

09/03/2023

Chief Executive Officer
Department of Water and Environmental Regulation
8 Davidson Terrace
Joondalup WA 6919
Email: info@dwer.wa.gov.au

Re: West Musgrave Project – Annual Reporting against Ministerial Conditions, MS1188 -FY2021-2022

The West Musgrave Project (WMP) is a significant greenfield copper and nickel project located in the remote, highly prospective West Musgrave Mineral Province of central Western Australia. WMP is approved under Part IV of the *Environmental Protection Act 1986* (EP Act) subject to the conditions outlined in Ministerial Statement MS1188.

The Project commenced construction in November 2022, with operations projected to commence in Q2/2025. Activities within the reporting period (FY2021-2022) which contributed to Scope 1 emissions were limited to exploration only.

Condition 5 relating to Greenhouse Gas Management outlines annual Greenhouse Gas (GHG) reporting requirements for the project. At this juncture, only Condition 5-2 (1) applies, and this only in part as concentrate production has not commenced.

5-2 The proponent shall submit a report to the CEO each year by 31 March, commencing on the first 31 March after the date of this Statement specifying for the previous financial year:

(1) the quantity of **proposal GHG emissions** and copper and nickel concentrates produced;

The total Scope 1 emissions for the reporting period at West Musgrave are provided in Table 1 below, and detailed reports attached:

Table 1: West Musgrave GHG Emissions and Energy Values

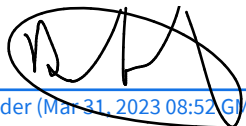
Activity	PRIMARY VARIABLE	GHG EMISSIONS (t CO ₂ -e)			ENERGY (GJ)	
		Scope 1	Scope 2	Total Scope 1 + Scope 2	Consumed	Produced
Diesel combusted	1050 KL	2,845	Nil	2845	40, 521	NIL
TOTAL		2,845	Nil	2,845	40,521	NIL

Accordingly, please find attached:

- OZ Minerals FY22 NGER Summary Report, prepared by Greenbase Pty Ltd on behalf of OZ Minerals; and
- OZ Minerals NGER Opinion Statement, prepared by KPMG following a reasonable level assurance audit on data collated for the FY22 NGER Report.

If you have any queries, please do not hesitate to contact Nicholas Jones, Superintendent – Environment (Operations) on 0430 073 429 or nicholas.jones@ozminerals.com.

Sincerely,



[Daniel Leinfelder \(Mar 31, 2023 08:52 GMT+10.5\)](#)

Daniel Leinfelder

Manager - Community, Government, Environment & Approvals

West Musgrave Project



OZ MINERALS LIMITED

SECTION 19 NATIONAL GREENHOUSE AND ENERGY SUMMARY REPORT

2021-2022 Financial Year



Prepared October 2022

Disclaimer

This document has been prepared for the exclusive use of OZ Minerals Limited on the basis of instructions, information and data supplied by OZ Minerals Limited. No warranty or guarantee, whether express or implied, is made by Greenbase Pty Ltd with respect to the completeness or accuracy of any aspect of this document and no party, other than OZ Minerals Limited, is authorised to or should place any reliance whatsoever on the whole or any part or parts of the document. Greenbase Pty Ltd does not undertake or accept any responsibility or liability in any way whatsoever to any person or entity in respect of the whole or any part or parts of this document, or any errors in or omissions from it, whether arising from negligence or any other basis in law whatsoever.

Rounding of Amounts

All CO₂-e and energy amounts included in this document have been rounded to the nearest Tonne and GJ respectively, except when rounding would result in a zero.

Prepared by:

Greenbase Pty Ltd

Level 2, 41 St Georges Terrace, Perth WA 6000

PO Box Z5451, St Georges Terrace WA 6831

Telephone 08 9322 9966

Website www.greenbase.com.au

Table 1 Document Glossary

Term / Acronym	Meaning
Act	The National Greenhouse and Energy Reporting Act 2007 as it applies to the current reporting year
CER	Clean Energy Regulator
CH₄	Methane
CO₂	Carbon Dioxide
CO₂-e	Carbon dioxide equivalence, the amount of the gas multiplied by a value specified in the regulations in relation to that kind of greenhouse gas.
Controlling Corporation	Is a constitutional corporation that does not have a holding company incorporated in Australia with its group consisting of the controlling corporation and its subsidiaries.
Determination	The NGER Determination 2008 as it applies to the current reporting year
Facility	Is a single enterprise that undertakes an activity, or a series of activities that involve greenhouse gas emissions, the production of energy or the consumption of energy.
GHG	All greenhouse gases mentioned in the Act
LPG	Liquefied Petroleum Gas
N₂O	Nitrous Oxide
NGER	National Greenhouse and Energy Reporting
Non-transport	Includes purposes for which fuel is combusted that do not involve transport energy purposes, see Sections 2.20, and 2.42 of the Determination.
Regulations	The NGER Regulations 2008 as they apply to the current reporting year
Scope 1	Emission of greenhouse gas, in relation to a facility, means the release of greenhouse gas into the atmosphere as a direct result of an activity or series of activities (including ancillary activities) that constitute the facility.
Scope 2	Emission of greenhouse gas, in relation to a facility, means the release of greenhouse gas into the atmosphere as a direct result of one or more activities that generate electricity, heating, cooling or steam that is consumed by the facility but that do not form part of the facility.
Section 19	Refer to Section 19 in the Act.
SF₆	Sulphur Hexafluoride – a gas used in switchgear and circuit breakers for insulation.
t CO₂-e	Tonnes of carbon dioxide equivalent
Transport	Includes purposes for which fuel is combusted for transport by vehicles registered for road use, rail transport, marine navigation and air transport, see Sections 2.20, and 2.42 of the Determination

Table of Contents

1	Introduction	5
1.1	NGER Background.....	5
1.2	Scope of Work.....	5
1.3	Changes in Legislation for 2022 Financial Year	6
2	Reporting Boundary	7
2.1	Group Members and Facilities	7
2.2	Exploration	8
3	Corporate Emissions and Energy Summary	9
4	Emissions and Energy Summary by Facility	10
4.1	Prominent Hill	10
4.1.1	General Notes	11
4.1.2	Comparison with FY2021	11
4.2	Carrapateena	12
4.2.1	General Notes	12
4.2.2	Comparison with FY2021	13
4.3	Head Office (Adelaide).....	13
4.3.1	Comparison with FY2021	14
4.4	Office (Perth)	14
4.4.1	Comparison with FY2021	14
4.5	West Musgrave Project	14
4.5.1	Comparison with FY2021	15
4.6	Exploration (South Australia) – Mt Woods, Pandurra and Stuart Shelf	15
4.6.1	Comparison with FY2021	15
5	Uncertainty.....	16
6	Contractors	17
7	Safeguard Mechanism	18
8	Reconciliation to EERS	19

Table of Tables

Table 1 Document Glossary.....	2
Table 2 Key NGER Thresholds.....	5
Table 3 Group Members and Facilities under OZ Minerals Limited	7
Table 4 Corporate GHG Emissions, Energy Consumed and Produced	9
Table 5 GHG Emissions and Energy, by Facility	10
Table 6 Prominent Hill GHG Emissions and Energy Values	10
Table 7 Carrapateena GHG Emissions and Energy Values.....	12
Table 8 Head Office (Adelaide) GHG Emissions and Energy Values	14
Table 9 Perth Office GHG Emissions and Energy Values	14
Table 10 West Musgrave GHG Emissions and Energy Values	15
Table 11 South Australia Exploration GHG Emissions and Energy Values	15
Table 12 Uncertainty of Diesel Emissions	16
Table 13 GHG Emissions, Energy consumed and Produced of Reportable Contractors	17
Table 14 Scope 1 emissions compared to Safeguard Mechanism Threshold	18
Table 15 Difference in Calculated Emissions between EERS and Greenbase.....	19
Table 16 Difference in Calculated Energy between EERS and Greenbase.....	19

1 Introduction

This document has been prepared to provide a summary of the Section 19 National Greenhouse and Energy Report. It is intended to act as a guide to the final report by providing a summary and explanation of the material variances with the prior year, recommendations that should be taken into account for future reporting, and treatment taken on the data supplied by OZ Minerals Limited (OZ Minerals) to produce the report.

1.1 NGER Background

The National Greenhouse and Energy Reporting (NGER) Scheme is a Commonwealth Initiative introduced in 2007 to provide data and accounting in relation to greenhouse gas (GHG) emissions and energy consumption and production. The Scheme’s legislated objectives are to inform policy-making and the Australian public, to meet Australia’s international reporting obligations, and to provide a single national reporting framework for energy and emissions reporting. The scheme is administered by the Commonwealth of Australia Clean Energy Regulator (CER). The NGER report must be approved by an Executive Officer and submitted by the 31st of October of each year.

Corporations that are registered under Section 12 of the Act are required to report annually to the NGER programme. All facilities and entities under their operational control during that financial year are required to report the following information:

- GHG emissions,
- Energy production,
- Energy consumption, and
- Other information specified under NGER legislation.

There are two types of thresholds specified in Section 13 of the Act to determine which corporations are required to participate in the NGER scheme. These are facility and corporate group thresholds:

Table 2 Key NGER Thresholds

LEVEL	CO ₂ -e EMISSIONS	ENERGY CONSUMED / PRODUCED
Facility	25,000 tonnes	100,000 GJ
Corporate	50,000 tonnes	200,000 GJ

As a consequence of emitting more than 50kt of GHG emissions and consuming more than 200TJ of energy during the 2021-2022 Financial Year, OZ Minerals exceeded the corporate threshold for reporting under Section 19 of the Act. OZ Minerals was therefore required to report all GHG emissions, energy consumption and energy production by companies and facilities under the operational control of OZ Minerals and its group members.

1.2 Scope of Work

Greenbase was engaged by OZ Minerals to assist with compiling and reporting of activity data as required under the Act, Regulations and Determination. The scope of work for this

engagement was to identify data requirements, collate fuel, energy, hydrocarbons, and other greenhouse and energy data from each facility, review the data and carry out data validation checks, run energy and emissions calculations using the methods and factors detailed in the NGER legislation and assist with reporting.

Source data was collected, sorted and provided to Greenbase by OZ Minerals staff and coordinated and collated within facility specific datasheets (all versions are available on the Greenbase DMS).

1.3 Changes in Legislation for 2022 Financial Year

The NGER Determination and Regulations that apply to the 2021-2022 Financial Year have been amended. The relevant changes are summarised as below:

- **Scope 2 grid factor**

The Scope 2 emission factors, from consumption of electricity purchased or lost from the grid, are updated annually in the NGER Determination.

State/Territory	2021 Scope 2 Factor	2022 Scope 2 Factor
South Australia	0.43 kg CO ₂ -e/kWh	0.35 kg CO ₂ -e/kWh
Western Australia	0.68 kg CO ₂ -e/kWh	0.68 kg CO ₂ -e/kWh

2 Reporting Boundary

OZ Minerals is a copper-focused international company based in South Australia, with two operating mines in Australia (Prominent Hill and Carrapateena), assets in Brazil, and numerous exploration earn-in agreements in Australia and internationally.

OZ Minerals was formed in 2008 by the merger of two Australian non-ferrous metals mining businesses - Oxiana and Zinifex. A proportion of OZ Minerals' assets, excluding the Prominent Hill asset, were then acquired in 2009 by China Non Ferrous Metals Co Ltd (Minmetals) – the company now operating as MMG. In 2011, OZ Minerals also purchased the Carrapateena exploration project from Rudy Gomez, Teck Australia Pty Ltd and other various minorities.

2.1 Group Members and Facilities

NGER reports are divided by group members. Group members include the controlling corporation and subsidiaries of the controlling corporation with operational control of facilities. Only subsidiaries with active facilities have been assessed and included in the FY2022 report. Facilities that are inactive (no identified emissions or energy use) or that operate outside of Australia are not assessed or included.

OZ Minerals Limited was identified as the controlling corporation for NGER reporting with a number of group members, most of which had no identified emissions or energy use (Table 3). For more information regarding the reporting boundaries, refer to 'OZ Minerals NGER – ORB FY2022'.

Table 3 Group Members and Facilities under OZ Minerals Limited

Controlling Corporation or Group Members	Facility or Exploration Area	Activity Description	Active (Y/N)	Sources of Emissions
OZ Minerals Limited	Corporate office SA	Support services	Y	Electricity purchased
	Corporate office WA	Support services	Y	Electricity purchased
	M&A	Exploration	N	None identified
Carrapateena Pty Ltd				None identified
CTP Assets Pty Ltd				None identified
CTP Operations Pty Ltd				None identified
Minotaur Resource Holdings Pty Ltd				None identified
OZ Exploration Pty Ltd	West Musgrave (WA)	Exploration	Y	Diesel usage
	Mt Woods (SA)	Exploration	Y	Diesel usage
	Pandurra (SA)	Exploration	Y	Diesel usage

	Stuart Shelf (SA)	Exploration	Y	Diesel usage
OZ Minerals Carrapateena Pty Ltd	Carrapateena	Underground mining Exploration	Y	Diesel & LPG usage Oils & greases SF ₆ Electricity purchased
OZ Minerals Equity Pty Ltd				None identified
OZ Minerals Group Treasury Pty Ltd				None identified
OZ Minerals Holdings Pty Ltd				None identified
OZ Minerals International (Holdings) Pty Ltd				None identified
OZ Minerals Investments Pty Ltd				None identified
OZ Minerals Prominent Hill Operations Pty Ltd	Prominent Hill	Underground mining Exploration	Y	Diesel & LPG usage Oils & greases SF ₆ Electricity purchased Electricity produced Wood burning
OZ Minerals Prominent Hill Pty Ltd				None identified
OZ Minerals Zinifex Holdings Pty Ltd				None identified
OZM Carrapateena Pty Ltd				None identified
ZRUS Holdings Pty Ltd				None identified

2.2 Exploration

Exploration projects in Australia include Mt Woods, Pandurra, Stuart Shelf, Kalkaroo and Peake and Denison in South Australia; Yarrie in Western Australia; Wollogorang in the Northern Territory; and Gulf, Three Ways and Lawn Hill in Queensland. OZ Minerals typically works with its partners to oversee the exploration projects, while they manage activities on the ground.

3 Corporate Emissions and Energy Summary

Table 4 below shows the reportable amount of Scope 1 and Scope 2 GHG emissions, energy consumed and produced for OZ Minerals.

Scope 1 emissions have increased by 5% in comparison to last year as a result of a 36% increase in diesel usage and Scope 1 emissions at Carrapateena. In comparison, Scope 1 emissions at Prominent Hill decreased by 15%.

Even though total electricity purchases increased by 13%, the total Scope 2 emissions decreased by 8% due to the updated grid factor in South Australia. Overall, the total Scope 1 and 2 emissions decreased by 5% compared to last year.

Total energy consumed increased by 10%, with a 24% increase at Carrapateena and West Musgrave, and <1% increase at Prominent Hill. Energy produced increased by 29%, with onsite electricity production at Prominent Hill the only reportable energy production.

Table 4 Corporate GHG Emissions, Energy Consumed and Produced

GHG EMISSION (t CO ₂ -e)			ENERGY (GJ)		
Scope 1	Scope 2	Total Scope 1 & 2	Consumed	Net Consumed	Produced
87,403	227,546	314,949	3,633,343	3,631,664	1,680

When compared to the published NGER results for last year, the FY2022 numbers would rank OZ Minerals compared to other Australian companies at approximately 123rd for total Scope 1 and 2 emissions and 110th for net energy consumed. There were 409 NGER registered companies with published data last year.

Note: An interactive report, including breakdowns of methods, stored data, raw data and actions with identifiers and timestamps is available through secure login on the Greenbase website (<https://www.greenbase.com.au/>) and is recommended for use for detailed analysis.

4 Emissions and Energy Summary by Facility

The table below shows the reportable amount of Scope 1 and Scope 2 GHG emissions and energy by facility for OZ Minerals.

Table 5 GHG Emissions and Energy, by Facility

Entity Name	GHG EMISSIONS (t CO ₂ -e)			ENERGY (GJ)		
	Scope 1	Scope 2	Total Scope 1 + 2	Consumed	Net Consumed	Produced
Carrapateena Operations	42,309	93,580	135,890	1,584,954	1,584,954	
OZ Minerals Exploration (South Australia)	58		58	820	820	
OZ Minerals Head Office (Adelaide)		75	75	773	773	
OZ Minerals Office (Perth)		6	6	31	31	
Prominent Hill Operations	42,191	133,885	176,076	2,006,244	2,004,565	1,680
West Musgrave Project	2,845		2,845	40,521	40,521	
TOTAL:	87,403	227,546	314,949	3,633,343	3,631,664	1,680

4.1 Prominent Hill

The table below shows the emissions and energy identified for Prominent Hill based on the sources identified in Section 2.

Table 6 Prominent Hill GHG Emissions and Energy Values

Activity	PRIMARY VARIABLE	GHG EMISSIONS (t CO ₂ -e)			ENERGY (GJ)	
		Scope 1	Scope 2	Total Scope 1 + 2	Consumed	Produced
Diesel combusted	15,423 kL	41,797		41,797	595,324	
Diesel used in explosives	35 kL				1,354	
Dry Wood Combusted	302 Tonne	6		6	4,892	
Electricity consumption	1,680 GJ				1,680	
Electricity produced for operations	467 MWh					1,680
Electricity purchased	382,528 MWh		133,885	133,885	1,377,101	
Grease used as lubricant	32 kL	4		4	1,232	

LPG combusted	23 kL	36		36	596	
Lubricating oil used	620 kL	334		334	24,064	
SF ₆ Stock CO ₂ -e	1,457 Tonne	13		13		
TOTAL:		42,191	133,885	176,076	2,006,244	1,680

4.1.1 General Notes

- In order to comply with the NGER Regulations, diesel usage was split into 'Diesel combusted for electricity', 'Transport' (Road-Registered Vehicles) and 'Non-Transport' (everything else).
 - Diesel used by the backup generators and Orica/Jetcrete generators were classified as for electricity purposes (>500kW producing >100,000 kWh).
 - OZ Minerals-owned buses, light vehicles and road trains were classified as transport.
 - Qube bus, light vehicles and road trains were classified as transport.
 - Thiess light vehicles were classified as transport.
 - All Byrnegut underground light vehicles are not registered and so were classified as non-transport.
 - All other diesel usage was classified as non-transport.
 - Diesel usage was then reconciled back to invoices in order to meet measurement criteria and the difference applied to the non-transport totals.
- Diesel added to explosives on site for underground mining was estimated based on the 6% mixing rate provided by Byrnegut.
 - The diesel used in the explosives was only reported as 'energy consumed' and no emissions were included based on the guidance from the CER.
- The primary source of electricity at Prominent Hill was purchased from the South Australian grid and was reported as Scope 2 emissions.
- The amount of electricity from the backup generators was estimated based on the estimated amount of diesel used, and electricity produced was reported as Incidental.
- Oil and grease purchases were categorised into lubricating oils and greases partially combusted through use.
- Leaks from equipment containing SF₆ were included using Method 1, which uses a default leakage rate.
- ULP was assessed as below the reporting threshold, and not included in the report.

4.1.2 Comparison with FY2021

- There was a 17% decrease in ore mined at Prominent Hill this year.
 - Diesel combustion decreased by 15%, in line with this decrease in ore mined.

- Scope 1 emissions decreased by 15% in line with the decrease in diesel combusted.
- Scope 1 emissions from wood burnt and lubricating oils increased by 12% and 21% respectively. Grease usage decreased by 16% and LPG usage fell by 36%.
- Scope 1 emissions from leakage of SF₆ increased by 13% due an increase in switchgear capacity.
- Despite a 10% increase in the amount of electricity purchased, there was an 11% decrease in the Scope 2 emissions due to the updated grid factor for South Australia.
- Electricity produced on site by the backup generators and Orica/Jetcrete generators increased by 29%.
- Overall, the total Scope 1 and 2 emissions at Prominent Hill decreased by 12%; while the net energy consumed increased by <1%.

4.2 Carrapateena

The table below shows the emissions and energy included for Carrapateena based on the sources identified in Section 2.

Table 7 Carrapateena GHG Emissions and Energy Values

Activity	PRIMARY VARIABLE	GHG EMISSIONS (t CO ₂ -e)			ENERGY (GJ)	
	Amount	Scope 1	Scope 2	Total Scope 1 + 2	Consumed	Produced
Diesel combusted	15,542 kL	42,123		42,123	599,930	
Electricity purchased	267,372 MWh		93,580	93,580	962,539	
Grease used as lubricant	27 kL	4		4	1,036	
LPG combusted	24 kL	38		38	626	
Lubricating oil used	259 kL	139		139	10,031	
Non-lubricant fluid oils	278 kL				10,791	
SF ₆ Stock CO ₂ -e	591 Tonne	5		5		
TOTAL:		42,309	93,580	135,890	1,584,954	

4.2.1 General Notes

- In order to comply with the NGER Regulations, diesel usage was split into 'Diesel combusted for electricity', 'Transport' (Road-Registered Vehicles) and 'Non-Transport' (everything else).
 - As per last year, a combination of the Smartfill transactions and usage splits provided by the contractors was used to establish total usage.
 - OZ Minerals-owned light vehicles and buses were classified as transport.

- Pybar light vehicles were classified as transport.
- Byrncut light vehicles were classified as transport.
- Underground Civil Australia light vehicles and buses were classified as transport.
- Exact light vehicles were classified as transport.
- Qube light vehicles and road trains were classified as transport.
- All other diesel usage was classified as non-transport.
- No generators >500kW producing >100,000 kWh were identified, and therefore no diesel usage was classified as for electricity purposes.
- Diesel usage was then reconciled back to deliveries in order to meet measurement criteria and the difference applied to the non-transport totals.
- No diesel added to explosives on site was identified.
- The primary source of electricity at Carrapateena is electricity purchased from the South Australian grid and was reported as Scope 2 emissions.
- Oil and grease purchases were categorised into lubricating oils and greases partially combusted through use and non-lubricating oils.
- Leaks from equipment containing SF₆ were included using Method 1, which uses a default leakage rate. One additional switch with SF₆ was added this year.
- All acetylene purchases were assessed as below the reporting threshold, and not included in the report.

4.2.2 Comparison with FY2021

- During FY2022 there was an increase in the volume of ore mined and processed by 16% and 15% respectively, while waste mined decreased by 37%.
 - Diesel combustion increased by 36%, in line with this increase in activity.
 - Scope 1 emissions increased by 36% in line with the increase in diesel combusted.
- Scope 1 emissions from LPG usage decreased by 44% due to reduced usage of LPG for the mining laundries/hot water system.
- Oils and greases usage increased between 32% and 81%, in line with the increase in activity on site and increased diesel usage.
- Scope 1 emissions from leakage of SF₆ were unchanged.
- Scope 2 emissions decreased by 5%, despite a 16% increase in electricity purchased, due to a change in the South Australian grid factor.
- Overall, the total Scope 1 and 2 emissions at Carrapateena increased 5% and the net energy consumed increased by 24%.

4.3 Head Office (Adelaide)

Emissions from the head office in Adelaide are made up solely from purchased electricity and therefore only have Scope 2 emissions reported.

Table 8 Head Office (Adelaide) GHG Emissions and Energy Values

Activity	PRIMARY VARIABLE	GHG EMISSIONS (t CO ₂ -e)			ENERGY (GJ)	
		Scope 1	Scope 2	Total Scope 1 + 2	Consumed	Produced
Electricity purchased	215 MWh		75	75	773	
TOTAL:			75	75	773	

4.3.1 Comparison with FY2021

- Electricity purchased increased by 22%, while the Scope 2 emissions decreased by 1% due to the updated grid factor for South Australia.

4.4 Office (Perth)

Emissions from the office in Perth are made up solely from purchased electricity and therefore only have Scope 2 emissions reported.

Table 9 Perth Office GHG Emissions and Energy Values

Activity	PRIMARY VARIABLE	GHG EMISSIONS (t CO ₂ -e)			ENERGY (GJ)	
		Scope 1	Scope 2	Total Scope 1 + 2	Consumed	Produced
Electricity purchased	9 MWh		6	6	31	
TOTAL:			6	6	31	

4.4.1 Comparison with FY2021

- Electricity purchased increased by 44% due to FY2022 being the first full year of operation for the office under OZ Minerals, having been taken over from Cassini Resources in October 2020. Scope 2 emissions increased by 44% in line with the increased electricity purchases.

4.5 West Musgrave Project

Emissions from West Musgrave Project are made up solely from diesel combusted.

In order to comply with the NGER Regulations, diesel usage was split into 'Transport' (Road-Registered Vehicles) and 'Non-Transport' (everything else). Light vehicles and service trucks were classified as transport. All other diesel use was classified as non-transport.

Diesel usage was then reconciled back to deliveries in order to meet measurement criteria and the difference applied to the non-transport totals.

Table 10 West Musgrave GHG Emissions and Energy Values

Activity	PRIMARY VARIABLE	GHG EMISSIONS (t CO ₂ -e)			ENERGY (GJ)	
	Amount	Scope 1	Scope 2	Total Scope 1 + 2	Consumed	Produced
Diesel combusted	1,050 kL	2,845		2,845	40,521	
TOTAL:		2,845		2,845	40,521	

4.5.1 Comparison with FY2021

- Activities included exploration work and some other project studies work during FY2022.
- Overall, a 24% increase in diesel usage resulted in a 24% increase in Scope 1 emissions in comparison to last year.

4.6 Exploration (South Australia) – Mt Woods, Pandurra and Stuart Shelf

Emissions from the exploration activities in South Australia were included as an aggregate facility, and were made up solely from diesel combusted.

In order to comply with the NGER Regulations, diesel usage was split into 'Transport' (Road-Registered Vehicles) and 'Non-Transport' (everything else). All light vehicles were assumed to be road registered and classified as transport. All other diesel use was classified as non-transport.

All diesel usage was estimated based on kilometres travelled, operating hours and drill metres, and was therefore reported as Incidental.

Table 11 South Australia Exploration GHG Emissions and Energy Values

Activity	PRIMARY VARIABLE	GHG EMISSIONS (t CO ₂ -e)			ENERGY (GJ)	
	Amount	Scope 1	Scope 2	Total Scope 1 + 2	Consumed	Produced
Diesel combusted	21 kL	58		58	820	
TOTAL:		58		58	820	

4.6.1 Comparison with FY2021

- Overall, an 8% decrease in diesel usage resulted in an 8% decrease in Scope 1 emissions in comparison to last year.

5 Uncertainty

The Regulations require a registered corporation's report to include the amount of uncertainty associated with estimates of Scope 1 emissions for their corporate group, if one or more of the facilities has Scope 1 emissions from a source and/or fuel type from fuel combustion that are equal to, or greater than 25,000 tonnes of CO₂-e.

Diesel combustion at both Prominent Hill and Carrapateena exceeded this threshold. The uncertainty for this diesel usage, using Method 1 and 2, was calculated using the uncertainty calculator provided by CER.

The estimates of uncertainty are listed in Table 12 below.

Table 12 Uncertainty of Diesel Emissions

FACILITY	FUEL TYPE	EMISSIONS TOTAL (t CO ₂ -e)	UNCERTAINTY (%)
Prominent Hill	Diesel oil	41,796	3.0
Carrapateena	Diesel oil	42,122	3.0

6 Contractors

Regulation 4.30 requires that where a contractor under the operational control of OZ Minerals would meet the facility threshold tests in their own right, that the contractor's emissions and energy use are separately identified.

The following contractors tripped the reporting thresholds in Regulation 4.30 and thus their emissions and energy were separately identified in the report.

Table 13 GHG Emissions, Energy consumed and Produced of Reportable Contractors

Name	Identifying Details	GHG EMISSIONS (t CO ₂ -e)			ENERGY (GJ)	
		Scope 1	Scope 2	Total Scope 1 + 2	Produced	Consumed
Prominent Hill						
ByrneCut	ABN 94 129 142 516	21,519	-	21,519	-	322,216
Thiess	ABN 87 010 221 486	19,080	-	19,080	-	274,768
Carrapateena						
ByrneCut	ABN 94 129 142 516	19,254	-	19,254	-	289,499
Exact Contracting	ABN 24 607 096 515	11,953	-	11,953	-	173,122

7 Safeguard Mechanism

In 2016, the Australian Government introduced a Safeguard Mechanism under subsection 22XS(1) of the Act. As a consequence, responsible emitters controlling facilities whose net emissions exceed the safeguard threshold (100,000 t CO₂-e per year) must keep their emissions at or below a baseline set by the CER.

If the reported annual emissions are below the baseline the CER will take no further action. If the emissions are above the baseline, the responsible emitter will be required to ‘make good’ the excess emissions by surrendering carbon credit units or alternatively be liable to a penalty not exceeding \$2.1 million.

The CER originally allocated a baseline to each facility in accordance with the facility’s NGER emissions reported for the five years commencing FY2010 and ending FY2014. The CER allocated a reported-emissions baseline of 228,843 t CO₂-e to Prominent Hill. Reported-emissions baselines expired on 30 June 2021, including an extension of one year provided by the CER due to the covid pandemic. The baseline for Prominent Hill has therefore reverted back to the default of 100,000 t CO₂-e.

With 42,191 t CO₂-e Scope 1 emissions for FY2022, Prominent Hill is well below the reported-emissions baseline, and is unlikely to be Safeguard liable unless there is a change in the current thresholds.

With 42,309 t CO₂-e Scope 1 emissions for FY2022, Carrapateena is also well below the 100,000 t CO₂-e threshold.

Table 14 Scope 1 emissions compared to Safeguard Mechanism Threshold

FACILITY	SCOPE 1 EMISSIONS (t CO₂-e)	TRIPPED SAFEGUARD THRESHOLD	APPLICABLE BASELINE (t CO₂-e)
Prominent Hill	42,191	No	100,000
Carrapateena	42,309	No	100,000

8 Reconciliation to EERS

Due to a difference in the method of rounding numbers between the Greenbase system and EERS, there is often a slight difference between the final results of the Greenbase report and the EERS Report. All values in this report are from the Greenbase System.

The tables below show the totals calculated by the Greenbase system and the difference compared to the EERS report.

Table 15 Difference in Calculated Emissions between EERS and Greenbase

	SCOPE 1 (t CO ₂ -e)	SCOPE 2 (t CO ₂ -e)	TOTAL (t CO ₂ -e)
Greenbase	87,403	227,546	314,949
EERS	87,400	227,546	314,946
DIFFERENCE	3	0	3

Table 16 Difference in Calculated Energy between EERS and Greenbase

	TOTAL ENERGY CONSUMED (GJ)	NET ENERGY CONSUMED (GJ)	ENERGY PRODUCED (GJ)
Greenbase	3,633,343	3,631,664	1,680
EERS	3,633,341	3,631,661	1,680
DIFFERENCE	2	3	0






20230228 MS1188 GHG Reporting Letter FY2021-2022_FINAL

Final Audit Report

2023-03-30

Created:	2023-03-28
By:	Nicholas Jones (Nicholas.Jones@ozminerals.com)
Status:	Signed
Transaction ID:	CBJCHBCAABAAjO-aIKE86D9is3SByHznnIXJmlv9IUkF

"20230228 MS1188 GHG Reporting Letter FY2021-2022_FINAL" History

-  Document created by Nicholas Jones (Nicholas.Jones@ozminerals.com)
2023-03-28 - 11:16:05 PM GMT- IP address: 65.181.2.49
-  Document emailed to Daniel Leinfelder (Daniel.Leinfelder@ozminerals.com) for signature
2023-03-28 - 11:16:28 PM GMT
-  Email viewed by Daniel Leinfelder (Daniel.Leinfelder@ozminerals.com)
2023-03-28 - 11:17:33 PM GMT- IP address: 104.47.71.190
-  Document e-signed by Daniel Leinfelder (Daniel.Leinfelder@ozminerals.com)
Signature Date: 2023-03-30 - 10:22:06 PM GMT - Time Source: server- IP address: 103.152.20.2
-  Agreement completed.
2023-03-30 - 10:22:06 PM GMT

Names and email addresses are entered into the Acrobat Sign service by Acrobat Sign users and are unverified unless otherwise noted.