Statement No.

**MINISTER FOR THE ENVIRONMENT;
LABOUR RELATIONS**

000514

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

WEST ANGELAS IRON ORE PROJECT
SHIRES OF EAST PILBARA, ASHBURTON AND ROEBOURNE

Proposal: The development of an iron ore mine at Deposits 'A' and 'B', and ore processing operation at West Angelas, 130 kilometres west of Newman; construction of a rail line and expansion of port facilities at Cape Lambert, as documented in schedule 1 of this statement.

Proponent: Robe River Mining Co. Pty. Ltd.

Proponent Address: 9th Floor, 12-14 St George's Terrace, PERTH WA 6000

Assessment Number: 1144

Report of the Environmental Protection Authority: Bulletin 924

The proposal to which the above report of the Environmental Protection Authority relates, excluding:

- the 46 kilometre gas pipeline from West Angelas minesite to the Goldfields Gas Transmission Pipeline at the Boonanchi Wells valve station,

may be implemented subject to the following conditions and procedures:

1 Implementation

1-1 Subject to these conditions and procedures, the proponent shall implement the proposal as documented in schedule 1 of this statement.

1-2 Where the proponent seeks to change any aspect of the proposal as documented in schedule 1 of this statement in any way that the Minister for the Environment determines, on advice of the Environmental Protection Authority, is substantial, the proponent shall refer the matter to the Environmental Protection Authority.

1-3 Where the proponent seeks to change any aspect of the proposal as documented in schedule 1 of this statement in any way that the Minister for the Environment determines, on advice of the Environmental Protection Authority, is not substantial, those changes may be effected.

Published on

28 JUN 1999

18th FLOOR, ALLENDALE SQUARE, 77 ST. GEORGE'S TERRACE, PERTH 6000 TELEPHONE: (08) 9421 7777 FACSIMILE: (08) 9221 4665/8

2 Proponent Commitments

2-1 The proponent shall implement the consolidated environmental management commitments documented in schedule 2 of this statement.

2-2 The proponent shall implement subsequent environmental management commitments which the proponent makes as part of the fulfilment of conditions and procedures in this statement.

3 Environmental Management System

3-1 In order to manage the environmental impacts of the project and fulfill the requirements of the conditions and procedures in this statement, prior to construction, the proponent shall demonstrate to the requirements of the Environmental Protection Authority on advice of the Department of Environmental Protection that there is in place an environmental management system which includes the following elements:

1 An environmental policy and corporate commitment to it;

2 Mechanisms and processes to ensure:

(1) planning to meet environmental requirements;

(2) implementation and operation of actions to meet environmental requirements;

(3) measurement and evaluation of environmental performance; and

3 Review and improvement of environmental outcomes.

3-2 The proponent shall implement the environmental management system referred to in condition 3-1.

4 Environmental Management Program

4-1 Prior to commencement of ground-disturbing activities, the proponent shall prepare an Environmental Management Program to the requirements of the Environmental Protection Authority.

This Program shall:

1 document consultations with agencies and groups involved in the development of the program;

2 address the report on the assessment of subterranean fauna as proposed in the proponent's commitments; and

3 address proposed dust controls for ore handling operations at Cape Lambert,

and shall include the following Plans:

1 Groundwater Extraction Management Plan (See condition 5);

2 Minesite Environmental Management Plan (See condition 6);

3 Weed Management Plan (See condition 7);

4 Marine Management Plan (See condition 8);

5 Greenhouse Gas Emissions Management Plan (See condition 9);

6 Rail Route Environmental Management Plan (See condition 10),

7 Ghost Bat Management Plan (See condition 12); and

8 Decommissioning and Rehabilitation Management Plan (See condition 13).

4-2 The proponent shall implement the Environmental Management Program required by condition 4-1.

4-3 The proponent shall make the Environmental Management Program required by condition 4-1 publicly available, to the requirements of the Environmental Protection Authority.

5 Groundwater Extraction Management Plan

5-1 Prior to commencement of construction of the borefield, the proponent shall prepare a Groundwater Extraction Management Plan to achieve the following objectives:

- determine the levels and extent of groundwater drawdown from the borefield and mine dewatering over the life of the project;
- determine the sustainable yield of groundwater supply;
- ensure that groundwater extraction does not significantly affect surface water bodies;
- ensure that groundwater extraction does not significantly affect other users;
- ensure that groundwater extraction does not significantly affect vegetation; and
- ensure that water usage is minimised.

This Plan shall be prepared to the requirements of the Environmental Protection Authority on advice of the Department of Environmental Protection, the Water and Rivers Commission and the Department of Conservation and Land Management, and shall include:

1 the depth and description of the aquifer from which groundwater is proposed to be extracted;

2 the undertaking of further groundwater investigations to the west of the proposed borefield area to enable more accurate modelling of regional impacts (particularly Paperbark Spring and any other adjacent springs) and determination of the sustainable yield;

3 identification of emergency water sources closer to the minesite in the event that the borefield is inaccessible at certain times of the year;

4 the monitoring and management of any impacts of groundwater extraction on the levels of downstream surface pools along Turee Creek;

5 the impact of proposed groundwater extraction on other users, and potential users, of the Turee Creek aquifers; and

6 proposed actions in the event that adverse impacts on surface water levels, vegetation or other users of the aquifers are detected.

5-2 The proponent shall implement the Groundwater Extraction Management Plan required by condition 5-1.

5-3 The proponent shall make the Groundwater Extraction Management Plan required by condition 5-1 publicly available, to the requirements of the Environmental Protection Authority.

6 Minesite Environmental Management Plan

6-1 Prior to commencement of ground-disturbing activities, the proponent shall prepare a Minesite Environmental Management Plan to protect environmental values that may be affected by implementation of the proposal, to the requirements of the Environmental Protection Authority on advice of the Department of Environmental Protection, the Department of Conservation and Land Management and the Department of Minerals and Energy.

This Plan shall address:

1 the protection of vegetation associations having conservation value;

2 the maintenance of the conservation status of those species that are inadequately represented in the conservation estate;

3 the protection of Declared Rare and Priority flora;

4 the minimisation of clearing;

5 the location and design of mine infrastructure, stockpiles, waste dumps and other facilities so as -
- not to significantly affect vegetation associations, including Declared Rare and Priority flora species and cracking clay areas having conservation value; and
- to maintain corridors for faunal movements, as far as practicable;

6 minimising the number and size of corridors used for infrastructure and services;

7 the maintenance and restoration of original drainage patterns;

8 minimising the size and number of stockpiles by maximising the amount of excavated material returned to the pits;

9 the design and form of stockpiles for maximum harmony with the landscape;

10 the discharge from mine dewatering to natural drainage areas;

11 the level of pit infilling required to prevent evaporation of groundwater brought to the surface by capillary rise in the soil cover;

12 the implementation of a progressive rehabilitation and revegetation plan; and

13 implementation of the Department of Minerals and Energy guidelines for Mining in Arid Environments.

6-2 The proponent shall implement the Minesite Environmental Management Plan required by condition 6-1.

6-3 The proponent shall make the Minesite Environmental Management Plan required by condition 6-1 publicly available, to the requirements of the Environmental Protection Authority.

7 Weed Management Plan

7-1 Prior to commencement of ground-disturbing activities, the proponent shall prepare a Weed Management Plan to prevent the spread of weeds particularly *Acetosa vesicaria* (Ruby Dock), during the construction and operation of the minesite and sections of the railway within the Millstream-Chichester National Park and the Access Corridor through Karijini National Park, to the requirements of the Environmental Protection Authority on advice of the Department of Conservation and Land Management.

This plan shall address the following:

1 the eradication of existing infestations or future outbreaks of *Acetosa vesicaria* (Ruby dock) in the minesite area;

2 the control of *Acetosa vesicaria* (Ruby dock) in consultation with the Department of Conservation and Land Management in all sections of the railway within the Millstream-Chichester National Park, except where the railway is proximal to public access points or infrastructure corridors, and the joint control of *Acetosa vesicaria* (Ruby dock) with the neighbouring railway operator in consultation with the Department of Conservation and Land Management where the railway is proximal to public access points or infrastructure corridors; and

3 the joint management of Acetosa vesicaria in the Access Corridor through Karijini National Park in collaboration with the neighbouring railway operator and the Department of Conservation and Land Management.

7-2 The proponent shall implement the Weed Management Plan required by condition 7-1.

7-3 The proponent shall make the Weed Management Plan required by condition 7-1 publicly available, to the requirements of the Environmental Protection Authority.

8 Marine Management Plan (Cape Lambert)

8-1 Prior to commencement of dredging, the proponent shall prepare a Marine Management Plan to protect environmental values for, and commercial pearl operations in the coastal waters around the port at Cape Lambert that may be affected by implementation of the proposal, to the requirements of the Environmental Protection Authority on advice of the Department of Environmental Protection and Fisheries WA.

This Plan shall:

1 be consistent with the most recent version of the "Draft Environmental Protection (State Marine Waters) Policy 1998" and subsequently the final policy when issued; the Western Australian Water Quality Guidelines for Fresh and Marine Waters (EPA

Bulletin 711, 1993); and address the Interim Ocean Disposal Guidelines (ANZECC 1998);

2 define the extent to which environmental values apply to the coastal waters around the proponent's facilities at Cape Lambert, taking into account:

- results of sediment sampling; and
- any agreements reached with Cossack Pearls;

and shall address:

3 marine monitoring, commencing with baseline studies, which include control locations, mangroves and the adjacent pearl lease;

4 water runoff and discharge from land based facilities;

5 measures required to avoid adverse impacts on any nearby commercial pearl hatchery or pearl grow-out operations; and

6 consultation with owners of the pearl hatchery and pearl grow-out operations.

Note: This Plan will incorporate Dredging Management Plans required under the (Commonwealth) Environment Protection (Sea Dumping) Act 1981.

8-2 The proponent shall implement the Marine Management Plan required by condition 8-1.

8-3 The proponent shall make the Marine Management Plan required by condition 8-1 publicly available, to the requirements of the Environmental Protection Authority.

9 Greenhouse Gas Emissions Management Plan

9-1 Prior to commissioning, the proponent shall prepare a Greenhouse Gas Emissions Management Plan to ensure that "greenhouse gas" emissions meet the requirements consistent with "Minimising Greenhouse Gas Emissions, Guidance for the Assessment of Environmental Factors, No. 12" published by the Environmental Protection Authority, to the requirements of the Environmental Protection Authority on advice of the Department of Environmental Protection.

This Plan shall include:

1 calculation of the "greenhouse gas" emissions associated with the proposal, as indicated in "Minimising Greenhouse Gas Emissions" referred to above;

2 specific measures to minimise the "greenhouse gas" emissions associated with the proposal;

3 monitoring of "greenhouse gas" emissions;

4 estimation of the "greenhouse gas" efficiency of the project (per unit of product and/or other agreed performance indicators) and comparison with the efficiencies of other comparable projects producing a similar product; and

5 estimated global emission credit (greenhouse gas offsets) achieved through implementation of the proposal, if any.

9-2 The proponent shall implement the Greenhouse Gas Emissions Management Plan required by condition 9-1.

Note: The proponent has entered the Commonwealth Government's "Greenhouse Challenge" voluntary co-operative agreement program.

10 Rail Route

10-1 Prior to commencement of construction of the rail formation, the proponent shall prepare a Rail Route Environmental Management Plan to minimise adverse environmental impacts of the railway and its formation, to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority and the Department of Conservation and Land Management.

This Plan shall include:

1 a report of a detailed vegetation and fauna survey;

2 topographical information;

3 strategy to mitigate any environmental impacts of the railway on water resources, on advice of the Water and Rivers Commission;

4 a visual amenity study;

5 a statement that the Aboriginal Heritage Act has been complied with for determination of archaeological and ethnographic sites;

6 measures to minimise environmental impacts of the railway and its formation, in sectors/areas where rail and road are in close proximity to each other, on advice of Main Roads WA;

7 measures to minimise environmental impacts of the railway and its formation, in particular drainage shadow impacts, and ongoing monitoring and amelioration of any drainage shadow impacts, as set out in the proponent's commitment no. 2; and

8 provisions for breaching the formation following decommissioning.

10-2 The proponent shall implement the Rail Route Environmental Management Plan to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority and the Department of Conservation and Land Management.

10-3 The proponent shall make the Rail Route Environmental Management Plan required by condition 10-1 publicly available, to the requirements of the Environmental Protection Authority.

10-4 Prior to construction of the rail formation, the proponent shall design any sector of railway traversing the Millstream-Chichester National Park to lie not more than one kilometre from the existing Tom Price-to-Dampier railway, to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority and the Department of Conservation and Land Management.

10-5 The proponent shall construct any sector of railway traversing the Millstream-Chichester National Park in accordance with the design required by condition 10-4.

10-6 Prior to construction of the rail formation, the proponent shall design the sector of railway in the vicinity of Coondewanna Flats to follow the "CALM Mt Robinson" route, except if it can be demonstrated that the overall environmental impact (from the railway, its formation and access roads) of an alternative route, such as the "Coondewanna West" route, will be acceptable.

The design and demonstration of environmental acceptability of the route are to meet the requirements of the Minister for the Environment on advice of the Environmental Protection Authority and the Department of Conservation and Land Management.

Note: This will entail detailed documentation by the proponent to enable on-site field inspections of each drainage crossing.

10-7 The proponent shall construct the sector of railway in the vicinity of Coondewanna Flats in accordance with the design required by condition 10-6.

11 Aboriginal Sites and Areas of Cultural Significance

11-1 Prior to ground-disturbing activities, the proponent shall undertake necessary studies to determine whether the proposal is likely to disturb aboriginal sites or areas of cultural significance, and consult with the Aboriginal Affairs Department and affected local aboriginal community representatives, to the requirements of the Environmental Protection Authority.

Note: The consultation referred to in this condition will enable local aboriginal communities to:

1 be kept informed about the potential and actual environmental impacts;
2 be able to make their concerns in regard to environmental impacts known to the proponent; and
3 be able to have meaningful input into the proponent's management of environmental impacts.

11-2 The proponent shall conduct operations in a manner that is consistent with the findings resulting from condition 11-1.

12 Ghost Bat Management Plan

12-1 Prior to commencement of ground disturbing activities, the proponent shall prepare a Ghost Bat Management Plan to protect Ghost Bat *Macrodermas gigas* populations that may be affected by implementation of the proposal, to the requirements of the Environmental Protection Authority on advice of the Department of Conservation and Land Management.

This Plan shall address:

1 protection of areas that support or are likely to be utilised by Ghost Bats in the design and operation of the proposal; and

2 verification procedures for ensuring that the local Ghost Bat population is not significantly affected.

12-2 The proponent shall implement the Ghost Bat Management Plan required by condition 12-1.

12-3 The proponent shall make the Ghost Bat Management Plan required by condition 12-1 publicly available, to the requirements of the Environmental Protection Authority.

13 Decommissioning and Rehabilitation Management Plan

13-1 At least six months prior to decommissioning, the proponent shall prepare a Decommissioning and Rehabilitation Management Plan to the requirements of the Environmental Protection Authority on advice of the Department of Environmental Protection, the Department of Conservation and Land Management, the Department of Minerals and Energy and the Water and Rivers Commission.

The objectives of this plan are:

- to render the minesite areas safe and stable; and
- to encourage the re-establishment of self-sustaining ecosystems.

This Plan shall address:

1 removal or, if appropriate, retention of plant and infrastructure;

2 (final) rehabilitation of all disturbed areas to a standard suitable for agreed new land use/s;

3 groundwater levels in mine pits; and

4 identification and remediation of contaminated areas, including provision of evidence of notification to relevant statutory authorities.

13-2 The proponent shall implement the Decommissioning and Rehabilitation Management Plan required by condition 13-1 until such time as the Minister for the Environment, on advice of the Environmental Protection Authority and the Department of Minerals and Energy, determines that decommissioning and rehabilitation are complete.

13-3 The proponent shall make the Decommissioning and Rehabilitation Management Plan required by condition 13-1 publicly available, to the requirements of the Environmental Protection Authority.

14 Performance Review

14-1 Each six years following the commencement of construction, the proponent shall submit a Performance Review to the Department of Environmental Protection:

- to document the outcomes, beneficial or otherwise;
- to review the success of goals, objectives and targets; and
- to evaluate the environmental performance over the six years;

relevant to the following:

1 environmental objectives reported on in Environmental Protection Authority Bulletin 924;

2 proponent's consolidated environmental management commitments documented in schedule 2 of this statement and those arising from the fulfilment of conditions and procedures in this statement;

3 environmental management system environmental performance targets;

4 environmental management programs and plans; and/or

5 environmental performance indicators;

to the requirements of the Environmental Protection Authority on advice of the Department of Environmental Protection.

Note: The Environmental Protection Authority may recommend changes and actions to the Minister for the Environment following consideration of the Performance Review.

15 Proponent

15-1 The proponent for the time being nominated by the Minister for the Environment under section 38(6) or (7) of the Environmental Protection Act 1986 is responsible for the implementation of the proposal until such time as the Minister for the Environment has exercised the Minister's power under section 38(7) of the Act to revoke the nomination of that proponent and nominate another person in respect of the proposal.

15-2 Any request for the exercise of that power of the Minister referred to in condition 15-1 shall be accompanied by a copy of this statement endorsed with an undertaking by the proposed replacement proponent to carry out the proposal in accordance with the conditions and procedures set out in the statement.

15-3 The proponent shall notify the Department of Environmental Protection of any change of proponent contact name and address within 30 days of such change.

16 Commencement

16-1 The proponent shall provide evidence to the Minister for the Environment within five years of the date of this statement that the proposal has been substantially commenced.

16-2 Where the proposal has not been substantially commenced within five years of the date of this statement, the approval to implement the proposal as granted in this statement shall lapse and be void. The Minister for the Environment will determine any question as to whether the proposal has been substantially commenced.

16-3 The proponent shall make application to the Minister for the Environment for any extension of approval for the substantial commencement of the proposal beyond five years from the date of this statement at least six months prior to the expiration of the five year period referred to in conditions 16-1 and 16-2.

16-4 Where the proponent demonstrates to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority that the environmental parameters of the proposal have not changed significantly, then the Minister may grant an extension not exceeding five years for the substantial commencement of the proposal.

17 Compliance Auditing

17-1 The proponent shall submit periodic Performance and Compliance Reports, in accordance with an audit program prepared in consultation between the proponent and the Department of Environmental Protection.

17-2 Unless otherwise specified, the Chief Executive Officer of the Department of Environmental Protection is responsible for assessing compliance with the conditions, procedures and commitments contained in this statement and for issuing formal written advice that the requirements have been met.

17-3 Where compliance with any condition, procedure or commitment is in dispute, the matter will be determined by the Minister for the Environment.

Note

1 The proponent is required to apply for a Works Approval and Licence for the minesite and port components of this project under the provisions of Part V of the Environmental Protection Act.

CHERYL EDWARDES (Mrs) MLA
MINISTER FOR THE ENVIRONMENT

28 JUN 1999

Schedule 1

The Proposal

Note: The proposal as summarised in this schedule differs in several respects from the original proposal described in the Environmental Review and Management Programme (March 1998).

The proposal consists of four main components:

- an iron ore mining and processing operation at West Angelas, 130 kilometres west of Newman;
- a borefield at Turee Creek about 30 kilometres west of the minesite;
- the construction of a rail line; and
- expansion of port facilities at Cape Lambert.

Mining and Processing

Iron ore is to be mined from two Deposits, "A" and "B", using conventional open pit methods. These utilise large rotary drill rigs, blasting and hydraulic excavators. The ore production rate is expected to be 7 million tonnes in the first year of operation, increasing to approximately 20 million tonnes per year thereafter. The anticipated project life is about 29 years.

Facilities at Deposit "A" include:
- primary crushing of ore and overland conveyor of primary crushed ore to plant;
- secondary crushing, screening and separation into lump and fines products;
- product stockpiling common to Deposit "A" and "B"; and
- train load-out common to Deposit "A" and "B" lump and fines.

Facilities at Deposit "B" include:
- primary crushing of ore and overland conveyor for primary crushed ore to plant.

Support infrastructure for the mine operation will include:
- a private access road to the West Angelas minesite off Great Northern Highway;
- heavy vehicle and plant maintenance workshop;
- fuelling and fuel storage facilities;
- vehicle washdown areas;
- accommodation village approximately 9 kilometres west of the processing plant;
- airstrip; and
- diesel fuelled power station. Fuel will be delivered on trains from Cape Lambert and stored in bulk storage tanks. The power station will consist of eleven 800kW, 6.6kV continuously rated diesel-driven generators sized to meet a maximum demand of 7200kW. This provides one standby machine and one machine out of service at any time. The station will be fully automated and capable of running unattended and interfaced with the plant control system.

(Note: The overhead transmission line option from Newman, identified in the Environmental Review and Management Programme and the subsequently proposed gas turbine power station on the site, which would have required the construction of a 46 kilometre pipeline from the Goldfields Gas Transmission natural gas pipeline, have been withdrawn by the proponent and are not part of the proposal).

Borefield

The water supply requirement during operation is 4 to 6 megalitres per day (ML/d). The borefield is located at Turee Creek, approximately 30 kilometres west of the mine site. Investigations indicate that 8 ML/d may be obtained from the Turee Creek (B) aquifer. The pipeline from the borefield may be above or below ground.

Railway

A single standard gauge railway line will be constructed. The construction will involve:

- temporary and permanent access roads;
- borrow pits to source fill material;
- one or two quarries to provide stone for ballast and concrete aggregates; and
- construction camps.

Port Expansion

The existing ore outloading facilities at Cape Lambert will be expanded. An additional stockpile pad will be constructed as a northern extension into the sea, parallelling the existing facility. This will require the construction of a new sea wall and the reclamation of approximately 44.4 hectares of land.

The existing wharf will be extended approximately 250 metres seaward. Dredging will be required for deepening and widening the departure channel on both sides of the wharf for approximately one kilometre seaward from the new wharf head.

Other associated facilities to be constructed are:

- a rotary ore car dumper;
- a tertiary screening facility;
- new shiploader;
- power substations; and
- new rail and plant control and maintenance facilities.

Table 1: Key characteristics of the proposal, as modified during the environmental assessment process

Component	Proposal Characteristic	Description
Minesite	Mining rate	Approximately 20Mt/a
	Measured resource: Deposits "A" & "B"	458Mt & 236Mt
	Life of project	27-30 years
	Mine pit area: Deposits "A" & "B"	Approximately 460ha, 335ha
	Maximum pit depth Deposits "A" & "B"	Approximately 250m, 180m
	Depth to water table: • Deposit "A" • Deposit "B"	Approximately 102m (Fig 5.2 ERMP) 114m (Fig 5.3 ERMP)
	Area of overburden storage: • Deposit "A" • Deposit "B"	Approximately 850ha 600ha
	Dewatering requirements	Required to access ore below water table
	Dewatering discharge	Normally to process plant and dust control
	Area of disturbance	4031ha (camps, infrastructure, Deposits "A" and "B" and overburden waste dumps)
	Airstrip (runway)	Approximately 2.3km
	Diesel fuelled power station	Maximum demand 7200kW
	Water pipeline (above ground)	Approximately 30km
	Location of mine accommodation village	Approximately 9km north-west of minesite
	Workforce (entire project): • Construction • Operation	 Approximately 1200 Approximately 450
	Water supply source • Construction • Operation	Turee Creek B Borefield and minesite bores Approximately 2ML/day Approximately 4-6ML/day
Railway Locations	Train movements (170 cars per train)	22 /week
	Section	Route
	Coondewanna Flats	"CALM Mt Robinson" route, unless modified according to the requirements of condition 10
	Karijini	Marandoo Corridor
	Hamersley Station Flats	Four Corners Bore
	Hamersley Station Flats to Lower Chichester Ranges	Dampier-Tom Price alignment
	Millstream-Chichester National Park	Hamersley Parallel route, as modified according to the requirements of condition 10
Port	Ship Loading	15-20Mt/a
	Ships	397/a
	Reclamation for port stockpile	44.4ha
	Wharf extension	250m
	Dredging volume	Approximately 590,000m^3
All	Greenhouse gases (CO_2)	approx. 0.140Mt/a

Definitions of units:

"/a" means per annum
"km" means kilometres;
"ML/day" means million litres per day;
"Mt/a" means million tonnes per annum;
"m^3" means cubic metres.
"ha" means hectares (1 ha = 10,000 square metres)
"m" means metres;
"Mt" means million tonnes.
"ERMP" means Environmental Review and Management Programme

WEST ANGELAS IRON ORE PROJECT
SHIRES OF EAST PILBARA, ASHBURTON, ROEBOURNE
(Assessment No. 1144)

Figures

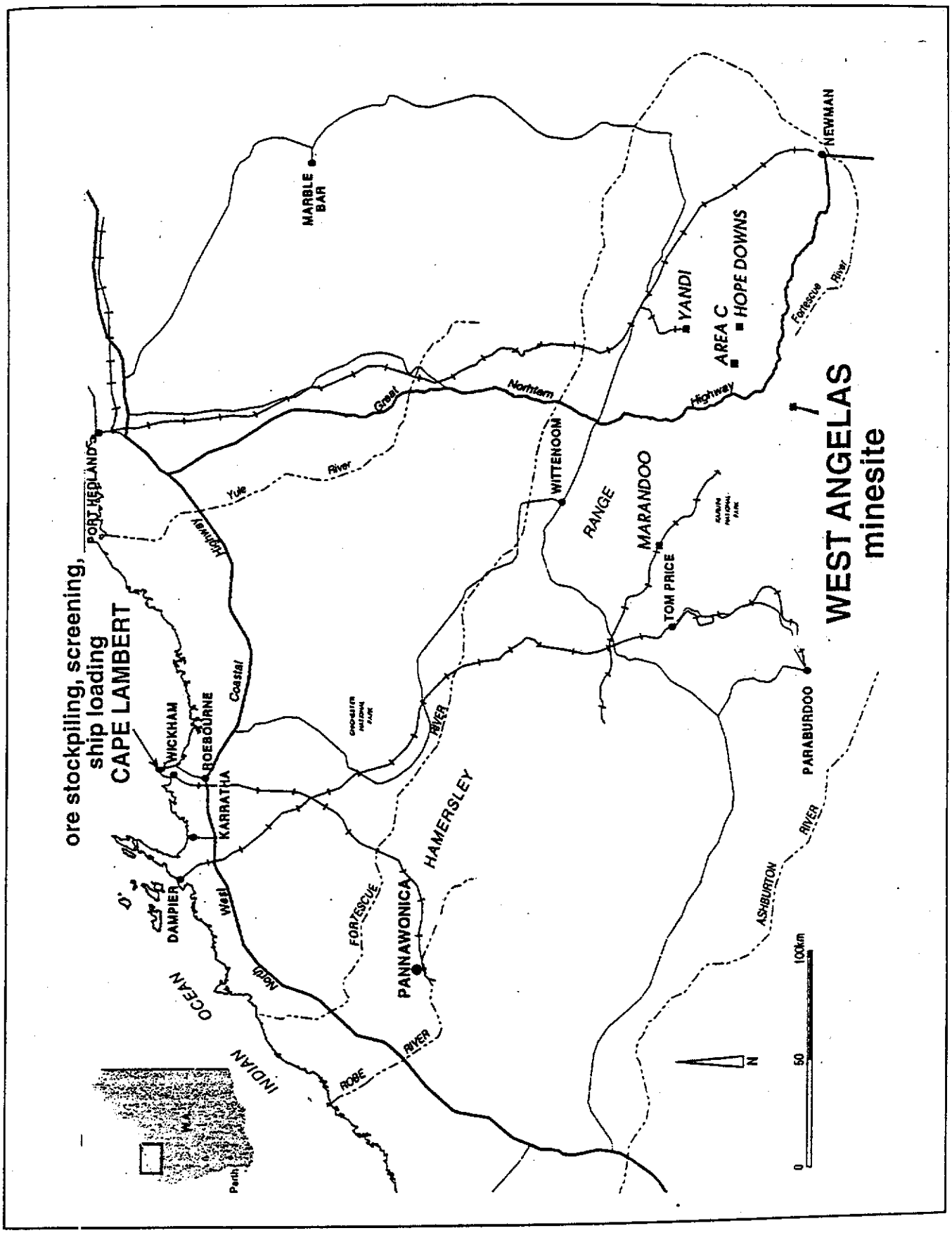


Figure 1. Project location showing mine site, port and existing railways.

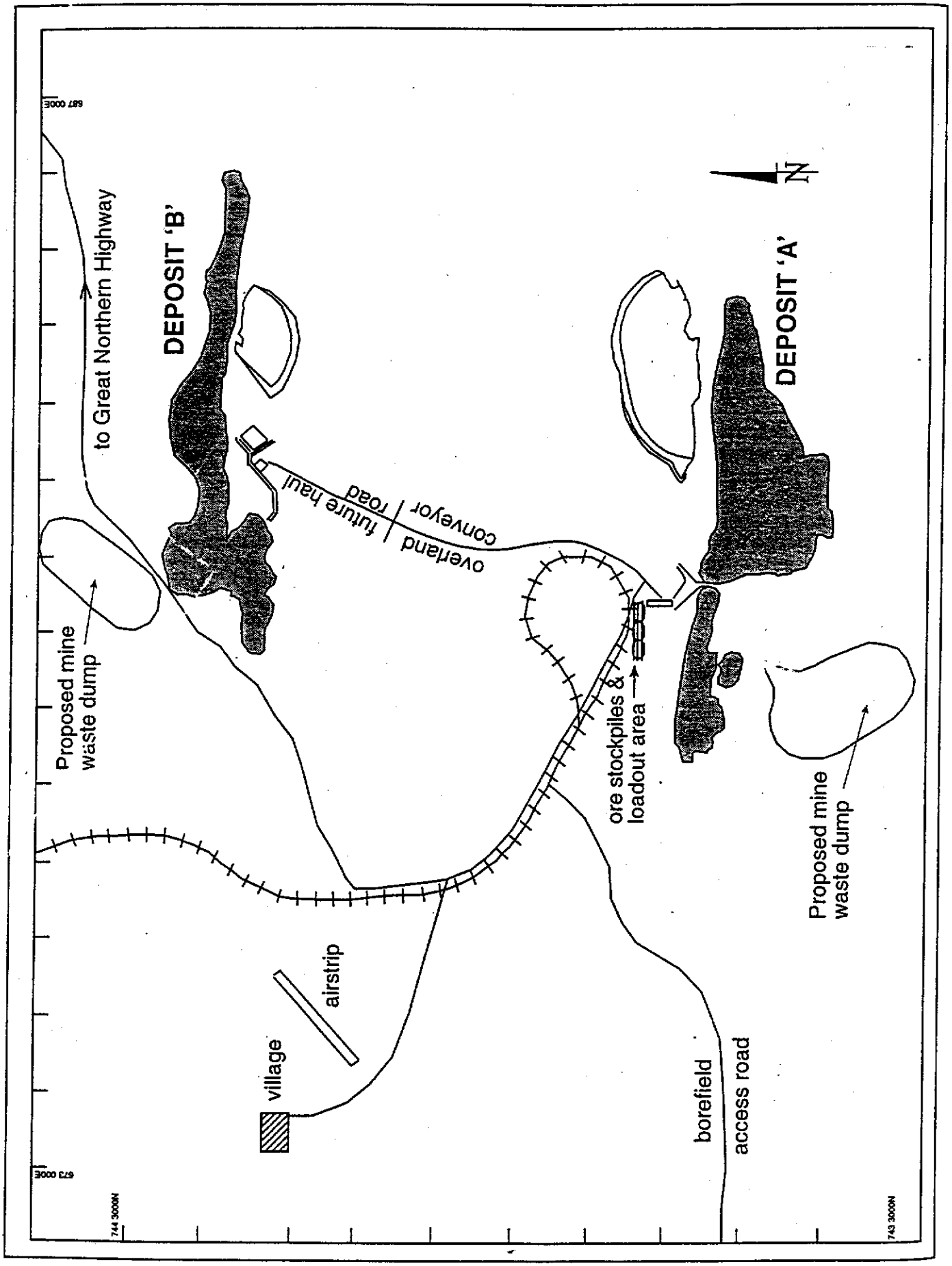


Figure 2. Main mine components.

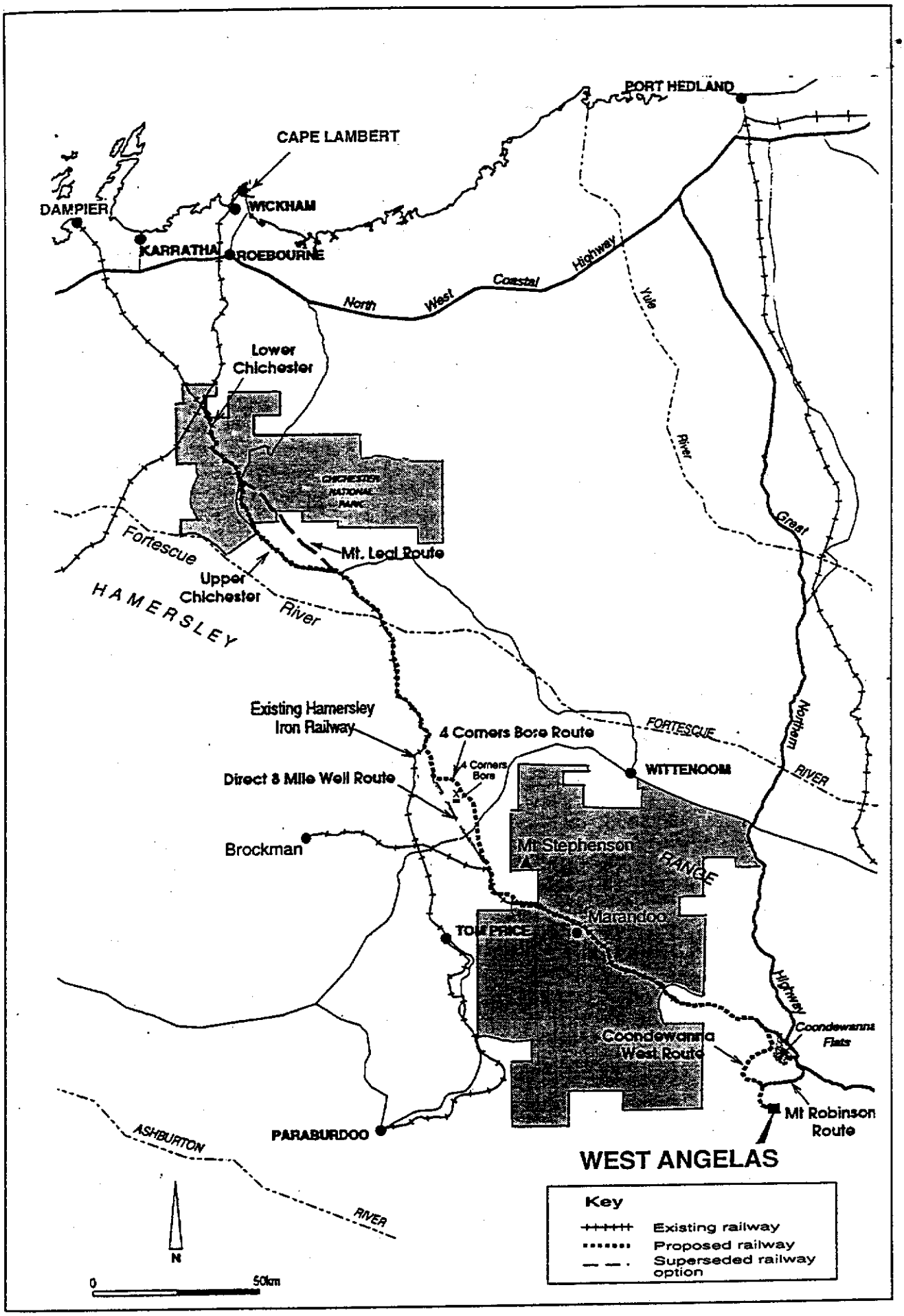


Figure 3. Rail route options considered.

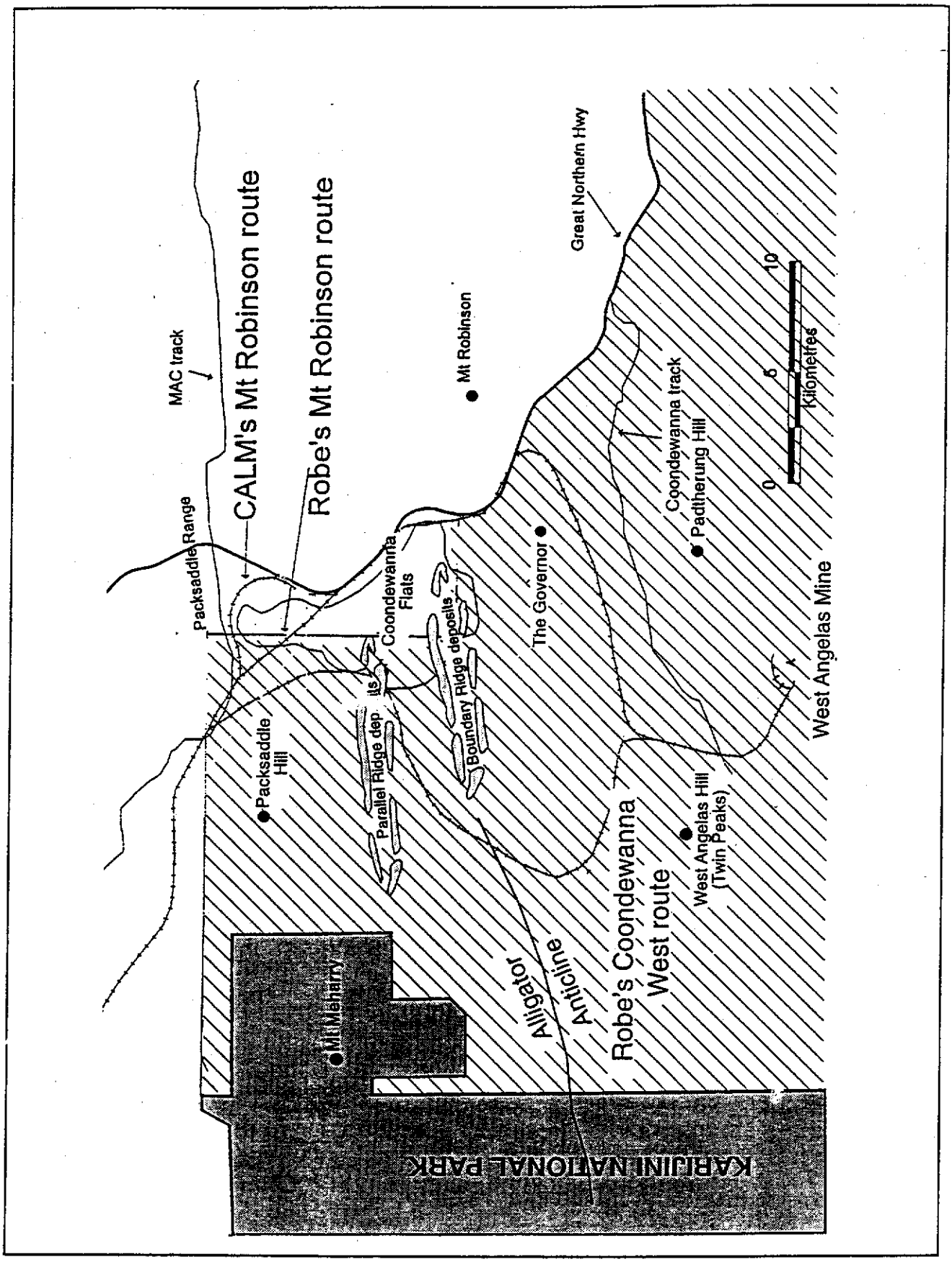


Figure 4. Coondewanna Flats sector, showing rail alignment options and schematic of BHP iron deposits in the area (Source: Department of Conservation & Land Management and BHP Iron Ore (respectively).

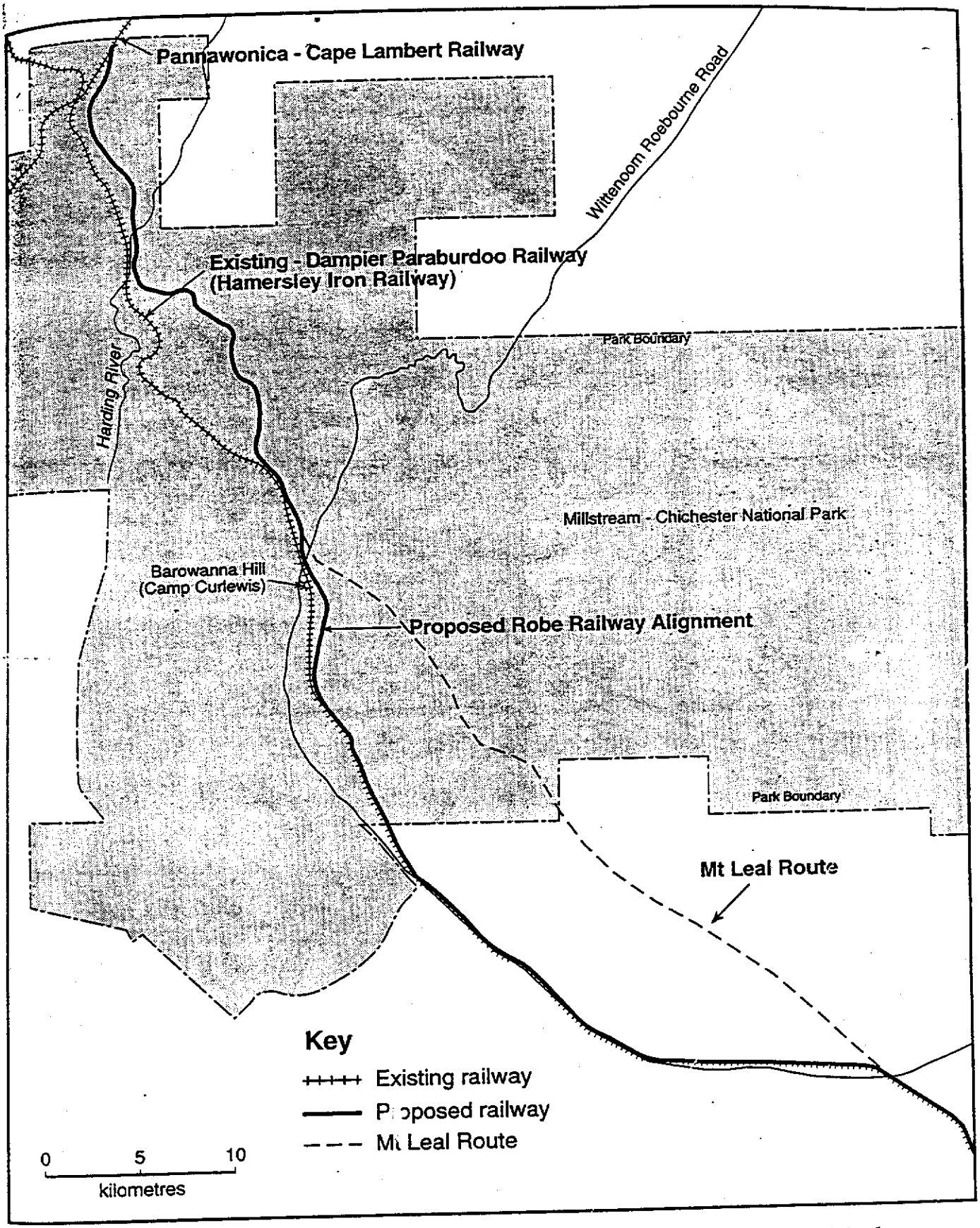


Figure 5. Existing and proposed railway routes through Millstream-Chichester National Park.

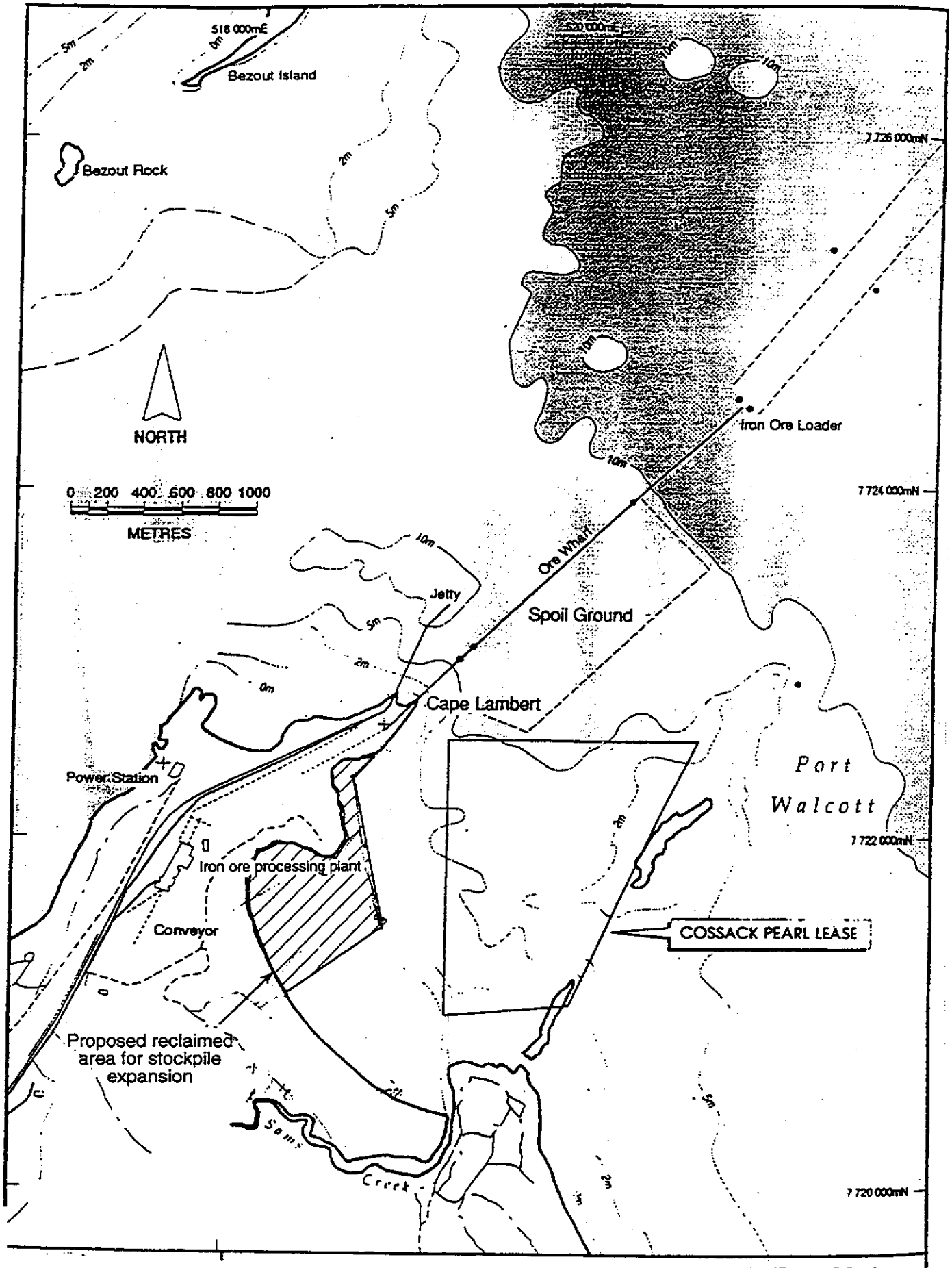


Figure 6. Cape Lambert Port Area showing existing and proposed facilities (Map by Enzer Marine Environmental Consulting)

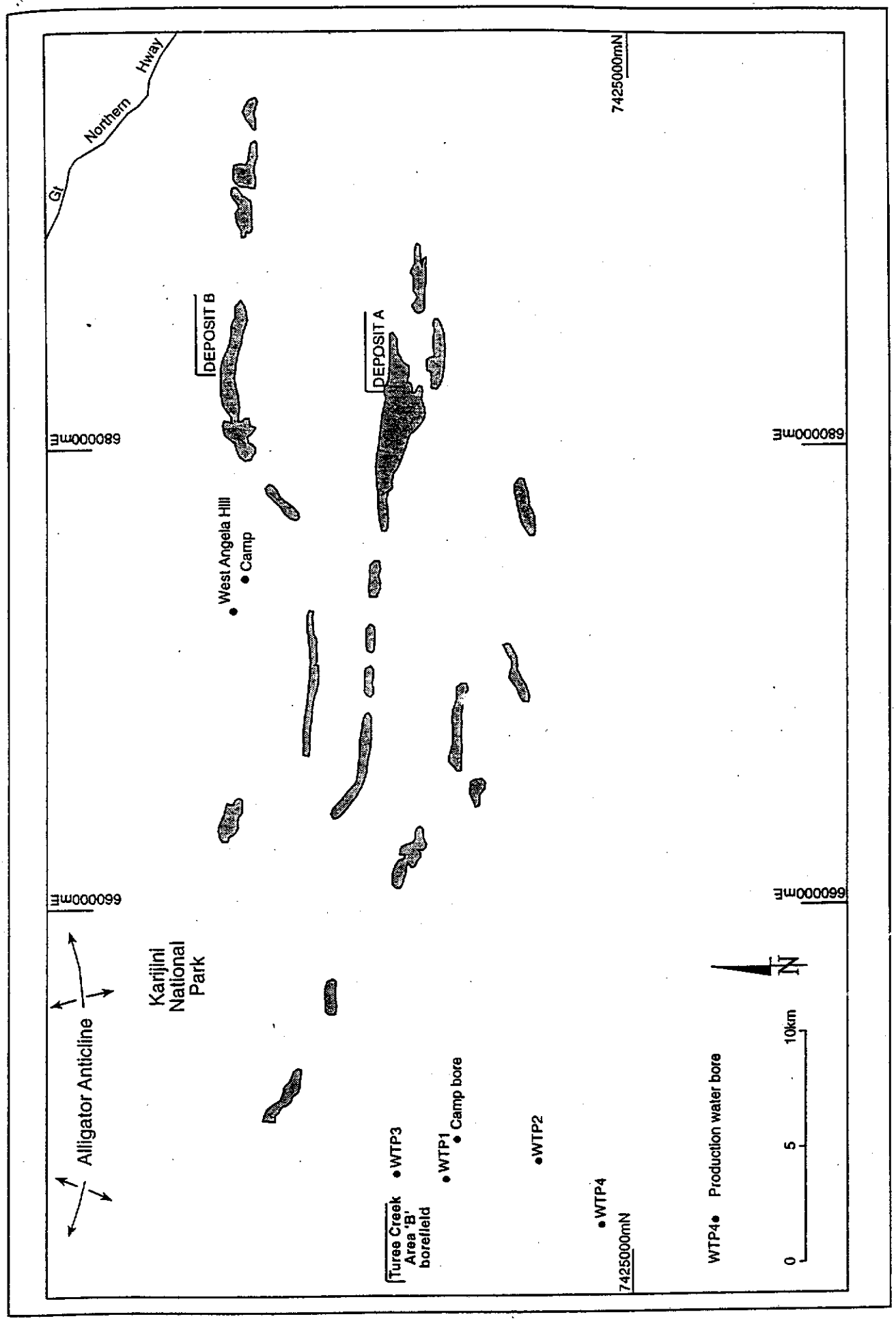


Figure 7. Relationship of borefield to West Angelas ore deposits.

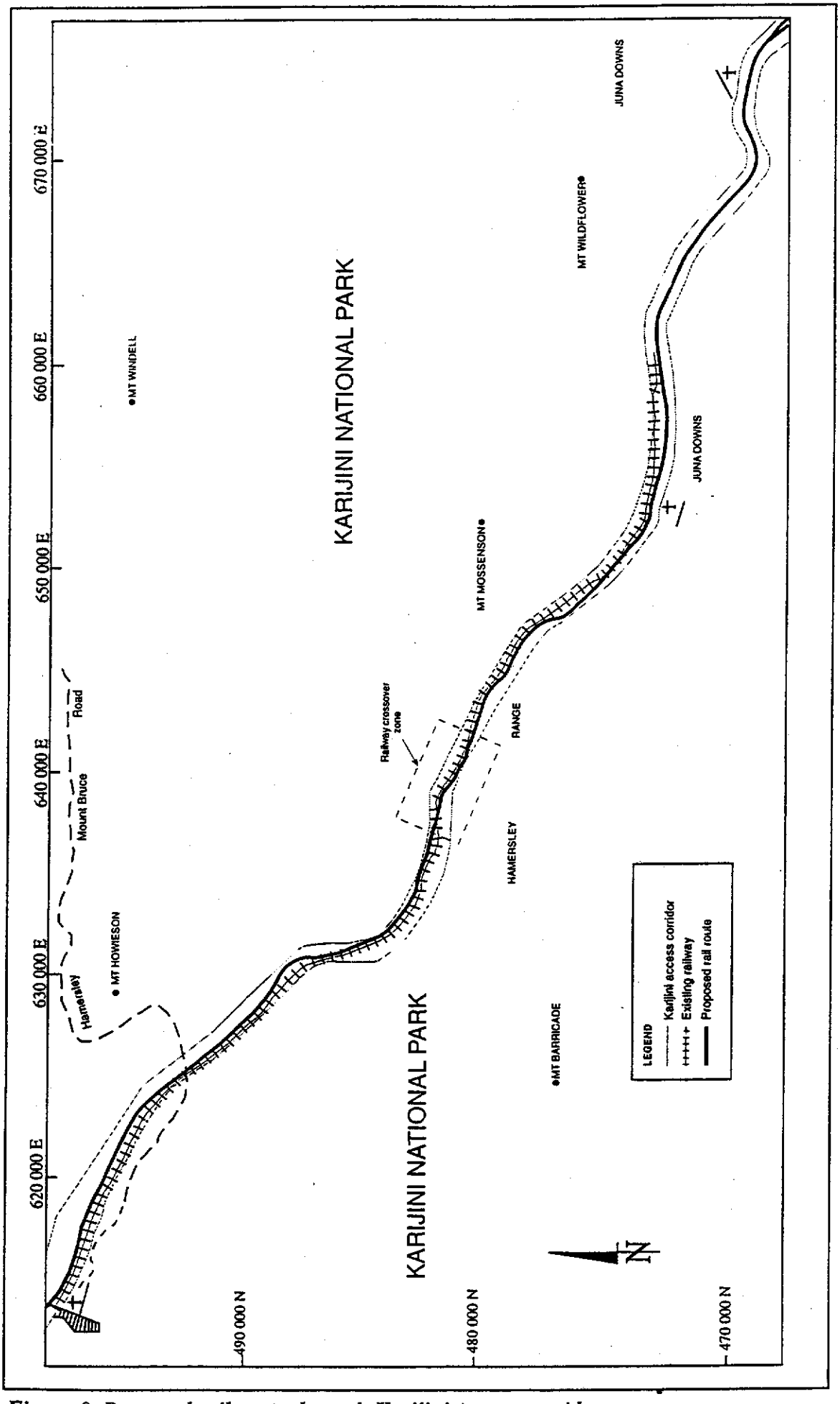


Figure 8. Proposed rail route through Karijini Access corridor.

Schedule 2

Proponent's Consolidated Environmental Management Commitments

December 1998

WEST ANGELAS IRON ORE PROJECT SHIRES OF EAST PILBARA, ASHBURTON, ROEBOURNE

(Assessment No. 1144)

Robe River Mining Co. Pty. Ltd.

Proponent's consolidated and modified commitments.

	Commitment (Who/What)	Objective (Why)	Action (How/Where)	Timing (When)	Whose advice	Measurement /Compliance criteria
1	Turbidity from construction of the Cape Lambert stockpile extension area will be kept below defined criteria.	To minimise turbidity generation and impacts on marine flora and fauna.	The proponent will prepare a stockpile marine extension management plan based upon constructing the external wall first using clean waste rock and then backfilling behind the wall, to the southeast of the existing stockpiles.	Prior to construction phase.	DEP	Management plan developed and implemented.
2	Maintain existing natural drainage lines where practical and minimise potential for erosion.	To minimise changes to watercourse hydrology.	The size and type of drainage structure will be determined using design methods appropriate to the region and the relevant catchments. Major crossings, being those having a 50 year design flow of >500 cubic metres a second using the RORB method, or equivalent, will be designed for no less than a normal 30 year recurrence interval. Minor crossings will be designed for no less than a nominal 20 year recurrence interval and culverts with existing waterway alignments to ensure minimal scouring or change of drainage system direction.	Pre-construction.	WRC	Plans approved by WRC and culverts built to plans.
3	Drainage Diversion Management Plans will be prepared for the minesite deposits and associated infrastructure in the vicinity of the minesite.	To minimise erosion, sediment transport and turbidity.	The Plan will include, but not be limited to consideration of: • potential impacts to Mulga woodlands or other vegetation associations of conservation significance (e.g. cracking clays); • detailed engineering, topographic and hydrological assessments; • strategies to mitigate impacts; • monitoring programmes to assess impacts; and • a description of remedial actions available.	Prior to commencement of mining-related earthworks for each deposit.	WRC, CALM	Approved drainage diversion management plans developed and implemented.

	Commitent (Who/What)	Objective (Why)	Action (How/Where)	Timing (When)	Whose advice	Measurement /Compliance criteria
4	The proponent will allow other mining companies to use the rail corridor.	To reduce the need for multiple service corridors through national parks.	By permitting other companies to widen cuttings and fill adjacent to the existing alignment in national ps so as to utilise the existing alignment, provided there is no cost or interference to Robe's rail operations. Along the rail alignment within national parks.	Life of project.	DRD	Provide documentation demonstrating permission given if application is made by a third party.
5	An Environmental Management Plan will be prepared and implemented and which would include but not be limited to consideration of: • cracking clay communities; • Mulga communities; • flora and fauna with special management needs; • rehabilitation; • drainage design along the railway; • fire and dust management; • implementat-ion of relevant aspects of DME guidelines; • timing for implementation of commitments;	To ensure the environ-ment is protected by consolidat-ing environ-mental managment require-ments into one concise document.	Continue to update existing environmental management systems which would include, but not be limited to consideration of: • prevention of impacts to cracking clay communities in the minesite area by isolation from disturbance (e.g using environmental exclusion zones) and preventing the incursion of environmental weeds; • prevention of impacts to significant association of Mulga over Chenopodiaceous shrubs and hummock grasses (6adb25, site 892A), particularly by avoiding changes to surface hydrology; • management of flora and fauna species of conservation value which need special management; • rehabilitation and revegetation of disturbed areas with particular attention to incorporating species of conservation and scientific significance and locally collected seed; • drainage design along the railway at watercourse crossings and through sheet flow areas (i.e. mulga); • weed management including the minesite and railways; • fire management;	Prior to construction.	DEP	Annual Performance and Compliance report.

	Commitent (Who/What)	Objective (Why)	Action (How/Where)	Timing (When)	Whose advice	Measurement /Compliance criteria
	• reporting.		• dust management, implementation of Department of Minerals and Energy guidelines for Mining in Arid Environments, Asbestos Management in Mining, and Environmental Management of Quarries; • measures to prevent contamination of groundwater and surface waters; • an overview of timing for implementation of commitments; and • reporting requirements, including those for the Greenhouse Challenge Programme.			
6	Additional surveys will be undertaken to address flora, fauna and groundwater.	To minimise flora and fauna impacts associated with specific proposals.	An environmental assessment will be undertaken of: • flora and fauna along the pipeline from the borefield to the minesite area; • proposed water supply points, to ensure access tracks and associated activities do not have any adverse impact on significant flora and fauna populations; • flora at the locations of any communication repeater stations located outside corridors of biological assessment (eg on hilltops of Hamersley Ranges); • flora and fauna at quarry sites (ballast and aggregate supply) on Four Corners Bore Route; • significant areas of flora and vegetation along the proposed rail route through the Marandoo Corridor; • flora and fauna of areas where surveys have been inadequate along the rail route when the rail route alignment is pegged; and • flora and fauna along the West Angelas Minesite access road.	Prior to construction	CALM	Reports agreed to by CALM

	Commitent (Who/What)	Objective (Why)	Action (How/Where)	Timing (When)	Whose advice	Measurement /Compliance criteria
7	Assist WA Museum	to minimise and manage impacts to stygofauna around the minesite and the borefield	• sampling and identification of stygofauna species within areas where groundwater drawdown from abstraction and mine dewatering is predicted; • assessment of the conservation significance of any species found; • mapping of the local distribution of species sampled; • undertaking further sampling of the full extent of the West Angelas Jeerinah Formation if species distribution is found to be a significant issue	prior to mine dewatering and prior to groundwater abstraction from the Turee Creek B Borefield	WA Museum CALM DEP	sample results from bores provided to WA Museum, CALM and DEP
8	Bores for production and standby use in the Jeerinah Formation dolerite rocks	if further research indicates that stygofauna species present are of significant conserva-tion value	production and standby bores will be avoided as far as possible where proposed for Jeerinah Formation dolerite rock shear zones	when results from further reaearch become available	WRC, WA Museum CALM, DEP	the number of operational water bores in the Jeerinah Formation dolerite rock shear zones
9	Bores to provide water for the construction phase	there have been no stygofauna found from bore sampling in this area	bores (including WAAPB 1 and WAAPB 2) to supply water for the construction phase will be sited in Deposit A if possible	construction phase	WA Museum CALM, DEP	water bores for construction sited only in Deposit A or where no stygofauna are present
10	Monitor production and dewatering bores for stygofauna abundance and water levels	to ensure that subterranean conditions for the protection of stygofauna are met	where stygofauna are present	throughout the life of the mine	WRC, WA Museum CALM, DEP	monitoring data to show that stygofauna in bores with populations of stygofauna are protected

	Commitent (Who/What)	Objective (Why)	Action (How/Where)	Timing (When)	Whose advice	Measurement /Compliance criteria
11	Drawdown and fauna abundance monitoring will be performed	to enable populations of stygofauna known in the named bores to be monitored for their protection	on bores WB 32, WB 41, WB 51, WB 54, and WB 58	throughout the life of the mine	WA Museum CALM, DEP	results from the monitoring of the named bores
12	Pumping rates will be re-assessed or stopped	to ensure that subterranean conditions for the protection of stygofauna are met	from water bores used for water production or dewatering	if a significant drop in stygofauna abundance is noted in conjunction with water table depression	WRC, WA Museum CALM, DEP	timely response to results of monitoring resulting in an altered regime for the protection of stygofauna species abundance
13	Alternative bores will be utilised at a distance	to ensure that subterranean conditions for the protection of stygofauna are met	where water production and related drawdown does not extend into bores containing stygofauna	when stygofauna have been found to exhibit a significant drop in fauna diversity and/or abundance due to water extraction	WRC, WA Museum CALM, DEP	water levels in bores containing stygofauna not depressed as a result of drawdown from production or dewatering bores
14	Workshops, stores and fuel depots	to prevent pollution to groundwater	will be constructed to comply with DME guidelines for the prevention of pollution to groundwater, with self-contained drainage, storage and treatment systems	construction phase	DME, DEP	all spills are collected and treated so that none enters the ground
15	Monitoring of stygofauna abundance and water table levels	to ensure that stygofauna present in the bore are protected	at the Pastoral Bore, approximately 8km west of the Turee Creek B borefield	when Turee Creek B borefield is operational	WRC, DEP, WA Museum CALM	water levels remain unaffected by water production from Turee Creek B borefield

	Commitent (Who/What)	Objective (Why)	Action (How/Where)	Timing (When)	Whose advice	Measurement /Compliance criteria
16	Further survey and monitoring will be carried out	to ensure that production bores do not have stygofauna populations and are not near enough to other bores where stygofauna may be affected	in the expanded borefield	prior to identifying production bores	WRC, DEP, WA Museum CALM	data from further surveys made available to agencies show that no stygofauna present in proposed production bores
17	Monitoring programme will be implemented (as for the mine area as described above)	to ensure that stygofauna present in the expanded borefield are protected	where stygofauna are found in the expanded borefield	prior to production from an exanded borefield	WRC, DEP, WA Museum CALM	data from the monitoring programme show results indicating no significant loss of stygofauna abundance or drawdown in water levels
18	Mine staff briefed	to ensure that aims and strategies to protect stygofauna are understood	environmental issues and management recommendations relevant to the protection of stygofauna	prior to construction phase	WA Museum CALM, DME, DEP	approved staff induction procedures
19	Flora and fauna survey data provided to government agencies in a compatible format	to enable government to consolidate data in a GIS for regional use	from the region of interest associated with the West Angelas mine proposal (including the rail route)	prior to construction and when further surveys are carried out	DEP	survey data are able to be accessed and used

CALM = Department of Conservation & Land Management
DEP = Department of Environmental Protection
DME = Department of Minerals & Energy
DRD = Department of Resources Development
WRC = Water & Rivers Commission

Attachment to Statement 514

Change to Description of Proposal

Proposal: West Angelas Iron Ore Project, Shire of East Pilbara, Ashburton and Roebourne

Proponent: Robe River Mining Co. Pty Ltd

Change: to Schedule 1 characteristic

From:

Element	Quantities/Description
Mining rate (throughput production of iron ore)	25 million tonnes per annum (approved 23/9/03); original approval for 20 Mtpa.

To:

Element	Quantities/Description
Mining rate (throughput production of iron ore)	Approximately 30 Mtpa.

Approval Date: 11/04/06

Attachment 1

Attachment to West Angelas Statement 514

Change to description of Proposal

Proposal: West Angelas Iron Ore Project. The development of an iron ore mine at Deposits 'A' and 'B', and ore processing operation at West Angelas, 130 kilometres west of Newman; construction of a rail line and expansion of port facilities at Cape Lambert.

Proponent: Pilbara Iron (on behalf of Robe River Mining Co. Pty. Ltd.)

Change: Additional Rail Siding - Spoonbill

Features of currently approved Proposal:

Element	**Quantities/Description**
Railway	Single standard gauge railway line
Disturbance Area	4031 hectares

Features of approved change to Proposal:

Element	**Quantities/Description**
Railway	Additional rail siding at Spoonbill – located from approx 384.6km to 387.3km on the existing West Angelas line.
Disturbance Area	4067 hectares

Approval Date: 29/11/06

Attachment 2 to Statement 514

Change to Proposal

Proposal: West Angelas Iron Ore Project, Shires of East Pilbara, Ashburton and Roebourne.

Proponent: Rio Tinto Iron Ore (on behalf of Robe River Mining Co. Pty. Ltd.)

Change: Change to the rail alignment along Hamersley Flats (as shown on Figure 1).

Features of currently approved Proposal:

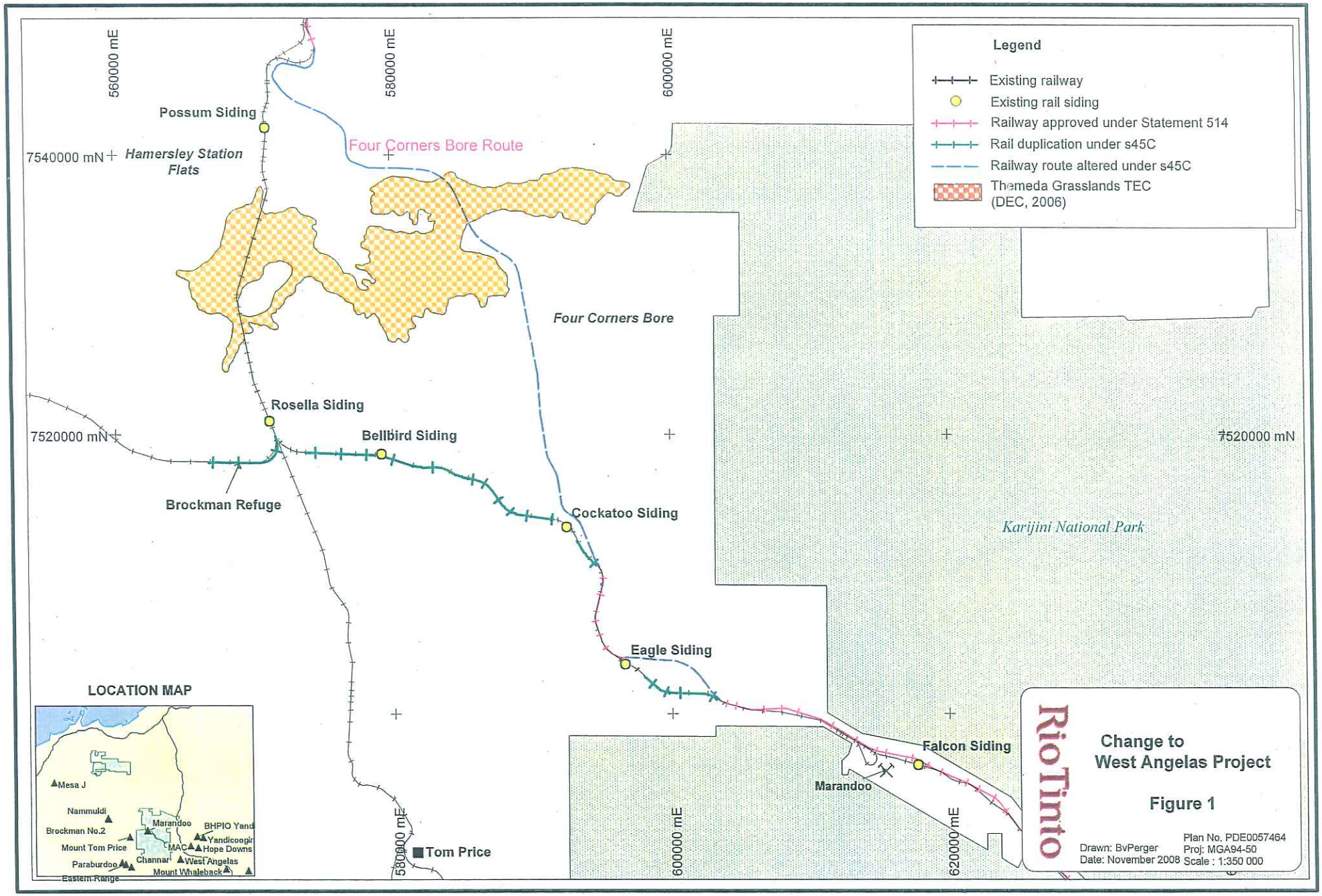
Component	Proposal Characteristic	Description
Railway Locations	Section Hamersley Station Flats	Route: Four Corners Bore

Features of approved change to Proposal:

Component	Proposal Characteristic	Description
Railway Locations	Section Hamersley Station Flats	Route: Marandoo Rail corridor (east of Eagle Siding to west of Rosella Siding – connecting to the existing Dampier-Tom Price rail infrastructure)

Dr Paul Vogel
Chairman
Environmental Protection Authority
under delegated authority

Approval date: 13.2.09


560000 mE
580000 mE
600000 mE
620000 mE
Possum Siding
7540000 mN
Hamersley Station Flats
Four Corners Bore Route
Four Corners Bore
Rosella Siding
7520000 mN
Bellbird Siding
Brockman Refuge
Cockatoo Siding
Karijini National Park
Eagle Siding
Falcon Siding
Marandoo
Tom Price
Legend
Existing railway
Existing rail siding
Railway approved under Statement 514
Rail duplication under s45C
Railway route altered under s45C
Themeda Grasslands TEC (DEC, 2006)
LOCATION MAP
Mesa J
Nammuldi
Brockman No.2
Marandoo
BHPIO Yand
Yandicoogir
Hope Downs
Mount Tom Price
MAC
Channar
West Angelas
Paraburdoo
Mount Whaleback
Eastern Range
RioTinto
Change to West Angelas Project
Figure 1
Drawn: BvPerger
Date: November 2008
Plan No. PDE0057464
Proj: MGA94-50
Scale : 1:350 000

Attachment 3 to Statement 514

Change to Proposal

Proposal: West Angelas Iron Ore Project, Shires of East Pilbara, Ashburton and Roebourne

Proponent: Robe River Mining Co. Pty. Ltd.

Change: Increase throughput to 40 million tonnes per annum, update of mine figure (Figure 10) and amendments to Key Characteristics Table.

Key Characteristics Table

Element	Description of Approved Proposal	Description of Approved Changes to Proposal
Minesite		
Mining rate (throughput production of iron ore)	Approximately 30 Mtpa.	**Approximately 40 million tonnes per annum**
Measured resource: Deposits "A" & "B"	458 Mt & 236 Mt	**Removed – no longer relevant to assessment criteria**
Life of project	27-30 years	27-30 years
Mine pit area: Deposits "A" & "B"	Approximately 460ha, 335ha	**Removed – Area included in "Area of disturbance"**
Maximum pit depth: • Deposit "A" • Deposit "B"	Approximately 250m, 180m	Approximately • 250 metres • 180 metres
Depth to water table: • Deposit "A" • Deposit "B"	Approximately 102m (Fig 5.2 ERMP) 114m (Fig 5.3 ERMP)	Approximately • 102 metres • 114 metres
Area of overburden storage: • Deposit "A" • Deposit "B"	Approximately 850ha, 600ha	**Removed – Area included in "Area of disturbance"**
Dewatering requirements	Required to access ore below water table	Required to access ore below water table
Dewatering discharge	Normally to process plant and dust control	Normally to process plant and dust control
Area of disturbance	4067ha (camps, infrastructure, Deposits "A" and "B" and overburden waste dumps)	4,067 hectares (camps, infrastructure, Deposits "A" and "B" and overburden waste dumps)
Air strip (runway)	Approximately 2.3km	Approximately 2.3 kilometres
Diesel fuelled power station	Maximum demand 7200kW	Maximum demand 7,200 kilowatts
Water pipeline (above ground)	Approximately 30km	Approximately 30 kilometres
Location of mine accommodation village	Approximately 9km north-west of minesite	Approximately 9 kilometres north-west of minesite
Workforce (entire project) • Construction • Operation	Approximately 1200 Approximately 450	**Removed – no longer relevant to assessment criteria**

Element	Description of Approved Proposal	Description of Approved Changes to Proposal
Water supply source • Construction • Operation	Turee Creek B Borefield and minesite bores Approximately 2ML/day Approximately 4-6ML/day	Turee Creek B Borefield and minesite bores • Approximately 2 million litres per day • Approximately 4-6 million litres per day
Railway Locations		
Train movements (170 cars per train)	22 / week	22 per week
Railway	Additional rail siding at Spoonbill – located from approx 384.6km to 387.3km on the existing West Angelas line	Additional rail siding at Spoonbill – located from approx 384.6 kilometres to 387.3 kilometres on the existing West Angelas line
Section	Route	Route
Coondewanna Flats	"CALM Mt Robinson" route, unless modified according to the requirements of condition 10	"CALM Mt Robinson" route, unless modified according to the requirements of Condition 10
Karijini	Marandoo Corridor	Marandoo Corridor
Hamersley Station Flats	Marandoo Rail corridor (east of Eagle Siding to west of Rosella Siding – connecting to the existing Dampier-Tom Price rail infrastructure	Marandoo Rail corridor (east of Eagle Siding to west of Rosella Siding – connecting to the existing Dampier-Tom Price rail infrastructure
Hamersley Station Flats to Lower Chichester Ranges	Dampier-Tom Price alignment	Dampier-Tom Price alignment
Millstream – Chichester National Park	Hamersley Parallel route, as modified according to the requirements of condition 10	Hamersley Parallel route, as modified according to the requirements of Condition 10
Port		
Ship Loading	15-20Mt/a	15-20 million tonnes per annum
Ships	397/a	**Removed – no longer relevant to assessment criteria**
Reclamation for port stockpile	44.4ha	44.4 hectares
Wharf extension	250m	250 metres
Dredging volume	Approximately 590,000m^3	Approximately 590,000 cubic metres
All		
Greenhouse gases (CO_2)	approx. 0.140 Mt/a	approximately 0.140 million tonnes per annum

List of Figures:
Figure 10: West Angelas Ministerial Statement 514 Updated Approval Outline

Dr Paul Vogel
CHAIRMAN
Environmental Protection Authority
under delegated authority

Approval date: 20.8.09

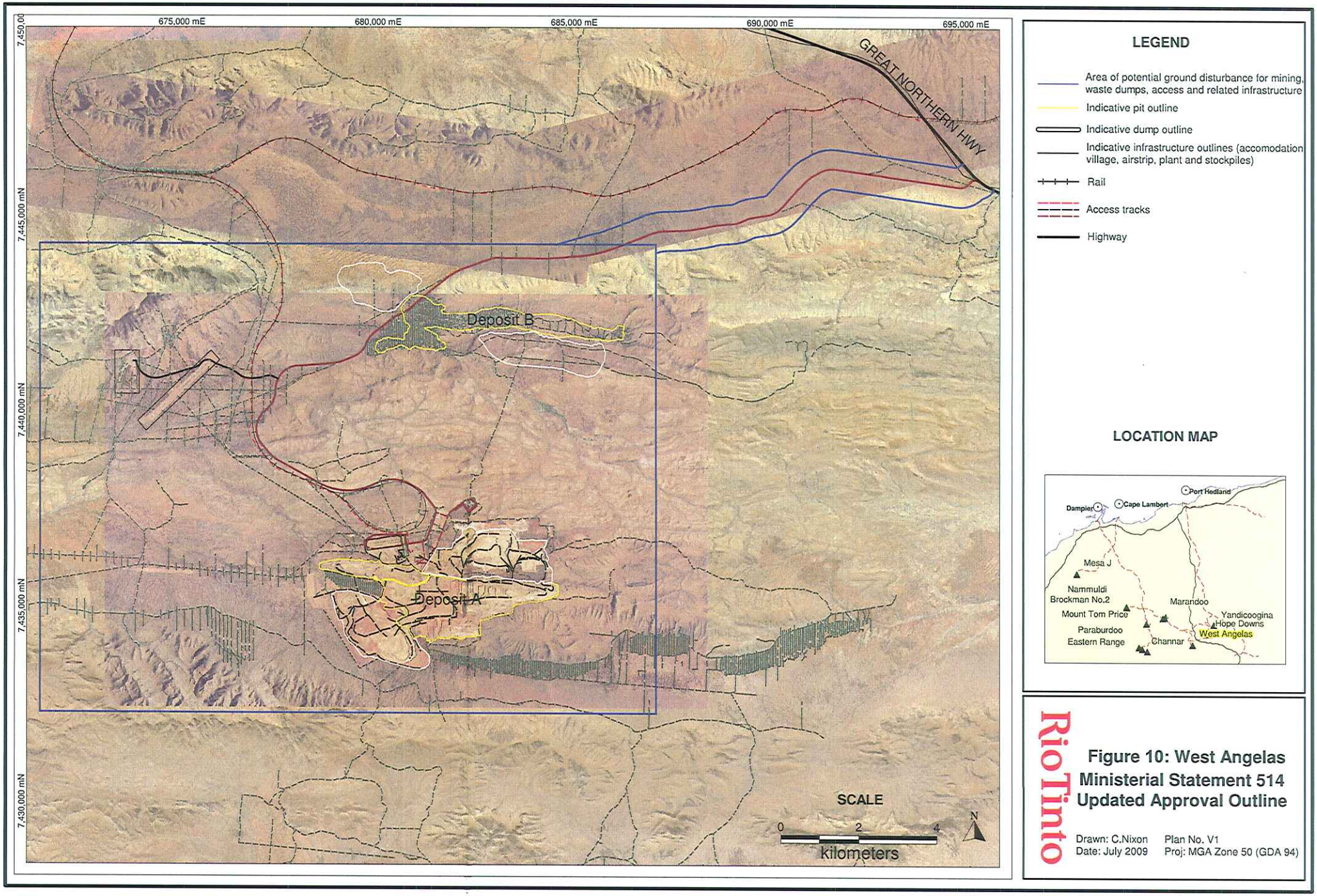


Figure 10: West Angelas infrastructure and minesite layout

Attachment 4 to Ministerial Statement 514

Change to Proposal

Proposal: West Angelas Iron Ore Project, Shires of East Pilbara, Ashburton and Roebourne

Proponent: Robe River Mining Company Pty Ltd

Change: Deepening of existing pits and addition of Pit E

Key Characteristics Table:

Element	Description of Approved Proposal	Description of Approved Changes to Proposal
Minesite		
Mining rate (throughput production of iron ore)	Approximately 40 million tonnes per annum	Approximately 40 million tonnes per annum
Life of project	27-30 years	27-30 years
Maximum pit depth: • Deposit "A" • Deposit "B" • **Deposit "E"**	Approximately • 250 metres • 180 metres	Approximately • **512 mRL** • **575 mRL** • **580 mRL**
Depth to water table: • Deposit "A" • Deposit "B" • **Deposit "E"**	Approximately • 102 metres • 114 metres	Approximately • **640 mRL** • **630 mRL** • **665 mRL**
Dewatering requirements	Required to access ore below water table	Required to access ore below water table
Dewatering discharge	Normally to process plant and dust control	**Dewatering water will be used onsite in the first instance to supply water for operational purposes (processing and dust control)** **Excess dewatering water will be discharged to a natural drainage line(s)**
Area of disturbance	4,067 hectares (camps, infrastructure, Deposits "A" and "B" and overburden waste dumps)	**Not more than 4667 hectares (Deposits A, B and E pits, waste dumps, stockpiles, associated infrastructure, access and accommodation village)**
Air strip (runway)	Approximately 2.3 kilometres	Approximately 2.3 kilometres
Diesel fuelled power station	Maximum demand 7,200 kilowatts	Maximum demand 7,200 kilowatts
Water pipeline (above ground)	Approximately 30 kilometres	Approximately 30 kilometres
Location of mine accommodation village	Approximately 9 kilometres north-west of minesite	**Removed as not environmentally significant**

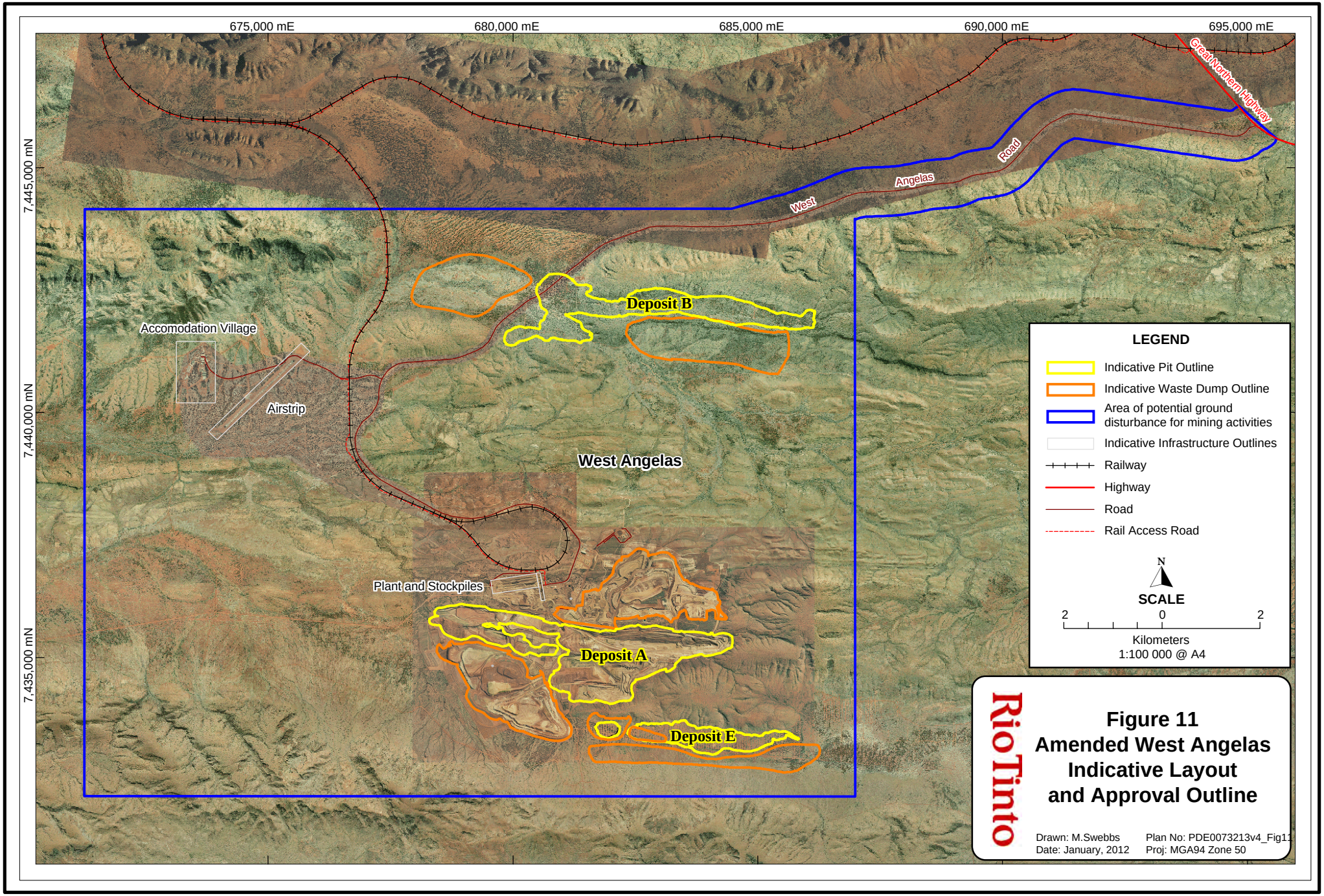
Element	Description of Approved Proposal	Description of Approved Changes to Proposal
Water supply source • Construction • Operation	Turee Creek B Borefield and minesite bores • Approximately 2 million litres per day • Approximately 4-6 million litres per day	**Approximately 4-6 million litres per day from the Turee Creek B Borefield and minesite bores**
Railway Locations		
Train movements (170 cars per train)	22 per week	22 per week
Railway	Additional rail siding at Spoonbill – located from approx 384.6 kilometres to 387.3 kilometres on the existing West Angelas line	Additional rail siding at Spoonbill – located from approx 384.6 kilometres to 387.3 kilometres on the existing West Angelas line
Section	Route	Route
Coondewanna Flats	"CALM Mt Robinson" route, unless modified according to the requirements of Condition 10	"CALM Mt Robinson" route, unless modified according to the requirements of Condition 10
Karijini	Marandoo Corridor	Marandoo Corridor
Hamersley Station Flats	Marandoo Rail corridor (east of Eagle Siding to west of Rosella Siding – connecting to the existing Dampier-Tom Price rail infrastructure	Marandoo Rail corridor (east of Eagle Siding to west of Rosella Siding – connecting to the existing Dampier-Tom Price rail infrastructure
Hamersley Station Flats to Lower Chichester Ranges	Dampier-Tom Price alignment	Dampier-Tom Price alignment
Millstream – Chichester National Park	Hamersley Parallel route, as modified according to the requirements of Condition 10	Hamersley Parallel route, as modified according to the requirements of Condition 10
Port		
Ship Loading	15-20 million tonnes per annum	15-20 million tonnes per annum
Reclamation for port stockpile	44.4 hectares	44.4 hectares
Wharf extension	250 metres	250 metres
Dredging volume	Approximately 590,000 cubic metres	Approximately 590,000 cubic metres
All		
Greenhouse gases (CO2)	approximately 0.140 million tonnes per annum	approximately 0.140 million tonnes per annum

Note: Text in bold in the Key Characteristics Table, indicates change/s to the proposal.

Figure 11: Amended West Angelas Layout

Dr Paul Vogel
CHAIRMAN
Environmental Protection Authority
under delegated authority

Approval date: 30 January 2012


675,000 mE
680,000 mE
685,000 mE
690,000 mE
695,000 mE
7,445,000 mN
7,440,000 mN
7,435,000 mN
Great Northern Highway
Road
Angelas
West
Deposit B
Accomodation Village
Airstrip
West Angelas
Plant and Stockpiles
Deposit A
Deposit E
LEGEND
Indicative Pit Outline
Indicative Waste Dump Outline
Area of potential ground disturbance for mining activities
Indicative Infrastructure Outlines
Railway
Highway
Road
Rail Access Road
N
SCALE
2 0 2
Kilometers
1:100 000 @ A4
RioTinto
Figure 11
Amended West Angelas
Indicative Layout
and Approval Outline
Drawn: M.Swebbs
Date: January, 2012
Plan No: PDE0073213v4_Fig11
Proj: MGA94 Zone 50

Attachment 5 to Ministerial Statement 514

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

Attachment 5 replaces Schedule 1 and Attachment 4 of Ministerial Statement 514

Proposal: West Angelas Iron Ore Project, Shire of East Pilbara, Ashburton and Roebourne

Proponent: Robe River Mining Co. Pty Ltd

The Proposal (Assessment No.1144) (Revised Description)

Development and operation of an open-cut iron ore mine and associated infrastructure at the West Angelas Iron Ore Mine, 130 kilometres west of Newman in the Pilbara region (Figure 1). Iron ore is to be mined from above and below the water table in Deposits A, B and E. The general lay out of the mine and facilities are documented in Figure 2.

The mining operations are supplied with water from the mine dewatering bores and water from the Turee Creek B Borefield, located approximately 30 kilometres west of the minesite.

Railway infrastructure from West Angelas to the Port facilities at Cape Lambert (Figure 3).

Changes:

- Amendment to “Proposal Description”; and
- Deletion of the “Key Characteristics” from Schedule 1 which are not relevant to the environment or managed by another process.

Key Characteristics Table:

Element	Description of proposal	Description of approved change to proposal
Minesite		
Mining rate	Approximately 40 million tonnes per annum	**"Mining rate" and "Life of project" removed as they are not key environmental factors relevant to the environment.**
Life of project	27-30 years	
Maximum pit depth: • Deposit "A" • Deposit "B" • Deposit "E"	Approximately • 512 mRL • 575 mRL • 580 mRL	**"Maximum pit depth" and "Depth of each pit to water table" removed as they are managed by dewatering discharge conditions of Licence issued under Part V of the *Environmental Protection Act 1986* (EP Act).**
Depth to water table: • Deposit "A" • Deposit "B" • Deposit "E"	Approximately • 640 mRL • 630 mRL • 665 mRL	
Dewatering requirements	Required to access ore below water table	**The description of "Dewatering requirements" removed as it is contained in the Proposal description.**
Dewatering discharge	Dewatering water will be used onsite in the first instance to supply water for operational purposes (processing and dust control). Excess dewatering water will be discharged to a natural drainage line(s).	**"Dewatering discharge" removed as it is managed under the conditions of Licence issued under Part V of the *Environmental Protection Act 1986* (EP Act).**
Area of Disturbance	Not more than 4667 hectares (Deposits A, B and E pits, waste dumps, stockpiles, associated infrastructure, access and accommodation village).	**4667 hectares (ha) Area of Disturbance within a 19,853 ha development envelope as below:** **Mining area (deposits A, B and E):** **Clearing of no more than 1400 ha.** **Waste dumps:** **Clearing of no more than 1600 ha.** **Associated infrastructure, access and accommodation:** **Clearing of no more than 1667 ha.**

Element	Description of proposal	Description of approved change to proposal
Air strip (runway)	Approximately 2.3 kilometres	**"Air strip", "Diesel fuelled power station", and "Water pipeline above ground" removed as not significant Key Characteristics.**
Diesel fuelled power station	Maximum demand 7,200 kilowatts	
Water pipeline (above ground)	Approximately 30 kilometres	
Water supply source • Construction • Operation	Approximately 4-6 million litres per day from the Turee Creek B Borefield and minesite bores.	**"Water supply source" removed as it is managed in accordance with groundwater licences issued under the *Rights in Water and Irrigation Act 1914.***
Railway Locations		
Train movements (170 cars per train)	22 per week	**"Train movements" removed as not a significant Key Characteristic.**
Railway	Additional rail siding at Spoonbill located from approx. 384.6 kilometres to 387.3 kilometres on the existing West Angelas line.	**The "Railway", "Section" and "Route" for West Angelas Rail removed as they are depicted on Figure 3 of this attachment (5).**
Section	Route	
Coondewanna Flats	"CALM Mt Robinson" route, unless modified according to the requirements of Condition 10	
Karijini	Marandoo Corridor	
Hamersley Station Flats	Marandoo Rail corridor (east of Eagle Siding to west of Rosella Siding – connecting to the existing Dampier – Tom Price rail infrastructure	
Hamersley Station Flats to Lower Chichester Ranges	Dampier – Tom Price alignment	
Millstream – Chichester National Park	Hamersley Parallel route, as modified according to the requirements of Condition 10	

Element	Description of proposal	Description of approved change to proposal
Port		
Ship Loading	15-20 million tonnes per annum	**"Port" removed as management of the "Port" is in accordance with the Implementation Conditions of Ministerial Statement 741 for the Cape Lambert Port upgrade.**
Reclamation for port stockpile	44.4 ha	
Wharf extension	250 metres	
Dredging volume	Approximately 59,000 cubic metres	
All		
Greenhouse gases (CO_2)	Approximately 0.140 million tonnes per annum	**"Greenhouse gases" removed as the ongoing reporting of Greenhouse Gas Emissions will be done through the *National Greenhouse and Energy Reporting Scheme*, with greenhouse emissions addressed under the *Clean Energy Act, 2011.***

Note: Text in **bold** in the Key Characteristic Table, indicates change/s to the Proposal.

List of Figures: Figures 1 to 3 replace all Figures in Schedule 1.

Figures (attached)

Figure 1 – Regional Location of West Angelas

Figure 2 – West Angelas Iron Ore Mine Indicative Layout and Approval Outline

Figure 3 – West Angelas Railway

[Signed 16 January 2014]

Dr Paul Vogel
CHAIRMAN
Environmental Protection Authority
Under delegated authority

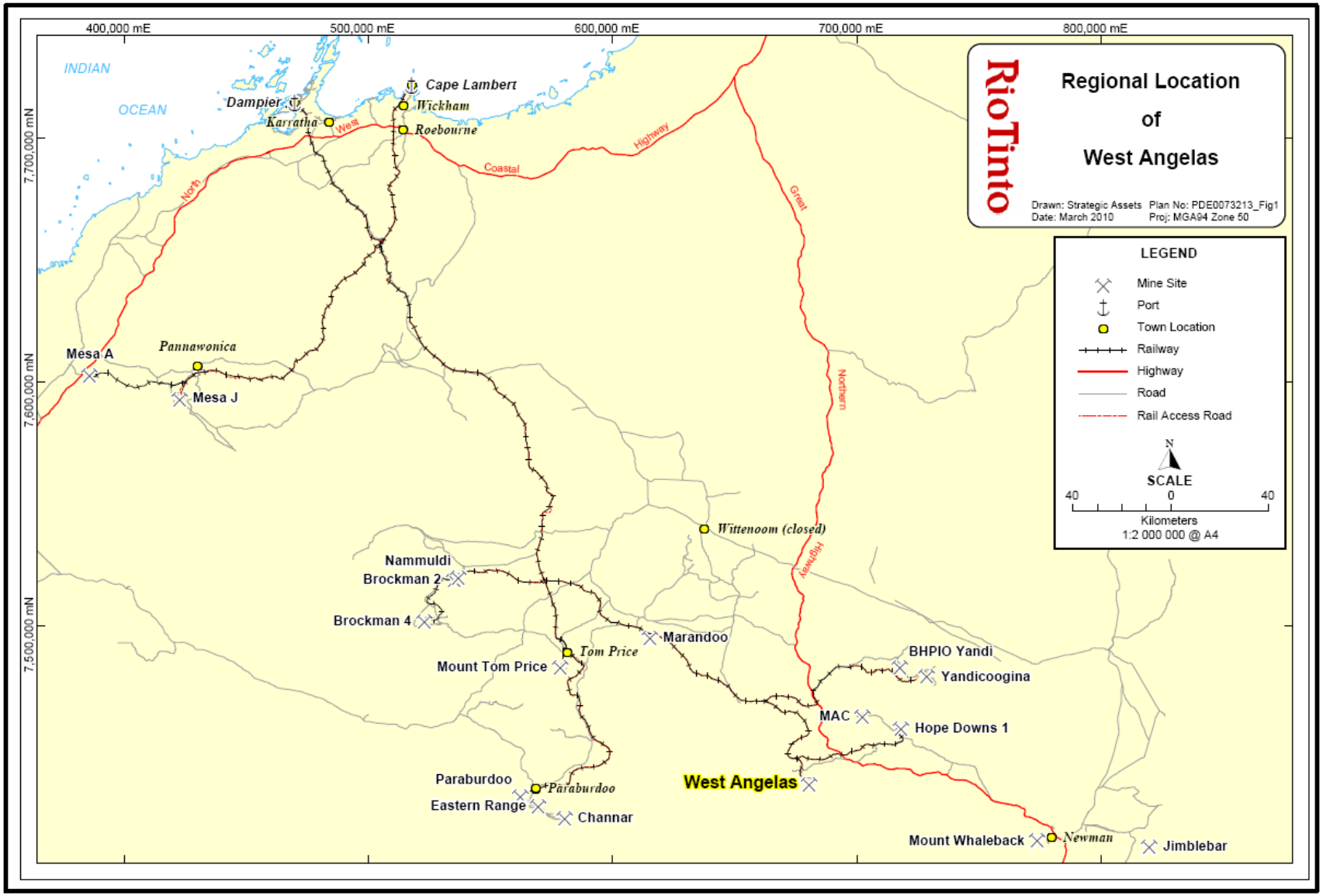


Figure 1: Regional Location of West Angelas

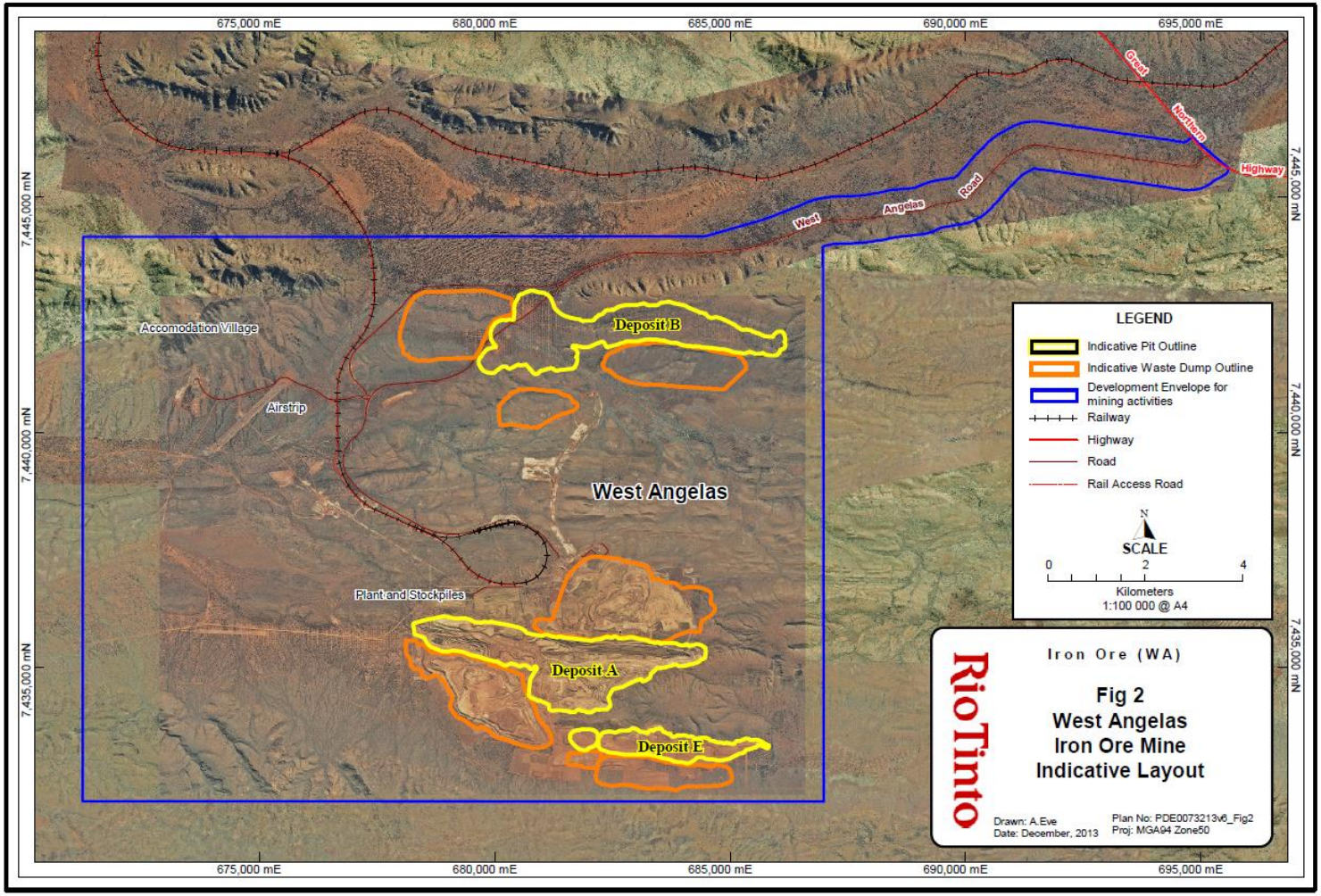


Figure 2: West Angelas Iron Ore Mine Development Envelope and Indicative Layout

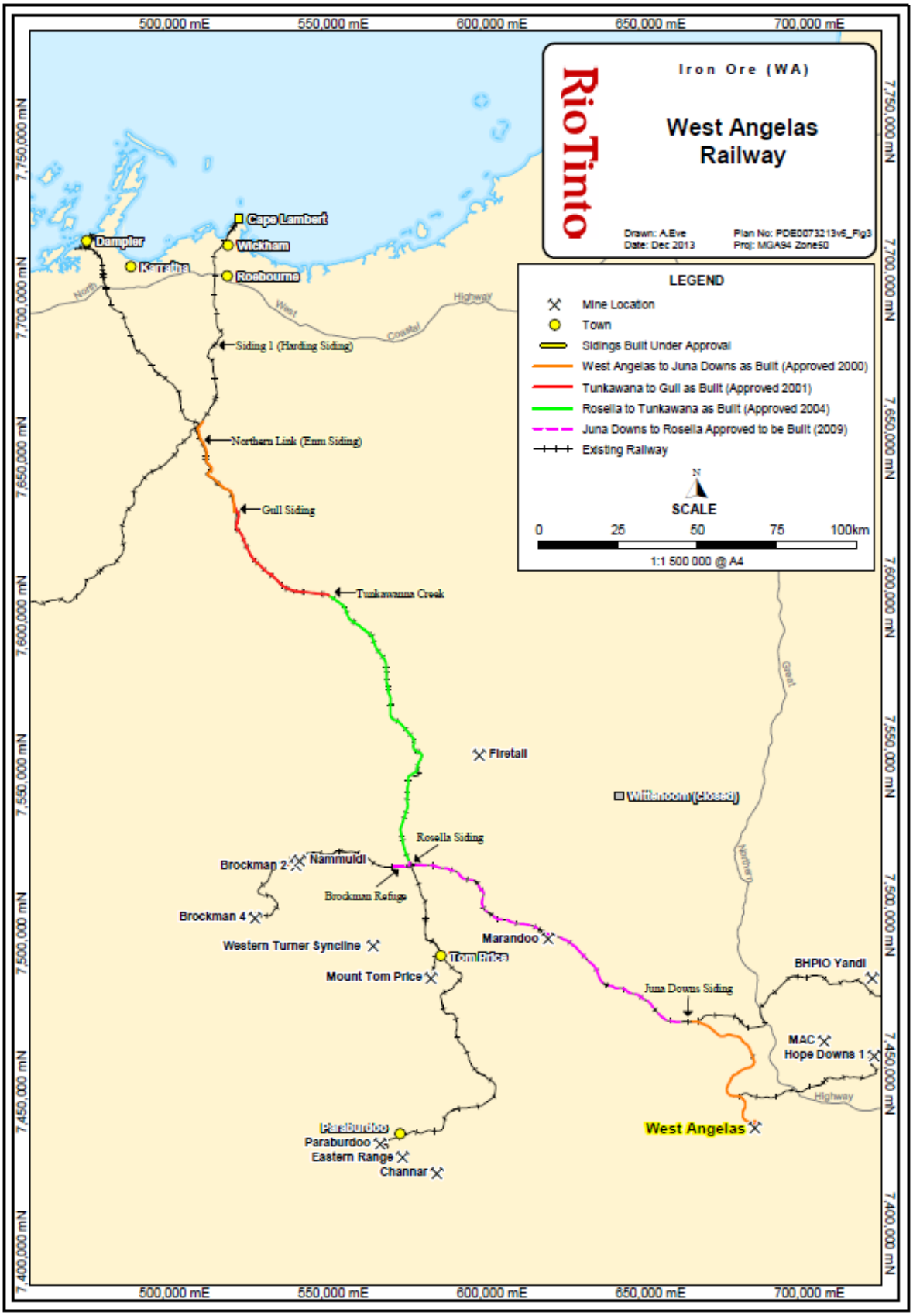


Figure 3: West Angelas Railway