Statement No.

MINISTER FOR THE ENVIRONMENT AND HERITAGE 000591

STATEMENT TO AMEND CONDITIONS APPLYING TO PROPOSALS (PURSUANT TO THE PROVISIONS OF SECTION 46 OF THE ENVIRONMENTAL PROTECTION ACT 1986)

BODDINGTON AND HEDGES GOLD MINES
SHIRE OF BODDINGTON

Proposals: The proposals are for mining and processing oxide ore, near-surface basement ore, supergene ores and basement ores at the Boddington Gold Mine, and mining at Hedges Gold Mine, approximately 12 kilometres north-west of Boddington, and to provide and operate associated facilities, as documented in schedule 1 of this statement.

Proponent: Worsley Alumina Pty Ltd

Proponent Address: PO Box 48, Boddington WA 6390

Assessment Number: 1409

Previous Assessment Numbers: 148, 156, 182, 238, 238-1, 700, 901, 1033, 1053 and 1057

Previous Statement Numbers:

Boddington Gold Mine:
019 published on 15 February 1988
049 published on 8 December 1988
085 published on 22 November 1989
100 published on 8 June 1990
299 published on 21 January 1993
379 published on 25 January 1995
453 published on 30 June 1997
489 published on 24 December 1998

Hedges Gold Mine:
020 published on 25 February 1988
450 published on 26 June 1997

Report of the Environmental Protection Authority: Bulletin 1035

Previous Reports of the Environmental Protection Authority:
Bulletins 313, 314, 361, 408, 430, 661, 766, 850 and 851

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The implementation of the Boddington Gold Mine proposals and the Hedges Gold Project *(with respect to mining only)* to which the above reports of the Environmental Protection Authority relate is now subject to the following conditions and procedures which replace all previous Boddington Gold Mine conditions and procedures and those conditions and procedures formerly applicable to *mining* at the Hedges Gold Mine (See note 1 at the foot of this statement):

Procedural conditions

1 Implementation and Changes

1-1 The proponent shall implement the proposals as documented in schedule 1 of this statement subject to the conditions of this statement.

1-2 Where the proponent seeks to change any aspect of the proposals as documented in schedule 1 of this statement in any way that the Minister for the Environment and Heritage 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 proposals as documented in schedule 1 of this statement in any way that the Minister for the Environment and Heritage determines, on advice of the Environmental Protection Authority, is not substantial, the proponent may implement those changes upon receipt of written advice.

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 in this statement.

3 Proponent Nomination and Contact Details

3-1 The proponent for the time being nominated by the Minister for the Environment and Heritage under section 38(6) or (7) of the *Environmental Protection Act 1986* is responsible for the implementation of the proposals until such time as the Minister for the Environment and Heritage has exercised the Minister's power under section 38(7) of the Act to revoke the nomination of that proponent and nominate another person as the proponent for the proposals.

3-2 If the proponent wishes to relinquish the nomination, the proponent shall apply for the transfer of proponent and provide a letter with a copy of this statement endorsed by the proposed replacement proponent that the proposals will be carried out in accordance with this statement. Contact details and appropriate documentation on the capability of the proposed replacement proponent to carry out the proposals shall also be provided.

3-3 The nominated proponent shall notify the Department of Environmental Protection of any change of contact name and address within 60 days of such change.

4 Commencement and Time Limit of Approval

4-1 The proponent shall provide evidence to the Minister for the Environment and Heritage within five years of the date of this statement that the modified project has been substantially commenced or the approval to implement the modified operations shall lapse and be void.

Note: The Minister for the Environment and Heritage will determine any dispute as to whether the modified operations have been substantially commenced.

4-2 The proponent shall make application for any extension of approval for the substantial commencement of the modified project beyond five years from the date of this statement to the Minister for the Environment and Heritage, prior to the expiration of the five-year period referred to in condition 4-1.

The application shall demonstrate that:

- the environmental factors of the proposal(s) have not changed significantly;
- new, significant environmental issues have not arisen; and
- all relevant government authorities have been consulted.

Note: The Minister for the Environment and Heritage may consider the grant of an extension of the time limit of approval not exceeding five years for the substantial commencement of the modified project.

Environmental conditions

5 Compliance Audit and Performance Review

5-1 The proponent shall prepare an audit program in consultation with and submit compliance reports to the Department of Environmental Protection which address:

- the implementation of the proposals as defined in schedule 1 of this statement;
- evidence of compliance with the conditions and commitments; and
- the performance of the environmental management plans and programs.

Note: Under sections 48(1) and 47(2) of the *Environmental Protection Act 1986*, the Chief Executive Officer of the Department of Environmental Protection is empowered to audit the compliance of the proponent with the statement and should directly receive the compliance documentation, including environmental management plans, related to the conditions, procedures and commitments contained in this statement. Usually, the Department of Environmental Protection prepares an audit table which can be utilised by the proponent, if required, to prepare an audit program to ensure that the proposals

are implemented as required. The Chief Executive Officer is responsible for the preparation of written advice to the proponent, which is signed off by either the Minister or, under an endorsed condition clearance process, a delegate within the Environmental Protection Authority or the Department of Environmental Protection that the requirements have been met.

5-2 The proponent shall submit a performance review report every five years after the start of the operations phase, to the requirements of the Minister for the Environment and Heritage on advice of the Environmental Protection Authority, which addresses:

- the major environmental issues associated with the project; the targets for those issues; the methodologies used to achieve these; and the key indicators of environmental performance measured against those targets;
- the level of progress in the achievement of sound environmental performance, including industry benchmarking, and the use of best available technology where practicable;
- significant improvements gained in environmental management, including the use of external peer reviews;
- stakeholder and community consultation about environmental performance and the outcomes of that consultation, including a report of any on-going concerns being expressed; and
- the proposed environmental targets over the next five years, including improvements in technology and management processes.

6 Hotham River

6-1 The proponent shall only pump water from the Hotham River when the river flow is in excess of 342 kilolitres per hour as measured at Marradong River bridge gauging station.

6-2 When pumping from the Hotham River, the proponent shall not cause the remaining river flow to be reduced to below the level of 342 kilolitres per hour as measured at Marradong River bridge gauging station.

Note: Water is extracted from the Hotham River in accordance with licence conditions set by the Water and Rivers Commission under the provisions of the *Rights In Water and Irrigation Act*.

7 Closure Plans

7-1 Prior to 31 October 2003, the proponent shall prepare, and subsequently implement, a Preliminary Closure Plan, which provides the framework to ensure that the site is left in an environmentally acceptable condition to the requirements of the Minister for the Environment and Heritage on advice of the Environmental Protection Authority.

This Plan shall be reviewed every five years, and shall address:

1 rationale for the siting and design of plant and infrastructure as relevant to environmental protection, and conceptual plans for the removal or, if appropriate, retention of plant and infrastructure;
2 a conceptual rehabilitation plan for all disturbed areas and description of a process to agree on the end land use(s) with all stakeholders;
3 a conceptual plan for a care and maintenance phase ; and
4 management of noxious materials to avoid the creation of contaminated areas.

7-2 At least six months prior to the anticipated date of closure, or at a time agreed with the Environmental Protection Authority, the proponent shall prepare a Final Closure Plan designed to ensure that the site is left in an environmentally acceptable condition to the requirements of the Minister for the Environment and Heritage on advice of the Environmental Protection Authority.

The Final Closure Plan shall address:

1 removal or, if appropriate, retention of plant and infrastructure in consultation with relevant stakeholders;
2 rehabilitation of all disturbed areas to a standard suitable for the agreed new land use(s);
3 identification of contaminated areas, including provision of evidence of notification and proposed management measures to relevant statutory authorities;
4 long term management of mined-out pits, residue disposal areas, process water ponds, non-mineralised rock stockpiles, water supply dams, processing plant and associated infrastructure; and
5 long term management measures for groundwater and surface waters affected by the project.

7-3 The proponent shall implement the Final Closure Plan required by condition 7-2 until such time as the Minister for the Environment and Heritage determines, on advice of the Environmental Protection Authority, that the proponent's closure responsibilities are complete.

7-4 The proponent shall make the Final Closure Plan required by condition 7-2 publicly available, to the requirements of the Minister for the Environment and Heritage on the advice of the Environmental Protection Authority.

Procedures

1 Where a condition states "to the requirements of the Minister for the Environment and Heritage on advice of the Environmental Protection Authority", the Chief Executive Officer of the Department of Environmental Protection will obtain that advice for the preparation of written advice to the proponent.

2 The Environmental Protection Authority may seek advice from other agencies, as required, in order to provide its advice to the Chief Executive Officer of the Department of Environmental Protection.

3 Boddington Gold Mine Environmental Management Liaison Group

3-1 The Boddington Gold Mine Environmental Management Liaison Group will comprise of representatives of State Government agencies whose areas of responsibility are affected by the mining and processing operations of the proponent, and will include representatives of the Department of Environmental Protection, the Department of Mineral and Petroleum Resources (chair), the Department of Conservation and Land Management and the Water and Rivers Commission.

3-2 The terms of reference will be developed by the Boddington Gold Mine Environmental Management Liaison Group to the requirements of the Minister for the Environment and Heritage on advice of the Environmental Protection Authority and the Department of Mineral and Petroleum Resources.

3-3 The Boddington Gold Mine Environmental Management Liaison Group will review the proponent's compliance with environmental conditions and commitments (in particular conditions 6 and 7) and will provide advice on compliance to the Minister for the Environment and Heritage; the State Mining Engineer; and each agency responsible for assessing compliance with the environmental conditions and commitments.

Note

1 The conditions and procedures relating to *activities other than mining* at the Hedges Gold Mine are consolidated within a separate statement issued by the Minister for the Environment and Heritage.

2 The Minister for the Environment and Heritage will determine any dispute between the proponent and the Environmental Protection Authority or the Department of Environmental Protection over the fulfilment of the requirements of the conditions.

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

Dr Judy Edwards MLA
MINISTER FOR THE ENVIRONMENT AND HERITAGE

- 8 MAY 2002

Schedule 1

The Proposals

The proposals are to mine and process oxide and basement ores and to operate associated facilities at the Boddington and Hedges Gold Mines as specified in the key proposal characteristic table below (Table 1).

Table 1 - Key Proposal Characteristics

Element	Characteristic
MINING	
Life of mine	Basement mining for a period of 15-20 years. Oxide mining complete in 2001
Open cut mining	Mainly basement ores and some oxide ores
	Two basement open cuts down to approximately –125 mAHD
Stockpiles and associated drainage systems	
	Bauxite stockpile (about 24 hectares of clearing)
	Non-mineralised stockpiles (a total of about 278 hectares of clearing)
Backfilling of mining pits	Backfilling of Wandoo North pit to normal surface level or above
Thirty-four Mile Brook	Diversion of natural and previously diverted channel and construction of D4 water supply reservoir bypass in State Forest
PROCESSING	
Basement and oxide crushing and milling	
Power source	Western Power grid or on-site natural gas fired power station
Throughput	Up to 29 million tonnes per annum
Facilities	Three crushers
	Three grinding rolls
	Ore conveyors
	Three ball mills
	Fifteen flotation cells
	Four thickeners
	SART copper and cyanide recovery plant to reduce cyanide concentration in decant pond to less than 50 mg/L
VEGETATION DISTURBANCE	3,400 hectares
RESOURCE CONSUMPTION	
Water	Up to 34 megalitres per day
Electrical energy	Approximately 830,000 megawatt hours per annum
Cyanide (30% solution)	Up to 47,000 tonnes per annum
Lime	Up to 15,000 tonnes per annum
Caustic	Up to 10,000 tonnes per annum
Hydrochloric acid	Up to 2200 tonnes per annum
Sulphuric acid	Up to 4200 tonnes per annum
Sodium hydrosulphide	Up to 1500 tonnes per annum
Xanthates	Up to 595 tonnes per annum
Frother	Up to 580 tonnes per annum
Flocculant	Up to 313 tonnes per annum
Storage of raw materials	
Lime	Up to 300 tonnes
Cyanide	Up to 3100 kilolitres
Caustic	Up to 400 kilolitres
Hydrochloric acid	Up to 60 kilolitres

Element	Characteristic
Sulphuric acid	Up to 70 kilolitres
Sodium hydrosulphide	Up to 110 tonnes
WATER STORAGE RESERVOIRS	
D1 WSR	Capacity up to 13,000 megalitres
	Stormwater surge storage
D4 WSR	Storage capacity reducing to about 1400 megalitres
WATER SUPPLY	
Mine dewatering	Stored in water supply reservoirs for use in processing
Thirty-four Mile Brook catchment	Catchment run-off above D4 water supply reservoir directed to D4 water supply reservoir
Hotham River via pipeline	Abstraction of up to 3.3 megalitres per hour and storage in water supply reservoirs
RESIDUE DISPOSAL	Up to 29 million tonnes per annum up to 63% solids (oxide residue up to 35% solids)
	Residue disposal area capacity up to 310 million tonnes
	Decant on residue disposal area
Other	
Excess water discharge	Up to 9600 megalitres per annum
BGM camp	Expansion of facilities to cater for construction workforce
Truck movements (weekly)	Up to 310
Product	Gold metal and copper concentrate
Exchange of land with comparable conservation value.	Options for exchange of up to 1365 hectares of land affected by residue disposal and all State Forest areas within project area

Abbreviation
SART = Sulphurdisation, acidification, recycling and thickening.

Figures (attached)

Figure 1 - Location of the mines.
Figure 2 - Project layout.

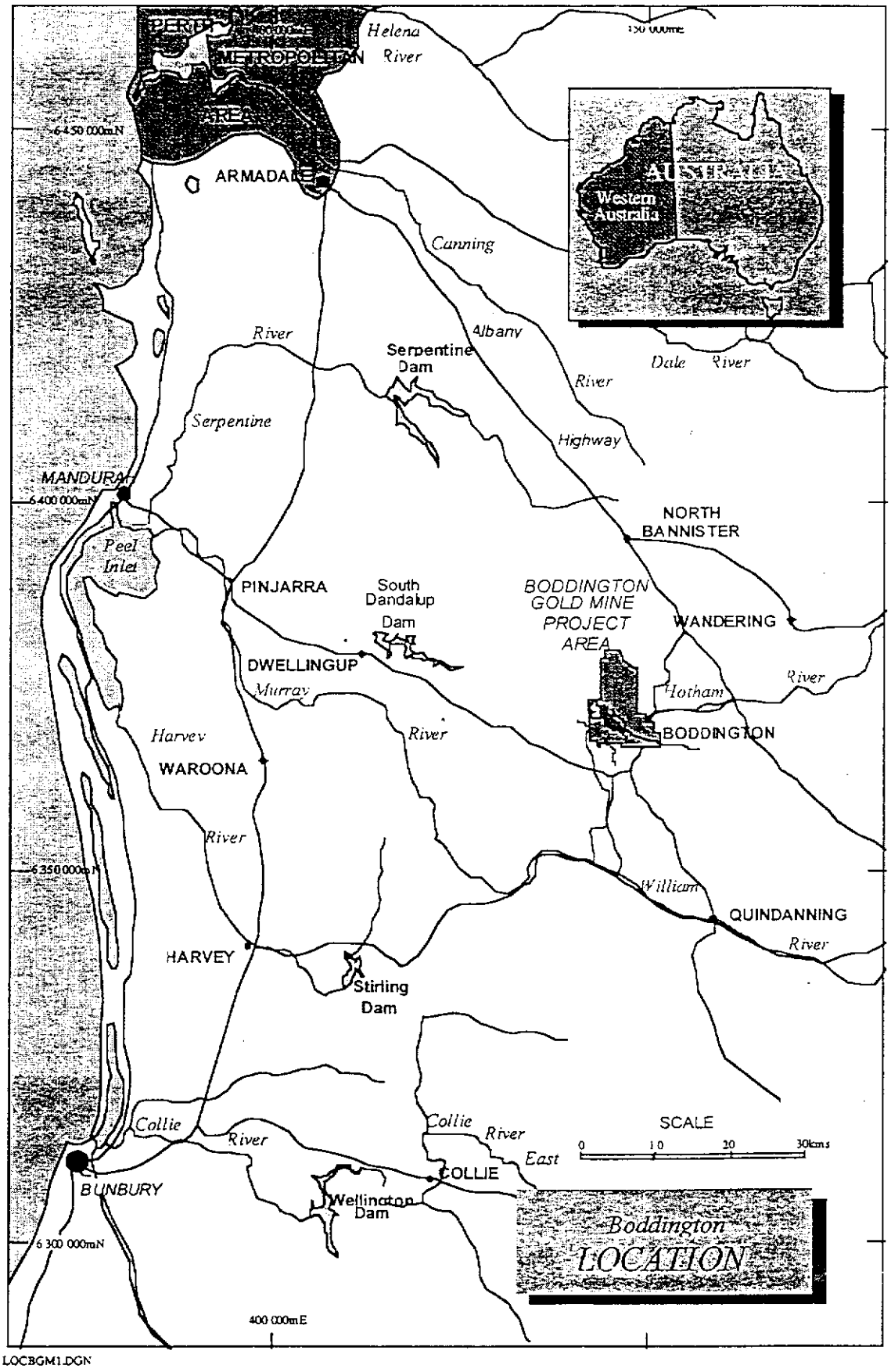


Figure 1 Location of the Boddington and Hedges Gold Mines (Source: WEC, 2001)

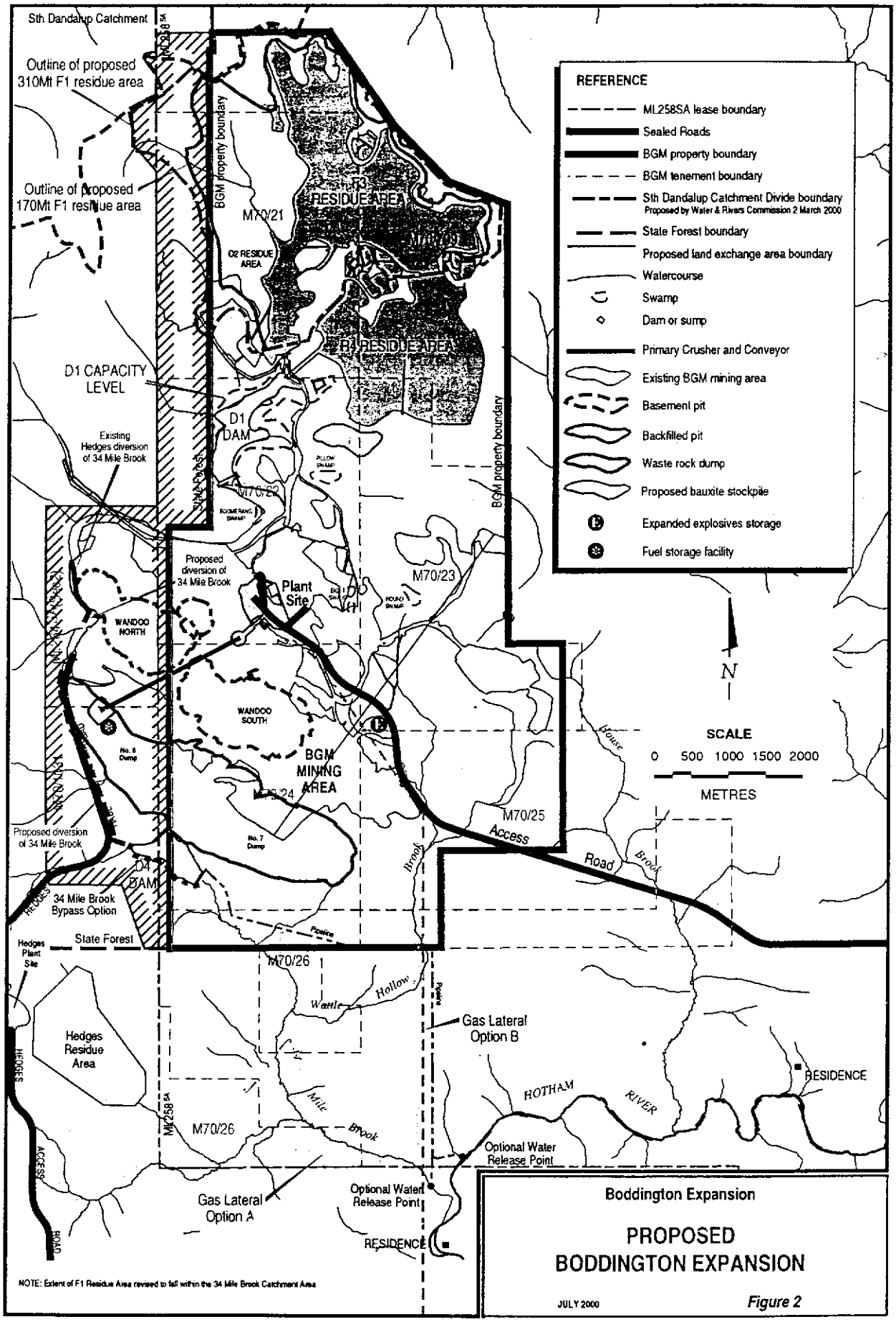


Figure 2 Project Layout.

Schedule 2

Proponent's Consolidated Environmental Management Commitments

April 2002

BODDINGTON & HEDGES GOLD MINES
SHIRE OF BODDINGTON
(Assessment No. 1409)

N.B. All of the following commitments are applicable to both the Boddington Gold Mine and the Hedges Gold Mine (as far as they relate to *mining* operations at the latter site).

Worsley Alumina Pty Ltd

Topic	Environmental Objective	Action (*indicates modified or new commitment)	Phase	Advising agency
Key Environmental Factors				
Environmental Management Approach	• To ensure construction, operational and decommissioning phases of the Boddington Expansion are managed to reduce unnecessary impacts. • To ensure unavoidable impacts are managed to an acceptable level.	1. Review and modify as necessary the environmental management system to be in accordance with the principles of recognised national standards. 2. Implement best practice environmental management where best practice implies the use of the best practicable equipment, processes, systems or techniques relevant to BGM operations. 3. Undertake regular internal environmental audits of key processes. 4. Prepare and submit to the BGM Environmental Management Liaison Group annual environmental reports which will incorporate environmental management plans and include details of environmental management measures and commitments, rehabilitation plans, internal auditing plans, compliance reports and research for the BGM project. 5. Prepare and submit plans to the BGM Environmental Management Liaison Group through the annual environmental reporting process which incorporates plans and measures to reduce as far as practicable the out-of-pit placement of non-mineralised rock for the BGM project.	Ongoing	BGMEMLG#

Topic	Environmental Objective	Action (*indicates modified or new commitment)	Phase	Advising agency
Flora and Fauna Conservation	• To ensure no significant loss of priority flora and regionally significant vegetation associations. • To ensure that declared rare flora are protected. • To ensure that there is no significant loss of habitats for threatened and priority fauna.	6. Avoid wherever practicable the clearing of significant vegetation types in areas where priority flora species are known to occur (e.g. heathlands, shrublands and woodlands), and in significant habitats for threatened fauna. 7. Prevent, as far as practicable, the effect of water logging of vegetation in the vicinity of residue disposal areas. 8. Carry out regular monitoring of the abundance and distribution of flora and fauna in rehabilitation and forest areas adjacent to mined and residue disposal areas in consultation with CALM. 9. Encourage recruitment of local rare or priority flora and threatened fauna into rehabilitated areas. 10. Research will be conducted into priority species which occur naturally on the BGM site but which have not been recorded in rehabilitation, with the aim of establishing these species in suitable rehabilitation areas. **11. Conduct detailed surveys for Priority Flora in areas affected by non-mineralised stockpiles.*** **12. Identify in consultation with the BGMEMLG and CALM and provide to the State, for incorporation into the conservation estate:** • **preferably land of comparable conservation value and approximately equal to the area of State Forest affected by BGM mining and additional residue disposal activity, or** • **land of comparable conservation value and approximately equal to the area of State Forest affected by additional residue disposal operations.***	Operation	BGMEMLG CALM
Thirty-four Mile Brook Catchment Management	• To ensure that the Thirty-four Mile Brook catchment under the control of the BGM project is managed to avoid adverse impacts on the Hotham River and Thirty-four Mile Brook outside the BGM Project Area.	13. Continue to implement BGM operations in a catchment context. **14a Prepare a Diversion Management Plan for Thirty-four Mile Brook. This plan will include a diversion design which adopts the principles of Table 23 of the Section 46 Review for the Boddington Expansion (WEC 2000a).*** **14b Implement the Diversion Management Plan for Thirty-four Mile Brook prescribed in 14a.***	Ongoing	BGMEMLG WRC

Topic	Environmental Objective	Action (*indicates modified or new commitment)	Phase	Advising agency
Water Resource Protection (Quality)	• To ensure that the discharge of wastewater from BGM operations does not adversely affect the existing beneficial uses and ecosystems of the Hotham River and Thirty-four Mile Brook in the vicinity of the BGM project.	15. Implement the strategy as outlined on pp 49-50 of the Extended Basement Operation Consultative Environmental Review for the discharge of excess water via a pipeline and/or Thirty-four Mile Brook to the Hotham River, in accordance with requirements of the DEP and Water and Rivers Commission. **16. Review the existing monitoring program (taking into account the Hedges acquisition area) for monitoring groundwater, surface waters (including D1 and D4 water supply reservoirs) and sediments in consultation with the DEP and Water and Rivers Commission.*** **17. Maintain weak acid dissociable levels of cyanide in D1 reservoir decant water below 5 mg/L.*** 18. Clean up and rehabilitate any spills in accordance with DEP licence conditions. 19. Prevent the migration of diffuse seepage to the South Dandalup catchment by engineering design and back up by monitoring/pumping bores to maintain groundwater levels on the perimeter of residue disposal areas. **20a Prepare a new contain and recovery plan where groundwater is found to be unacceptably contaminated by cyanide from the BGM residue disposal operations.*** **20b Implement the new contain and recovery plan prescribed in 20a.***	Operation	WRC
Water Resource Protection (Quantity)	• To ensure the impact of groundwater extraction on the environment in the vicinity of the BGM Project Area is minimised. • To ensure that water supplies supporting human usage are not adversely affected by groundwater abstraction.	**21a Design a monitoring program to determine the impact of dewatering operations on the three identified wetlands in consultation with CALM.*** **21b Implement the monitoring program prescribed in 21a.*** **22a Design a basement aquifer monitoring program to better characterise this aquifer in the vicinity of the BGM Project Area in consultation with the BGM Environmental Management Liaison Group.*** **22b Implement the basement aquifer monitoring program prescribed in 22a*** 23. Trial, and if effective continue, annual surveys of fringing vegetation on the Hotham River and Thirty-four Mile Brook in the vicinity of the BGM Project Area. 24. Undertake studies to determine acceptable conditions for the release of excess water to Thirty-four Mile Brook. 25. Participate in catchment management activities that are aimed at protecting or enhancing the ecological values of Hotham River and Thirty-four Mile Brook in the vicinity of the BGM Project Area.	Operation	WRC

Topic	Environmental Objective	Action (*indicates modified or new commitment)	Phase	Advising agency
Residue Management	• To design, construct and operate residue disposal areas and containment systems in a manner that minimises the discharge of potential contaminants to the environment. • To maximise, as far as practicable, the recovery of decant water from residue disposal areas.	26. Continue to monitor the potential for pit disposal of residue in the BGM Project Area in consultation with the BGM Environmental Management Liaison Group. 27. Submit design and supporting environmental documentation for an expansion of residue disposal capacity from 170 Mt to 310 Mt in the existing residue disposal areas to the State for review via the BGM Environmental Management Liaison Group. 28. Install additional bores on the northern and western perimeter of the residue disposal areas in consultation with the Water and Rivers Commission and Department of Environmental Protection.	Operation	BGMEMLG
Rehabilitation and Decommissioning	• To ensure that rehabilitation prescriptions applied to disturbed areas on the BGM site result in a stable landform and a cover of vegetation which is compatible with the management of the adjacent State Forest. • To develop and design an integrated rehabilitation plan which includes rehabilitation objectives, definition of completion criteria and continual progress towards agreed landform, final land use and vegetation characteristics. • To use reasonable and practicable measures to reduce the out of pit placement of non mineralised rock.	29. Develop rehabilitation and decommissioning plans for the BGM Project Area in consultation with the BGM Environmental Management Liaison Group. 30. Continue field trials for rehabilitation of residue disposal areas. 31. Undertake a research and development program to identify alternative techniques for residue rehabilitation. 32. Undertake detailed studies to determine management options for the lake(s) in consultation with the BGM Environmental Management Liaison Group. 33. Undertake a comprehensive study to characterise the ecology and human dependencies on Thirty-four mile Brook in order to establish a baseline for evaluation of rehabilitation strategies. 34. Develop water release and water quality targets for the decommissioned phase of the mine in consultation with the BGM Environmental Management Liaison Group.	Operation Decommissioning	BGMEMLG
Greenhouse gas emissions	• To ensure that "greenhouse gas" emissions from the project are adequately addressed and best available efficient technologies are used in Western Australia to minimise Western Australia's "greenhouse gas" emissions. • To mitigate "greenhouse gas" emissions in accordance with the Framework Convention on Climate Change 1992, and consistent with the National Greenhouse Strategy. • To reduce as far as practicable the emission of greenhouse gases from the project site and to comply with EPA policy.	**35a Prepare a greenhouse gas management plan that will include:** • **calculation of the greenhouse gas emissions associated with the proposal, as indicated in "Minimising Greenhouse Gas Emissions, Guidance for the Assessment of Environmental Factors, No. 12" published by the Environmental Protection Authority;** • **specific measures to minimise the total net "greenhouse gas" emissions and/or the "greenhouse gas" emissions per unit of product associated with the proposal;** • **monitoring of "greenhouse gas" emissions;** • **estimation of the "greenhouse gas" efficiency of the project (per unit of product and/or other agreed performance indicators) in comparison with the efficiencies of other comparable projects producing a similar product;** • **analysis of the extent to which the proposal meets the**	Precommissioning Operation	BGMEMLG

Topic	Environmental Objective	Action (*indicates modified or new commitment)	Phase	Advising agency
		requirements of the National Strategy using a combination of: • **"no regrets" measures:** • **"beyond no regrets" measures;** • **landuse change or forestry offsets;** • **international flexibility mechanisms; and** • **a target set by the proponent for the reduction of the total net "greenhouse gas" emissions and/or "greenhouse gas" emissions per unit of product over unit of product time, and annual reporting of progress made in achieving this target. *** **Note: In Dot point 5 above, the following definitions apply:** **(1) "no regrets" measures are those that can be implemented by a proponent which are effectively cost neutral and provide the proponent with returns and savings which offset the initial capital expenditure that may be incurred.** **(2) "beyond no regrets" measures are those that can be implemented by a proponent which involve some additional cost that is not expected to be recovered.** **35b Implement the Greenhouse Gas Management Plan prescribed in 35a.to the requirements of the Minister for Environment and Heritage on the advice of the Environmental Protection Authority*** **36. Prepare a scheme to assist revegetation of the Hotham catchment that includes sponsorship of:** • **research, planting or revegetation trials on farming land;** • **re-establishment of riparian vegetation in degraded areas; and** • **enhancement of biodiversity in degraded areas.*** **37. Implement the vegetation scheme described in commitment 36.***		
Other Environmental Factors				
Forest Disease Management	• To minimise the risk of project activities introducing or spreading Jarrah Dieback disease in forest area in the BGM Project Area.	38. Continue to implement and regularly update the Forest Hygiene Policy throughout the project area. 39. Investigate rehabilitation of forested areas affected by Jarrah Dieback. 40. Support research which is relevant to forest disease management and BGM operations. 41. Monitor the rate of spread and the extent of forest disease infections within the area covered by the BGM operations.	Operation Decommissioning	CALM

Topic	Environmental Objective	Action (*indicates modified or new commitment)	Phase	Advising agency
Integration with State Forest management	• To integrate, as far as practicable, with State Forest management.	42. Continue to implement a fire control plan in consultation with CALM, Bunnings and the Shire of Boddington for the BGM Project Area. 43. Maximise salvage of forest products from clearing in BGM project area. 44. Participate in regional feral animal and weed control programs in association with CALM.	Operation Decommissioning	CALM FPC
Noise and Blast Management	• To comply with statutory noise requirements at the nearest noise sensitive premises.	45. Investigate methods to reduce noise emissions in accordance with best practice. 46. Investigate complaints regarding noise and blast vibration and take corrective action where required. 47a Prepare a noise **management plan.*** **47b Implement a noise management plan prescribed in 47a.***	Precommissioning Operation	
Dust Management	• To comply with statutory requirements.	48. Monitor and investigate, as required, strategies for dust control.	Operation	
Air Emissions	• To ensure the emission of gases complies with recognised standards for the protection of human health and the environment. • To use all reasonable and practicable measures to reduce the discharge of waste, including gases.	49. Minimise burning of forest debris.	Operation	BGMEMLG
Social Environmental Factors				
Community Consultation	• To ensure the local community is adequately consulted regarding the proposed changes to the Boddington Gold Mine operation.	50. Implement a community consultation program, which includes regular meetings on site with resident landowners in the vicinity of the Project Area.	Precommissioning Operation	N/A
Impacts on the Local Community	• To reasonably assist the local community to manage social impacts arising from the construction and operational phases of the EBO proposal.	51. Offer the option of accommodation in the BGM village to Boddington Expansion construction workforce. 52. Consult with the Shire of Boddington on matters related to the accommodation of the BGM workforce.	Precommissioning Operation	Shire of Boddington
Road Traffic	• To reduce as far as practicable impacts of road traffic resulting from the EBO proposal	**53a Prepare a heavy traffic management plan.*** **53b Implement the heavy traffic management plan prescribed in 53a.***	Precommissioning Operation	BGMEMLG Shires
Separation Distances	• To encourage planning authorities to maintain appropriate separation distances between BGM operations and incompatible land uses.	54. Provide advice on implications of planning proposals and schemes in the vicinity of the BGM operations to appropriate State and local government agencies.	Operation	DPI

Topic	Environmental Objective	Action (*indicates modified or new commitment)	Phase	Advising agency
Heritage	• To comply with statutory requirements for heritage.	55. Conserve archaeological values of any sites of archaeological significance. **56a Prepare an Aboriginal Heritage Management Plan that addresses:** • **cultural and colonial history;** • **confirmation of the location of existing archaeological sites;** • **protection of existing sites;** • **education of the workforce and contractors about the importance of sites;** • **collection of materials where required;** • **investigation of sites as appropriate; and** • **management of sites discovered during construction.*** **56b Implement the Aboriginal Heritage Management Plan prescribed in 56a above.***	Precommissioning Operation	DIA

*New or modified commitments

Abbreviations:

BGM	Boddington Gold Mine
#BGMEMLG	Boddington Gold Mine Environmental Management Liaison Group
CALM	Department of Conservation and Land Management
DEP	Department of Environmental Protection
DIA	Department of Indigenous Affairs
DPI	Department of Planning and Infrastructure
EBO	Extended Basement Operation
EPA	Environmental Protection Authority
FPC	Forest Products Commission
WRC	Water and Rivers Commission

TABLE 1:

Attachment to Statement 591, S45C Assessment of Modifications to Project Change to Definition of Proposal.

Proposal: Boddington Gold Mine Expansion

Proponent: Boddington Gold Mine Management Company Pty Ltd

Change: Ministerial Statement 591

Summary of Modifications to Key Characteristics

Element	Approved Characteristic	Proposed Characteristic	Potential Additional or Detrimental Effects	Positive Effects	Existing Management Mechanism
MINING					
Waste Rock Dumps	Waste rock dumps	Waste rock dumps extended and reshaped to increase capacity and improve final landform	Additional clearing of up to 250 ha of forest on private property and State Forest	Incorporation of a significant area of land into State control through the land exchange provides a net environmental benefit	Existing commitments: P6 Clearing of significant vegetation P8 Monitoring of distribution and abundance of flora and fauna P9-10 recruitment of rare and priority flora into rehabilitation P12 Exchange of State Forest

Element	Approved Characteristic	Proposed Characteristic	Potential Additional or Detrimental Effects	Positive Effects	Existing Management Mechanism
Thirty-four Mile Brook (during operation)	Permanent diversion of natural & previously diverted channel	Interception and storage of Thirty-four Mile Brook flow and water from Wandoo North, for use in processing Overflow directed to Wandoo North Pit or directed to toe drain of No. 7/8 Dump	Clearing of up to 25 ha adjacent to Thirty-four Mile Brook to relocate the North Clean Water Pond	Minimises clearing and earthworks to develop deep cutting for Thirty-four Mile Brook diversion Provides flexibility in management of Thirty-four Mile Brook flows Provides emergency containment in Wandoo North pit in the event of catastrophic failure of residue storage facilities	Commitments 14a-b Preparation of Diversion Management Plan for Thirty-four Mile Brook
Thirty-four Mile Brook (post-mining)	Permanent diversion of natural & previously diverted channel and construction of D4 bypass in State Forest	Diversion of Thirty-four Mile Brook north flows into the final lakes in mining voids	Nil	Thirty-four Mile Brook flow contributes to lake filling and provides on-site containment for water which does not meet criteria for release to Thirty-four Mile Brook downstream of No. 7/8 Dump. Provides emergency containment in Wandoo North pit in the event of catastrophic failure of residue storage facilities	Commitments 14a-b Preparation of Diversion Management Plan for Thirty-four Mile Brook
PROCESSING					
Throughput	Up to 29 Mtpa	35 Mtpa with potential for additional 15% through efficiency gains	Nil	Optimisation of process efficiencies	Nil
Cyanide Management	SART cyanide recovery plant to reduce cyanide concentration in decant pond to <50 mg/L	Use of Caro's acid technology to provide additional rapid control of cyanide levels in decant pond to <50 mg/L Modifications to process flowsheet to reduce total cyanide usage by up to 50% Modification of residue area to deter use by fauna	Nil	Positive, rapid control of cyanide levels in decant pond *Ability to direct dose to slurry for rapid response* Reduced transport, handling and storage of cyanide Significant reduction in risk to fauna	Modification of existing BGM Fauna Management Plan

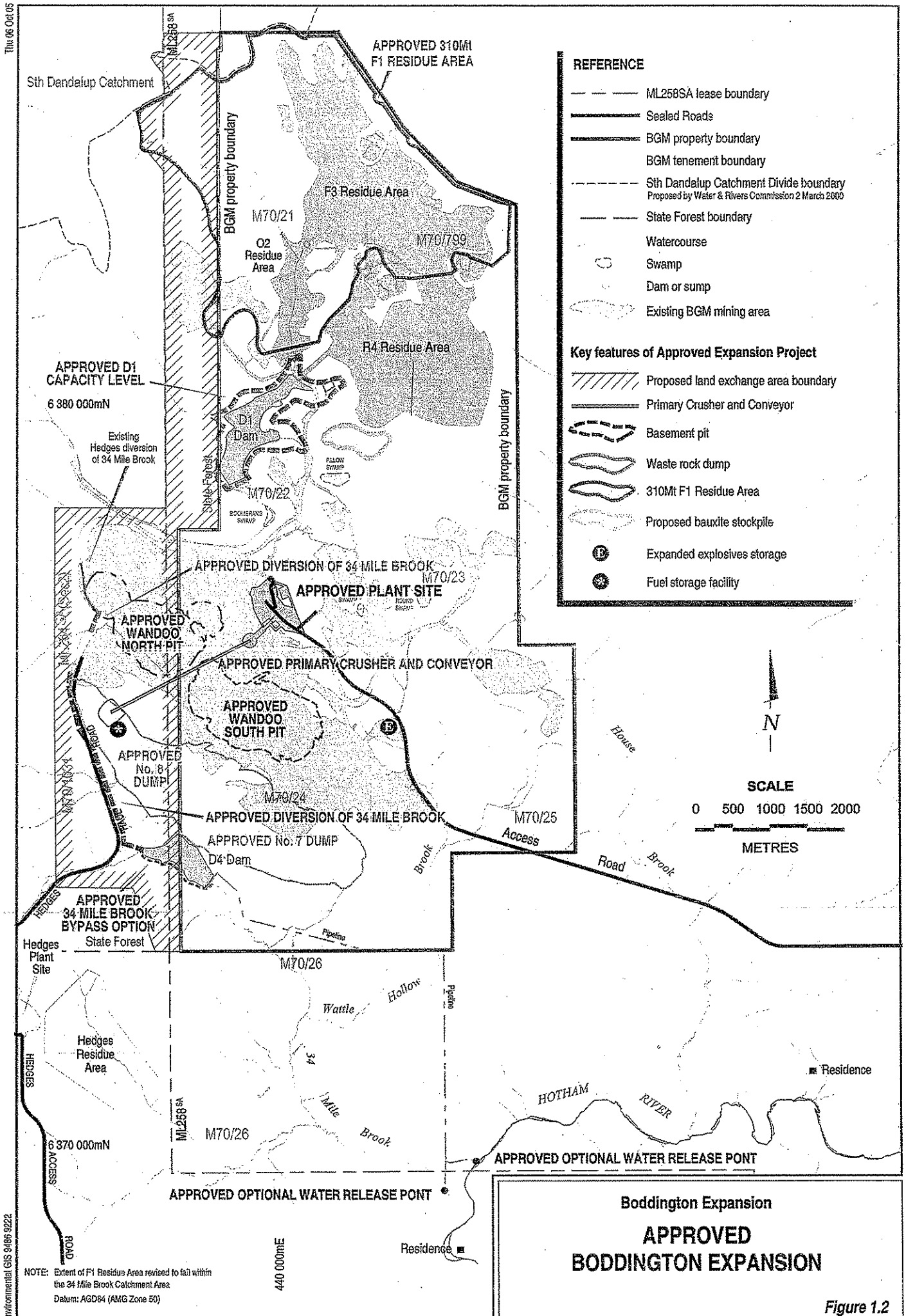
Element	Approved Characteristic	Proposed Characteristic	Potential Additional or Detrimental Effects	Positive Effects	Existing Management Mechanism
VEGETATION DISTURBANCE	3400 ha (includes areas already disturbed)	3650 ha (includes areas already disturbed)	Clearing of up to an additional 250 ha adjacent to mining area	Commitment to offset clearing through the exchange of all State Forest covered by BGM leases (approximately 1400 ha) for land of comparable or better environmental values.	Commitment P12 exchange of land of comparable or better conservation value
RESOURCE CONSUMPTION					
Water	Up to 34 ML/d	Up to 47 ML/d	Hotham River flow affects.	Water sourced from dewatering of pits. Increased consumption will significantly reduce the original requirement for excess water to be released to the Hotham River. Facilitates tighter control of any release and therefore reduces impact on Hotham River.	
Electrical energy	Approximately 830,000 MWh/a	Approximately 1,200,000 MWh/a	Increase in peak annual greenhouse gas emissions of up to 288,000 tCO2e/a (SWIS supplied) (*Current estimate this is closer to 348,00 tCO2e/a)* Peak annual emissions from gas fired option remain within maximum approved emissions.	Improvement in peak carbon intensity for SWIS and gas-fired power supplied options.	Commitments P35a-b Preparation and Implementation of Greenhouse Gas Management Plan to reduce emissions P36-37 Implementation of greenhouse gas emissions offset
Cyanide (30% solution) (tpa)	Up to 47,000	Up to 25,000	Nil	47% reduction in cyanide transport and usage	
Lime (tpa)	Up to 15,000	Up to 19,000	No impact, storage volume issue only	Nil	
Caustic (tpa)	Up to 10,000	Up to 680	No impact, storage volume issue only	93% reduction in caustic transport and usage	
Hydrochloric acid (tpa)	Up to 2200	Up to 3000	No impact, storage volume issue only	Nil	
Sulphuric acid (tpa)	Up to 4200	Up to 2000	No impact, storage volume issue only	52% reduction in sulphuric acid transport and usage	
Flocculant (tpa)	Up to 313	Up to 750	No impact, storage volume issue only	Nil	

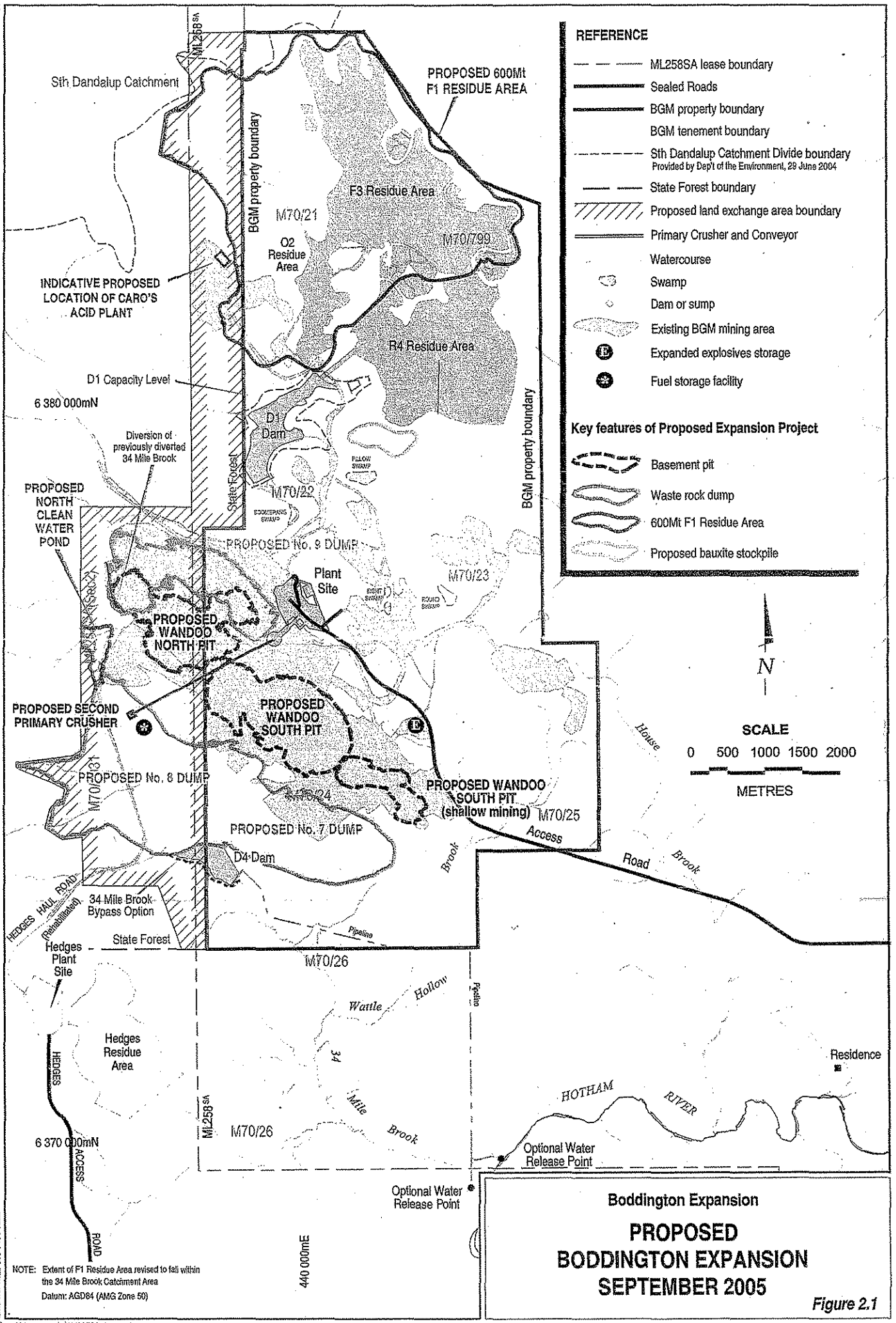
Element	Approved Characteristic	Proposed Characteristic	Potential Additional or Detrimental Effects	Positive Effects	Existing Management Mechanism
WATER STORAGE RESERVOIRS					
D4 WSR (ML)	Storage capacity reduced to approximately 1400	Capacity reduced to approximately 1300	Nil	Nil	
WATER SUPPLY					
Thirty-four Mile Brook catchment	Catchment run off above D4 water supply reservoir directed to D4 water supply reservoir	Catchment run off above D4 water supply reservoir collected in the North Clean Water Pond or diverted to D4 water supply reservoir	Nil	Nil	Commitments 14a-b Preparation of Diversion Management Plan for Thirty-four Mile Brook
RESIDUE DISPOSAL					
Disposal rate (Mtpa)	Up to 29	35 Mtpa with potential for further increase of up to 15% through efficiency gains	Nil	Nil	Residue area designed for increased rate of depositions Designs in accordance with ANCOLD standards will be revlewed for approval by DoIR
Residue density at deposition	Up to 63% solids (oxide residue up to 35% solids)	Up to 65% solids	Nil	Solids content can be varied to manage the water balance Higher solids content aids consolidation of residue	
Residue disposal area capacity	Up to 310 Mt (plus potential for a further 100Mt in the North pit)	600 Mt	Nil	Additional storage capacity with no additional clearing	Commitments P27 Submit design for increased storage facility to State via BGMEMLG P28 install additional monitoring bores
Decant storage	On residue disposal area	No change	Nil	Management of residue to deter use by fauna as part of site wide Fauna Management Plan	Modification of existing BGM Fauna Management Plan

Element	Approved Characteristic	Proposed Characteristic	Potential Additional or Detrimental Effects	Positive Effects	Existing Management Mechanism
OTHER					
Excess water discharge (ML/a)	Up to 9600	No change	Nil	Frequency of discharge is likely to be reduced	Commitment 15 preparation and implementation of Excess water discharge strategy
BGM camp	Expansion of facilities to cater for construction workforce	Offsite construction of new BGM Village Rehabilitation of existing facilities	Nil	Preference for use of already cleared agricultural land Modification of layout to minimise disturbance to remnant vegetation	Location to be selected in consultation with Boddington Shire and Community
Truck movements (weekly)	Up to 310	Approximately 370	26% increase in overall heavy vehicle movements		Commitment 53a-b preparation and implementation of Heavy Traffic Management Plan. Development of plan and selection of route options well underway in consultation with Boddington and Dwellingup Communities, affected shires, Main Roads WA and haulage contractors
Exchange of land with comparable conservation value	Options for exchange of up to 1365 hectares of land affected by residue disposal and all State Forest areas within project area	Exchange of all State Forest covered by BGM leases for land of comparable size and of equal or better environmental values	Nil	Commitment to exchange of larger area of land than required by existing commitment	

Figure 1.2 Approved Boddington Expansion

Figure 2.1 Proposed Boddington Expansion


Thu 06 Oct 05
Sth Dandalup Catchment
ML258SA
APPROVED 310Mt F1 RESIDUE AREA
BGM property boundary
F3 Residue Area
M70/21
O2 Residue Area
M70/799
R4 Residue Area
APPROVED D1 CAPACITY LEVEL
6 380 000mN
D1 Dam
Existing Hedges diversion of 34 Mile Brook
State Forest
PILLOW SWAMP
BOOMERANG SWAMP
M70/22
BGM property boundary
APPROVED DIVERSION OF 34 MILE BROOK
M70/23
APPROVED PLANT SITE
APPROVED WANDOO NORTH PIT
APPROVED PRIMARY CRUSHER AND CONVEYOR
APPROVED WANDOO SOUTH PIT
APPROVED No. 8 DUMP
M70/24
APPROVED DIVERSION OF 34 MILE BROOK
APPROVED No. 7 DUMP
D4 Dam
M70/25
Access Road
House Brook
Brook
APPROVED 34 MILE BROOK BYPASS OPTION
HEDGES
Hedges Plant Site
State Forest
Pipeline
M70/26
Wattle Hollow
Pipeline
Hedges Residue Area
34 Mile Brook
HEDGES ACCESS ROAD
ML258SA
M70/26
6 370 000mN
HOTHAM RIVER
Residence
APPROVED OPTIONAL WATER RELEASE PONT
APPROVED OPTIONAL WATER RELEASE PONT
Residence
440 000mE
NOTE: Extent of F1 Residue Area revised to fall within the 34 Mile Brook Catchment Area
Datum: AGD84 (AMG Zone 50)
REFERENCE
ML258SA lease boundary
Sealed Roads
BGM property boundary
BGM tenement boundary
Sth Dandalup Catchment Divide boundary
Proposed by Water & Rivers Commission 2 March 2000
State Forest boundary
Watercourse
Swamp
Dam or sump
Existing BGM mining area
Key features of Approved Expansion Project
Proposed land exchange area boundary
Primary Crusher and Conveyor
Basement pit
Waste rock dump
310Mt F1 Residue Area
Proposed bauxite stockpile
Expanded explosives storage
Fuel storage facility
N
SCALE
0 500 1000 1500 2000
METRES
Boddington Expansion
APPROVED BODDINGTON EXPANSION
Figure 1.2
Environmental GIS 9486 9222
p:\work\Strategen\0528\0528_F01-2.dgn


Thu 06 Oct 05
Sth Dandalup Catchment
ML258SA
PROPOSED 600Mt F1 RESIDUE AREA
BGM property boundary
F3 Residue Area
M70/21
O2 Residue Area
M70/799
INDICATIVE PROPOSED LOCATION OF CARO'S ACID PLANT
R4 Residue Area
D1 Capacity Level
6 380 000mN
D1 Dam
Diversion of previously diverted 34 Mile Brook
State Forest
PROPOSED NORTH CLEAN WATER POND
M70/22
PROPOSED No. 9 DUMP
Plant Site
M70/23
PROPOSED WANDOO NORTH PIT
PROPOSED SECOND PRIMARY CRUSHER
PROPOSED WANDOO SOUTH PIT
PROPOSED No. 8 DUMP
M70/31
M70/24
PROPOSED WANDOO SOUTH PIT (shallow mining)
M70/25
PROPOSED No. 7 DUMP
D4 Dam
Access Road
House Brook
HEDGES HAUL ROAD (Rehabilitated)
34 Mile Brook Bypass Option
State Forest
Pipeline
Hedges Plant Site
M70/26
Wattle Hollow
Hedges Residue Area
34 Mile Brook
HEDGES ACCESS ROAD
6 370 000mN
ML258SA
M70/26
HOTHAM RIVER
Residence
Optional Water Release Point
Optional Water Release Point
440 000mE
NOTE: Extent of F1 Residue Area revised to fall within the 34 Mile Brook Catchment Area
Datum: AGD84 (AMG Zone 50)
REFERENCE
ML258SA lease boundary
Sealed Roads
BGM property boundary
BGM tenement boundary
Sth Dandalup Catchment Divide boundary
Provided by Dep't of the Environment, 29 June 2004
State Forest boundary
Proposed land exchange area boundary
Primary Crusher and Conveyor
Watercourse
Swamp
Dam or sump
Existing BGM mining area
Expanded explosives storage
Fuel storage facility
Key features of Proposed Expansion Project
Basement pit
Waste rock dump
600Mt F1 Residue Area
Proposed bauxite stockpile
N
SCALE
0 500 1000 1500 2000
METRES
Boddington Expansion
PROPOSED BODDINGTON EXPANSION SEPTEMBER 2005
Figure 2.1
Environmental GIS 9488 9222
p:\work\Strategen\0528\0528_F02-1.dgn

Attachment to Statement 591 – Change to Description of Proposal.

Proposal: Boddington and Hedges Gold Mines, Shire of Boddington

Proponent: BGM Management Company Pty Ltd

Change: to the description of the BGM camp listed in Table 1 Key Proposal Characteristics in Statement 591.

From:

Element	Quantities/Description
Accommodation village	BGM camp - north of Soldiers Road, approved for unspecified expansion to cater for construction workforce.

To:

Element	Quantities/Description
Accommodation village	Part of Lot 708, Soldiers Road, south of the road as shown in Figure 1, proposed Miscellaneous Licence 70/95, approximate area of 31 hectares.

Figure 1. Site of proposed accommodation village (proposed Miscellaneous Licence 70/95)

Approval Date: 7/04/06

ABN 45 101 199 731

BODDINGTON GOLD MINE EXPANSION
Rare and Priority Flora Species

MATTISKE CONSULTING PTY LTD
28 Central Road, Kalamunda ACN 063 507 175
Phone: 9257 1625 Fax: 9257 1640

Author: E M Mattiske	MCPL Ref:	Scale: 1:10,000
Drawn: CAD Resources – www.cadresources.com.au Tel: (08) 9246 3242 - Fax: (08) 9246 3202		Figure: 1
CAD Ref: g1272_vcamp.dgn	Date: Mar 2006 Rev: A A3	

Attachment to Statement 591 - Change to Description of Proposal

Proposal: *Boddington and Hedges Gold Mines, Shire of Boddington*

Proponent: *BGM Management Company Pty Ltd*

Change: *to the description of the BGM camp listed in Table 1Key Proposal Characteristics in Statement 591*

From:

Element	Quantities/Description
Accommodation Village	***As amended 7 April 2006, Part of Lot 708, Soldiers Road, south of the road as shown in Figure 1, Miscellaneous License 70/95, approximate area of 31 hectares.***

To:

Element	Quantities/Description
Accommodation Village	***Part of Lot 708, Soldiers Road, south of the road as shown in Figure 1, Miscellaneous License 70/95, approximate area of 31 hectares; Portion of Murray Location 530, being the whole of the land in Certificate of Title Volume 1813 Folio 700, Soldiers Road, Boddington; and Shire of Boddington road reserve utilities service corridor.***

Figure 1. Site of Accommodation Village and Old Camp Site

Approval Date: 18 AUG 2006

Attachment 4 to Ministerial Statement 591

Change to Proposal

Proposal: Boddington and Hedges Gold Mines, Shire of Boddington

Proponent: Newmont Boddington Gold Pty Ltd

Change: Increase to project disturbance area (by 29ha – including 13.81ha of state forest), increase to crushing infrastructure, modifications to the existing Thirty-four Mile Brook diversion and North Clear Water Pond, and change to chemical resource consumption

Key Characteristics Table:

Element	Description of proposal	Description of approved change to proposal
MINING		
Life of Mine	Basement mining for a period of 15 to 20 years Oxide mining complete in 2001	Basement mining for a period of 15 to 20 years Oxide mining complete in 2001
Open Cut Mining	Mainly basement ores and some oxide ores	Mainly basement ores and some oxide ores
	Two basement open cuts down to approximately -125 mAHD	Two basement open cuts down to approximately -125 mAHD
Stockpiles and Associated Drainage Systems	Bauxite stockpiles (about 24 hectares of clearing)	**Bauxite stockpiles***
	Waste rock dumps extended and reshaped to increase capacity and improve final landform (a total of about 278 hectares of clearing)	**Waste rock dumps extended and reshaped to increase capacity and improve final landform***
Backfilling of Pits	Backfilling of Wandoo North pit to normal surface level or above.	Backfilling of Wandoo North pit to normal surface level or above.
Thirty-four Mile Brook (during operation)	Interception and storage of Thirty-four Mile Brook flow and water from Wandoo North, for use in processing Overflow directed to Wandoo North Pit or directed to toe drain of No. 7/8 Dump	Interception and storage of Thirty-four Mile Brook flow and water from Wandoo North, for use in processing **Overflow directed to Wandoo North Pit**
Thirty-four Mile Brook (post-mining)	Diversion of Thirty-four Mile Brook north flows into the final lakes in mining voids	Diversion of Thirty-four Mile Brook north flows into the final lakes in mining voids

PROCESSING		
Crushing and Milling	Basement and oxide crushing and milling	Basement and oxide crushing and milling
Power Source	Western Power grid supply or on-site natural gas fired power station	Western Power grid supply or on-site natural gas fired power station
Throughput	35 Mtpa with potential for additional 15% through efficiency gains	35 Mtpa with potential for additional 15% through efficiency gains
Facilities	Three crushers	**8 crushers (2 primary)***
	Three grinding roles	**4 grinding rolls***
	Ore conveyors	Ore conveyors
	Three ball mills	**4 ball mills***
	Fifteen floatation cells	**24 flotation cells***
	Four thickeners	Four thickeners
Cyanide Management	Use of Caro's acid technology to provide additional rapid control of cyanide levels in decant pond to <50 mg/L Modifications to process flow sheet to reduce total cyanide usage by up to 50% Modification of residue area to deter use by fauna	Use of Caro's acid technology to provide additional rapid control of cyanide levels in decant pond to <50 mg/L Modifications to process flow sheet to reduce total cyanide usage by up to 50% Modification of residue area to deter use by fauna
VEGETATION DISTURBANCE	3,650 ha (includes areas already disturbed)	**3,679 ha** (includes areas already disturbed)
RESOURCE CONSUMPTION		
Water	Up to 47 ML/d	Up to 47 ML/d
Electrical Energy	Approximately 1,200,000 MWh/a	Approximately 1,200,000 MWh/a
Cyanide (30% Solution) (tpa)	Up to 25,000	Up to 25,000
Lime (tpa)	Up to 19,000	**Up to 30,000**
Caustic (tpa)	Up to 680	**Up to 2,000**
Hydrochloric acid (tpa)	Up to 3000	Up to 3000
Sulphuric acid (tpa)	Up to 2000	**Up to 20,000**
Sodium hydrosulphide (tpa)	Up to 1500	0* **(removed from table)**
Xanthates (tpa)	Up to 595	Up to 595
Frother (tpa)	Up to 580	Up to 580
Flocculant (tpa)	Up to 750	Up to 750
Storage of Raw Materials		
Lime (t)	Up to 300	**Up to 500**

Cyanide (kL)	Up to 3100	Up to 3100
Caustic (kL)	Up to 400	**Up to 650**
Hydrochloric acid (kL)	Up to 60	Up to 60
Sulphuric acid (kL)	Up to 70	**Up to 420**
Sodium hydrosulphide (t)	Up to 110	0* **(removed from table)**
WATER STORAGE RESERVOIRS		
D1 WSR	Capacity up to 13,000 ML	Capacity up to 13,000 ML
	Stormwater surge storage	Stormwater surge storage
D4 WSR	Storage capacity reduced to approximately 1300 ML	Storage capacity reduced to approximately 1300 ML
WATER SUPPLY		
Mine dewatering	Stored in water supply reservoirs for use in processing	Stored in water supply reservoirs for use in process or prior to release
Thirty-four Mile Brook catchment	Catchment run-off above D4 water supply reservoir collected in the North Clean Water Pond or diverted to D4 water supply reservoir	Catchment run-off above D4 water supply reservoir collected in the North Clean Water Pond or diverted to D4 water supply reservoir
Hotham River via pipeline	Abstraction of up to 3.3 megalitres per hour and storage in water supply reservoirs	Abstraction of up to 3.3 megalitres per hour and storage in water supply reservoirs
RESIDUE DISPOSAL		
Disposal rate	Up to 35 Mtpa with potential for further increase of up to 15% through efficiency gains	Up to 35 Mtpa with potential for further increase of up to 15% through efficiency gains
Residue density at deposition	Up to 65% solids	Up to 65% solids
Residue disposal area capacity	600 Mt	600 Mt
Decant storage	On residue disposal area	On residue disposal area
Other		
Excess Water Discharge	Up to 9600 ML/a	Up to 9600 ML/a
BGM Camp	Offsite construction of new BGM village Rehabilitation of existing facilities	Offsite construction of new BGM village Rehabilitation of existing facilities
Accommodation Village	Part of lot 708, Soldiers Road, south of the road as shown in Figure 1, Miscellaneous Licence 70/95, approximate area of 31 hectares;	Part of lot 708, Soldiers Road, south of the road as shown in Figure 1, Miscellaneous Licence 70/95, approximate area of 31 hectares;

	Portion of Murray location 530, being the whole of the land in Certificate of Title Volume 1813 Folio 700, Soldiers Road, Boddington; and Shire of Boddington road reserve utilities service corridor	Portion of Murray location 530, being the whole of the land in Certificate of Title Volume 1813 Folio 700, Soldiers Road, Boddington; and Shire of Boddington road reserve utilities service corridor
Truck movements	Approximately 370 / week	Approximately 370 / week
Product	Gold metal and copper concentrate	Gold metal and copper concentrate
Exchange of land with comparable conservation value	Exchange of all State Forest covered by BGM leases for land of comparable size and of equal or better environmental values	Exchange of all State Forest covered by BGM leases for land of comparable size and of equal or better environmental values

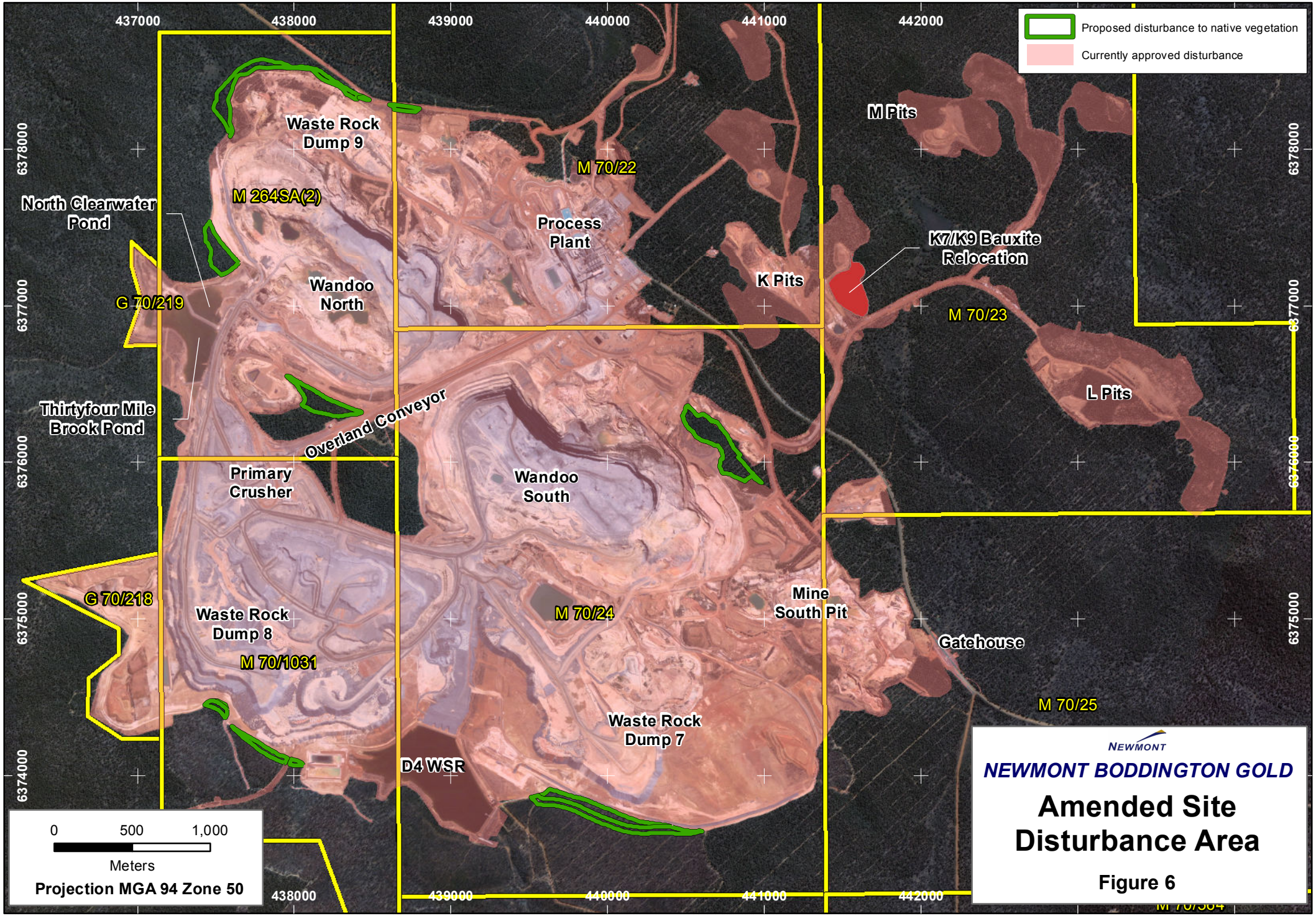
* These changes represent previously accepted amendments to Statement 591, which following assessment were not expressed in a previous section 45C attachment, dated 15 February 2006.

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

List of Figures:

Dr Paul Vogel
CHAIRMAN
Environmental Protection Authority
under delegated authority

Approval date: 24 February 2012


Proposed disturbance to native vegetation
Currently approved disturbance
437000
438000
439000
440000
441000
442000
6378000
6377000
6376000
6375000
6374000
Waste Rock Dump 9
M 70/22
M Pits
M 264SA(2)
North Clearwater Pond
Process Plant
K7/K9 Bauxite Relocation
Wandoo North
K Pits
G 70/219
M 70/23
L Pits
Thirtyfour Mile Brook Pond
Overland Conveyor
Primary Crusher
Wandoo South
G 70/218
Waste Rock Dump 8
M 70/24
Mine South Pit
Gatehouse
M 70/1031
M 70/25
Waste Rock Dump 7
D4 WSR
0
500
1,000
Meters
Projection MGA 94 Zone 50
NEWMONT
NEWMONT BODDINGTON GOLD
Amended Site Disturbance Area
Figure 6

Attachment 5 to Ministerial Statement 591

Change to Proposal under s45C of the *Environmental Protection Act 1986*

Proposal: Boddington and Hedges Gold Mines, Shire of Boddington

Proponent: Newmont Boddington Gold Pty Ltd

Changes: Increase to native vegetation disturbance area by 1 ha; addition of River Water Dam; increase the storage capacity of D4 Water Supply Reservoir; removal of characteristics regulated under the *Dangerous Goods Safety Act 2004* and Part V of the *Environmental Protection Act 1986*

Key Characteristics Table: This table replaces the Key Characteristics Table in Attachment 4 to Ministerial Statement 591

Key proposal characteristics	Description of proposal	Description of approved change to proposal
MINING		
Life of Mine	Basement mining for a period of 15 to 20 years Oxide mining complete in 2001	Basement mining for a period of 15 to 20 years **Removed as completed**
Open Cut Mining	Mainly basement ores and some oxide ores	Mainly basement ores and some oxide ores
	Two basement open cuts down to approximately -125 mAHD	Two basement open cuts down to approximately -125 mAHD
Stockpiles and Associated Drainage Systems	Bauxite stockpiles	Bauxite stockpiles
	Waste rock dumps extended and reshaped to increase capacity and improve final landform	Waste rock dumps extended and reshaped to increase capacity and improve final landform
Backfilling of Pits	Backfilling of Wandoo North pit to normal surface level or above.	Backfilling of Wandoo North pit to normal surface level or above.
Thirty-four Mile Brook (during operation)	Interception and storage of Thirty-four Mile Brook flow and water from Wandoo North, for use in processing Overflow directed to Wandoo North Pit	Interception and storage of Thirty-four Mile Brook flow and water from Wandoo North, for use in processing Overflow directed to Wandoo North Pit
Thirty-four Mile Brook (post-mining)	Diversion of Thirty-four Mile Brook north flows into the final lakes in mining voids	Diversion of Thirty-four Mile Brook north flows into the final lakes in mining voids

Key proposal characteristics	Description of proposal	Description of approved change to proposal
PROCESSING		
Crushing and Milling	Basement and oxide crushing and milling	Basement and oxide crushing and milling
Power Source	Western Power grid supply or on-site natural gas fired power station	Western Power grid supply or on-site natural gas fired power station
Throughput	35 Mtpa with potential for additional 15% through efficiency gains	35 Mtpa with potential for additional 15% through efficiency gains
Facilities	8 crushers (2 primary)	8 crushers (2 primary)
	4 grinding rolls	4 grinding rolls
	Ore conveyors	Ore conveyors
	4 ball mills	4 ball mills
	24 flotation cells	24 flotation cells
	Four thickeners	Four thickeners
Cyanide Management	Use of Caro's acid technology to provide additional rapid control of cyanide levels in decant pond to <50 mg/L Modifications to process flow sheet to reduce total cyanide usage by up to 50% Modification of residue area to deter use by fauna	Use of Caro's acid technology to provide additional rapid control of cyanide levels in decant pond to <50 mg/L Modifications to process flow sheet to reduce total cyanide usage by up to 50% Modification of residue area to deter use by fauna
VEGETATION DISTURBANCE	3,679 ha (includes areas already disturbed)	**3,680 ha (includes areas already disturbed)**
RESOURCE CONSUMPTION		
Water	Up to 47 ML/d	Up to 47 ML/d
Electrical Energy	Approximately 1,200,000 MWh/a	Approximately 1,200,000 MWh/a
Cyanide (30% Solution) (tpa)	Up to 25,000	**Removed as consumption of input material is not a key proposal characteristic**
Lime (tpa)	Up to 30,000	**Removed as consumption of input material is not a key proposal characteristic**
Caustic (tpa)	Up to 2,000	**Removed as consumption of input material is not a key proposal characteristic**
Hydrochloric acid (tpa)	Up to 3000	**Removed as consumption of input material is not a key proposal characteristic**

Key proposal characteristics	Description of proposal	Description of approved change to proposal
Sulphuric acid (tpa)	Up to 20,000	**Removed as consumption of input material is not a key proposal characteristic**
Xanthates (tpa)	Up to 595	**Removed as consumption of input material is not a key proposal characteristic**
Frother (tpa)	Up to 580	**Removed as consumption of input material is not a key proposal characteristic**
Flocculant (tpa)	Up to 750	**Removed as consumption of input material is not a key proposal characteristic**
Storage of Raw Materials		
Lime (t)	Up to 500	**Removed as managed under the *Dangerous Goods Safety Act 2004* and regulations**
Cyanide (kL)	Up to 3100	**Removed as managed under the *Dangerous Goods Safety Act 2004* and regulations**
Caustic (kL)	Up to 650	**Removed as managed under the *Dangerous Goods Safety Act 2004* and regulations**
Hydrochloric acid (kL)	Up to 60	**Removed as managed under the *Dangerous Goods Safety Act 2004* and regulations**
Sulphuric acid (kL)	Up to 420	**Removed as managed under the *Dangerous Goods Safety Act 2004* and regulations**
WATER STORAGE RESERVOIRS		
D1 WSR	Capacity up to 13,000 ML	Capacity up to 13,000 ML
	Stormwater surge storage	Stormwater surge storage
D4 WSR	Storage capacity reduced to approximately 1,300 ML	**Storage capacity of approximately 2,600 ML**
*River Water Dam		**Storage capacity of approximately 3,190 ML**
WATER SUPPLY		
Mine dewatering	Stored in water supply reservoirs for use in process or prior to release	Stored in water supply reservoirs for use in process or prior to release
Thirty-four Mile Brook catchment	Catchment run-off above D4 water supply reservoir collected in the North Clean Water Pond or diverted to D4 water supply reservoir	Catchment run-off above D4 water supply reservoir collected in the North Clean Water Pond or diverted to D4 water supply reservoir

Key proposal characteristics	Description of proposal	Description of approved change to proposal
Hotham River via pipeline	Abstraction of up to 3.3 megalitres per hour and storage in water supply reservoirs	Abstraction of up to 3.3 megalitres per hour and storage in water supply reservoirs
RESIDUE DISPOSAL		
Disposal rate	Up to 35 Mtpa with potential for further increase of up to 15% through efficiency gains	**Up to 35 Mtpa with potential for further increase of up to 15%**
Residue density at deposition	Up to 65% solids	Up to 65% solids
Residue disposal area capacity	600 Mt	600 Mt
Decant storage	On residue disposal area	On residue disposal area
Other		
Excess Water Discharge	Up to 9600 ML/a	Up to 9600 ML/a
BGM Camp	Offsite construction of new BGM village Rehabilitation of existing facilities	Offsite construction of new BGM village Rehabilitation of existing facilities
Accommodation Village	Part of lot 708, Soldiers Road, south of the road as shown in Figure 1, Miscellaneous Licence 70/95, approximate area of 31 hectares; Portion of Murray location 530, being the whole of the land in Certificate of Title Volume 1813 Folio 700, Soldiers Road, Boddington; and Shire of Boddington road reserve utilities service corridor	Part of lot 708, Soldiers Road, south of the road as shown in Figure 1, Miscellaneous Licence 70/95, approximate area of 31 hectares; Portion of Murray location 530, being the whole of the land in Certificate of Title Volume 1813 Folio 700, Soldiers Road, Boddington; and Shire of Boddington road reserve utilities service corridor
Truck movements	Approximately 370 / week	Approximately 370 / week
Product	Gold metal and copper concentrate	Gold metal and copper concentrate
Exchange of land with comparable conservation value	Exchange of all State Forest covered by BGM leases for land of comparable size and of equal or better environmental values	Exchange of all State Forest covered by BGM leases for land of comparable size and of equal or better environmental values

**New addition to Key Characteristics Table*

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

List of Figures:

Figure 6: Newmont Boddington Gold - Amended Site Disturbance Area.
This figure replaces Figure 6 in Attachment 4 to Ministerial Statement 591.

Dr Paul Vogel
CHAIRMAN
Environmental Protection Authority
under delegated authority

Approval date: 31 May 2013

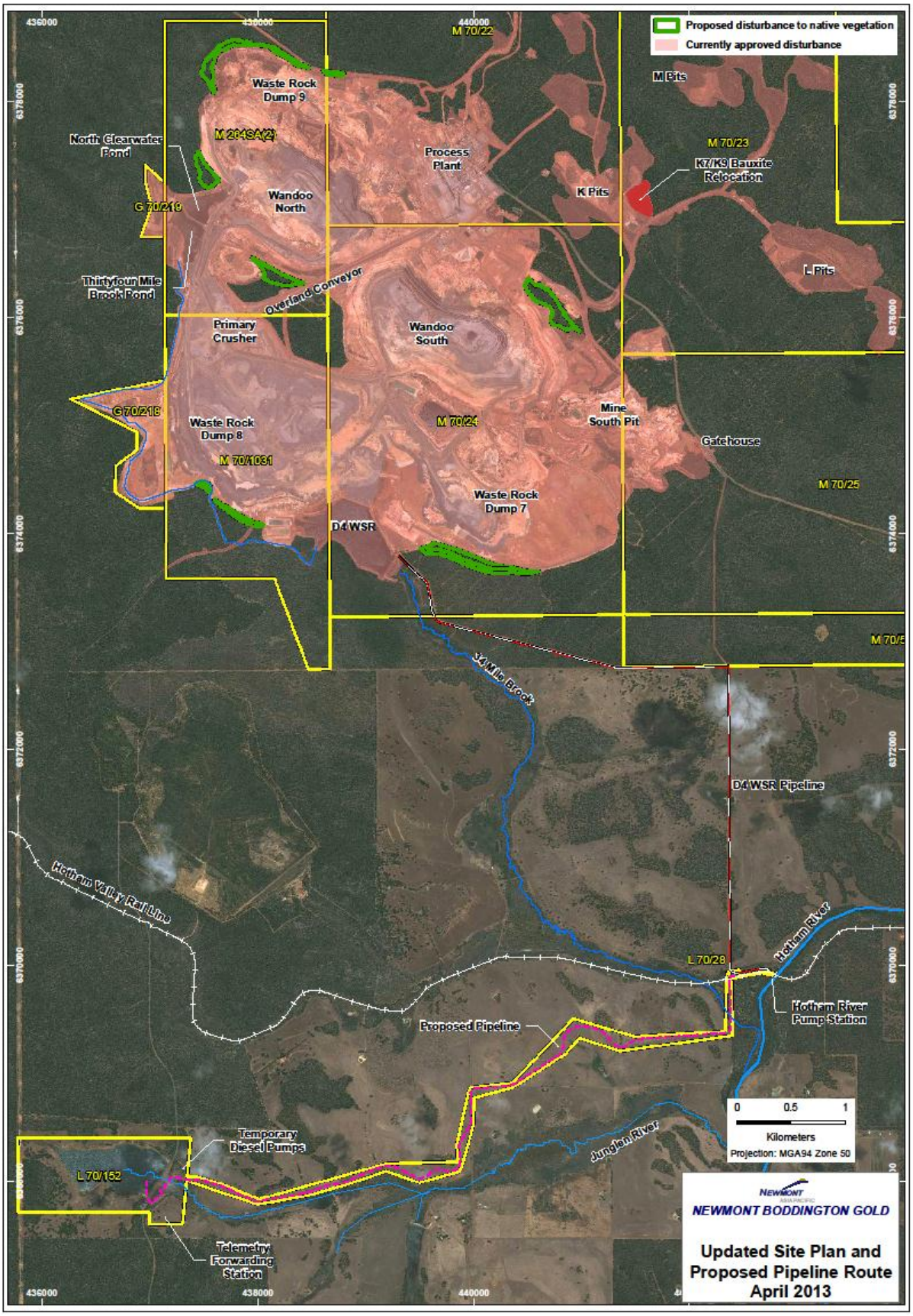


Figure 6: Newmont Boddington Gold – Amended site disturbance area