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Published on: 10 August 2018

Statement No. 1080

STATEMENT THAT A PROPOSAL MAY BE IMPLEMENTED
(*Environmental Protection Act 1986*)

THUNDERBIRD MINERAL SANDS PROJECT

Proposal: To construct and operate heavy mineral sands mining operation on the Dampier Peninsula, approximately 95 kilometres north east of Broome and 75 kilometres west of Derby and transport the products produced to the ports of Broome and Derby for export.

Proponent: Sheffield Resources Limited
Australian Company Number 125 811 083

Proponent Address: Level 2, 41–47 Colin Street,
WEST PERTH WA 6005

Assessment Number: 2073

Report of the Environmental Protection Authority: 1606

Pursuant to section 45 of the *Environmental Protection Act 1986* it has been agreed that the proposal described and documented in Schedule 1 may be implemented and that the implementation of the proposal is subject to the following implementation conditions and procedures:

1 Proposal Implementation

1-1 When implementing the proposal, the proponent shall not exceed the authorised extent of the proposal as defined in Table 2 in Schedule 1, unless amendments to the proposal and the authorised extent of the proposal have been approved under the EP Act.

2 Contact Details

2-1 The proponent shall notify the CEO of any change of its name, physical address or postal address for the serving of notices or other correspondence within twenty-eight (28) days of such change. Where the proponent is a corporation or an association of persons, whether incorporated or not, the postal address is that of the principal place of business or of the principal office in the State.

3 Time Limit for Proposal Implementation

- 3-1 The proponent shall not commence implementation of the proposal after five (5) years from the date on this Statement, and any commencement, prior to this date, must be substantial.
- 3-2 Any commencement of implementation of the proposal, on or before five (5) years from the date of this Statement, must be demonstrated as substantial by providing the CEO with written evidence, on or before the expiration of five (5) years from the date of this Statement.

4 Compliance Reporting

- 4-1 The proponent shall prepare, and maintain a Compliance Assessment Plan which is submitted to the CEO at least six (6) months prior to the first Compliance Assessment Report required by condition 4-6, or prior to implementation of the proposal, whichever is sooner.
- 4-2 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) the method of 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 After receiving notice in writing from the CEO that the Compliance Assessment Plan satisfies the requirements of condition 4-2 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 within seven (7) days of that non-compliance being known.
- 4-6 The proponent shall submit to the CEO the first Compliance Assessment Report fifteen (15) months from the date of issue of this Statement addressing the twelve (12) month period from the date of issue of this Statement and then annually from the date of submission of the first Compliance Assessment Report, or as otherwise agreed in writing by the CEO.

The Compliance Assessment Report shall:

- (1) be endorsed by the proponent's Chief Executive Officer or a person delegated to sign on the Chief Executive Officer'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 Public Availability of Data

5-1 Subject to condition 5-2, within a reasonable time period approved by the CEO of the issue of this Statement and for the remainder of the life of the proposal the proponent shall make publicly available, in a manner approved by the CEO, all validated environmental data (including sampling design, sampling methodologies, empirical data and derived information products (e.g. maps)), environment plans and reports relevant to the assessment of this proposal and implementation of this Statement.

5-2 If any data referred to in condition 5-1 contains particulars of:

- (1) a secret formula or process; or
- (2) confidential commercially sensitive information;

the proponent may submit a request for approval from the CEO to not make these data publicly available. In making such a request the proponent shall provide the CEO with an explanation and reasons why the data should not be made publicly available.

6 Terrestrial Fauna Environmental Management Plan

6-1 The proponent shall prepare and submit an Environmental Management Plan (the Plan), on the advice of the Department of Biodiversity, Conservation and Attractions, that demonstrates how the proponent will achieve the following environmental objectives:

- (1) Minimise impacts to the Greater bilby within the mine site development envelope as defined in Figure 2 of Schedule 1.
- (2) No material harm to the Greater bilby population outside of the mine site development envelope as defined in Figure 2 of Schedule 1.

- (3) No material harm to the Dampier Peninsula goanna population outside of the mine site development envelope as defined in Figure 2 of Schedule 1.
- 6-2 The Plan shall specify environmental objective/s (specified above), management actions, management targets, monitoring and reporting to demonstrate that the objective of condition 6-1 will be met.
- 6-3 The Plan shall be prepared in accordance with the Environmental Protection Authority's *Instructions on how to prepare Environmental Protection Act 1986 Part IV Environmental Management Plans*.
- 6-4 The proponent shall submit the Plan to the CEO prior to the commencement of ground disturbing activities.
- 6-5 The proponent shall not commence ground disturbing activities until the CEO has confirmed in writing that the Plan satisfies the requirements of condition 6-1.
- 6-6 The proponent shall implement the most recent version of the Plan approved by the CEO.
- 6-7 In the event of failure to implement management actions, the proponent shall meet the requirements in condition 4 (Compliance Reporting) and shall implement the measures outlined in the Plan, including, but not limited to, actions and investigations to be undertaken, and reporting to the CEO.
- 6-8 Any changes to management targets, management actions, monitoring and reporting in the Plan must be approved by the CEO in writing.

7 Aboriginal Heritage

- 7-1 The proponent shall not undertake any clearing, mining operations, or other ground disturbance activities, other than for the purpose of undertaking surveys or other activities required under law, within the Heritage Exclusion Zones as defined in Figure 4 of Schedule 1 and delineated by the coordinates in Schedule 2 unless authorised to do so under the *Aboriginal Heritage Act 1972*.
- 7-2 The proponent shall ensure that the Claypan Mining Exclusion Zone as defined in Figure 4 of Schedule 1 and delineated by the coordinates in Schedule 2 remains connected by way of a native vegetation corridor to the surrounding landscape for the life of the proposal. The native vegetation corridor:
- (1) shall be no narrower than 300 metres;
 - (2) may move over the life of the proposal;
 - (3) may include areas of undisturbed or rehabilitated areas; and
 - (4) must be accessible to Traditional Owners subject to mining safety and operational requirements,

unless the proponent is authorised under the *Aboriginal Heritage Act 1972* to disturb the Claypan Mining Exclusion Zone.

8 Groundwater drawdown restrictions

- 8-1 The proponent shall ensure that groundwater drawdown associated with the proposal does not result in the spatial extent of the drawdown exceeding the two metre groundwater drawdown contour defined in Figure 5 of Schedule 1 and delineated by the coordinates in Schedule 2.

9 Greater bilby habitat rehabilitation plan and performance report

- 9-1 The proponent shall prepare and submit a Greater Bilby Habitat Rehabilitation Plan (Rehabilitation Plan) to the CEO, on the advice of the Department of Biodiversity, Conservation and Attractions, to demonstrate that the following environmental outcome will be met:

- (1) progressive rehabilitation for the proposal will be undertaken in a manner that will result in habitat suitable for use, including foraging and burrowing, by the Greater bilby.

- 9-2 The Rehabilitation Plan shall include the following provisions:

- (1) completion criteria, based on specific attributes of pre-disturbance Greater bilby habitat in the proposal area, that will be used to evaluate the success of Greater bilby habitat rehabilitation;
- (2) details of the methods that will be used to undertake rehabilitation of Greater bilby habitat;
- (3) details of a monitoring regime to be implemented in areas of rehabilitated Greater bilby habitat, to detect the presence and activity patterns of the Greater bilby should this species return to rehabilitated areas; and
- (4) specify significant residual environmental impact trigger criteria for areas to be progressively rehabilitated.

- 9-3 The proponent shall submit the Rehabilitation Plan to the CEO within twelve (12) months before commencement of rehabilitation.

- 9-4 The proponent shall not commence rehabilitation until the CEO has confirmed in writing that the Rehabilitation Plan satisfies the requirements of condition 9-1 to 9-2.

- 9-5 The proponent shall implement the most recent version of the Rehabilitation Plan approved by the CEO unless and until the CEO confirms by notice in writing that the proponent has demonstrated the outcome specified in condition 9-1 has been met and will continue to be met and therefore the implementation of the Rehabilitation Plan is no longer required.

- 9-6 The proponent may review and revise the Greater Bilby Habitat Rehabilitation Plan or any subsequently approved revisions.
- 9-7 Any review and revision of the Greater Bilby Habitat Rehabilitation Plan may be informed by the research projects undertaken pursuant to condition 10.
- 9-8 Within ten (10) years of receiving the written notice from the CEO referred to in condition 9-4, the proponent shall prepare and submit a Greater Bilby Habitat Rehabilitation Performance Report to the CEO.
- 9-9 The Greater Bilby Habitat Rehabilitation Performance Report shall include the following elements:
- (1) the area in hectares that has been rehabilitated;
 - (2) evidence that the rehabilitation meets the completion criteria required by condition 9-2(1);
 - (3) results of the monitoring regime required by condition 9-2(3);
 - (4) a determination as to whether the significant residual environmental impact criteria required by condition 9-2(4) have been triggered; and
 - (5) evidence, confirmed in writing by an independent expert, that rehabilitated areas are habitat suitable for use, including foraging and burrowing, by the Greater bilby.

10 Offset – Greater bilby habitat (processing and support infrastructure)

- 10-1 The proponent shall fund and undertake an offset to counterbalance the significant residual impact caused by the loss of habitat for the Greater bilby. The amount of funding required shall be based on an initial rate of \$2,500 (excluding GST) plus CPI per hectare (offset rate) of Greater bilby habitat cleared for Processing and Supporting Infrastructure as defined in Table 2 of Schedule 1 and delineated by Figure 2 of Schedule 1.
- 10-2 Within twelve (12) months of the date of this statement, or as otherwise agreed with the CEO, the proponent shall prepare and submit to the CEO a Greater Bilby Research and Conservation Plan which identifies research projects and on-ground conservation projects to be undertaken which offset the significant residual impact identified in condition 10-1 and contribute to lasting conservation outcomes for the Greater bilby on the Dampier Peninsula.
- 10-3 The Greater Bilby Research and Conservation Plan shall:
- (1) outline the methodology to identify the area of Greater bilby habitat cleared annually for Processing and Supporting Infrastructure;
 - (2) include the methodology to determine the amount of funding to be spent on research projects and on-ground conservation projects based on the offset rate for each hectare of Greater bilby habitat cleared;

- (3) propose discrete research projects and on-ground conservation projects which align with the Greater Bilby Recovery Plan and relevant Threat Abatement Plans for the Greater bilby, or any subsequent revisions of these plans;
- (4) demonstrate how the proposed research projects contribute to a long term conservation outcome for the Greater bilby on the Dampier Peninsula and are aligned with published research priorities for this species, as defined in *A conceptual framework for habitat use and research priorities for the greater bilby (Macrotis lagotis) in the north of Western Australia* (Cramer et al 2016) or other research priorities agreed with the Department of Biodiversity, Conservation and Attractions;
- (5) demonstrate how the proposed on-ground conservation projects contribute to a long-term conservation outcome for the Greater bilby on the Dampier Peninsula;
- (6) provide details of the stakeholder consultation undertaken regarding the projects;
- (7) outline the objectives and intended outcomes, and details of completion criteria for each project;
- (8) provide an implementation schedule for each project including an outline of key activities, stages of implementation, and milestones towards completion;
- (9) outline the agreed governance arrangements – including stakeholder responsibilities for implementing the projects, and any contractual arrangements for third parties involved and legal obligations;
- (10) detail the financial and financial auditing arrangements including project budget and recipients of funds if projects are being undertaken by any third parties;
- (11) outline any potential risks involved for the projects and appropriate contingency measures;
- (12) identify monitoring activities to assess progress with project implementation and for compliance purposes; and
- (13) include schedules and means for reporting details of impact reconciliation and project implementation, including outcomes.

10-4 Within six (6) months of receiving notice in writing from the CEO that the Greater Bilby Research and Conservation Plan satisfies the requirements of conditions 10-1 to 10-3(13), the proponent shall:

- (1) commence the implementation of the projects in accordance with the requirements of the approved Greater Bilby Research and Conservation Plan; and
 - (2) continue to implement the approved Greater Bilby Offset Research and Conservation Plan until the CEO has confirmed by notice in writing that it has been demonstrated that the completion criteria in the Greater Bilby Offset Research and Conservation Plan have been met and therefore the implementation of the actions is no longer required.
- 10-5 Any changes to the Greater Bilby Research and Conservation Plan must be approved by the CEO in writing.
- 10-6 The proponent shall implement the latest revision of the Greater Bilby Research and Conservation Plan, which the CEO has confirmed by notice in writing, satisfies the requirements of condition 10-1 to 10-3(13).
- 10-7 The proponent may commission an independent review, to be undertaken by a suitably qualified expert, of the appropriateness of the offset rate after five years from the date of commencement of clearing.
- 10-8 The review must consider the sufficiency of the offset rate, including the real cost of counterbalancing the significant residual impact caused by the loss of habitat for the Greater bilby. If the review indicates that the offset rate is not appropriate the proponent may request a change to the offset condition.

11 Offset – Greater bilby habitat (mine pits)

- 11-1 If, after receiving the Greater Bilby Habitat Rehabilitation Plan Performance Report required by condition 9-8, the CEO determines that the proposal has resulted in an additional significant residual impact to habitat for the Greater bilby, and notifies the proponent in writing, the proponent shall fund at the offset rate referred to in condition 10-1, or any amended offset rate, and undertake an additional offset to counterbalance the significant residual impact from the loss of habitat for the Greater bilby (*Macrotis lagotis*) on the Dampier Peninsula, as a result of clearing for Mine Pits as defined in Table 2 of Schedule 1 and delineated by Figure 2 in Schedule 1.
- 11-2 Within twelve (12) months of receiving notice in writing that an additional offset is required under condition 11-1, the proponent shall
- (1) apply the methodology required by 10-3(1) to identify the area of Greater bilby habitat cleared annually for mine pits; and
 - (2) update the Greater Bilby Research and Conservation Plan, as required by condition 10-5, to include additional discrete research and on-ground conservation projects and the details of those projects in accordance with the requirements specified in condition 10-3.

11-3 The proponent shall implement the latest revision of the Greater Bilby Research and Conservation Plan, which the CEO has confirmed by notice in writing satisfies the requirements of conditions 10 and 11.

12 Greenhouse Gas Reporting

The proponent shall publicly report the greenhouse gas emissions from the proposal on an annual basis, in a manner prescribed by the CEO.

[signed on 10 August 2018]

Hon Stephen Dawson MLC
MINISTER FOR ENVIRONMENT

Table 1: Summary of the Proposal

Proposal Title	Thunderbird Mineral Sands Project
Short Description	<p>The Thunderbird Mineral Sands Project is a heavy mineral sands operation located approximately 95 kilometres (km) north east of Broome and 75 km west of Derby on the Dampier Peninsula in Western Australia. It includes the mining, processing and export of mineral sands over approximately 42 years.</p> <p>The project includes the following:</p> <ul style="list-style-type: none"> • Heavy mineral sands mining above and below the water table. • Groundwater abstraction from the Broome aquifer to provide processing water and access to mineral sands below the water table. • Processing of heavy mineral sands. • Tailings storage facility. • Export of bulk mineral sand products from the mine site via Derby Port, including storage facilities at Derby Port. • Export of packaged mineral sand products via Broome Port, including use of existing storage facilities at Broome Port. • Progressive backfilling of the mine pit to above the water table and rehabilitation of backfilled areas. • Upgrade and extension of an existing road to provide an approximately 32 km long site access road linking the project to the Great Northern Highway. • Supporting infrastructure including internal roadways, accommodation village, power plant, workshops, offices, wastewater treatment plant and a landfill.

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

Element	Location	Proposed Extent
<i>Physical elements</i>		
Mine pits	Figure 2	<p>Clearing and mining of no more than 1,635 ha within the 5,648 ha mine site development envelope.</p> <p>No more than 200 ha of active mine pit will be open at any one time excluding areas being clearing in preparation of mining or areas being rehabilitated post-mining.</p>

Element	Location	Proposed Extent
Processing and supporting infrastructure, including the tailing storage facility, site access road, borefield, accommodation, and other mine site supporting infrastructure	Figure 2	Clearing of no more than 326.1 ha within a 5,648 ha mine site development envelope.
Derby Port Storage and Export Facility	Figure 3	Construction and operation of storage/export facility on previously disturbed land on Derby Port land.
Operational elements		
Tailings storage facility (TSF)	Figure 2	TSF with a design capacity of no more than 45 Mt. TSF operating for approximately five years from the commencement of mining operations.
Overburden waste and tailings disposal and management (backfilling mine voids)	Figure 2	Overburden waste and tailings co-disposed into mine voids.
Groundwater abstraction	Figure 5	Up to 13 GL abstraction per annum during commissioning. Up to 33 GL abstraction per annum during mining.
Groundwater reinjection	Figure 5	Up to 22 GL reinjection per annum during mining.
Transport and storage of bulk mineral sand products – Derby Port	Figure 3	Enclosed storage of up to 50,000 tonnes of bulk mineral sand products at Derby Port at any one time. Up to 20 return journeys (40 truck movements) per day between the mine site and Derby Port operating 24 hours per day.
Transport and storage of bulk mineral sand products – Broome Port	N/A	Storage of up to 10,000 tonnes of packaged mineral sand products at Broome Port at any one time. Up to 7 return journeys (14 truck movements) per day between the Mine Site and Broome Port operating 24 hours per day.

Element	Location	Proposed Extent
Transshipment of bulk mineral sands from Derby Port	Figure 3	Bulk mineral sand products to be loaded into barges via an enclosed loading system, transported by barge to a sea transfer site at Point Torment in King Sound, and then loaded into ships.
Shipping for export (Derby Port)	Figure 3	Up to 40 sailings per annum for the export of bulk mineral sand products from Derby Port.
Shipping for export (Broome Port)	N/A	Up to 30 sailings per annum for the export of packaged mineral sand products from Broome Port.

Table 3: Abbreviations and Definitions

Acronym or Abbreviation	Definition or Term
CEO	The Chief Executive Officer of the Department of the Public Service of the State responsible for the administration of section 48 of the <i>Environmental Protection Act 1986</i> , or his delegate.
CPI	The real value of offset expenditure described in condition 10-3(2) will be maintained throughout the life of the proposal through indexation to the financial year annual Perth Consumer Price Index rate from the date of this Statement, with the first adjustment to be applied to the first amount and each subsequent amount to be calculated from the previous year's amount.
EPA	Environmental Protection Authority
EP Act	<i>Environmental Protection Act 1986</i>
DWER	Department of Water and Environmental Regulation
GL	Gigalitres
ha	Hectare
Mt	Mega Tonnes
Management actions	Risk-based actions to be implemented to meet the environmental objective.
Management targets	Targets to determine the effectiveness of the management actions.
Monitoring	Monitoring to measure the effectiveness of management actions.
Process for revision of management actions	Process for revision of management actions and changes to proposal activities, in the event that the management targets are not achieved. The process shall include an investigation to determine the cause of the management target/s being exceeded.
Reporting	Reporting of implementation of management actions and reporting on the effectiveness of management actions to demonstrate that the objective/s have been met.

Figures (attached)

Figure 1 Regional map

Figure 2 Mine site development envelope and conceptual mine layout

Figure 3 Derby Port development envelope

Figure 4 Aboriginal Heritage exclusion zones

Figure 5 Groundwater drawdown contours

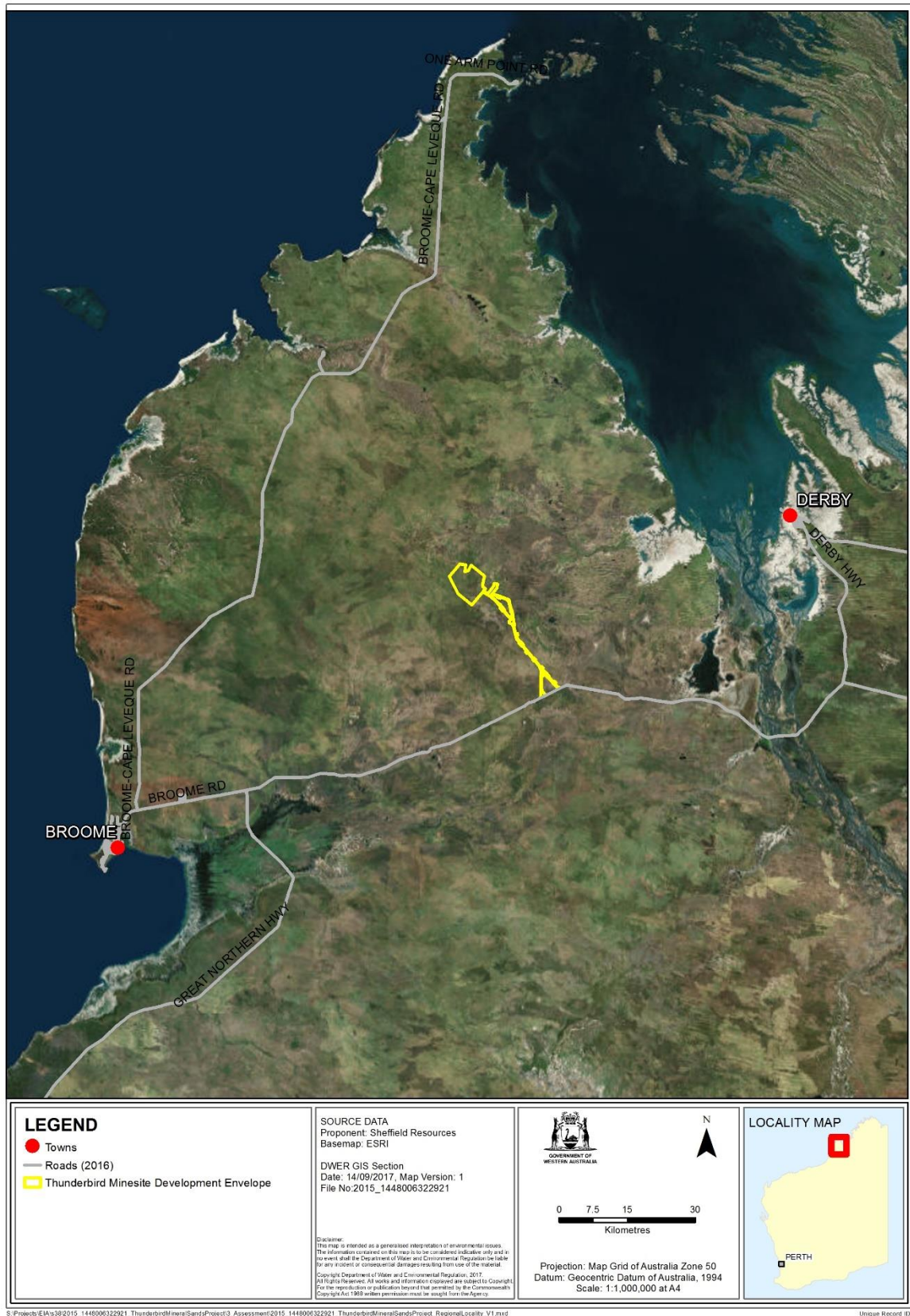


Figure 1: Regional map

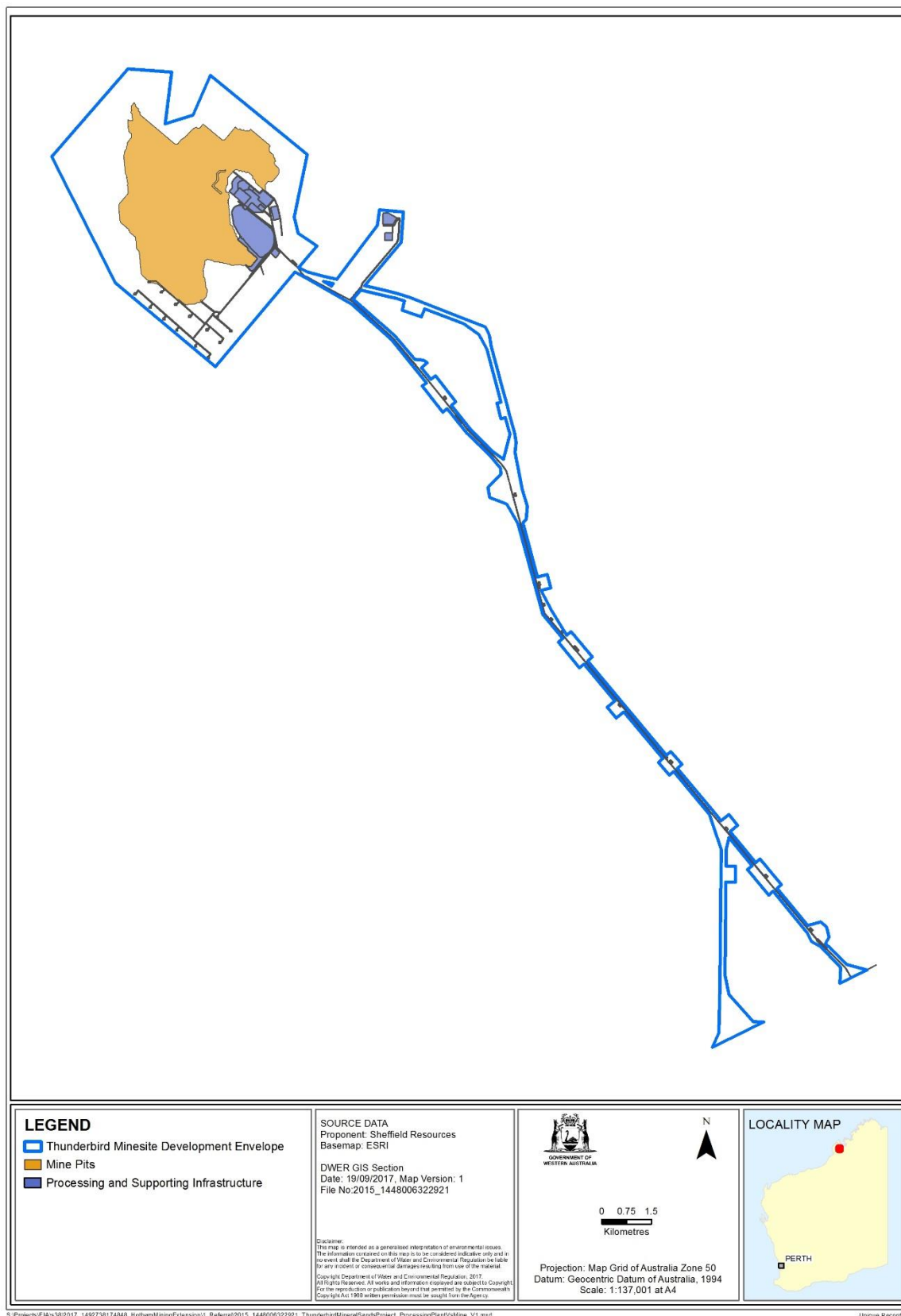


Figure 2: Mine site development envelope and conceptual mine layout

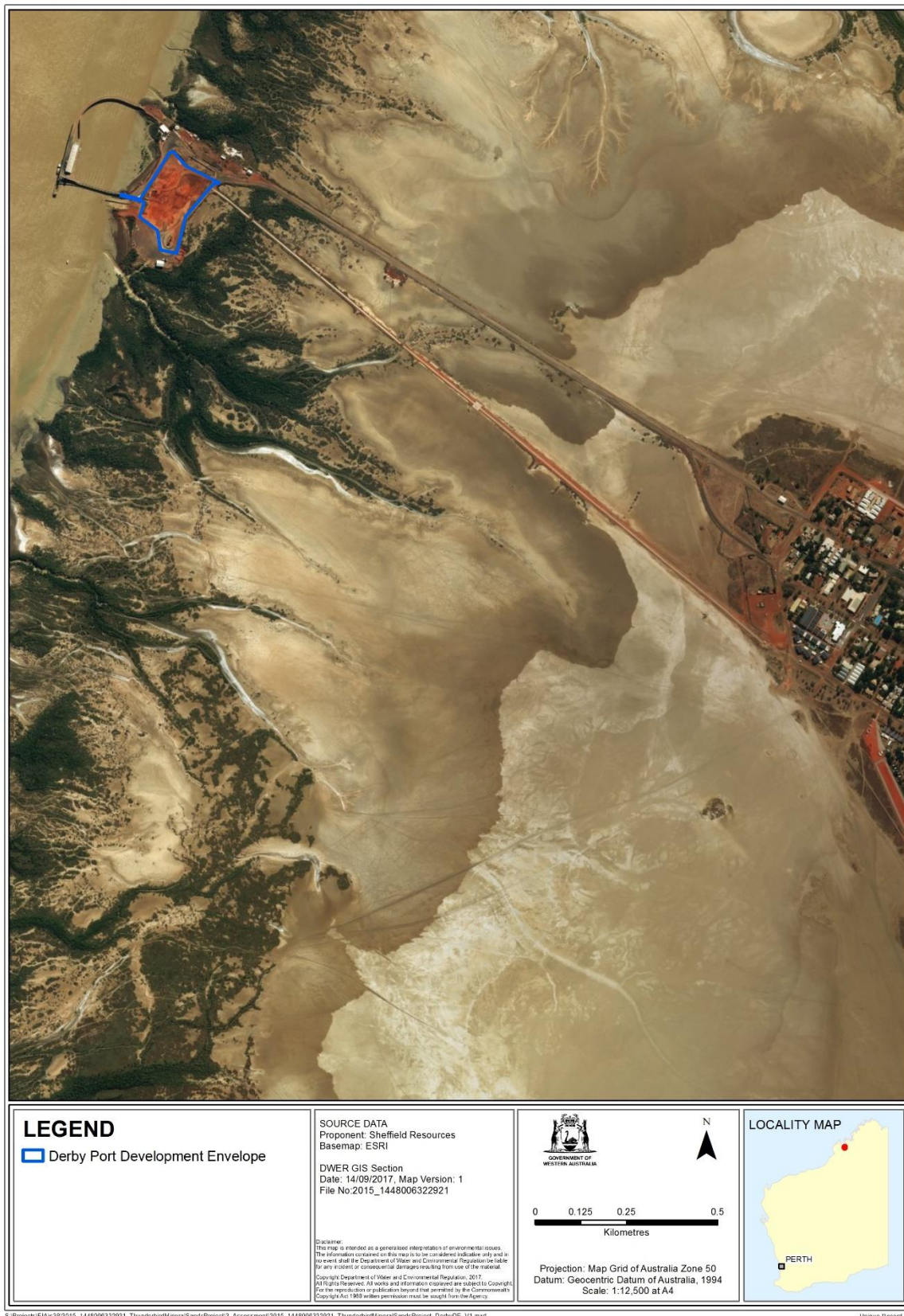


Figure 3: Derby Port development envelope



Figure 4: Aboriginal Heritage exclusion zones

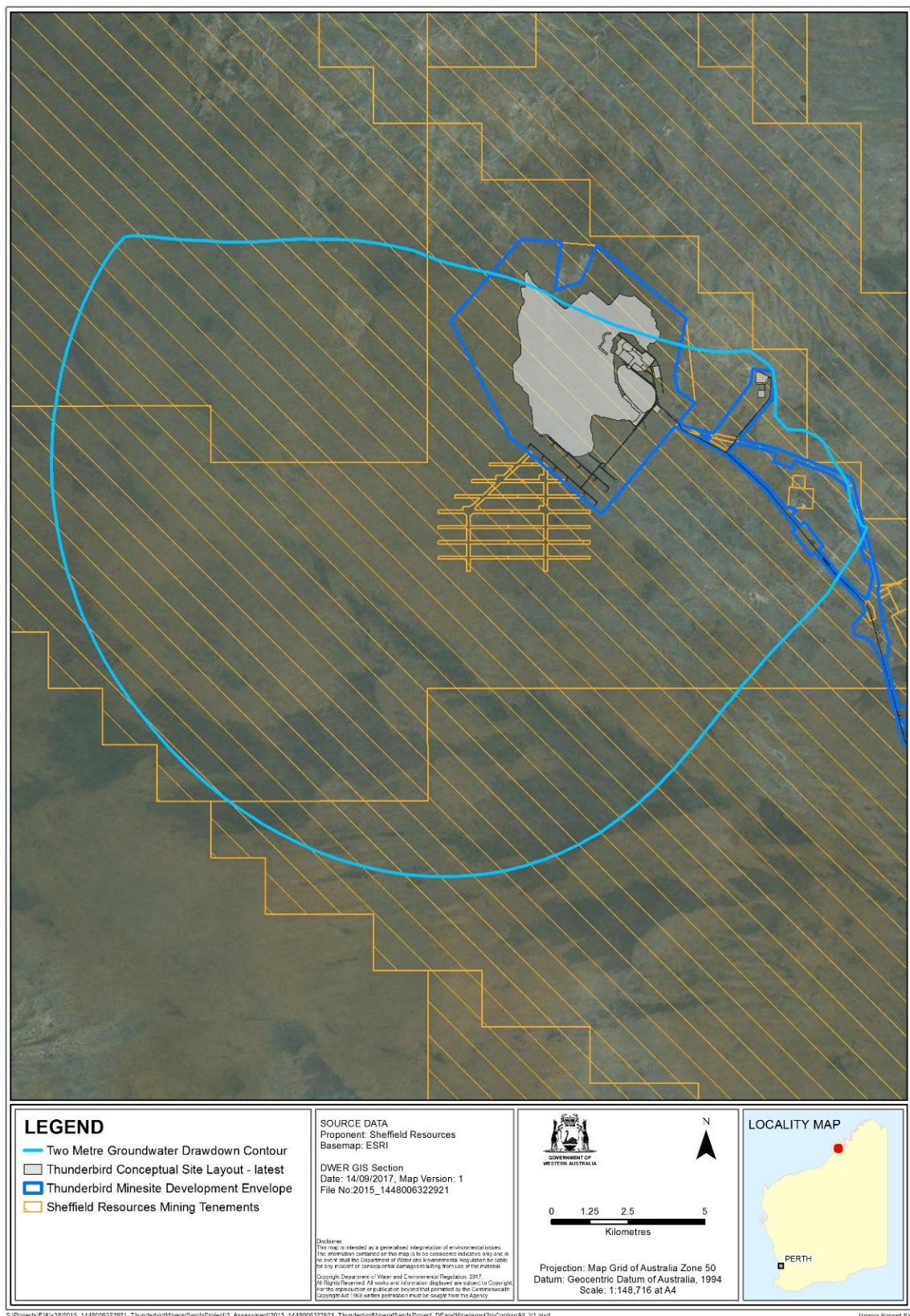


Figure 5: Groundwater drawdown contours

Schedule 2

Coordinates defining the regional location, mine site development envelope, Derby Port development envelope, Heritage exclusion zones and groundwater drawdown contours in Figures 1 to 5 are held by the Department of Water and Environmental Regulation, Document Reference Number 2017-1504678381308.