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Public Environmental Report

Supplement

Compass Resources NL, Browns Oxide Project



Compass Resources NL



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Browns Oxide Project

**Public Environmental Report
Supplement**



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Appendices

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| 10 | Application for Authority Certificate |
| 11 | Revised Table of Commitments |
| 12 | Waste Rock Geochemistry |
| 13 | Browns Oxide Project Tailing Storage Facility Batchelor NT Preliminary Design Report (Revision 1) |
| 14 | Radiation Monitoring and Management Program |
| 15 | Batchelor and Rum Jungle Roads. Stuart Highway to Rum Jungle. Stage 5 Safety Audit Report |
| 16 | Browns Oxide Mine Project. Batchelor/Rum Jungle Road. Traffic Impact and Risk Assessment Report |

1. Introduction

1.1 General

The Browns Oxide Project Public Environmental Report (PER) was made available for public comment over the period 10 November to 15 December 2005, with the Environment Protection Agency (EPA) agreeing to accept submissions up to 22 December 2005. Advertisements in The Australian, Territory Times and Northern Territory News directed interested parties to copies on display at a range of locations in Darwin and Batchelor, and in the ACT, and to the Department of Natural Resources, Environment and the Arts' (DNRETA's) website where it could be accessed. Copies were distributed to a number of interested parties and were also made available on request (for a modest cost) from Compass' Sydney office.

In accordance with the Northern Territory/Commonwealth Bilateral Agreement, the PER allows assessment of the project under both the Northern Territory's *Environmental Assessment Act* and the Commonwealth's *Environment Protection and Biodiversity Conservation Act (1999)*.

The Northern Territory EPA provided to Compass via email and fax copies of the 24 submissions that they received in response to the call for public comment, including those from various government agencies and the EPA itself. As required by this agreement, Compass has prepared a PER Supplement (this document) that addresses these submissions¹. The PER Supplement will be posted on NRETA's website and copies will be provided to those parties who made submissions. However, there is no scope for further public submissions. A 28-day period is allowed for EPA to prepare an assessment report and for an assessment decision to be made by the NT Minister for Natural Resources, Environment and Heritage, with a subsequent 30 day review by Commonwealth.

1.2 The Decision-making Process and the PER

The PER and its public review is a major component in the overall process of environmental planning and assessment, and represents the definition of the project to the point where:

- Environmental factors have been identified.
- The project has been planned and conceptually designed to accommodate those factors.

¹ A Supplement is normally required under NT legislation only for an EIS, not a PER.

- The residual environmental impacts can be discussed.
- The priorities for management and monitoring can be identified.

In effect, the approach that underpins the PER is that the project is sufficiently well defined to be assessed by stakeholders in terms of key factors, conceptual responses by the proponent and notional impacts. The PER is not intended to describe detailed engineering aspects of the project, nor does it provide detailed management measures.

1.3 Report Structure

Chapter 1 of the PER Supplement (this chapter) provides an introduction to the preparation of the PER Supplement.

Chapter 2 lists the various agencies and individuals who submitted comments on the PER, and also provides a listing of the various issues raised as main headings with associated subheadings. Cross-referencing between the two lists shows which issues were raised in which submissions.

Chapter 3 presents Compass's response to the issues raised in the submissions, and incorporates information that was unavailable at the time of the PER preparation or otherwise provides clarification.

Chapter 4 lists references that have been used in the preparation of this supplement.

The approach adopted for the preparation of this document reflects the fact that a range of issues, comments and questions were common across a number of submissions. Grouping the various issues provides an efficient mechanism by which Compass can respond to the concerns of the various parties. The alternative of responding to each issue separately within the context of each submission would result in a document that would be excessively repetitive and difficult to read.

This PER Supplement contains a number of appendices additional to those appended to the PER, as listed in Table 1.1.

The Supplement should be read in conjunction with the PER Main Report and Appendices.

Table 1.1 Appendices to the PER Supplement

| Topic | Author | Appendix |
|---------------------------------------|--|-----------------|
| Application for Authority Certificate | Compass Resources NL | 10 |
| Revised Table of Commitments | Enesar Consulting Pty Ltd | 11 |
| Waste rock geochemistry | Environmental Geochemistry International Pty Ltd (EGi) | 12 |
| Tailing management | Australian Tailings Consultants (ATC) | 13 |
| Radiation | Australian Nuclear Science and Technology Organisation (ANSTO) | 14 |
| Traffic safety audit | Sinclair Knight Merz (SKM) | 15 |
| Traffic impact and risk assessment | Sinclair Knight Merz (SKM) | 16 |

2. Summary of Submissions

Submissions were received from private individuals, non-government organisations (NGOs) and government agencies, as listed in Table 2.1. This table also includes cross-references to the summary of issues presented in Table 2.2, where the individual comments have been categorised into 19 main headings and 150 subheadings (or individual issues).

Table 2.1 Summary of parties making submissions

| Submission Number | Name | Affiliation | Region | Issue Summary No. (see Table 2.2) |
|--------------------------|-----------------|---|--------------------|---|
| 1 | J. Tutty | Member of Darwin's No Waste Alliance | Noonamah, NT | M3, M1, P3, N9, S27 |
| 2 | A. Padovan | Northern Territory Government (NRETA) | Darwin, NT | S6, B3, F15, E17, F5, F11, F13, F16 |
| 3 | T. Ward | Northern Territory Government (DHCS) | Darwin, NT | I1, E6, I2, E5, K10, J2, S10, O6, Q4, F2 |
| 4 | M. Hawkins | Finniss Valley Tree Supplies | Batchelor, NT | S2, S6 |
| 5 | M. J. Starceвич | Finniss Valley Tree Supplies | Batchelor, NT | S28, B2, P2, M2, N9, K11, Q1, Q5, S8, S2 |
| 6 | | Australian Conservation Foundation | Carlton, Vic | P3, M3, F13, N9, K7, B2, M1, A4, Q1, K11, E17, O2, F8, E7, S6, S16 |
| 7 | -- | The Environment Centre N.T. Inc. | Darwin, NT | P3, M3, F13, B2, S6, P2, K4, K11, P6, E4, B3, E17, E2, S28, S16, F10, F7, C2, G3, F8, S27, O6, S3, A1, A4, N8, N9, O4, O3 |
| 8 | J. Brown | | Batchelor, NT | M3, S6, M4 |
| 9 | J. Oakley | | Batchelor, NT | P4, M3, N10, N8, N7, E1, S18, Q1, O1, H2, N1, L5, K6, K9, K3, S4, S6, S2, E11, S14, C1, C5, C3, C4, P3, N2, K7, N5, N3, L2, N11, K1 |
| 10 | N. Fry | Northern Land Council | Northern Territory | K4, S3, A5, K8, B2, B1, S28, O6, S8, O11, J1, A2, Q2 |
| 11 | A. Pedder | | Nightcliff, NT | P5, N7, M3, Q1, F13, S6, B2 |
| 12 | Strider | | Humpty Doo, NT | S18, E10, S3, S21, M3 |
| 13 | M. C. Dillon | Northern Territory Government (Dept. Local Government, Housing and Sport) | Darwin, NT | R2 |

Table 2.1 Summary of parties making submissions (cont'd)

| Submission Number | Name | Affiliation | Region | Issue Summary No. (see Table 2.2) |
|--------------------------|-----------------|--|----------------|---|
| 14 | J. Hassed | Northern Territory Government (Dept. Employment, Education and Training) | Darwin, NT | K2 |
| 15 | B. Wernham | Batchelor Police Station | Winnellie, NT | R6, L4, K11 |
| 16 | Dr G. M. Mudd | Monash University (Dept. Civil Engineering) | Clayton, Vic | K4, M2, N10, S3, S6, B2, O7, S20, K8, E13, E9, N8, N6, B4, L1, S24, S26, S28, S1, S9, N4 |
| 17 | K. Wood | Power and Water Corporation | Palmerston, NT | S6, O6, S2, K5 |
| 18 | A. Malgorzewicz | Museum and Art Gallery NT | Darwin, NT | F12, F1 |
| 19 | R. Sellers | Northern Territory Government (DPIFM) | Darwin, NT | B1, B3, E17, E18, O12, S16, S2, S19, S3, S12, O13, E2, N9, S9, P1, S8, E15, S11, O2, S15 |
| 20A | L. Allen | Northern Territory Government (EPA) - Waste and Pollution Management | Darwin, NT | O11, S23, F4, S16, E8, B1, N8, E18, S13, S17, E3, S26, S27, E12, F14, O8, F3, I3, S22, S5, O10, O9, P1, S8, S7, N4, S19, S25, L4, E16, O5, S3, S11, E14, L3, H1, O6, O4 |
| 20B | -- | Northern Territory Government (EPA) - Environment and Greenhouse Policy | Darwin, NT | K5, H3, G3, G1, G2 |
| 20C | -- | Northern Territory Government (EPA) - Heritage Conservation Services | Darwin, NT | A3, D1 |
| 21 | S. Butterworth | Northern Territory Government (Dept. of Planning and Infrastructure) | Darwin, NT | R4, R7, R5, R1, R3 |
| 22 | J. Bastin | DEH | Canberra, ACT | F6, F9 |
| 23 | M. Burgess | Northern Territory Government (Dept. of Business, Economic and Regional Development) | Darwin, NT | Q3 |
| 24 | J. Stead | AAPA | Darwin, NT | D1, A1, I1 |

Table 2.2 Summary of the main issues contained in the submissions

| Main Heading | Main Heading No. | Issue Summary | Issue Summary No. | Number of Submissions Referring to Each Issue |
|--|------------------|---|-------------------|---|
| Aboriginal cultural heritage | A | AAPA Certificates | A1 | 2 |
| | | Cultural heritage management plan | A2 | 1 |
| | | Heritage/archaeology | A3 | 1 |
| | | Indigenous values | A4 | 2 |
| | | Traditional owners | A5 | 1 |
| | | | | |
| Acid mine drainage/Acid rock drainage | B | ARD characterisation | B1 | 3 |
| | | ARD impacts | B2 | 6 |
| | | ARD management | B3 | 3 |
| | | Under-estimation of AMD | B4 | 1 |
| | | | | |
| Air quality | C | Air quality impacts from dust | C1 | 1 |
| | | Air quality impacts from processing | C2 | 1 |
| | | Health impacts from lead-bearing dust | C3 | 1 |
| | | Health impacts from radon | C4 | 1 |
| | | Air quality impacts from radionuclides | C5 | 1 |
| | | | | |
| Editorial | D | Editorial | D1 | 2 |
| | | | | |
| Engineering design/Project description | E | Lack of detail on process water dam | E1 | 1 |
| | | TSF seepage | E2 | 2 |
| | | Water treatment | E3 | 1 |
| | | Borrow areas | E4 | 1 |
| | | Site infrastructure | E5 | 1 |
| | | Effluent re-use | E6 | 1 |
| | | Final design | E7 | 1 |
| | | Inconsistency | E8 | 1 |
| | | Metallurgical process | E9 | 1 |
| | | Mining schedule | E10 | 1 |
| | | Pit wall failure | E11 | 1 |
| | | Process water dam design | E12 | 1 |
| | | Project layout/footprint | E13 | 1 |
| | | Sediment trap, closure | E14 | 1 |
| | | Sedimentation trap design | E15 | 1 |
| | | TSF closure | E16 | 1 |
| | | TSF design | E17 | 4 |
| | | TSF design/ARD mgmt/groundwater impacts | E18 | 2 |
| | | | | |

Table 2.2 Summary of the main issues contained in the submission (cont'd)

| Main Heading | Main Heading No. | Issue Summary | Issue Summary No. | Number of Submissions Referring to Each Issue |
|---------------------------------------|------------------|--|-------------------|---|
| Flora and fauna | F | Aquatic fauna characterisation | F1 | 1 |
| | | Biting insects | F2 | 1 |
| | | Cane toads | F3 | 1 |
| | | Clearing plan (pit) | F4 | 1 |
| | | Clearing program | F5 | 1 |
| | | Fauna impacts (adequately addressed) | F6 | 1 |
| | | Fauna impacts (general) | F7 | 1 |
| | | Fauna impacts (noise) | F8 | 2 |
| | | Fauna management | F9 | 1 |
| | | Flora impacts (general) | F10 | 1 |
| | | Riparian vegetation | F11 | 1 |
| | | Terrestrial fauna | F12 | 1 |
| | | Threatened species | F13 | 4 |
| | | Vegetation clearance / vine forest management and monitoring | F14 | 1 |
| | | Vine forest impacts | F15 | 1 |
| | | Weeds | F16 | 1 |
| | | | | 1 |
| Greenhouse gases | G | GHG commitments | G1 | 1 |
| | | GHG management | G2 | 1 |
| | | GHG targets | G3 | 2 |
| | | | | |
| Impacts on landuse and infrastructure | H | Landscapes | H1 | 1 |
| | | Planning conflicts | H2 | 1 |
| | | Public infrastructure | H3 | 1 |
| | | | | |
| Legislation/Approvals | I | Additional inclusions | I1 | 2 |
| | | Approvals for accommodation facilities | I2 | 1 |
| | | Beneficial use | I3 | 1 |
| | | | | 1 |
| Management systems/plans | J | ISO standards | J1 | 1 |
| | | Management plans | J2 | 1 |
| | | | | 1 |
| PER process/contents/ specialists | K | Lack of alternatives | K1 | 1 |
| | | No comment | K2 | 1 |
| | | No cooperative programs | K3 | 1 |
| | | PER premature | K4 | 3 |
| | | Power line | K5 | 2 |
| | | Aerial photograph doctoring | K6 | 1 |

Table 2.2 Summary of the main issues contained in the submission (cont'd)

| Main Heading | Main Heading No. | Issue Summary | Issue Summary No. | Number of Submissions Referring to Each Issue |
|---|------------------|------------------------------|-------------------|---|
| PER process/contents/ specialists (cont'd) | | ANSTO | K7 | 2 |
| | | Baseline conditions | K8 | 2 |
| | | Bioremediation | K9 | 1 |
| | | Community complaints process | K10 | 1 |
| | | Consultation | K11 | 4 |
| | | | | |
| Pollution | L | Arsenic concentration | L1 | 1 |
| | | Cobalt production | L2 | 1 |
| | | Contaminated soil removal | L3 | 1 |
| | | Hazardous materials storage | L4 | 2 |
| | | Pollution pathways | L5 | 1 |
| | | | | |
| Proponent | M | Capability | M1 | 2 |
| | | Credibility | M2 | 2 |
| | | Future plans | M3 | 7 |
| | | Subsidy | M4 | 1 |
| | | | | |
| Radiology | N | EPBC - nuclear action | N1 | 1 |
| | | Radiological assessment | N2 | 1 |
| | | Radiological baseline | N3 | 1 |
| | | Radiological impacts | N4 | 2 |
| | | Regional implications | N5 | 1 |
| | | Uranium | N6 | 1 |
| | | Uranium impacts/management | N7 | 2 |
| | | Uranium levels | N8 | 4 |
| | | Uranium management | N9 | 5 |
| | | Uranium mining | N10 | 2 |
| | | Uranium production | N11 | 1 |
| | | | | |
| Rehabilitation, monitoring and decommissioning | O | Closure and rehabilitation | O1 | 1 |
| | | Closure criteria | O2 | 2 |
| | | Closure monitoring | O3 | 1 |
| | | Closure planning | O4 | 2 |
| | | Mine closure | O5 | 1 |
| | | Monitoring | O6 | 5 |
| | | Rehabilitation | O7 | 1 |
| | | Revegetation | O8 | 1 |
| | | Seepage | O9 | 1 |
| | | Surface water monitoring | O10 | 1 |
| | | Topsoil | O11 | 2 |
| | | TSF monitoring | O12 | 1 |
| | | TSF seepage management | O13 | 1 |
| | | | | |

Table 2.2 Summary of the main issues contained in the submission (cont'd)

| Main Heading | Main Heading No. | Issue Summary | Issue Summary No. | Number of Submissions Referring to Each Issue |
|----------------------------|------------------|--|-------------------|---|
| Rum Jungle | P | Groundwater impacts | P1 | 2 |
| | | Increased ARD at Rum Jungle | P2 | 2 |
| | | Links with Rum Jungle rehabilitation | P3 | 4 |
| | | Mining in Rum Jungle area | P4 | 1 |
| | | Rum Jungle interactions | P5 | 1 |
| | | Source of material from Rum Jungle site | P6 | 1 |
| | | | | |
| Socio-economic impacts | Q | Local impacts | Q1 | 4 |
| | | More information required | Q2 | 1 |
| | | Regional and NT impacts (beneficial) | Q3 | 1 |
| | | Health service interactions | Q4 | 1 |
| | | Potential risk to BIITE | Q5 | 1 |
| | | | | |
| Traffic and roads | R | Future expansion | R1 | 1 |
| | | Impact on local roads | R2 | 1 |
| | | Impacts on future arterial road corridor | R3 | 1 |
| | | More information required | R4 | 1 |
| | | Risk assessment | R5 | 1 |
| | | Road safety | R6 | 1 |
| | | Upgrade road intersection | R7 | 1 |
| | | | | |
| Water and waste management | S | Contaminated groundwater | S1 | 1 |
| | | Darwin River Dam impacts | S2 | 5 |
| | | Downstream water quality impacts | S3 | 6 |
| | | Fate of Browns test pit water | S4 | 1 |
| | | Groundwater discharge | S5 | 1 |
| | | Groundwater impacts | S6 | 9 |
| | | Groundwater impacts/ Monitoring/ Rum Jungle interactions | S7 | 1 |
| | | Groundwater mitigation | S8 | 3 |
| | | Groundwater understanding | S9 | 2 |
| | | Management Plans | S10 | 1 |
| | | Mine pit - end use | S11 | 2 |
| | | Mine pit water quality | S12 | 1 |
| | | Mine water | S13 | 1 |
| | | Mt Bennet dam catchment | S14 | 1 |
| | | Potable Water Supply | S15 | 1 |
| | | Surface water management | S16 | 4 |

Table 2.2 Summary of the main issues contained in the submission (cont'd)

| Main Heading | Main Heading No. | Issue Summary | Issue Summary No. | Number of Submissions Referring to Each Issue |
|-------------------------------------|------------------|---|-------------------|---|
| Water and waste management (cont'd) | | Surface water management/ Sedimentation trap design | S17 | 1 |
| | | Surface water management/water structures design | S18 | 2 |
| | | Surface water monitoring | S19 | 2 |
| | | Surface/groundwater quality | S20 | 1 |
| | | Tailing management | S21 | 1 |
| | | TSF seepage water quality | S22 | 1 |
| | | Waste management | S23 | 1 |
| | | Waste rock | S24 | 1 |
| | | Waste tyres | S25 | 1 |
| | | Water balance | S26 | 2 |
| | | Water management | S27 | 3 |
| | | Water treatment | S28 | 4 |