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Published on 6 March 2009

Statement No.789

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

**WESTERN EXTENSION TO THE DARDANUP MINERAL SANDS PROJECT TO  
INCLUDE THE BUREKUP MINERAL SANDS DEPOSIT**

**Proposal:** The proposal is to mine the Burekup Mineral Sands Deposit (as the Western Extension to the Dardanup Mine) located approximately 20 kilometres east of Bunbury. Mining is to extend below the water table to approximately 14 metres below ground level and will require dewatering.

**Proponent:** Doral Mineral Sands Pty Ltd

**Proponent Address:** Lot 7 Harris Road, Picton, WA 6229

**Assessment Number:** 1768

**Report of the Environmental Protection Authority:** 1310

The proposal referred to in the above report of the Environmental Protection Authority 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 Environmental Protection Authority 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 the 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 (CEO) of the Department of Environment and Conservation 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 within 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 of the Department of Environment and Conservation 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 submit a compliance assessment plan to the satisfaction of the Chief Executive Officer of the Department of Environment and Conservation, prior to implementation of the proposal.
- 4-2 The proponent shall implement and maintain to the satisfaction of the Chief Executive Officer of the Department of Environment and Conservation, the compliance assessment plan required by condition 4-1. 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 reports; and
  - 6 public availability of compliance 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 Chief Executive Officer of the Department of Environment and Conservation.
- 4-5 The proponent shall advise the Chief Executive Officer of the Department of Environment and Conservation of any potential non-compliance within 48 hours of the non-compliance being known.
- 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 Chief Executive Officer of the Department of Environment and Conservation. The compliance assessment report shall:

- 1 be endorsed by the proponent's Managing Director or a person, approved in writing by the Department of Environment and Conservation, delegated to sign on the Managing Director'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 of the Department of Environment and Conservation Performance Review Reports at the conclusion of the second, fourth, sixth and eighth years after the commencement of the proposal and then, at such intervals as the CEO of the Department of Environment and Conservation may regard as reasonable, which address:
- 1 the major 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 major 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 significant improvements gained in environmental management which could be applied to this and other similar projects.

## **6 Flora, Vegetation and Aquatic Ecosystems**

### *Wetland Buffer*

- 6-1 The proponent shall clearly delineate and maintain a buffer of at least 200 metres around the Conservation Category Wetland UFI2362.

### *Indirect impacts on Flora, Vegetation and Aquatic Ecosystems*

- 6-2 At all times, the proponent shall ensure that mining excavations and dewatering do not reduce water availability so as to adversely affect flora, vegetation and aquatic ecosystem health, by monitoring:
1. groundwater levels and vegetation health in the vicinity of mining operations;
  2. perched water levels, soil moisture and vegetation health in Conservation Category Wetland UFI2362 and Resource Enhancement Wetland UFI2165;

3. soil moisture levels and vegetation health in the low woodland of *Casuarina obesa* near Dowdells Line; and
4. changes to the existence of permanent pools in Henty Brook over summer;

This monitoring shall be carried out before, during and for at least 12 months after dewatering and mining has ceased, on a monthly basis or at a monitoring frequency that is to the satisfaction of the Department of Environment and Conservation.

- 6-3 The proponent shall submit the results of the monitoring required by condition 6-2 to the Department of Environment and Conservation every six months following the commencement of ground disturbing activities.
- 6-4 In the event that the requirements of condition 6-2 are not met or are not likely to be met, the proponent shall provide artificial recharge with water of similar quality, or immediately provide alternate proposed management measures to the CEO of the Department of Environment and Conservation.

## **7 Groundwater**

- 7-1 At all times, the proponent shall ensure that the limit of groundwater drawdown in the proposal area and in the vicinity of the proposal area does not approach the underlying potentially acid-forming substrate to the extent that acidic waters are generated, by monitoring:

1. dissolved oxygen; and
2. other oxidising agents including nitrate, sulphate and ferric ions;

on a daily basis for a period of three months after the groundwater level is within 3 metres of the potentially acid forming substrate and thereafter to the requirements of the CEO of the Department of Environment and Conservation.

- 7-2 At all times the proponent shall ensure that groundwater drawdown does not adversely impact on the yield of landowner bores, by monitoring of landowner bores on a quarterly basis.
- 7-3 At all times, the proponent shall ensure that groundwater contaminated as a consequence of mining operations does not impact on:
  1. the health of Conservation Category Wetland UFI2362, Resource Enhancement Wetland UFI2165 and Henty Brook ecosystems;
  2. the beneficial use of Henty Brook; and
  3. the beneficial use of landowner bores down-gradient of the source of contamination;

by monitoring:

1. dewater prior to discharge to ensure that the receiving water does not change its compliance status with the Australian and New Zealand Environment and Conservation Council and Agriculture and Resource Management Council of Australia and New Zealand (2000) *Australian and New Zealand Guidelines for Fresh and Marine Water Quality* (ANZECC & ARMCANZ,2000) relevant to the receiving water beneficial use(s);

2. bores located near the mine-site boundary, on a monthly basis, to provide early warning of migrating contaminated groundwater, with trigger levels for intervention set at an allowable variation from background levels of 20% alkalinity, acidity, pH and electrical conductivity; and
  3. bores located near the receptors listed above, on a quarterly basis for the first year and thereafter at a frequency that is to the satisfaction of the Department of Environment and Conservation, to ensure groundwater in the vicinity does not change its compliance status with the appropriate guidelines provided by ANZECC & ARMCANZ(2000).
- 7-4 The proponent shall submit annually the results of the monitoring required by condition 7-1, 7-2 and 7-3 to the CEO of the Department of Environment and Conservation and the Department of Water.
- 7-5 The proponent shall, prior to the commencement of ground disturbing activities, propose management measures to the CEO of the Department of Environment and Conservation to be implemented in the event that the requirements of conditions 7-1, 7-2 and 7-3 are not met or are not likely to be met.

## **8 Closure and Rehabilitation**

- 8-1 Prior to commencement of ground disturbing activities, the proponent shall conduct surveys of the proposal area to collect baseline information, including photographic records, 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 As mining progresses, the proponent shall commence rehabilitation of the mined area in accordance with the following:
1. Re-establishment of vegetation in the rehabilitation area to be comparable with that of the pre-mining vegetation such that the following criteria are met within three years following the cessation of productive mining:
    - (1) Species diversity is not less than 70 percent of the known original species diversity;
    - (2) Priority flora are re-established with not less than 50 percent success after three years and 65 percent success after five years; and
    - (3) Weed coverage less than 10 percent.
  2. Re-establishment of the soil profile to ensure repair of any damage to wetland perched water containment and to emulate the pre-mining hydraulic properties of the area generally.
  3. Remediation of acid sulphate soil and contaminated groundwater generated by mining operations.
  4. A schedule of the rate of rehabilitation acceptable to the CEO of the Department of Environment and Conservation.

- 8-3 In liaison with the Department of Environment and Conservation, the proponent shall monitor progressively the performance of rehabilitation against the criteria in condition 8-2.
- 8-4 The proponent shall submit annually a report of the rehabilitation performance monitoring required by condition 8-3 to the CEO of the Department of Environment and Conservation and shall address in the report the following:
1. Progress towards meeting the criteria required by condition 8-2 and milestone criteria; and
  2. Contingency management measures in the event that criteria are unlikely to be met.

## **9 Noise**

### *Construction Phase*

- 9-1 The proponent shall establish, in consultation with the DEC:
1. the program for each phase of construction work;
  2. the design and justification for construction of noise bunds;
  3. a process to notify the affected community of expected higher noise levels during construction; and
  4. a procedure to minimise the noise impacts during construction.

### *Construction and Mining Phases*

- 9-2 The proponent shall ensure compliance with the *Environmental Protection (Noise) Regulations 1997* by:
1. ensuring that the noise power level of each piece of equipment does not exceed the noise power level assumed for the noise modelling in the submitted Environmental Protection Statement (Doral, 3 December 2008); and
  2. monitoring noise levels at potentially affected residences using methods acceptable to the Department of Environment and Conservation.
- 9-3 The proponent shall submit by 31 December each year the results of the noise monitoring required by condition 9-2 to the CEO of the Department of Environment and Conservation.
- 9-4 The proponent shall prior to the commencement of ground disturbing activities prepare a Noise Management Plan to the satisfaction of the CEO of the Department of Environment and Conservation to be implemented in the event that the requirements of conditions 9-2 are not met or are not likely to be met.

## **Procedures**

1. Where a condition states “on advice of the Environmental Protection Authority”, the Environmental Protection Authority will provide that advice to the Department of Environment and Conservation for the preparation of written notice to the proponent.
2. The Environmental Protection Authority may seek advice from other agencies or organisations, as required, in order to provide its advice to the Department of Environment and Conservation.
3. The Minister for the Environment will determine any dispute between the proponent and the Environmental Protection Authority or the Department of Environment and Conservation 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 Department of Environment and Conservation.
5. The proponent is required to apply for a Works Approval and Licence for this project under the provisions of Part V of the *Environmental Protection Act 1986*.

Hon Donna Faragher JP MLC

**MINISTER FOR ENVIRONMENT; YOUTH**

**The Proposal (Assessment No. 1768)****General Description**

The proposal is to mine the Burekup Mineral Sands Deposit (as the Western Extension to the Dardanup Mine) located approximately 20 kilometres east of Bunbury. Mining is to extend below the water table to approximately 14 metres below ground level and will require dewatering.

The proposal and potential impacts are described in the document, *Proposal for a Western Extension to the Dardanup Mineral Sands Project to Include the Burekup Mineral Sands Deposit*, Environmental Protection Statement (December, 2008).

**Summary Description**

A summary of the key proposal characteristics is presented in Table 1.

**Table 1 – Summary of Key Proposal Characteristics**

<b>Element</b>	<b>Description</b>
Life of mine	3.5 to 5 years approximately
Total disturbance area	301 hectares
Area of native vegetation to be cleared	36.5 hectares
Mineable reserve	9.5 million tonnes
Overburden volume	5.8 million bulk cubic metres
Rate of extraction (overburden and ore)	6.4 million tonnes per year
Extraction method	Dry mining
Groundwater abstraction for dewatering	1095 megalitres per year
Dewater discharge	Re-use as process water at the Dardanup Mine
Water supply	No additional requirement

**Figures**

Figure 1 – Project Location





## Attachment 1 to Statement 789

### Change to Proposal

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**Proposal:** Western Extension to the Dardanup Mineral Sands Project to Include the Burekup Mineral Sands Deposit

**Proponent:** Doral Mineral Sands Pty Ltd

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**Change:** Change to the Burekup West mine disturbance footprint area.

#### Key Characteristics Table:

Element	Description of proposal	Description of approved change to proposal
Life of mine	3.5 to 5 years approximately	3.5 to 5 years approximately
Total disturbance area	301 hectares	<b>290 hectares</b>
Area of native vegetation to be cleared	36.5 hectares	<b>39 hectares</b>
Mineable reserve	9.5 million tonnes	9.5 million tonnes
Overburden volume	5.8 million bulk cubic metres	5.8 million <b>bank</b> cubic metres
Rates of extraction (overburden and ore)	6.4 million tonnes per year	6.4 million tonnes per year
Extraction method	Dry mining	Dry mining
Ground water abstraction for dewatering	1095 megalitres per year	1095 megalitres per year
Dewatering discharge	Re-use as process water at the Dardanup Mine	Re-use as process water at the Dardanup Mine
Water supply	No additional requirement	No additional requirement

#### List of Figures:

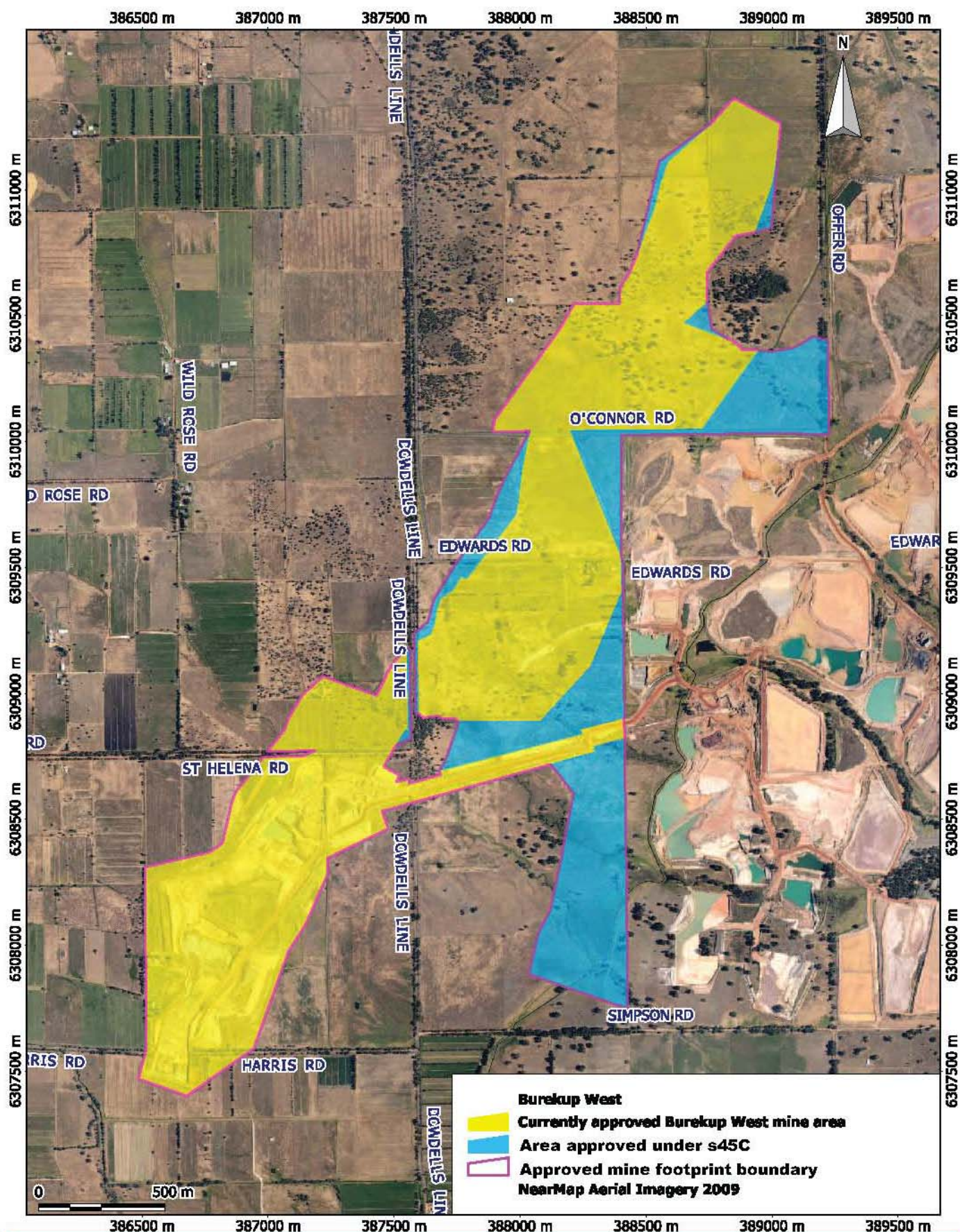
Figure 2: Approved areas under s45C (blue) and final Burekup West mine footprint area or boundary (red line).

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**Dr Chris Whitaker**  
DEPUTY CHAIR  
Environmental Protection Authority  
under delegated authority

Approval date: 7 July 2010





**Doral**

### Site Layout

Scale:  
1:20000

Projection:  
Australia MGA94 (50)

Sheet Size:  
A4

Figure 2

Date: 8/06/2010

## Attachment 2 to Statement 789

### Change to Proposal

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**Proposal:** Western Extension to the Dardanup Mineral Sands Project to Include the Burekup Mineral Sands Deposit

**Proponent:** Doral Mineral Sands Pty Ltd

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**Change:** Change to the Burekup West mine disturbance footprint area.

#### Key Characteristics Table:

Element	Description of proposal	Description of approved change to proposal
Life of mine	3.5 to 5 years approximately	3.5 to 5 years approximately
Total disturbance area	290 hectares	<b>305 hectares</b>
Area of native vegetation to be cleared	39 hectares	<b>39.05 hectares</b>
Mineable reserve	9.5 million tonnes	9.5 million tonnes
Overburden volume	5.8 million bank cubic metres	<b>5,872,000 bank cubic metres</b>
Rates of extraction (overburden and ore)	6.4 million tonnes per year	6.4 million tonnes per year
Extraction method	Dry mining	Dry mining
Ground water abstraction for dewatering	1095 megalitres per year	1095 megalitres per year
Dewatering discharge	Re-use as process water at the Dardanup Mine	Re-use as process water at the Dardanup Mine
Water supply	No additional requirement	No additional requirement

#### List of Figures:

Figure 3: Revised Burekup Mine disturbance footprint area

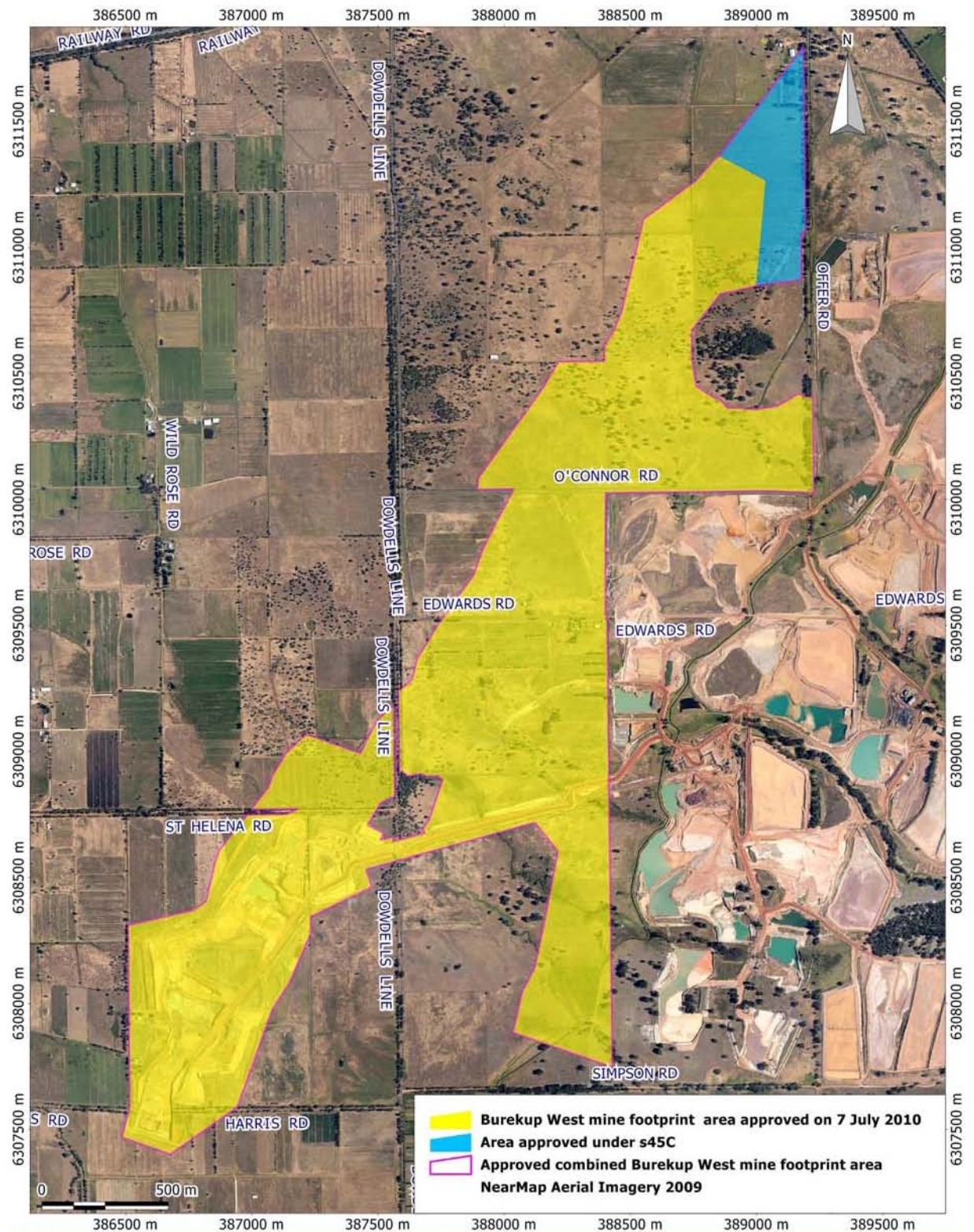


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**Dr Paul Vogel**  
CHAIRMAN  
Environmental Protection Authority  
under delegated authority

Approval date: 8.7.11





	Burekup West mine footprint area		
	Scale: 1:20000	Projection: Australia MGA94 (50)	Sheet Size: A4
	Figure 3		Date:1/07/2011

Northern Amendment to Burekup West

**Figure 3 - Revised Burekup West mine disturbance footprint area**