Minister for Environment; Youth

Statement No. 813

STATEMENT THAT A REVISED PROPOSAL MAY BE IMPLEMENTED (PURSUANT TO THE PROVISIONS OF THE *ENVIRONMENTAL PROTECTION ACT 1986*)

SILICON PROJECT, KEMERTON AND MINE AT MOORA

Proposal: The mining of silica (quartzite) rock approximately 15 kilometres north of Moora on Mining Lease M70/191, and smelting to produce silicon, employing wood, charcoal, coal and the silica mined at Moora, in the Kemerton Industrial Area approximately 20 kilometres north of Bunbury in the Shire of Harvey.

The revised proposal is for the increase from the approved three submerged electric arc furnaces to four submerged electric arc furnaces at the Kemerton site, and the associated increase in production. The proposal is documented in schedule 1 of this statement.

Proponent: Simcoa Operations Pty. Ltd.

Proponent Address: Lot 22 Marriott Road, WELLESLEY WA 6233

Assessment Number: 1783

Previous Assessment Numbers: 165, 737, 1383 and 1382

Previous Statement Numbers: 027, 279, 575 and 593

Report of the Environmental Protection Authority: Report 1317

Previous Reports of the Environmental Protection Authority: 328, 631, 1027 and 1038

The conditions and procedures of this statement supersede the conditions and procedures of Statements Nos. 027, 279, 575 and 593 in accordance with section 45B of the *Environmental Protection Act 1986*.

Published on:

16 NOV 2009

10th Floor, Dumas House, 2 Havelock Street, West Perth Western Australia 6005
Telephone: +61 8 9213 7250 Facsimile: +61 8 9213 7255 Email: Minister.Faragher@dpc.wa.gov.au

The revised proposal referred to in the above report of the Environmental Protection Authority (EPA) may be implemented. The implementation of that proposal is subject to the following conditions and procedures:

1 Proposal Implementation

1-1 The proponent shall implement the proposal as assessed by the EPA and described in schedule 1 of this statement subject to the conditions and procedures of this statement.

2 Proponent Nomination and Contact Details

2-1 The proponent for the time being nominated by the Minister for Environment under sections 38(6) or 38(7) of the *Environmental Protection Act 1986* is responsible for the implementation of the proposal.

2-2 The proponent shall notify the Chief Executive Officer of the Department of Environment and Conservation (CEO) of any change of the name and address of the proponent for the serving of notices or other correspondence within 30 days of such change.

3 Time Limit of Authorisation

3-1 The authorisation to implement the proposal provided for in this statement shall lapse and be void five years after the date of this statement if the proposal to which this statement relates is not substantially commenced.

3-2 The proponent shall provide the CEO with written evidence which demonstrates that the proposal has substantially commenced on or before the expiration of five years from the date of this statement.

4 Compliance Reporting

4-1 The proponent shall prepare and maintain a compliance assessment plan to the satisfaction of the CEO.

4-2 The proponent shall submit to the CEO, the compliance assessment plan required by condition 4-1 at least six months prior to the first compliance assessment report required by condition 4-6.

The compliance assessment plan shall indicate:

1 the frequency of compliance reporting;

2 the approach and timing of compliance assessments;

3 the retention of compliance assessments;

4 reporting of potential non-compliances and corrective actions taken;

5 the table of contents of compliance assessment reports; and

6 public availability of compliance assessment reports.

4-3 The proponent shall assess compliance with conditions in accordance with the compliance assessment plan required by condition 4-1.

4-4 The proponent shall retain reports of all compliance assessments described in the compliance assessment plan required by condition 4-1 and shall make those reports available when requested by the CEO.

4-5 The proponent shall advise the CEO of any potential non-compliance as soon as practicable.

4-6 The proponent shall submit a compliance assessment report annually from the date of issue of this Implementation Statement addressing the previous twelve-month period or other period as agreed by the CEO.

The compliance assessment report shall:

1 be endorsed by the proponent's Vice-President or a person, approved in writing by the CEO, delegated to sign on the Vice-President's behalf;

2 include a statement as to whether the proponent has complied with the conditions;

3 identify all potential non-compliances and describe corrective and preventative actions taken;

4 be made publicly available in accordance with the approved compliance assessment plan; and

5 indicate any proposed changes to the compliance assessment plan required by condition 4-1.

5 Performance Review and Reporting

5-1 The proponent shall submit to the CEO Performance Review Reports at the conclusion of the second and fourth years after the commencement of operation of the fourth submerged arc furnace and then, at such intervals as the CEO may regard as reasonable, which address:

1 the environmental risks and impacts; the performance objectives, standards and criteria related to these; the success of risk reduction/impact mitigation measures and results of monitoring related to the management of the risks and impacts;

2 the level of progress in the achievement of sound environmental performance, including industry benchmarking, and the use of best available technology where practicable; and

3 improvements gained in environmental management which could be applied to this and other similar projects.

5-2 The proponent shall make the Performance Review Reports required by Condition 5-1 publicly available in a manner approved by the CEO.

6 Flora

6-1 Except to the extent that the proponent has been or is granted all required statutory approvals to disturb or take the following flora, the proponent shall manage mining activities such that there are no discernible detrimental changes in the following flora:

1. the Coomberdale Chert Threatened Ecological Community;

2. populations of *Regelia megacephala*; and

3. other Priority and Declared Rare flora species.

6-2 The proponent shall provide annual reports to the CEO on mining activities, indicating those areas cleared, and shall advise the CEO within seven days of the event that detrimental effects on any of the abovementioned flora is observed. Close liaison with the Department of Environment and Conservation (DEC) should take place.

7 Mining and Conservation Strategy

7-1 Prior to expansion of mining into the Eastern Ridge area, the proponent shall revise and update the Mining and Conservation Strategy required under Condition 20 of Statement 575, in co-operation with the DEC, and to the requirements of the Minister for Environment on advice of the DEC.

The objective of this strategy is to ensure that conservation of biodiversity values is achieved whilst maintaining long-term access to the chert resource.

The Mining and Conservation Strategy shall address the following matters:

1 Additional reconnaissance exploration to identify other parts of the Coomberdale Chert formation, both within and outside current lease areas G70/91, G70/92, G70/93 and M70/101, which may contain sufficiently high grade quartz in areas where the chert-associated vegetation is already absent or degraded;

2 Provision of support (subject to negotiation) to the DEC for regional flora surveys to identify and map other parts of the Coomberdale Chert formation which may contain the same or other significant flora associated with the chert;

3 Based on the outcomes of 7-1-1 and 7-1-2 above, and in cooperation with the DEC, development of the best strategy to ensure both access to high grade quartz and conservation, in secure reserves, of the flora of the Coomberdale Chert formation;

4 Additional conservation offsets such as the Cairn Hill North area and other areas of significant vegetation identified by 7-1-2 to form 'linkages' with Cairn Hill and other ridges in the area; and

5 Provision for fencing, to the requirements of the DEC, of areas of significant vegetation identified by 7-1-2, whether part of reserves or other properties, and, during the operational life of the mine, provision of resources for conservation management.

7-2 The proponent shall implement the Mining and Conservation Strategy required by condition 7-1 in liaison with the DEC.

8 Rehabilitation

8-1 Prior to the commencement of ground-disturbing activities in an area to be mined, the proponent shall conduct surveys of the area to collect baseline information on the following:

1 pre-mining soil profiles;

2 groundwater levels;

3 surface water flows;

4 vegetation complexes; and

5 landscape and landforms.

8-2 The proponent shall conduct/commence rehabilitation trials within one calendar year of the commencement of ground disturbing activity to determine criteria for successful re-growth, using local native flora species, including Priority and Declared Rare flora species, to the requirements of the CEO and the Director General of the Department of Mines and Petroleum (DMP).

8-3 The proponent shall progressively rehabilitate the mine site area in accordance with the following:

1 Re-establishment of vegetation in the rehabilitation area to be comparable in species composition with that of the pre-mining vegetation such that the following criteria are met:

i. revegetation to achieve the re-establishment of an area of vegetation coverage (not including weed species) of not less than 70 percent of the rehabilitation area as defined in Schedule 1;

ii. weed coverage less than 10 percent; and

iii. within a time frame specified in the rehabilitation schedule required Condition 8-3-2.

2 A schedule of the rate of rehabilitation acceptable to the CEO.

8-4 In liaison with the DEC and DMP, the proponent shall monitor annually the performance of rehabilitation required by condition 8-3.

8-5 The proponent shall submit annually a report of the rehabilitation performance monitoring required by condition 8-4 to the CEO.

9 Greenhouse Gas Abatement

9-1 The proponent shall prepare and submit to the Minister for Environment, within 18 months of commencement of ground-disturbing activities, a Greenhouse Gas Abatement Report which meets the objectives set out in condition 9-2, as determined by the Minister for Environment.

9-2 The objectives of the Greenhouse Gas Abatement Report required by condition 9-1 are to:

1 Demonstrate that maximising energy efficiency and opportunities for future energy recovery have been given due consideration in the design of the third and fourth submerged electric arc furnaces;

2 Ensure that the "greenhouse gas" intensity ("greenhouse gas" per unit of silicon produced) is equivalent to, or better than, benchmarked world's best practice; and

3 Achieve continuous improvement in "greenhouse gas" intensity through triennial review, and if practicable, adoption of advances in technology and process management.

Procedures

1. Where a condition states "on advice of the EPA", the EPA will provide that advice to the DEC for the preparation of written notice to the proponent.

2. The EPA may seek advice from other agencies or organisations, as required, in order to provide its advice to the DEC.

3. The Minister for Environment will determine any dispute between the proponent and the EPA or the DEC over the fulfilment of the requirements of the conditions.

4. Where a condition lists advisory bodies, it is expected that the proponent will obtain the advice of those listed as part of its compliance reporting to the DEC.

5. The proponent is required to apply for a Works Approval and for an amendment to the Licence for this project under the provisions of Part V of the *Environmental Protection Act 1986.*

Donna Faragher JP MLC
MINISTER FOR ENVIRONMENT; YOUTH

12 NOV 2009

Schedule 1

Silicon Project, Kemerton and Mine at Moora (Revised proposal - Assessment No. 1783)

The mining of silica (quartzite) rock approximately 15 kilometres north of Moora on Mining Lease M70/191, and smelting to produce silicon, employing wood, charcoal, coal and the silica mined at Moora, in the Kemerton Industrial Area in the Shire of Harvey. Mining Lease M70/1055 (Cairn Hill) was originally available for mining, but has been surrendered to become a nature reserve. The mined silica is transported by rail and road to Kemerton.

The revised proposal is for the increase from the approved three submerged electric arc furnaces to four furnaces at the Kemerton site, and the associated increase in production.

The proponent engaged consultants Maunsell and Partners to prepare a Public Environmental Report, dated November 1987. For the increase to a fourth submerged electric arc furnace, the proponent has submitted a referral document entitled *Addition of a 4th Submerged Arc Furnace at the Kemerton Smelter of Simcoa Operations Pty Ltd*, dated February 2009.

The Key Proposal Characteristics for the Kemerton and Moora sites are shown in Tables 1(a) and 1(b), respectively, below.

Table 1(a) – Key Proposal Characteristics, Kemerton Plant.

Element	Quantities/Description
Silicon Production	64,000 tonnes per annum (approximately)
Quartzite Consumption	160,000 tonnes per annum (approximately)
Wood for Charcoal	110,000 tonnes per annum (approximately)
Charcoal Production	27,000 tonnes per annum (approximately)
Smelter Furnaces	4 x submerged electric arc furnaces
Off-gas Cleaning Plant (Baghouses)	One large baghouse with stacks One large baghouse without stacks
Greenhouse Gas Emissions: Scope 1 (emissions from processing) Scope 2 (emissions generated off-site by electricity generation) Total	 147,000 tonnes per annum CO_2-e (approximately) 656,000 tonnes per annum CO_2-e (approximately) 803,000 tonnes per annum CO_2-e (approximately)
Electric Power Consumption	190,000 kWh per annum per furnace (approximately)
Natural Gas Consumption	100,000 GJ per annum (approximately)
Water Consumption (Groundwater)	290,000 kL per annum (approximately)
Truck Movements	44 trucks per day (approximately, averaged over 365 days)

Table 1(b) – Key Proposal Characteristics, Moora Mine.

Element	Quantities/Description
Quartzite Production	160,000 tonnes per annum of lump quartz (approximately)
Operational life	10 years (approximately) – under current mine plan
Total area of disturbance	Not more than 60 hectares
Area of rehabilitation	All disturbed areas
Depth of pit	Not more than 215 metres RL
Water requirements (Groundwater)	80,000 kilolitres per annum (approximately)
Water source	Superficial Formation

Figures (attached)
Figure 1 – Site layout plan, Kemerton Plant.
Figure 2 – Mining tenements, Moora.

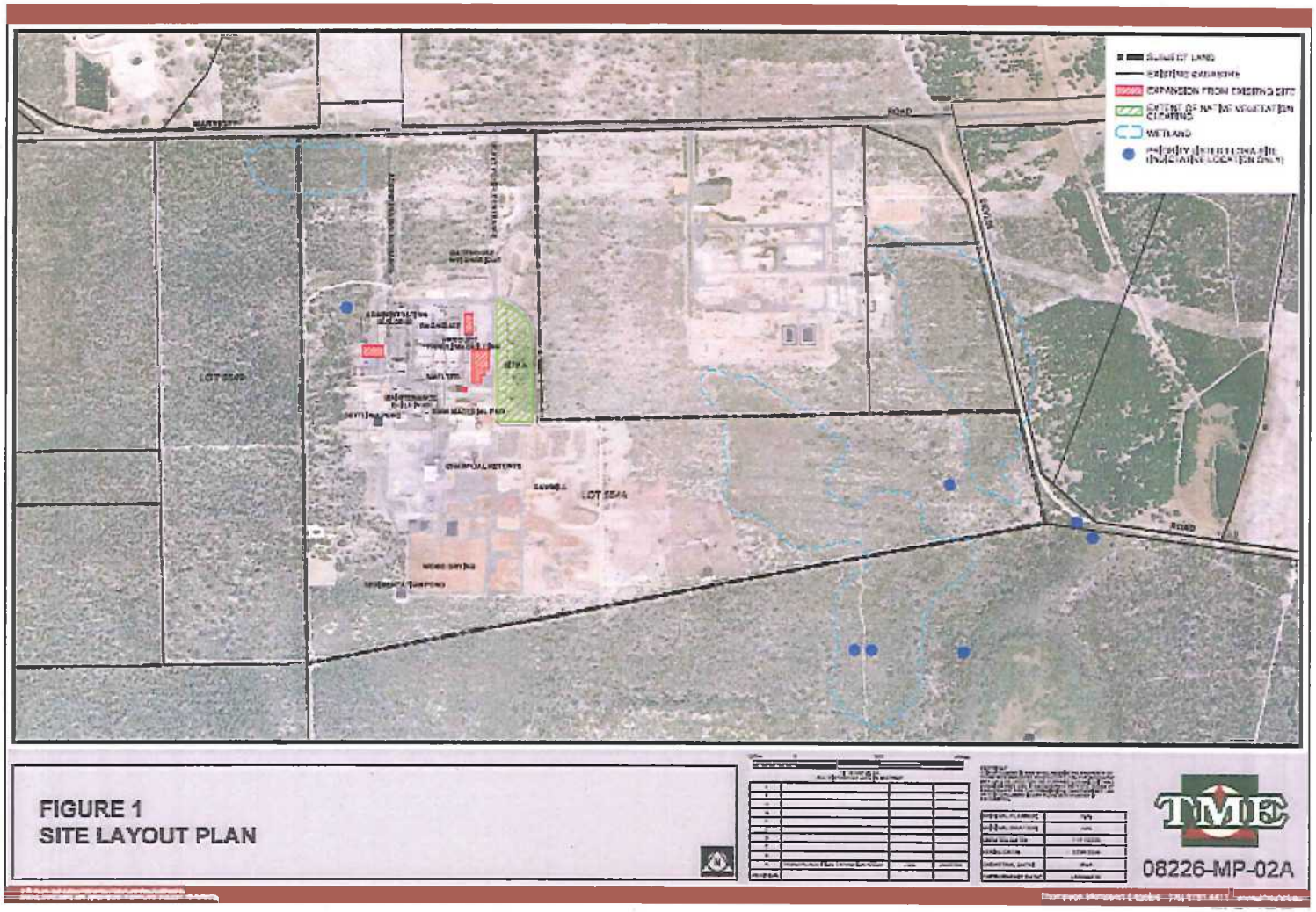

Figure 1: Site layout plan, Kemerton Plant.

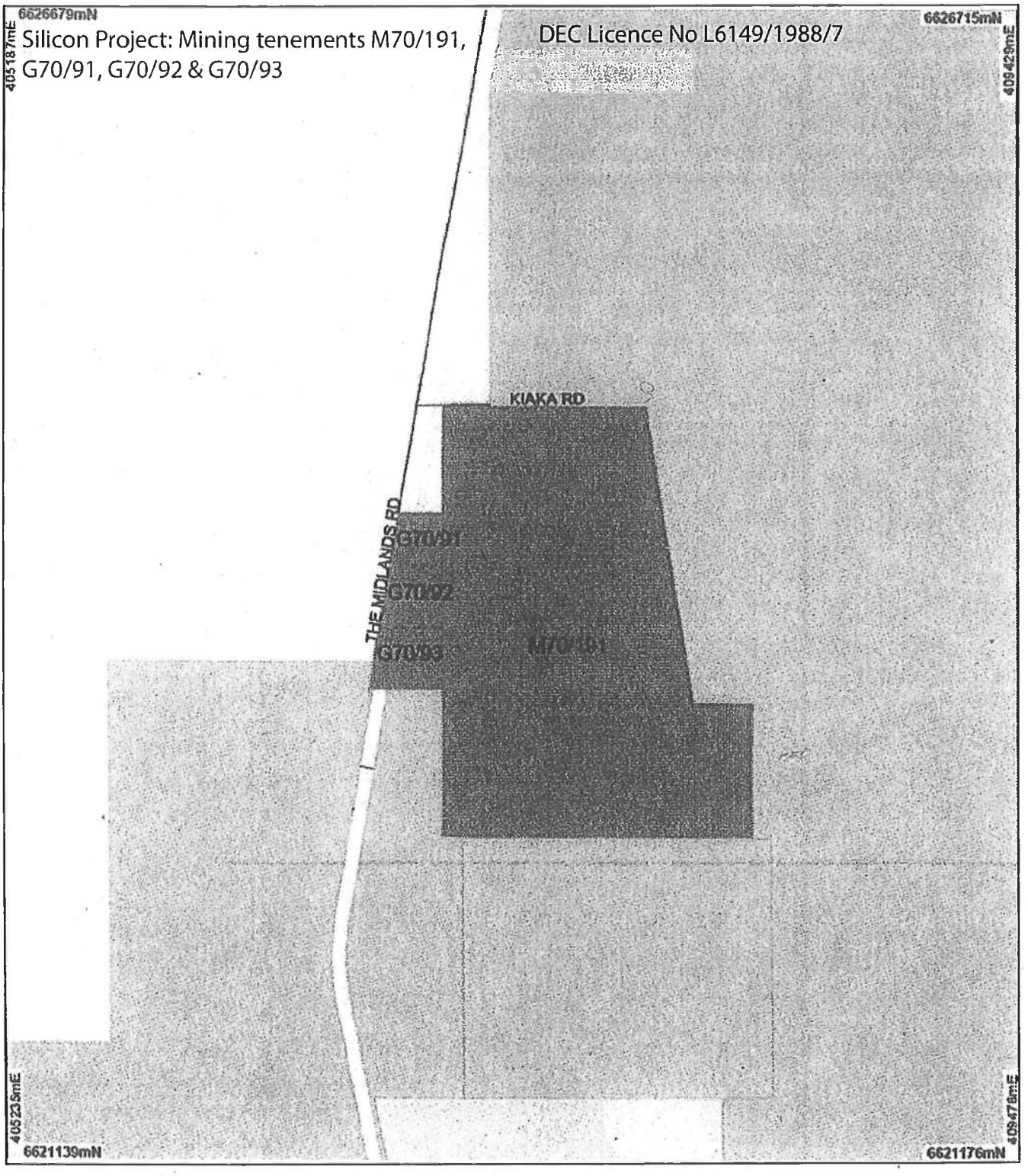

Figure 2: Mining tenements, Moora.

Attachment 1 to Ministerial Statement 813

Change to proposal approved under section 45C of the
Environmental Protection Act 1986

This Attachment replaces Schedule 1 of Ministerial Statement 813

Proposal: **Silicon Project, Kemerton and Mine at Moora (Revised Proposal – Assessment No. 1783)**

Proponent: **Simcoa Operations Pty Limited**

Changes:

- Remove depth of pit to mine below the water table;
- Increase the groundwater requirements from 80,000 kilolitres per annum to 250,000 kilolitres per annum;
- Include water discharge via Kiaka Creek to the Coonderoo River wetlands;
- Administrative changes to remove key characteristics which are not environmentally significant or regulated by other authorities.
- Update and contemporise Short Description of the Proposal in Table 1

Table 1: Summary of the Proposal

Proposal Title	Silicon Project, Kemerton and Mine at Moora (Revised Proposal – Assessment No. 1783)
Short Description	The proposal involves the mining of silica (quartzite) rock approximately 15 kilometres north of Moora on Mining Lease M70/191, and smelting to produce silicon, employing wood, charcoal, coal and the silica mined at Moora, in the Kemerton Industrial Area in the Shire of Harvey.

Table 2: Authorised extent of physical and operational elements

Element	Previously Authorised Extent	Authorised Extent
Silicon Production	64,000 tonnes per annum (approximately)	64,000 tonnes per annum (approximately)
Quartzite Consumption	160,000 tonnes per annum (approximately)	160,000 tonnes per annum (approximately)
Wood for Charcoal	110,000 tonnes per annum (approximately)	110,000 tonnes per annum (approximately)
Charcoal Production	27,000 tonnes per annum (approximately)	27,000 tonnes per annum (approximately)
Smelter Furnaces	4 x submerged electric arc furnaces	4 submerged electric arc furnaces
Off-gas Cleaning Plant (Baghouses)	One large baghouse with stacks One large baghouse without stacks	One large baghouse with stacks One large baghouse without stacks

Element	Previously Authorised Extent	Authorised Extent
Greenhouse Gas Emissions: Scope 1 (emissions from processing) Scope 2 (emissions generated off-site by electricity generation) Total	147,000 tonnes per annum $C0_2$-e (approximately) 656,000 tonnes per annum $C0_2$-e (approximately) 803,000 tonnes per annum $C0_2$-e (approximately)	**Deleted as regulated under Condition 9**
Electric Power Consumption	190,000 kWh per annum per furnace (approximately)	**Deleted as not an environmentally significant key characteristic.**
Natural Gas Consumption	100,000 GJ per annum (approximately)	**Deleted as not an environmentally significant key characteristic.**
Water Consumption (Groundwater)	290,000 kL per annum (approximately)	290,000 kL per annum (Kemerton)
Truck Movements	44 trucks per day (approximately, averaged over 365 days)	**Deleted as not an environmentally significant key characteristic.**
Quartzite Production	160,000 tonnes per annum of lump quartz (approximately)	160,000 tonnes per annum of lump quartz (approximately)
Operational life	10 years (approximately) - under current mine plan	**Deleted as not an environmentally significant key characteristic.**
Total area of disturbance	Not more than 60 hectares	Not more than 60 hectares (Moora mine)
Area of rehabilitation	All disturbed areas	All disturbed areas (Moora mine)
Depth of pit	Not more than 215 metres RL	**Not more than 165 metres RL**
Water requirements (Groundwater)	80,000 kilolitres per annum (approximately)	**250,000 kilolitres per annum (Moora mine)**
Water source	Superficial Formation	**Fractured Rock Aquifer (Moora mine)**
Water Discharge	New Element	**Discharge of up to 122,000 kL per annum of dewatered groundwater via Kiaka Creek to the Conderoo River wetlands. (Moora mine)**
Dewater discharge pipeline (Moora mine)	New Element	**Dewater discharge pipeline routed along an existing access road. (Moora mine)**

Note: Text in **bold** in Table 2 indicates a change to the proposal.

Table 3: Abbreviations

Abbreviation	Term
GJ	gigajoules
kL	kilolitres
kWh	Kilowatt hours
RL	Reduced level

Figures – All previous Figures are replaced by the following:

Figure 1: Site layout plan, Kemerton Plant

Figure 2: Moora Mine Development Footprint and Indicative Dewater Discharge Location

Tables - Table 4 is inserted
Table 4 Coordinates of dewater discharge location.

[Signed 21 October 2016]

Dr Tom Hatton
CHAIRMAN
Environmental Protection Authority
under delegated authority

Approval date: _____

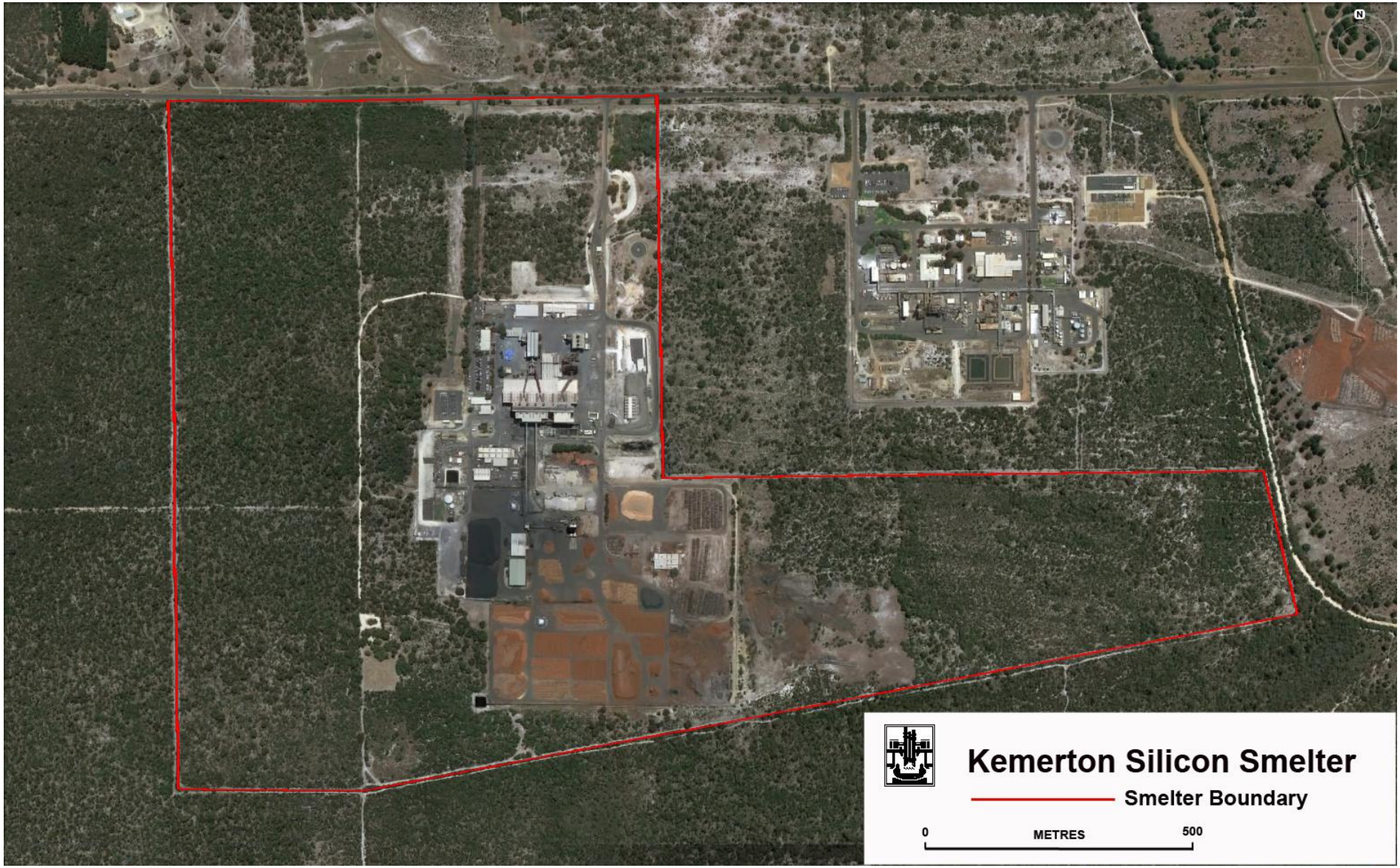

Figure 1: Site layout plan, Kemerton Plant (Lot 5548 on Plan 188561 and Lot 5549 on Plan 188562, Wellesley, WA, 6233)

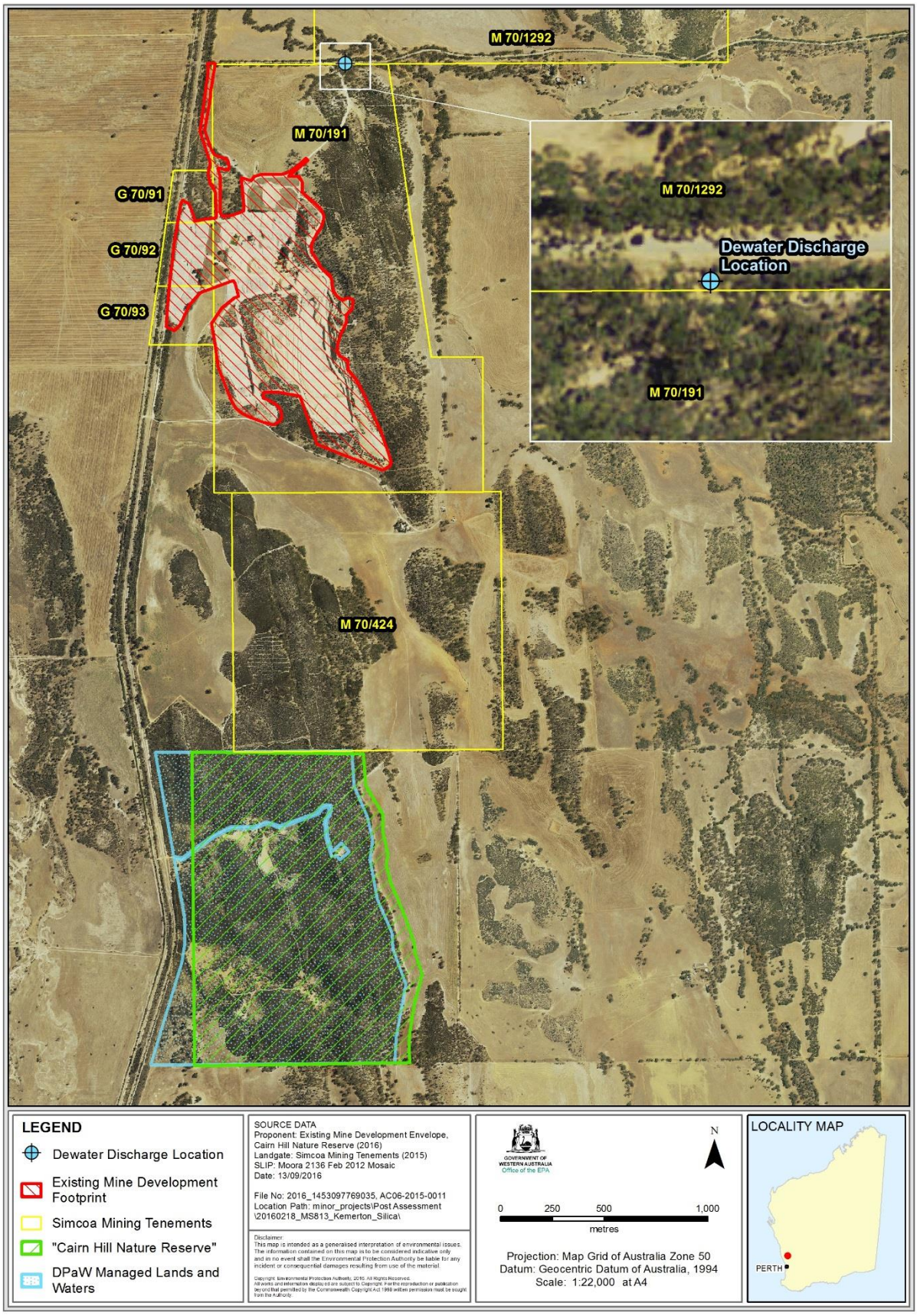

Figure 2 Moora Mine Development Footprint and Dewater Discharge Location (Mining Lease M70/191 and General Purpose Leases G70/91, G7092 and G70/93).

Table 4: Coordinates for dewater discharge location – Map Grid of Australia (MGA) Zone 50 coordinates.

ID	Easting (MGA)	Northing (MGA)
1	407689.05	6624783.63

Attachment 2 to Ministerial Statement 813

Change to proposal approved under section 45C of the *Environmental Protection Act 1986*

This Attachment replaces Attachment 1 of Ministerial Statement 813

Proposal: Silicon Project, Kemerton and Mine at Moora (Revised Proposal – Assessment No. 1783)

Proponent: Simcoa Operations Pty Limited

Changes:

- Modification of Moora mine disturbance footprint and addition of a Development Envelope.
- Change to dewater discharge location.
- Increase in authorised extent of water consumption (groundwater) for Kemerton from 290,000 kL per annum to 312,000 kL per annum.
- Specify extent of native vegetation clearing within disturbance footprint.
- Replacement of Table 4, with a file reference number to identify the change in coordinates of the dewater discharge location.

Table 1: Summary of the Proposal

Proposal Title	Silicon Project, Kemerton and Mine at Moora (Revised Proposal – Assessment No. 1783)
Short Description	The proposal involves the mining of silica (quartzite) rock approximately 15 kilometres north of Moora on Mining Lease M70/191, and smelting to produce silicon, employing wood, charcoal, coal and the silica mined at Moora, in the Kemerton Industrial Area, in the Shire of Harvey.

Table 2: Location and authorised extent of physical and operational elements

Element	Previously Authorised Extent	Authorised Extent
Silicon Production	64,000 tonnes per annum (approximately)	64,000 tonnes per annum (approximately)
Quartzite Consumption	160,000 tonnes per annum (approximately)	160,000 tonnes per annum (approximately)
Wood for Charcoal	110,000 tonnes per annum (approximately)	110,000 tonnes per annum (approximately)
Charcoal Production	27,000 tonnes per annum (approximately)	27,000 tonnes per annum (approximately)
Smelter Furnaces	4 x submerged electric arc furnaces	4 x submerged electric arc furnaces
Off-gas Cleaning Plant (Baghouses)	One large baghouse with stacks One large baghouse without stacks	One large baghouse with stacks One large baghouse without stacks

Element	Previously Authorised Extent	Authorised Extent
Water Consumption (Groundwater)	290,000 kL per annum (Kemerton)	**312,000 kL per annum (Kemerton)**
Quartzite Production	160,000 tonnes per annum of lump quartz (approximately)	160,000 tonnes per annum of lump quartz (approximately)
Total area of disturbance	Not more than 60 hectares (Moora mine)	**Clearing of no more than 25 ha of native vegetation within a disturbance footprint of** not more than **93 ha** (Moora mine)
Area of rehabilitation	All disturbed areas (Moora mine)	All disturbed areas (Moora mine)
Depth of pit	Not more than 165 metres RL	Not more than 165 metres RL
Water requirements (Groundwater)	250,000 kilolitres per annum (Moora mine)	250,000 kilolitres per annum (Moora mine)
Water source	Fractured Rock Aquifer (Moora mine)	Fractured Rock Aquifer (Moora mine)
Water Discharge	Discharge of up to 122,000 kL per annum of dewatered groundwater via Kiaka Creek to the Conderoo River wetlands (Moora mine)	Discharge of up to 122,000 kL per annum of dewatered groundwater via Kiaka Creek to the Conderoo River wetlands (Moora mine)
Dewater discharge pipeline (Moora mine)	Dewater discharge pipeline routed along an existing access road (Moora mine)	Dewater discharge pipeline routed along an existing access road (Moora mine)

Note: Text in **bold** in Table 2 indicates a change to the proposal.

Table 3: Abbreviations

Abbreviation	Term
CEO	Chief Executive Officer
GL	gigalitre
ha	hectare
kL	Kilolitre
km	Kilometre
RL	reduced level

Figures (attached)

Figure 1 Development envelope and disturbance footprint at Kemerton Plant

Figure 2 Development envelope and disturbance footprint at Moora mine

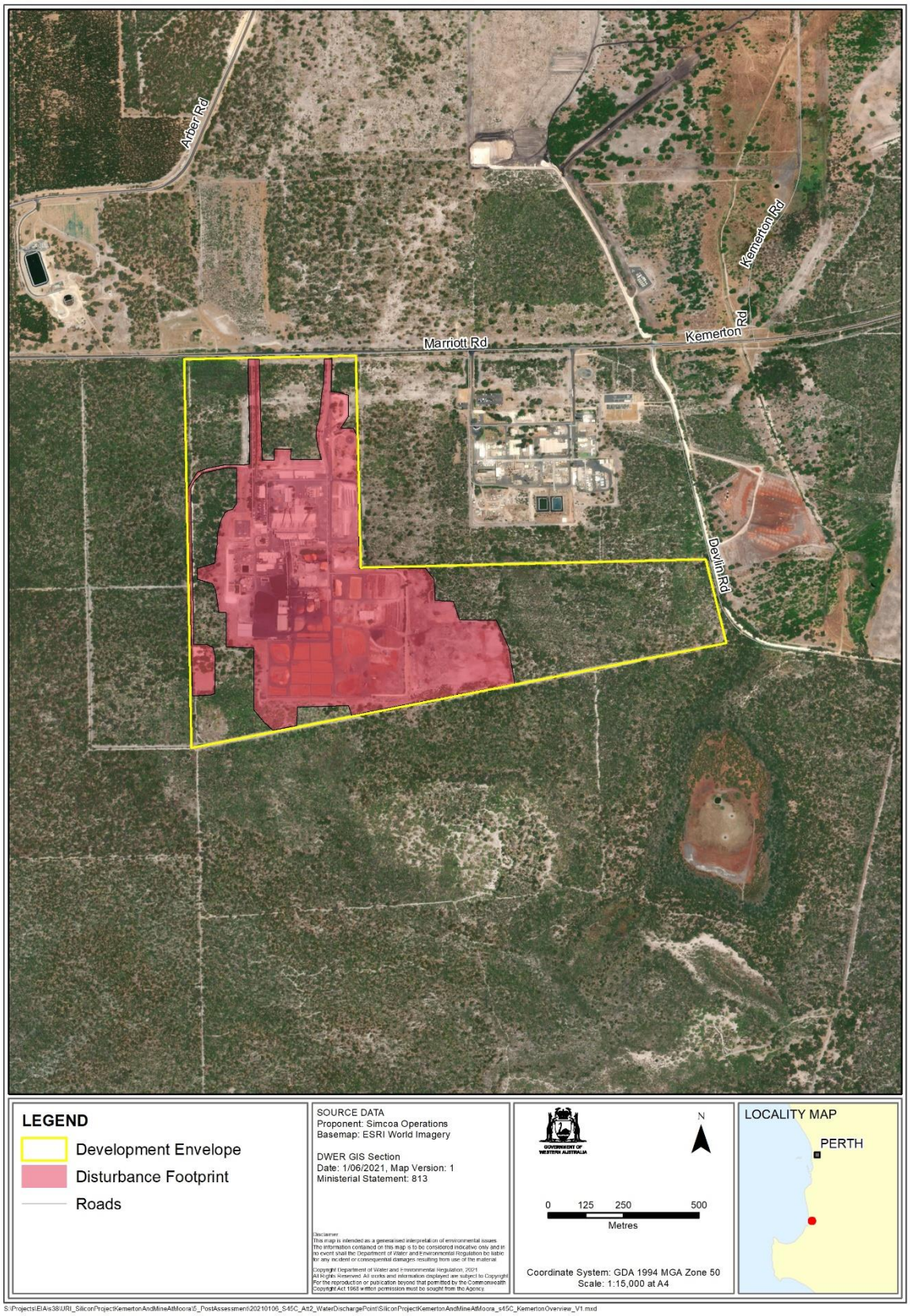

Figure 1: Development Envelope and Disturbance Footprint at Kemerton Plant

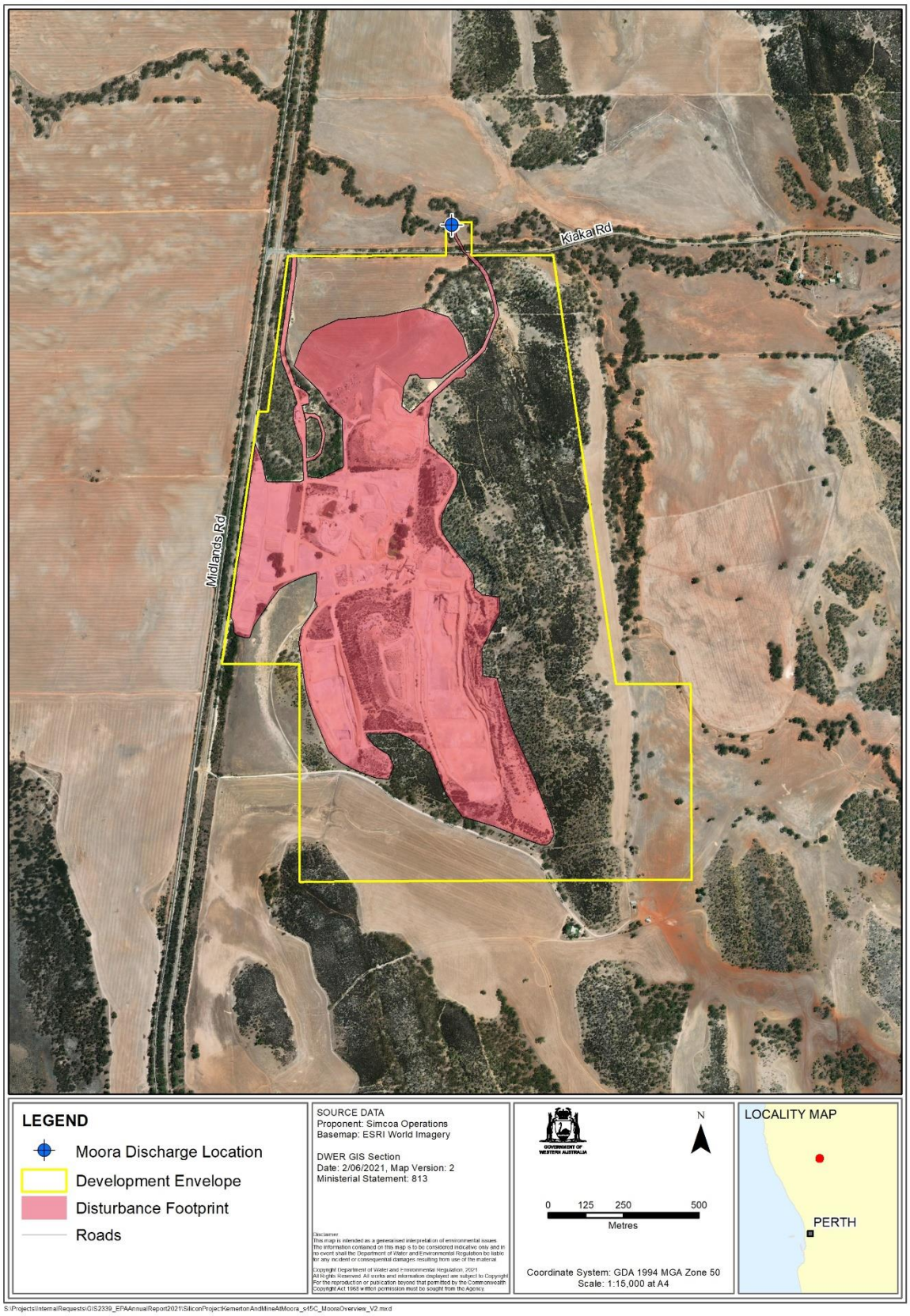

Figure 2. Development Envelope and Disturbance Footprint at Moora mine site

All coordinates are in metres, listed in Map Grid of Australia Zone 50 (MGA Zone 50), datum of Geocentric Datum of Australia 1994 (GDA94).

Coordinates defining the areas shown in Figure 1 and 2, Schedule 1, are held by the Department of Water and Environmental Regulation under the following reference number: DWERDT462132.

Professor Matthew Tonts
CHAIR
Environmental Protection Authority
under delegated authority

Approval date: 9 August 2021