12 12	10 10	14 14	17 17	30 28	30 28	47 46	46 46		52 52 52	57 56	49	50 50
837 838	Private - Dwelling Private - Dwelling	-	-	2	5 4	11 10	13 12			12 13	9 10	10	9 10	12 12	4	12 13	10 10	14 13	17 16	29 27	28 26	46 47	46 46	47 47	52 52	56 57	48 50	50 50
839	Private - Dwelling			2	4	10	11	21	22	12	9	10	10	12	4	12	10	13	15	25	24	46	46	47	51	56	49	50
840 843	Private - Dwelling Private - Dwelling	-	-	2	4 6	10	12	21 10		12	9	10	10	12 7	4	13	10	13	16 11	25 13	24 12	47 41	46 42	47	51 42	56 41	49	50 50
846	Private - Dwelling			4	7	12	12	12	14	13	12	11	9	8	2	13	12	13	13	14	15	45	45	46	46	43	41	50
847 852	Private - Dwelling Private - Dwelling			4	7	12	12 12	12 12	14 14	13 14	12 14	11 12	10 11	9	2	13 14	12 14	13 13	12 13	14 14	15 15	43 42	44 43		45 44	42 41	41	50 50
855 856	Private - Dwelling Private - Dwelling	-	-	2	5 7	12	10		12	12	12	12	10 9	10	2	13 11	15 11	15 12	15 12	16 14	12 13	41 42	41 43		42 43	41	41	50 50
860	Private - Subject to Acquisition Rights	Glendell (Noise) [DA 80/952]; Rixs Creek North (Noise & AQ) [PA08_0102]; Rixs Creek South (AQ) [SSD 6300]	Glendell [DA80/952]; Rixs Creek North (Noise) [PA08_0102]	7	12		17			4	3	3	3		1	7	12	19	18	20	21	57	62			47	41	50
861	Private - Subject to Acquisition Rights	Glendell (Noise) [DA 80/952]; Rixs Creek North (Noise) [PA08_0102]; IUG (Noise) [PA08_0101]; Rixs Creek South (AQ) [SSD 6300]	Glendell [DA80/952]; Rixs Creek North (Noise) [PA08_0102]	6	9	17	18	16	16	3	3	3	3	3	1	7	10	18	19	16	16	66	64	64	62	47	41	50
862	Private - Subject to Acquisition Rights	Glendell (Noise) [DA 80/952]; Rixs Creek North (Noise) [PA08_0102]; IUC (Noise) [PA08_0101]; Rixs Creek South (AQ) [SSD 6300]	Rixs Creek North (Noise) [PA08_0102]	8	11	21	22	18	18	4	3	3	3	3	1	8	12	21	22	18	18	87	66	71	60	49	41	50
863	Private - Subject to Acquisition Rights	Glendell (Noise) [DA 80/952]; Rixs Creek North (Noise) [PA08_0102]; IUG (Noise) [PA08_0101]; Rixs Creek South (AQ) [SSD 6300]	[PA08_0102]	7	10	20	21	17	17	4	3	3	3	3	1	7	11	20	21	17	17	84	66	67	57	47	41	50
869	Private - Subject to Acquisition Rights	Rav Ops (AQ and Noise) [DA 09_0176]; Rixs Creek North (Noise) [PA08_0102] Rav Ops (AQ and Noise)	Ashton (AQ & Noise) [DA309-11-2001-i]; Rixs Creek North (Noise) [PA08_0102] (acquisition applies to contigious Ashton (AQ & Noise)	7	14	24	23	21	26	8	7	6	6	7	2	8	15	25	24	22	27	50	53	57	55	51	41	50
870	Private - Subject to Acquisition Rights	[DA 09_0176]; Rixs Creek North (Noise) [PA08_0102]; Rixs Creek South (AQ) [SSD 6300]	[DA309-11-2001-i]; Rixs Creek North (Noise) [PA08_0102] (acquisition applies to contigious	7	13	23	22	21	26	8	7	7	6	6	2	8	14	24	23	21	26	50	53	56	54	50	41	50
947	Private - Subject to Acquisition Rights	Rav Ops (AQ) [DA 09_0176]; HVOS (Noise) [06_0261]	Rav Ops (AQ) [DA 09_0176]	4	8	17	19	24		17	17	11	10	8	2	17	17	18	20	24	30	44	46	47	47	46	42	50
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433 434	Private - Dwelling Private - Dwelling	UWJV (Noise) [SSD7142]	-	0			0 0				0 0	0	0 0	0	0 0		0		0			0	0 -	_
436 437	Private - Dwelling Private - Dwelling	-	-	0	0	0	0 0) (0 0	0	0 0	0	0 0	0	0 0	0		0	0	0	2		0 -	
438	Private - Dwelling	-	-	0	0	0	0 0) C	0	0	0 0	0	0 0	0	0 0	0	0	0	0	0	0	0	0 -	
440 451	Private - Dwelling Private - Dwelling	UWJV (Noise) [SSD7142]	-	0	0	0	0 0) C	0 0	0	0 0	0	0 0	0	0 0	0		0	0	0	0	0	0 -	
452 453	Private - Dwelling Private - Dwelling	UWJV (Noise) [SSD7142] UWJV (Noise) [SSD7142]	-	0	0	0	0 0) (0 0	0	0 0	0	0 0	0	0 0	0	0	0	0	0		0	0 -	
454 455	Private - Dwelling Private - Dwelling	UWJV (Noise) [SSD7142] UWJV (Noise) [SSD7142]	-	0		0	0 0) (0	0	0 0	0	0 0	0	0 0	0	0	0	0	0	0	0	0 -	
456 457	Private - Dwelling Private - Dwelling	UWJV (Noise) [SSD7142] UWJV (Noise) [SSD7142]	-	0			0 0				0 0		0 0	0	0 0		0		0		0		0 -	
458 459	Private - Dwelling Private - Dwelling	UWJV (Noise) [SSD7142] UWJV (Noise) [SSD7142]	-	0			0 0				0 0		0 0	0	0 0				0				0 -	
460 462	Private - Dwelling Private - Dwelling	UWJV (Noise) [SSD7142] UWJV (Noise) [SSD7142]	-	0		0	0 0) (0	0	0 0	0	0 0	0	0 0			0	0	0	0	0	0 -	
463	Glencore Owned - Occupied	-	-	0			0 0				0 0		0 0	0	0 0		0		2		4	2	0 -	
464	Private - Dwelling	-	-	0		0	0 0				0 0	0	0 0	0	0 0			0 0	0		0	0	0 -	_
466	Private - Dwelling Private - Subject to	Rav Ops (AQ) [DA	Ashton (AQ & Noise)																					
471	Acquisition Rights	09_0176]; HVOS (AQ) [06_0261]	[DA309-11-2001-i]; Rav Ops (AQ) [DA 09_0176]	0			0 0				0 0		0 0	0	0 0		0		8	18	17	7	0 -	
472 473	Private - Dwelling Private - Commercial	-	-	0	0	0	0 0	0 0	0 0	0	0 0	0	0 0	0	0 0	0	0	0	0	0	1	1	0 -	
477 478	Private - Dwelling Private - Dwelling	UWJV (Noise) [SSD7142] UWJV (Noise) [SSD7142]	-	0	0	0	0 0) C	0 0	0	0 0	0	0 0	0	0 0	0	0	0	0	0	0	0	0 -	_
481 482	Private - Dwelling Private - Dwelling	- -	-	0	0	0	0 0) (0	0	0 0	0	0 0	0	0 0	0	0	0	0	0	0	1	0 -	_
483	Community Infrastructure	-	-	0			0 0				0 0		0 0	0	0 0		0	1 1	0		1	1	0 -	
484 487	Private - Dwelling Private - Dwelling	-	-	0			0 0				0 0		0 0	0	0 0				0		1		0 -	_
488	Private - Dwelling	-	-	0	0	0	0 0) (0	0	0 0	0	0 0	0	0 0	0	0	0	0	0	0		0 -	_
489	Private - Dwelling Private - Subject to	HVOS (Noise) [06_0261];	Rav Ops (AQ) [DA	0										0					0	0	0	0	0 -	
	Acquisition Rights	Rav Ops (AQ) [DA 09_0176]	09_0176]														0							
498	Private - Dwelling	HVO South (Noise)	Rixs Creek North (Noise)	0	0	0	0 0) (0	0	0 0	0	0 0	0	0 0	0	0	0	0	0	0	0	0 -	
			[PA08_0102] (lots 2//1111313 & 3//1111313);																			.		
499	Private - Subject to	Rixs Creek North (Noise) [PA08_0102]; Rixs Creek	Ashton (AQ & Noise) [DA309-11-2001-i]; Rixs	0	0	0	0 0) (0	0	0 0	0	0 0	0	0 0	0	0	2	3	9	7	0	0 -	
	Acquisition Rights	South (AQ) [SSD 6300]	Creek South (AQ) [SSD 6300] (lots 2//1111313 &																					
			3//111313)																					
507	Community			0	0	0	0 0) (0	0	0 0	0	0 0	0	0 0) 0	0	0	3	5	5	0	0 -	
511	Infrastructure Community		_	0		_	0 0			_	0 0		0 0	0	0 0		_		0		0		0 -	
-	Infrastructure	Rixs Creek North (Noise)	Dive Crack Month (Main			,	- "	-	, 0		5 0	-	- 0	3	-			. 0	U	J	J	-	- 0	
592	Private - Subject to Acquisition Rights	[PA08_0102]; MOCO (AQ) [SSD-5850]; IUG (Noise)	[1 A00_0102], WOOO (AQ)	0	0	0	0 0	0	0	0	0 0	0	0 0	0	0 0	0	0	0	0	0	0	0	0 -	
	, ,	[PA08_0101]	[SSD-5850]		-	-				+			++									\dashv	\dashv	
Ene	Private - Subject to	Rixs Creek North (Noise & AQ) [PA08_0102]; Glendell	Rixs Creek North (Noise &																4	4000	400			
596	Acquisition Rights	(Noise) [DA 80/952]; IUG (Noise) [PA08_0101]	AQ) [PA08_0102]; IUG (Noise) [PA08_0101]	0	0	0	0 0	0	0	0	0 0	0	0 0	0	0 0	0	0	5	173	178	169	0	0 -	
598	Private - Subject to	MOCO (AQ) [SSD-5850]	MOCO (AQ) [SSD-5850]	0	0	0	0 0) (0 0	0	0 0	0	0 0	0	0 0	0 0	0	0	2	2	0	0	0 -	
	Acquisition Rights Private - Subject to					_	_			_			+	_	_		-							
599	Acquisition Rights	MOCO (AQ) [SSD-5850]	MOCO (AQ) [SSD-5850] MOCO (AQ) [SSD-5850]	0	0	0	0 0	0 0	0	0	0 0	0	0 0	0	0 0	0	0	0	7	7	4	0	0 -	
613	Private - Subject to Acquisition Rights	-	vacant lots 31//6842 and 2//1175728 within	0	0	0	0 0	0	0	0	0 0	0	0 0	0	0 0	0	0	0	7	7	4	0	0 -	
614		-	landholding only	0	0	0	0 0		0 0	0	0 0	0	0 0	0	0 0) 0	0	0	7	7	4	0	0 -	
614	Private - Dwelling		+	U	0	۷.	J 0	. (, 0	V	J U	U	U U	U	0 0	. 0		. 0		- /	4	- 0	U-	

Modelled numb	per of days above 50 ug	/m3 PM10		Projec	t (HVO	N)				Project	(HVO	S)				Projec	t (HVO	Compl	ex)			Cumul	ative				
				14	2025	5029	033	2040					033	2040	2044	414)25	620	033	040	044	14	025	020	33	040	Criteria
D	Status	Existing mitigation rights MOCO (AQ) [SSD-5850];	Existing acquisition rights	20	20	50	20	20	20	20	20	2	20	20	8	50	20	20	20	20	20	20	8	2	8 8	8	<u>ت</u>
619	Private - Subject to Acquisition Rights	01 1 1 (01 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	MOCO (AQ) [SSD-5850]; Rixs Creek South (AQ) [SSD 6300]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	2	13	0	0	0 -
521	Private - Subject to Acquisition Rights	Rixs Creek North (Noise & AQ) [PA08_0102]; Rixs Creek South (AQ) [SSD 6300]	Rixs Creek North (Noise) [PA08_0102]; Ashton (AQ) [DA309-11-2001-i]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	16	24	17	1	0 -
523	Community Infrastructure	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	11	23	10	0	0 -
624	Private - Subject to Acquisition Rights		MOCO (AQ) [SSD-5850]; Riss Creek South (AQ) [SSD 6300]. Note - acquisitions apply to all 9 contigious lots 1/J/248748, 2/9/758214, 3/9/758214, 6/9/758214, 7/9/758214,	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	12	24	8	0	0 -
626	Private - Subject to Acquisition Rights	Glendell (Noise) [DA 80/952]; MOCO (AQ) [SSD-5850]; Rixs Creek North (Noise)	8/9/758214, 9/9/758214 MOCO (AQ) [SSD-5850]; Rixs Creek South (AQ) [SSD 6300]. Note - acquisitions apply to both contigious lots 1/8/758214 and 2/8/758214	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	15	25	10	0	0 -
627	Private - Subject to Acquisition Rights	80/952]; MOCO (AQ) [SSD-5850]; Rixs Creek North (Noise) [PA08_0102]; Rixs Creek South (AQ) [SSD 6300]	MOCO (AQ) [SSD-5850]; Rixs Creek South (AQ) [SSD 6300]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	13	23	8	0	0 -
628	Private - Subject to Acquisition Rights	Glendell (Noise) [DA 80/952]: MOCO (AQ) [SSD-5850]; Rixs Creek North (Noise) [PA08_0102]; Rixs Creek South (AQ) [SSD 6300]	MOCO (AQ) [SSD-5850]; Rixs Creek South (AQ) [SSD 6300]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	13	21	6	0	0 -
629	Private - Subject to Acquisition Rights	MOCO (AQ) [SSD-5850]; Riss Creek North (AQ) [PA08_0102]; Riss Creek South (AQ) [SSD 6300]	MOCO (AQ) [SSD-5850]; Rixs Creek South (AQ) [SSD 6300]. Note - acquisitions apply to both contigious lots 103//852484 and 104//852484	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	11	21	4	0	0 -
735	Private - Commercial	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	57	150	157	72	6	0 -
797	Community Infrastructure	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	70	139	145	72	19	0 -
799	Community	_	_	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	70	139	145	72	19	0 -
	Infrastructure																										
800 829	Private - Commercial Private - Commercial	-	-	0		0	0				0		0		0	0	0	0		0	0	70		145	72	19	0 -
830	Private - Commercial	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 -
833	Private - Commercial	-	-	0	0	0	0			4	- 1	12	7	16	0	4	1	14	14	25	0	42		109	86	62	0 -
834 835	Private - Commercial	-	-	0		0	0	0			0		0	0	0	0		0	0	0	0	0		0	1	1	1 -
836	Private - Dwelling Private - Dwelling	-	-	0	0	0	0	0			0		0		0	0		0	0	0	0	0		0	1	1	0 -
837	Private - Dwelling	-	-	0		0	0	0			0	0	0	0	0	0		0		0	0	0			1	- 1	0 -
838	Private - Dwelling	-	-	0	0	0	0				0	0	0		0		0	0		0	0		0	0	1	- 1	0 -
839 840	Private - Dwelling	-	-	0	0	0	0	0			0	0	0	0	0	0		0	0	0	0	0		0	1	1	0 -
840 843	Private - Dwelling Private - Dwelling	-	-	0		0	0				0		0	0	0	0		0	0	0	0	0		0	0	0	0 -
846	Private - Dwelling	-	-	0	0	0	0				0		0		0	0		0	0	0	0	0		0	0	0	0 -
847	Private - Dwelling	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 -
852	Private - Dwelling	-	-	0		0					0		0		0	0		0	0	0	0	0		0	0	0	0 -
855 856	Private - Dwelling Private - Dwelling	-	-	0	0	0	0	0			0		0	0	0	0		0	0	0	0	0		0	0	0	0 -
860	Private - Subject to Acquisition Rights	Glendell (Noise) [DA 80/952]; Rixs Creek North (Noise & AQ) [PA08_0102]; Rixs Creek South (AQ) [SSD 6300]	Glendell [DA80/952]; Rixs Creek North (Noise) [PA08_0102]	0		0	0				0		0		0	0		0	0	0	0	3	14	24	13	0	0 -
861	Private - Subject to Acquisition Rights	Glendell (Noise) [DA 80/952]; Rixs Creek North (Noise) [PA08_0102]; IUG (Noise) [PA08_0101]; Rixs Creek South (AQ) [SSD 6300]	Glendell [DA80/952]; Rixs Creek North (Noise) [PA08_0102]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23	24	30	18	0	0 -
862	Private - Subject to Acquisition Rights	Glendell (Noise) [DA 80/952]; Rixs Creek North (Noise) [PA08_0102]; IUG (Noise) [PA08_0101]; Rixs Creek South (AQ) [SSD 6300]		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	63	32	47	14	0	0 -
363	Private - Subject to Acquisition Rights	Glendell (Noise) [DA 80/952]; Rixs Creek North (Noise) [PA08_0102]; IUG (Noise) [PA08_0101]; Rixs Creek South (AQ) [SSD 6300]	[PA08_0102]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	56	34	47	15	0	0 -
869	Private - Subject to Acquisition Rights	[DA 09_0176]; Rixs Creek North (Noise) [PA08_0102]	[PA08_0102] (acquisition applies to contigious	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	3	4	2	0 -
	Private - Subject to Acquisition Rights	[DA 09_0176]; Rixs Creek North (Noise)	Ashton (AQ & Noise) [DA309-11-2001-i]; Rixs Creek North (Noise) [PA08_0102] (acquisition	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	3	0	0 -
870		South (AQ) [SSD 6300]	applies to contigious						\vdash	\vdash				-	_						\rightarrow		\vdash	\rightarrow	\rightarrow	\rightarrow	_
	Private - Subject to	South (AQ) [SSD 6300] Rav Ops (AQ) [DA	applies to contigious Rav Ops (AQ) [DA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 -
947 949		South (AQ) [SSD 6300] Rav Ops (AQ) [DA	applies to contigious	0		0					0		0		0	0		0		0	0	0		0	0	0	0 -

Modelled annua	Il average PM10 conce	ntrations (ug/m3)	T	Proiec	t (HVO	N)				Project (HVO:	S)				Project	(HVO C	omplex)			Cumula	tive					
				4	52	53	33	40	44				2033	2040	2044	4	9 8	g g		5	4	4 7	52	59	33	040	4	iteria
ID D119	Status Monitor	Existing mitigation rights	Existing acquisition rights	0.2	0.6	1.3	1.5	2.2	2.2	2.8	1.9	2.1			0.9	3.0	2.5	3.4	3.8	5.1	3.1	18	19	20	21	20	17	ပ် 25
DL14 Warkworth	Monitor Monitor	-		0.5	1.1	2.3 0.5	3.0 0.6	4.2 0.9	5.1 1.0		1.9	1.3	1.1 4.4	0.9 4.0	0.2 1.3	2.3	3.0 2.5	3.6	4.2 5.1	5.1 4.8	5.3 2.2	20 25	21 45	22 41	22 37	21 23	20 16	25 25
	Monitor Monitor	-		0.2	0.4	0.8		1.4 3.1			1.5 3.0	1.9	2.4 1.6	3.2	1.0	3.0	1.9	2.8 3.7	3.4	4.7	2.5 4.0	20 20	23 22	22 22	26 22	22	17 18	25 25
DL22 DL21	Monitor Monitor	-	-	0.3	0.6	1.2	1.6	2.4	2.7	5.7	6.1	4.8	3.9	2.9	0.7	5.9	6.7 4.2	6.1 3.8	5.5 4.1	5.3	3.4 4.7	24 21	26 22	25 22	25 22	21	18 19	25 25
D122 DL30	Monitor Monitor		-	0.2	0.5	1.0	1.2	1.5	1.7	1.9	1.9	1.6	1.4	1.2	0.3	2.1	2.4	2.6	2.6	2.7	2.0	18	19	19			16	25 25
DL2	Monitor	-	-	0.8	2.0	4.5	6.3	8.9	12.1	4.1	4.4	2.7	2.2	1.5	0.4	4.9	6.3	7.2	8.5	10.3	12.5	23	26	27	28	28	27	25
	Monitor Monitor	-	-	1.2	2.7	0.5 5.8	7.3	0.9 8.5	12.0	2.7	2.8	1.9	1.6	1.1	0.3	3.6	2.5 5.5	7.8	5.1 8.9	4.8 9.6	12.3	25 25	45 28	41 30	37 31	23 30	16 27	25 25
Kilburnie South	Monitor Monitor	-		0.2	0.4	0.9	1.0	1.5	1.4	2.8	1.5	1.9	1.9 2.4	1.6 3.3	1.0	3.0	1.9	2.8	3.4	3.1 4.7	2.0	19 20	20 23	20 22	20 26	18 22	16 17	25 25
Wandewoi Howick	Monitor Monitor	-	-	0.5 12.6	1.3 16.2	3.1 17.9		7.0 5.0			5.3 1.1	6.3 0.9	8.0 0.7	12.3	4.0 0.2	10.7		18.8	12.2	19.3 5.6	10.8 5.3	27 44	25 51	28 53	31 45	35 38	25 20	25 25
	Monitor Monitor	-	-	0.1 17.7	0.2 79.3	0.5 74.8	0.6	0.7 20.5		2.1 3.5	1.6	1.9	2.3	2.1	0.7	2.2	1.8 82.8		2.8	2.9	1.5 28.3	41 45	58 151	58 146	58 179	18 89	16 43	25 25
Maison Dieu Warkworth	Monitor Monitor	-		0.5	1.0	2.2	3.0 0.6	4.1 0.8	5.0 0.8	1.9	1.9	1.3	1.1 3.0	0.9	0.2	2.3	3.0 1.9	3.6	4.1 3.6	5.0	5.3	20	21	22 36	22 35	21 20	19 16	25 25
Knodlers Lane	Monitor Monitor	-	-	0.3	0.7	1.4	1.9	2.7		5.4	5.8	4.1	3.2	2.4	0.6	5.7	6.4	5.5	5.0	5.1	3.7	23	25 17	24 18	24 18	21	18	25 25
Cheshunt East	Monitor	-	-	1.2	2.7	5.8	7.3	8.5	12.0	2.7	2.8	1.9	1.6	1.1	0.3	3.9	5.5	7.8	8.9	9.6	12.3	25	28	30	31	30	27	25
Long Point	Monitor Monitor	-	-	0.2	0.4	0.9	1.1	1.5	1.6	2.4	9.7	2.1	13.9	1.6	3.9 0.4	12.7 2.6	2.8	3.0	3.0	3.1	6.0 2.0	19	36 20	40 20	38 20	31 18	20 16	25 25
Kilburnie South	Monitor Monitor	-	-	0.2	0.4	0.9	1.0	1.4	1.4	2.8	1.6	1.9	2.4	3.2	1.0	3.0	1.9	2.8	3.4	4.7	2.5	20	23 23	22 22	26 26	22 22	17 17	25 25
	Monitor Monitor	-	-	0.5	1.0	2.2	3.0	4.1	5.0		1.9	1.3	1.1	0.9	0.3	2.4	3.0	3.6	4.1	5.0	5.2	20	21	22	22 22	21	19	25 25
Knodlers Lane 17	Monitor Private - Dwelling	-		0.3	0.8	1.7 0.1		3.1 0.1		2.9 0.2	3.0 0.1	2.0 0.2	1.6 0.2	1.3	0.3	3.2 0.2	3.8 0.2	3.7 0.3	3.8	4.4 0.3	4.0 0.2	20 15	22 16	22 16	22 16	20 15	18 14	25 25
	Private - Dwelling		-	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.3	0.3	0.3	0.2	15	16	16	16	15	14	25
102	Private - Dwelling Private - Subject to	Warkworth (Noise & AQ)	Warkworth (Noise & AQ)	0.0	0.1	0.1		0.2	0.2	2.7	1.8	2.4	3.2	3.0	1.0	2.8	2.0	2.9	3.8	3.8	1.8	16 26	16 38	16 37	16 35	15 21	14	25 25
120	Acquisition Rights Private - Dwelling	(SSD6464) HVOS (Noise & AQ)	[SSD6464)	0.3	0.8	1.7		3.1	3.7	2.9	3.0	2.0	1.6	1.3	0.3	3.3	3.8	3.7	3.8	4.4	4.0	20	22	22	22		18	25
		[06_0261] HVOS (Noise & AQ)	_								-	-						-		-	3.8	-					-	
121	Private - Dwelling	[06_0261] HVOS (Noise & AQ)		0.3	0.7	1.5		2.9		3.6	3.7	2.6	2.0	1.6	0.4	3.9	4.4	4.1	4.1	4.5		21	23	23	22	20	18	25
122	Private - Dwelling	[06_0261] HVOS (Noise & AQ)		0.4	0.8	1.7	2.3	3.2	3.8	2.6	2.7	1.8	1.5	1.2	0.3	3.0	3.5	3.5	3.7	4.4	4.1	20	22	22	22	20	18	25
	Private - Dwelling	[06_0261]	-	0.3	0.8	1.6	2.1	3.0	3.5	3.1	3.2	2.2	1.8	1.4	0.4	3.5	4.0	3.8	3.9	4.4	3.8	21	22	22	22	20	18	25
124	Private - Dwelling	HVOS (Noise & AQ) [06_0261]	-	0.4	0.8	1.8	2.3	3.2	3.8	2.5	2.6	1.8	1.4	1.2	0.3	2.9	3.4	3.5	3.7	4.3	4.1	20	22	22	22	20	18	25
126	Private - Dwelling	Warkworth (Noise) [SSD6464)	-	0.1	0.3	0.6		1.0		2.3	2.0	2.2	2.2	2.0	0.6	2.4	2.3	2.8	2.9	3.0	1.7	20	22	22	22	18	16	25
127	Private - Dwelling	- Warkworth (Noise)	-	0.3	0.7	1.4		2.2		2.4	2.4	1.9	1.6	1.3	0.3	2.7	3.1	3.2	3.3	3.5	2.8	20	21	21	21	19	17	25
	Private - Dwelling	[SSD6464) Warkworth (Noise)		0.2	0.4	0.8		1.3		2.6	2.5	2.4	2.3	2.1	0.5	2.7	2.9	3.2	3.2	3.3	1.9	20	21	22	22	18	16	25
	Private - Dwelling Private - Dwelling	[SSD6464)	-	0.2	0.4	0.9	1.1	1.4	1.6	2.5	2.5	2.3	2.1	1.8	0.5	2.7	2.9	3.2	3.1	3.2	2.0	19	21	21	21	18	16	25 25
139	Private - Dwelling	Warkworth (Noise)		0.2	0.4	0.8		1.3		2.3	2.3	2.1	1.9	1.7	0.4	2.5	2.7	2.9	2.9	3.0	1.9	19	20	20	20	18	16	25
141	Private - Dwelling	[SSD6464)	-	0.3	0.7	1.3	1.6	2.0			1.6	1.3	1.1	0.9	0.2	1.9	2.3	2.6	2.7	3.0	2.6	19	20	20	20	19	17	25
161	Private - Dwelling Private - Dwelling	HVOS (Noise) [06_0261] HVOS (Noise) [06_0261]	-	0.4	1.0	1.9 2.1	2.8	3.8 4.0			2.8	1.8	1.4	1.1	0.3	3.1 2.6	3.7	3.7	4.0	5.0	4.9 5.1	20	22	22	22 22	21	19	25 25
162 163	Private - Dwelling Private - Dwelling	HVOS (Noise) [06_0261] HVOS (Noise) [06_0261]	-	0.4	1.0	2.1	2.8	3.9 4.0	4.8	1.9	2.3	1.5	1.3	1.0	0.3	2.6	3.3	3.6	4.1	4.9	5.0	20	22	22	22	21	19	25 25
	Private - Dwelling Private - Dwelling	-	-	0.3	0.6	1.3		1.9			1.5	1.2	1.0		0.2	1.8	2.1	2.4	2.5	2.8	2.3	18 19	19 20	20 20	20 20	18 18	16 16	25 25
170	Private - Dwelling Private - Dwelling	-		0.3	0.6	1.2	1.4	1.8	2.0	1.7	1.7	1.3	1.2	1.0	0.2	1.9	2.3	2.5	2.6	2.8	2.3	19	19	20	20	18	16	25 25
174	Private - Dwelling		-	0.2	0.5	1.0	1.2	1.5	1.7	1.9	1.9	1.6	1.4	1.2	0.3	2.1	2.4	2.6	2.6	2.8	2.0	18	19	19	19	18	16	25
176	Private - Dwelling Private - Dwelling	-	-	0.2	0.5	1.0	1.2	1.6 1.6		1.8	1.9	1.6	1.4	1.2	0.3	1.9	2.4	2.6	2.6	2.8	2.1	18 18	19 19	19 19	19 19	18 18	16 16	25 25
178 179	Private - Dwelling Private - Dwelling	-	-	0.2	0.5	0.9		1.5		1.4	1.3	1.1	1.0	0.9	0.2	1.6	1.9	2.1	2.2	2.4	1.9	18	18	19 18	19	18	16 16	25 25
244 245	Private - Dwelling Private - Dwelling	HVOS (Noise) [06_0261] HVOS (Noise) [06_0261]		0.4	1.0	2.0	2.6	3.5	4.1		1.8	1.3	1.1	0.9	0.2	2.3	2.8	3.3	3.7	4.3	4.3	20	21	22 22	22 22	20 20	19 19	25 25
246 247	Private - Dwelling Private - Dwelling	HVOS (Noise) [06_0261] HVOS (Noise) [06_0261]	-	0.5	1.0	2.1		3.6 3.5	4.3 4.2		1.7	1.2	1.0	0.8	0.2	2.1	2.7	3.3	3.8	4.4	4.5 4.4	20 20	21 21	22 22	22 22	21 21	19 19	25 25
	Private - Dwelling Private - Dwelling	-		0.2	0.5	1.0	1.2		1.7	1.7	1.7	1.5	1.3		0.3	1.9	2.2	2.4	2.5	2.6	2.0	18	19	19	19	18	16	25 25
250	Private - Dwelling			0.2	0.5	1.0	1.2	1.4	1.6	1.0	1.0	0.8	0.8	0.7	0.2	1.3	1.5	1.9	1.9	2.1	1.7	17	18	18	18	17	16	25
	Private - Dwelling Private - Subject to	HVOS (Noise) [06_0261];	-	0.2		0.9					1.1	0.9	0.8		0.2	1.3	1.5	1.8	1.9	2.0	1.6	17	18	18	18		16	25
256	Acquisition Rights	Rav Ops (AQ) [DA 09_0176]	-	0.5	1.1	2.3		4.2	5.1	1.8	1.9	1.3	1.1	0.9	0.2	2.3	2.9	3.6	4.1	5.1	5.3	20	21	22	22	21	19	25
258 260	Private - Dwelling Private - Dwelling	HVOS (Noise) [06_0261] HVOS (Noise) [06_0261]	-	0.4		2.2	2.9	4.0 3.7	4.8 4.5	1.9	2.4	1.3	1.1	1.0	0.3	2.3	3.0	3.5	4.0	4.9	5.1 4.8	20	21	22	22	21	19 19	25 25
261	Private - Dwelling	HVOS (Noise) [06_0261] Warkworth (Noise)	-	0.4		1.9		3.7			2.7	1.7	1.4	1.1	0.3	3.0	3.6	3.7	4.0	4.8	4.8	20	22	22	22	21	19	25
262	Private - Dwelling Community	[SSD6464)	-	0.1	0.3	0.6		1.0		2.3	2.1	2.2	2.2	2.0	0.6	2.4	2.4	2.8	3.0	3.0	1.7	20	22	22	22		16	25
264	Infrastructure	- UWJV (Noise) [SSD7142];	-	0.1	0.2	0.4	0.6	0.8	0.8	2.5	1.7	2.3	3.0	2.8	0.9	2.6	2.0	2.8	3.6	3.6	1.7	26	37	36	35	20	16	25
266	Private - Dwelling	Wambo Coal Mine (Noise)	-	0.0	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.3	0.2	0.3	0.4	0.4	0.3	15	16	16	16	15	14	25
	Private - Subject to	[DA 305-7-2003] HVOS (Noise) [06_0261];	UWJV (Noise) [SSD7142]	0.2	0.4	0.9	1.2	1.7	1.6	3.3	1.9	2.3	2.8	3.9	1.2	3.5	2.3	3.2	3.9	5.5	2.9	20	24	23	27	23	17	25
	Acquisition Rights Glencore Owned -	UWJV (Noise) [SSD7142] HVOS (Noise) [06_0261];	UWJV (Noise) [SSD7142]	0.2		0.9		1.5		2.8	1.6	2.0	2.4	_	1.0	3.0	2.0	2.9	3.5	4.8	2.5	20	22	22	26		17	25
	Occupied Brigate Duelling	UWJV (Noise) [SSD7142] UWJV (Noise) [SSD7142];	5.75 v (140/56) [55D/ 142]					_			-			_		_	-	_	-	-		-						
	Private - Dwelling	HVOS (Noise) [06_0261] HVOS (Noise) [06_0261];		0.2		1.0		2.0			2.3	2.6	3.0		1.3	3.8	2.8	3.7	4.3	6.1	3.3	20	22	22	24		17	25
	Private - Dwelling Private - Dwelling	UWJV (Noise) [SSD7142]	- -	0.2	0.5	1.0		2.0	2.0	3.6	2.3	2.6	3.0 2.5	3.3	1.3	3.8	2.8	3.7	3.9	5.3	3.3	20 19	22	22	24	22	17	25 25
322	Private - Dwelling Private - Dwelling	-	-	0.2		1.2	1.4	2.0	2.0	2.8	1.9	2.1	2.3	3.0	0.9	3.0	2.5	3.3	3.7	5.0	2.9	18	19	20	21	20	17	25 25
326	Private - Dwelling	-	-	0.3	0.8	1.7	2.0	3.1	2.9	2.5	1.8	1.9	2.0	2.5	0.8	2.8	2.6	3.6	4.0	5.6	3.7	18	19	20	20	21	18	25
328	Private - Dwelling Private - Dwelling	-	-	0.3	0.8	1.7	2.0		2.9	2.7	1.8	1.9 2.1	2.0	2.8	0.8	3.0	2.6	3.7	4.1	5.7	3.8	18	18 19	20	20	21	18	25 25
331	Private - Dwelling Community	-	-	0.3	0.7	1.6		2.7	2.5	2.5	1.7	1.9	2.0	2.5	0.8	3.0	2.5	3.4	4.0	5.2	3.3	18	18	19	20	20	17	25 25
332	Infrastructure Private - Dwelling	-	-	0.3	0.7	1.5	1.6	2.5	2.3	2.5	1.7	1.9	2.0	2.6	0.8	2.8	2.4	3.3	3.7	5.0	3.1	18	19	19	20	20	17	25
333	Private - Dwelling Private - Dwelling	-	-	0.3	0.7	1.5	1.6	2.4	2.3	2.4	1.7	1.8	2.0		0.7	2.7	2.4	3.3	3.6	4.9	3.0	18	18	19	20		17	25 25
335	Private - Dwelling Private - Dwelling	-	-	0.3		1.4	1.6		2.2	2.4	1.7	1.8	2.0	2.5	0.7	2.7	2.4		3.6	4.8	3.0	18	18	19	20	20	17	25 25
337	Private - Dwelling	-	-	0.3	0.6	1.4	1.6	2.4	2.3	2.5	1.8	1.9	2.1	2.6	0.8	2.8	2.4	3.3	3.7	5.1	3.1	18	19	19	20	20	17	25
339	Private - Dwelling Private - Dwelling	-	-	0.3	0.6	1.4	1.4	2.5	1.9	2.2	1.8	1.7	1.8	2.3	0.8	2.9	2.5	3.4	3.8	5.2 4.2	3.2 2.6	18	19	20 19	20	19	17	25 25
341	Private - Dwelling Private - Dwelling	-	-	0.3	0.6	1.3	1.4		2.0	2.3	1.6 1.6	1.7	1.8	2.4	0.7	2.5 2.5	2.2	3.0	3.3	4.4	2.6	18 18	18 18	19 19		19	17 17	25 25
342	Private - Dwelling Private - Dwelling	-	-	0.3	0.6		1.5		2.0	2.3	1.6	1.8	1.9	2.4	0.7	2.6	2.2	3.1	3.4	4.5 4.5	2.7	18 18	18 18	19 19	20 20		17	25 25
344	Private - Dwelling Private - Dwelling	-	-	0.3		1.3	1.5	2.1	2.1	2.4	1.7	1.8	2.0	2.5	0.7	2.6	2.3	3.1	3.4	4.6	2.8	18	18	19			17	25 25
346	Private - Dwelling	-	-	0.3	0.6	1.3	1.5	2.2	2.1	2.5	1.7	1.9	2.0	2.5	0.8	2.7	2.3	3.2	3.5	4.8	2.9	18	19	19	20	20	17	25
348	Private - Dwelling Private - Dwelling	-	-	0.3			1.6		2.3	2.6	1.8	1.9	2.1	2.7	0.8	2.9	2.5		3.7	5.1 5.1	3.2	18	19	20 19		20	17	25 25
349 350	Private - Dwelling Private - Dwelling	-	-	0.3	0.6	1.4	1.6 1.6	2.3 2.3	2.3	2.5 2.6	1.8	1.9	2.1	2.6 2.6	0.8	2.8	2.4	3.3	3.6	5.0	3.1	18 18	19 19	19 19	20 20	20 20	17 17	25 25
351	Private - Dwelling Private - Dwelling	-	-	0.3		1.4	1.6	2.4	2.3	2.6	1.8	2.0	2.1		0.8	2.9	2.5	3.3	3.7	5.1	3.1	18	19	19	20	20	17	25 25
353	Private - Dwelling Private - Dwelling	-	-	0.3	0.6	1.4	1.6	2.5	2.4	2.7	1.9	2.0	2.2	2.8	0.8	2.9	2.5	3.4	3.8	5.2	3.2	18	19	20	20	20	17	25 25
356	Private - Dwelling	-	-	0.3	0.6	1.4	1.6	2.4	2.3	2.6	1.8	2.0	2.1	2.7	0.8	2.9	2.4	3.3	3.7	5.1	3.1	18	19	19	20	20	17	25
358	Private - Dwelling Private - Dwelling	-	-	0.3		1.4	1.5		2.2	2.6	1.8	1.9	2.1	2.7	0.8	2.8	2.4	3.3	3.6	5.0	3.0	18	19	19			17	25 25
	Private - Dwelling Private - Dwelling	-	-	0.3	0.6	1.4	1.6	2.4 2.4	2.3	2.7	1.8	2.0	2.2	2.8	0.8	2.9 3.0	2.5	3.4	3.7	5.1 5.2	3.1	18 18	19 19	20 20	20 20	20 20	17 17	25 25
361 362	Private - Dwelling Private - Dwelling	-	-	0.3	0.6	1.4		2.5 2.4	2.4	2.7	1.9	2.1	2.2		0.9	3.0	2.5	3.4	3.8	5.3	3.2	18 18	19 19	20 20	20 20	20	17 17	25 25
	Private - Dwelling Private - Dwelling	-	-	0.3	0.6	1.4	1.6	2.4	2.3	2.7	1.9	2.0	2.2	2.8	0.9	3.0	2.5	3.4	3.8	5.2	3.2	18	19	20	20	20	17	25 25
	Private - Dwelling	-	-	0.3							1.8	2.0		2.7							3.0		19	19			17	25

Modelled annua	al average PM10 concer	ntrations (ug/m3)		Project	t (HVO	N)				Project	(HVO	S)				Project (HVO	ompley)			Cumuk	ative					
ID	Status	Existing mitigation rights	Existing acquisition rights	2014	2025	2029	2033	SC	2044	2014	2025	2029			2044	4 200	0000	2033		2040	2044	2014	2025	2029	2033	2040	2044 Critorio	5
368 369	Private - Dwelling Private - Dwelling	-	-	0.3	0.6	1.3				2.6	1.8			2.7	0.8	2.9	2.4	3.3	3.7	5.0 5.1	3.1	18 18	19 19	20 20	20 20	20 20	17	25 25
370 371	Private - Dwelling Private - Dwelling	-	-	0.3		1.3		2.2	2.1		1.8	1.9	2.1	2.6	0.8	2.8	2.4	3.2	3.6	4.8	2.9	18	19	19	20	20	17	25
372 373	Private - Dwelling Private - Dwelling	-	-	0.3	0.6	1.3	1.4	2.1	2.0	2.4	1.7	1.8	2.0	2.5	0.8	2.7	2.3	3.1	3.4	4.6	2.8	18	19	19	20	20	17	25 25
374	Private - Dwelling	-		0.3	0.6	1.3	1.5	2.1	2.1	2.5	1.8	1.9	2.1	2.6	0.8	2.8	2.4	3.2	3.5	4.8	2.9	18	19	19	20	20	17	25 25
375 376	Private - Dwelling Private - Dwelling	-		0.3	0.6	1.3	1.5		2.2	2.5	1.8	1.9 2.0	2.1	2.6	0.8	2.8	2.4		3.5	4.8 5.1	3.0	18 18	19 19		20 20	20	17	25 25
377 380	Private - Dwelling Private - Dwelling	-	-	0.3	0.6	1.3	1.5	2.3	2.2	2.6	1.8	1.9	2.2	2.8	0.8	2.9	2.4	3.3	3.7	5.0 4.7	2.8	18 18	19		20	20	17	25 25
381	Private - Dwelling Community	-	-	0.2	0.6	1.3	1.4				1.8	1.9	2.1	2.7	0.8	2.8	2.4		3.5	4.7	2.8	18			20	20	17	25
382	Infrastructure Private - Dwelling	-	-	0.2	0.6	1.3	1.4	2.1	2.0		1.8	1.9	2.1	2.7	0.8	2.8	2.4	3.2	3.5	4.7	2.8	18 18			20	20	17	25 25
384	Private - Dwelling	-		0.3	0.6	1.3	1.4	2.1	2.0	2.6	1.8	1.9	2.1	2.7	0.8	2.8	2.4	3.2	3.6	4.8	2.9	18	19	19	20	20	17	25
385	Private - Dwelling Community			0.2	0.6	1.3	1.4				1.8	1.9	2.1	2.6	0.8	2.8	2.3	3.2	3.5	4.7	2.8	18 18	19	19 19	20	20	17	25 25
389	Infrastructure Private - Dwelling	-		0.2	0.6	1.3	1.4	2.1	2.1	2.7	1.9	2.0	2.2	2.8	0.9	2.9	2.4	3.3	3.7	5.0	2.9	18	19	20	21	20	17	25
390 391	Private - Dwelling Private - Commercial	-		0.2	0.6	1.2	1.4				1.9	2.0	2.2	2.8	0.9	2.9	2.4		3.6	4.9	2.9	18 18	19 19		21 21	20	17	25 25
392 393	Private - Dwelling Private - Dwelling	-		0.2	0.6	1.2	1.4	2.1	2.0	2.7	1.9	2.0	2.2	2.8	0.9	2.9	2.4	3.3	3.6	4.9	2.9	18	19	20	21	20	17	25 25
394	Private - Dwelling	-	-	0.2	0.6	1.2	1.4	2.1	2.0	2.7	1.9	2.0	2.2	2.8	0.9	2.9	2.4	3.3	3.6	4.9	2.9	18	19	20	21	20	17	25
395 396	Private - Dwelling Community	- -		0.2	0.6	1.3	1.5		2.1 1.8	2.8	1.9	1.9	2.3	2.9	0.9	2.7	2.5		3.7	5.1 4.5	2.6	18 18	19 19		21	20	17	25 25
397	Infrastructure Private - Dwelling	-		0.2	0.6	1.2	1.4	2.0	2.0	2.6	1.8	2.0	2.2	2.8	0.8	2.9	2.4	3.2	3.5	4.8	2.8	18	19		21	20	17	25
398 399	Private - Dwelling Private - Dwelling	-		0.2	0.5	1.2	1.3	1.9	1.9	2.5	1.7	1.9	2.1	2.6	0.8	2.7	2.3	3.1	3.4	4.6	2.7	18	19	19	20	20	17	25 25
400	Private - Dwelling	-	-	0.2	0.6	1.2	1.4	2.0	2.0	2.6	1.8	2.0	2.2	2.8	0.8	2.9	2.4	3.2	3.6	4.8	2.8	18	19	20	21	20	17	25
401 402	Private - Dwelling Private - Dwelling	-	-	0.2	0.6	1.2	1.4				1.8	2.0	2.2	2.8	0.8	2.9	2.4	3.2	3.6	4.8	2.8	18 18	19 19	20	20 20	20 20	17 17	25 25 25
403 404	Private - Dwelling Private - Dwelling	-	-	0.2	0.6	1.2	1.4	2.1	2.0 1.9	2.6	1.8	2.0 1.9	2.2	2.8	0.8	2.9	2.4	3.2	3.6	4.8	2.8	18 18	19 19	20 19	20 20	20	17	25
405 406	Private - Dwelling Private - Dwelling	-	-	0.2	0.6	1.2	1.4	2.1	2.0	2.6	1.8	2.0	2.2	2.8	0.8	2.9	2.4	3.2	3.6	4.8	2.8	18	19	20	20	20	17	25
407 408	Private - Dwelling Private - Dwelling	-	-	0.2	0.6	1.2	1.4	1.9	1.9	2.5	1.7	1.9	2.0	2.6	0.8	2.7	2.3	3.1	3.4	4.5	2.7	18	19	19	20	20	17	25 25
409	Private - Dwelling	-	-	0.2	0.6						1.7	1.8	2.0	2.6	0.8	2.7	2.3		3.4	4.5	2.6	18			20	20	17	25 25
410	Community Infrastructure	-	-	0.2	0.6	1.2	1.4	2.0			1.7	1.8	2.0	2.5	0.8	2.7	2.3	3.1	3.4	4.5	2.7	18	19	19	20	20	17	25
411	Private - Dwelling Community	-	-	0.2	0.6	1.2	1.4				1.7	1.8	2.0	2.6	0.8	2.7	2.3		3.4	4.5	2.7	18	19		20	20	17	25
412	Infrastructure Private - Dwelling	-	-	0.2	0.6	1.2	1.3		1.8	2.4	1.7	1.8	2.0	2.5	0.8	2.6	2.2		3.3	4.4	2.6	18	19	19 19	20	19 19	17	25 25
414	Private - Dwelling	-	-	0.2	0.6	1.2	1.3	1.9	1.8	2.4	1.7	1.8	2.0	2.5	0.8	2.6	2.2	3.0	3.3	4.4	2.6	18	19	19	20	19	17	25
415 417	Private - Dwelling Private - Dwelling	-		0.2	0.6	1.2	1.3		1.8 2.1		1.7	1.8	2.0	2.5	0.8	2.6	2.2		3.6	4.4	2.6	18 18	19 19		20	19 20	17	25 25
418 419	Private - Dwelling Private - Dwelling	-	-	0.3	0.6	1.3	1.4	2.0 1.8	2.0 1.7	2.4	1.7	1.8	1.9	2.5	0.8	2.7	2.3	2.9	3.4	4.5 4.1	2.7	18 18	19 18		20	20 19	17	25 25
420 421	Private - Dwelling Private - Dwelling	-		0.2	0.6	1.2	1.3	1.9	1.9	2.5	1.7	1.9	2.0	2.6	0.8	2.7	2.3	3.1	3.4	4.5 5.1	2.7	18 18	19 19		20 21	20 20	17	25
422	Private - Dwelling	-		0.3	0.6	1.3	1.5	2.2	2.1	2.7	1.8	2.0	2.2	2.8	0.8	2.9	2.4	3.3	3.7	5.0	3.0	18	19	20	20	20	17	25 25
423 425	Private - Dwelling Private - Dwelling	-		0.2	0.5	1.0	1.1	1.4	1.3	1.8	1.3	2.0 1.4	1.5	1.9	0.6	2.0	1.7		2.5	3.3	1.9	17	18	18	19	20 18	16	25 25
426 427	Private - Dwelling Private - Dwelling	-	-	0.2	0.4	0.9	1.0		1.3	1.8 2.2	1.3	1.4	1.5	2.0	0.6	2.0	2.0	2.7	3.0	3.3	1.9 2.2	17 18	18 18		19 20	18 19	16 16	25 25
428 429	Private - Dwelling Private - Dwelling	-		0.2	0.5	1.1	1.2	1.6 1.9	1.6 1.8	2.2	1.5	1.7	1.9	2.4	0.7	2.4	2.0	2.8	3.1	4.0	2.3	18 18	18 19	19 20	20 21	19 20	16 17	25 25
430 431	Private - Dwelling Private - Dwelling	-		0.2	0.5	1.1	1.2	1.7	1.7	2.3	1.6	1.8	2.0	2.5	0.8	2.5	2.1	2.9	3.2	4.2	2.4	18	19	19	20	19	16	25 25
432	Private - Dwelling	-		0.2	0.4	0.9	1.1	1.4	1.4	2.2	1.5	1.7	1.9	2.4	0.7	2.4	1.9	2.6	2.9	3.9	2.1	18	19	19	20	19	16	25
433 434	Private - Dwelling Private - Dwelling	UWJV (Noise) [SSD7142]	-	0.2	0.4	1.1	0.9 1.4	1.3 2.2	1.3 2.2	3.6	1.4 2.3	1.6 2.6	3.0	4.0	1.2	3.8	1.8 2.9		2.7 4.4	3.7 6.2	3.4	18 20	19 21	19 21	20	19 22	16 17	25 25
436 437	Private - Dwelling Private - Dwelling	-		0.2	0.5	1.1	1.3	2.0 3.2	1.9	3.2	2.1 1.7	2.4 1.8	2.7	3.7 2.4	0.7	3.4 2.8	2.6	3.5	4.0	5.6 5.7	3.1	19 18	21 18	21 19	23	22	17 18	25 25
438 440	Private - Dwelling Private - Dwelling	-		0.3	0.8	1.7	1.9	2.9	2.7		1.5	1.6	1.7	2.0	0.6	2.4	2.3	3.3	3.6	4.9	3.3	17	18	19	19	20	17	25
451	Private - Dwelling	UWJV (Noise) [SSD7142]		0.1	0.3	0.6	0.7	0.9	0.9	1.2	0.8	0.9	1.1	1.4	0.4	1.4	1.1	1.5	1.8	2.2	1.3	18	18	18	19	18	15	25 25
452 453	Private - Dwelling Private - Dwelling	UWJV (Noise) [SSD7142] UWJV (Noise) [SSD7142]	-	0.1	0.3	0.6	0.7	0.9	0.9	1.4	0.9	1.0 0.8	0.9	1.5	0.5	1.5	0.9	1.6	1.5	1.9	1.4	18 17	18 18	18	19 19	18 17	15 15	25 25
454 455	Private - Dwelling Private - Dwelling	UWJV (Noise) [SSD7142] UWJV (Noise) [SSD7142]		0.1	0.2	0.5	0.6	0.7	0.7	0.9	0.6	0.8	0.9	0.9	0.3	1.1	0.9	1.3	1.5	1.8	1.1	18 17	18 18	18 18	19 19	17	15 15	25 25
456 457	Private - Dwelling Private - Dwelling	UWJV (Noise) [SSD7142] UWJV (Noise) [SSD7142]		0.1	0.2	0.4	0.5	0.6	0.6	0.7	0.5	0.5	0.6	0.7	0.2	0.8	0.7	1.0 0.9	1.1	1.3	0.8	17 17	17 17	17 17	18 18	16 16	15 15	25 25
458 459	Private - Dwelling	UWJV (Noise) [SSD7142] UWJV (Noise) [SSD7142]		0.1	0.2	0.4	0.5	0.6			0.5	0.6	0.7	0.8	0.2	0.8	0.7	1.0	1.1	1.4	0.8	17	17		18	16 17	15 15	25 25
460	Private - Dwelling Private - Dwelling	UWJV (Noise) [SSD7142]	-	0.1	0.2	0.5	0.6	0.7	0.7	1.0	0.6	0.7	0.8	1.0	0.3	1.1	0.9	1.2	1.4	1.7	1.0	17	17	17	18	17	15	25
462 463	Private - Dwelling Glencore Owned -	UWJV (Noise) [SSD7142]	-	0.1	0.2	0.5	0.5 1.2		0.6 1.7		0.6 2.0	0.7 2.4	2.9	4.0	1.2	3.6	2.4		4.1	1.6 5.7	3.0	17 20	17 23	17 23	18 26	17 23	15	25 25
464	Occupied Private - Dwelling	-		0.2					1.0		1.0				0.5				2.1	2.6	1.5	17		18	18	17	16	25
466	Private - Dwelling	- Rav Ops (AQ) [DA	- Ashton (AQ & Noise)	0.2	0.5	1.1	1.1	1.5	1.4	1.7	1.2				0.5	1.9			2.5	3.2	2.0	17	17	18	19	18	16	25
471	Private - Subject to Acquisition Rights	09_0176]; HVOS (AQ)	[DA309-11-2001-i]; Rav	1.2	2.4	4.5	4.7	4.0	4.5	0.9	0.8	0.7	0.6	0.5	0.1	2.1	3.2	5.2	5.3	4.4	4.7	26	28	30	29	26	19	25
472	Private - Dwelling	[06_0261]	Ops (AQ) [DA 09_0176]	0.1	0.2	0.3	0.3	0.4	0.4		0.3	0.4	0.4	0.4	0.1	0.5	0.5		0.7	0.9	0.5	15	15	15	16	15	15	25 25
473 477	Private - Commercial Private - Dwelling	- UWJV (Noise) [SSD7142]	-	0.2	0.2	1.3 0.3	1.4 0.3	2.1 0.4	0.4	2.6 0.4	1.8	2.0 0.4	2.1 0.4	2.7 0.5	0.8	2.9 0.5	2.4 0.5	0.7	3.6 0.7	4.8 0.9	2.9 0.6	18 16	19 16	16	20 16	20 15	17 15	25
478 481	Private - Dwelling Private - Dwelling	UWJV (Noise) [SSD7142]	-	0.1	0.3	0.5	0.6 1.2		0.8 1.5	1.1	0.7 1.5	0.8 1.7	1.0	1.2 2.4	0.4	1.2	1.0	1.4 2.7	1.6 3.0	2.0 3.9	1.2	17 18	18 18		19 20	17 19	15 16	25 25
482	Private - Dwelling Community	-	-	0.3	0.6	1.4	1.6	2.4	2.3	2.6	1.8	2.0	2.2	2.7	0.8	2.9	2.5	3.4	3.7	5.1	3.1	18	19	20	20	20	17	25
483 484	Infrastructure Private - Dwelling	-	-	0.3	0.6	1.3	1.5		2.2	2.5	1.7	1.9	2.0	2.6	0.8	2.8	2.4		3.6	4.9 5.0	3.0	18 18	19		20	20	17	25 25
487	Private - Dwelling	-	-	0.3	0.8	1.8	2.1	3.1	2.9	2.2	1.6	1.7	1.8	2.2	0.6	2.5	2.4	3.5	3.9	5.3	3.6	17	18	19	20	20	18	25
488 489	Private - Dwelling Private - Dwelling	-	-	0.3	0.7	1.5 1.5	1.7	2.6 2.5		1.9	1.4	1.4	1.5	1.8	0.5	2.1	2.1	3.0	3.3	4.4	2.9	17 17	18 18		19 19	19 19	17 17	25 25
497	Private - Subject to	HVOS (Noise) [06_0261]; Rav Ops (AQ) [DA	Rav Ops (AQ) [DA 09 0176]	0.5	1.1	2.4	3.1	4.2	5.2	1.7	1.7	1.2	1.1	0.8	0.2	2.2	2.8	3.6	4.2	5.1	5.4	19	21	22	22	21	20	25
498	Acquisition Rights Private - Dwelling	09_0176] HVO South (Noise)	-	0.4	1.0		2.7	3.5			1.8	1.2	1.1	0.9	0.2	2.2	2.8		3.7	4.4	4.5	20			22	21	19	25
			Rixs Creek North (Noise) [PA08_0102] (lots												Ť	Ť					-						Ť	
			2//1111313 & 3//1111313);																									
499	Private - Subject to Acquisition Rights	Rixs Creek North (Noise) [PA08_0102]; Rixs Creek	Ashton (AQ & Noise) [DA309-11-2001-i]; Rixs	1.2	2.2	4.0	4.0	3.1	3.4	0.7	0.6	0.5	0.5	0.4	0.1	1.8	2.9	4.5	4.5	3.5	3.5	25	27	28	28	25	18	25
	Acquisitori regita	South (AQ) [SSD 6300]	Creek South (AQ) [SSD 6300] (lots 2//1111313 &																									
			3//1111313)																									
507	Community	-	-	0.3	0.5	0.7	0.6	0.4	0.4	0.1	0.1	0.1	0.1	0.1	0.0	0.4	0.6	0.8	0.7	0.5	0.4	21	31	31	32	18	16	25
511	Infrastructure Community	_	_	0.2	0.4	0.6	0.5	0.4	0.4	0.1	0.1	0.1	0.1	0.1	0.0	0.4	0.5	_	0.6	0.5	0.4	20	24	24	25	17	16	25
311	Infrastructure	Rixs Creek North (Noise)	Disa Const M. d	U.Z	0.4	U.6	0.0	0.4	0.4	U. 1	0.1	0.1	U. 1	0.1	0.0	U.4	0.0	0.1	0.0	0.5	0.4	20	24	24	20	17	10	
592	Private - Subject to Acquisition Rights	[PA08_0102]; MOCO (AQ) [SSD-5850]; IUG (Noise)	[FA06_0102], WOCO (AQ)	0.3	0.5	0.7	0.6	0.4	0.4	0.1	0.1	0.1	0.1	0.1	0.0	0.4	0.6	0.9	0.7	0.5	0.5	21	27	27	28	18	17	25
	, aquadur rugris	[PA08_0101]	[SSD-5850]																								\perp	
	Private - Subject to	Rixs Creek North (Noise & AQ) [PA08_0102]; Glendell	Rixs Creek North (Noise &																									
596	Acquisition Rights	(Noise) [DA 80/952]; IUG	AQ) [PA08_0102]; IUG (Noise) [PA08_0101]	0.7	1.2	1.8	1.5	1.0	0.9	0.2	0.2	0.2	0.2	0.1	0.0	0.9	1.4	2.0	1.7	1.1	1.0	28	50	50	49	21	16	25
	Private - Subject to	(Noise) [PA08_0101]													-	+		+	\perp								_	\dashv
598	Acquisition Rights	MOCO (AQ) [SSD-5850]	MOCO (AQ) [SSD-5850]	0.3	0.4	0.7	0.6	0.4	0.4	0.1	0.1	0.1	0.1	0.1	0.0	0.4	0.5	8.0	0.7	0.5	0.4	21	27	27	28	18	17	25
599	Private - Subject to Acquisition Rights	MOCO (AQ) [SSD-5850]	MOCO (AQ) [SSD-5850]	0.3	0.4	0.7	0.6	0.4	0.4	0.1	0.1	0.1	0.1	0.1	0.0	0.4	0.6	8.0	0.7	0.5	0.4	22	29	29	30	19	17	25
612	Private - Subject to		MOCO (AQ) [SSD-5850] vacant lots 31//6842 and			-						Ţ.				T						-	~		00			
613	Acquisition Rights		2//1175728 within landholding only	0.3	0.4	0.7	0.6	0.4	0.4	0.1	0.1	0.1	0.1	0.1	0.0	0.4	0.6	8.0	0.7	0.5	0.4	22	29	29	30	19	17	25
614	Private - Dwelling	-	-	0.3	0.4	0.7	0.6	0.4	0.4	0.1	0.1	0.1	0.1	0.1	0.0	0.4	0.6	0.8	0.7	0.5	0.4	22	29	29	30	19	17	25

	al average PM10 concer	ntrations (ug/m3)	T	Proiec	(HVO	N)				Project	(HVQ	S)				Project	(HVO	Compl	ex)			Cumul	ative					
				4	ις	ر. ور	63	0	4	4			n	Q	4	4	ις. (2	တ္	e0	Q	4	4	ίζ	g.	6	0	4	iteria
D	Status	Existing mitigation rights	Existing acquisition rights	201	2025	2029	2033	204	204	201	2025	2029	2033	2040	2044	201	2025	2029	2033	2040	204	201	2025	202	203	204	204	Crit
619	Private - Subject to Acquisition Rights	MOCO (AQ) [SSD-5850]; Glendell (Noise) [DA 80/952]; Rixs Creek North (Noise) [PA08_0102]; Rixs Creek South (AQ) [SSD 6300]	MOCO (AQ) [SSD-5850]; Rixs Creek South (AQ) [SSD 6300]	1.1	1.8	2.8	2.3	1.4	1.4	0.3	0.3	0.3	0.3	0.2	0.1	1.4	2.1	3.1	2.6	1.6	1.4	29	32	33	31	23	16	
621	Private - Subject to Acquisition Rights	Rixs Creek North (Noise & AQ) [PA08_0102]; Rixs Creek South (AQ) [SSD 6300]	Rixs Creek North (Noise) [PA08_0102]; Ashton (AQ) [DA309-11-2001-i]	1.2	2.1	3.4	3.0	2.0	2.0	0.4	0.4	0.3	0.3	0.3	0.1	1.6	2.5	3.7	3.3	2.3	2.1	31	35	36	35	28	17	:
523	Community Infrastructure		-	1.4	2.3	3.6	3.0	1.9	1.8	0.4	0.4	0.3	0.3	0.3	0.1	1.8	2.7	4.0	3.4	2.1	1.9	29	31	32	31	25	17	
624	Private - Subject to Acquisition Rights	MOCO (AQ) [SSD-5850]; Rixs Creek South (AQ) [SSD 6300]	MOCO (AO) [SSD-5850]; Rixs Creek South (AO) [SSD 6300]. Note - acquisitions apply to all 9 contigious lots 1//248748, 2/9/758214, 3/9/758214, 4/9/758214, 5/9/758214, 8/9/758214, 9/9/758214	1.3	2.2	3.5	2.9	1.8	1.7	0.4	0.4	0.3	0.3	0.2	0.1	1.7	2.6	3.8	3.2	2.0	1.8		32	33	31	25	17	
626	Private - Subject to Acquisition Rights	Glendell (Noise) [DA 80/952]; MOCO (AQ) [SSD-5850]; Rixs Creek North (Noise) [PA08_0102]; Rixs Creek South (AQ) [SSD 6300] Glendell (Noise) [DA	MOCO (AQ) [SSD-5850]; Rixs Creek South (AQ) [SSD 6300]. Note - acquisitions apply to both contigious lots 1/8/758214 and 2/8/758214	1.3	2.1	3.4	2.8	1.7	1.6	0.4	0.4	0.3	0.3	0.2	0.1	1.7	2.5	3.7	3.1	1.9	1.7	30	33	34	32	2 25	17	:
627	Private - Subject to Acquisition Rights	Glernole (Noise) [DA 80/952]; MOCO (AQ) [SSD-5850]; Rixs Creek North (Noise) [PA08_0102]; Rixs Creek South (AQ) [SSD 6300] Glendell (Noise) [DA	MOCO (AQ) [SSD-5850]; Rixs Creek South (AQ) [SSD 6300]	1.2	2.0	3.2	2.6	1.6	1.5	0.4	0.4	0.3	0.3	0.2	0.1	1.6	2.4	3.5	2.9	1.8	1.6	30	32	34	32	24	17	:
628	Private - Subject to Acquisition Rights	Seriote (Noise) (DA 80/952]; MOCO (AQ) [SSD-5850]; Rixs Creek North (Noise) [PA08_0102]; Rixs Creek South (AQ) [SSD 6300]	MOCO (AQ) [SSD-5850]; Rixs Creek South (AQ) [SSD 6300]	1.2	2.0	3.1	2.5	1.5	1.5	0.4	0.3	0.3	0.3	0.2	0.1	1.6	2.3	3.4	2.8	1.8	1.5	30	32	33	31	24	16	:
629	Private - Subject to Acquisition Rights	MOCO (AQ) [SSD-5850]; Rixs Creek North (AQ) [PA08_0102]; Rixs Creek South (AQ) [SSD 6300]	MOCO (AQ) [SSD-5850]; Riss Creek South (AQ) [SSD 6300]. Note - acquisitions apply to both contigious lots 103//852484 and 104//852484	1.2	1.9	2.9		1.5	1.4		0.3	0.3	0.3	0.2	0.1	1.5		3.2	2.6	1.7	1.5			33		24	16	
735	Private - Commercial Community	-	-	1.2	1.9	2.8					0.4					1.7		3.1	2.5	1.7				48			18	
797	Infrastructure	-	•	1.4	2.1	3.2	2.4	1.6	1.6	0.5	0.5	0.4	0.3	0.3	0.1	1.9	2.6	3.5	2.8	1.8	1.6	40	46	47	36	27	18	- 1
799	Community Infrastructure	-	-	1.4	2.1	3.2	2.4	1.6	1.6	0.5	0.5	0.4	0.3	0.3	0.1	1.9	2.6	3.5	2.8	1.8	1.6	40	46	47	36	27	18	1
800	Private - Commercial			1.4	2.1	3.2			1.6		0.5	0.4	0.3	0.3	0.1	1.9	2.6	3.5	2.8	1.8	1.6		46				18	
829 830	Private - Commercial Private - Commercial	-	-	0.1	0.3	0.7			1.2		2.4	2.7	2.7	2.5	0.7	2.9	2.8	3.4	3.5	3.6	1.9			25 29			16 16	
833	Private - Commercial			0.1	0.4	0.8		1.7	2.0		9.6		2.6 14.5	14.5	4.3	13.2	10.0	15.8	15.6	16.2	6.3		37	41	39	18	20	
834	Private - Commercial	-	-	0.2	0.6	1.2			2.1		1.9	2.0	2.2	2.9		2.9	2.4	3.3	3.7	5.0								
835 836	Private - Dwelling Private - Dwelling	-		0.3	0.6	1.4		2.3	2.2	2.6	1.8	1.9	2.1	2.7	0.8	2.9	2.4	3.3	3.7	5.0 4.8	3.1 2.9						17 17	
837	Private - Dwelling			0.3	0.6	1.3			2.1		1.8	1.9	2.1	2.6	0.8	2.8	2.4	3.2	3.6	4.8	2.9		19			20	17	
838	Private - Dwelling			0.2	0.6	1.3			2.1		1.8	2.0	2.1			2.9		3.2	3.6	4.9	2.9		19					
839 840	Private - Dwelling Private - Dwelling			0.2	0.6	1.2	1.4	2.0	1.9	2.5	1.7	1.9	2.1	2.6	0.8	2.7	2.3	3.1	3.4	4.6	2.7						17 17	
843	Private - Dwelling			0.3	0.6	1.1	1.3	1.6	1.7	1.1	1.1	0.9	0.8	0.7	0.2	1.4	1.6	2.0	2.1	2.2	1.9	18	18	19	19	18	16	
846 847	Private - Dwelling Private - Dwelling			0.4	0.7	1.4	1.6	1.8	2.0	1.0	0.9	0.7	0.6	0.6	0.1	1.3	1.6	2.2	2.3	2.4	2.2		20 19				16 16	
852	Private - Dwelling			0.3	0.7	1.4							0.7	0.7	0.2	1.5	1.8	2.3	2.4	2.6								
855	Private - Dwelling			0.2	0.5	0.9	1.2	1.5	1.7		1.9	1.6	1.4	1.2	0.3	2.1	2.3	2.5	2.6	2.7	2.0	18						- 3
856	Private - Dwelling Private - Subject to Acquisition Rights	(Noise & AQ) [PA08_0102]; Rixs Creek South (AQ) [SSD 6300]	Glendell [DA80/952]; Rixs Creek North (Noise) [PA08_0102]	1.1	1.8	2.9		1.8	1.5	0.4	0.3	0.9	0.8	0.7	0.2	1.5	2.2	3.2	2.7	1.8	1.6		36	37			16	
861	Private - Subject to Acquisition Rights	Glendell (Noise) [DA 80/952]; Rixs Creek North (Noise) [PA08_0102]; IUG (Noise) [PA08_0101]; Rixs Creek South (AQ) [SSD 6300]	Glendell [DA80/952]; Rixs Creek North (Noise) [PA08_0102]	0.9	1.4	2.2	1.8	1.1	1.1	0.3	0.3	0.2	0.2	0.2	0.1	1.2	1.7	2.5	2.0	1.3	1.1	30	38	39	37	22	16	:
862	Private - Subject to Acquisition Rights	Glendell (Noise) [DA 80/952]; Rixs Creek North (Noise) [PA08_0102]; IUG (Noise) [PA08_0101]; Rixs Creek South (AQ) [SSD 6300]	Rixs Creek North (Noise) [PA08_0102]	1.1	1.8	2.7	2.2	1.3	1.3	0.3	0.3	0.3	0.2	0.2	0.1	1.4	2.1	2.9	2.4	1.5	1.3	35	36	37	35	24	17	:
863	Private - Subject to Acquisition Rights	Glendell (Noise) [DA 80/952]; Rixs Creek North (Noise) [PA08_0102]; IUG (Noise) [PA08_0101]; Rixs Creek South (AQ) [SSD 6300]	[PA08_0102]	1.0	1.6	2.5	2.0	1.2	1.2	0.3	0.3	0.2	0.2	0.2	0.1	1.3	1.9	2.7	2.2	1.4	1.2	34	37	38	35	24	17	:
	T.	Rav Ops (AQ and Noise)	Ashton (AQ & Noise) [DA309-11-2001-i]; Rixs Creek North (Noise)	0.9	1.8	3.5	4.0	4.1	4.9	0.9	0.9	0.7	0.7	0.5	0.2	1.8	2.7	4.3	4.7	4.6	5.0	22	23	25	25	23	19	- 1
869	Private - Subject to Acquisition Rights	[DA 09_0176]; Rixs Creek North (Noise) [PA08_0102]	[PA08_0102] (acquisition applies to contigious							-	_	_				-	-		_	_				\vdash	-		-	-
869	Acquisition Rights Private - Subject to Acquisition Rights	North (Noise) [PA08_0102] Rav Ops (AQ and Noise) [DA 09_0176]; Rixs Creek North (Noise) [PA08_0102]; Rixs Creek South (AQ) [SSD 6300]	[PA08_0102] (acquisition applies to contigious Ashton (AQ & Noise) [DA309-11-2001-i]; Rixs Creek North (Noise) [PA08_0102] (acquisition applies to contigious	0.9	1.8	3.5	3.9	3.9	4.7	0.9	0.9	0.7	0.6	0.5	0.1	1.8	2.6	4.2	4.5	4.4	4.9	22	23	25	25	5 23	19	:
	Acquisition Rights Private - Subject to	North (Noise) [PA08_0102] Rav Ops (AQ and Noise) [DA 09_0176]; Rixs Creek North (Noise) [PA08_0102]; Rixs Creek	[PA08_0102] (acquisition applies to contigious Ashton (AQ & Noise) [DA309-11-2001-i]; Rixs Creek North (Noise) [PA08_0102] (acquisition	0.9	1.8	3.5					0.9		1.0			1.8		4.2	4.5	4.4 5.1	4.9 5.4						19	

		PM2.5 concentrations (ug/m		Projec	I (HVO	(1)	~	_	_	Project	(HVO		~			O)OOL								_	_	_	
)	Status	Existing mitigation rights	Existing acquisition rights	2014	2025	2028	2033	2040	2044	2014	2025	N	2033	2040	2044		202	2028	2033	2040	2044	2014	2025	2029	2033	2040	2044
119 L14	Monitor Monitor	-		1.4	1.4					1.4	3.0 5.5		2.4	3.5 2.5		4.2 5.8	3.0 5.5	4.2	4.3 5.2	8.0 6.0	8.0 5.9						
arkworth	Monitor			0.5	0.5	1.0	1.3	1.6	2.0	0.5	4.1	4.6	6.6	5.6	2.3	5.4	4.6	5.7	7.6	6.9	3.5	17	7 35	22	2 20	19	15
18 odlers Lane	Monitor Monitor	-	-	1.6	1.6	3.1 2.9	3.7	4.5		1.6	3.7 5.5	4.1 5.2	3.8 4.3	5.5 3.6		6.0	3.8 5.5	4.5 5.2	4.3	7.6 5.4	5.5 4.9						
22	Monitor	-	-	1.2	1.2	2.4	3.1	4.1	4.8	1.2	7.9	6.9	5.7	4.3	1.1	8.3	8.3	7.8	7.2	6.7	5.5	16	6 16	16	16	3 15	15
21 22	Monitor Monitor	-	-	1.6	1.6	3.2		4.7 2.2			6.5 2.7	5.3 2.5	4.0 2.2	3.3 2.2		8.2 3.1	6.5 3.2	5.3 3.5	5.2 3.4	5.9 3.5	5.7 2.5						
30	Monitor			0.8	0.8	1.5	2.0	2.9	3.5	0.8	12.8	13.7	14.2	11.3	3.3 1	12.4	13.6	15.0	15.6	13.4	6.1	20	0 24	1 25	5 23	3 18	15
2 arkworth	Monitor Monitor		-	2.8	2.8 0.5	5.4		9.5			10.4	6.6 4.6	4.8 6.6	3.7 5.6		9.9 5.4	10.8	8.1 5.7	7.4	10.3	12.4			3 19			
eshunt East	Monitor			3.6	3.6	6.8	7.7	9.1	11.0	3.6	6.3	4.4	3.5	2.8	0.8	6.5	7.5	7.1	8.3	9.6	11.1	19	9 20) 22	2 22	2 22	16
ng Point burnie South	Monitor		-	0.9	0.9	1.8	2.0	2.2 4.6		0.9 1.6	3.1	3.1 4.1	2.9	2.8 5.5		6.0	3.5	4.0	4.0	4.2 7.7	2.7 5.5	15					
andewoi	Monitor			4.0	4.0		10.3	15.1	24.5	4.0	6.7	7.5	6.1	12.2	5.0 1	13.0		10.1	11.0	20.2	26.7	18	8 17	19	20		32
wick olden Highway	Monitor Monitor		-	25.7 0.5	25.7 0.5	32.1	19.5	11.9		25.7 0.5	2.3	2.1 3.5	3.6	3.8		3.6	3.1	4.2	21.6 4.8	14.0 5.4	13.0		2 38			2 26 2 15	20
C1 Conveyor	Monitor			40.2	40.2	68.2	102.5	30.7	33.8	40.2	5.2	4.6	4.2	3.8	1.0 1	15.0	41.4	68.6	103.6	32.1	34.3	2	5 55	88	126	50	40
aison Dieu arkworth	Monitor Monitor		-	1.9	1.9	3.6 0.9		4.8		1.9	5.6 3.1	3.1	2.6 4.4	2.6 4.3		4.3	5.6 3.6	4.6	5.1	5.9	5.8						
odlers Lane	Monitor		-	1.4	1.4	2.7	3.4	4.4	5.2	1.4	7.5	5.3	5.1	4.3	1.1	8.0	7.9	6.4	6.1	6.3	5.7	16	6 16	16	16	3 15	15
rrys Plains neshunt East	Monitor Monitor	-	-	1.6	1.6 3.6	3.1 6.8		5.4 9.1		1.6	1.7 6.3	1.6 4.4	1.3	1.8		2.5 6.5	7.5	7.1	4.3 8.3	6.5 9.6	6.1						
/GC	Monitor		-	0.8	0.8	1.5				0.8	14.3	16.4	15.6			15.5	15.1	17.9	17.5	17.1	8.0				27	7 22	
ng Point Iburnie South	Monitor Monitor	-	-	0.9	0.9	1.8	2.0	2.2 4.6		0.9	3.1	3.1 4.1	2.9	2.8 5.5		6.0	3.5	4.0	4.0	4.2 7.7	2.7 5.6						
burnie South			-	1.6	1.6	3.1				1.6	3.7	4.1	3.8			6.0	3.8	4.5	4.3	7.6	5.5						
ison Dieu	Monitor		-	1.9	1.9	3.6		4.8		1.9	5.7	3.2	2.7	2.6		6.2	5.7	4.6	5.1	5.9	5.8						
aison Dieu odlers Lane	Monitor Monitor		-	1.9	1.9	3.6 2.9		4.8		1.9	5.6	3.1 5.2	2.6 4.3	2.6 3.6		6.0	5.6	4.6 5.2	5.1 4.9	5.9 5.4	5.8 4.9						
,	Private - Dwelling		-	0.2	0.2	0.4	0.4	0.5	0.5	0.2	0.5	0.6	0.6	0.5	0.2	0.7	0.6	0.8	0.9	0.9	0.7	16	6 16	16	3 16	3 15	15
7	Private - Dwelling Private - Dwelling		-	0.2	0.2	0.4		0.5		0.2	0.5	0.6	0.6	0.5		0.7	0.6	0.8	0.9	0.9	0.7						
12	Private - Subject to	Warkworth (Noise & AQ)	Warkworth (Noise & AQ)	0.5	0.5	0.9		1.4		0.5	3.2	3.7	4.7	4.5		4.5	3.7	4.5	5.7	5.7	3.1	18					
	Acquisition Rights	[SSD6464) HVOS (Noise & AQ)	[SSD6464)														-						+			-	
10	Private - Dwelling	[06_0261]	•	1.5	1.5	2.9	3.5	4.0	4.6	1.5	5.5	5.2	4.3	3.6	0.9	6.5	5.5	5.2	4.9	5.4	4.9	16	6 16	3 16	3 16	6 15	15
11	Private - Dwelling	HVOS (Noise & AQ) [06_0261]	-	1.4	1.4	2.8	3.3	4.0	4.6	1.4	4.6	5.1	4.8	3.9	1.0	5.0	4.7	5.1	5.1	5.5	5.0	15	5 16	16	16	6 15	15
12	Private - Dwelling	HVOS (Noise & AQ)	-	1.6	1.6	3.0	3.5	4.0	4.5	1.6	5.6	5.1	4.1	3.4	0.8	6.8	5.6	5.1	4.8	5.3	4.8	15	5 16	3 16	3 16	6 15	15
	*	[06_0261] HVOS (Noise & AQ)															_	_					-		-	-	
3	Private - Dwelling	[06_0261]	-	1.5	1.5	2.8	3.4	3.9	4.5	1.5	5.0	5.2	4.6	3.8	0.9	5.8	5.0	5.3	4.9	5.4	4.8	15	5 16	3 16	3 16	3 15	15
4	Private - Dwelling	HVOS (Noise & AQ) [06_0261]	-	1.6	1.6	3.0	3.5	3.9	4.5	1.6	5.6	5.1	4.0	3.4	0.8	6.9	5.6	5.1	4.7	5.3	4.7	15	5 16	3 16	3 16	3 15	15
26	Private - Dwelling	Warkworth (Noise)		0.7	0.7		1.6			0.7	2.9	2.8	2.7	2.6		3.4	3.7	4.2	4.1	4.1	2.7	15	+			-	
26 27		[SSD6464)		1.3		2.5				1.3		-			- 1	-	-										
17	Private - Dwelling	- Warkworth (Noise)		0.8	1.3						3.3	3.2	3.3			3.6	3.7	4.0	4.1	4.2	3.3						
	Private - Dwelling	[SSD6464)			0.8	1.5	_		2.4	0.8	2.8	3.0	3.1	3.2	-	3.4	3.6	4.0	3.9	_	2.8			-	-		-
10	Private - Dwelling	Warkworth (Noise) [SSD6464)	<u>- </u>	0.9	0.9	1.7				0.9	3.1	3.2	3.0	3.0		3.6	3.5	4.1	4.0	4.3	2.7						
14	Private - Dwelling		-	0.9	0.9	1.7	2.0	2.2	2.5	0.9	3.1	3.2	2.9	2.9	0.8	3.5	3.5	4.0	4.0	4.2	2.7	15	5 15	15	15	5 15	15
19	Private - Dwelling	Warkworth (Noise) [SSD6464)	-	0.8	0.8	1.6	1.8	2.1	2.3	0.8	2.9	3.0	2.8	2.8	0.8	3.3	3.2	3.7	3.8	4.1	2.6	15	5 15	15	15	5 15	15
1	Private - Dwelling		-	1.4	1.4	2.5	2.7	2.7		1.4	2.7	3.0	2.9	2.4		3.0	2.8	3.2	3.3	3.4	3.0						
0 1	Private - Dwelling Private - Dwelling	HVOS (Noise) [06_0261] HVOS (Noise) [06_0261]	-	1.7	1.7	3.3				1.7	6.6	4.7 3.9	3.5	3.0 2.8		7.3	6.6	4.7	5.2	5.9	5.5 5.6						
2	Private - Dwelling	HVOS (Noise) [06_0261]	-	1.8	1.8						6.4		3.0	2.8		7.5	6.4	4.7	5.1	5.8	5.6			16	3 16		
7	Private - Dwelling Private - Dwelling	HVOS (Noise) [06_0261]	-	1.9	1.9	3.5	4.1 2.5	4.6 2.6		1.9	5.8 2.3	3.4 2.6	2.7	2.7		6.5 2.7	5.8	2.9	3.0	5.8	5.6 2.9						
9	Private - Dwelling		-	1.2	1.2	2.3	2.5	2.5	2.8	1.2	2.8	2.5	2.3	2.1	0.6	3.0	3.1	3.2	3.2	3.5	2.9	15	5 15	15	15	5 15	15
'0 '3	Private - Dwelling Private - Dwelling		-	1.3	1.3	2.4 1.9				1.3	2.6	2.3	2.3	2.0		3.3	3.4	3.8	3.0	3.4	2.9						
'4	Private - Dwelling			1.1	1.1	2.0	2.2	2.2	2.4	1.1	2.7	2.6	2.3	2.2	0.6	3.1	3.3	3.5	3.5	3.6	2.6	15	5 15	15	15	5 15	15
6	Private - Dwelling Private - Dwelling		-	1.1	1.1	2.1	2.2	2.3		1.1	2.6	2.5	2.2	2.1 1.9		2.8	2.9	3.4	3.3	3.4	2.6						
8	Private - Dwelling		-	1.2	1.2	2.1			2.5	1.2	2.3	2.0	1.7	1.6	0.4	2.5	2.5	2.6	2.6	3.1	2.6	15	5 15	15	15	5 15	15
9	Private - Dwelling	LINOS (Noine) IOS 03841	-	1.1	1.1	1.9				1.1	2.3	2.0	1.8	1.7		2.4	2.5	2.7	2.7	3.1	2.5						
14 15	Private - Dwelling Private - Dwelling	HVOS (Noise) [06_0261] HVOS (Noise) [06_0261]	-	1.7	1.7	3.2				1.7	5.5	3.8	2.8	2.6		6.8	5.5	4.5	4.6	5.2	4.7						
16	Private - Dwelling	HVOS (Noise) [06_0261]	-	1.8	1.8			4.2		1.8	5.3		2.5	2.5		6.3	5.3	4.5	4.6	5.2	4.9						
7 8	Private - Dwelling Private - Dwelling	HVOS (Noise) [06_0261]	-	1.8	1.8	3.3				1.8	5.2 2.5	3.3 2.4	2.5	2.5		2.9	3.0	4.6 3.2	4.5 3.2	5.1 3.3	4.8 2.6						
19	Private - Dwelling	-		1.2	1.2	2.1	2.2	2.3	2.6	1.2	2.5	2.2	1.8	1.8	0.5	2.6	2.7	2.8	2.8	3.2	2.7	15	5 15	15	15	5 15	15
i0 i1	Private - Dwelling Private - Dwelling		-	1.2	1.2	2.0				1.2	1.8	1.6	1.5	1.4		2.0	2.1	2.2	2.3	2.8	2.4						
	Private - Subject to	HVOS (Noise) [06_0261];																									
6	Acquisition Rights	Rav Ops (AQ) [DA 09_0176]	-	1.9	1.9	3.6	4.2	4.8	5.8	1.9	5.4	3.0	2.5	2.5	0.8	5.7	5.4	4.6	5.1	5.9	5.8	16	6 16	3 16	3 16	15	15
8	Private - Dwelling	HVOS (Noise) [06_0261]		1.9	1.9	3.5				1.9	5.7		2.7	2.6		6.4	5.7	4.5	5.0	5.8	5.6						
0	Private - Dwelling Private - Dwelling	HVOS (Noise) [06_0261] HVOS (Noise) [06_0261]	-	1.8	1.8	3.3					6.2		3.2			7.6 8.1	6.2	4.7	5.0	5.7	5.3						
2		Warkworth (Noise)	-														-										
2	Private - Dwelling	[SSD6464)	-	0.7	0.7	1.4	1.6	2.0	2.2	0.7	2.9	2.8	2.8	2.7	1.0	3.4	3.7	4.2	4.1	4.0	2.7	15	5 15	5 15	5 15	5 15	15
i4	Community Infrastructure	-	-	0.5	0.5	0.9	1.1	1.4	1.7	0.5	3.1	3.6	4.4	4.4	1.9	4.3	3.6	4.3	5.3	5.5	3.1	18	8 19	19	19	17	15
		UWJV (Noise) [SSD7142];																									
6	Private - Dwelling	Wambo Coal Mine (Noise) IDA 305-7-20031	-	0.2	0.2	0.4	0.5	0.6	0.7	0.2	0.6	0.7	0.7	0.7	0.2	0.9	0.7	1.0	1.1	1.2	0.9	16	6 16	3 16	3 16	6 15	15
8	Private - Subject to	HVOS (Noise) [06_0261];	UWJV (Noise) [SSD7142]	1.8	1.8	3.4	4.1	5.0	4.7	1.8	3.9	4.1	3.8	5.7	2.0	6.2	4.1	4.6	4.7	8.3	6.2	10	7 17	7 17	7 19	9 18	17
	Acquisition Rights Glencore Owned -	HVOS (Noise) [55D7142]					-									_	_	_					_	-	-		
0	Occupied -	UWJV (Noise) [SSD7142]	UWJV (Noise) [SSD7142]	1.7	1.7	3.3	3.9	4.6	4.4	1.7	3.6	3.9	3.7	5.4	1.9	5.9	3.9	4.6	4.5	7.8	5.8	17	7 17	17	19	9 18	16
1	Private - Dwelling	UWJV (Noise) [SSD7142]; HVOS (Noise) [06_0261]	-	1.9	1.9	3.6	3.9	5.4	6.5	1.9	3.2	3.3	3.1	4.4	1.6	5.1	3.5	4.7	5.1	8.4	7.8	17	7 17	17	18	3 18	17
7	Private - Dwelling	HVOS (Noise) [06_0261];		1.9	1.9	3.6		5.4		1.9	3.2	3.3	3.0			4.9	3.5	4.6	5.1	8.3	7.9		_	-	-	+	
1	Private - Dwelling	UWJV (Noise) [SSD7142]	-	1.7	1.7						3.1		2.7			4.5	3.2	4.4	4.7	8.3	7.5						
2	Private - Dwelling	-		1.5	1.5	2.8	3.0	6.4	6.6	1.5	3.0	3.0	2.5	3.7	1.3	4.3	3.1	4.3	4.5	8.1	7.2	16	6 16	3 16	3 17	7 18	17
4	Private - Dwelling Private - Dwelling	-	-	1.6 1.9	1.6			6.4 7.9			3.1 2.5		2.5	3.8 2.7		4.4 3.5	3.2 2.7	4.4	4.6 5.6	8.2 9.4	7.3 9.4						
7	Private - Dwelling	-	-	1.9	1.9	4.0	4.6	8.1	8.8	1.9	2.4	2.3	1.9	2.6	1.0	3.5	2.7	4.8	5.8	9.6	9.3	16	6 16	3 17	17	7 18	16
8	Private - Dwelling	-	-	1.8	1.8			7.9	9.6	1.8	2.7	2.5	2.1	3.1	1.1	3.8	2.9	4.6	5.5	9.6	10.2	16				7 18	16
0	Private - Dwelling Community		-	1.8	1.8		1						1.9			3.6	2.7	4.7	5.2	8.8							
1	Infrastructure	Ī		1.7	1.7						2.7		2.1	3.0		3.8	2.8	4.6	5.2	9.2	9.9						
3	Private - Dwelling Private - Dwelling	-	-	1.7	1.7					1.7	2.6		1.9			3.7	2.8	4.5	4.8	8.3 8.2	8.9 8.7						
4	Private - Dwelling	-	-	1.8	1.8	3.8	3.3	6.0	7.6	1.8	2.6	2.4	1.9	2.8	1.0	3.6	2.7	4.7	4.7	7.9	8.3	16	6 16	16	3 17	7 18	16
5 6	Private - Dwelling Private - Dwelling	-	-	1.8							2.6		1.9			3.7	2.7	4.6	4.7	8.1 8.6	8.6 9.2						
7	Private - Dwelling	-	-	1.6	1.6	3.4	3.2	6.2	8.2	1.6	2.7	2.5	2.0	2.9	1.1	3.8	2.8	4.3	4.6	8.2	8.9	16	6 16	16	3 17	7 18	16
3	Private - Dwelling Private - Dwelling	-	-	1.6	1.6	3.3	3.2	6.2	8.4	1.6	2.7	2.6	2.1	3.0		3.9	2.9	4.3	4.6 4.2	8.3	9.1		6 16	16	3 17	7 18	16
)	Private - Dwelling	-	-	1.7	1.7	3.7	3.2	5.9	6.6	1.7	2.5	2.4	1.9	2.8	1.0	3.6	2.8	4.6	4.3	7.0	7.3	16	6 16	16	3 17	7 17	
	Private - Dwelling	-	-	1.7	1.7	3.6	3.2	5.9	6.7	1.7	2.6	2.5	1.9	2.9	1.0	3.7	2.7	4.5	4.3	7.1	7.5	16	6 16	3 16	3 17	7 18	16
3	Private - Dwelling Private - Dwelling	-		1.7	1.7			6.0	7.0	1.7	2.6	2.5	1.9	2.9		3.7	2.7	4.5	4.3	7.2	7.7	16			3 17	7 18	
ļ.	Private - Dwelling	-	-	1.6	1.6	3.5	3.2	6.0	7.1	1.6	2.6	2.5	2.0	2.9	1.0	3.7	2.8	4.4	4.3	7.4	7.9	16	6 16	16	3 17	7 18	16
i i	Private - Dwelling Private - Dwelling	-	-	1.6	1.6			6.1			2.7	2.5	2.0	3.0		3.8	2.8	4.4	4.3	7.5 7.6	8.0						
,	Private - Dwelling	-	-	1.6	1.6	3.3	3.2	6.3	8.3	1.6	2.7	2.6	2.1	3.0	1.1	3.9	2.9	4.3	4.5	8.2	9.0	16	6 16	16	3 17	7 18	16
3	Private - Dwelling Private - Dwelling	-	-	1.6 1.6	1.6 1.6						2.7	2.6 2.6	2.0	3.0		3.9	2.8	4.3	4.5 4.5	8.0	8.8 8.7						
9	Private - Dwelling Private - Dwelling		-	1.6	1.6	3.3	3.2	6.2	7.9	1.6	2.7	2.6	2.0	3.0	1.1	3.9	2.8	4.3	4.4	7.9 7.9	8.6		6 16	16	3 17	7 18	16
1	Private - Dwelling	-	-	1.6	1.6	3.3	3.2	6.3	8.1	1.6	2.8	2.6	2.0	3.1	1.1	3.9	2.9	4.3	4.5	8.0	8.8	16	6 16	16	17	7 18	16
3	Private - Dwelling Private - Dwelling	-	-	1.6	1.6					1.6 1.6	2.8		2.1			3.9	2.9	4.3	4.5 4.5	8.1 8.2	9.0						
5	Private - Dwelling		-	1.5	1.5	3.2	3.2	6.4	8.3	1.5	2.8	2.7	2.1	3.1	1.1	4.0	2.9	4.3	4.5	8.2	9.1	16	6 16	3 16	3 17	7 18	16
6	Private - Dwelling	-	-	1.6	1.6						2.8	2.7	2.0	3.1		3.9	2.9	4.3	4.5	7.9	8.7		6 16	16	3 17	7 18	16
7 B	Private - Dwelling Private - Dwelling	-	-	1.6 1.6	1.6 1.6	3.3					2.8		2.0	3.1		3.9	2.9	4.4	4.4	7.8 7.8	8.5 8.5						
9	Private - Dwelling	-	-	1.5	1.5	3.2	3.2	6.4	8.1	1.5	2.8	2.7	2.1	3.1	1.1	4.0	2.9	4.3	4.4	8.0	8.8	16	6 16	16	3 17	7 18	16
1	Private - Dwelling Private - Dwelling	-	-	1.5	1.5	3.2		6.4			2.8		2.1	3.2		4.0	2.9	4.3	4.5 4.5	8.1 8.2	9.0						
	Private - Dwelling	-	-	1.5	1.5	3.1	3.2	6.4	8.2	1.5	2.9	2.7	2.1	3.2	1.2	4.0	3.0	4.2	4.4	8.0	9.0	16		16	3 17	7 18	17
2							3.2	C 4		1.5	2.9	2.7			1 2												17
	Private - Dwelling Private - Dwelling		-	1.5	1.5								2.1	3.2		4.0	3.0 2.9	4.2	4.4	7.9 7.8	8.9						

Modelled maxim	num 24-hour average P	M2.5 concentrations (ug/n	n3)	Projec	t (HVO	N)			i	Project	(HVO	S)				Project	t (HVO	Comple	ex)		(Cumulat	tive					
ID	Status	Existing mitigation rights	Existing acquisition rights	9014	1025	620	033	040	1044	2014	2025	5029	2033	040	2044	9014	1025	620	033	040	044	9014	025	620	033	040	044 Criteria	
368 369	Private - Dwelling Private - Dwelling	-	-	1.5		3.2	3.2	6.4	7.8	1.5	2.8	2.7	2.1			4.0	2.9	4.3		7.8	8.6	16	16 16		17	18 18	16 17	25
370 371	Private - Dwelling Private - Dwelling	-	-	1.6	1.6	3.3	3.2	6.3	7.4	1.6	2.8	2.6	2.1	3.1	1.1	3.9	2.9	4.4		7.5	8.2 7.9	16	16	16	17	18	16	2
372	Private - Dwelling	-	-	1.6	1.6	3.4	3.2	6.2	6.8	1.6	2.7	2.6	2.1	3.1	1.1	3.9	2.8	4.4	4.2	7.4	7.6	16	16	16	17	18	16	25 25 25
373 374 375	Private - Dwelling Private - Dwelling Private - Dwelling	-	-	1.5 1.5 1.5	1.5	3.3 3.2 3.3	3.2 3.2 3.2	6.3 6.3	7.1 7.0 7.0	1.5 1.5 1.5	2.8 2.8 2.8	2.7	2.1 2.1 2.1	3.2 3.2 3.2	1.1 1.1 1.1	4.0 4.0 4.0	2.9 2.9 2.9	4.3 4.3 4.3	4.2 4.2 4.2	7.6 7.6 7.6	7.9 7.9 7.8	16 16	16 16	16 16	17 17	18 18 18	16 16	25
376 377	Private - Dwelling Private - Dwelling	-	-	1.5	1.5	3.1	3.2	6.5	7.3 7.5	1.5	2.9	2.8	2.3	3.3	1.2	4.1	3.0	4.2	4.2	7.8	8.2 8.3	16 16	16 16	16 16	17	18	17	25
380 381	Private - Dwelling Private - Dwelling	-	-	1.5	1.5	3.2	3.1	6.2	6.3	1.5	2.8	2.8	2.2	3.3	1.2	4.0	2.9	4.3	4.2	7.7	7.2	16 16	16 16	16	17	18	16 16	25
382	Community Infrastructure	-	-	1.5		3.2	3.2	6.3	6.5	1.5	2.8	2.7	2.2	3.3	1.2	4.0	2.9	4.3	4.2	7.7	7.4	16	16	16	17	18	16	25
383 384	Private - Dwelling Private - Dwelling	-	-	1.5		3.2	3.2	6.3 6.3	6.8	1.5	2.8	2.8	2.2	3.3	1.2	4.0	2.9	4.3 4.3	4.2	7.7	7.7	16 16	16 16	16 16	17 17	18 18	16 16	25 25
385	Private - Dwelling Community	-	-	1.5	1.5	3.2	3.2	6.3	6.6	1.5	2.8	2.7	2.2	3.2	1.1	4.0	2.9	4.3	4.2	7.6	7.5	16	16	16	17	18	16	25
386	Infrastructure Private - Dwelling	-	-	1.5		3.3	3.2	6.1	6.1	1.5	2.8		2.1	3.2	1.1	3.9 4.2	2.9	4.4	4.1	7.5	7.0	16	16 16	16	17	18	16	25
390 391	Private - Dwelling Private - Commercial	-	-	1.4	1.4	3.0	3.1	6.4	6.6	1.4	2.9	2.8	2.3	3.4	1.2	4.2	3.0	4.2	4.3	7.9	7.5	16 16	16 16	16	17	18	17	25
392 393	Private - Dwelling Private - Dwelling	-	-	1.4	1.4	2.9	3.1	6.4	6.5	1.4	2.9	2.9	2.4	3.4	1.2	4.2	3.0	4.1 4.1	4.3	7.9 7.9	7.4	16 16	16 16	16	17 17	18 18	17 17	25 25
394 395	Private - Dwelling Private - Dwelling	-	-	1.4	1.4	2.9	3.1	6.4	6.4	1.4	2.9	2.9	2.4	3.4	1.2	4.2	3.0	4.1		7.9	7.3	16	16	16	17	18	17	25
396	Community Infrastructure	-		1.3		2.8	2.9	5.9	6.0	1.3	2.8		2.2	3.3	1.2	3.9	2.9	4.0	4.1	7.4	6.5	16	16		17	17	16	25
397 398	Private - Dwelling Private - Dwelling	-	-	1.3		2.9	3.0	6.2	6.3	1.3	2.9	2.8	2.3	3.4	1.2	4.1	3.0 2.9	4.1 4.1	4.2	7.7 7.5	7.0 6.6	16 16	16 16	16 16	17 17	18 17	16 16	25 25
399 400	Private - Dwelling Private - Dwelling	-	-	1.3	1.3	2.9	3.0	6.2	6.3	1.3	2.9	2.8	2.3	3.4	1.2	4.1	3.0	4.1	4.2	7.8	7.0	16 16	16 16	16	17	18	16 16	25
401 402	Private - Dwelling Private - Dwelling	-	-	1.4	1.4	2.9	3.0	6.3		1.4	2.9	2.8	2.3	3.4	1.2	4.1	3.0	4.1		7.7	7.1	16 16	16 16	16	17	18	16	25
403 404	Private - Dwelling Private - Dwelling	-	-	1.4	1.4	3.0	3.1	6.3	6.3	1.4	2.9	2.8	2.3	3.4	1.2	4.1	3.0	4.2	4.2	7.8	7.2	16	16	16	17	18	16	25
405 406	Private - Dwelling Private - Dwelling	-	-	1.4	1.4	3.0	3.1	6.3		1.4	2.9	2.8	2.3	3.4	1.2	4.1	3.0	4.2	4.2	7.8	7.2	16	16	16	17	18	16	25 25
407 408	Private - Dwelling Private - Dwelling	-	-	1.4	1.4	3.1	3.0	6.1	6.0	1.4	2.8	2.7	2.2	3.2	1.1	4.0		4.2	4.1	7.5	6.8	16	16 16	16	17	17	16 16	25
409	Private - Dwelling Community	-	-	1.5	1.5	3.1	3.1	6.1	6.0	1.5	2.8	2.7	2.1	3.2	1.1	3.9	2.9	4.3	4.1	7.5	6.8	16	16	16	17	17	16	25
410 411	Infrastructure Private - Dwelling	-	-	1.5		3.2	3.1	6.1	6.1	1.5	2.8		2.1	3.2	1.1	3.9		4.4	4.1	7.5	6.9	16	16 16	16	17	17	16 16	25
412	Community Infrastructure	-	-	1.5		3.2	3.1	6.0		1.5	2.7	2.6	2.1	3.1	1.1	3.9	2.9	4.3	4.1	7.4	6.7	16	16	16	17	17	16	25
413 414	Private - Dwelling Private - Dwelling	-	-	1.5		3.2	3.1	5.9 6.0	5.8 5.8	1.5	2.7	2.7	2.1	3.2	1.1	3.9	2.8	4.3 4.3	4.1	7.3	6.5	16 16	16 16	16 16	17 17	17 17	16 16	25 25
415 417	Private - Dwelling Private - Dwelling	-	-	1.5	1.5	3.2	3.1	6.0		1.5	2.7	2.6	2.1	3.1	1.1	3.9		4.3 4.4	4.1	7.3 7.5	6.6	16 16	16 16		17	17	16 16	25
418 419	Private - Dwelling Private - Dwelling	-	-	1.6	1.6	3.5	3.2	6.1 5.7	6.5	1.6	2.7	2.6	2.1	3.1	1.1	3.9	2.8	4.5	4.2	7.4	7.4	16	16	16	17	18	16 16	25
420 421	Private - Dwelling Private - Dwelling	-	-	1.4	1.4	3.0	3.0	6.1	6.0	1.4	2.8	2.7	2.2	3.3	1.2	4.0	2.9	4.2	4.1	7.5	6.7	16	16 16	16	17	17	16	25 25
422 423	Private - Dwelling Private - Dwelling	-	-	1.5	1.5	3.1	3.2	6.4		1.5	2.9	2.8	2.3		1.2	4.1		4.2	4.2	7.8	7.9	16	16 16		17	18	17	25 25
425 426	Private - Dwelling Private - Dwelling	-	-	1.4		3.0	2.7	4.7 4.6	4.7	1.4	2.2	2.1	1.8	2.5	0.9	3.1	2.6	4.0	3.6	6.0	5.2	16 16	16 16	16 16	16 16	16 16	16 16	25 25
427 428	Private - Dwelling Private - Dwelling	-	-	1.5		3.1	2.9	5.4 5.5	5.4 5.5	1.5 1.5	2.5 2.5		2.2	3.1	1.1	3.6	3.0	4.4 4.4	4.1	6.9 7.1	6.0	16 16	16 16	16 16	16 16	16 16	16 16	25 25
429 430	Private - Dwelling Private - Dwelling	-	-	1.6	1.6	2.9	3.0 2.9	6.1 5.7		1.6	2.9	2.9	2.3	3.6	1.3	4.2 3.8	3.1	4.4	4.5	7.9 7.3	6.9	16 16	16 16		17 17	17	16 16	25 25
431 432	Private - Dwelling Private - Dwelling	-	-	1.6		3.0	2.9	6.1 4.6	6.3 4.9	1.6	2.9		2.4	3.7	1.3	4.2	3.1 2.9	4.4		7.9 6.6	7.0 5.6	16 16	16 16	16 16	17 17	17 16	16 16	25 25
433 434	Private - Dwelling Private - Dwelling	UWJV (Noise) [SSD7142]	-	1.5		2.9	2.6 3.4	4.0 6.2	4.4 7.5	1.5	2.8	2.8	2.7	3.7 4.5	1.3	4.2	3.0	3.6 4.7	3.6 5.1	6.2 8.7	5.2 8.6	16 17	16 16	16 17	17 17	16 18	16 17	25 25
436 437	Private - Dwelling Private - Dwelling	-	-	1.9		3.6 4.0	3.3 4.7	5.7 8.1	6.6 8.5	1.9	3.0 2.3	3.2	2.8	4.2 2.6	1.5	4.7 3.4	3.4 2.7	4.6 4.8	4.9 5.9	8.2 9.5	7.8	16 16	16 16	17 17	18 17	17 18	16 16	25 25
438 440	Private - Dwelling Private - Dwelling	-	-	1.8		3.6	4.1 3.2	6.8 5.0	7.0 5.7	1.8	2.0	1.9	1.6 2.8	2.2 3.9	0.8	2.9 4.6	2.4	4.2	5.2 4.5	8.0 7.5	7.4 6.8	16 16	16 16	16 17	16 17	17 17	16 16	25 25
451 452	Private - Dwelling Private - Dwelling	UWJV (Noise) [SSD7142] UWJV (Noise) [SSD7142]	-	1.2		2.3	2.5 2.5	2.8	2.7	1.2	2.0	2.4	2.3	2.8	1.0	3.1	2.2	2.9	2.8	4.7	3.5	16 16	16 16	16 16	17 17	16 16	16 16	25 25
453 454	Private - Dwelling Private - Dwelling	UWJV (Noise) [SSD7142] UWJV (Noise) [SSD7142]	-	1.1		2.1	2.2	2.4		1.1	1.8		2.1	2.5	0.9	2.7	1.9	2.6		4.1	3.2	16 16	16 16	16 16	16 17	16 16	16 16	25 25
455 456	Private - Dwelling Private - Dwelling	UWJV (Noise) [SSD7142] UWJV (Noise) [SSD7142]	-	1.0		1.9	2.0	2.2	2.2 1.9	1.0	1.4	1.7	1.7	1.9	0.7	2.0	1.7	2.4	2.1 1.9	3.6	2.7	16 16	16 16	16 16	17 16	16 16	16 16	25 25
457 458	Private - Dwelling Private - Dwelling	UWJV (Noise) [SSD7142] UWJV (Noise) [SSD7142]	-	0.9		1.6 1.7	1.8	1.9 1.9	1.9	0.9	1.0		1.2	1.6	0.6	1.8	1.4	2.0	1.9	2.9	2.2	16 16	16 16	16 16	16 16	16 16	16 16	25 25
459 460	Private - Dwelling Private - Dwelling	UWJV (Noise) [SSD7142] UWJV (Noise) [SSD7142]	-	1.1		2.0 1.9	2.0	2.3	2.5	1.1	1.9		2.1	2.5	0.9	2.8	2.0 1.9	2.6	2.6	4.0 3.8	3.1	16 16	16 16	16 16	16 16	16 16	16 16	25 25
462	Private - Dwelling Glencore Owned -	UWJV (Noise) [SSD7142]	-	1.0		1.8	1.8	2.1		1.0	1.6		1.8	2.1 5.4	0.7	2.3		2.3	2.3	3.5 8.2	6.3	16	16 17	16 17	16	16	16 17	25 25
464	Occupied Private - Dwelling	-	-	1.0		2.4	2.2	3.8		1.0	1.8		1.9	2.4	0.8	2.8		3.5		5.1	4.3	16	16		16	16	16	25
466	Private - Dwelling	- Rav Ops (AQ) [DA	- Ashton (AQ & Noise)	1.6	1.6	3.4	2.8	4.7	4.6	1.6	2.1	2.0	1.5	2.3	0.8	3.0	2.5	4.2	3.6	5.8	5.3	16	16	16	16	16	16	25
471	Private - Subject to Acquisition Rights	09_0176]; HVOS (AQ) [06_0261]	[DA309-11-2001-i]; Rav Ops (AQ) [DA 09_0176]	3.3		5.1	5.0	4.2	4.9	3.3	2.0	1.7	1.5	1.4	0.4	2.5	3.3	5.1	5.1	4.9	5.1	17	18	18	18	16	15	25
472 473	Private - Dwelling Private - Commercial	-	-	0.6 1.5	1.5	1.2 3.1	0.9 3.2	1.5 6.4		0.6 1.5	0.7 2.9	2.8	0.8 2.3	0.9 3.3	0.3 1.2	1.1 4.1	1.1 3.0	1.6 4.3	4.2	7.8	1.7 7.5	16 16	16 16	16	16 17	16 18	15 16	25 25
477 478	Private - Dwelling Private - Dwelling	UWJV (Noise) [SSD7142] UWJV (Noise) [SSD7142]	-	0.7 1.1	0.7 1.1	1.3 2.1	1.4 2.1	1.5 2.4	2.6	0.7 1.1	0.8 2.0	2.2	0.7 2.2	1.2 2.6	0.4	1.4 2.9	1.1 2.1	1.6 2.6	2.7	2.2 4.2	1.7 3.3	16 16	16 16	16 16	16 16	16 16	15 16	25 25
481 482	Private - Dwelling Private - Dwelling	-	-	1.5 1.5		3.0	2.8 3.2	5.3 6.3		1.5 1.5	2.5 2.8		2.2	3.1	1.1	3.6 3.9		4.3 4.3		6.9 8.0	6.0 8.9	16 16	16 16		16 17	16 18	16 16	25 25
483	Community Infrastructure	-	-	1.6		3.4	3.2	6.2	7.6	1.6	2.7	2.6	2.0	3.0	1.1	3.8	2.8	4.4	4.4	7.7	8.4	16	16	16	17	18	16	25
484 487	Private - Dwelling Private - Dwelling	-	-	1.6	1.9	3.4	3.2 4.5	6.1 7.4	7.4	1.6	2.7	2.6	1.7	3.0 2.3	1.1 0.8	3.8	2.8	4.3 4.5	5.6	8.0 8.6	8.8 7.9	16 16	16 16	16 16	17	18 17	16 16	25 25
488 489	Private - Dwelling Private - Dwelling	-	-	1.6 1.6		3.1	3.7	5.9 6.0		1.6	1.8		1.4	2.0	0.7	2.6	2.2	3.7 3.8		7.0	6.6	16 16	16 16		16 16	16 16	16 16	25 25
497	Private - Subject to Acquisition Rights	HVOS (Noise) [06_0261]; Rav Ops (AQ) [DA	Rav Ops (AQ) [DA 09_0176]	2.0	2.0	3.7	4.2	4.9	5.8	2.0	4.8	2.7	2.3	2.4	0.7	5.0	4.8	4.6	5.1	5.9	5.9	16	16	16	16	15	15	25
498	Private - Dwelling	09_0176] HVO South (Noise)	-	1.8	1.8	3.3	3.8	4.1	4.8	1.8	5.4	3.5	2.6	2.5	0.8	6.5	5.4	4.4	4.6	5.2	4.9	16	16	16	16	16	15	25
			Rixs Creek North (Noise) [PA08_0102] (lots																									
499	Private - Subject to Acquisition Rights	Rixs Creek North (Noise) [PA08_0102]; Rixs Creek South (AQ) [SSD 6300]	2//111313 & 3//111313); Ashton (AQ & Noise) [DA309-11-2001-i]; Rixs Creek South (AQ) [SSD 6300] (lots 2//1111313 & 3//111313)	2.8	2.8	4.5	4.4	3.5	4.6	2.8	1.6	1.4	1.3	1.2	0.3	2.0	2.8	4.6	4.4	4.2	4.8	16	16	17	17	16	15	25
507	Community Infrastructure	-	-	1.3	1.3	2.1	2.0	1.6	1.4	1.3	0.5	0.5	0.4	0.5	0.2	0.9	1.3	2.1	2.1	1.7	1.4	15	19	19	19	15	15	25
511	Community Infrastructure	-	-	1.1	1.1	1.8	1.8	1.4	1.3	1.1	0.5	0.4	0.4	0.4	0.1	0.8	1.1	1.9	1.9	1.5	1.3	15	17	17	17	15	15	25
592	Private - Subject to Acquisition Rights	Rixs Creek North (Noise) [PA08_0102]; MOCO (AQ) [SSD-5850]; IUG (Noise) [PA08_0101]	Rixs Creek North (Noise) [PA08_0102]; MOCO (AQ) [SSD-5850]	1.3	1.3	2.0	2.0	1.5	1.6	1.3	0.5	0.5	0.5	0.4	0.1	0.9	1.3	2.1	2.1	1.6	1.6	15	17	17	17	15	15	25
596	Private - Subject to Acquisition Rights	Rixs Creek North (Noise & AQ) [PA08_0102]; Glendell (Noise) [DA 80/952]; IUG (Noise) [PA08_0101]	Rixs Creek North (Noise & AQ) [PA08_0102]; IUG (Noise) [PA08_0101]	1.8	1.8	2.8	3.1	2.9	2.9	1.8	0.7	0.7	0.7	0.7	0.2	1.4	1.9	2.9	3.3	3.2	3.0	17	27	27	27	16	15	25
598	Private - Subject to Acquisition Rights	MOCO (AQ) [SSD-5850]	MOCO (AQ) [SSD-5850]	1.2	1.2	2.1	1.9	1.4	1.5	1.2	0.5	0.5	0.5	0.5	0.1	0.8	1.3	2.1	1.9	1.5	1.5	15	17	17	17	15	15	25
599	Private - Subject to Acquisition Rights	MOCO (AQ) [SSD-5850]	MOCO (AQ) [SSD-5850]	1.3	1.3	2.1	1.9	1.4	1.5	1.3	0.5	0.5	0.5	0.5	0.1	0.9	1.4	2.2	2.0	1.5	1.6	16	18	18	17	15	15	25
613	Private - Subject to Acquisition Rights	-	MOCO (AQ) [SSD-5850] vacant lots 31//6842 and 2//1175728 within	1.3	1.3	2.1	1.9	1.4	1.5	1.3	0.5	0.5	0.5	0.5	0.1	0.9	1.4	2.2	2.0	1.5	1.6	16	18	18	17	15	15	25
614	Private - Dwelling	-	landholding only	1.3	1.3	2.1	1.9	1.4	1.5	1.3	0.5	0.5	0.5	0.5	0.1	0.9	1.4	2.2	2.0	1.5	1.6	16	18	18	17	15	15	25

modeliou maxii	mum 24-hour average F	PM2.5 concentrations (ug/n	n3)	Projec	t (HVO	N)				Project	(HVO	S)				Project	(HVO	Compl	ex)			Cumuk	ative					
				4	025	129	033	9	4	4			8	9	4	4	025	029	033	040	4	4	025	63	83	0	4	iteria
D	Status	Existing mitigation rights	Existing acquisition rights	20.	202	202	203	50	200	20,	202	200	2033	2040	2044	20,	202	203	200	202	200	20.	202	202	203	207	50	ö
619	Private - Subject to Acquisition Rights	MOCO (AQ) [SSD-5850]; Glendell (Noise) [DA 80/952]; Rixs Creek North (Noise) [PA08_0102]; Rixs Creek South (AQ) [SSD 6300]	MOCO (AQ) [SSD-5850]; Rixs Creek South (AQ) [SSD 6300]	2.6	2.6	3.8	3.7	3.7	3.7	2.6	1.1	0.9	0.8	0.8	0.2	2.1	3.0	4.2	3.9	3.8	3.8	17	17	17	17	16	15	:
321	Private - Subject to Acquisition Rights	Rixs Creek North (Noise & AQ) [PA08_0102]; Rixs Creek South (AQ) [SSD 6300]	Rixs Creek North (Noise) [PA08_0102]; Ashton (AQ) [DA309-11-2001-i]	2.7	2.7	4.3	4.1	3.8	4.7	2.7	1.0	0.9	0.8	0.9	0.3	1.9	2.8	4.3	4.1	4.3	4.8	18	19	19	19	17	15	:
23	Community		-	3.0	3.0	4.7	4.3	4.3	4.5	3.0	1.3	1.1	1.0	1.0	0.3	2.4	3.5	5.1	4.9	4.3	4.5	17	18	18	17	16	15	
524	Private - Subject to Acquisition Rights	MOCO (AQ) [SSD-5850]; Rixs Creek South (AQ) [SSD 6300]	MOCO (AQ) [SSD-5850]; Riss Creek South (AQ) [SSD 6300]. Note - acquisitions apply to all 9 contigious lots 1/1248748, 2/9/758214, 3/9/758214, 4/9/758214, 5/9/758214, 6/9/758214, 5/9/758214	3.0	3.0	4.6	4.1	4.2	4.5	3.0	1.2	1.0	1.0	0.9	0.3	2.4	3.4	4.9	4.7	4.3	4.5	18	18	19	17	16	15	
526	Private - Subject to Acquisition Rights	Glendell (Noise) [DA 80/952]; MOCO (AQ) [SSD-5850]; Rixs Creek North (Noise) [PA08_0102]; Rixs Creek South (AQ) [SSD 6300] Glendell (Noise) [DA	MOCO (AQ) [SSD-5850]; Riss Creek South (AQ) [SSD 6300]. Note - acquisitions apply to both contigious lots 1/8/758214 and 2/8/758214	3.0	3.0	4.5	3.9	4.2	4.3	3.0	1.2	1.0	0.9	0.9	0.2	2.4	3.3	4.8	4.5	4.3	4.4	18	18	19	18	16	15	
627	Private - Subject to Acquisition Rights	Glernolei (Noise) [DA 80/952]; MOCO (AQ) [SSD-5850]; Rixs Creek North (Noise) [PA08_0102]; Rixs Creek South (AQ) [SSD 6300] Glendell (Noise) [DA	MOCO (AQ) [SSD-5850]; Rixs Creek South (AQ) [SSD 6300]	2.9	2.9	4.3	4.0	4.0	4.1	2.9	1.1	1.0	0.9	0.8	0.2	2.3	3.3	4.7	4.3	4.1	4.1	18	18	19	18	16	15	
628	Private - Subject to Acquisition Rights	80/952]; MOCÓ (AQ) [SSD-5850]; Rixs Creek North (Noise) [PA08_0102]; Rixs Creek South (AQ) [SSD 6300]	MOCO (AQ) [SSD-5850]; Rixs Creek South (AQ) [SSD 6300]	2.8	2.8	4.1	4.0	3.9	4.0	2.8	1.1	0.9	0.9	0.8	0.2	2.3	3.2	4.6	4.2	4.0	4.1	18	17	18	17	16	15	:
529	Private - Subject to Acquisition Rights	MOCO (AQ) [SSD-5850]; Rixs Creek North (AQ) [PA08_0102]; Rixs Creek South (AQ) [SSD 6300]	MOCO (AQ) [SSD-5850]; Rixs Creek South (AQ) [SSD 6300]. Note - acquisitions apply to both contigious lots 103//852484 and 104//852484	2.7	2.7	4.0		3.8	4.0		1.1	0.9	0.8	0.8	0.2	2.3	3.2	4.5	4.2	3.8	4.0		17		17	16	15	
735	Private - Commercial Community			3.6		5.8			3.5		2.1	1.7	1.5			2.5	3.7	5.8	4.5	3.7	3.6		42		34	17		
797	Infrastructure	•	•	4.0	3.9	6.2	5.1	3.5	3.7	4.0	2.2	1.8	1.5	1.1	0.3	2.9	3.9	6.3	5.2	3.9	3.9	23	43	43	33	18	15	:
799	Community Infrastructure	-	-	4.0	3.9	6.2	5.1	3.5	3.7	4.0	2.2	1.8	1.5	1.1	0.3	2.9	3.9	6.3	5.2	3.9	3.9	23	43	43	33	18	15	
800	Private - Commercial	-	-	4.0	3.9	6.2		3.5	3.7		2.2	1.8	1.5	1.1	0.3	2.9	3.9	6.3	5.2	3.9	3.9		43	43	33	18	15	
829	Private - Commercial	-	-	0.8	0.8	1.5			2.4		3.8	3.8	3.5	3.1	1.2	4.2	4.5	5.2	5.2	5.1	3.2		16		16		15	
830 833	Private - Commercial Private - Commercial			0.6	0.6	1.3	1.5	2.0	3.3		3.7 14.2	3.9 16.5	3.7 16.1	3.4 15.4	1.2 6.0	4.2 15.6	4.3 15.0	5.2 18.0	5.2 17.9	5.4 17.3	3.2 8.3	16 22	16 28	16	16 28	15 23	15 16	
834	Private - Commercial		-	1.4	1.4	3.0		6.4	6.6		2.9	2.9	2.4	3.4	1.2	4.2	3.0	4.2	4.3	7.9	7.6		16	16	17	18	17	
335	Private - Dwelling		-	1.6		3.3			7.9	1.6	2.8	2.7	2.1	3.1		3.9	2.9	4.3	4.4	7.9	8.6	16	16		17	18	16	
336	Private - Dwelling	-	-	1.6	1.6	3.4		6.2	7.2	1.6	2.7	2.6	2.1	3.1	1.1	3.9	2.8	4.4	4.3	7.5	8.0		16		17	18	16	_
337 338	Private - Dwelling Private - Dwelling		-	1.6	1.6	3.3		6.2	7.4 6.7	1.6	2.8	2.6	2.1	3.1	1.1	3.9 4.1	3.0	4.4	4.3	7.5 7.8	8.2 7.6	16 16	16 16		17 17		16 16	
339	Private - Dwelling			1.5	1.5	3.2	3.1	6.2	6.1	1.5	2.8	2.7	2.2	3.3	1.1	4.0	2.9	4.3	4.2	7.6	7.0	16	16		17	18	16	
340	Private - Dwelling		-	1.4	1.4	3.1	3.1	6.2	6.2		2.8	2.8	2.2	3.3	1.2	4.0	2.9	4.2	4.2	7.6	7.1	16	16		17	18	16	
343	Private - Dwelling			1.3		2.2					1.9	1.9	1.8			2.2	2.0	2.3	2.4	2.8	2.6		15		15	15	15	
346 347	Private - Dwelling		-	1.6	1.6	2.6		2.5	2.9		2.7	2.5	2.2	1.9	0.5	3.2	2.7	2.7	2.6	2.9	3.0		16 16	16	16	15 15	15 15	
352	Private - Dwelling Private - Dwelling			1.5		2.6			2.9		3.0	2.8	2.5	1.9 2.1		3.5	3.0	2.8	2.6	2.8		16 15	15	16 15	16 15	15	15	
355	Private - Dwelling		-	1.0	1.0	2.0		2.1	2.4	1.0	2.6	2.5	2.2	2.1	0.6	3.0	3.2	3.4	3.4	3.5	2.5		15		15	15		
356	Private - Dwelling	-	-	1.4	1.4	2.4	2.4	2.3	2.6	1.4	2.3	2.3	2.2	1.9	0.5	2.7	2.3	2.5	2.6	2.9	2.8	15	15	15	15	15	15 15	
360	Private - Subject to Acquisition Rights	Glendell (Noise) [DA 80/952]; Rixs Creek North (Noise & AQ) [PA08_0102]; Rixs Creek South (AQ) [SSD 6300] Glendell (Noise) [DA	Glendell [DA80/952]; Rixs Creek North (Noise) [PA08_0102]	2.6	2.6	4.1	3.3	3.8	4.1	2.6	1.0	0.8	0.8	0.8	0.2	2.0	2.8	4.1	3.7	4.0	4.2	18	19	19	18	17	15	
361	Private - Subject to Acquisition Rights	80/952]; Rixs Creek North (Noise) [PA08_0102]; IUG (Noise) [PA08_0101]; Rixs Creek South (AQ) [SSD 6300]	Glendell [DA80/952]; Rixs Creek North (Noise) [PA08_0102]	2.2	2.2	3.3	3.7	3.3	3.2	2.2	0.8	0.7	0.6	0.6	0.2	1.8	2.5	3.5	3.8	3.4	3.3	18	19	20	19	17	15	
162	Private - Subject to Acquisition Rights	Glendell (Noise) [DA 80/952]; Rixs Creek North (Noise) [PA08_0102]; IUG (Noise) [PA08_0101]; Rixs Creek South (AQ) [SSD 6300]	Rixs Creek North (Noise) [PA08_0102]	2.6	2.6	4.0	4.4	3.7	3.7	2.6	1.0	0.8	0.7	0.7	0.2	2.2	3.0	4.2	4.5	3.7	3.8	22	22	23	20	17	15	
63	Private - Subject to Acquisition Rights	Glendell (Noise) [DA 80/952]; Rixs Creek North (Noise) [PA08_0102]; IUG (Noise) [PA08_0101]; Rixs Creek South (AQ) [SSD 6300]	[PA08_0102]	2.4	2.4	3.8	4.2	3.5	3.5	2.4	0.9	0.8	0.7	0.7	0.2	2.0	2.8	3.9	4.3	3.5	3.6	21	21	22	19	17	15	
	Private - Subject to Acquisition Rights	Rav Ops (AQ and Noise) [DA 09_0176]; Rixs Creek North (Noise) [PA08_0102]	[PA08_0102] (acquisition applies to contigious	2.7	2.7	4.6	4.6	4.3	4.9	2.7	1.9	1.6	1.4	1.4	0.4	2.6	2.9	4.6	4.7	4.4	4.9	16	17	17	17	16	15	
169		D 0 (AC 1311																										
370	Private - Subject to Acquisition Rights	Rav Ops (AQ and Noise) [DA 09_0176]; Rixs Creek North (Noise) [PA08_0102]; Rixs Creek South (AQ) [SSD 6300]	Ashton (AQ & Noise) [DA309-11-2001-i]; Rixs Creek North (Noise) [PA08_0102] (acquisition applies to contigious	2.6	2.6	4.5	4.6	4.2	4.8	2.6	1.8	1.5	1.3	1.4	0.4	2.6	2.8	4.6	4.7	4.2	4.8	16	17	17	17	16	15	
		[DA 09_0176]; Rixs Creek North (Noise) [PA08_0102]; Rixs Creek	[DA309-11-2001-i]; Rixs Creek North (Noise) [PA08_0102] (acquisition	2.6	2.6	3.7		4.2			3.8	2.4	2.0	2.0		4.2		4.6	5.1	5.8	5.9		17		17	16	15	

	r of days above 25 ug	/m3 PM2.5	I	Projec	ct (HVC	N)				Project (HVO S)			Pr	oject (H	IVO Com	plex)			Cumu	lative				
	a			014	2025	029	033	2040	1044	2014		033	2040	2044	025	029	033	040	244	014	025	029	033	040	Criteria
D119	Status Monitor	Existing mitigation rights	Existing acquisition rights	0	0		0 0) () (0 0	0	0 0	0 0	0	0				0 0						0 -
Varkworth	Monitor Monitor	-	-	0	0	() () () (0 0	0	0 (0 0	0	0	0	0 () (0 0	0	11	0	0		0 -
Knodlers Lane	Monitor Monitor	-	-	0	0	() () () (0 0	0	0 (0 0	0	0	0	0 ()	0 0	0	0	0	0	0	0 -
	Monitor Monitor	- -	-	0			0 0						0 0	0	0				0 0					0	0 -
	Monitor Monitor	-	-	0		(0 0	0	0				0 0					0	0 -
DL2	Monitor Monitor	-	-	0			0 0			0 0			0 0	0	0				0 0					0	0 -
Cheshunt East	Monitor Monitor	-	-	0	0		0 0) () (0 0	0	0 (0 0	0	0	0	0 ()	0 0	0	0	0	0	0	0 -
Kilburnie South	Monitor Monitor	-	-	0	0	() () () (0 0	0	0 (0 0	0	0	0	0 () (0 0	0	0	0	0	0	0 -
Howick	Monitor	-	-	0	1	-	1 0) () (0 0	0	0 (0 0	0	0	1	1 ()	0 0	8 (29			2	0 -
	Monitor	-	-	0	36	99	168	3 4	1 10	0 0	0	0 (0 0	0	0	39 10	3 172	2 .	4 12	1	173	193	237	63	23 -
Warkworth	Monitor Monitor	-	-	0	0	() () () (0 0	0	0 (0 0	0	0	0	0 ()	0 0	0	0	0	0	0	0 -
Jerrys Plains	Monitor Monitor	-	-	0	0	(0 0) (0 0	0	0 (0 0	0	0	0	0 ()	0 0	0	0	0	0	0	0 -
HVGC	Monitor Monitor	-	-	0		(0 0			0 0			0 0	0	0			0 1	0 0				1	0	0 -
ong Point Kilburnie South	Monitor Monitor	-	-	0		(0 0			0 0			0 0	0	0				0 0					0	0 -
Kilburnie South Maison Dieu	Monitor Monitor	-	-	0		(0 0			0 0	0	0				0 0					0	0 -
Maison Dieu	Monitor Monitor			0		() () (0 0	0	0 (0 0	0	0		0 ()	0 0	0	0			0	0 -
17	Private - Dwelling Private - Dwelling	-	-	0	0	() () () (0 0	0	0 (0 0	0	0	0	0 ()	0 0	0	0	0	0	0	0 -
37	Private - Dwelling Private - Subject to	- Warkworth (Noise & AQ)	- Warkworth (Noise & AQ)	0		() () (0 0			0 0	0	0		0 () (0 0	0	0	0		0	0 -
102	Acquisition Rights	[SSD6464)	[SSD6464)	0	0	() () () (0 0	0	0 (0 0	0	0	0	0 ()	0 0	0	0	0	0	0	0 -
120	Private - Dwelling	HVOS (Noise & AQ) [06_0261]	-	0	0	() () () (0 0	0	0 (0 0	0	0	0	0 ()	0 0	0	0	0	0	0	0 -
121	Private - Dwelling	HVOS (Noise & AQ) [06_0261]	-	0	0	(0) () (0 0	0	0 (0 0	0	0	0	0 ()	0 0	0	0	0	0	0	0 -
122	Private - Dwelling	HVOS (Noise & AQ) [06_0261]	-	0	0		0) ()	0 0	0	0 (0 0	0	0	0	0 ()	0 0	0	0	0	0	0	0 -
123	Private - Dwelling	HVOS (Noise & AQ) [06_0261]	-	0	0	(0 0) () (0 0	0	0 (0 0	0	0	0	0 ()	0 0	0	0	0	0	0	0 -
124	Private - Dwelling	HVOS (Noise & AQ) [06_0261]	-	0	0	(0) () (0 0	0	0 (0 0	0	0	0	0 ()	0 0	0	0	0	0	0	0 -
	Private - Dwelling	Warkworth (Noise) [SSD6464)	-	0	0	() () () (0 0	0	0 (0 0	0	0	0	0 ()	0 0	0	0	0	0	0	0 -
	Private - Dwelling	- Warkworth (Noise)	-	0		(0 0			0 0	0	0				0 0				0		0 -
	Private - Dwelling	[SSD6464) Warkworth (Noise)	-	0	_	(+	-				0 (-	0	0	-	+)					0		0 -
	Private - Dwelling Private - Dwelling	[SSD6464)	-	0		(0 0		0 0	0 0	0	0) (0 0			0	0	0	0 -
	Private - Dwelling	Warkworth (Noise)	-	0		(0 (0	0		0 (0	0	0 -
141	Private - Dwelling	[SSD6464)	-	0) (0 0	0	0				0 0						0 -
161	Private - Dwelling Private - Dwelling	HVOS (Noise) [06_0261] HVOS (Noise) [06_0261]	-	0	0	(0 0) () (0 0	0	0 (0 0	0	0	0	0 (0	0 0	0	0	0	0		0 -
163	Private - Dwelling Private - Dwelling	HVOS (Noise) [06_0261] HVOS (Noise) [06_0261]	-	0	_	(0 0	_) (0 0	0	0				0 0					0	0 -
	Private - Dwelling Private - Dwelling	-	-	0		(0 0			0 0			0 0	0	0	0			0 0				0	0	0 -
	Private - Dwelling Private - Dwelling	-	-	0		(0 0			0 0	0	0				0 0					0	0 -
	Private - Dwelling Private - Dwelling	-	-	0) (0 0			0 0	0	0				0 0					0	0 -
176	Private - Dwelling Private - Dwelling		-	0		() () () (0 0	0	0 (0 0	0	0		0 () (0 0	0	0	0	0	0	0 -
179	Private - Dwelling Private - Dwelling	- HVOS (Noise) [06_0261]	-	0	0		0 0) () (0	0 (0 0	0	0	0	0 ()	0 0	0	0	0		0	0 -
245	Private - Dwelling Private - Dwelling	HVOS (Noise) [06_0261]	-	0	0) () (0 0	0	0 (0 0	0	0	0	0 ()	0 0	0	0	0	0	0	0 -
247	Private - Dwelling	HVOS (Noise) [06_0261] HVOS (Noise) [06_0261]	-	0	0	() () () (0 0	0	0 (0 0	0	0	0	0 ()	0 0	0	0	0	0	0	0 -
249	Private - Dwelling Private - Dwelling	-	-	0	0) () () (0 0	0	0 (0 0	0	0	0	0 ()	0 0	0	0	0	0		0 -
	Private - Dwelling Private - Dwelling	-	-	0		(0 0	0	0				0 0					0	0 -
	Private - Subject to Acquisition Rights	HVOS (Noise) [06_0261]; Rav Ops (AQ) [DA	-	0	0	(0	0) (0 0	0	0 (0 0	0	0	0	0 ()	0 0	0	0	0	0	0	0 -
258	Private - Dwelling	09 0176] HVOS (Noise) [06 0261]	-	0) (0 0			0 0	0	0				0 0						0 -
	Private - Dwelling Private - Dwelling	HVOS (Noise) [06_0261] HVOS (Noise) [06_0261]	-	0									0 0	0	0				0 0						0 -
	Private - Dwelling	Warkworth (Noise) [SSD6464)	-	0	0	(0) () (0 0			0 0	0	0	0			0 0	0	0	0	0		0 -
	Community Infrastructure	-	-	0	0	(0) () (0 0	0	0 (0 0	0	0	0	0 ()	0 0	0	0	0	0	0	0 -
	Private - Dwelling	UWJV (Noise) [SSD7142]; Wambo Coal Mine (Noise)		0	0	(0 0) (,	0 0	0	0 (0 0	0	0	0	0 0	0	0 0	0	0	0	0	0	0 -
	Private - Subject to	[DA 305-7-2003]		_										_				-							
308	Acquisition Rights Glencore Owned -	UWJV (Noise) [SSD7142]	UWJV (Noise) [SSD7142]	0	_	(-					0 (0	0		0 (-				_	0	0	0 -
	Glencore Owned - Occupied	UVVJV (NOISE) [55D7142]	UWJV (Noise) [SSD7142]	0	0	(0 0) () (0 0	0	0 (0 0	0	0	0	0 ()	0 0	0	0	0	0	0	0 -
	Private - Dwelling	UWJV (Noise) [SSD7142]; HVOS (Noise) [06_0261]	-	0	0	(0) () (_	0 0	0	0		+)	0 0	1	-		0	0	0 -
	Private - Dwelling	HVOS (Noise) [06_0261]; UWJV (Noise) [SSD7142]	-	0		(0 0	0	0		-)					0		0 -
322	Private - Dwelling Private - Dwelling	-	-	0	0	(0 0) () (0 0	0	0 (0 0	0	0	0	0 (0	0 0	0	0	0	0	0	0 -
326	Private - Dwelling Private - Dwelling	-	-	0	0	(0 0) () (0 0	0	0 (0 0	0	0	0	0 (0	0 0	0		0	0	0	0 -
327 328	Private - Dwelling Private - Dwelling	-	-	0	0	(0 0) () (0	0 (0 0	0	0	0	0 (0 1	0 0	0 0	0	0	0	0	0 -
330 331	Private - Dwelling Community	-	-	0	1	() () (0 0	0	0 (0 0	0	0		0 () (0 0	0	0		0	0	0 -
	Infrastructure Private - Dwelling	- -	-	0		(0 0			0 0	0	0	-	-		0 0				0		0 -
333	Private - Dwelling Private - Dwelling	-	-	0	0	(0 0) (0 0	0	0 (0 0	0	0	0	0 ()	0 0	0	0	0	0	0	0 -
335	Private - Dwelling Private - Dwelling Private - Dwelling	-	-	0	0	() () () (0 0	0	0 0	0 0	0	0	0	0 ()	0 0	0	0	0	0	0	0 -
337	Private - Dwelling	-	-	0	0	(0 0) () (0 0	0	0 (0 0	0	0	0	0 (0	0 0	0	0	0	0	0	0 -
339	Private - Dwelling Private - Dwelling	-	-	0	0	() () (0	0 (0 0	0	0	0	0 () (0 0	0	0	0	0	0	0 -
341	Private - Dwelling Private - Dwelling	-	-	0	0	(0 0) () (0 0	0	0 (0 0	0	0	0	0 () (0 0	0	0	0	0	0	0 -
343	Private - Dwelling Private - Dwelling	-	-	0	0	() () () (0 0	0	0 (0 0	0	0	0	0 (0	0 0	0	0	0	0	0	0 -
345	Private - Dwelling Private - Dwelling	-	-	0	0	() () () (0	0 (0 0	0	0	0	0 () (0 0	0	0	0	0	0	0 -
346	Private - Dwelling Private - Dwelling	-	-	0		() () (0 0	0	0 (0 0	0	0	0	0 ()	0 0	0	0	0	0	0	0 -
348	Private - Dwelling Private - Dwelling	-	-	0	0	() () () (0	0 (0 0	0	0	0	0 ()	0 0	0	0	0	0	0	0 -
350	Private - Dwelling	-	-	0	0	() () () (0 0	0	0 (0 0	0	0	0	0 () (0 0	0	0	0	0	0	0 -
352	Private - Dwelling Private - Dwelling	-	-	0	0	() () () (0 0	0	0 (0 0	0	0	0	0 () (0 0	0	0	0	0	0	0 -
355	Private - Dwelling Private - Dwelling	-	-	0	0	() () () (0 0	0	0 (0 0	0	0	0	0 (0	0 0	0	0	0	0	0	0 -
356 357	Private - Dwelling Private - Dwelling	-	-	0	0	() () () (0	0 (0 0	0	0	0	0 ()	0 0	0	0	0	0	0	0 -
358	Private - Dwelling Private - Dwelling	-	-	0	0	() () () (0 0	0	0 (0 0	0	0	0	0 ()		0	0	0	0	0	0 -
	Private - Dwelling	-	-	0	0	() () (0	0 (0 0	0	0	0	0 ()	0 0	0	0	0	0	0	0 -
360		-																							
360 361 362	Private - Dwelling Private - Dwelling Private - Dwelling		-	0	0	() () () (0 0	0	0 (0 0	0	0	0)	0 0	0	0	0	0	0	0 -

Modelled numb	er of days above 25 ug	/m3 PM2.5																				_
				Project (H	VO N)	33	40	2044	Project (F		8 8	4	Project (HV	ට Complex)	04	1044	Cumula	tive	2029	2040	4	Criteria
ID 368	Status Private - Dwelling	Existing mitigation rights	Existing acquisition rights	0 20	2029	0 0	0 0		2014	2029	0 0 0 2040	0 0	0 0		0 2040	CA	0 0	0	0 50	0	0 0	<u>5</u> ٥-
369 370	Private - Dwelling Private - Dwelling	-		0	0	0	0 0) (0	0	0 0	0 0	0	0	0 0) (0 0	0	0	0	0	0 -
371 372	Private - Dwelling Private - Dwelling	-		0			0 0				0 0	0 0	0		0 0			0	0	0		0 -
373 374	Private - Dwelling Private - Dwelling	-	-	0		0	0 0				0 0	0 0	0	0	0 0			0	0	0		0 -
375 376	Private - Dwelling Private - Dwelling	-	-	0	0	0	0 0) (0 0	0	0 0	0 0	0	0	0 0) (0 0	0	0	0	0	0 -
377	Private - Dwelling	-	-	0	0	0	0 0) C	0	0	0 0	0 0	0	0	0 0) (0 0	0	0	0	0	0 -
380 381	Private - Dwelling Private - Dwelling	-	-	0			0 0				0 0	0 0	0		0 0			0	0	0		0 -
382	Community Infrastructure	-		0	0	0	0 0) (0	0	0 0	0 0	0	0	0 0	0	0 0	0	0	0	0	0 -
383 384	Private - Dwelling Private - Dwelling	-		0			0 0				0 0	0 0	0		0 0			0	0	0		0 -
385	Private - Dwelling Community	-	-	0	0	0	0 0) (0	0	0 0	0 0	0	0	0 0) (0 0	0	0	0	0	0 -
386	Infrastructure	-	-	0			0 0			-	0 0	0 0	0		0 0			0	0	0	-	0 -
389 390	Private - Dwelling Private - Dwelling	-	-	0	0	0	0 0) (0	0	0 0	0 0		0	0 0) (0 0	0	0	0	0	0 -
391 392	Private - Commercial Private - Dwelling	-	-	0			0 0				0 0	0 0	0		0 0			0	0	0		0 -
393 394	Private - Dwelling Private - Dwelling	-		0		0	0 0) (0	0	0 0	0 0	0	0	0 0) (0 0	0	0	0		0 -
395	Private - Dwelling Community		-	0		0	0 0) (0	0	0 0	0 0	0	0	0 0		0 0	0	0	0	0	0 -
396	Infrastructure	-	-	0			0 0			-	0 0	0 0	0		0 0			0	0	0		0 -
397 398	Private - Dwelling Private - Dwelling	-	-	0	0	0	0 0		0	0	0 0	0 0	0	0	0 0) (0 0	0	0	0		0 -
399 400	Private - Dwelling Private - Dwelling	-	-	0			0 0				0 0	0 0	0		0 0			0	0	0		0 -
401 402	Private - Dwelling Private - Dwelling	-	-	0		0	0 0) (0	0	0 0	0 0	0	0	0 0) (0 0	0	0	0		0 -
403	Private - Dwelling	-	-	0	0	0	0 0) C	0	0	0 0	0 0	0	0	0 0) (0 0	0	0	0	0	0 -
404 405	Private - Dwelling Private - Dwelling	-	-	0	0	0	0 0) C	0	0	0 0	0 0	0	0	0 0) (0 0	0	0	0	0	0 -
406 407	Private - Dwelling Private - Dwelling	- -	- -	0	0	0	0 0		0	0	0 0	0 0		0	0 0) (0 0	0	0	0	0	0 -
408 409	Private - Dwelling Private - Dwelling	-	-	0	0	0	0 0				0 0	0 0		0	0 0) (0 0	0	0	0		0 -
410	Community	-	-	0		-	0 0				0 0	0 0	0		0 0		-	0	0	0		0 -
411	Infrastructure Private - Dwelling	-	-	0	0		0 0				0 0	0 0			0 0) (0	0	0		0 -
412	Community Infrastructure	-	-	0	0	0	0 0	0	0	0	0 0	0 0	0	0	0 0	0	0 0	0	0	0	0	0 -
413 414	Private - Dwelling Private - Dwelling	-	-	0			0 0				0 0	0 0	0		0 0			0	0	0		0 -
415 417	Private - Dwelling Private - Dwelling	-	-	0	0	0	0 0) (0	0	0 0	0 0	0	0	0 0) (0 0	0	0	0	0	0 -
418	Private - Dwelling	-	-	0	0	0	0 0) (0	0	0 0	0 0	0	0	0 0) (0 0	0	0	0	0	0 -
419 420	Private - Dwelling Private - Dwelling	-	-	0	0	0	0 0) (0	0	0 0	0 0	0	0	0 0) (0 0	0	0	0	0	0 -
421 422	Private - Dwelling Private - Dwelling	-	-	0			0 0				0 0	0 0			0 0			0	0	0		0 -
423 425	Private - Dwelling Private - Dwelling	-	-	0			0 0				0 0	0 0	0		0 0			0	0	0		0 -
426	Private - Dwelling	-	-	0	0	0	0 0) (0	0	0 0	0 0	0	0	0 0) (0 0	0	0	0	0	0 -
427 428	Private - Dwelling Private - Dwelling	- -	-	0			0 0				0 0	0 0	0		0 0			0	0	0		0 -
429 430	Private - Dwelling Private - Dwelling	-	-	0			0 0				0 0	0 0	0		0 0			0	0	0		0 -
431 432	Private - Dwelling Private - Dwelling	-		0	0	0	0 0) C	0	0	0 0	0 0	0	0	0 0) (0 0	0	0	0	0	0 -
433	Private - Dwelling	UWJV (Noise) [SSD7142]	-	0	0	0	0 0) C	0	0	0 0	0 0	0	0	0 0) (0 0	0	0	0	0	0 -
434 436	Private - Dwelling Private - Dwelling	-	-	0			0 0				0 0	0 0	0		0 0			0	0	0		0 -
437 438	Private - Dwelling Private - Dwelling	-	-	0			0 0				0 0	0 0	0		0 0			0	0	0		0 -
440 451	Private - Dwelling Private - Dwelling	- UWJV (Noise) [SSD7142]	-	0	0	0	0 0) (0 0	0	0 0	0 0	0	0	0 0) (0 0	0	0	0	0	0 -
452	Private - Dwelling	UWJV (Noise) [SSD7142]	-	0	0	0	0 0) (0	0	0 0	0 0	0	0	0 0) (0 0	0	0	0	0	0 -
453 454	Private - Dwelling Private - Dwelling	UWJV (Noise) [SSD7142] UWJV (Noise) [SSD7142]	-	0			0 0				0 0	0 0	0		0 0			0	0	0		0 -
455 456	Private - Dwelling Private - Dwelling	UWJV (Noise) [SSD7142] UWJV (Noise) [SSD7142]	-	0			0 0			-	0 0	0 0	0		0 0			0	0	0		0 -
457 458	Private - Dwelling Private - Dwelling	UWJV (Noise) [SSD7142] UWJV (Noise) [SSD7142]	-	0			0 0				0 0	0 0	0		0 0			0	0	0		0 -
459	Private - Dwelling	UWJV (Noise) [SSD7142]	-	0	0	0	0 0) (0	0	0 0	0 0	0	0 0	0 0) (0 0	0	0	0	0	0 -
460 462	Private - Dwelling Private - Dwelling	UWJV (Noise) [SSD7142] UWJV (Noise) [SSD7142]	-	0			0 0				0 0	0 0	0		0 0			0	0	0		0 -
463	Glencore Owned - Occupied	-	-	0	0	0	0 0	0	0	0	0 0	0 0	0	0	0 0	0	0 0	0	0	0	0	0 -
464 466	Private - Dwelling Private - Dwelling	-	-	0		0	0 0				0 0	0 0	0		0 0		0 0	0	0	0		0 -
	Private - Subject to	Rav Ops (AQ) [DA	Ashton (AQ & Noise)																			
471	Acquisition Rights	09_0176]; HVOS (AQ) [06_0261]	[DA309-11-2001-i]; Rav Ops (AQ) [DA 09_0176]	0			0 0				0 0	0 0	0		0 0			0	0	0		0 -
472 473	Private - Dwelling Private - Commercial	-	-	0			0 0				0 0	0 0	0		0 0			0	0	0		0 -
477 478	Private - Dwelling Private - Dwelling	UWJV (Noise) [SSD7142] UWJV (Noise) [SSD7142]	-	0	0	0	0 0) (0	0	0 0	0 0	0	0 0	0 0) (0 0	0	0	0	0	0 -
481	Private - Dwelling	-	-	0	0	0	0 0) (0	0	0 0	0 0	0	0	0 0) (0 0	0	0	0	0	0 -
482 483	Private - Dwelling Community	-	-	0			0 0				0 0	0 0	0		0 0			0	0	0		0 -
484	Infrastructure Private - Dwelling	-	-	0	0	0	0 0) (0	0	0 0	0 0	0	0	0 0) (0 0	0	0	0	0	0 -
487 488	Private - Dwelling Private - Dwelling	-	-	0		0	0 0) (0 0		0 0	0 0	0	0	0 0) (0 0	0	0	0	0	0 -
489	Private - Dwelling	- HVOS (Noise) [06_0261];	-	0			0 0				0 0	0 0			0 0		0 0	0	0	0		0 -
497	Private - Subject to Acquisition Rights	Rav Ops (AQ) [DA	Rav Ops (AQ) [DA 09_0176]	0	0	0	0 0	0	0	0	0 0	0 0	0	0	0 0	0	0 0	0	0	0	0	0 -
498	Private - Dwelling	09_0176] HVO South (Noise)		0	0	0	0 0) (0	0	0 0	0 0	0	0	0 0) (0 0	0	0	0	0	0 -
			Rixs Creek North (Noise) [PA08_0102] (lots															٦				
		Rixs Creek North (Noise)	2//1111313 & 3//1111313); Ashton (AQ & Noise)																			
499	Private - Subject to Acquisition Rights	[PA08_0102]; Rixs Creek	[DA309-11-2001-i]; Rixs	0	0	0	0 0	0	0	0	0 0	0 0	0	0	0 0	0	0 0	0	0	0	0	0 -
		South (AQ) [SSD 6300]	Creek South (AQ) [SSD 6300] (lots 2//1111313 &																			
			3//1111313)																			
507	Community Infrastructure	-	-	0	0	0	0 0	0	0	0	0 0	0 0	0	0	0 0) (0 0	0	0	0	0	0 -
511	Community	-	-	0	0	0	0 0) (0	0	0 0	0 0	0	0	0 0) (0 0	0	0	0	0	0 -
	Infrastructure	Rixs Creek North (Noise)	Rixs Creek North (Noise)		+		+	<u> </u>	+			+ 1							-	1	+	+
592	Private - Subject to Acquisition Rights	[PA08_0102]; MOCO (AQ) [SSD-5850]; IUG (Noise)	[PA08_0102]; MOCO (AQ)	0	0	0	0 0	0	0	0	0 0	0 0	0	0	0 0	0	0 0	0	0	0	0	0 -
		[PA08_0101]	[SSD-5850]		-								_							_		
	Private - Subject to	Rixs Creek North (Noise & AQ) [PA08_0102]; Glendell	Rixs Creek North (Noise &																			
596	Acquisition Rights	(Noise) [DA 80/952]; IUG	AQ) [PA08_0102]; IUG (Noise) [PA08_0101]	0	0	0	0 0	0	0	0	0 0	0 0	0	0	0 0	0	0	2	2	2	0	0 -
	Private - Subject to	(Noise) [PA08_0101]			_					+								-	-	+	+	_
598	Acquisition Rights	MOCO (AQ) [SSD-5850]	MOCO (AQ) [SSD-5850]	0	_	+	0 0				0 0	0 0	0		0 0	-	+	0	0	0	_	0 -
599	Private - Subject to Acquisition Rights	MOCO (AQ) [SSD-5850]	MOCO (AQ) [SSD-5850]	0	0	0	0 0	0	0	0	0 0	0 0	0	0	0 0	0 0	0 0	0	0	0	0	0 -
613	Private - Subject to	_	MOCO (AQ) [SSD-5850] vacant lots 31//6842 and	0	0	0	0 0		0	0	0 0	0 0	0	0	0 0	0 0	0 0	0	0	0	0	0 -
010	Acquisition Rights		2//1175728 within landholding only	"	٦	-	"	'		٦	Ĭ	"	۱ '		1	1		U	٧	0	۱	-
614	Private - Dwelling	-	-	0	0	0	0 0) (0	0	0 0	0 0	0	0	0 0) (0 0	0	0	0	0	0 -

Modelled numb	per of days above 25 ug	/m3 PM2.5		Projec	t (HVO	N)				Project	(HVO S	S)			P	roject	(HVO	Compl	ex)			Cumuk	ative				
_			L	914	2025	5029	033	2040	2044	2014	620	5029	033	2040	4 5	4	325	020	033	040	944	014	025	029	333	040	Criteria
D	Status	Existing mitigation rights MOCO (AQ) [SSD-5850];	Existing acquisition rights	20	20	2	50	20	20	20	3	8	8 8	8 8	2 6	3	8	20	20	20	20	20	20	8	8 8	3 8	₹ ö
619	Private - Subject to Acquisition Rights	01 1 1 (41 1) (50 4	MOCO (AQ) [SSD-5850]; Rixs Creek South (AQ) [SSD 6300]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 -
521	Private - Subject to Acquisition Rights	Rixs Creek North (Noise & AQ) [PA08_0102]; Rixs Creek South (AQ) [SSD 6300]	Rixs Creek North (Noise) [PA08_0102]; Ashton (AQ) [DA309-11-2001-i]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 -
523	Community Infrastructure	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 -
624	Private - Subject to Acquisition Rights		MOCO (AQ) [SSD-5850]; Riss Creek South (AQ) [SSD 6300]. Note - acquisitions apply to all 9 contigious lots 1/1248748, 2/9/758214, 3/9/758214, 6/9/758214, 7/9/758214,	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 -
326	Private - Subject to Acquisition Rights	Glendell (Noise) [DA 80/952]; MOCO (AQ) [SSD-5850]; Rixs Creek North (Noise)	8/9/758214, 9/9/758214 MOCO (AQ) [SSD-5850]; Rixs Creek South (AQ) [SSD 6300]. Note - acquisitions apply to both contigious lots 1/8/758214 and 2/8/758214	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 -
627	Private - Subject to Acquisition Rights	80/952]; MOCO (AQ) [SSD-5850]; Rixs Creek North (Noise) [PA08_0102]; Rixs Creek South (AQ) [SSD 6300]	MOCO (AQ) [SSD-5850]; Rixs Creek South (AQ) [SSD 6300]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 -
628	Private - Subject to Acquisition Rights	Glendell (Noise) [DA 80/952]; MOCO (AQ) [SSD-5850]; Rixs Creek North (Noise) [PA08_0102]; Rixs Creek South (AQ) [SSD 6300]	MOCO (AQ) [SSD-5850]; Rixs Creek South (AQ) [SSD 6300]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 -
629	Private - Subject to Acquisition Rights	MOCO (AQ) [SSD-5850]; Riss Creek North (AQ) [PA08_0102]; Riss Creek South (AQ) [SSD 6300]	MOCO (AQ) [SSD-5850]; Rixs Creek South (AQ) [SSD 6300]. Note - acquisitions apply to both contigious lots 103//852484 and 104//852484	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 -
735	Private - Commercial	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26	28	7	0	0 -
797	Community Infrastructure	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27	29	5	0	0 -
799	Community	-	_	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27	29	5	0	0 -
800	Infrastructure Private - Commercial	-	 -	0	0	0	0				0	0	0	0	0	0	0	0	0	0	0	0		29	5	0	0 -
329	Private - Commercial	-	-	0		0					0	0	0	0	0	0	0	0		0	0	0			0	0	0 -
330	Private - Commercial	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 -
333	Private - Commercial	-	-	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	1	0	0 -
334 335	Private - Commercial Private - Dwelling	-	-	0	0	0	0	0			0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0 -
336	Private - Dwelling	-	-	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0			0	0	0 -
337	Private - Dwelling	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 -
338	Private - Dwelling	-	-	0		0	0				0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0 -
139	Private - Dwelling Private - Dwelling	-	-	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0 -
143	Private - Dwelling Private - Dwelling	-	-	0		0	0				0	0	0	0	0	0	0	0	0	0	0	0			0	0	0 -
146	Private - Dwelling			0	0	0	0				0	0	0	0	0	0	0	0	0	0	0	0			0	0	0 -
347	Private - Dwelling	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 -
352 355	Private - Dwelling Private - Dwelling	-	-	0		0			0		0	0	0	0	0	0	0	0	0	0	0	0			0	0	0 -
356	Private - Dwelling Private - Dwelling	-	-	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0 -
860	Private - Subject to Acquisition Rights	Glendell (Noise) [DA 80/952]; Rixs Creek North (Noise & AQ) [PA08_0102]; Rixs Creek South (AQ) [SSD 6300] Glendell (Noise) [DA	Glendell [DA80/952]; Rixs Creek North (Noise) [PA08_0102]	0		0	0		0		0	0	0	0	0	0	0	0	0	0	0		0		0	0	0 -
861	Private - Subject to Acquisition Rights	Sierindell (Noise) [DA 80/952]; Rixs Creek North (Noise) [PA08_0102]; IUG (Noise) [PA08_0101]; Rixs Creek South (AQ) [SSD 6300] Glendell (Noise) [DA	Glendell [DA80/952]; Rixs Creek North (Noise) [PA08_0102]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 -
362	Private - Subject to Acquisition Rights	80/952]; Rixs Creek North (Noise) [PA08_0102]; IUG (Noise) [PA08_0101]; Rixs Creek South (AQ) [SSD 6300]		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 -
363	Private - Subject to Acquisition Rights	Glendell (Noise) [DA 80/952]; Rixs Creek North (Noise) [PA08_0102]; IUG (Noise) [PA08_0101]; Rixs Creek South (AQ) [SSD 6300]	[PA08_0102]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 -
369	Private - Subject to Acquisition Rights	[DA 09_0176]; Rixs Creek North (Noise) [PA08_0102]	[PA08_0102] (acquisition applies to contigious	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 -
	Private - Subject to Acquisition Rights	[DA 09_0176]; Rixs Creek North (Noise)	Ashton (AQ & Noise) [DA309-11-2001-i]; Rixs Creek North (Noise) [PA08_0102] (acquisition	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 -
370	7 Equition regita	South (AQ) [SSD 6300]	applies to contigious							\vdash	_		_	-	-	-	_					\rightarrow		-	-	\rightarrow	_
	Private - Subject to	South (AQ) [SSD 6300] Rav Ops (AQ) [DA	applies to contigious Rav Ops (AQ) [DA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 -
947 949		South (AQ) [SSD 6300] Rav Ops (AQ) [DA	applies to contigious	0		0			0		0	0	0	0	0	0	0	0		0	0	0			0	0	0 -

D119 DL14 Warkworth D118 Knodlers Lane DL22 DL21	Status Monitor Monitor Monitor	Existing mitigation rights	Existing acquisition rights	0.1 Projec	2025	2029	0.4	0.4	2040	0.0	Project	(HVO	5029	2033	2040	2044	Project	2025 2025	iomple:	2002	2040	2044	2014 Crimina	2025	5029	2033	2040	2044	Criteria
D119 DL14 Warkworth D118 Knodlers Lane DL22 DL21	Monitor Monitor	Existing mitigation rights -	Existing acquisition rights	0.1	1 0.	2	0.4	0.4	<u>8</u>	0.6	207	Š 1			Ñ	8	8			3	8	20	201	202	2	203	204	204	5
DL14 Warkworth D118 Knodlers Lane DL22 DL21	Monitor	-		0.1																0.9					6.6	6.9	6.7	6.1	8
D118 Knodlers Lane DL22 DL21	Monitor		-	0.1			0.5	0.7	0.9		0.5	0.5	0.5	0.5	0.3	0.2	0.7	0.6	0.8	1.0	1.2	1.2	6.8	6.4 7.1	7.2	7.3	7.0	6.5	8
DL22 I DL21 I	Monitor			0.0	1 0	.1	0.1	0.2	0.3	0.5		0.5	0.7	1.0 0.5	0.9	0.3	0.9	0.6	0.9	1.2 0.8	1.2	0.6	7.5 6.6	13.0 6.8		10.0 8.2	7.2 7.1	5.9 5.9	8
	Monitor Monitor	-	-	0.1	1 0.	2	0.4	0.5	0.7	0.8	0.8 1.5	0.7 1.4	0.5 1.2	0.4 1.0	0.3	0.1	0.9 1.6	0.9 1.6	0.9 1.5	0.9 1.4	1.1	0.9	7.0 7.7	7.3 8.1	7.2 8.0	7.2 7.9	6.7 6.9	6.2	8
D122	Monitor Monitor			0.1			0.4	0.6	0.8		0.9	0.8	0.5	0.4	0.3	0.1	1.0	1.1	1.0	1.0	1.2	1.1	7.0 6.3	7.4 6.5	7.3 6.6	7.3 6.6		6.3 5.7	8
DL30	Monitor Monitor			0.1			1.0	0.3	0.5		2.3	2.1	2.7	2.7	2.1	0.7	2.3	2.2 1.6	3.0	3.0 1.9	2.6	1.2	8.6 8.0	9.7 8.4	10.2 8.5	10.1 8.6	8.2 8.5	6.5 7.9	8
	Monitor Monitor			0.0	0.	.1	0.1	0.2	0.3		0.8	0.5	0.7	1.0	0.9	0.3	0.9	0.6	0.9	1.2	1.2	0.6 2.5	7.5 8.3	13.0	11.2 9.2	10.0	7.2 9.0	5.9 7.8	8
Long Point I	Monitor	-	-	0.1	1 0	.1	0.2	0.3	0.3	0.4	0.6	0.5	0.5	0.5	0.4	0.1	0.6	0.7	0.7	0.7		0.5	6.5	6.7		6.8	6.3	5.7	8
Wandewoi I	Monitor Monitor			0.2	2 0.	.4	0.8	1.1	1.8	1.9	2.3	1.1	1.3	1.5	2.3	0.3	2.4	1.5	2.1	2.6	4.1	2.9	8.1	7.6	6.9 8.4	9.1	9.8	5.9 8.1	8
Golden Highway	Monitor Monitor			3.5 0.0	0.	.1	4.9 0.1	2.8 0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.0	3.8 0.5	4.8 0.4	5.1 0.6	3.0 0.7	1.6 0.7	1.4 0.4	10.7	13.9	14.7	12.6 13.9	10.7 6.2	6.7 5.6	8
	Monitor Monitor	-	-	3.8 0.1		.3	0.5	25.9 0.7		1.1	0.8	0.8	0.6	0.5	0.3	0.1	4.7 0.7	0.8	0.9	1.0	5.3 1.2	6.3 1.2		25.5 7.1	30.1 7.2	39.4 7.3	17.8 6.9	11.6 6.5	8
	Monitor Monitor	-	-	0.0			0.1	0.2	0.2		1.5	1.4	1.0	0.7	0.7	0.2	1.6	0.5 1.6	1.4	1.2	1.3	0.5	7.5	10.4 8.0	9.8 7.8	9.3 7.7	6.7 6.9	5.7 6.2	8
	Monitor Monitor	-	-	0.1			1.2	0.4 1.5	0.6		0.4	0.3	0.3	0.3	0.4	0.1	0.5	0.5	0.7 1.7	0.7 2.0	0.9	0.7 2.5	5.9 8.3	6.0 8.8	6.3 9.2	6.3 9.4	6.3 9.0	5.9 7.8	8
	Monitor Monitor			0.1			0.2	0.3	0.5		2.7	1.9	2.9 0.5	3.0 0.5	3.0 0.4	1.0	2.7	2.0	3.1 0.7	3.3 0.7	3.5 0.7	1.6	9.0 6.5	10.4 6.7	11.0 6.8	10.6 6.8	9.2 6.3	6.8 5.7	8
Kilburnie South	Monitor Monitor			0.1	1 0.	.1	0.3	0.3	0.4	0.5	0.7	0.4	0.4	0.5	0.7	0.3	0.7	0.5	0.7	0.8	1.1	0.7	6.6	6.9	6.9	8.2 8.2	7.1 7.1	5.9	8
Maison Dieu	Monitor			0.1	1 0.	2	0.5	0.7	0.9	1.1	0.6	0.5	0.4	0.3	0.3	0.1	0.7	0.8	0.9	1.0	1.2	1.2	6.8	7.1	7.2	7.3	6.9	6.4	8
Knodlers Lane	Monitor Monitor	-	-	0.1	1 0.	2	0.5	0.7	0.9	0.8	0.8	0.5	0.4	0.3	0.3	0.1	0.7	0.8	0.9	1.0 0.9	1.2	0.9	7.0	7.1	7.2 7.2	7.3 7.2	6.7	6.5	8
	Private - Dwelling Private - Dwelling		-	0.0			0.0	0.0	0.1		0.1	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	5.5 5.5	5.6 5.6	5.6 5.7	5.6 5.7		5.3	8
	Private - Dwelling Private - Subject to	- Warkworth (Noise & AQ)	- Warkworth (Noise & AQ)	0.0			0.0	0.0	0.1		0.1	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	5.6	5.7	5.7	5.7	5.4	5.3	8
	Acquisition Rights		[SSD6464)	0.0	+	+	0.1	0.2	0.2		0.7	0.4	0.6	0.8	0.7	0.3	0.7	0.5	0.7	0.9	0.9	0.5	7.5	10.6	9.9	9.4		5.7	8
120	Private - Dwelling	[06_0261]	-	0.1	1 0.	.2	0.4	0.5	0.7	0.9	0.8	0.7	0.5	0.4	0.3	0.1	0.9	0.9	0.9	0.9	1.1	1.0	7.0	7.3	7.2	7.2	6.7	6.2	8
121	Private - Dwelling	HVOS (Noise & AQ) [06_0261]	-	0.1	1 0.	2	0.4	0.5	0.7	0.8	1.0	0.9	0.7	0.5	0.4	0.1	1.1	1.1	1.0	1.0	1.1	0.9	7.2	7.5	7.4	7.3	6.7	6.2	8
122	Private - Dwelling	HVOS (Noise & AQ) [06_0261]	-	0.1	1 0.	.2	0.4	0.5	0.7	0.9	0.7	0.7	0.5	0.4	0.3	0.1	0.8	0.9	0.9	0.9	1.0	1.0	6.9	7.2	7.2	7.2	6.7	6.2	8
123	Private - Dwelling	HVOS (Noise & AQ) [06_0261]	-	0.1	1 0.	2	0.4	0.5	0.7	0.8	0.9	0.8	0.6	0.5	0.4	0.1	1.0	1.0	0.9	0.9	1.1	0.9	7.0	7.3	7.3	7.3	6.7	6.2	8
124	Private - Dwelling	HVOS (Noise & AQ) [06_0261]	-	0.1	1 0.	.2	0.4	0.5	0.7	0.9	0.7	0.7	0.5	0.4	0.3	0.1	0.8	0.9	0.9	0.9	1.0	1.0	6.9	7.2	7.2	7.2	6.7	6.2	8
126 I	Private - Dwelling	Warkworth (Noise) [SSD6464)	-	0.0	0.	.1	0.2	0.2	0.3	0.3	0.5	0.4	0.5	0.5	0.5	0.2	0.6	0.5	0.7	0.7	0.7	0.4	6.6	6.9	7.0	7.1	6.2	5.7	8
	Private - Dwelling	-	-	0.1			0.3	0.4	0.5		0.6	0.6	0.5	0.4	0.3	0.1	0.7	0.7	0.8	0.8	0.8	0.7	6.9	7.1	7.2	7.2		5.9	8
128	Private - Dwelling	Warkworth (Noise) [SSD6464)	-	0.1	1 0.	.1	0.2	0.2	0.3	0.4	0.6	0.6	0.6	0.5	0.5	0.1	0.7	0.7	0.8	0.8	0.8	0.5	6.6	6.9	7.0	7.0	6.3	5.7	8
	Private - Dwelling	Warkworth (Noise) [SSD6464)	-	0.1			0.2	0.3	0.3		0.6	0.6	0.5	0.5	0.4	0.1	0.7	0.7	0.8	0.8	0.8	0.5	6.5	6.8	6.9	6.9		5.7	8
	Private - Dwelling Private - Dwelling	- Warkworth (Noise)		0.1			0.2	0.3	0.3		0.6	0.6	0.5	0.5	0.4	0.1	0.7	0.7	0.7	0.7	0.8	0.5	6.5	6.7	6.8	6.8	6.3	5.7	8
	Private - Dwelling	[SSD6464)	-	0.1			0.2	0.4	0.5		0.4	0.4	0.3	0.3	0.4	0.1	0.5	0.6	0.6	0.7	0.7	0.6	6.5	6.7	6.8	6.8		5.8	8
	Private - Dwelling Private - Dwelling	HVOS (Noise) [06_0261] HVOS (Noise) [06_0261]		0.1			0.5	0.6	0.9		0.8	0.7	0.5	0.4	0.3	0.1	0.9	0.9	0.9	1.0	1.2	1.1	6.9	7.3	7.3 7.3	7.3 7.3	6.9 6.9	6.4	8
162	Private - Dwelling	HVOS (Noise) [06_0261]		0.1	1 0.	.2	0.5	0.6	0.9	1.1	0.6	0.6	0.4	0.3	0.3	0.1	0.8	0.8	0.9	1.0	1.2	1.2	6.9	7.2	7.3	7.3	6.9	6.4	8
167	Private - Dwelling Private - Dwelling	HVOS (Noise) [06_0261]		0.1	1 0.	.2	0.3	0.7	0.4	0.5	0.6	0.4	0.4	0.3	0.3	0.1	0.7	0.5	0.6	0.6	0.7	0.6	6.8	7.1 6.6	6.7	7.3 6.7	6.3	6.4 5.8	8
170	Private - Dwelling Private - Dwelling			0.1	1 0	.1	0.3	0.3	0.4	0.5	0.5	0.4	0.4	0.3	0.3	0.1	0.6	0.6	0.6	0.7	0.7	0.6	6.5	6.6	6.7	6.7 6.7		5.8 5.8	8
	Private - Dwelling Private - Dwelling	-	-	0.1			0.2	0.3	0.4		0.5	0.5	0.4	0.4	0.3	0.1	0.6	0.6	0.7	0.7	0.7	0.5	6.4	6.6	6.6	6.6	6.2	5.7	8
	Private - Dwelling Private - Dwelling	-	-	0.1			0.2	0.3	0.4		0.5	0.4	0.4	0.3	0.3	0.1	0.5	0.6	0.6	0.6	0.7	0.5	6.4	6.5	6.6 6.5	6.6 6.5	6.2	5.7 5.7	8
178	Private - Dwelling Private - Dwelling	-	-	0.1			0.2	0.3	0.3		0.3	0.3	0.3	0.2	0.2	0.1	0.4	0.4	0.5	0.5	0.6	0.5	6.2	6.3	6.4	6.4	6.1 6.1	5.7 5.7	8
244	Private - Dwelling	HVOS (Noise) [06_0261]	-	0.1	1 0.	2	0.5	0.6	0.8	0.9	0.5	0.5	0.3	0.3	0.2	0.1	0.6	0.7	0.8	0.9	1.0	1.0	6.8	7.1	7.2	7.3	6.8	6.3	8
246	Private - Dwelling Private - Dwelling	HVOS (Noise) [06_0261] HVOS (Noise) [06_0261]		0.1	1 0.	2	0.5	0.6	0.8	1.0	0.5	0.5	0.3	0.3	0.2	0.1	0.6	0.7	0.8	0.9	1.1	1.0	6.8	7.1	7.2	7.3 7.3		6.3	8
248	Private - Dwelling Private - Dwelling	HVOS (Noise) [06_0261]	-	0.1	1 0.	.1	0.5	0.6	0.8	0.4	0.5	0.4	0.3	0.3	0.2	0.1	0.6	0.7	0.8	0.9	0.6	1.0 0.5	6.8	7.1 6.4	7.3 6.5	7.3 6.5	6.2	6.3 5.7	8
	Private - Dwelling Private - Dwelling	-	-	0.1			0.2	0.3	0.4		0.4	0.3	0.3	0.3	0.2	0.1	0.5	0.5	0.5	0.6	0.6	0.5	6.3	6.4	6.5	6.5		5.7 5.6	8
	Private - Dwelling	- HVOS (Noise) [06_0261];	-	0.1	1 0.	.1	0.2	0.2	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.1	0.3	0.4	0.4	0.4	0.5	0.4	6.0	6.1	6.2	6.2	6.0	5.6	8
	Private - Subject to Acquisition Rights	Rav Ops (AQ) [DA 09_0176]	-	0.1	1 0.	.3	0.5	0.7	0.9	1.1	0.5	0.5	0.3	0.3	0.2	0.1	0.7	0.7	0.9	1.0	1.2	1.2	6.8	7.1	7.2	7.3	7.0	6.5	8
	Private - Dwelling Private - Dwelling	HVOS (Noise) [06_0261]		0.1			0.5	0.7	0.9		0.6	0.5	0.4	0.3	0.3	0.1	0.7	0.8	0.9	1.0	1.2	1.2	6.8	7.1	7.2	7.3		6.4	8
	Private - Dwelling	HVOS (Noise) [06_0261] HVOS (Noise) [06_0261]		0.1			0.5	0.6				0.6	0.4	0.3		0.1	0.8	0.9	0.9	1.0		1.1	7.0	7.2	7.3 7.3	7.3 7.3		6.4	
	Private - Dwelling	Warkworth (Noise) [SSD6464)	-	0.0	0.	.1	0.2	0.2	0.3	0.3	0.5	0.5	0.5	0.5	0.5	0.1	0.6	0.5	0.7	0.7	0.7	0.4	6.5	6.9	7.0	7.0	6.2	5.7	8
	Community Infrastructure	-	-	0.0	0.	.1	0.1	0.2	0.2	0.3	0.6	0.4	0.5	0.7	0.7	0.2	0.7	0.5	0.7	0.9	0.9	0.5	7.5	10.4	9.8	9.4	6.7	5.7	8
266	Private - Dwelling	UWJV (Noise) [SSD7142]; Wambo Coal Mine (Noise)	-	0.0	0.	.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	5.6	5.7	5.7	5.7	5.4	5.3	8
	Private - Subject to	[DA 305-7-2003] HVOS (Noise) [06_0261];				+												_											
306	Acquisition Rights Glencore Owned -	UWJV (Noise) [SSD7142]	UWJV (Noise) [SSD7142]	0.1	+	+	0.3	0.3	0.5		0.8	0.4	0.5	0.6	0.8	0.3	0.8	0.5	0.8	0.9	1.3	0.8	6.6	7.0	7.0	8.3		6.0	8
310	Occupied	UWJV (Noise) [SSD7142] UWJV (Noise) [SSD7142];	UWJV (Noise) [SSD7142]	0.1	-	+	0.3	0.3	0.5		0.7	0.4	0.4	0.5	0.7	0.3	0.7	0.5	0.7	0.9	1.1	0.7	6.5	6.8	6.9	8.0		5.9	8
	Private - Dwelling	HVOS (Noise) [06_0261]	-	0.1	+	+	0.3	0.4	0.6		_	0.5	0.6	0.6		0.3	0.9	0.6	0.9	1.0	1.4	0.9	6.6	6.8	6.9	7.7		6.1	8
	Private - Dwelling	HVOS (Noise) [06_0261]; UWJV (Noise) [SSD7142]	-	0.1			0.3	0.4	0.6		0.8	0.5	0.6	0.6	0.9	0.3	0.9	0.6	0.9	1.0	1.4	0.9	6.6	6.7	6.9	7.6		6.1	8
322	Private - Dwelling Private - Dwelling	-	-	0.1	1 0.	2	0.3	0.4		0.6		0.5	0.5	0.6		0.3	0.8	0.6	0.8	0.9		0.9	6.4	6.5	6.6	7.1 6.9	6.8	6.1	8
326	Private - Dwelling Private - Dwelling	-	- -	0.1	1 0.	2	0.3	0.4	0.7	0.8	0.7	0.4	0.5	0.5	0.6	0.2	0.8	0.6	0.8	1.0	1.2	1.0	6.3	6.4	6.6 6.6	7.0 6.7	6.8	6.0	8
328	Private - Dwelling Private - Dwelling	-	-	0.1	1 0.	2	0.5 0.5	0.5 0.5	0.8	0.8	0.6 0.7	0.4	0.4	0.5 0.5	0.6	0.2	0.7	0.6	0.9	1.0	1.4	1.0	6.2	6.3 6.4	6.6 6.6	6.7 6.8	6.8		
330	Private - Dwelling Community	-	-	0.1	1 0.	.2	0.4	0.5	0.7			0.4	0.4	0.4		0.2	0.7	0.6	0.9	0.9	1.2	0.9	6.2	6.3	6.5	6.7	6.7	6.1	8
331	Infrastructure Private - Dwelling	-		0.1			0.4	0.5			0.7	0.4	0.5	0.5	0.6	0.2	0.8	0.6	0.9	0.9	1.3	0.9	6.3	6.3	6.6	6.8	6.8	6.2	8
333	Private - Dwelling Private - Dwelling	-	-	0.1	1 0.	2	0.4	0.4	0.6	0.6	0.6	0.4	0.4	0.4	0.6	0.2	0.7	0.6	0.8	0.9	1.2	0.8	6.2	6.3	6.5 6.5	6.7	6.6	6.0	8
335	Private - Dwelling	-	-	0.1	1 0.	2	0.4	0.4	0.6	0.6	0.6	0.4	0.4	0.4	0.6	0.2	0.7	0.6	0.8	0.9	1.2	0.8	6.2	6.3	6.5	6.7	6.6	6.0	8
337	Private - Dwelling Private - Dwelling	-	-	0.1	1 0	2	0.4	0.4		0.6		0.4	0.4	0.5		0.2	0.7	0.6	0.9	0.9	1.2		6.2	6.3		6.7	6.7		8
339	Private - Dwelling Private - Dwelling	-	-	0.1	1 0.	2	0.4	0.4	0.6	0.5	0.6	0.4	0.5	0.5 0.4	0.5	0.2	0.7	0.6	0.8	0.9	1.2	0.9	6.2	6.3	6.6 6.5	6.7 6.6	6.5	6.1 5.9	8
340	Private - Dwelling Private - Dwelling	-	-	0.1	1 0.	2	0.4	0.4	0.5		0.6	0.4	0.4	0.4		0.2	0.7	0.5	0.8	0.8	1.1	0.7	6.1	6.2 6.2	6.5 6.5	6.6 6.6	6.5	5.9 6.0	
342	Private - Dwelling Private - Dwelling	-	-	0.1	1 0.	2	0.4	0.4	0.6	0.6	0.6	0.4	0.4	0.4	0.5	0.2	0.7	0.6	0.8	0.8	1.1	0.8	6.2	6.3	6.5	6.7	6.6	6.0	8
344	Private - Dwelling	-	-	0.1	1 0.	2	0.4	0.4	0.6	0.6	0.6	0.4	0.4	0.4	0.6	0.2	0.7	0.6	0.8	0.8	1.1	0.8	6.2	6.3	6.5	6.7	6.6	6.0	8
346	Private - Dwelling Private - Dwelling	-	-	0.1	1 0.	2	0.4	0.4	0.6	0.6		0.4	0.4	0.4		0.2	0.7	0.6	0.8	0.9	1.1	0.8	6.2	6.3	6.5	6.7		6.0	
348	Private - Dwelling Private - Dwelling	-	-	0.1	1 0.	2	0.4	0.4	0.6	0.6	0.6	0.4	0.5	0.5	0.6	0.2	0.7	0.6	0.8	0.9	1.2	0.9	6.2	6.3	6.6	6.8 6.7	6.7	6.1	8
349	Private - Dwelling Private - Dwelling	-	-	0.1			0.4	0.4			0.6	0.4	0.4	0.5		0.2	0.7	0.6	0.8	0.9	1.2	0.8	6.2	6.3	6.5 6.5	6.7 6.7		6.1	8
351	Private - Dwelling Private - Dwelling	-		0.1	1 0.	2	0.4	0.4	0.6	0.6	0.6	0.4	0.4	0.5	0.6	0.2	0.7	0.6	0.8	0.9	1.2	0.9	6.2	6.3	6.6	6.8	6.7	6.1	8
353	Private - Dwelling	-	-	0.1	1 0.	2	0.4	0.4	0.6	0.7	0.7	0.4	0.5	0.5	0.6	0.2	0.7	0.6	0.8	0.9	1.2	0.9	6.3	6.3	6.6	6.8	6.7	6.1	8
356	Private - Dwelling Private - Dwelling	-	-	0.1	1 0.	2	0.4	0.4	0.6	0.6	0.7	0.4	0.5	0.5	0.6	0.2	0.8	0.6	0.8	0.9	1.2	0.9	6.3	6.3	6.6 6.6	6.8	6.7	6.1	8
	Private - Dwelling Private - Dwelling	-	-	0.1			0.4	0.4	0.6		0.6	0.4	0.4	0.5 0.5	0.6 0.6	0.2	0.7	0.6	0.8	0.9	1.2 1.2	0.8	6.2 6.2	6.3 6.3	6.5 6.6	6.7 6.8		6.0	8 8
	Private - Dwelling Private - Dwelling		:	0.1	1 0.	2	0.4	0.4	0.6	0.6	0.6	0.4	0.5	0.5	0.6	0.2	0.7	0.6	0.8	0.9	1.2	0.9	6.3	6.3	6.6	6.8	6.7	6.1	8
																													8
360 361	Private - Dwelling	-		0.1	1 0.	2	0.4	0.4	0.6	0.7	0.7	0.4	0.5	0.5	0.6	0.2	0.8	0.6	0.9	0.9	1.3	0.9	6.3	6.4	6.6	6.8		6.1	
360 361 362 363		-	-		1 0. 1 0. 1 0.	.2			0.6	0.7 0.7 0.6	0.7			0.5 0.5 0.5	0.6	0.2 0.2 0.2 0.2	0.8 0.8 0.8	0.6 0.6 0.6	0.9 0.9 0.8	0.9 0.9 0.9	1.3	0.9	6.3 6.3 6.3	6.4 6.4 6.3	6.6	6.8 6.8 6.8	6.7 6.7	6.1	8 8 8

Modelled annua	al average PM2.5 conce	entrations (ug/m3)		Project	(HVO	N)				Project	(HVO	(S)			P	Project (HVO Co	molex)			-	Cumuk	ative					
				4	52	620	33	040	44	4 1	(1) (2)		2033	040	2044	4 R	62	33	940	3	4	4	52	620	33	940	44	iteria
ID 368	Status Private - Dwelling	Existing mitigation rights	Existing acquisition rights	0.1	0.2	0.4	0.4	0.6	0.6	0.6	0.4		0.5	0.6	0.2	0.7	0.6	0.8	0.9	1.2	0.8	6.2	6.3	6.6	6.8	6.7	6.1	<u>ပ</u> ် 8
369 370	Private - Dwelling Private - Dwelling	-	-	0.1	0.2	0.4	0.4	0.6	0.6	0.7	0.4	0.5	0.5	0.6	0.2	0.7	0.6	0.8	0.9	1.2	0.8	6.3	6.3	6.6	6.8	6.7	6.1	8
371	Private - Dwelling		-	0.1	0.2	0.4	0.4	0.6	0.6	0.6	0.4	0.4	0.5	0.6	0.2	0.7	0.6	0.8	0.9	1.2	0.8	6.2	6.3	6.5	6.8	6.6	6.0	8
372 373	Private - Dwelling Private - Dwelling	-	-	0.1	0.2	0.4	0.4	0.6		0.6	0.4	0.4	0.5	0.6	0.2					1.1	0.8	6.2	6.3		6.7	6.6	6.0	8
374 375	Private - Dwelling Private - Dwelling	-		0.1	0.2	0.4	0.4	0.6	0.6	0.6	0.4	0.4	0.5	0.6	0.2					1.2	0.8	6.2	6.3		6.8	6.6	6.0	8
376	Private - Dwelling	-	-	0.1	0.2	0.4	0.4	0.6	0.6	0.7	0.4	0.5	0.5	0.6	0.2	0.8	0.6	0.8	0.9	1.2	0.8	6.3	6.4	6.6	6.8	6.7	6.1	8
377 380	Private - Dwelling Private - Dwelling	-	-	0.1	0.2	0.4	0.4	0.6	0.6	0.6	0.4		0.5	0.6	0.2		0.6	0.8	0.9	1.2	0.8	6.3	6.3		6.8		6.0	8
381	Private - Dwelling Community	-	-	0.1	0.2	0.4	0.4	0.6			0.4		0.5	0.6	0.2					1.2	0.8	6.2			6.8		6.0	8
382	Infrastructure	-	-	0.1	0.2	0.4	0.4				0.4	0.4	0.5	0.6	0.2					1.2	0.8	6.2			6.8		6.0	8
383 384	Private - Dwelling Private - Dwelling	-	-	0.1	0.2	0.4	0.4	0.6	0.6	0.6	0.4	0.4	0.5	0.6	0.2	0.7	0.6	0.8	0.9	1.2	0.8	6.2	6.3	6.5	6.8	6.7	6.0	8 8
385	Private - Dwelling Community	-	-	0.1	0.2	0.4	0.4				0.4		0.5	0.6	0.2					1.1	0.8	6.2	6.3		6.8		6.0	8
386	Infrastructure	-	-	0.1	0.2	0.4	0.4	0.5			0.4	0.4	0.5	0.6	0.2					1.1	0.8	6.2			6.7		6.0	8
389 390	Private - Dwelling Private - Dwelling	-	-	0.1	0.2	0.4	0.4	0.6	0.6	0.7	0.4	0.5	0.5	0.6	0.2	0.7	0.6	0.8	0.9	1.2	0.8	6.3	6.4 6.4	6.6	6.8 6.8	6.7	6.0	8
391	Private - Commercial Private - Dwelling	-		0.1	0.2	0.4	0.4	0.6		0.7	0.4	0.5	0.5	0.6	0.2					1.2	0.8	6.3	6.4		6.9	6.7	6.0	8
393	Private - Dwelling	-		0.1	0.2	0.4	0.4	0.6	0.6	0.7	0.4	0.5	0.5	0.6	0.2	0.8	0.6	0.8	0.9	1.2	0.8	6.3	6.4	6.6	6.9	6.7	6.0	8
394 395	Private - Dwelling Private - Dwelling	-	-	0.1	0.2	0.4	0.4	0.6			0.4	0.5	0.5	0.6	0.2					1.2	0.8	6.3			6.9		6.0	8
396	Community Infrastructure	-		0.1	0.2	0.3	0.4	0.5	0.5	0.6	0.4	0.4	0.5	0.6	0.2	0.7	0.6	0.8	0.8	1.1	0.7	6.2	6.3	6.5	6.8	6.6	6.0	8
397	Private - Dwelling			0.1	0.2	0.3	0.4	0.6		0.6	0.4	0.5	0.5	0.6	0.2					1.2	0.8	6.3	6.4		6.8	6.7	6.0	8
398	Private - Dwelling Private - Dwelling	-		0.1	0.2	0.3	0.4	0.5		0.6	0.4		0.5	0.6	0.2					1.1	0.8	6.2			6.8	6.6	6.0	8
400	Private - Dwelling			0.1	0.2	0.3	0.4	0.6	0.6	0.6	0.4	0.5	0.5	0.6	0.2	0.7	0.6	0.8	0.9	1.2	0.8	6.3	6.4	6.6	6.8	6.7	6.0	8
401 402	Private - Dwelling Private - Dwelling	-		0.1	0.2	0.3	0.4	0.6			0.4	0.5	0.5	0.6	0.2	0.7	0.6	0.8	0.9	1.2	0.8	6.3		6.6	6.8		6.0	8
403 404	Private - Dwelling Private - Dwelling	-	-	0.1	0.2	0.4	0.4	0.6	0.6	0.6	0.4	0.5	0.5	0.6	0.2		0.6	0.8		1.2	0.8	6.3	6.4		6.8		6.0	8
405	Private - Dwelling	-	-	0.1	0.2	0.4	0.4	0.6	0.6	0.6	0.4	0.5	0.5	0.6	0.2	0.7	0.6	0.8	0.9	1.2	0.8	6.3	6.4	6.6	6.8	6.7	6.0	8
406 407	Private - Dwelling Private - Dwelling	-	-	0.1	0.2	0.4	0.4	0.6	0.6	0.6	0.4	0.5	0.5	0.6	0.2					1.2	0.8	6.3	6.4		6.8	6.7	6.0	8 8
408 409	Private - Dwelling	-	-	0.1	0.2	0.3	0.4	0.5	0.5	0.6	0.4	0.4	0.5	0.6	0.2	0.7	0.6	0.8	0.8	1.1	0.7	6.2	6.3	6.5	6.8	6.6	6.0	8
410	Private - Dwelling Community			0.1	0.2	0.4	0.4	0.5		0.6	0.4	0.4	0.5	0.6	0.2					1.1	0.8	6.2	6.3		6.7	6.6	6.0	8
411	Infrastructure Private - Dwelling	-	-	0.1	0.2	0.4	0.4	0.5		0.6	0.4	0.4	0.5	0.6	0.2					1.1	0.8	6.2	6.3		6.7	6.6	6.0	8
412	Community	-		0.1	0.2	0.4	0.4	0.5	0.5	0.6	0.4	0.4	0.4	0.6	0.2					1.1	0.7	6.2	6.3		6.7	6.6	5.9	8
413	Infrastructure Private - Dwelling	-	-	0.1	0.2	0.3	0.4	0.5	0.5	0.6	0.4	0.4	0.4	0.6	0.2	0.7	0.5	0.8	0.8	1.1	0.7	6.2	6.3	6.5	6.7	6.6	5.9	8
414 415	Private - Dwelling Private - Dwelling	-	-	0.1	0.2	0.3	0.4		0.5	0.6	0.4		0.4	0.6	0.2	0.7	0.6	0.8	0.8	1.1	0.7	6.2	6.3 6.3	6.5	6.7 6.7	6.6	5.9	8 8
417	Private - Dwelling	-	-	0.1	0.2	0.4	0.4		0.6		0.4	0.4	0.5	0.6	0.2	0.7	0.6	0.8	0.9	1.2	0.8	6.2	6.3	6.5	6.8	6.7	6.0	8
418 419	Private - Dwelling Private - Dwelling	-	-	0.1	0.2	0.4	0.4	0.6		0.6	0.4	0.4	0.4	0.6	0.2					1.1	0.8	6.2	6.3		6.7 6.7	6.6	5.9	8 8
420 421	Private - Dwelling Private - Dwelling	-	-	0.1	0.2	0.3	0.4	0.5	0.6	0.6	0.4	0.4	0.5	0.6	0.2					1.1	0.8	6.2	6.3		6.8	6.6	6.0	8
422	Private - Dwelling	-		0.1	0.2	0.4	0.4	0.6	0.6	0.7	0.4	0.5	0.5	0.6	0.2	0.7	0.6	0.8	0.9	1.2	0.8	6.3	6.4	6.6	6.8	6.7	6.0	8 8
423 425	Private - Dwelling Private - Dwelling	-		0.1	0.2	0.4	0.4	0.6		0.7	0.4	0.5	0.5	0.6	0.2					1.2	0.8	6.3	6.4		6.8	6.7	6.0 5.8	8
426	Private - Dwelling			0.1	0.1	0.3	0.3	0.4		0.5	0.3	0.3	0.4	0.4	0.2					0.8	0.6	6.0	6.1	6.3	6.5	6.3	5.8 5.9	8
427 428	Private - Dwelling Private - Dwelling	-	-	0.1	0.2	0.3	0.3	0.5	0.5	0.5	0.4		0.4	0.5	0.2					1.0	0.7	6.2	6.3		6.7	6.5 6.5	5.9	8
429 430	Private - Dwelling Private - Dwelling	-		0.1	0.2	0.3	0.4	0.5	0.5	0.6	0.4	0.5	0.5	0.6	0.2					1.1	0.8	6.3	6.4		6.9	6.7	6.0 5.9	8
431	Private - Dwelling	-	-	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.4	0.5	0.5	0.6	0.2	0.7	0.6	0.8	0.9	1.2	0.8	6.3	6.4	6.6	7.0	6.7	6.0	8
432	Private - Dwelling Private - Dwelling	UWJV (Noise) [SSD7142]		0.1	0.1	0.3	0.3	0.4	0.4	0.5	0.3	0.4	0.4	0.5	0.2					0.9	0.6	6.2	6.3		6.8	6.5	5.8	8 8
434	Private - Dwelling		-	0.1	0.2	0.3	0.4	0.6		0.8	0.5	0.6	0.6	0.8	0.3					1.4	1.0	6.5	6.7		7.5	7.1	6.2	8
436 437	Private - Dwelling Private - Dwelling	-	-	0.1	0.1	0.3	0.4	0.5		0.8	0.5	0.5	0.6	0.8	0.3					1.3	1.0	6.5 6.2	6.6		7.4 6.7	7.0 6.8	6.1	8 8
438 440	Private - Dwelling Private - Dwelling	-		0.1	0.2	0.4	0.5	0.7		0.5	0.4	0.4	0.4	0.5	0.2					1.2	0.9	6.1	6.2		6.5 7.3	6.6	6.1	8
451	Private - Dwelling	UWJV (Noise) [SSD7142]		0.0	0.1	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.3	0.3	0.1	0.4	0.3).4	0.5 (0.6	0.4	6.1	6.1	6.2	6.6	6.1	5.6	8
452 453	Private - Dwelling Private - Dwelling	UWJV (Noise) [SSD7142] UWJV (Noise) [SSD7142]	-	0.0	0.1	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.3	0.3	0.1					0.6	0.4	6.1	6.1		6.5	6.1	5.6	8
454 455	Private - Dwelling Private - Dwelling	UWJV (Noise) [SSD7142] UWJV (Noise) [SSD7142]	-	0.0	0.1	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.3	0.1					0.5	0.3	6.0	6.1		6.4	6.0 5.9	5.5 5.5	8
456	Private - Dwelling	UWJV (Noise) [SSD7142]		0.0	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.1	0.2	0.2).3	0.3 (0.4	0.3	5.9	5.9	6.0	6.2	5.8	5.5	8
457 458	Private - Dwelling Private - Dwelling	UWJV (Noise) [SSD7142] UWJV (Noise) [SSD7142]		0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.1					0.4	0.3	5.9	5.9		6.1	5.8	5.5	8
459 460	Private - Dwelling	UWJV (Noise) [SSD7142]	-	0.0	0.1	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.3	0.1					0.5	0.3	5.9 5.9	6.0 5.9		6.3	6.0 5.9	5.5 5.5	8
462	Private - Dwelling Private - Dwelling	UWJV (Noise) [SSD7142] UWJV (Noise) [SSD7142]	-	0.0	0.1	0.2	0.2			0.3	0.2		0.2	0.2	0.1					0.5	0.3	5.9			6.2		5.5	8
463	Glencore Owned - Occupied	-	-	0.1	0.1	0.3	0.3	0.5	0.5	0.8	0.4	0.5	0.6	0.8	0.3	0.9	0.6	0.8	0.9	1.3	0.8	6.6	6.9	7.0	8.1	7.3	6.1	8
464	Private - Dwelling	-	-	0.1	0.1					0.4	0.2).5		0.7	0.5	0.0	6.0					8
466	Private - Dwelling	Rav Ops (AQ) [DA	Ashton (AQ & Noise)	0.1	0.2	0.3	0.3	0.4	0.4	0.4	0.3	0.3	0.3	0.4	0.1	0.5	0.4	0.6	0.7 (0.8	0.6	6.0	6.1	6.3	6.4	6.2	5.8	8
471	Private - Subject to Acquisition Rights	09_0176]; HVOS (AQ) [06_0261]	[DA309-11-2001-i]; Rav Ops (AQ) [DA 09_0176]	0.3	0.5	1.0	1.0	0.9	1.0	0.2	0.2	0.2	0.2	0.1	0.0	0.5	0.7	1.1	1.2	1.0	1.0	8.1	8.5	8.9	8.9	8.0	6.4	8
472	Private - Dwelling	-		0.0	0.1	0.1	0.1			0.1	0.1	0.1	0.1	0.1	0.0					0.2	0.2	5.5	5.6		5.6	5.5	5.4	8
473 477	Private - Commercial Private - Dwelling	- UWJV (Noise) [SSD7142]	-	0.1	0.2	0.4	0.4	0.6		0.6	0.4	0.5	0.5	0.6	0.2					1.2	0.8	6.3 5.7	6.3 5.7		6.8 5.8		6.0 5.4	8 8
478 481	Private - Dwelling	UWJV (Noise) [SSD7142]	-	0.0	0.1	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.3	0.1	0.3	0.3).4	0.4 (0.5	0.4	6.0	6.0	6.1	6.4	6.0	5.6	8
481 482	Private - Dwelling Private - Dwelling	-	-	0.1	0.2	0.3	0.3				0.3	0.4	0.4	0.5	0.2					1.0	0.7	6.2	6.2		6.7			8 8
483	Community Infrastructure	-	-	0.1	0.2	0.4	0.4	0.6	0.6	0.6	0.4	0.4	0.5	0.6	0.2					1.2	0.8	6.2	6.3		6.7	6.6	6.0	8
484	Private - Dwelling	-	-	0.1	0.2	0.4	0.4				0.4		0.5	0.6	0.2					1.2	0.8	6.2			6.7		6.1	8
487 488	Private - Dwelling Private - Dwelling	-		0.1	0.2	0.5 0.4	0.5	0.8	0.6	0.5	0.4		0.4	0.5	0.2	0.6	0.5).7	0.8	1.2	0.9	6.1		6.3	6.6 6.4	6.4	6.1	8 8
489	Private - Dwelling	- HVOS (Noise) [06_0261];	-	0.1	0.2	0.4	0.4				0.3		0.3	0.4	0.1		0.5).7	0.8	1.0	0.8	6.0					6.0	8
497	Private - Subject to Acquisition Rights	Rav Ops (AQ) [DA	Rav Ops (AQ) [DA 09_0176]	0.1	0.3	0.5	0.7	1.0	1.1	0.5	0.5	0.3	0.3	0.2	0.1	0.6	0.7	0.9	1.0	1.2	1.2	6.8	7.1	7.2	7.3	7.0	6.5	8
498	Private - Dwelling	09_0176] HVO South (Noise)		0.1	0.2	0.5	0.6	0.8	1.0	0.5	0.5	0.3	0.3	0.2	0.1	0.6	0.7	0.8	0.9	1.0	1.0	6.8	7.1	7.2	7.3	6.8	6.3	8
	Ĭ		Rixs Creek North (Noise) [PA08_0102] (lots																	T								
			2//1111313 & 3//1111313);																									
499	Private - Subject to	Rixs Creek North (Noise) [PA08_0102]; Rixs Creek	Ashton (AQ & Noise) [DA309-11-2001-i]; Rixs	0.3	0.5	0.9	0.9	0.7	0.8	0.2	0.2	0.1	0.1	0.1	0.0	0.5	0.7	1.0	1.0	0.8	0.8	7.8	8.3	8.6	8.6	7.7	6.1	8
	Acquisition Rights	South (AQ) [SSD 6300]	Creek South (AQ) [SSD		0	0	0												1	-			5.0					J
			6300] (lots 2//1111313 & 3//1111313)																									
	Community													_	_	-	-	+	+	4	_							
507	Community Infrastructure	-	-	0.1	0.1	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2).2	0.2	0.2	0.1	6.9	10.3	10.3	10.6	6.3	5.9	8
511	Community Infrastructure	-	-	0.1	0.1	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1).2	0.2	0.1	0.1	6.6	8.1	8.1	8.4	6.1	5.8	8
		Rixs Creek North (Noise)	Rixs Creek North (Noise)														\top			$^{+}$							\neg	\neg
592	Private - Subject to Acquisition Rights	[PA08_0102]; MOCO (AQ) [SSD-5850]; IUG (Noise)	[PA08_0102]; MOCO (AQ)	0.1	0.1	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2).2	0.2	0.2	0.1	7.0	8.5	8.6	8.9	6.4	6.0	8
	, ,	[PA08_0101]	[SSD-5850]												_	_	_	\perp	\perp	4							_	
	Private - Subject to	Rixs Creek North (Noise &	Rixs Creek North (Noise &																									
596	Private - Subject to Acquisition Rights	AQ) [PA08_0102]; Glendell (Noise) [DA 80/952]; IUG	AQ) [PA08_0102]; IUG (Noise) [PA08_0101]	0.2	0.3	0.4	0.4	0.2	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.3	0.4).5	0.4 (0.3	0.2	8.6	14.0	14.1	13.8	7.1	5.8	8
		(Noise) [PA08_0101]	(NOISE) [PAUS_0101]																									
598	Private - Subject to Acquisition Rights	MOCO (AQ) [SSD-5850]	MOCO (AQ) [SSD-5850]	0.1	0.1	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2).2	0.2	0.1	0.1	7.0	8.4	8.5	8.9	6.3	6.0	8
599	Private - Subject to	MOCO (AQ) [SSD-5850]	MOCO (AQ) [SSD-5850]	0.1	0.1	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2).2	0.2 (0.2	0.1	7.2	8.8	8.9	9.3	6.4	6.0	8
	Acquisition Rights	, ,, [222 2230]	MOCO (AQ) [SSD-5850]												- 1		-	+	+	+								
613	Private - Subject to	-	vacant lots 31//6842 and	0.1	0.1	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2).2	0.2	0.2	0.1	7.2	8.8	8.9	9.3	6.4	6.0	8
	Acquisition Rights		2//1175728 within landholding only																									
614	Private - Dwelling	-	-	0.1	0.1	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2).2	0.2	0.2	0.1	7.2	8.8	8.9	9.3	6.4	6.0	8

Modelled annua	al average PM2.5 conce	ntrations (ug/m3)		Projec	(HVO	N)				Project	(HVO	S)				Project	(HVO	Comple	x)			Cumul	ative					
				4	025	53	033	00	4				8	ę.	4	4	52	020	33	040	4	4	25	53	33	40	44	iteria
)	Status	Existing mitigation rights	Existing acquisition rights	201	202	202	203	20	204	207	202	502	2033	2040	2044	20	202	202	203	20	204	201	2025	202	203	204	204	ö
19	Private - Subject to Acquisition Rights	MOCO (AQ) [SSD-5850]; Glendell (Noise) [DA 80/952]; Rixs Creek North (Noise) [PA08_0102]; Rixs Creek South (AQ) [SSD 6300]	MOCO (AQ) [SSD-5850]; Rixs Creek South (AQ) [SSD 6300]	0.3	0.4	0.7	0.6	0.4	0.4	0.1	0.1	0.1	0.1	0.1	0.0	0.4	0.5	0.8	0.6	0.4	0.4	8.7	9.6	9.9	9.5	7.5	5.9	
21	Private - Subject to Acquisition Rights	Rixs Creek North (Noise & AQ) [PA08_0102]; Rixs Creek South (AQ) [SSD 6300]	Rixs Creek North (Noise) [PA08_0102]; Ashton (AQ) [DA309-11-2001-i]	0.3	0.5	0.8	0.7	0.5	0.5	0.1	0.1	0.1	0.1	0.1	0.0	0.4	0.6	0.9	0.8	0.6	0.5	9.6	10.5	10.8	10.6	8.5	5.9	
23	Community	-	-	0.3	0.5	0.9	0.7	0.5	0.4	0.1	0.1	0.1	0.1	0.1	0.0	0.5	0.7	1.0	0.8	0.5	0.5	8.6	9.4	9.7	9.3	7.7	5.9	
524	Infrastructure Private - Subject to Acquisition Rights	MOCO (AQ) [SSD-5850]; Rixs Creek South (AQ) [SSD 6300]	MOCO (AO) [SSD-5850]; Rixs Creek South (AO) [SSD 6300]. Note - acquisitions apply to all 9 contigious lots 1/12/48748, 2/9/758214, 3/9/758214, 4/9/758214, 7/9/758214, 6/9/758214, 9/9/758214	0.3	0.5	0.8	0.7	0.4	0.4	0.1	0.1	0.1	0.1	0.1	0.0	0.5	0.6	0.9	0.8	0.5	0.5	8.8	9.7	9.9	9.5	7.8	5.9	
326	Private - Subject to Acquisition Rights	Glendell (Noise) [DA 80/952]; MOCO (AQ) [SSD-5850]; Rixs Creek North (Noise) [PA08_0102]; Rixs Creek South (AQ) [SSD 6300] Glendell (Noise) [DA	MOCO (AQ) [SSD-5850]; Riss Creek South (AQ) [SSD 6300]. Note - acquisitions apply to both contigious lots 1/8/758214 and 2/8/758214	0.3	0.5	0.8	0.7	0.4	0.4	0.1	0.1	0.1	0.1	0.1	0.0	0.4	0.6	0.9	0.8	0.5	0.4	9.1	10.0	10.2	9.8	7.8	6.0	
527	Private - Subject to Acquisition Rights	Serrice (Noise) (DA 80/952); MOCO (AQ) [SSD-5850]; Rixs Creek North (Noise) [PA08_0102]; Rixs Creek South (AQ) [SSD 6300] Glendell (Noise) [DA	MOCO (AQ) [SSD-5850]; Rixs Creek South (AQ) [SSD 6300]	0.3	0.5	0.8	0.6	0.4	0.4	0.1	0.1	0.1	0.1	0.1	0.0	0.4	0.6	0.8	0.7	0.5	0.4	9.0	9.9	10.1	9.7	7.7	5.9	
528	Private - Subject to Acquisition Rights	80/952]; MOCO (AQ) [SSD-5850]; Rixs Creek North (Noise) [PA08_0102]; Rixs Creek South (AQ) [SSD 6300]	MOCO (AQ) [SSD-5850]; Rixs Creek South (AQ) [SSD 6300]	0.3	0.5	0.7	0.6	0.4	0.4	0.1	0.1	0.1	0.1	0.1	0.0	0.4	0.6	0.8	0.7	0.5	0.4	8.9	9.8	10.0	9.6	7.6	5.9	
529	Private - Subject to Acquisition Rights	MOCO (AQ) [SSD-5850]; Rixs Creek North (AQ) [PA08_0102]; Rixs Creek South (AQ) [SSD 6300]	MOCO (AQ) [SSD-5850]; Rixs Creek South (AQ) [SSD 6300]. Note - acquisitions apply to both contigious lots 103//852484 and 104//852484	0.3	0.5	0.7	0.6	0.4	0.4	0.1	0.1	0.1	0.1	0.1	0.0	0.4	0.6	0.8	0.7	0.4	0.4		9.7	10.0		7.5		
735	Private - Commercial Community	-	-	0.3	0.5	0.7	0.6	0.4	0.4	0.2	0.1		0.1			0.5	0.6	0.9	0.7		0.4		14.7		11.7			
797	Infrastructure	-	•	0.4	0.6	0.8	0.6	0.4	0.4	0.2	0.1	0.1	0.1	0.1	0.0	0.5	0.7	0.9	0.7	0.5	0.4	11.5	14.4	14.6	11.6	8.6	6.5	L
799	Community Infrastructure	-	-	0.4	0.6	0.8	0.6	0.4	0.4	0.2	0.1	0.1	0.1	0.1	0.0	0.5	0.7	0.9	0.7	0.5	0.4	11.5	14.4	14.6	11.6	8.6	6.5	
300	Private - Commercial			0.4	0.6	0.8	0.6	0.4	0.4	0.2	0.1	0.1	0.1	0.1	0.0	0.5	0.7	0.9	0.7	0.5	0.4		14.4	14.6			6.5	
329	Private - Commercial	-	-	0.0	0.1	0.2	0.2	0.3	0.3	0.7	0.5	0.6	0.6	0.6		0.7	0.6	0.8	0.8	0.8	0.5							
330	Private - Commercial			0.0	0.1	0.2	0.2	0.2	0.3	0.6	0.5	0.6	0.6	0.5		0.6	0.5	0.7	0.8	0.8	0.5	7.3 9.0	8.2	8.3	8.4	6.3 9.4		
333 334	Private - Commercial Private - Commercial	-	-	0.1	0.1	0.2	0.3	0.5	0.6	2.7 0.7	1.9	2.9 0.5	3.1 0.5	3.2 0.6	0.2	2.8	2.0	3.1 0.8	3.4 0.9	3.6 1.2	1.7		6.4	11.1 6.6	10.7 6.9		6.9	
335	Private - Dwelling			0.1	0.2	0.4	0.4	0.6	0.6	0.6	0.4	0.5	0.5	0.6		0.7	0.6	0.8	0.9	1.2			6.3					
336	Private - Dwelling			0.1	0.2	0.4	0.4	0.6	0.6	0.6	0.4	0.4	0.5	0.6	0.2	0.7	0.6	0.8	0.9	1.2	0.8		6.3	6.5		6.6		
337	Private - Dwelling	-	-	0.1	0.2	0.4	0.4	0.6	0.6	0.6	0.4	0.4	0.5	0.6	0.2	0.7	0.6	0.8	0.9	1.2			6.3	6.5				
338	Private - Dwelling	-	-	0.1	0.2	0.4	0.4	0.6	0.6	0.6	0.4	0.5	0.5	0.6	0.2	0.7	0.6	0.8	0.9	1.2	0.8	6.3	6.3	6.6	6.8	6.7	6.0	
339	Private - Dwelling	-	-	0.1	0.2	0.4	0.4	0.5	0.6	0.6	0.4	0.4	0.5	0.6	0.2	0.7	0.6	0.8	0.8	1.1	0.8		6.3	6.5				
340	Private - Dwelling	-	-	0.1	0.2	0.4	0.4	0.5	0.6	0.6	0.4	0.4	0.5	0.6	0.2	0.7	0.6	0.8	0.9	1.1	0.8		6.3	6.5				
343	Private - Dwelling	-	-	0.1	0.1	0.3	0.3		0.4		0.3	0.2	0.2	0.2		0.4	0.4	0.5	0.5	0.5			6.3					
346 347	Private - Dwelling Private - Dwelling	-	-	0.1	0.2	0.3	0.4	0.4	0.5	0.2	0.2	0.2	0.2	0.1	0.0	0.3	0.4	0.5	0.5	0.6	0.5		6.9	7.0 6.8			5.8 5.8	
352	Private - Dwelling	-	-	0.1	0.2	0.3	0.4		0.5		0.2	0.2	0.2	0.2		0.4	0.4	0.5	0.6	0.6			6.6					
355	Private - Dwelling			0.1	0.1	0.2	0.3	0.3	0.4	0.5	0.4	0.4	0.3	0.3	0.1	0.5	0.5	0.6	0.6	0.6	0.5	6.3	6.5			6.2		
156	Private - Dwelling	-	-	0.1	0.2	0.3	0.3	0.4	0.5	0.3	0.3	0.2	0.2	0.2	0.1	0.4	0.4	0.5	0.5	0.6	0.5		6.6	6.6	6.7	6.3		
360	Private - Subject to Acquisition Rights	Glendell (Noise) [DA 80/952]; Rixs Creek North (Noise & AQ) [PA08_0102]; Rixs Creek South (AQ) [SSD 6300] Glendell (Noise) [DA	Glendell [DA80/952]; Rixs Creek North (Noise) [PA08_0102]	0.3	0.4	0.7	0.6	0.4	0.4	0.1	0.1	0.1	0.1	0.1	0.0	0.4	0.5	0.8	0.7	0.5	0.4	9.1	10.6	10.8	10.5	7.8	5.9	
361	Private - Subject to Acquisition Rights	80/952]; Rixs Creek North (Noise) [PA08_0102]; IUG (Noise) [PA08_0101]; Rixs Creek South (AQ) [SSD 6300]	Glendell [DA80/952]; Rixs Creek North (Noise) [PA08_0102]	0.2	0.4	0.5	0.5	0.3	0.3	0.1	0.1	0.1	0.1	0.1	0.0	0.3	0.4	0.6	0.5	0.4	0.3	9.1	11.1	11.3	10.8	7.4	5.9	
162	Private - Subject to Acquisition Rights	Glendell (Noise) [DA 80/952]; Rixs Creek North (Noise) [PA08_0102]; IUG (Noise) [PA08_0101]; Rixs Creek South (AQ) [SSD 6300]	Rixs Creek North (Noise) [PA08_0102]	0.3	0.4	0.7	0.5	0.3	0.3	0.1	0.1	0.1	0.1	0.1	0.0	0.4	0.5	0.7	0.6	0.4	0.3	10.2	11.1	11.3	10.6	7.8	6.0	
963	Private - Subject to Acquisition Rights	Glendell (Noise) [DA 80/952]; Rixs Creek North (Noise) [PA08_0102]; IUG (Noise) [PA08_0101]; Rixs Creek South (AQ) [SSD 6300]	[PA08_0102]	0.3	0.4	0.6	0.5	0.3	0.3	0.1	0.1	0.1	0.1	0.1	0.0	0.4	0.5	0.7	0.6	0.4	0.3	10.0	11.2	11.4	10.7	7.7	6.0	
169	Private - Subject to Acquisition Rights	Rav Ops (AQ and Noise) [DA 09_0176]; Rixs Creek North (Noise) [PA08_0102]	[PA08_0102] (acquisition applies to contigious	0.2	0.4	0.8	0.9	0.9	1.0	0.3	0.2	0.2	0.2	0.1	0.0	0.5	0.6	1.0	1.1	1.1	1.1	7.3	7.6	7.9	8.0	7.4	6.4	
		Rav Ops (AQ and Noise) [DA 09_0176]; Rixs Creek	Ashton (AQ & Noise) [DA309-11-2001-i]; Rixs		0.4	0.8	0.9	0.9	1.0	0.3	0.2	0.2	0.2	0.1	0.0	0.5	0.6	0.9	1.0	1.0	1.0	7.2	7.6	7.9	8.0	7.4	6.3	
370	Private - Subject to Acquisition Rights	North (Noise) [PA08_0102]; Rixs Creek South (AQ) [SSD 6300]	Creek North (Noise) [PA08_0102] (acquisition applies to contigious	0.2	0.4	0.0																Щ						L
		North (Noise) [PA08_0102]; Rixs Creek South (AQ) [SSD 6300] Rav Ops (AQ) [DA 09_0176]; HVOS (Noise)	[PA08_0102] (acquisition	0.2	0.4	0.6	0.7	1.0	1.1	0.4	0.4	0.3	0.3	0.2	0.1	0.6	0.7	0.9	1.0	1.2	1.2	6.7	7.1	7.2	7.3	7.0	6.5	
147 149	Acquisition Rights Private - Subject to	North (Noise) [PA08_0102]; Rixs Creek South (AQ) [SSD 6300] Rav Ops (AQ) [DA	[PA08_0102] (acquisition applies to contigious Rav Ops (AQ) [DA									0.3	0.3				0.7	0.9	1.0					7.2				

Modelled annua	l average TSP concent	rations (ug/m3)	<u> </u>	Projec	t (HVO	N)				Project (HVOS	6)				Project	(HVO C	omplex)			(Cumulat	ive					
ID	Ototuo	Eviating mitigation rights	Eviating againstian rights	014	025	020	033	040	4	2014			2033	2040	2044	014	025	033	040	044		014	670	029	033	040		Criteria
	Status Monitor Monitor	Existing mitigation rights	Existing acquisition rights	0.1		0.3	0.4	0.7			1.4	1.5	1.8		0.6	1.9 1.6	1.5			2.7	1.4	59 59	60	60 60	61 60	60	58 60	90
Warkworth	Monitor	-	-	0.0	0.1	0.1	0.2	0.2	0.2	1.4	0.8	1.5	3.1	2.1	0.8	1.4	0.9	1.6	3.2	2.4	1.0	63	80	75	73	63	58	90
Knodlers Lane	Monitor Monitor	-	-	0.0	0.3	0.1	1.0		1.9	3.3	0.9 3.6	2.0	1.9		0.8	1.7 3.4	0.9 3.9	2.7	2.5	2.4	2.1	60 61	61 62	61 61	66 60	62 60	58 59	90 90
DL22 DL21	Monitor Monitor	-		0.1	0.2	0.4		1.0		6.1 3.6	7.3 4.0	5.7 1.9	4.5 1.3	2.9 0.9	0.6	3.7	7.5 4.3	2.7	2.5	4.0 2.8	1.8	64 61	66 62	65 61	64 60	61 60	59 59	90 90
D122 DL30	Monitor Monitor	-	-	0.1	0.2	0.4		0.8		1.8 6.5	7.2	1.7	1.4	1.1 8.7	0.3 2.2	1.9 6.5	7.3			9.4	2.9	59 65	68	60 71	60 72	59 67	58 60	90
DL2 Warkworth	Monitor Monitor	-	-	0.4	0.9	2.2		5.4 0.2			0.8	1.4	1.0	0.6 2.1	0.2	2.3	3.1 0.9			6.0 2.4	7.2	60 63	61 80	62 75	63 73	64 63	64 58	90 90
	Monitor Monitor	-	-	0.6	1.5	3.2 0.3		5.7 0.7	7.4	1.1	1.2	0.9	0.7 2.0	0.4 1.5	0.2	1.7	2.6			6.2 2.2	7.6	60 60	61 61	63 60	64 60	65 59	65 58	90 90
	Monitor Monitor	-		0.0	0.1	0.1		0.3		1.7 6.7	0.9	1.4	1.9 6.1	2.2 7.5	0.8	1.7 6.8	1.0			2.5 9.3	1.1 4.9	60 64	61 63	61 64	66 67	62 67	58 62	90 90
Howick	Monitor Monitor	-	-	5.3	7.0	8.1	3.9	1.2	1.3	0.3	0.3	0.3	0.2	0.2	0.0	5.6	7.3	8.4	4.1	1.4	1.3	70 78	73	74 91	70 91	66 59	59 58	90
HC1 Conveyor	Monitor Monitor	-		13.9	_	103.9	186.8	14.5		1.5	1.7	1.2	1.2	0.8	0.3	15.4		05.1 18	8.0 1		17.4	76 59	210 60	239 60	322 60	148 60	74 60	90
Maison Dieu Warkworth	Monitor	-		0.0	0.1	0.1	0.1	0.2	0.2	1.0	0.6	1.1	1.9	1.5	0.5	1.7	0.7	1.2	2.1	1.7	0.7	64	72	71	70	61	58	90
Jerrys Plains	Monitor Monitor	-	-	0.1	0.2	0.5	0.6	1.3	1.1	1.0	7.3	0.9	1.0	1.0	0.5	1.1	7.6 1.0	1.3	1.5	2.1	1.9	64 58	66 59	64 59	63 59	61 59	59 58	90
	Monitor Monitor	-	-	0.6	1.5 0.1	3.2 0.2		5.7 0.6	7.4 0.6	7.1	1.2 5.1	0.9 11.0	0.7 12.3	0.4 11.4	0.2 3.6	7.1	2.6 5.2	11.2 1		6.2 11.9	7.6 4.2	60 66	61 67	63 73	74	70	65 61	90 90
	Monitor Monitor	-	-	0.1	0.2	0.3	0.5	0.7	0.8	1.7	0.9	1.4	1.9	1.5 2.2	0.4	1.7	1.0			2.2	1.1	60	61 61	60 61	60 66	59 62	58 58	90 90
Kilburnie South Maison Dieu	Monitor Monitor	-	-	0.0	0.1	0.1		0.3 2.3	0.3 2.7	1.7	0.9	1.4 0.9	1.9	2.1 0.5	0.8	1.7	0.9			2.4	1.1	60 59	61	61 60	66 60	62 60	58 60	90 90
Maison Dieu	Monitor Monitor	-	-	0.2	0.4	1.0	1.5	2.3	2.8	1.5	1.7	0.9	0.7	0.5	0.1	1.7	2.1	1.9	2.2	2.8	2.9	59 61	60 62	60 61	60	60 60	60 59	90 90
17	Private - Dwelling Private - Dwelling	-	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	58 58	58 58	58 58	58 58	57 57	57 57	90
37	Private - Dwelling Private - Subject to	-	Managements (Nation 8 AC)	0.0	0.0	0.0		0.0		0.1	0.0	0.1	0.1	0.1	0.0	0.1	0.1				0.0	58	58	59	59	57	57	90
102	Acquisition Rights	Warkworth (Noise & AQ) [SSD6464)	Warkworth (Noise & AQ) [SSD6464)	0.0	0.1	0.1	0.2	0.2	0.2	1.1	0.7	1.2	2.1	1.6	0.6	1.1	0.7	1.3	2.3	1.8	0.8	63	73	71	71	61	58	90
120	Private - Dwelling	HVOS (Noise & AQ) [06_0261]	-	0.1	0.3	0.7	1.0	1.6	1.9	3.3	3.6	2.0	1.4	1.0	0.2	3.4	3.9	2.7	2.5	2.6	2.1	61	62	61	60	60	59	90
121	Private - Dwelling	HVOS (Noise & AQ) [06_0261]	-	0.1	0.3	0.6	0.9	1.4	1.7	4.2	4.6	2.8	2.0	1.4	0.3	4.3	4.9	3.4	2.9	2.8	2.0	62	63	61	61	60	59	90
122	Private - Dwelling	HVOS (Noise & AQ) [06_0261]	-	0.1	0.3	0.7	1.1	1.7	2.0	2.8	3.1	1.7	1.2	0.9	0.2	3.0	3.4	2.5	2.3	2.6	2.2	61	61	60	60	60	59	90
123	Private - Dwelling	HVOS (Noise & AQ) [06_0261]	-	0.1	0.3	0.6	1.0	1.5	1.8	3.5	3.9	2.3	1.6	1.2	0.3	3.6	4.2	2.9	2.6	2.7	2.0	61	62	61	61	60	59	90
124	Private - Dwelling	HVOS (Noise & AQ) [06_0261]	-	0.1	0.3	0.7	1.1	1.7	2.0	2.7	3.0	1.7	1.2	0.9	0.2	2.8	3.3	2.4	2.3	2.5	2.2	60	61	60	60	60	59	90
126	Private - Dwelling	Warkworth (Noise) [SSD6464)	-	0.0	0.1	0.2	0.3	0.4	0.4	1.7	1.7	1.9	2.0	1.6	0.5	1.7	1.8	2.1	2.3	2.0	0.9	60	61	61	61	59	58	90
	Private - Dwelling	-	-	0.1	0.3	0.5		1.1	1.3	2.4	2.7	2.0	1.6	1.2	0.3	2.5	2.9			2.3	1.5	60	61	60			59	90
128	Private - Dwelling	Warkworth (Noise) [SSD6464)	-	0.1	0.1	0.3		0.5	0.6	2.2	2.3	2.3	2.3	1.8	0.5	2.2	2.5		_	2.4	1.0	60	61	61	61	60	58	90
	Private - Dwelling	Warkworth (Noise) [SSD6464)	-	0.1	0.2	0.3		0.6		2.3	2.6	2.4	2.1	1.7	0.4	2.4	2.7			2.3	1.1	60	61	61	61	60	58	90
134	Private - Dwelling Private - Dwelling	Warkworth (Noise)		0.1	0.2	0.3	0.5	0.7	0.7	2.3	2.5	2.3	2.0	1.6	0.4	2.3	2.7			2.2	1.1	60	60	61 60	60	59 59	58 58	90
141	Private - Dwelling	[SSD6464)	-	0.1	0.3	0.6	0.8	1.1	1.2	1.6	1.7	1.3	1.0	0.8	0.2	1.7	2.0	1.8	1.8	1.9	1.4	59	60	60	60	59	58	90
160	Private - Dwelling Private - Dwelling	HVOS (Noise) [06_0261] HVOS (Noise) [06_0261]	-	0.1	0.4	0.8		2.0		2.8 1.9	2.2	1.5	1.0	0.7	0.2	2.9	3.5 2.6			2.8	2.6	61	61	60	60	60	60	90
162 163	Private - Dwelling Private - Dwelling	HVOS (Noise) [06_0261] HVOS (Noise) [06_0261]		0.2	0.4	0.9	1.4	2.1	2.6	2.0 1.6	1.8	1.1	0.8	0.6	0.1	1.8	2.7			2.7	2.7	60 59	61 60	60 60	60 60	60 60	60 60	90 90
	Private - Dwelling Private - Dwelling	-		0.1	0.3	0.5	0.7	1.0			1.6	1.2	1.0		0.2	1.6	1.8	1.7	1.7	1.8	1.3	59 59	60 60	59 60	59 60	59	58 58	90 90
170	Private - Dwelling Private - Dwelling	-	-	0.1	0.2	0.5	0.7	0.9	1.0	1.6	1.8	1.4	1.1	0.9	0.2	1.7	2.0	1.9	1.8	1.8	1.3	59 60	60	60	60	59 59	58 58	90
174	Private - Dwelling Private - Dwelling	-	-	0.1	0.2	0.4	0.5	0.8	0.9	1.9	2.0	1.7	1.5	1.1	0.3	1.9	2.2	2.1	2.0	1.9	1.1	59 59	60	60 60	60	59 59	58 58	90
176	Private - Dwelling	-		0.1	0.2	0.4	0.6	0.8	0.9	1.6	1.8	1.4	1.2	1.0	0.2	1.7	2.0	1.8	1.8	1.8	1.1	59	60	60	59	59	58	90
178 179	Private - Dwelling Private - Dwelling	-	-	0.1	0.2	0.4	0.5	0.8	0.8	1.3	1.4	1.1	1.0	0.8	0.2	1.4	1.6	1.5	1.5	1.5	1.0	59 59	59 59	59 59		59 59	58 58	90 90
244 245	Private - Dwelling Private - Dwelling	HVOS (Noise) [06_0261] HVOS (Noise) [06_0261]	-	0.2	0.4	0.9	1.3	1.9	2.3		1.8	1.0	0.8	0.5	0.1	1.8	2.2	1.9	2.1	2.4	2.4	59 59	60 60	60 60	60 60	60	59 59	90 90
246 247	Private - Dwelling Private - Dwelling	HVOS (Noise) [06_0261] HVOS (Noise) [06_0261]	-	0.2	0.4	0.9	1.4	2.0	2.3	1.4	1.5	0.9	0.7	0.5	0.1	1.5	1.9			2.5	2.5	59 59	60	60	60	60 60	59 59	90
248 249	Private - Dwelling Private - Dwelling	-	-	0.1	0.2	0.4	0.6	0.8	0.9	1.7	1.8	1.5	1.3	1.0	0.2	1.8	1.8			1.8	1.1	59 59	60 59	60 59	60 59	59 59	58 58	90
	Private - Dwelling Private - Dwelling	-		0.1	0.2	0.4		0.7	0.8		1.0	0.8	0.7	0.6	0.1	1.1	1.2				1.0	59 59	59 59	59 59	59 59	59 59	58 58	90 90
256	Private - Subject to	HVOS (Noise) [06_0261]; Rav Ops (AQ) [DA		0.2	0.5	1.0		2.4	2.8	1.4	1.5	0.8	0.6	0.5	0.1	1.6	2.0				2.9	59	60	60	60	60	60	90
258	Acquisition Rights Private - Dwelling	09_0176] HVOS (Noise) [06_0261]		0.2	0.4	1.0	1.5	2.2	2.7	1.6	1.7	0.9	0.7	0.5	0.1	1.7	2.2	1.9	2.2	2.7	2.8	59	60	60	60	60	60	90
	Private - Dwelling Private - Dwelling	HVOS (Noise) [06_0261] HVOS (Noise) [06_0261]	-	0.2		0.9	1.3	2.0	2.4	2.2	2.4	1.3	0.9	0.6	0.2	2.3	2.8		2.2		2.5	60	61 61	60 60	60 60	60 60	60 60	90 90
262	Private - Dwelling	Warkworth (Noise)		0.0		0.2		0.4		1.7	1.7	1.9	2.0	1.7	0.5	1.8	1.9				0.9	60	61	61	61	59	58	90
264	Community	[SSD6464)	-	0.0	0.1	0.1	0.1	0.2	0.2	1.0	0.6	1.1	2.0	1.5	0.5	1.0	0.7	1.2	2.1	1.7	0.8	64	72	71	70	61	58	90
	Infrastructure	UWJV (Noise) [SSD7142];																										
266	Private - Dwelling	Wambo Coal Mine (Noise) [DA 305-7-2003]	-	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	58	58	58	58	57	57	90
308	Private - Subject to Acquisition Rights	HVOS (Noise) [06_0261]; UWJV (Noise) [SSD7142]	UWJV (Noise) [SSD7142]	0.0	0.1	0.2	0.3	0.4	0.4	2.2	1.2	1.7	2.3	2.8	1.0	2.2	1.3	1.9	2.6	3.1	1.4	61	62	62	67	63	58	90
310	Glencore Owned - Occupied	HVOS (Noise) [06_0261]; UWJV (Noise) [SSD7142]	UWJV (Noise) [SSD7142]	0.0	0.1	0.2	0.3	0.3	0.3	1.8	1.0	1.4	2.0	2.3	0.8	1.8	1.0	1.6	2.2	2.6	1.2	60	61	61	66	62	58	90
311	Private - Dwelling	UWJV (Noise) [SSD7142]; HVOS (Noise) [06_0261]	-	0.0	0.1	0.2	0.3	0.5	0.5	2.5	1.6	2.1	2.6	3.2	1.1	2.6	1.7	2.3	2.9	3.7	1.6	61	61	61	64	62	59	90
1	Private - Dwelling	HVOS (Noise) [06_0261]; UWJV (Noise) [SSD7142]	-	0.0	0.1	0.2	0.3	0.5	0.5	2.5	1.7	2.1	2.6	3.2	1.1	2.6	1.8	2.3	2.9	3.6	1.6	61	61	61	64	62	59	90
	Private - Dwelling Private - Dwelling	-	-	0.0		0.2		0.6		2.1 1.9	1.5	1.7	2.0 1.9	2.1	0.8	2.1 1.9	1.6			2.9	1.4	60	60 60	60 60	62 61	61 60	58 58	90 90
324	Private - Dwelling Private - Dwelling	-	-	0.0	0.1	0.2	0.4	0.6	0.6	2.0	1.4	1.6	1.9	2.2	0.7	2.0	1.5	1.9	2.3	2.8	1.3	60 59	60 59	60 59	62	61	58 59	90 90
327	Private - Dwelling Private - Dwelling	-	-	0.1	0.2	0.4	0.8	1.5	1.6	1.5	1.2	1.3	1.4	1.5	0.5	1.6	1.4	1.7	2.2	3.0	2.1	59 59	59 59	59 60		60	59 59	90
330	Private - Dwelling	-	-	0.1	0.2	0.4	0.6	1.1	1.2	1.5	1.2	1.3	1.4	1.6	0.5	1.6	1.3	1.7	2.0	2.7	1.7	59	59	59	60	60	59	90
	Community Infrastructure	-	-	0.1	0.2	0.4		1.2		1.7	1.3	1.4	1.5	1.7	0.5	1.7	1.4			2.9	1.8	59	59	60	60		59	90
333	Private - Dwelling Private - Dwelling	-	-	0.1	0.1	0.3	0.5	0.9	1.0	1.5	1.2	1.3	1.5	1.6	0.5	1.6	1.3	1.6	1.9	2.6	1.5	59 59	59 59	60 59	60	60	59 58	90
335	Private - Dwelling Private - Dwelling	-	-	0.1		0.3	0.5		0.9		1.1	1.2	1.4			1.5	1.3	1.6	1.9	2.4	1.4	59 59	59 59	59 59		60	58 58	90 90
336	Private - Dwelling Private - Dwelling	-	-	0.1	0.1	0.3	0.5	1.0	1.1	1.6	1.2	1.3	1.5	1.7	0.5	1.7	1.4	1.7	2.0		1.6	59 59	59 59	60 60	60 60	60	59 59	90 90
338	Private - Dwelling Private - Dwelling	-	-	0.1	0.1	0.3	0.5		1.0		1.3	1.4	1.6		0.6	1.7	1.4	1.7	2.1	2.7	1.6	59 59	59 59	60 59		60	59 58	90
340	Private - Dwelling Private - Dwelling	-	-	0.0	0.1	0.3	0.4	0.7	0.7	1.5	1.1	1.2	1.4	1.6	0.5	1.5	1.2	1.5	1.8	2.2	1.2	59 59	59 59	59 59	60	60	58 58	90
342	Private - Dwelling Private - Dwelling	-	-	0.0		0.3	0.4		0.8		1.1	1.3	1.4	1.6	0.5	1.6		1.5	1.9		1.3	59 59	59 59	59 59	60		58 58	90
344	Private - Dwelling	-	-	0.1	0.1	0.3	0.4	0.7	0.8	1.6	1.2	1.3	1.5	1.7	0.5	1.6	1.3	1.6	1.9	2.4	1.3	59	59	59	60	60	58	90
346	Private - Dwelling Private - Dwelling	-	-	0.1	0.1	0.3	0.4	0.7	0.8	1.6	1.2	1.3	1.5	1.7	0.5	1.6	1.3	1.6	2.0	2.5	1.3	59 59	59 59	60 60		60	58 58	90
348	Private - Dwelling Private - Dwelling	-	-	0.1			0.5	0.9	1.0	1.7	1.3	1.4	1.6	1.7		1.7	1.4	1.7	2.0	2.6	1.5	59 59	59 59	60			59 59	90
350	Private - Dwelling Private - Dwelling	-	-	0.1	0.1	0.3	0.5	0.8	0.9	1.6	1.2	1.4	1.5 1.6		0.6	1.7	1.4	1.7	2.0		1.5	59 59	59 59	60 60	60	60	58 58	90 90
352	Private - Dwelling Private - Dwelling	-	-	0.1	0.1	0.3		0.9			1.3	1.4	1.6 1.6		0.6	1.7	1.4			2.6	1.5	59 59	59 59	60 60	60 61	60 60	59 59	90 90
353	Private - Dwelling Private - Dwelling	-	-	0.1	0.1	0.3	0.5	0.9	1.0	1.7	1.3	1.4	1.6	1.8	0.6	1.8	1.4	1.7	2.1	2.7	1.6	59 59	59 59	60	61	60	59 59	90
356	Private - Dwelling Private - Dwelling	-	-	0.1	0.1	0.3	0.5	0.8	0.9	1.7	1.3	1.4	1.6	1.8	0.6	1.7	1.4	1.7	2.1	2.6	1.5	59 59	59 59	60 60		60	58 58	90
	Private - Dwelling Private - Dwelling	-	-	0.1	0.1	0.3	0.4		0.9		1.3	1.4	1.6		0.6	1.7	1.4	1.7	2.0		1.4	59 59	59 59	60	61 61	60	58 59	90
360	Private - Dwelling Private - Dwelling Private - Dwelling	-	-	0.1	0.1	0.3	0.5	0.9	1.0	1.7	1.3	1.4	1.6	1.8	0.6	1.8	1.4	1.8	2.1	2.7	1.5	59 59	59 59	60	61	60	59 59	90 90
362	Private - Dwelling	-	-	0.1	0.1	0.3	0.5	0.9	0.9	1.8	1.3	1.5	1.7	1.9	0.6	1.8	1.5	1.8	2.2	2.7	1.5	59	59	60	61	60	59	90
366	Private - Dwelling Private - Dwelling	-	-	0.1		0.3	0.4	0.8	0.9	1.7	1.3	1.5	1.7		0.6	1.8	1.4	1.7	2.1		1.5	59 59	59 59	60	61	60	59 58	90
367	Private - Dwelling	I*	IT.	0.1	0.1	0.3	0.4	0.8	0.9	1.7	1.3	1.4	1.6	1.8	0.6	1.7	1.4	1.7	2.0	2.6	1.4	59	59	60	61	60	58	90

Modelled annua	al average TSP concent	trations (ug/m3)	T	Project	(HVO	N)				Project	(HVO	(S)			F	Project	(HVO	Comple	ex)			Cumuk	ative					
				414	25	620	33	940		2014	52		2033	040	2044	4	52	620	33	940	44	14	52	029	33	940	444	Criteria
ID 368	Status Private - Dwelling	Existing mitigation rights	Existing acquisition rights	0.1	0.1	0.3	0.4		0.9	1.7	1.3	1.4	1.6	1.8	0.6	1.8	1.4	1.7	2.1	2.6	1.5	<mark>원</mark> 59	<mark>웅</mark> 59	60	<mark>원</mark> 61	<mark>원</mark> 60	58	90
369 370	Private - Dwelling Private - Dwelling	-	-	0.1	0.1	0.3	0.4			1.7	1.3	1.4	1.7	1.9	0.6	1.8	1.4	1.7	2.1	2.6 2.5	1.5 1.4	59 59	59 59		61 61	60 60		90
371 372	Private - Dwelling Private - Dwelling	-	-	0.0	0.1	0.3	0.4		0.8	1.7	1.2	1.4	1.6	1.8	0.6	1.7	1.4	1.7	2.0 1.9	2.5	1.4	59 59	59 59		61 60	60	58 58	90
373 374	Private - Dwelling Private - Dwelling		-	0.0	0.1	0.3	0.4			1.7	1.2		1.6	1.8	0.6	1.7	1.4	1.7	2.0	2.5	1.4	59 59	59 59		61 61	60 60		90
375 376	Private - Dwelling Private - Dwelling	-	-	0.0	0.1	0.3	0.4	0.7	0.8	1.7	1.2	1.4	1.6	1.8	0.6	1.7	1.4	1.7	2.0	2.5	1.3	59 59	59 59	60	61 61	60 60	58	90
377	Private - Dwelling		-	0.1	0.1	0.3	0.4	0.8	0.8	1.7	1.3	1.4	1.7	1.9	0.6	1.8	1.4	1.7	2.1	2.6	1.4	59	59	60	61	60	58	90
380 381	Private - Dwelling Private - Dwelling	-		0.0	0.1	0.3	0.4			1.7	1.3	1.4	1.6	1.9	0.6	1.7	1.4	1.7	2.0	2.5	1.3	59 59	59 59		61 61	60 60		90
382	Community Infrastructure	-	-	0.0	0.1	0.3	0.4	0.6	0.7	1.7	1.3	1.4	1.6	1.8	0.6	1.7	1.4	1.7	2.0	2.5	1.3	59	59	60	61	60	58	90
383 384	Private - Dwelling Private - Dwelling	-	-	0.0	0.1	0.3	0.4		0.7	1.7	1.3	1.4	1.6	1.9	0.6	1.8	1.4	1.7	2.0	2.5	1.3	59 59	59 59		61 61	60		90
385	Private - Dwelling Community	-	-	0.0	0.1	0.3	0.4	0.7	0.7	1.7	1.2	1.4	1.6	1.8	0.6	1.7	1.4	1.7	2.0	2.5	1.3	59	59	60	61	60		90
386	Infrastructure Private - Dwelling	-	-	0.0	0.1	0.3	0.4	0.6	0.6	1.6	1.2	1.3	1.6	1.8	0.6	1.7	1.3	1.6	1.9	2.4	1.2	59 59	59 60	1 1	61	60		90
390	Private - Dwelling	-		0.0	0.1	0.3	0.4	0.7	0.7	1.8	1.3	1.5	1.7	2.0	0.6	1.8	1.4	1.7	2.1	2.6	1.3	59	60	60	61	60	58	90
391 392	Private - Commercial Private - Dwelling	-	-	0.0	0.1	0.3	0.4			1.8	1.3	1.5 1.5	1.7	2.0	0.6	1.8	1.4	1.8	2.1	2.6	1.3	59 59	60		61 61	60		90
393 394	Private - Dwelling Private - Dwelling	-	-	0.0	0.1	0.3	0.4			1.8	1.3	1.5	1.8	2.0	0.6	1.9	1.5	1.8	2.1	2.6	1.3	59 59	60		61 61	60		90
395	Private - Dwelling Community	-	-	0.0	0.1	0.3				1.8	1.4	1.5	1.8	2.0	0.6	1.9	1.5	1.8	2.2	2.7	1.4	59	60	60	61	60		90
396	Infrastructure	-	-	0.0	0.1	0.2	0.3			1.7	1.2	1.4	1.6	1.9	0.6	1.7	1.3	1.6	2.0	2.4	1.2	59 59	59		61	60		90
398	Private - Dwelling Private - Dwelling	-		0.0	0.1	0.3	0.4	0.6	0.6	1.8	1.3	1.5	1.7	1.9	0.6	1.8	1.4	1.6	2.1	2.4	1.3	59	60 59	60	61	60 60	58	90
399 400	Private - Dwelling Private - Dwelling	-	-	0.0	0.1	0.3	0.4			1.8	1.3	1.5	1.7	2.0	0.6	1.8	1.4	1.7	2.1	2.6	1.3	59 59	60		61 61	60		90
401 402	Private - Dwelling Private - Dwelling	-	-	0.0	0.1	0.3	0.4	0.6	0.7	1.8	1.3	1.5 1.5	1.7	1.9	0.6	1.8	1.4	1.7	2.1	2.6	1.3	59 59	60 60	60	61 61	60 60	58	90
403	Private - Dwelling	-	-	0.0	0.1	0.3	0.4	0.6	0.7	1.8	1.3		1.7	1.9	0.6	1.8	1.4	1.7	2.1	2.6	1.3	59 59	60 59	60	61	60	58	90
404 405	Private - Dwelling Private - Dwelling	-	-	0.0	0.1	0.2	0.4	0.6	0.7	1.8	1.3	1.5	1.7	1.9	0.6	1.8	1.4	1.7	2.1	2.6	1.3	59	60	60	61 61	60	58	90
406 407	Private - Dwelling Private - Dwelling	-	-	0.0	0.1	0.3	0.4	0.6	0.6	1.8	1.3	1.5 1.4	1.7	1.9	0.6	1.8	1.4	1.7	2.1	2.6 2.4	1.3	59 59	60 59	60	61 61	60 60	58	90
408 409	Private - Dwelling Private - Dwelling	-	-	0.0	0.1	0.2	0.4	0.6	0.6	1.6	1.2	1.4	1.6	1.8	0.6	1.7	1.3	1.6 1.6	2.0	2.4	1.2	59 59	59 59	60	61 61	60	58	90
410	Community Infrastructure	-	-	0.0	0.1	0.3	0.4			1.6	1.2	1.4	1.6	1.8	0.6	1.7	1.3	1.6	1.9	2.4	1.2	59	59		61	60		90
411	Private - Dwelling	-	-	0.0	0.1	0.2				1.6	1.2	1.4	1.6	1.8	0.6	1.7	1.3	1.6	2.0	2.4	1.2	59	59		61	60		90
412	Community Infrastructure	-	-	0.0	0.1	0.2	0.4	0.6		1.6	1.2	1.3	1.5	1.7	0.6	1.6	1.3	1.6	1.9	2.3	1.2	59	59		61	60		90
413 414	Private - Dwelling Private - Dwelling	-	-	0.0	0.1	0.2	0.4			1.6	1.2	1.3	1.6	1.8	0.6	1.6	1.3	1.6 1.6	1.9	2.3	1.2	59 59	59 59		61 61	60 60		90
415 417	Private - Dwelling Private - Dwelling	-	-	0.0	0.1	0.2	0.4	0.6	0.6	1.6	1.2	1.3	1.6	1.8	0.6	1.6	1.3	1.6	1.9	2.3	1.2	59 59	59 59	60	61 61	60	58	90
418	Private - Dwelling	-		0.0	0.1	0.3	0.4	0.6	0.7	1.6	1.2	1.3	1.5	1.7	0.6	1.6	1.3	1.6	1.9	2.4	1.2	59	59	60	60	60	58	90
419 420	Private - Dwelling Private - Dwelling	-	-	0.0	0.1	0.2	0.3	0.6		1.5	1.1	1.3	1.5	1.7	0.5	1.6	1.2	1.5	1.8 2.0	2.2	1.1	59 59	59 59		60 61	60 60	58 58	90
421 422	Private - Dwelling Private - Dwelling		-	0.0	0.1	0.3	0.4		0.8	1.8	1.3	1.5	1.7	2.0	0.6	1.9	1.5	1.8	2.1	2.7	1.4	59 59	60 59		61 61	60 60	58 58	90
423 425	Private - Dwelling Private - Dwelling	-		0.0	0.1	0.3	0.4	0.7	0.7	1.8	1.3	1.5	1.7	2.0	0.6	1.8	1.4	1.7	2.1	2.6	1.3	59 59	60 59	60	61 60	60 59	58	90
426	Private - Dwelling	-		0.0	0.1	0.2	0.2	0.4	0.4	1.3	0.9	1.1	1.3	1.5	0.5	1.3	1.0	1.3	1.6	1.8	0.9	59	59	59	60	59	58	90
427 428	Private - Dwelling Private - Dwelling	-	-	0.0	0.1	0.2				1.5	1.1	1.3	1.5	1.7	0.6	1.5	1.2	1.5	1.8	2.2	1.0	59 59	59 59		61 61	60		90
429 430	Private - Dwelling Private - Dwelling	-	-	0.0	0.1	0.2	0.3		0.5	1.8	1.3	1.5	1.8	2.1	0.7	1.8	1.4	1.7	2.1 1.9	2.6	1.2	59 59	60 59		61 61	60 60		90
431	Private - Dwelling	-		0.0	0.1	0.2	0.3	0.5	0.5	1.9	1.3	1.6	1.9	2.2	0.7	1.9	1.4	1.8	2.2	2.7	1.2	60	60	60	61	60	58	90
432 433	Private - Dwelling Private - Dwelling	UWJV (Noise) [SSD7142]		0.0	0.1	0.2	0.2	0.3		1.5	1.0 0.9	1.3	1.6	1.9	0.6	1.6	1.1	1.5	1.9	2.2	1.0 0.9	59 59	59 59	60	61 61	60 60	58	90
434 436	Private - Dwelling Private - Dwelling	-	-	0.0	0.1	0.2	0.3			2.5	1.7	2.0 1.9	2.5	2.8	0.9	2.5	1.8	2.3	2.9	3.6	1.6	60	61 61		63 63	62 62		90
437 438	Private - Dwelling Private - Dwelling	-		0.1	0.2	0.5	0.8		1.6	1.4	1.1	1.2	1.3	1.4	0.5	1.5	1.3	1.7	2.1	3.0 2.6	2.1	59 59	59 59		60 60	60 60		90
440 451	Private - Dwelling	- I BALIN (Alei) (CCD 74 401	-	0.0	0.1	0.2	0.3	0.4	0.5	2.1	1.4	1.8	2.2	2.6	0.9	2.1	1.5	2.0	2.5	3.1	1.3	60 59	60	61	63	61 59	58	90
452	Private - Dwelling Private - Dwelling	UWJV (Noise) [SSD7142] UWJV (Noise) [SSD7142]		0.0	0.0		0.1	0.2	0.2		0.4	0.6	0.9	0.9	0.3	0.7	0.5	0.7	1.0	1.0	0.5	59	60 60	60	61 61	59	58	90
453 454	Private - Dwelling Private - Dwelling	UWJV (Noise) [SSD7142] UWJV (Noise) [SSD7142]	-	0.0	0.0	0.1	0.1	0.2	0.2	0.5	0.4	0.5	0.7	0.7	0.2	0.6	0.4	0.6	0.8	0.8	0.4	59 60	60		61 61	59 59		90
455 456	Private - Dwelling Private - Dwelling	UWJV (Noise) [SSD7142] UWJV (Noise) [SSD7142]		0.0	0.0	0.1	0.1			0.4	0.3		0.5	0.5	0.2	0.4	0.3	0.5	0.6	0.6	0.3	60 60	60 59	60	60 60	59 58	57	90
457 458	Private - Dwelling	UWJV (Noise) [SSD7142] UWJV (Noise) [SSD7142]		0.0	0.0	0.1	0.1	0.1	0.1	0.3	0.2	0.3	0.3	0.3	0.1	0.3	0.2	0.3	0.4	0.4	0.2	60 59	59 59	59	60	58 58	57	90
459	Private - Dwelling Private - Dwelling	UWJV (Noise) [SSD7142]		0.0	0.0	0.1	0.1	0.2	0.2	0.6	0.4	0.5	0.7	0.7	0.2	0.6	0.4	0.6	0.8	0.8	0.4	59	59	59	60	59	57	90
460 462	Private - Dwelling Private - Dwelling	UWJV (Noise) [SSD7142] UWJV (Noise) [SSD7142]	-	0.0	0.0	0.1	0.1	0.2	0.2	0.5	0.4	0.5	0.6	0.6	0.2	0.5	0.4	0.6	0.8	0.8	0.4	59 59	59 59		60 60	59 58	57 57	90
463	Glencore Owned - Occupied	-	-	0.0	0.1	0.2	0.3	0.4	0.4	2.3	1.3	1.9	2.5	3.0	1.0	2.4	1.4	2.0	2.7	3.3	1.4	61	61	62	66	63	58	90
464 466	Private - Dwelling Private - Dwelling	-	-	0.0	0.1	0.1	0.2			1.0	0.7	0.9	1.1	1.2	0.4	1.0	0.8	1.0	1.3	1.5	0.7	59 59	59 59		60 60	59 59		90
	Private - Subject to	Rav Ops (AQ) [DA	Ashton (AQ & Noise)																									
471	Acquisition Rights	09_0176]; HVOS (AQ) [06_0261]	[DA309-11-2001-i]; Rav Ops (AQ) [DA 09_0176]	0.7	1.5	2.8	3.4	2.9	3.0	0.4	0.4	0.3	0.3	0.2	0.1	1.1	1.9	3.1	3.7	3.1	3.1	62	63		65	64	60	90
472 473	Private - Dwelling Private - Commercial		-	0.0	0.0	0.1	0.1			0.3	1.3	0.2 1.4	1.7	1.9	0.1	1.8	0.2 1.4	0.3 1.7	0.4 2.1	0.4 2.5	0.2	58 59	58 59		58 61	58 60		90
477 478	Private - Dwelling Private - Dwelling	UWJV (Noise) [SSD7142] UWJV (Noise) [SSD7142]	-	0.0	0.0			0.1	0.1		0.1		0.2	0.2	0.1	0.2	0.2	0.2	0.3	0.3	0.2		58 59	58	58 60		57	90
481	Private - Dwelling	(-	0.0	0.1	0.2	0.3	0.4	0.4	1.5	1.1	1.3	1.5	1.8	0.6	1.5	1.2	1.5	1.8	2.2	1.0	59	59	60	61	60	58	90
482 483	Private - Dwelling Community		-	0.1	0.1	0.3	0.5		0.9	1.7	1.3	1.4	1.6	1.8	0.6	1.8	1.4	1.7	2.1	2.7	1.5	59 59	59 59		61	60		90
484	Infrastructure Private - Dwelling		-	0.1	0.1	0.3	0.4			1.6	1.2	1.4	1.5	1.7	0.5	1.7	1.4	1.7	2.0	2.6	1.5	59	59		60	60		90
487 488	Private - Dwelling Private - Dwelling	-	-	0.1	0.2	0.5		1.6		1.3	1.0	1.1	1.2	1.3	0.4	1.4	1.2	1.6	2.0	2.9	2.0	59 59	59 59	59	60		59	90
489	Private - Dwelling	LIVOR (Ni-i) for one:	-	0.1	0.2	0.4	0.7		1.3	1.1	0.9	1.0	1.0	1.1	0.3	1.2	1.1	1.4	1.7	2.4	1.6	59	59		60			90
497	Private - Subject to Acquisition Rights	HVOS (Noise) [06_0261]; Rav Ops (AQ) [DA	Rav Ops (AQ) [DA 09_0176]	0.2	0.5	1.1	1.6	2.4	2.9	1.2	1.4	0.8	0.6	0.4	0.1	1.4	1.8	1.8	2.2	2.8	3.0	59	60	60	60	60	60	90
498	Private - Dwelling	09_0176] HVO South (Noise)		0.2	0.4	0.9	1.4	2.0	2.3	1.5	1.6	0.9	0.7	0.5	0.1	1.7	2.1	1.8	2.1	2.5	2.4	59	60	60	60	60	59	90
	,		Rixs Creek North (Noise) [PA08_0102] (lots																									
		Dire Corel North (Noise)	2//1111313 & 3//1111313);																									
499	Private - Subject to Acquisition Rights	Rixs Creek North (Noise) [PA08_0102]; Rixs Creek	Ashton (AQ & Noise) [DA309-11-2001-i]; Rixs	0.7	1.4	2.6	3.0	2.3	2.3	0.3	0.3	0.3	0.2	0.2	0.1	1.0	1.7	2.9	3.2	2.5	2.4	62	63	64	65	64	59	90
	7 ioquiolion regnio	South (AQ) [SSD 6300]	Creek South (AQ) [SSD 6300] (lots 2//1111313 &																									
			3//1111313)																									
507	Community		-	0.2	0.3	0.4	0.3	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.4	0.4	0.2	0.2	60	69	69	70	60	59	90
511	Infrastructure Community		_																		0.2	60				59		90
	Infrastructure	Rixs Creek North (Noise)	D. O. I.E	0.1	0.2	0.3	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.4	0.3	0.2	U.Z	90	63	63	65	59	28	- 90
592	Private - Subject to Acquisition Rights	[PA08_0102]; MOCO (AQ) [SSD-5850]; IUG (Noise)	[FA06_0102], IVIOCO (AQ)	0.2	0.3	0.4	0.3	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.4	0.4	0.2	0.2	60	65	65	66	60	59	90
	Acquisition rights	[PA08_0101]	[SSD-5850]																									
	Drivata - Cubic	Rixs Creek North (Noise &	Rixs Creek North (Noise &										Ī				I										ı I	
596	Private - Subject to Acquisition Rights	AQ) [PA08_0102]; Glendel (Noise) [DA 80/952]; IUG	AQ) [PA08_0102]; IUG (Noise) [PA08_0101]	0.4	0.8	1.1	1.0	0.6	0.5	0.1	0.1	0.1	0.1	0.1	0.0	0.5	0.9	1.2	1.1	0.6	0.5	63	79	80	79	60	58	90
	Private - Cubic -* *-	(Noise) [PA08_0101]		Ш											_									Ш			Ш	
598	Private - Subject to Acquisition Rights	MOCO (AQ) [SSD-5850]	MOCO (AQ) [SSD-5850]	0.1	0.2	0.3	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.3	0.3	0.2	0.1	60	64	64	66	60	59	90
599	Private - Subject to Acquisition Rights	MOCO (AQ) [SSD-5850]	MOCO (AQ) [SSD-5850]	0.1	0.2	0.3	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.3	0.3	0.2	0.1	61	64	64	66	60	60	90
	Private - Subject to		MOCO (AQ) [SSD-5850] vacant lots 31//6842 and																									
613	Acquisition Rights	-	2//1175728 within	0.1	0.2	0.3	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.3	0.3	0.2	0.1	61	64	64	66	60	60	90
614	Private - Dwelling	-	landholding only	0.1	0.2	0.3	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.3	0.3	0.2	0.1	61	64	64	66	60	60	90

Part	Modelled annua	al average TSP concent	rations (ug/m3)	I	Proiect	(HVO	N)				Project	(HVO	S)				Project	(HVO	Comple	ex)			Cumul	ative					
Part					4	رب ب	6	93	0	4	4			е .	0	4	4	ω Ω	ത	m m	0	4	4	5	6	9	0	4	iteria
12 Appears and provide	D	Status		Existing acquisition rights	201	202	202	203	204	204	201	202	202	203	204	204	201	202	202	203	204	204	201	202	202	203	204	204	Ğ
Section Control Cont	619		Glendell (Noise) [DA 80/952]; Rixs Creek North (Noise) [PA08_0102]; Rixs Creek South (AQ) [SSD	Rixs Creek South (AQ)	0.7	1.3	1.9	1.7	0.9	0.7	0.1	0.1	0.1	0.1	0.1	0.0	0.8	1.4	2.0	1.8	1.0	0.8	64	67	67	67	62	58	ş
March County Marc	521		AQ) [PA08_0102]; Rixs Creek South (AQ) [SSD	[PA08_0102]; Ashton (AQ)	0.7	1.4	2.2	2.2	1.4	1.3	0.2	0.2	0.2	0.1	0.1	0.0	0.9	1.5	2.3	2.3	1.5	1.3	64	66	67	67	64	58	9
March Page	523			-	0.9	1.7	2.5	2.3	1.2	1.0	0.2	0.2	0.1	0.1	0.1	0.0	1.1	1.8	2.7	2.4	1.3	1.1	64	66	67	67	63	58	
Private - Depart by Proper	624	Private - Subject to	Rixs Creek South (AQ)	Rixs Creek South (AQ) [SSD 6300]. Note - acquisitions apply to all 9 contigious lots 1//248748, 2/9/758214, 3/9/758214, 4/9/758214, 5/9/758214, 6/9/758214, 7/9/758214,	0.9	1.6	2.4	2.2	1.1	1.0	0.2	0.2	0.1	0.1	0.1	0.0	1.0	1.7	2.6	2.3		1.0	64	67		67	63	58	
THE PRINCE - PLANE - P	326		80/952]; MOCO (AQ) [SSD-5850]; Rixs Creek North (Noise) [PA08_0102]; Rixs Creek South (AQ) [SSD 6300]	MOCO (AQ) [SSD-5850]; Rixs Creek South (AQ) [SSD 6300]. Note - acquisitions apply to both contigious lots 1/8/758214	0.8	1.5	2.3	2.0	1.1	0.9	0.2	0.1	0.1	0.1	0.1	0.0	1.0	1.7	2.4	2.2	1.2	0.9	65	67	68	67	63	58	
PRIME - SABERT DE SISS-SERVE FIRE COMM PRIME - CAMER SOUNT (C.) BISS-SERVE FIRE COMM PRIME - CAMER SOUNT (C.) BISS	627		80/952]; MOCO (AQ) [SSD-5850]; Rixs Creek North (Noise) [PA08_0102]; Rixs Creek South (AQ) [SSD 6300] Glendell (Noise) [DA	Rixs Creek South (AQ)	0.8	1.4	2.2	1.9	1.0	0.8	0.1	0.1	0.1	0.1	0.1	0.0	0.9	1.6	2.3	2.0	1.1	0.8	65	67	67	67	63	58	
Price - Sulgent to Acquision Rights **Process Sulgent to Acquision Rights **Process Sulgent to Acquision Rights **Process Sulgent to Acquision Rights **Process Sulgent to Acquision Rights **Process Sulgent to Acquision Rights **Process Sulgent to Acquision Rights **Process Sulgent to Acquision Rights **Process Sulgent to Acquision Rights **Process Sulgent to Acquision Rights **Process Sulgent to Acquision Rights **Process Sulgent to Acquision Rights **Process Sulgent to Acquision Rights **Process Sulgent to Acquision Rights **Process Sulgent to Acquision Rights **Process Sulgent to Acquision Rights **Process Sulgent to Acquision Rights **Process Sulgent to Acquision Rights **Process Sulgent to Acquision Rights **Process Sulgent to Acquision Rights **Process Sulgent to Acquision Rights **Process Sulgent to Acquision Rights **Process Sulgent to Acquision Rights **Process Sulgent to Acquision Rights **Process Sulgent to Acquision Rights **Process Sulgent to Acquision Rights **Process Sulgent to Acquision Rights **Process Sulgent to Acquision Rights **Process Sulgent to Acquision Rights **Process Sulgent to Acquision Rights **Process Sulgent to Acquision Rights **Process Sulgent to Acquision Rights **Process Sulgent to Acquision Rights **Process Sulgent to Acquision Rights **Process Sulgent to Acquision Rights **Process Sulgent to Acquision Rights **Process Sulgent to Acquision Rights **Process Sulgent to Acquision Rights **Process Sulgent to Acquision Rights **Process Sulgent to Acquision Rights **Process Sulgent to Acquision Rights **Process Sulgent to Acquision Rights **Process Sulgent to Acquision Rights **Process Sulgent to Acquision Rights **Process Sulgent to Acquision Rights **Process Sulgent to Acquision Rights **Process Sulgent to Acquision Rights **Process Sulgent to Acquision Rights **Process Sulgent to Acquision Rights **Process Sulgent to Acquision Rights **Process Sulgent to Acquision Rights **Proce	528		[SSD-5850]; Rixs Creek North (Noise) [PA08_0102]; Rixs Creek	Rixs Creek South (AQ) [SSD 6300]	0.8	1.4	2.1	1.8	0.9	0.8	0.1	0.1	0.1	0.1	0.1	0.0	0.9	1.5	2.2	1.9	1.0	0.8	65	67	67	67	63	58	5
Community		Acquisition Rights	MOCO (AQ) [SSD-5850]; Rixs Creek North (AQ) [PA08_0102]; Rixs Creek	Rixs Creek South (AQ) [SSD 6300]. Note - acquisitions apply to both contigious lots 103//852484 and																								58	
Infrastructure			-	-																									
Infrastructure	797	Infrastructure	•	•	0.8	1.3	1.6	1.2	0.6	0.5	0.1	0.1	0.1	0.1	0.1	0.0	0.9	1.4	1.7	1.3	0.7	0.6	71	78	78	67	64	58	9
Private - Commercial	799		-	-	0.8	1.3	1.6	1.2	0.6	0.5	0.1	0.1	0.1	0.1	0.1	0.0	0.9	1.4	1.7	1.3	0.7	0.6	71	78	78	67	64	58	
Prinder - Commorcial -		Private - Commercial																										58	
Primate - Commorcial -			-																									58	
Private - Commorcial																3.9												58 61	_
Private - Design Private - D			-	-																								58	_
Private - Desiring -			-	-								1.3		1.6				1.4				1.5						58	
Private - Desiring -			-																	2.0	2.5							58	
Private - Desiring -			-	-																								58	
## Private - Develing			-																									58	
Price Design -			-	-																								58 58	
Section Private - Design -																												58	
Private - Declaring -																												58	
Finale - Dealing Finale - Subject to Acquisition Rights Fin			-	-																								58	_
Finishe - Subject to Acquisition Rights Finishe - Subject to Acquisi			-																									58	
Private - Subject to Acquisition Rights Colored (Noise) DA (Noise) Colored (-	-																								58	
Control Cont		Private - Subject to	80/952]; Rixs Creek North (Noise & AQ) [PA08_0102]; Rixs Creek	Creek North (Noise)																								58	
Second Control Contr	861		Glendell (Noise) [DA 80/952]; Rixs Creek North (Noise) [PA08_0102]; IUG (Noise) [PA08_0101]; Rixs Creek South (AQ) [SSD	Glendell [DA80/952]; Rixs Creek North (Noise) [PA08_0102]	0.6	1.0	1.4	1.2	0.7	0.6	0.1	0.1	0.1	0.1	0.1	0.0	0.7	1.1	1.5	1.3	0.7	0.6	65	70	70	69	61	58	
Private - Subject to Acquisition Rights 80952; Riss Creek North (Naise) PA08, 1002; IUCR Riss Creek North (Naise) PA08, 1002; Riss Creek North	862		80/952]; Rixs Creek North (Noise) [PA08_0102]; IUG (Noise) [PA08_0101]; Rixs Creek South (AQ) [SSD 6300]	Rixs Creek North (Noise) [PA08_0102]	0.7	1.2	1.7	1.5	0.7	0.6	0.1	0.1	0.1	0.1	0.1	0.0	0.8	1.3	1.8	1.6	0.8	0.6	67	68	69	67	62	58	
Private - Subject to Acquisition Rights Rav Ops (AG and Noise) [DA309-11-2001-ii]: Ross Creek (Corek North (Noise) (DA309-11-2001-ii]: Ross Creek (Corek North (Noise) (Cor	363	Private - Subject to Acquisition Rights	80/952]; Rixs Creek North (Noise) [PA08_0102]; IUG (Noise) [PA08_0101]; Rixs Creek South (AQ) [SSD	[PA08_0102]	0.6	1.1	1.6	1.3	0.7	0.6	0.1	0.1	0.1	0.1	0.1	0.0	0.7	1.2	1.7	1.4	0.8	0.6	67	69	69	68	62	58	
Private - Subject to Acquisition Rights North (Nisse) Private - Subject to Acquisition Rights Acquisition Rights Raw Ops (AO) [DA 09,0176]: HVOS (Noise) 09,0176]	369		[DA 09_0176]; Rixs Creek North (Noise) [PA08_0102]	[DA309-11-2001-i]; Rixs Creek North (Noise) [PA08_0102] (acquisition applies to contigious	0.4	1.0	1.9	2.6	2.7	3.2	0.5	0.5	0.4	0.3	0.2	0.1	0.9	1.4	2.3	2.9	3.0	3.2	60	61	62	62	62	60	
447 Extraction Control (Noise) 09,0176; HVOS (Noise) 09,0176; HVOS (Noise) 00,0176; HVOS (Noise) 02,0176; HVOS (Noise) 02,0176; HVOS (Noise) 04,0176; HVOS (Noise) 05,0176; HVOS	370		[DA 09_0176]; Rixs Creek North (Noise) [PA08_0102]; Rixs Creek South (AQ) [SSD 6300]	[DA309-11-2001-i]; Rixs Creek North (Noise) [PA08_0102] (acquisition	0.4	1.0	1.9	2.5	2.7	3.0	0.5	0.5	0.4	0.3	0.2	0.1	0.9	1.4	2.3	2.8	2.9	3.1	60	61	62	62	62	60	
MQ Private Dualing					1 1						4.0		0.7	0.5	0.4	0.4				2.2								-	
949 Frinder Dwelling U.2 U.5 1.1 1.7 2.5 3.0 1.0 1.1 U.7 U.5 U.4 U.1 1.2 1.5 1.8 2.3 2.9 3.1 59 59 60 60 60 60 60 60 60 6	947	Private - Subject to Acquisition Rights	09_0176]; HVOS (Noise)		0.2	0.5	1.1	1.7	2.5	3.0	1.0	1.1	0.7	0.5	0.4	0.1	1.2	1.6	1.8	2.3	2.9	3.1	59	59	60	60	60	60	

Modelled annua	l average deposited dus	st (g/m2/month)	I	Project	t (HVO	N)				Project	(HVO	S)				Project	(HVO (Comple	x)			Cumula	ative					_
				4	52	620	333	040	4	2014	2025	5029	2033	2040	4	4	53	83	33	8	4	4	322	620	333	940	44	riteria
D 0119	Status Monitor	Existing mitigation rights	Existing acquisition rights	0.0	0.0	0.0	0.0	0.1	0.1		0.2				0.1	0.2	0.2	0.2	0.3	0.3	0.2	2.8	2.8	2.8	2.9	2.9	2.7	Ö
DL14 Warkworth	Monitor Monitor	-	-	0.0	0.1	0.1	0.2	0.3	0.4	0.2	0.2	0.1	0.1	0.1	0.0	0.2	0.3	0.2	0.3	0.4	0.4	2.8	2.8	2.8	2.8	2.9 3.1	2.9 2.6	F
0118	Monitor			0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.2	0.3	0.3	0.1	0.2	0.1	0.2	0.3	0.3	0.1	2.9	3.0		3.5	3.1	2.6	
Cnodlers Lane DL22	Monitor Monitor			0.0	0.0	0.1	0.1	0.2	0.2	0.5	0.5	0.3	0.2	0.1	0.0	0.5	0.5	0.4	0.3	0.3	0.3	3.0	3.1	2.9		3.0	2.8	\vdash
DL21 D122	Monitor Monitor	-	-	0.0	0.0	0.1	0.1	0.2	0.3	0.5	0.5	0.3	0.2	0.1	0.0	0.5	0.6	0.4	0.3	0.4	0.3	3.1 2.8	3.2 2.8	2.9			2.8 2.6	\vdash
DL30	Monitor	-	-	0.0	0.0	0.0	0.0	0.1	0.1	0.8	0.8	1.2	1.3	1.1	0.3	0.8	0.8	1.2	1.4	1.2	0.4	3.5	3.7	4.1	4.2	3.7	2.9	
OL2 Warkworth	Monitor Monitor			0.0	0.1	0.3	0.4			0.2	0.2	0.1	0.1	0.1	0.0	0.2	0.3	0.4	0.5	0.7	0.9	2.8 3.0	2.9	3.0	3.1 4.1	3.3		
Cheshunt East Long Point	Monitor			0.1	0.2	0.4	0.5	0.7	0.9	0.1	0.1	0.1	0.1	0.0	0.0	0.2	0.3	0.5	0.6	0.7	0.9	2.9	3.0 2.9	3.2	3.3			
Kilburnie South	Monitor Monitor	-	-	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.2	0.3	0.3	0.1	0.2	0.1	0.2	0.3	0.3	0.1	2.9	3.0	3.0	3.5	3.1	2.6	
Vandewoi Howick	Monitor Monitor	-	-	0.0	0.0	0.0	0.1			0.7	0.4	0.5	0.6	0.0	0.3	0.7	0.5	0.6	0.7	0.9	0.4	3.3	3.1 4.1		3.4		2.9	
Golden Highway	Monitor	-	-	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.1	0.0	0.1	9.0	0.1 9.1	0.2	0.2	0.1	4.2 4.5	5.2	5.2	5.2 24.1	2.8	2.6	
HC1 Conveyor Maison Dieu	Monitor Monitor			0.0	0.1	0.1		1.1 0.3	1.2 0.4	0.1	0.1	0.1	0.1	0.1	0.0	1.6 0.2	0.3	0.2	0.3	1.1 0.4	1.2 0.4	2.8	2.8			2.9	3.8 2.9	
Varkworth Knodlers Lane	Monitor Monitor	-	-	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	3.1	4.0 3.5	3.8	3.8	2.9 3.0	2.6	\vdash
Jerrys Plains	Monitor			0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.2	0.2	0.3	0.2	2.7	2.7	2.7	2.8	2.8	2.7	
NGC	Monitor Monitor	-		0.1	0.2	0.4	0.5	0.7	0.9	0.1	0.1	1.3	1.4	1.4	0.0	0.2	0.3	1.3	1.4	0.7 1.4	0.9	3.6	3.0	4.2	4.3	4.0	3.0	
ong Point (ilburnie South	Monitor Monitor	-	-	0.0	0.0	0.0	0.1			0.3	0.3	0.3	0.2	0.2	0.0	0.3	0.3	0.3	0.3	0.3	0.1	2.8	2.9	2.9	2.9			
(ilburnie South	Monitor			0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.2	0.3	0.3	0.1	0.2	0.1	0.2	0.3	0.3	0.1	2.9	3.0	3.0	3.5	3.1	2.6	
Maison Dieu Maison Dieu	Monitor Monitor	-	-	0.0	0.0	0.1	0.2			0.2	0.2	0.1	0.1	0.1	0.0	0.2	0.3	0.2	0.3	0.4	0.4	2.8	2.8	2.8				
nodlers Lane	Monitor	-	-	0.0	0.0	0.1	0.1	0.2	0.2	0.5	0.5	0.3	0.2	0.1	0.0	0.5	0.5	0.4	0.3	0.3	0.3	3.0	3.1 2.7	2.9	2.9	2.9	2.8 2.5	₽
9	Private - Dwelling Private - Dwelling	-	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	2.6	2.7	2.7	2.7	2.5	2.5	
37	Private - Dwelling Private - Subject to	- Warkworth (Noise & AQ)	- Warkworth (Noise & AQ)	0.0	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.7	2.7		2.7		2.5	⊢
02	Acquisition Rights	[SSD6464)	[SSD6464)	0.0	0.0	0.0	0.0	0.0		0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.1	3.1	4.1	3.9	3.8	-	2.6	\vdash
20	Private - Dwelling	HVOS (Noise & AQ) [06_0261]	<u> -</u>	0.0	0.0	0.1	0.1	0.2	0.2	0.5	0.5	0.3	0.2	0.1	0.0	0.5	0.5	0.4	0.3	0.3	0.3	3.0	3.1	2.9	2.9	2.9	2.8	
21	Private - Dwelling	HVOS (Noise & AQ) [06_0261]	-	0.0	0.0	0.1	0.1	0.2	0.2	0.6	0.6	0.4	0.3	0.2	0.0	0.6	0.6	0.5	0.4	0.4	0.2	3.1	3.2	3.0	3.0	2.9	2.7	
22	Private - Dwelling	HVOS (Noise & AQ)		0.0	0.0	0.1	0.1	0.2	0.2	0.4	0.4	0.2	0.2	0.1	0.0	0.4	0.5	0.3	0.3	0.3	0.3	3.0	3.0	2.9	2.9	2.9	2.8	Г
23	Private - Dwelling	[06_0261] HVOS (Noise & AQ)		0.0	0.0	0.1	0.1	0.2		0.5	0.5	0.3	0.2	0.1	0.0	0.5	0.6	0.4	0.3	0.3	0.2	3.1	3.1	3.0	2.9	-	2.8	\vdash
		[06_0261] HVOS (Noise & AQ)				-		H	-					-				-			-	-	_		-	<u> </u>	_	\vdash
124	Private - Dwelling	[06_0261]	-	0.0	0.0	0.1	0.1	0.2	0.2	0.4	0.4	0.2	0.2	0.1	0.0	0.4	0.4	0.3	0.3	0.3	0.3	3.0	3.0	2.9	2.9	2.9	2.8	\vdash
126	Private - Dwelling	Warkworth (Noise) [SSD6464)	-	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.3	0.2	0.1	2.8	2.9	2.9	3.0		2.6	\perp
127	Private - Dwelling	- Warkworth (Noise)		0.0	0.0	0.1	0.1	0.1	0.1	0.3	0.3	0.3	0.2	0.2	0.0	0.3	0.4	0.3	0.3	0.3	0.2	2.9	3.0		2.9		2.7	F
128	Private - Dwelling	[SSD6464)	-	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.3	0.3	0.3	0.2	0.1	0.3	0.3	0.3	0.3	0.3	0.1	2.8	2.9	2.9	2.9	2.8	2.6	\vdash
130	Private - Dwelling	Warkworth (Noise) [SSD6464)	-	0.0	0.0	0.0	0.0	0.1	0.1	0.3	0.3	0.3	0.3	0.2	0.1	0.3	0.3	0.3	0.3	0.3	0.1	2.8	2.9	2.9	2.9		2.6	Ι.
134	Private - Dwelling		-	0.0	0.0	0.0	0.0	0.1	0.1	0.3	0.3	0.3	0.2	0.2	0.0	0.3	0.3	0.3	0.3	0.3	0.1	2.8	2.9		2.9			
139	Private - Dwelling	Warkworth (Noise) [SSD6464)	-	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.3	0.3	0.2	0.2	0.0	0.3	0.3	0.3	0.3	0.3	0.1	2.8	2.9	2.9	2.9			
41 60	Private - Dwelling Private - Dwelling	- HVOS (Noise) [06 0261]	-	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.0	0.2	0.3	0.2	0.2	0.2	0.2	2.8	2.8	2.8	2.8	2.8	2.7	
61	Private - Dwelling	HVOS (Noise) [06_0261]		0.0	0.0	0.1	0.2	0.3	0.3	0.3	0.3	0.1	0.1	0.1	0.0	0.3	0.3	0.2	0.3	0.3	0.3	2.8	2.9	2.8	2.8	2.9	2.8	
62	Private - Dwelling Private - Dwelling	HVOS (Noise) [06_0261] HVOS (Noise) [06_0261]		0.0	0.0	0.1	0.2	0.3	0.3	0.3	0.3	0.1	0.1	0.1	0.0	0.3	0.4	0.3	0.3	0.3	0.3	2.9	2.9	2.8	2.8		2.8	\vdash
67 69	Private - Dwelling	-	-	0.0	0.0	0.1	0.1		0.1	0.2	0.2	0.2	0.1	0.1	0.0	0.2	0.2	0.2	0.2	0.2	0.2	2.8	2.8	2.8	2.8	2.8		
70	Private - Dwelling Private - Dwelling	-	-	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.0	0.2	0.3	0.2	0.2	0.2	0.2	2.8	2.8	2.8	2.8	2.8	2.7	
73 74	Private - Dwelling Private - Dwelling			0.0	0.0	0.0	0.1	0.1	0.1	0.3	0.3	0.2	0.2	0.2	0.0	0.3	0.3	0.3	0.3	0.3	0.1	2.8	2.8	2.9	2.8		2.6	\vdash
75	Private - Dwelling			0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.0	0.2	0.3	0.3	0.2	0.2	0.1	2.8	2.8	2.8	2.8	2.8	2.6	
176 178	Private - Dwelling Private - Dwelling	-	-	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.0	0.2	0.2	0.2	0.2	0.2	0.1	2.8	2.8	2.8	2.8	2.7	2.6	
179	Private - Dwelling Private - Dwelling	- HVOS (Noise) [06_0261]	-	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.0	0.2	0.2	0.2	0.2	0.2	0.1	2.7	2.8	2.8	2.8			\vdash
245	Private - Dwelling	HVOS (Noise) [06_0261]		0.0	0.0	0.1	0.2	0.2	0.3	0.2	0.2	0.1	0.1	0.1	0.0	0.2	0.3	0.2	0.2	0.3	0.3	2.8	2.9	2.8	2.8	2.9	2.8	
246 247	Private - Dwelling Private - Dwelling	HVOS (Noise) [06_0261] HVOS (Noise) [06_0261]		0.0	0.0	0.1	0.2			0.2	0.2	0.1	0.1	0.1	0.0	0.2	0.3	0.2	0.2	0.3	0.3	2.8	2.8					
248	Private - Dwelling	-	-	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.0	0.2	0.2	0.2	0.2	0.2	0.1	2.8	2.8	2.8	2.8	2.8	2.6 2.6	\vdash
250	Private - Dwelling Private - Dwelling	-	-	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.2	0.2	0.2	0.2	0.1	2.7	2.7	2.7	2.7	2.7	2.6	
251	Private - Dwelling	HVOS (Noise) [06_0261];	-	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.2	0.2	0.2	0.2	0.1	2.7	2.7	2.7	2.7	2.7	2.6	⊢
256	Private - Subject to Acquisition Rights	Rav Ops (AQ) [DA	-	0.0	0.1	0.1	0.2	0.3	0.4	0.2	0.2	0.1	0.1	0.1	0.0	0.2	0.2	0.2	0.3	0.4	0.4	2.8	2.8	2.8	2.8	2.9	2.9	
258	Private - Dwelling	09 0176] HVOS (Noise) [06 0261]	-	0.0	0.0	0.1	0.2		0.3	0.2	0.2	0.1	0.1	0.1	0.0	0.2	0.3	0.2	0.3	0.3	0.4	2.8	2.9		2.8		2.9	
260 261	Private - Dwelling Private - Dwelling	HVOS (Noise) [06 0261] HVOS (Noise) [06 0261]		0.0	0.0	0.1	0.2	0.2	0.3	0.3	0.3	0.2	0.1	0.1	0.0	0.3	0.4	0.3	0.3	0.3	0.3	2.9	3.0	2.8	2.9	2.9	2.8	\vdash
262	Private - Dwelling	Warkworth (Noise)		0.0	0.0	0.0	0.0	0.0		0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.3	0.2	0.1	2.8	2.9	2.9	2.9	2.8	2.6	П
264	Community	[SSD6464)		0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	3.1	4.0	3.9	3.8	2.9	2.6	\vdash
104	Infrastructure	UWJV (Noise) [SSD7142]:		0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	3.1	4.0	3.9	3.0	2.9	2.0	⊢
266	Private - Dwelling	Wambo Coal Mine (Noise)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.7	2.7	2.7	2.7	2.5	2.5	
308	Private - Subject to	[DA 305-7-2003] HVOS (Noise) [06_0261];	UWJV (Noise) [SSD7142]	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.2	0.3	0.4	0.1	0.3	0.2	0.2	0.3	0.4	0.2	2.9	3.0	3.1	3.5	3.2	2.7	\vdash
	Acquisition Rights Glencore Owned -	UWJV (Noise) [SSD7142] HVOS (Noise) [06 0261]:		\vdash	-	-	_	\vdash	-	-	_	\vdash	_	-	\rightarrow	\rightarrow	\rightarrow	\rightarrow	\rightarrow	_	-	\rightarrow		-			_	-
310	Occupied -	UWJV (Noise) [SSD7142]	UWJV (Noise) [SSD7142]	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.2	0.3	0.3	0.1	0.2	0.1	0.2	0.3	0.3	0.1	2.9	3.0	3.0	3.4	3.1	2.6	\vdash
311	Private - Dwelling	UWJV (Noise) [SSD7142]; HVOS (Noise) [06_0261]		0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.3	0.3	0.4	0.1	0.3	0.2	0.3	0.4	0.5	0.2	2.9	3.0	3.0	3.3	3.1	2.7	
317	Private - Dwelling	HVOS (Noise) [06_0261];	-	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.3	0.3	0.4	0.1	0.3	0.2	0.3	0.4	0.5	0.2	2.9	3.0	3.0	3.3	3.1	2.7	
21	Private - Dwelling	UWJV (Noise) [SSD7142]		0.0	0.0	0.0	0.0			0.3	0.2	0.2	0.3	0.3	0.1	0.3	0.2	0.2	0.3	0.4	0.2	2.8	2.9	2.9				
22 24	Private - Dwelling Private - Dwelling	-	-	0.0	0.0	0.0	0.0			0.2	0.2	0.2	0.2	0.3	0.1	0.3	0.2	0.2	0.3	0.3	0.2	2.8	2.8	2.9	3.0			
126	Private - Dwelling			0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.3	0.4	0.2	2.8	2.8	2.8	2.9	2.9	2.7	Т
28	Private - Dwelling Private - Dwelling	-	-	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.3	0.4	0.2	2.8	2.8	2.8	2.9	2.9	2.7	
30	Private - Dwelling Community	-	-	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.3	0.2	2.8	2.8	2.8	2.9			H
31	Infrastructure	-	-	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.3	0.3	0.2	2.8	2.8		2.9		2.7	\vdash
33	Private - Dwelling Private - Dwelling	-	-	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.3	0.2	2.8	2.8	2.8	2.9	2.9	2.7	
34 35	Private - Dwelling Private - Dwelling	-	-	0.0	0.0	0.0	0.0			0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.3	0.2	2.8	2.8		2.9			
36	Private - Dwelling	-	-	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.3	0.2	2.8	2.8	2.8	2.9	2.9	2.7	
37 38	Private - Dwelling Private - Dwelling			0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.3	0.2	2.8	2.8	2.8	2.9	2.9	2.7	
39 40	Private - Dwelling Private - Dwelling	-	-	0.0	0.0	0.0	0.0			0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.3	0.1	2.8						
41	Private - Dwelling			0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.3	0.1	2.8	2.8	2.8	2.9	2.8	2.6	
42 43	Private - Dwelling Private - Dwelling	-	-	0.0	0.0	0.0	0.0			0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.3	0.2	2.8	2.8			2.8	2.7	
44 45	Private - Dwelling			0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.3	0.2	2.8	2.8	2.8	2.9	2.9	2.7	
46	Private - Dwelling Private - Dwelling	-	-	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.2			0.1	0.2	0.2	0.2	0.2	0.3	0.2	2.8	2.8	2.8	2.9	2.9	2.7	
47 48	Private - Dwelling Private - Dwelling			0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.3	0.2	2.8	2.8	2.8	2.9	2.9	2.7	
49	Private - Dwelling	-	-	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.3	0.2	2.8	2.8	2.8	2.9	2.9	2.7	
50 51	Private - Dwelling Private - Dwelling		- 	0.0	0.0	0.0	0.0		0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.3	0.2	2.8	2.8	2.8		2.9	2.7	
52	Private - Dwelling	-	-	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.3	0.3	0.2	2.8		2.8	2.9	2.9	2.7	
55	Private - Dwelling Private - Dwelling	-	-	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.3	0.3	0.2	2.8	2.8	2.8	2.9	2.9	2.7	Т
56 57	Private - Dwelling Private - Dwelling	-	-	0.0	0.0	0.0	0.0			0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2		0.2	2.8	2.8					
58	Private - Dwelling			0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.3	0.2	2.8	2.8	2.8	2.9	2.9	2.7	Т
59 60	Private - Dwelling Private - Dwelling			0.0	0.0	0.0	0.0	0.1	0.1		0.2	0.2			0.1	0.2	0.2	0.2	0.3	0.3		2.8	2.8	2.8	2.9	2.9	2.7	
61 62	Private - Dwelling Private - Dwelling	-	-	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.3	0.3	0.2	2.8	2.8	2.8	2.9	2.9	2.7	
63	Private - Dwelling	-	-	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.3	0.3	0.2	2.8	2.8	2.8	2.9	2.9	2.7	
66	Private - Dwelling	I.	I-	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.3	0.3	0.2	2.8	2.8	2.8	2.9	2.9	2.7	₽

Sept.	Modelled annua	al average deposited dus	st (g/m2/month)	1	Projec	t (HVO	N)				Project	t (HVO	S) I				Project	(HVO	Compl	ex)			Cumu	lative					
See - Professor - See -	10	Charter	Eviating mitigation rights	Eviating againstian rights	014	025	620	033	040	044	014	025		933	040	44	014	025	020	820	040	44	014	025	620	033	040	044	riteria
Column C		Private - Dwelling	- Existing mitigation rights	- Existing acquisition rights									0.2																4
Control Cont	370	Private - Dwelling	-	-	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.3	0.2	2.8	2.8	2.8	2.9	2.9	2.7	4
Column C	372	Private - Dwelling	-	-	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.3	0.2	2.8	2.8	2.8	2.9	2.9	2.7	4
Mary	374	Private - Dwelling	-	-	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.3	0.2	2.8	2.8	2.8	2.9	2.9	2.7	4
Mary	376	Private - Dwelling	-	-	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.3	0.3	0.2	2.8	2.8	2.8	2.9	2.9	2.7	4
September 1	380	Private - Dwelling	-	-	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.3	0.3	0.1	2.8	2.8	2.8	2.9	2.9	2.6	4
Mary		Community														T	T												4
March Marc	383	Private - Dwelling	-	-																						2.9			4
Martine Mart	385	Private - Dwelling	-	-	0.0		0.0	0.0			0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.3	0.2	2.8	2.8	2.8		2.9	2.7	4
Sept.	1	Infrastructure	-	-											1 1											1			4
Martine Mart	390	Private - Dwelling	-	-	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.2	0.3	0.1	0.2	0.2	0.2	0.3	0.3	0.2	2.8	2.8	2.8	2.9	2.9	2.7	4
March Marc	392	Private - Dwelling	-	-	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.2	0.3	0.1	0.2	0.2	0.2	0.3	0.3	0.2	2.8	2.8	2.8	2.9	2.9	2.7	4
Company Comp	394	Private - Dwelling	-	-	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.2	0.3	0.1	0.2	0.2	0.2	0.3	0.3	0.2	2.8	2.8	2.8	2.9	2.9	2.7	4
Part		Community							_				_														_	-	4
The Composition Compositio		Private - Dwelling	-	-																									4
Column C	399	Private - Dwelling	-	-	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.2	0.3	0.1	0.2	0.2	0.2	0.3	0.3	0.1	2.8	2.8	2.8	2.9	2.9	2.7	4
Part	401	Private - Dwelling	-	-	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.2	0.3	0.1	0.2	0.2	0.2	0.3	0.3	0.1	2.8	2.8	2.8	2.9	2.9	2.7	4
See -	403	Private - Dwelling	-	-	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.2	0.3	0.1	0.2	0.2	0.2	0.3	0.3	0.2	2.8	2.8	2.8	2.9	2.9	2.7	4
Company Comp	405	Private - Dwelling			0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.2	0.3	0.1	0.2	0.2	0.2	0.3	0.3	0.2	2.8	2.8	2.8	2.9	2.9	2.7	4
Sept. Months 100 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200	407	Private - Dwelling	-	-	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.3	0.1	2.8	2.8	2.8	2.9	2.9	2.6	4 4
1	409	Private - Dwelling	-	-	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.3	0.1	2.8	2.8	2.8	2.9	2.9	2.6	4
Company Comp		Infrastructure	-	-																									4
Part		Community	-	-																									4
Part		Private - Dwelling	-	-																									4
Columb C	415	Private - Dwelling	-	-	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.3	0.1	2.8	2.8	2.8	2.9	2.9	2.6	4
Product Prod	418	Private - Dwelling	-	-	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.3	0.1	2.8	2.8	2.8	2.9	2.9	2.6	4
Part	420	Private - Dwelling	-	-	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.3	0.1	2.8	2.8	2.8	2.9	2.9	2.6	4
State Company Compan	422	Private - Dwelling	-	-	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.3	0.3	0.2	2.8	2.8	2.8	2.9	2.9	2.7	4
From Death Death	425	Private - Dwelling	-		0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.2	0.2	0.2	0.1	0.2	0.1	0.2	0.2	0.2	0.1	2.8	2.8	2.8	2.9	2.8	2.6	4
Column C	427	Private - Dwelling			0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.3	0.1	2.8	2.8	2.8	2.9	2.9	2.6	4
Column C	429	Private - Dwelling			0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.2	0.3	0.1	0.2	0.2	0.2	0.3	0.3	0.1	2.8	2.8	2.9	3.0	2.9	2.6	4
Truest		Private - Dwelling																						2.8	2.9				4
Product - Destrops	433	Private - Dwelling	UWJV (Noise) [SSD7142]		0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.2	0.2	0.3	0.1	0.2	0.1	0.2	0.2	0.3	0.1	2.8	2.8	2.9	3.0		2.6	4
Description	436	Private - Dwelling			0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.3	0.3	0.4	0.1	0.3	0.2	0.3	0.3	0.4	0.2	2.9	2.9	2.9	3.2	3.0	2.7	4
English Property Destroy Company Compa	438	Private - Dwelling	-	-	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.0	0.2	0.1	0.2	0.2	0.3	0.2	2.7	2.7	2.8	2.8		2.7	4
Profess Designa MANY PROBES SEPTING		Private - Dwelling										0.1																	4 4
ESS Printer Debits MALV (Neon) ISST742 - 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	453	Private - Dwelling	UWJV (Noise) [SSD7142]												0.1	0.0							2.8	2.9					4
Prince Chemists UM/Y (New 1987-142	455	Private - Dwelling	UWJV (Noise) [SSD7142]	-	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.0	0.1	0.0	0.1	0.1	0.1	0.0	2.9	2.9	2.9	3.0	2.7	2.5	4
## Prises - Desired 1 ## Prises - Desired 2 ## Prises - Desired 3		Private - Dwelling	UWJV (Noise) [SSD7142]	-																									4
Prises - Definition Why/ White SSSP1742		Private - Dwelling	UWJV (Noise) [SSD7142]	-																							2.7		4
Product Definition				-																									4
## Prises - Desire 10 Company Co			-	-											1 1													- 1	4
Acquisition Rights Design		Private - Dwelling	- Rav Ops (AQ) [DA						0.0	0.1	0.2	0.1	0.1	0.2	0.2	0.1	0.2		0.2	0.2	0.2		2.7			2.8	2.8		4
Private - Community		Acquisition Rights																											4
Prises Design	473	Private - Commercial	-	-	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.3	0.3	0.2	2.8	2.8	2.8	2.9	2.9	2.7	4
## 1	478	Private - Dwelling		-	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	2.8	2.8	2.8	3.0	2.8	2.6	4
Infriestructure - -		Private - Dwelling	-	-			0.0	0.0						0.2	0.2	0.1		0.2											4
Fireting Private Pri		Infrastructure	-	-																									4
Finds	487	Private - Dwelling	-	-	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.0	0.2	0.2	0.2	0.2	0.4	0.3	2.7	2.7	2.8	2.8	2.9	2.8	4
Agricultion Rights Ray Cope (AO) [DA 09 0178] 09 0179] 00 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			- LINCOC (N	-																			2.7	2.7	2.7				4
Private - Detelling	497		Rav Ops (AQ) [DA		0.0	0.1	0.1	0.2	0.3	0.4	0.2	0.2	0.1	0.1	0.1	0.0	0.2	0.2	0.2	0.3	0.4	0.4	2.7	2.8	2.8	2.8	2.9	2.9	4
Private - Subject to Acquisition Rights Private - Subject to Acquisi	498			-	0.0	0.0	0.1	0.2	0.2	0.3	0.2	0.2	0.1	0.1	0.1	0.0	0.2	0.3	0.2	0.2	0.3	0.3	2.8	2.9	2.8	2.8	2.9	2.8	4
Infrastructure	499		[PA08_0102]; Rixs Creek	[PA08_0102] (lots 2//1111313 & 3//1111313); Ashton (AQ & Noise) [DA309-11-2001-i]; Rixs Creek South (AQ) [SSD 6300] (lots 2//1111313 &	0.1	0.2	0.3	0.4	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.4	0.4	0.3	0.3	3.2	3.3	3.5	3.5	3.4	2.8	4
Community Finds Community Finds Community Finds	507		-	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	2.9	3.6	3.6	3.7	2.8	2.7	4
Private - Subject to Acquisition Rights Rick Creek North (Noise) Private - Subject to Acquisition Rights Rick Creek North (Noise) Private - Subject to Acquisition Rights Rick Creek North (Noise) R	511	Community	-	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.9	3.2	3.2	3.3	2.8	2.7	4
Acquisition Rights SSD-5850]; TuG (Noise) IPAGE (Noise)	502	Private - Subject to		Rixs Creek North (Noise)		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0	0.0			0.0	0.0	2.0		3.0	3.5	3.0	2.0	
Acquisition Rights (Noise) [DA 80952]; IUG (Noise) [PA08,0101] 598		Acquisition Rights	[SSD-5850]; IUG (Noise) [PA08_0101] Rixs Creek North (Noise &	[SSD-5850] Rixs Creek North (Noise &						Н																			4
Acquisition Rights Acquis	390		(Noise) [DA 80/952]; IUG		0.1	U.1	U.1	0.1	0.1	0.1	υ.0	υ.0	υ.0	0.0	0.0	0.0	0.1	U.1	0.2	U.1	0.1	U.1	3.2	4.6	4.7	4.5	2.9	2.6	4
Private - Subject to Acquisition Rights MOCO (AO) [SSD-880] MOCO (AO) [SSD-880] 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	598		MOCO (AQ) [SSD-5850]	MOCO (AQ) [SSD-5850]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.9	3.2	3.2	3.5	2.9	2.8	4
Private - Subject to Acquisition Rights Private - Dwelling Private - Subject to Acquisition Rights Acquisition Rights Acquisition Rights Acquisition Rights Acquisition Rights Acquisition Rights Private - Subject to Acquisition Rights Acquisition Rights Acquisition Rights Private - Subject to Acquisition Rights Acquisi	599	Private - Subject to	MOCO (AQ) [SSD-5850]		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	3.2	3.2	3.5	2.9	2.8	4
Acquisition Rights - 2/11/15/28 within and bloom only	613	Private - Subject to		vacant lots 31//6842 and	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	32	32	3.5	29	2.8	4
614 Private - Dveeling 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0		Acquisition Rights		2//1175728 within																									
619 Private - Subject to Acquisition Rights (Noise) [PA08_0102]; Ross Creek North (Rights South (AQ)) (Sibso (Pa08_0102); Ross (Pa08_0102)	614	Private - Dwelling		-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	3.2	3.2	3.5	2.9	2.8	4
	619		80/952]; Rixs Creek North (Noise) [PA08_0102]; Rixs Creek South (AQ) [SSD	Rixs Creek South (AQ)	0.1	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.3	0.2	0.1	0.1	3.4	3.7	3.8	3.7	3.2	2.6	4

Modelled annua	al average deposited du	st (g/m2/month)		Desire	• /LB/O	N.D.				Desire	// 1.0/0	C)				Desired	// 10/0	2				Commit						
				Projec	t (HVO	N)	α	040	4	Project	Ω Ω	S) Ø	Ω.	Q	4	Project	(HVO	Somple S	ex)	940	4	4 Cumul	ative sc	Ø.	8	Q	4	eria
ID	Status	Existing mitigation rights	Existing acquisition rights	201	2025	2029	2033	204	204	2014	2025	2029	2033	2040	204	201	2025	202	2033	204	204	201	2025	202	203	204	204	Criteri
621	Private - Subject to Acquisition Rights	Rixs Creek North (Noise & AQ) [PA08_0102]; Rixs Creek South (AQ) [SSD 6300]	Rixs Creek North (Noise) [PA08_0102]; Ashton (AQ) [DA309-11-2001-i]	0.1	0.2	0.3	0.3	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.3	0.3	0.2	0.2	3.3	3.6	3.7	3.7	3.3	2.7	4
623	Community	-		0.1	0.2	0.3	0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.3	0.3	0.2	0.1	3.4	3.7	3.8	3.7	3.3	2.6	4
624	Private - Subject to Acquisition Rights	MOCO (AQ) [SSD-5850]; Rixs Creek South (AQ) [SSD 6300]	MCCO (AQ) [SSD-5850]; Risc Creek South (AQ) [SSD 6300]. Note - acquisitions apply to all 9 contigious lots 1//248748, 2/9/758214, 5/9/758214, 6/9/758214, 7/9/758214,	0.1	0.2	0.3	0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.3	0.3	0.2	0.1	3.4	3.7	3.8	3.8	3.3	2.6	4
626	Private - Subject to Acquisition Rights	Glendell (Noise) [DA 80/952]; MOCO (AQ) [SSD 5850]; Rixs Creek North (Noise) [PA08_0102]; Rixs Creek South (AQ) [SSD 6300]	8/9/758214. 9/9/758214 MOCO (AQ) [SSD-5850]; Rixs Creek South (AQ) [SSD 6300]. Note - acquisitions apply to both contigious lots 1/8/758214 and 2/8/758214	0.1	0.2	0.3	0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.3	0.3	0.1	0.1	3.5	3.7	3.8	3.8	3.3	2.6	4
627	Private - Subject to Acquisition Rights	Glendell (Noise) [DA 80/952]; MOCO (AQ) [SSD 5850]; Rixs Creek North (Noise) [PA08_0102]; Rixs Creek South (AQ) [SSD 6300]	MOCO (AQ) [SSD-5850]; Rixs Creek South (AQ) [SSD 6300]	0.1	0.2	0.3	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.3	0.2	0.1	0.1	3.5	3.7	3.8	3.7	3.2	2.6	4
628	Private - Subject to Acquisition Rights	Glendell (Noise) [DA 80/952]: MOCO (AQ) [SSD 5850]; Rixs Creek North (Noise) [PA08_0102]; Rixs Creek South (AQ) [SSD 6300]	MOCO (AQ) [SSD-5850]; Rixs Creek South (AQ) [SSD 6300]	0.1	0.2	0.3	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.3	0.2	0.1	0.1	3.5	3.7	3.8	3.7	3.2	2.6	4
629	Private - Subject to Acquisition Rights	MOCO (AQ) [SSD-5850]; Riss Creek North (AQ) [PA08_0102]; Riss Creek South (AQ) [SSD 6300]	MOCO (AQ) [SSD-5850]; Rixs Creek South (AQ) [SSD 6300]. Note - acquisitions apply to both contigious lots 103//852484 and 104//852484	0.1	0.2	0.3	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.3	0.2	0.1	0.1	3.5	3.7	3.8	3.7	3.2	2.6	4
735	Private - Commercial			0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	3.9	4.8	4.8	3.5	3.2	2.6	4
797	Community Infrastructure	-	-	0.1	0.1	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.1	0.1	0.1	4.0	4.6	4.7	3.6	3.3	2.6	4
799	Community			0.1	0.1	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.1	0.1	0.1	4.0	4.6	4.7	3.6	3.3	2.6	4
800	Infrastructure Private - Commercial		-	0.1	0.1	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.1	0.1	0.1	4.0	4.6	4.7	3.6		2.6	4
829 830	Private - Commercial Private - Commercial	-	-	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.3	0.2	0.1	0.2	0.2	0.3	0.3	0.3	0.1	2.9	3.0	3.0	3.1	2.8	2.6	4
833	Private - Commercial		-	0.0		0.0	0.0	0.1		0.9	0.5	1.3	1.4	1.4	0.5	0.9	0.5	1.3	1.4	1.4	0.5	3.6	3.5	4.3	4.4	4.0	3.0	4
834	Private - Commercial	-	-	0.0		0.0	0.0	0.1		0.2	0.2	0.2	0.2	0.3	0.1	0.2	0.2	0.2		0.3	0.2	2.8	2.8	2.8	2.9	2.9	2.7	4
835 836	Private - Dwelling Private - Dwelling			0.0		0.0	0.0	0.1			0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.3	0.2	2.8	2.8	2.8			2.7	4
837	Private - Dwelling		-	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.3	0.2	2.8	2.8	2.8	2.9	2.9	2.7	4
838	Private - Dwelling	-	-	0.0			0.0	0.1			0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2		0.3	0.2	2.8	2.8	2.8				4
839 840	Private - Dwelling Private - Dwelling		-	0.0		0.0	0.0	0.1		0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.3	0.1	2.8	2.8	2.8	2.9	2.9	2.6	4
843	Private - Dwelling		-	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.2	0.2	0.2	0.2	0.2	0.1	2.7	2.7	2.7	2.7	2.7	2.6	4
846 847	Private - Dwelling	-	-	0.0	0.0	0.1	0.1	0.1		0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.2	0.2	0.2	0.2	0.2	2.7	2.7	2.8	2.8		2.7	4
852	Private - Dwelling Private - Dwelling		-	0.0			0.1	0.1			0.1	0.1	0.1	0.1	0.0	0.1	0.2	0.2	0.2	0.2	0.2		2.8	2.8	2.8	2.8	2.7	4
855	Private - Dwelling	-	-	0.0							0.2	0.2	0.2	0.1	0.0	0.2	0.3	0.2		0.2	0.1	2.8	2.8	2.8		2.8		4
856	Private - Dwelling Private - Subject to Acquisition Rights	Glendell (Noise) [DA 80/952]; Rixs Creek North (Noise & AQ) [PA08_0102]; Rixs Creek South (AQ) ISSD 6300] Glendell (Noise) [DA	Glendell [DA80/952]; Rixs Creek North (Noise) [PA08_0102]	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.0	0.1	0.0	0.2	0.2	0.2	0.2	0.2	0.2	3.4	4.0	4.1	4.0		2.6	4
861	Private - Subject to Acquisition Rights	Seriote (Noise) [DA 80/952]; Rixs Creek North (Noise) [PA08_0102]; IUG (Noise) [PA08_0101]; Rixs Creek South (AQ) [SSD 63001] Glendell (Noise) [DA	Glendell [DA80/952]; Rixs Creek North (Noise) [PA08_0102]	0.1	0.1	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.1	0.1	3.5	4.0	4.0	3.9	3.0	2.6	4
862	Private - Subject to Acquisition Rights	80/952]; Rixs Creek North (Noise) [PA08_0102]; IUG (Noise) [PA08_0101]; Rixs Creek South (AQ) [SSD 6300]		0.1	0.1	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.1	0.1	3.7	3.8	3.9	3.7	3.1	2.6	4
863	Private - Subject to Acquisition Rights	Glendell (Noise) [DA 80/952]; Rixs Creek North (Noise) [PA08_0102]; IUG (Noise) [PA08_0101]; Rixs Creek South (AQ) [SSD 6300]	[PA08_0102]	0.1	0.1	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.1	0.1	3.7	3.9	3.9	3.7	3.1	2.6	4
869	Private - Subject to Acquisition Rights	Rav Ops (AQ and Noise) [DA 09_0176]; Rixs Creek North (Noise) [PA08_0102]	Ashton (AQ & Noise) [DA309-11-2001-i]; Rixs Creek North (Noise) [PA08_0102] (acquisition applies to contigious	0.1	0.1	0.2	0.3	0.4	0.4	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.2	0.3	0.3	0.4	0.4	2.9	3.0	3.1	3.1	3.1	2.9	4
		Rav Ops (AQ and Noise)	Ashton (AQ & Noise)							1 1																		
870	Private - Subject to Acquisition Rights	[DA 09_0176]; Rixs Creek North (Noise) [PA08_0102]; Rixs Creek South (AQ) [SSD 6300]	[DA309-11-2001-i]; Rixs Creek North (Noise) [PA08_0102] (acquisition applies to contigious	0.1	0.1	0.2	0.3	0.3	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.3	0.3	0.4	0.4	2.9	3.0	3.1	3.1	3.1	2.9	4
870 947 949	Private - Subject to Acquisition Rights Private - Subject to Acquisition Rights Private - Dwelling	North (Noise) [PA08_0102]; Rixs Creek	Creek North (Noise) [PA08_0102] (acquisition	0.1	0.1	0.1	0.2	0.3		0.1	0.1	0.0	0.1	0.0	0.0	0.1	0.2	0.2		0.4	0.4	2.7	2.8	2.8		2.9	2.9	4

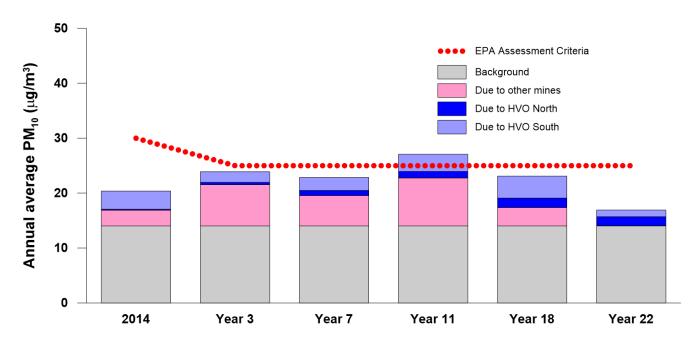


Figure F1 Annual average PM_{10} concentrations at property 308



Appendix G. Greenhouse gas emissions by activity

Diese	l usag	e								
				Emiss	ion factor (kg CO2	?-e/kL)		Emissions (t CO2-e/year)	
'ear		ROM coal (t)	Usage (kL)	Scope 1	Scope 2	Scope 3	Scope 1	Scope 2	Scope 3	Total
	2023	19,908,276	152,223	2721.3	. 0	138.96	414,245	-	21,153	435,3
	2024	20,976,889	154,989	2721.3	0	138.96	421,771	-	21,537	443,3
	2025	18,177,901	170,141	2721.3	0	138.96	463,005		23,643	486,6
	2026	28,173,230	191,719	2721.3	0	138.96	521,726	-	26,641	548,3
	2027	30,409,148	197,755	2721.3	0	138.96	538,152	-	27,480	565,6
	2028	31,213,520	188,921	2721.3	0	138.96	514,111	-	26,252	540,3
	2029	30,710,095	220,002	2721.3	0	138.96	598,693	-	30,572	629,2
	2030	31,500,000	213,819	2721.3	0	138.96	581,866	1-	29,712	611,5
	2031	29,370,406	222,720	2721.3	0	138.96	606,088	-	30,949	637,0
	2032	30,057,815	232,237	2721.3	0	138.96	631,987	-	32,272	664,2
	2033	30,797,847	235,155	2721.3	0	138.96	639,926	-	32,677	672,6
	2034	31,500,000	228,460	2721.3	0	138.96	621,707	-	31,747	653,4
	2035	31,012,508	217,713	2721.3	0	138.96	592,462	_	30,253	622,7
	2036	31,500,000	227,300	2721.3	0	138.96	618,553	-	31,586	650,1
	2037	31,433,780	227,502	2721.3	0	138.96	619,100	-	31,614	650,7
	2038	29,452,270	246,653	2721.3	0	138.96	671,216	-	34,275	705,4
	2039	34,000,894	270,140	2721.3	0	138.96	735,131	-	37,539	772,6
	2040	38,263,102	271,303	2721.3	0	138.96	738,297	-	37,700	775,9
	2041	29,996,243	260,402	2721.3	0	138.96	708,633	-	36,186	744,8
	2042	29,500,000	240,862	2721.3	0	138.96	655,457	-	33,470	688,9
	2043	28,830,479	209,323	2721.3	0	138.96	569,630	-	29,087	598,7
	2044	27,723,390	203,260	2721.3	0	138.96	553,132	-	28,245	581,3
	2045	24,318,601	144,884	2721.3	0	138.96	394,272	-	20,133	414,4
	2046	19,310,031	146,836	2721.3	0	138.96		-	20,404	419,9
	2047	18,626,435	134,543	2721.3	0	138.96		-	18,696	384,8
	2048	16,291,191	96,075	2721.3	0			-	13,351	274,8
	2049	9,742,001	56,302	2721.3	0			_	7,824	161,0
	2050	3,789,709	22,030	2721.3	0	138.96	59,951	-	3,061	63,0
									Average	549,9
									Total	15,397,5

Fugitiv	e emis	sions								
				Emic	ssion factor (t CO2-	o/t POM)		Emissions	(t CO2-e/year)	
Year	-	ROM coal (t)	-	Scope 1	Scope 2	Scope 3	Scope 1	Scope 2	Scope 3	Total
Icai	2023	19,908,276		Scope 1	Scope 2	Scope 3	182,625	Scope 2	Scope 3	182,62
	2024	20,976,889			_	_	249,818	_	_	249,81
	2025	18,177,901			_	_	235,235	_	_	235,23
	2026	28,173,230			_	_	450,007	_	_	450,00
	2027	30,409,148			_	_	413,873	_	_	413,87
	2028	31,213,520		-	_	-	527.872	_	_	527.87
	2029	30,710,095			-	-	365,237		_	365,23
	2030	31,500,000		-			590,284	_	_	590,28
	2030	29.370.406		-	-		422.105	-	-	422,10
	2032	30,057,815		-	-	-	451,025	-	-	451,02
	2032	30,797,847		-	-		534,789	-		534,78
	2033	31,500,000		-	-	-	538,123	-	-	538,12
	2034	31,012,508		-		-	408.494		-	408.49
	2036	31,500,000					604,714	-	-	604,71
	2037	31,433,780					452,705			452,70
	2038	29,452,270		-		_	469,173	_	-	469,17
	2039	34,000,894		-			667,179			667,17
	2040	38,263,102		-	-	-	1,071,195	-	-	1,071,19
	2040	29,996,243				_	544.341	-		544,34
		29,500,000								946,51
	2042 2043			-		-,	946,518	-	-,	
	2043	28,830,479		-	-	- 1	1,207,940		,-,	1,207,94
		27,723,390		-	-	-	1,464,963	-	-	1,464,96
	2045	24,318,601		-	-	-	1,508,445	-	-	1,508,44
	2046	19,310,031		-	-	-	856,297	-	-	856,29
	2047	18,626,435		-	-	-	1,010,945	-	-	1,010,94
	2048	16,291,191		-	-	-	926,548	-	-	926,54
	2049	9,742,001		-	-0	-	722,712	-	-	722,71
	2050	3,789,709	-	-	-)	-0	352,944	-	-	352,94
									Average	649,14
									Total	18,176,100



Blasting em	issions									
			Emission	factor (t CO2	-e/t Explosives)			Emissions	(t CO2-e/year)	
/ear	ROM coal (t)	Explosives (t)	Scope 1	Scope 2	Scope 3		Scope 1	Scope 2	Scope 3	Total
2023	19,908,276	57,611	0.17		0	0	9,794	-	-	9,79
2024	20,976,889	57,902	0.17		0	0	9,843	-		9,84
2025	18,177,901	72,419	0.17		0	0	12,311	-	-	12,31
2026	28,173,230	93,399	0.17		0	0	15,878	-	-	15,87
2027	30,409,148	91,101	0.17		0	0	15,487	-	-	15,48
2028	31,213,520	86,683	0.17		0	0	14,736	-	-	14,73
2029	30,710,095	101,895	0.17		0	0	17,322	:-	-	17,32
2030	31,500,000	100,527	0.17		0	0	17,090		-	17,09
2031	29,370,406	102,253	0.17		0	0	17,383		-	17,38
2032	30,057,815	100,120	0.17		0	0	17,020	-	-	17.02
2033	30,797,847	100,995	0.17		0	0	17,169		-	17,16
2034	31,500,000	104,756	0.17		0	0	17,809			17,80
2035	31,012,508	97,399	0.17		0	0	16,558	-	-	16,55
2036	31,500,000	95,392	0.17		0	0	16,217	1_	-	16,2
2037	31,433,780	89,672	0.17		0	0	15,244	-	-	15,24
2038	29,452,270	91,276	0.17		0	0	15,517	-	/-	15,5
2039	34,000,894	105,985	0.17		0	0	18,017	-	1-	18.0
2040	38,263,102	104,638	0.17		0	0	17,789	-	1-	17,78
2041	29,996,243	100,059	0.17		0	0	17,010	-	1-	17.0
2042	29,500,000	95,264	0.17		0	0	16,195	-	1-	16.19
2043		81,685	0.17		0	0		-	-	13,88
2044		79,365	0.17		0	0		-	-	13,49
2045	The second secon	64,960	0.17		0	0		1-	-	11.04
2046		60,148	0.17		0	0		1-	-	10,2
2047	The state of the s	58,470	0.17		0	0		\	-	9,9
2048	A CONTRACTOR OF THE PARTY OF TH	44,729	0.17		0	0		12_	-	7,6
2049		28,270	0.17		0	0		12_		4,8
2050		11,200	0.17		0	0		-	7-	1,9
									Average	13,83
									Total	387,28

Constr	uctio	n (diesel usage	e)								
					sion factor (kg C					(t CO2-e/year)	
ear		ROM coal (t)	Usage (kL)	Scope 1	Scope 2	Scope		Scope 1	Scope 2	Scope 3	Total
	2023	19,908,276	7,070	2721.3		0	138.96	1	-	983	20,22
	2024	20,976,889	- 1	2721.3		0	138.96		-	-	-
	2025	18,177,901	2,402	2721.3		0	138.96		-	334	6,87
	2026	28,173,230	- 1	2721.3		0	138.96		-	-	-
	2027	30,409,148	- 1	2721.3		0	138.96		-	-	-
	2028	31,213,520	- 1	2721.3		0	138.96		-	-	-
	2029	30,710,095	-	2721.3	3	0	138.96	-	-	-	-
	2030	31,500,000	358	2721.3	3	0	138.96	974	-	50	1,02
	2031	29,370,406	-	2721.3	3	0	138.96	_	-	-	-
	2032	30,057,815	362	2721.3	3	0	138.96	986	-	50	1,03
	2033	30,797,847	-	2721.3	3	0	138.96	-	-	-	-
	2034	31,500,000	-	2721.3	3	0	138.96	-	-	-	-
	2035	31,012,508	1,270	2721.3	3	0	138.96	3,456	-	176	3,63
	2036	31,500,000	-	2721.3	3	0	138.96	-	-	_	-
	2037	31,433,780	-	2721.3	3	0	138.96	-	-	-	-
	2038	29,452,270	-	2721.3	3	0	138.96	-	-	-	-
	2039	34,000,894	-	2721.3	3	0	138.96	-	-	-	_
	2040	38,263,102	-	2721.3	3	0	138.96	-	-	-	-
	2041	29,996,243	-	2721.3	3	0	138.96	-	-	-	_
	2042	29,500,000	-	2721.3	3	0	138.96	-	-	_	-
	2043	28,830,479	-	2721.3	3	0	138.96	-	-	-	-
	2044	27,723,390	-	2721.3	3	0	138.96	-	-	-	-
	2045	24,318,601	-	2721.3		0	138.96		-	-	_
	2046	19,310,031	-	2721.3	3	0	138.96	-	-	-	-
	2047	18,626,435	-	2721.3		0	138.96		-	-	_
	2048	16,291,191	_	2721.3		0	138.96		_	_	_
	2049	9,742,001	_	2721.3		0	138.96		_	_	_
	2050	3,789,709	-	2721.3		0	138.96		-	-	-
										Average	1,17
										Total	32,78



	on (vegetation o	g,								
lear grubbin	g and mulching to st	ncknile all vegetatio	n within earthworks	areas						
	bing and mulching	ockpiic aii vegetatio	ii widiiii cardiworks	arcas						
	umption of 100% 'op	en woodlands'								
acca on acc	ampaion of 100% op	on woodidhao	Fmiss	ion factor (kg C	(O2-e/ha)			Emission	s (t CO2-e/year)	
'ear	ROM coal (t)	Clearing (ha)		Scope 2	Scope 3	Sc	cope 1	Scope 2	Scope 3	Total
202		122	311620		0	0	38,018	-		38,01
202		-	0		0	0	-	-		
202		-	0		0	0	-	_		
202		-	0		0	0	-	-		
202	7 30,409,148	-	0		0	0	-	-		
202		-	0		0	0	-	-		
202	9 30,710,095	-	0		0	0	-	-		
203	0 31,500,000	-	0		0	0	-	-		. ,-
203	1 29,370,406	-	0		0	0	-	-		
203	2 30,057,815	-	0		0	0	-	-		
203	3 30,797,847	-	0		0	0	-	-		
203	4 31,500,000	-	0		0	0	-	-		
203	5 31,012,508	_	0		0	0	-	-		
203	6 31,500,000	-	0		0	0	-	-		
203	7 31,433,780	_	0		0	0	-	_		
203	8 29,452,270	-	0		0	0	-	-		
203	9 34,000,894	-	0		0	0	-	-		
204	0 38,263,102	-	0		0	0	-			- 1-
204	1 29,996,243	-	0		0	0				- 1-
204	29,500,000	-	0		0	0				-
204		-	0		0	0	-	-		
204	4 27,723,390	-	0		0	0	-	-		.]-
204	5 24,318,601	-	0		0	0	-	-		. (-
204	6 19,310,031	-	0		0	0	-	-		.]-
204	7 18,626,435	-	0		0	0	-	-		
204	8 16,291,191	-	0		0	0	-	-		
204	9,742,001	-	0		0	0	-	-		
205	3,789,709	-	0		0	0	-	-		-
									Average	1,35
									Total	38,01

Electi	ricity u	sage								
					actor (kg CO2-e/kV				t CO2-e/year)	
ear		ROM coal (t)	Usage (kWh)				Scope 1	Scope 2	Scope 3	Total
	2023	19,908,276	83,322,189	0	0.78	0.07	-	64,991	5,833	70,82
	2024	20,976,889	85,700,030	0	0.78	0.07	-	66,846	5,999	72,84
	2025	18,177,901	73,493,397	0	0.78	0.07	-	57,325	5,145	62,46
	2026	28,173,230	101,368,950	0	0.78	0.07	-	79,068	7,096	86,16
	2027	30,409,148	101,247,116	0	0.78	0.07	-	78,973	7,087	86,06
	2028	31,213,520	101,198,290	0	0.78	0.07	-	78,935	7,084	86,01
	2029	30,710,095	101,981,277	0	0.78	0.07	-	79,545	7,139	86,68
	2030	31,500,000	101,797,185	0	0.78	0.07	-	79,402	7,126	86,52
	2031	29,370,406	103,262,534	0	0.78	0.07	-	80,545	7,228	87,7
	2032	30,057,815	102,089,665	0	0.78	0.07	-	79,630	7,146	86,7
	2033	30,797,847	102,909,897	0	0.78	0.07	-	80,270	7,204	87,4
	2034	31,500,000	102,404,475	0	0.78	0.07	-	79,875	7,168	87.04
	2035	31,012,508	102,830,321	0	0.78	0.07	_	80,208	7,198	87,40
	2036	31,500,000	102,437,642	0	0.78	0.07	_	79,901	7,171	87,07
	2037	31,433,780	102,700,813	0	0.78	0.07	-	80,107	7,189	87,29
	2038	29,452,270	102,339,730	0	0.78	0.07	_	79,825	7,164	86,98
	2039	34,000,894	99,225,771	0	0.78	0.07	_	77,396	6,946	84,34
	2040	38,263,102	100,707,559	0	0.78	0.07	_	78,552	7,050	85,60
	2041	29,996,243	81,301,208	0	0.78	0.07	_	63,415	5,691	69,10
	2042	29,500,000	81,774,492	0	0.78	0.07	_	63,784	5,724	69,50
	2043	28,830,479	85,889,059	0	0.78	0.07	_	66,993	6,012	73,00
	2044	27,723,390	85,139,025	0	0.78	0.07	_	66,408	5,960	72,36
	2045	24,318,601	78,987,777	0	0.78	0.07	_	61,610	5,529	67,14
	2046	19.310.031	66.810.499	0	0.78	0.07	_	52.112	4.677	56,78
	2047	18,626,435	63,788,949	0	0.78	0.07	_	49,755	4,465	54,22
	2048	16.291.191	55.373.364	0	0.78	0.07	_	43,191	3,876	47,00
	2049	9,742,001	33,026,448	0	0.78	0.07	_	25,761	2,312	28,0
	2050	3,789,709	12,896,584	0	0.78	0.07	-	10,059	903	10,96
	2030	3,703,709	12,030,004	U	0.70	0.07	_	10,009	903	10,90
									Average	73,34
									Total	2,053,60



Transport (l	Rail)								
actor	kg CO2-e/t.km		DEFRA 2019 - Freighting go	ods - Freight tra	ain				
Distance	km	150	Assumed distance to port						
			Emission factor	(kg CO2-e/t)			Emissions	(t CO2-e/year)	
/ear	Product coal (t) -		Scope 1 Scope 2	Scope		Scope 1	Scope 2	Scope 3	Total
2023	15,621,978 -		0	0	5.00	-	-	78,102	78,102
2024	16,078,521 -		0	0	5.00	-	-	80,385	80,38
2025	13,414,902 -		0	0	5.00	-	-	67,068	67,068
2026	20,405,739 -		0	0	5.00	-	-	102,018	102,018
2027	22,289,674 -		0	0	5.00		-	111,437	111,43
2028	22,658,842 -		0	0	5.00	-	-	113,283	113,283
2029	22,302,463 -		0	0	5.00	-	-	111,501	111,50
2030	22,901,244 -		0	0	5.00		-	114,495	114,49
2031	21,555,507 -		0	0	5.00	-	-	107,767	107,767
2032	21,953,273 -		0	0	5.00	-	-	109,755	109,75
2033	22,563,894 -		0	0	5.00	-	-	112,808	112,808
2034	22,914,206 -		0	0	5.00	-	-	114,560	114,560
2035	22,581,194 -		0	0	5.00	-	_	112,895	112,89
2036	22,731,922 -		0	0	5.00	-	-	113,648	113,648
2037	22,828,564 -		0	0	5.00	-	-	114,131	114,13
2038	21,286,478 -		0	0	5.00	-	_	106,422	106,422
2039	24,547,432 -		0	0	5.00	-	_	122,725	122,72
2040	27,628,923 -		0	0	5.00	-	-	138,131	138,13
2041	21,866,548 -		0	0	5.00	-	-	109,322	109,322
2042	21,536,568 -		0	0	5.00	-	-	107,672	107,672
2043	20,792,448 -		0	0	5.00	-	-	103,952	103,952
2044	19,984,728 -		0	0	5.00	-	-	99,914	99.914
2045	17,884,768 -		0	0	5.00	-	-	89,415	89,41
2046	13,717,221 -		0	0	5.00	-	-	68,579	68,579
2047			0	0	5.00		-	66,106	66,106
2048			0	0	5.00		-	58,117	58,117
2049	6.889.746 -		0	0	5.00	-	-	34,445	34,44
2050	2,715,202 -		0	0	5.00	-	-	13,575	13,57
								Average	95,794
								Total	2,682,22

Transport (Shipping)								
Factor	kg CO2-e/t.km			eighting goods - C	argo ship, bulk car	rier, average			
Distance	km	8000	Assumed distanc	e to market					
				sion factor (kg CC				t CO2-e/year)	
Year	Product coal (t)	-	Scope 1	Scope 2	Scope 3	Scope 1	Scope 2	Scope 3	Total
2023			0				-	442,289	442,289
2024			0				-	455,215	455,21
2025			0				-	379,803	379,80
2026			0				-	577,727	577,72
2027			0				-	631,065	631,06
2028			0				-	641,517	641,51
2029	22,302,463	-	0	0	28.31	-	-	631,427	631,42
2030	22,901,244	-	0	0	28.31	-	·-	648,380	648,38
2031	21,555,507	-	0	0	28.31	-	"-	610,280	610,28
2032	21,953,273	-	0	0	28.31			621,541	621,54
2033	22,563,894	-	0	0	28.31	-	-	638,829	638,829
2034	22,914,206	-	0	0	28.31	-	-	648,747	648,74
2035	22,581,194	-	0	0	28.31	-	\ <u>-</u>	639,319	639,319
2036	22,731,922	-	0	0	28.31	-	-	643,586	643,58
2037	22,828,564	-	0	0	28.31	-	-	646,322	646,32
2038	21,286,478	-	0	0	28.31	-	-	602,663	602,66
2039	24,547,432	-	0	0	28.31	-	-	694,987	694,98
2040	27,628,923	-	0	0	28.31	-	-	782,230	782,230
2041	21,866,548	-	0	0	28.31	-	-	619,086	619,08
2042	21,536,568	-	0	0	28.31	-	-	609,743	609,74
2043	20,792,448	-	0	0	28.31		-	588,676	588,67
2044			0	0			-	565,808	565,80
2045	17,884,768	-	0	0	28.31		-	506,354	506,35
2046	13,717,221	-	0	0	28.31	-	-	388,362	388,36
2047			0				-	374,354	374,35
2048	,		0				-	329,117	329,11
2049			0	0			-	195,062	195,06
2050			0	0			-	76,873	76,87
								Average	542,47
								Total	15,189,362



Energy	Proc	luction									
				Emis	sion factor (kg C	O2-e/t)			Emissions	(t CO2-e/year)	
ear		ROM coal (t)	Thermal coal (t)	Scope 1	Scope 2	Scope	e 3	Scope 1	Scope 2	Scope 3	Total
	2023	19,908,276	12,582,126	. 0	,	0	2436.48			30,656,098	30,656,09
	2024	20,976,889	13,396,152	0		0	2436.48	-	-	32,639,457	32,639,45
	2025	18,177,901	10,173,423	0		0	2436.48	-	-	24,787,341	24,787,34
	2026	28,173,230	17,015,120	0		0	2436.48	-	-	41,456,999	41,456,99
	2027	30,409,148	14,690,022	0		0	2436.48	_	_	35,791,945	35,791,94
	2028	31,213,520	18,899,806	0		0	2436.48	-	_	46,048,999	46,048,99
	2029	30,710,095	19,516,743	0		0	2436.48	-	-	47,552,154	47,552,18
	2030	31,500,000	19,749,740	0		0	2436.48	-	-	48,119,846	48,119,84
	2031	29,370,406	18,291,832	0		0	2436.48	_	-	44,567,683	44,567,68
	2032	30,057,815	19,033,258	0		0	2436.48	_	-	46,374,152	46,374,1
	2033	30,797,847	20,167,165	0		0	2436.48	_	-	49,136,893	49,136,8
	2034	31,500,000	20,658,743	0		0	2436.48	_	_	50,334,615	50,334,6
	2035	31,012,508	20,389,938	0		0	2436.48	-	-	49,679,677	49,679,6
	2036	31,500,000	21,289,234	0		0	2436.48	-	-	51,870,792	51,870,7
	2037	31,433,780	21,524,431	0		0	2436.48	-	_	52,443,846	52,443,8
	2038	29,452,270	19,995,997	0		0	2436.48	-	-	48,719,846	48,719,8
	2039	34,000,894	21,943,323	0		0	2436.48	-	-	53,464,468	53,464,4
	2040	38,263,102	25,038,592	0		0	2436.48	-	-	61,006,029	61,006.0
	2041	29,996,243	18,934,786	0		0	2436.48	_	-	46,134,226	46,134,2
	2042	29,500,000	19,592,396	0		0	2436.48	_	-	47,736,480	47,736,4
	2043	28,830,479	18,653,635	0		0	2436.48	-	-	45,449,209	45,449,2
	2044	27,723,390	18,133,210	0		0	2436.48		-	44,181,203	44,181,2
	2045	24,318,601	17,713,169	0		0	2436.48		-	43,157,781	43,157,7
	2046	19,310,031	12,708,649	0		0	2436.48		-	30,964,369	30,964,3
	2047	18,626,435	11,926,052	0		0	2436.48		-	29,057,588	29,057,5
	2048	16,291,191	10,610,491	0		0	2436.48		-	25,852,248	25,852,2
	2049	9,742,001	6,054,636	0		0	2436.48	-	-	14,751,998	14,751,9
	2050	3,789,709	2,483,592	0		0	2436.48		-	6,051,222	6,051,2
										Average	40,999,5
										Total	1,147,987,16

Coking	g coal	use								
				Funta	i ft (l 00	0 - #\		Fasis sisses #		
/ear		ROM coal (t)	Coking coal (t)		sion factor (kg CO Scope 2	Scope 3	Scope 1	Scope 2	CO2-e/year)	Total
ear	2023	19,908,276	3,039,852	Scope 1	0 ocope 2			Scope 2	Scope 3 8,392,726	8,392,72
	2023	20,976,889	2,682,368	0	0				7,405,751	7,405,75
	2024	18,177,901	3,241,479	0	0				8.949.399	8,949,39
	2025	28,173,230	3,390,619	0	0				9,361,160	9,361,16
	2026	30,409,148	7,599,652	0	0			- 0	20.981.880	20,981,88
	2027	31,213,520	3,759,036	0	0			-,:	10,378,322	
	2029	30,710,095	2,785,720	0	0			-	7,691,095	10,378,32 7,691,09
	2030	31,500,000	3,151,504	0	0				8,700,989	8,700,98
	2030	29,370,406	3,263,675	0	0			-	9.010.682	9,010,68
	2031	30.057.815	2,920,015	0	0			-	8.061.870	8,061,87
	2032	30,797,847	2,396,730	0	0			-	6,617,132	6,617,13
	2033	31,500,000	2,396,730	0	0			-	6,227,108	6,227,10
	2034	31,012,508	2,255,465	0	0			-	6,049,838	6,049,83
	2036	31,500,000	1,442,688	0	0			-	3,983,117	3,983,11
	2037	31,433,780	1,304,132	0	0			-	3,600,579	3,600,57
	2037	29,452,270	1,290,481	0	0				3,562,889	3,562,88
	2039	34,000,894	2,604,109	0	0			-	7,189,684	7,189,68
	2040	38,263,102	2,590,331	0	0			-0	7,151,645	7,151,64
	2040		2,931,762		0					8,094,30
	2041	29,996,243	1,944,172	0	0			-	8,094,303	5,367,66
	2042	29,500,000		0	0			-	5,367,665	
	2043	28,830,479	2,138,812						5,905,047	5,905,04
	2044	27,723,390	1,851,518	0	0				5,111,857	5,111,85
		24,318,601	171,599	0	0			-	473,768	473,76
	2046	19,310,031	1,008,572	0	0			-	2,784,567	2,784,56
	2047	18,626,435	1,296,398	0	0				3,579,224	3,579,22
	2048	16,291,191	1,014,156	0	0			-	2,799,983	2,799,98
	2049	9,742,001	835,111	0	0			-,	2,305,657	2,305,65
	2050	3,789,709	231,610	0	0	2760.9	-:	-,	639,453	639,45
									Average	6,442,05
									Total	180,377,386



Appendix H. Modelling of alternative meteorological year

The potential effects of using an alternative meteorological dataset have been considered. Meteorological data from 2020 were subsequently used to simulate the potential contributions of the Project to local air quality. **Figure H1** shows the modelled annual average PM_{10} concentrations due to the Project using 2014 and 2020 meteorological data. The contribution of the Project to local air quality (that is, PM_{10}) is expected to be similar from year-to-year and the conclusions of the assessment will not change from this information.

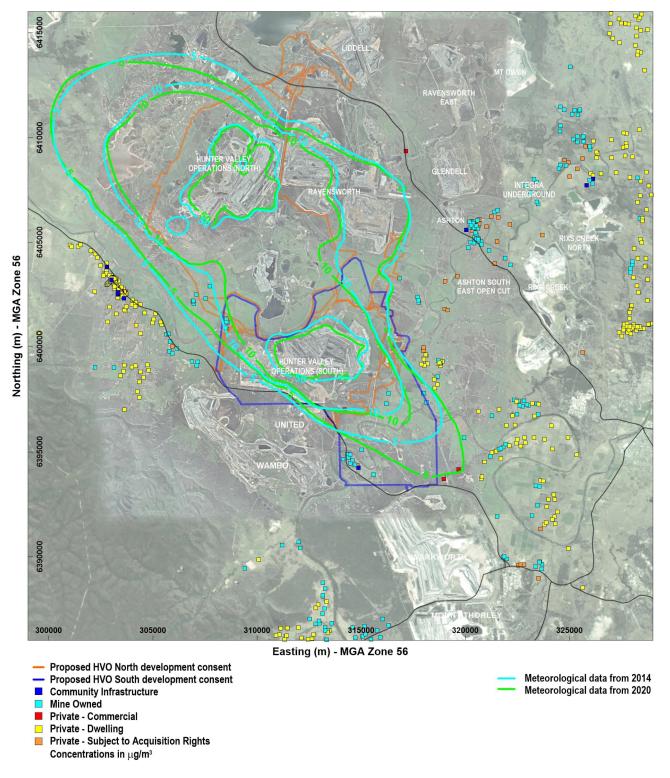


Figure H1 Comparison of modelled annual average PM₁₀ for different meteorological datasets