



Queensland Government
 Environmental Protection Agency
 Queensland Parks and Wildlife Service

**Environmental Authority No. MIN00401001
 (mining activities)**

Section 228 Environmental Protection Act 1994

This environmental authority is granted under the *Environmental Protection Act 1994* and includes conditions to minimise environmental harm caused, or likely to be caused, by the authorised mining activities. An environmental authority (mining activities) may be for mining activities authorised (under the *Mineral Resources Act 1989*) to occur under one of the following mining tenements: a prospecting permit; mining claim; exploration permit; mineral development licence; or mining lease. In general, a mining activity means: prospecting, exploring, mining; or processing minerals; remediation; rehabilitation; and includes facilitation and supporting activities and any action taken to prevent environmental harm.

Under the provisions of the *Environmental Protection Act 1994* this environmental authority is issued to:

Reefway Pty Ltd
 Level 22 Allendale Square
 77 St Georges Terrace
 Perth WA.6000

Savannah Resources Pty Ltd
 Level 22, Allendale Square
 77 St Georges Terrace
 Perth WA 6000

In respect of carrying out activities as part of the following mining project:

Type of environmental authority (mining activities)	Authorised mining tenements	Location
Mining Leases	ML 5426 ML 5435 ML 5446 ML 5447 ML 5448 ML 5474 ML 5476 ML 5478 ML90168 ML90169 ML90170	100km north of Mount Isa

The mining activities are authorized to the extent defined in Schedule 6 Section 12(c) of the *Environmental Protection Regulation 1998*.

This environmental authority is subject to the conditions set out in the attached schedules. The anniversary date of this environmental authority is 24 July each year.

This environmental authority takes effect from 24 July 2006 for granted tenements and will take effect for ML 90168, 90170 and 90169 upon date of grant of tenure.

s.49 - Signature

Geoff Metcalfe
 District Manager
 Mt Isa District, Northern Region
 Delegate of Administering Authority
 Environmental Protection Act 1994

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ENVIRONMENTAL PROTECTION ACT 1994

This environmental authority incorporates the following schedules:

- Schedule A - General
- Schedule B - Air
- Schedule C - Water
- Schedule D - Noise and Vibration
- Schedule E - Waste
- Schedule F - Land
- Schedule G - Community
- Schedule H - Definitions
- Schedule I - Maps / Plans

Schedule A - General

Financial Assurance

- (A1-1) Provide a financial assurance in the amount and form required by the administering authority prior to the commencement of activities proposed under this environmental authority.

NOTE: The calculation of financial assurance for condition (A1-1) must be in accordance with Guideline 17 and may include a performance discount. The amount is defined as the maximum total rehabilitation cost for complete rehabilitation of all disturbed areas, which may vary on an annual basis due to progressive rehabilitation. The amount required for the financial assurance must be the highest Total Rehabilitation Cost calculated for any year of the Plan of Operations and calculated using the formula: (Financial Assurance Highest Total Annual Rehabilitation Cost x Percentage Required).

- (A1-2) The financial assurance is to remain in force until the administering authority is satisfied that no claim on the assurance is likely.

NOTE: Where progressive rehabilitation is completed and acceptable to the administering authority, progressive reductions to the amount of financial assurance will be applicable where rehabilitation has been completed in accordance with the acceptance criteria defined within this environmental authority.

Maintenance of Measures, Plant and Equipment

- (A2-1) The environmental authority holder must ensure:
- that all measures, plant and equipment necessary to ensure compliance with the conditions of this environmental authority are installed;
 - that such measures, plant and equipment are maintained in a proper condition; and
 - that such measures, plant and equipment are operated in a proper manner.

Monitoring

- (A3-1) Record, compile and keep for a minimum of five years all monitoring results required by this environmental authority and make available for inspection all or any of these records upon request by the administering authority.
- (A3-2) Where monitoring is a requirement of this environmental authority, ensure that a competent person(s) conducts all monitoring.

Storage and Handling of Flammable, Combustible and Corrosive Liquids

- (A4-1) Spillage of all flammable and combustible liquids must be contained within an on-site containment system and controlled in a manner that prevents environmental harm (other than trivial harm) and maintained in accordance with Section 5.8 of AS 1940 - Storage and Handling of Flammable and Combustible Liquids of 2004.
- (A4-2) The on-site storage of corrosive liquids must be in accordance with Section 5.7 of AS 3780 - Storage and Handling of Corrosive Substances 1994

Definitions

- (A5-1) Words and phrases used throughout this environmental authority are defined in Schedule H – Definitions. Where a definition for a term used in this environmental authority is sought and the term is not defined within this environmental authority, the definitions in the *Environmental Protection Act 1994*, its Regulations and Environmental Protection Policies must be used.

END CONDITIONS FOR SCHEDULE A

Schedule B - Air

Dust Nuisance

- (B1-1) Subject to Conditions (B1-2) and (B1-3) the release of dust or particulate matter or both resulting from the mining activity must not cause an environmental nuisance at any sensitive or commercial place.
- (B1-2) When requested by the administering authority, dust and particulate monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive or commercial place, and the results must be notified within 14 days to the administering authority following completion of monitoring.
- (B1-3) If the environmental authority holder can provide evidence through monitoring that the following limits are not being exceeded then the holder is not in breach of (B1-1):
 - a) Dust deposition of 120 milligrams per square metre per day, averaged over one month, when monitored in accordance with AS 3580.10.1 Methods for sampling and analysis of ambient air - Determination of particulates - Deposited matter - Gravimetric method of 1991.
- (B1-4) If monitoring indicates exceedence of the relevant limits in Condition (B1-3), then the environmental authority holder must:
 - a) address the complaint including the use of appropriate dispute resolution if required; or
 - b) immediately implement dust abatement measures so that emissions of dust from the activity do not result in further environmental nuisance.

Odour Nuisance

- (B2-1) Subject to condition (B2-2), the release of noxious or offensive odour(s) or any other noxious or offensive airborne contaminant(s) resulting from the mining activity must not cause an environmental nuisance at any sensitive or commercial place.
- (B2-2) When requested by the administering authority, odour monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive or commercial place, and the results must be notified within 14 days to the administering authority following completion of monitoring.
- (B2-3) If monitoring indicates Condition (B2-1) is not being met then the environmental authority holder must:
 - a) address the complaint including the use of appropriate dispute resolution if required; or
 - b) immediately implement odour abatement measures so that emissions of odour from the activity do not result in further environmental nuisance.

END CONDITIONS FOR SCHEDULE B

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Schedule C - Water

Release to Waters

(C1-1) Receiving waters affected by the release of process water or storm water contaminated by the mining activities or both must be monitored at the locations and frequencies defined in Schedule C - Table 1 and Schedule I - Map 1, and comply with the contaminant limits defined in Schedule C - Table 3.

Schedule C - Table 1 (Receiving Water Monitoring Locations and Frequency)

Monitoring point	Easting (AMG 84 Zone 54)	Northing (AMG 84 Zone 54)	Monitoring frequency
MKUS 1- reference site *	305625	7797450	Each flow event
MKUS 2- reference site*	TBD	TBD	Each flow event
MKDS 1- test site	301160	7800135	Each flow event
MKDS 2- test site	306366	7798358	Each flow event
MKDS 3- test site	306370	7798363	Each flow event
MKDS 4- test site	301300	7797255	Each flow event

NOTE: This does not apply to dams containing hazardous waste.

Reference sites must:

- a) be from the same biogeographical and climatic region;
- b) have similar geology, soil types and topography
- c) contain a range of habitats similar to those at the test site
- d) be of similar flow regime; and
- e) not be so close to the test sites that any disturbances at the test site also result in a change at the reference site.

TBD- to be determined and provided to the GEPA prior to commencement of mining.

C1-2 Subject to Condition (C1-1), if the receiving water contaminant trigger levels defined in Schedule C - Table 2 are exceeded then the environmental authority holder must complete an investigation into the potential for environmental harm and notify the administering authority within 3 months of receiving the analysis results.

Schedule C - Table 2 (Receiving Water Trigger Levels)

Parameter	Units	Minimum	Maximum	Trigger Type
pH ¹	pH	6.0	8.0	Range
EC ¹	µS/cm	N/A	250	Maximum
Sulphate ²	mg/L	N/A	500	Maximum
Aluminium ²	mg/L	N/A	2.5	Maximum
Arsenic ²	mg/L	N/A	0.25	Maximum
Boron ²	mg/L	N/A	0.37	Maximum
Cadmium ²	mg/L	N/A	0.005	Maximum
Chromium ²	mg/L	N/A	0.5	Maximum
Cobalt ²	mg/L	N/A	0.5	Maximum
Copper ²	mg/L	N/A	0.5	Maximum
Fluoride ²	mg/L	N/A	1	Maximum
Lead ²	mg/L	N/A	0.05	Maximum
Manganese ³	mg/L	N/A	1.9	Maximum
Mercury ²	mg/L	N/A	0.001	Maximum
Molybdenum ²	mg/L	N/A	0.075	Maximum
Nickel ²	mg/L	N/A	0.5	Maximum
Selenium ²	mg/L	N/A	0.01	Maximum
Zinc ²	mg/L	N/A	10	Maximum

¹ Contaminant triggers limits are based on Table 3.3.4 and 3.3.5 of Aquatic Ecosystems ANZECC (2000).

² Contaminant trigger limits are based on 50% of the contaminant limits defined in the ANZECC (2000) Livestock Drinking Water and are to be analysed as total metals (unfiltered).

³ Contaminant trigger limits based on Table 3.4.1 of Aquatic Ecosystems ANZECC (2000) 95% and are to be analysed as filtered metals.

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Schedule C - Table 3 (Receiving Water Contaminant Limits)

Parameter	Units	Minimum	Maximum	Trigger Type
pH ⁴	pH	6.0	9.0	Range
TDS ²	mg/L	N/A	4000	Maximum
Sulphate ¹	mg/L	N/A	1000	Maximum
Aluminium ¹	mg/L	N/A	5	Maximum
Arsenic ¹	mg/L	N/A	0.5	Maximum
Boron ¹	mg/L	N/A	5	Maximum
Cadmium ¹	mg/L	N/A	0.01	Maximum
Chromium ¹	mg/L	N/A	1	Maximum
Cobalt ¹	mg/L	N/A	1	Maximum
Copper ¹	mg/L	N/A	1	Maximum
Fluoride ¹	mg/L	N/A	2	Maximum
Lead ¹	mg/L	N/A	0.1	Maximum
Manganese ³	mg/L	N/A	2.5	Maximum
Mercury ¹	mg/L	N/A	0.002	Maximum
Molybdenum ¹	mg/L	N/A	0.15	Maximum
Nickel ¹	mg/L	N/A	1	Maximum
Selenium ¹	mg/L	N/A	0.02	Maximum
Zinc ¹	mg/L	N/A	20	Maximum

¹ Contaminant limits based on table 4.3.2 ANZECC (2000) Livestock drinking water quality and are analysed as Total metals (unfiltered)

² Contaminant limits are based on Table 4.3.1 Livestock drinking water quality and are analysed as Total metals (unfiltered)

³ Contaminant limits based on Table 3.4.1 of Aquatic Ecosystems ANZECC (2000) 80% and are to be analysed as filtered metals.

⁴ Contaminant limits based on Table 3.3.4 of Aquatic Ecosystems ANZECC (2000)

End of Pipe Release

(C1-3) End of pipe release limits for storm water contaminated by mining activities must be monitored at the locations and frequencies defined in Schedule C - Table 4 and Schedule 1 - Map 2 and 3 and comply with the contaminant limits defined in Schedule C - Table 5.

Schedule C - Table 4 (End of pipe monitoring locations and frequency)

Monitoring point	Easting (AMG 84, Zone 54)	Northing (AMG 84, Zone 54)	Monitoring frequency
Mount Clarke ROM Area Sediment Dam	303834	7799496	Each flow event
Mount Clarke Pit Area Sediment Dam	305336	7799592	Each flow event
Mount Clarke/Flying Horse Sediment Dam	305887	7798726	Each flow event
Process Plant ROM Pad Sediment Dam 1	303040	7798656	Each flow event
Process Plant ROM Pad Sediment Dam 2	302905	7798900	Each flow event
Process Plant ROM Pad Sediment Dam 3	302771	7799010	Each flow event

NOTE: This does not apply to dams containing hazardous waste.

Schedule C - Table 5 (End of pipe contaminant release limits)

Parameter	Units	Minimum	Maximum	Limit Type
pH	pH	6	9	Range
TDS	mg/L	N/A	4000	Maximum
Sulphate	mg/L	N/A	1000	Maximum
Arsenic	mg/L	N/A	5	Maximum
Cadmium	mg/L	N/A	0.01	Maximum
Chromium	mg/L	N/A	1	Maximum
Cobalt	mg/L	N/A	1	Maximum
Copper	mg/L	N/A	1	Maximum
Lead	mg/L	N/A	0.1	Maximum
Mercury	mg/L	N/A	0.002	Maximum
Zinc	mg/L	N/A	20	Maximum

Contaminant limits based on ANZECC (2000) Livestock drinking water quality and are analysed as Total metals (unfiltered)
NOTE: This does not apply to dams containing hazardous waste.

Dams Containing Hazardous Waste

(C1-4) Water storages containing process water and storm water contaminated by mining activities must be monitored at the locations and frequencies defined in Schedule C - Table 6 and Schedule I - Map 4 and samples analysed for the parameters defined in Schedule C - Table 7.

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Schedule C - Table 6 (Water Storage Monitoring Locations of Hazardous Dams)

Monitoring point	Easting (Zone 54, AMG 84)	Northing (Zone 54, AMG 84)	Monitoring frequency
PLS Ponds	302000	7797450	Annually, March
ILS Pond	301900	7797450	Annually, March
Raffinate Pond Pre-Settler	301860	7797450	Annually, March
Raffinate Pond	301800	7797450	Annually, March
Storm water Pond 1	301750	7797450	Annually, March
Storm water Pond 2	301750	7797350	Annually, March

(C1-5) In the event that the water quality within any dam containing hazardous waste does not comply with the contaminant limits defined in Schedule C - Table 7, implement measures to prevent access by all livestock and minimise access by fauna to the dam.

Schedule C - Table 7 (Water Quality Limits for Dams Containing Hazardous Waste)

Parameter	Units	Contaminant Limit	Limit Type
pH	pH	4-9	Range
TDS	mg/L	5,000	Maximum
Boron	mg/L	5	Maximum
Sulphate	mg/L	1000	Maximum
Aluminum	mg/L	5	Maximum
Arsenic	mg/L	0.5	Maximum
Cobalt	mg/L	1	Maximum
Copper	mg/L	1	Maximum
Lead	mg/L	0.1	Maximum
Nickel	mg/L	1	Maximum
Zinc	mg/L	20	Maximum

Contaminant limits based on ANZECC (2000 Livestock drinking water quality and are analysed as total metals (unfiltered).)

(C1-6) The design storage allowance on 1 November of each year for any dam containing hazardous waste constructed or operated within the operational land must comply with Schedule C - Table 8.

Schedule C - Table 8 (Storage Design for Dams Containing Hazardous Waste)

Storage Type	Design Storage Allowance ⁽¹⁾	Spillway Critical Design Storm ⁽²⁾	Mandatory Reporting Level ⁽³⁾
Stormwater Pond 1	1: 100 Year ARI 2 month wet season plus process inputs for the 2 month wet season	1: 1000 Year ARI	1: 100 year ARI
Stormwater Pond 2	1: 100 Year ARI 2 month wet season plus process inputs for the 2 month wet season	1: 1000 Year ARI	1: 100 year ARI

Note ⁽¹⁾: The design storage allowance on 1 November of each year for any dam containing hazardous waste constructed within the operational land must be equivalent to the run-off from a 1 in 100 ARI 2 month wet season plus process inputs for the equivalent wet season. Process inputs refers to hazardous mineral process waste and water, which is being disposed of in the storage facility.

Note ⁽²⁾: The critical design storm has a duration that produces the peak discharge for the catchments.

Note ⁽³⁾: The mandatory reporting level refers to the volume below the spillway crest, either the 1: 100 ARI 72 hour storm or the 1:100 ARI wave allowance, whichever is lower.

(C1-7) The spillway for any dam containing hazardous waste, constructed or operated within the operational land must be designed and maintained to withstand the peak flow from the spillway critical design storm defined in Schedule C - Table 8.

- (C1-8) The holder of the environmental authority must mark the mandatory reporting level defined in Schedule C - Table 8 on the spillway of all dams containing hazardous waste within the operational land.
- (C1-9) The holder of the environmental authority must notify the administering authority when the pondage level of the dam containing hazardous waste, reaches the mandatory reporting level defined in Schedule C - Table 8.

Stream Sediment Contaminant Levels

- (C2-1) All reasonable and practicable erosion protection measures and sediment control measures must be implemented and maintained to minimise erosion and the release of sediment.
- (C2-2) The bed of the receiving waters, affected by the release of process water and storm water contaminated by the mining activities must be monitored at the locations and frequencies defined in Schedule C - Table 9 and Schedule I - Map 5.

Schedule C - Table 9 (Receiving Stream Sediment Monitoring Locations and Frequency)

Monitoring point ¹	Easting (AGD 84 Zone 54)	Northing (AGD 84 Zone 54)	Monitoring frequency
MKUS 1- reference site*	305625	7797450	May each year
MKUS 2- reference site*	TBD	TBD	May each year
MKDS 1- test site	301160	7800135	May each year
MKDS 2- test site	306366	7798356	May each year
MKDS 3- test site	306370	7798363	May each year
MKDS 4- test site	301300	7797255	May each year

NOTE: This does not apply to dams containing hazardous waste

Reference sites must:

- a) be from the same biogeographical and climatic region;
- b) have similar geology, soil types and topography
- c) contain a range of habitats similar to those at the test site
- d) be of similar flow regime; and
- e) not be so close to the test sites that any disturbances at the test site also result in a change at the reference site.

TBD- to be determined and provided to the QEPA prior to commencement of mining.

- (C2-3) Subject to Condition (C2-2), if the stream sediment contaminant trigger levels defined in Schedule C - Table 10 are exceeded then the environmental authority holder must complete an investigation into the potential for environmental harm and notify the administering authority within 3 months of receiving the analysis results.

Schedule C - Table 10 (Receiving Stream Sediment Contaminant Trigger Levels)

Parameter	Units	Contaminant trigger levels	Trigger Type
Antimony ¹	mg/kg dry wt	2	Maximum
Arsenic ¹	mg/kg dry wt	20	Maximum
Cadmium ¹	mg/kg dry wt	1.5	Maximum
Chromium ¹	mg/kg dry wt	80	Maximum
Copper ²	mg/kg dry wt	100	Maximum
Lead ¹	mg/kg dry wt	50	Maximum
Nickel ¹	mg/kg dry wt	21	Maximum
Silver ¹	mg/kg dry wt	1	Maximum
Mercury ¹	mg/kg dry wt	0.15	Maximum
Zinc ¹	mg/kg dry wt	200	Maximum

¹ ANZECC (2000): ISQG Low trigger values, Sediment Quality Guidelines, Aquatic Ecosystems, Table 3.5.1.

² Site specific trigger value as calculated in section 3.5 of EM Plan January 2006

- (C2-4) Subject to Condition (C2-2), stream sediment contaminant limits must not exceed the contaminant limits defined in Schedule C - Table 11.

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Schedule C - Table 11 (Receiving Stream Sediment Contaminant Limits)

Parameter	Units	Contaminant limits	Limit Type
Antimony ¹	mg/kg dry wt	25	Maximum
Arsenic ¹	mg/kg dry wt	70	Maximum
Cadmium ¹	mg/kg dry wt	10	Maximum
Chromium ¹	mg/kg dry wt	370	Maximum
Copper ²	mg/kg dry wt	120	Maximum
Lead ¹	mg/kg dry wt	220	Maximum
Nickel ¹	mg/kg dry wt	52	Maximum
Silver ¹	mg/kg dry wt	3.7	Maximum
Mercury ¹	mg/kg dry wt	1	Maximum
Zinc ¹	mg/kg dry wt	410	Maximum

¹ ANZECC (2000): ISQG High trigger values, Sediment Quality Guidelines, Aquatic Ecosystems, Table 3.5.1.

² Site specific trigger value as calculated in section 3.5 of EM Plan January 2006

(C2-5) All stream sediment sampling must be undertaken in accordance with AS 5667.1 Guidance on Sampling of Bottom Sediments of 1998

Sewage effluent

(C3-1) All effluent released from the treatment plant must be monitored at the frequency and for the parameters specified in Schedule C - Table 12.

(C3-2) Sewage effluent used for dust suppression must not exceed sewage effluent release limits defined in Schedule C - Table 12.

(C3-3) Sewage Effluent used for dust suppression must not cause spray drift or over spray to any sensitive or commercial place, and must not be applied at a rate that causes pooling, ponding and/or runoff of any effluent irrigated.

(C3-4) Subject to Conditions (C3-1) to (C3-3) inclusive, sewage effluent from sewage treatment facilities must be reused or evaporated and must not be directly released from the sewage treatment plant to any water way or drainage line other than in accordance with Schedule C - Table 12.

Schedule C - Table 12 (Sewage effluent quality targets for dust suppression)

Quality characteristics	Release Limit ¹			Monitoring Frequency
	Minimum	Median	Maximum	
pH (pH Units)	6 ³		8.5 ²	Quarterly
Faecal Coliforms (organisms/100mL)		1000 ¹		Quarterly

¹ A minimum of five samples must be collected at not less than a weekly interval for the quarterly sampling

² A minimum of five samples must be collected at not less than a weekly interval for the quarterly sampling with four out of five samples must be less than the maximum

³ A minimum of five samples must be collected at not less than a weekly interval for the quarterly sampling with four out of five samples must be higher than the minimum but lower than the maximum limit.

Release limits sourced from Queensland Water Recycling Guidelines December 2005 Table 6.2b

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Groundwater

(C4-1) Groundwater, affected by the mining activities must be monitored at the locations and frequencies defined in Schedule C - Table 13 and Schedule I - Map 6.

Schedule C - Table 13 (Groundwater Monitoring Locations and Frequency)

Monitoring point	Easting (AGD 84 Zone 54)	Northings (AGD 84 Zone 54)	Monitoring frequency
LA MB01 (Process Plant) - reference site	302484	7796800	Monthly
LA MB02 (Process Plant) - reference site	302891	7797385	Monthly
LA MB03 (Process Plant) - reference site	302128	7797950	Monthly
LA MB04 (Process Plant)	TBD	TBD	Monthly
LA MB05 (Process Plant)	TBD	TBD	Monthly
LA MB06 (Process Plant)	TBD	TBD	Monthly
LA MB07 (Process Plant)	TBD	TBD	Monthly
LA MB08 (Process Plant)	TBD	TBD	Monthly
LA MB09 (Process Plant)	TBD	TBD	Monthly
LA MB010 (Process Plant)	TBD	TBD	Monthly
LA MB011 (Process Plant)	TBD	TBD	Monthly
LA MB012 (Process Plant)	TBD	TBD	Monthly
LA MB013 (Process Plant)	TBD	TBD	Monthly
LA MB014 (Process Plant)	TBD	TBD	Monthly
MK MB01 (pit area)	305380	7799013	Quarterly
MK PB01 (pit area)	305356	7799019	Quarterly

NOTE: This does not apply to dams containing hazardous waste
TBD- To be determined

Reference sites must:

- a) be from the same biogeographical and climatic region;
- b) have similar geology, soil types and topography
- c) contain a range of habitats similar to those at the test site
- d) be of similar flow regime; and not be so close to the test sites that any disturbances at the test site also result in a change at the reference site.

(C4-2) Subject to Condition (C4-1), if the groundwater contaminant trigger levels defined in Schedule C - Table 14 are exceeded then the environmental authority holder must complete an investigation into the potential for environmental harm and notify the administering authority within 3 months of receiving the analysis results.

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Schedule C - Table 14 (Groundwater Contaminant Trigger Levels)

Parameter	Units	Minimum	Maximum	Trigger type
pH ¹	pH	6	8	Range
TDS ²	mg/L	N/A	2000	Maximum
Sulphate ²	mg/L	N/A	500	Maximum
Aluminium ²	mg/L	N/A	2.5	Maximum
Arsenic ²	mg/L	N/A	0.25	Maximum
Boron ²	mg/L	N/A	0.37	Maximum
Cadmium ²	mg/L	N/A	0.005	Maximum
Chromium ²	mg/L	N/A	0.5	Maximum
Cobalt ²	mg/L	N/A	0.5	Maximum
Copper ²	mg/L	N/A	0.5	Maximum
Fluoride ²	mg/L	N/A	1	Maximum
Lead ²	mg/L	N/A	0.05	Maximum
Manganese ³	mg/L	N/A	1.9	Maximum
Mercury ²	mg/L	N/A	0.001	Maximum
Molybdenum ²	mg/L	N/A	0.075	Maximum
Nickel ²	mg/L	N/A	0.5	Maximum
Selenium ²	mg/L	N/A	0.01	Maximum
Zinc ²	mg/L	N/A	10	Maximum

¹ Contaminant triggers limits are based on Table 3.3.4 and 3.3.5 of Aquatic Ecosystems ANZECC (2000)

² Contaminant trigger limits are based on 50% of the contaminant limits defined in the ANZECC (2000) Livestock Drinking Water and are to be analysed as total metals (unfiltered).

³ Contaminant trigger limits based on Table 3.4.1 of Aquatic Ecosystems ANZECC (2000) and are analysed as Filtered Metals

(C4-3) Subject to Condition (C4-1), groundwater contaminant limits must not exceed the contaminant limits defined in Schedule C - Table 15.

Schedule C – Table 15 (Groundwater Contaminant Limits)

Parameter	Units	Minimum	Maximum	Limit Type
pH ¹	pH	6	9	Range
TDS ¹	mg/L	N/A	4000	Maximum
Sulphate ¹	mg/L	N/A	1000	Maximum
Aluminum ¹	mg/L	N/A	5	Maximum
Arsenic ¹	mg/L	N/A	0.5	Maximum
Boron ¹	mg/L	N/A	5	Maximum
Cadmium ¹	mg/L	N/A	0.01	Maximum
Chromium ¹	mg/L	N/A	1	Maximum
Cobalt ¹	mg/L	N/A	1	Maximum
Copper ¹	mg/L	N/A	1	Maximum
Fluoride ¹	mg/L	N/A	2	Maximum
Lead ¹	mg/L	N/A	0.1	Maximum
Manganese ²	mg/L	N/A	2.5	Maximum
Mercury ²	mg/L	N/A	0.002	Maximum
Molybdenum ¹	mg/L	N/A	0.15	Maximum
Nickel ¹	mg/L	N/A	1	Maximum
Selenium ¹	mg/L	N/A	0.02	Maximum
Zinc ¹	mg/L	N/A	20	Maximum

¹ Contaminant limits based on ANZECC (2000) Livestock drinking water quality and are analysed as Total Metals (unfiltered)
² Contaminant limits based on Table 3.4.1 of Aquatic Ecosystems ANZECC (2000) and are analysed as Filtered Metals.

(C4-4) The method of water sampling required by this environmental authority must comply with that set out in the latest edition of the Environmental Protection Agency's Water Quality Sampling Manual.

Voids

(C5-1) Water quality in mining voids and final voids must be monitored at the locations and frequencies defined in Schedule C - Table 16 and for the parameters detailed in Schedule C – Table 17.

(C5-2) In the event that water quality within the mining voids or final voids does not comply with the contaminant limits defined in Schedule C – Table 17, implement measures to prevent access by all livestock and minimise access by fauna to the void.

Schedule C - Table 16 (Voids Monitoring Locations and Frequency)

Monitoring point	Monitoring frequency
Mount Kelly/Flying Horse Pit	Annually
Mount Clarke Pit	Annually

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Schedule C - Table 17 (Void Water Quality Limits)

Parameter	Units	Limit	Limit Type
pH	pH	6-9	Range
TDS	mg/L	4000	Maximum
Sulphate	mg/L	1000	Maximum
Arsenic	mg/L	0.5	Maximum
Cadmium	mg/L	0.01	Maximum
Chromium	mg/L	1	Maximum
Copper	mg/L	1	Maximum
Lead	mg/L	0.1	Maximum
Mercury	mg/L	0.002	Maximum
Zinc	mg/L	20	Maximum

Contaminant limits are based on ANZECC (2000 Livestock drinking water quality and analysed for total metals (unfiltered))

Acid Rock Drainage and Leachate Management

(C6-1) Subject to limits defined in Schedule C all reasonable and practicable measures must be implemented to prevent hazardous leachate being directly or indirectly released or likely to be released as a result of the activity to any groundwater, watercourse and waters.

END CONDITIONS FOR SCHEDULE C

Schedule D - Noise and Vibration**Noise Nuisance**

- (D1-1) Subject to Conditions (D1-2) and (D1-3) noise from the mining activity must not cause an environmental nuisance to an affected building.
- (D1-2) When requested by the administering authority, noise monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive or commercial place, and the results must be notified within 14 days to the administering authority following completion of monitoring.
- (D1-3) The method of measurement and reporting of noise levels must comply with the latest edition of the Environmental Protection Agency's Noise Measurement Manual.

Vibration nuisance

- (D2-1) Subject to Conditions (D2-2) and (D2-3) vibration from the mining activity must not cause an environmental nuisance to an affected building.
- (D2-2) When requested by the administering authority, vibration monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive or commercial place, and the results must be notified within 14 days to the administering authority following completion of monitoring.

END CONDITIONS FOR SCHEDULE D**Schedule E - Waste****Storage of Tyres**

- (E1-1) Tyres stored awaiting disposal or transport for take-back and, recycling, or waste-to-energy options - should be stockpiled in volumes less than 3m in height and 200m² in area and at least 10m from any other tyre storage area.
- (E1-2) All reasonable and practicable fire prevention measures must be implemented, including removal of grass and other materials within a 10m radius of the scrap tyre storage area.

Disposal of Tyres

- (E2-1) Disposing of scrap tyres resulting from the mining activities in spoil emplacements is acceptable, provided tyres are placed as deep in the spoil as reasonably practicable.
- (E2-2) Scrap tyres resulting from the mining activities disposed within the operational land must not impede saturated aquifers or compromise the stability of the consolidated landform.

Waste Management

- (E3-1) A Waste Management Program, in accordance with the Environmental Protection (Waste Management) Policy 2000, must be included in the Plan of Operations.

Regulated Waste

- (E 4-1) All regulated waste received and removed from the site, that is over 250kg in weight, must be transported by a person who holds a current authority to transport such waste under the provisions of the *Environmental Protection Act 1994*.
- (E4-2) Except as otherwise provided by the conditions of this authority, all waste removed from the site must be taken to a facility that is lawfully allowed to accept such waste under the provisions of the *Environmental Protection Act 1994*.
- (E4-3) Where regulated waste is removed from the Project (other than by a release as permitted under another schedule of this environmental authority), records must be kept of the following:
- the date, quantity and type of waste removed, and
 - name of the waste transporter that removed the waste; and
 - the intended treatment/disposal destination of the waste.

Note: Records of documents maintained in compliance with a waste tracking system established under the Environmental Protection Act 1994 or any other law for regulated waste will be deemed to satisfy this condition.

Waste Rock Characterisation

- (E5-1) All areas to be mined must undergo a waste rock characterisation survey (where waste rock is to be disposed of on the surface) and a report submitted to the administering authority prior to mining where this survey has not previously been carried out.

END CONDITIONS FOR SCHEDULE E

Disturbance Category	Max. Area	Land Use			Land Capability		Analogue Site	
		Habitat/LIG	Habitat/LIG	Habitat/LIG	Class 4-5	Class 4-5	TBD	TBD
Mount Clarke Topsoil Stockpile	4.5	Habitat/LIG	Habitat/LIG	Habitat/LIG	Class 4-5	Class 4-5	TBD	TBD
Mount Clarke Pit Area Sediment Dam	0.6	Habitat	Water Storage	Water Storage	Class 4-5	Water Storage		
Mount Clarke ROM Area Sediment Dam	0.4	Habitat	Water Storage	Water Storage	Class 4-5	Water Storage		
Mount Clarke - Diversion/Interception /Sediment Dam Drains	3.2	Habitat	LIG or diversion Habitat	LIG or diversion Habitat	Class 4-5	Class 4-5	TBD	TBD
Roads/Tracks	18.8	Existing tracks or LIG	Tracks for grazier or LIG	Tracks for grazier or LIG	Class 4-5	Class 4-5	TBD	TBD
Accommodation Camp and Facilities	5	LIG	LIG	LIG	Class 4	Class 4	TBD	TBD
Sewage Plant and Pond	0.2	LIG	LIG	LIG	Class 4	Class 4	TBD	TBD
ROM Pad - at process plant	7.8	LIG	LIG	LIG	Class 4-5	Class 4-5	TBD	TBD
Process plant and associated buildings	3.3	LIG	LIG	LIG	Class 4	Class 4	TBD	TBD
Overland Conveyor	1.8						TBD	TBD
Workshop/Office	2.9	LIG	LIG	LIG	Class 4	Class 4	TBD	TBD
Access Circuit Area							TBD	TBD
Heap Leach Pads - Stage 1 and 2	43.2	LIG	Habitat/LIG	Habitat/LIG	Class 4	Class 4-5	TBD	TBD
Process Water Ponds - PLS, ILS and Raffinate	3.4	LIG	Water storages	Water storages	Class 4	Water storages		
Stormwater Ponds 1 and 2	11.4	LIG	Water storages	Water storages	Class 4	Water storages		
Stormwater Pond spillway channel	0.7	LIG	LIG or diversion	LIG or diversion	Class 4	Class 4-5	TBD	TBD
Raw Water Pond	0.6	LIG	LIG/Water storage	LIG/Water storage	Class 4	Class 4 or water storage	TBD	TBD
Process Area Topsoil Stockpiles	9.7	LIG	LIG	LIG	Class 4	Class 4	TBD	TBD

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Schedule F - Land

Rehabilitation Landform Criteria

(F1-1) All areas significantly disturbed by mining activities must be rehabilitated to a stable landform with a self-sustaining vegetation cover in accordance with Schedule F - Table 1 and 2.

Schedule F - Table 1 (Final Land Use and Rehabilitation Approval Schedules)

Disturbance Category	Max. Area (ha)	Land Use			Land Capability		Analogue Site	
		PRE DISTURBANCE	POST DISTURBANCE	PRE DISTURBANCE	POST DISTURBANCE	Longitude	Latitude	
Mount Kelly/Flying Horse Pit	13.2	Habitat	Water Storage	Class 5	Water Storage			
Mount Kelly/Flying Horse Waste Rock Dump	28	Habitat	Habitat	Class 5	Class 5	TBD	TBD	TBD
Mount Kelly/Flying Horse Topsoil Stockpile	1.1	Habitat	Habitat	Class 5	Class 5	TBD	TBD	TBD
Mount Kelly/Flying Horse Sediment Dams	1.3	Habitat	Water Storage	Class 5	Water Storage			
Mount Kelly/Flying Horse Diversion Drains	1.3	Habitat	LIG or diversion Habitat	Class 5	Class 5	TBD	TBD	TBD
Mount Clarke Pit	9.5	Habitat	Water Storage	Class 5	Water Storage			
Mount Clarke Waste Rock Dump	16.3	Habitat/LIG	Habitat/LIG	Class 4 - 5	Class 4 - 5	TBD	TBD	TBD
Mount Clarke Low Grade Stockpile	5.4	Habitat/LIG	Habitat/LIG	Class 4 - 5	Class 4 - 5	TBD	TBD	TBD
Mount Clarke/Flying Horse/Mount Kelly ROM Storage & Live Rehandle	5.5	Habitat	Habitat/LIG	Class 4 - 5	Class 4 - 5	TBD	TBD	TBD

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Disturbance Category	Max. Area	Land Use		Land Capability		Analogue Site	
		LIG	LIG or diversion	Class 4	Class 4 - 5	TBD	TBD
Process Plant	2.7	LIG	LIG or diversion	Class 4	Class 4 - 5	TBD	TBD
Drainage Diversions	1	LIG	LIG or ponds	Class 4 - 5	Class 4 - 5		
Process Plant	2.6	LIG	LIG	Class 4	Class 4	TBD	TBD
Sediment Ponds	1	LIG	LIG	Class 4 - 5	Class 4 - 5	TBD	TBD
Bulk Fill Stockpile	0.2	LIG	LIG	Class 4 - 5	Class 4 - 5	TBD	TBD
Pipelines and Powerlines (on lease)	0.3	LIG	LIG	Class 4	Class 4 - 5	TBD	TBD
Rubbish Dumps	0.3	LIG	LIG	Class 4	Class 4	TBD	TBD
Concrete Batch Plant	4.3	LIG	LIG	Class 4	Class 4	TBD	TBD
Fuel Storage Area	5	LIG	LIG/Habitat	Class 4 - 5	Class 4 - 5	TBD	TBD
Contractor Laydown Area	59.9	LIG	LIG/Habitat	Class 4 - 5	Class 4 - 5	TBD	TBD
Exploration	276.4						
Construction Access							
fron of specific areas)							
Total							

Analogue sites and disturbance description are to be identified and the environmental authority holder must amend the environmental authority to include analogue sites in Schedule F - Table 1 by 30 June 2007.

TBD - To be determined

LIG - Low Intensity Grazing

Classes are derived from the Department of Minerals and Energy's Land Suitability Assessment Techniques (1995)

- (F1-2) Progressive rehabilitation must commence when areas become available within the operational land.
- (F1-3) Complete an investigation into rehabilitation of disturbed areas and submit a report to the administering authority proposing acceptance criteria to meet the outcomes in Schedule F - Table 1 and landform design criteria in Schedule F - Table 2 by 30 June 2007

Schedule F - Table 2 (Landform Design)

Disturbance type	Slope range (%)	Projective surface area (ha)
Waste Rock Dumps	33%-76% (1:3 to angle of repose)	49.7
Heap Leach Pads	<33% or 1:3	43.2
ROM Pads	33%-76% (1:3 to angle of repose)	13.3

Residual Void Outcome

(F2-1) Residual voids must not cause any serious environmental harm to land, surface waters or any recognised groundwater aquifer, other than the environmental harm constituted by the existence of the residual void itself and subject to any other condition within this environmental authority.

Dams Containing Hazardous Waste

Description of Dam

(F3-1) The construction or operation of any dam containing hazardous waste within the operational land must comply with Schedule F - Table 3.

Schedule F — Table 3 (Size and Purpose of Dams Containing Hazardous Waste)

Name of dam containing hazardous waste ⁽¹⁾	Maximum surface area of dam (ha)	Maximum volume of dam (m ³)	Maximum depth of dam (m) ⁽²⁾	Purpose of dam ⁽³⁾
Process Water Ponds (Raffinate Pre-Settler, Raffinate, ILS and PLS)	3.4	51,100	4.5	Storage of Process Solutions
Heap Leach Pads	43.2	N/A	N/A	Storage of Process Solutions
Stormwater Pond 1 (Stage 1 only)	6.47	302,760	6.35	Storage of storm water runoff from processing area
Stormwater Pond 1 & 2 (Stage 2)	10.4	467,720	6.35	Storage of storm water runoff from processing area

Note ⁽¹⁾: The name of the dam containing hazardous waste should refer to the name of the dam e.g. process residue facility and decant dam.

Note ⁽²⁾: For dams that do not require a dam wall, input the maximum void depth e.g. where dams are formed by excavating below the land surface or backfilling a residual void.

Note ⁽³⁾: Purpose of the dam should outline the designed function, e.g. "the permanent containment of tailings resulting from the extraction of nickel, cobalt and other metals at the XYZ Refinery".

Location of Dam

(F3-2) The location of any dam containing hazardous waste within the licensed place must be located within the polygonal area defined by the co-ordinates defined in Schedule C- Table 4 -Map 4.

Schedule F — Table 4 (Location of Dams Containing Hazardous Waste)

Name of dam containing hazardous waste	Easting(AMG 84, Zone 54) (m)	Northing (AMG 84, Zone 54) (m)
PLS Ponds, ILS, Raffinate Pre-settler and Raffinate Pond	301760	7797640
	302065	7797640
	302035	7797310
	301760	7797310
Stormwater Pond 1 and 2	301470	7797640
	301760	7797640
	301760	7797110
	301470	7797110
Heap Leach Pads	302065	7797945
	302720	7797945
	302720	7796825
	302035	7796825

Note (1): A minimum of 3 control points is required to constrain the location of all activities associated with the dam containing hazardous waste. Additional infrastructure which forms part of any dam containing hazardous waste may include appurtenant works consisting of tailings discharge pipelines, seepage collection systems, runoff diversion bunds, containment systems, pressure relief wells, decant and recycle water systems.

Standards and Criteria

(F3-3) The holder of the environmental authority must design, construct, repair, maintain, operate and decommission the dams defined in Schedule F – Table 3 and 4 in accordance with an acknowledged design plan that must comply with the standard environmental conditions in the "Code of Environmental Compliance for High Hazard Dams Containing Hazardous Waste".

(F3-4) The holder of the environmental authority must design, construct, and operate all low hazardous dams containing hazardous waste and non-hazardous dams in accordance with the criteria outlined in Appendix B of the Code of Environmental Compliance for Mining Activities.

Inspection of Dams

(F3-5) High hazard dams containing hazardous waste shall be inspected by a Registered Professional Engineer Queensland (RPEG) prior to 1 November each year or at any time if alarming, unusual or otherwise unsatisfactory conditions are observed.

(F3-6) For each inspection, the engineer shall assess the condition of the dam and its foundations, determine the hydraulic adequacy of the dam and assess the adequacy of the works with respect to dam safety.

(F3-7) For each inspection, two copies of the engineer's report and any recommendations as to measures to be taken to ensure the integrity of the dam shall be furnished to the administering authority within 28 days of the inspection.

Decommissioning of Dam – Objective

(F3-8) Dams containing hazardous waste must not be abandoned and must be decommissioned to a situation where water can no longer be stored in the dams. The dams and their contained waste(s) must be stable, whereafter the dams are no longer dams and they become landforms on the operational land and must comply with the rehabilitation requirements of this environmental authority.

Decommissioning of Dam – Documentation and Compliance

(F3-9) Decommissioning activities for dams must be documented in detail in the plan of operations under which the activities are to occur. Where the detailed documentation is not already contained in the Design Plan for the dam, the detailed documentation is considered to be an amendment to the design plan and must be submitted

Handwritten signature/initials

as an amendment to the design plan required by the "Code of Environmental Compliance for High Hazard Dams Containing Hazardous Waste".

Infrastructure

- (F4-1) All infrastructure, constructed by or for the environmental authority holder during the mining activities including water storage structures, must be removed from the site prior to mining lease surrender, except where agreed in writing by the post mining landowner / holder.

NOTE: This is not applicable where the landowner / holder is also the environmental authority holder.

Contaminated Lands

- (F5-1) A register and map of all potentially contaminated sites and any remediation details, must be kept on site, updated regularly, and included in each Plan of Operations.
- (F5-2) A Spillage Management Plan and an Emergency Plan for all hazardous materials stored on-site, together with a description of suitable equipment and training must be updated and included with each Plan of Operations.

END CONDITIONS FOR SCHEDULE F

Schedule G - Community**Complaint Response**

- (G1-1) All complaints received must be recorded including details of complainant, reasons for the complaint, investigations undertaken, conclusions formed and actions taken. This information must be made available for inspection by the administering authority on request.

END CONDITIONS FOR SCHEDULE G

Schedule H – Definitions

“acceptance criteria” means the measures by which the actions implemented to rehabilitate the land are deemed to be complete. The acceptance criteria indicate the success of the rehabilitation outcome or remediation of areas which have been significantly been disturbed by the mining activities. Acceptance criteria may include information regarding:

- vegetation establishment, survival and succession;
- vegetation productivity, sustained growth and structure development;
- fauna colonisation and habitat development;
- ecosystem processes such as soil development and nutrient cycling, and the recolonisation of specific fauna groups such as collembola, mites and termites which are involved in these processes;
- microbiological studies including recolonisation by mycorrhizal fungi, microbial biomass and respiration;
- effects of various establishment treatments such as deep ripping, topsoil handling, seeding and fertiliser application on vegetation growth and development;
- resilience of vegetation to disease, insect attack, drought and fire;
- vegetation water use and effects on ground water levels and catchment yields.

“affected building”

- for noise means any building or any part of a building, for example the building from which the noise is made, at which the noise can be heard.
- for vibration means any building or any part of a building, for example the activity from which the vibration is made, at which the vibration can be felt.

“ambient (or total) noise” at a place, means the level of noise at the place from all sources (near and far), measured as the Leq for an appropriate time interval.

“appropriately qualified person” means any person who conforms to the EPA operational policy for an “appropriately qualified person (analyst)” in accordance with Section 490(7) of the *Environmental Protection Act 1994*.

“ARD” means acid rock drainage and refers to the low pH, high heavy metal pollutant typical of sulphidic mine wastes, and most commonly associated with the production of ferrous iron and sulphuric acid through the oxidation of sulphide minerals.

“authority” means environmental authority (mining activities) under the *Environmental Protection Act 1994*.

“blasting” means the use of explosive materials to fracture-

- (a) rock, coal and other minerals for later recovery; or
- (b) structural components or other items to facilitate removal from a site or for reuse.

“building” includes a structure of any type and part of a building or structure.

“commercial place” means a work place used as an office or for business or commercial purposes, which is not part of the mining activity and does not include employees accommodation or public roads.

“competent person” means a person with the demonstrated skill and knowledge required to carry out the task to a standard necessary for the reliance upon collected data or protection of the environment.

“dam” means a containment or proposed containment whether permanent or temporary, which is designed to contain, divert or control flowable substances. However this does not include a fabricated or manufactured tank or container designed to a recognised standard.

“design plan” in the context of a dam design is the documentation required under the Code of Environmental Compliance for High Hazard Dams Containing Hazardous Waste to describe the physical dimensions of the dam, the materials and standards to be used for construction of the dam, the procedures and criteria to be used for operating the dam and the decommissioning and rehabilitation objectives in terms of procedures, works and outcomes at the end of dam life. The documents can include design and investigation reports, drawings, specifications and certifications.

“environmental authority holder” means the holder of this environmental authority.

“flow event” means a flow event producing sufficient water to permit a monitoring creek bed flow of 30cm or more at the sampling station.

“flowable substance” means matter or mixture of materials which can be forced to or otherwise flow under any conditions possible in a situation. It includes water, other liquids or a mixture that includes water or any other liquid or suspended solids.

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"hazardous waste" means any substance, whether liquid, solid or gaseous, derived by or resulting from, the processing of minerals that tends to destroy life or impair or endanger health.

"infrastructure" means water storage dams, roads and tracks, buildings and other structures built for the purpose of mining activities but does not include facilities required for the long term management of mining impacts or the protection of potential resources. Such facilities include dams containing hazardous waste, waste rock dumps, voids, or ore stockpiles and buildings or other structures whose ownership can be transferred and which have a residual beneficial use for the next owner of the operational land or the background land owner.

"L_A 10, adj, 10 mins" means the A-weighted sound pressure level, (adjusted for tonal character and impulsiveness of the sound) exceeded for 10% of any 10-minute measurement period, using Fast response.

"L_A 1, adj, 10 mins" means the A-weighted sound pressure level, (adjusted for tonal character and impulsiveness of the sound) exceeded for 1% of any 10-minute measurement period; using Fast response.

"L_{A, max, adj, T}" means the average maximum A-weighted sound pressure level, adjusted for noise character and measured over any 10 minute period, using Fast response.

"land" in the "land schedule" of this document means land excluding waters and the atmosphere.

"land capability" as defined in the DME 1995 Technical Guidelines for the Environmental Management of Exploration and Mining in Queensland.

"land suitability" as defined in the DME 1995 Technical Guidelines for the Environmental Management of Exploration and Mining in Queensland.

"land use" term to describe the selected post mining use of the land, which is planned to occur after the cessation of mining operations.

"leachate" means a liquid that has passed through or emerged from, or is likely to have passed through or emerged from, a material stored, processed or disposed of at the operational land which contains soluble, suspended or miscible contaminants likely to have been derived from the said material.

"mandatory reporting level" means the volume below the spillway crest, equivalent to the lower of the AEP, 72 hour storm or the AEP wave allowance (AEP is the annual exceedence probability).

"mineral" means a substance which normally occurs naturally as part of the earth's crust or is dissolved or suspended in water within or upon the earth's crust and includes a substance which may be extracted from such a substance, and includes—

- (a) clay if mined for use for its ceramic properties, kaolin and bentonite;
 - (b) foundry sand;
 - (c) hydrocarbons and other substances or matter occurring in association with shale or coal and necessarily mined, extracted, produced or released by or in connection with mining for shale or coal or for the purpose of enhancing the safety of current or future mining operations for coal or the extraction or production of mineral c¹ therefrom;
 - (d) limestone if mined for use for its chemical properties;
 - (e) marble;
 - (f) mineral oil or gas extracted or produced from shale or coal by in situ processes;
 - (g) peat;
 - (h) salt including brine;
 - (i) shale from which mineral oil may be extracted or produced;
 - (j) silica, including silica sand, if mined for use for its chemical properties;
 - (k) rock mined in block or slab form for building or monumental purposes;
- but does not include—
- (l) living matter;
 - (m) petroleum within the meaning of the *Petroleum Act 1923*;
 - (n) soil, sand, gravel or rock (other than rock mined in block or slab form for building or monumental purposes) to be used or to be supplied for use as such, whether intact or in broken form;
 - (o) water.

"noxious" means harmful or injurious to health or physical well being, other than trivial harm.

"offensive" means causing reasonable offence or displeasure; is disagreeable to the sense; disgusting, nauseous or repulsive, other than trivial harm.

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"peak particle velocity (ppv)" means a measure of ground vibration magnitude which is the maximum rate of change of ground displacement with time, usually measured in millimetres/second (mms^{-1}).

"protected area" means - a protected area under the *Nature Conservation Act 1992*; or
- a marine park under the *Marine Parks Act 1992*; or
- a World Heritage Area.

"progressive rehabilitation" means rehabilitation (defined below) undertaken progressively or a staged approach to rehabilitation as mining operations are ongoing.

"reference site" (or analogue site) may reflect the original location, adjacent area or another area where rehabilitation success has been completed for a similar biodiversity. Details of the reference site may be as photographs, computer generated images and vegetation models etc.

"rehabilitation" the process of reshaping and revegetating land to restore it to a stable landform and in accordance with the acceptance criteria set out in this environmental authority and, where relevant, includes remediation of contaminated land.

"representative" means a sample set which covers the variance in monitoring or other data either due to natural changes or operational phases of the mining activities.

"residual void" means an open pit resulting from the removal of ore and/or waste rock which will remain following the cessation of all mining activities and completion of rehabilitation processes.

"self sustaining" means an area of land which has been rehabilitated and has maintained the required acceptance criteria without human intervention for a period nominated by the administering authority.

"sensitive place" means;

- a dwelling, residential allotment, mobile home or caravan park, residential marina or other residential premises; or
- a motel, hotel or hostel; or
- an educational institution; or
- a medical center or hospital; or
- a protected area under the *Nature Conservation Act 1992*, the *Marine Parks Act 1992* or a World Heritage Area; or
- a public park or gardens.

"significant disturbance" - includes land

- (a) if it is contaminated land; or
- (b) it has been disturbed and human intervention is needed to rehabilitate it.
 - i. to a state required under the relevant environmental authority; or
 - ii. if the environmental authority does not require the land to be rehabilitated to a particular state - to its state immediately before the disturbance.

Some examples of disturbed land include:

- areas where soil has been compacted, removed, covered, exposed or stockpiled;
- areas where vegetation has been removed or destroyed to an extent where the land has been made susceptible to erosion; (vegetation & topsoil)
- areas where land use suitability or capability has been diminished;
- areas within a watercourse, waterway, wetland or lake where mining activities occur;
- areas submerged by tailings or hazardous contaminant storage and dam walls in all cases;
- areas under temporary infrastructure. Temporary infrastructure includes any infrastructure (roads, tracks, bridges, culverts, dams, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc) which is to be removed after mining activities have ceased; or
- areas where land has been contaminated and a suitability statement has not been issued.

However, the following areas are not included:

- areas off lease (e.g. roads or tracks which provide access to the mining lease);
- areas previously significantly-disturbed which have achieved the rehabilitation outcomes;
- by agreement with the EPA, areas previously significantly disturbed which have not achieved the rehabilitation objective(s) due to circumstances beyond the control of the mine operator (such as climatic conditions);
- areas under permanent infrastructure. Permanent infrastructure includes any infrastructure (roads, tracks, bridges, culverts, dams, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc) which is to be left by agreement with the landowner. The agreement to leave permanent infrastructure must be recorded in the Landowner Agreement and lodged with the EPA;
- disturbances that pre-existed the grant of the tenure unless those areas are disturbed during the term of the tenure.

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"spillway" means passage or outlet from the dam through which surplus water flows.

"stable" means land form dimensions are or will be stable within tolerable limits now and in the foreseeable future. Stability includes consideration of geotechnical stability, settlement and consolidation allowances, bearing capacity (traffic ability), erosion resistance and geochemical stability with respect to seepage and contaminant generation.

"suitably qualified and experienced person" means a person who is a Registered Professional Engineer of Queensland under the provisions of the *Professional Engineers Act 1988* or a Corporate Member of the Institution of Engineers Australia or holds equivalent professional qualifications and has the following:

- (a) knowledge of engineering principles related to the structures, geomechanics, hydrology, hydraulics, chemistry and environmental impact of dams; and
- (b) at least a total of five years of suitable experience and demonstrated expertise in at least four of the following areas:
- investigation, design or construction of dams;
 - operation and maintenance of dams;
 - geomechanics with particular emphasis stability, geology and geochemistry;
 - hydrology with particular reference to flooding, estimation of extreme storms, water management or meteorology;
 - hydraulics with particular reference to sediment transport and deposition, erosion control, beach processes;
 - hydrogeology with particular reference to seepage, groundwater, solute transport processes and monitoring thereof; or
 - dam safety.

"tolerable limits" means that a range of values could be accepted to achieve an overall environmental management objective (eg a range of settlement of a tailing capping could still meet the objective of draining the cap quickly, preventing pondage and limiting infiltration and percolation).

"trivial harm" means environmental harm which is not material or serious environmental harm and will not cause actual or potential loss or damage to property of an amount of, or amounts totalling more than \$5,000.

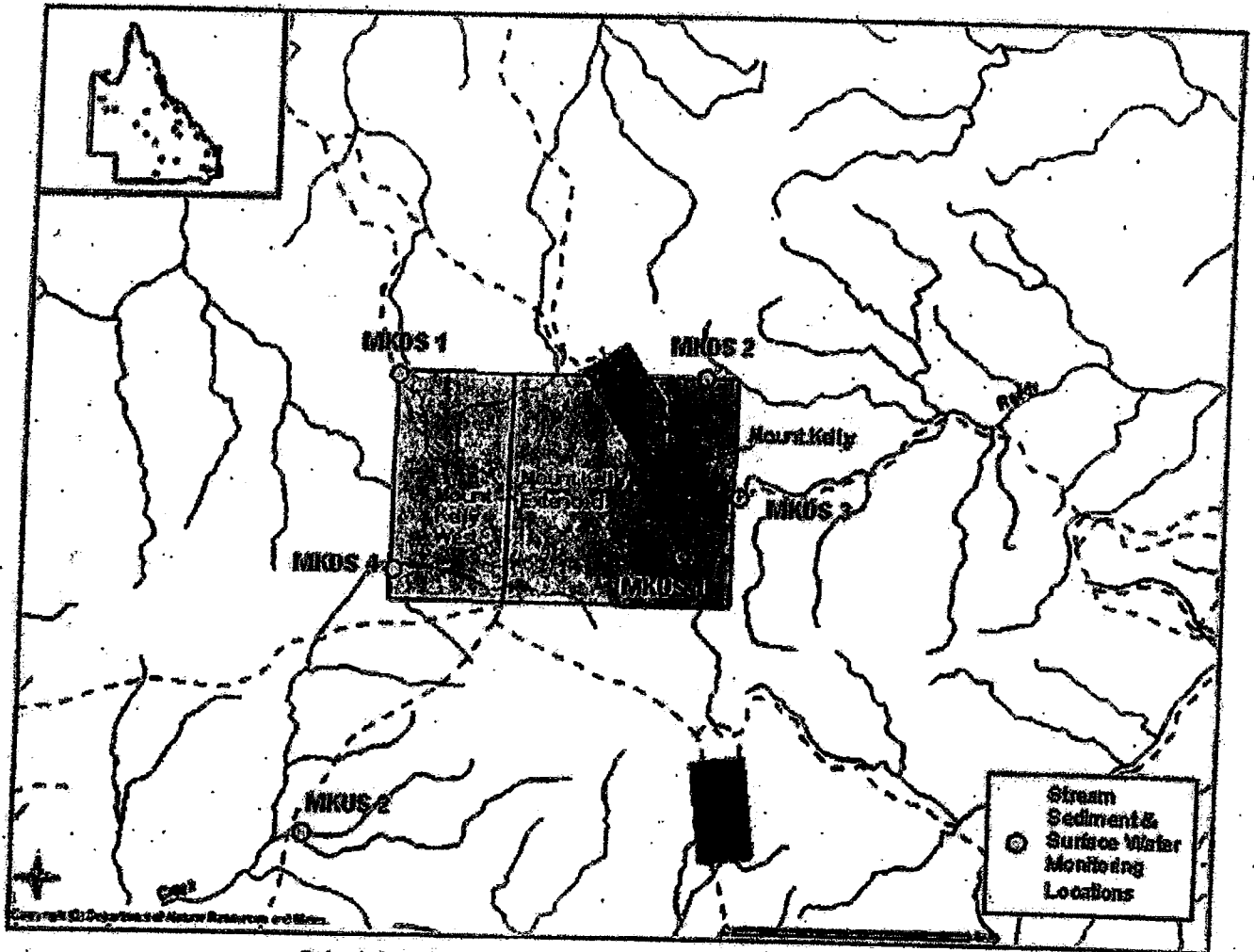
"watercourse" - Means a river, creek or stream in which water flows permanently or intermittently in a visibly defined channel (natural, artificial or artificially improved) with:

- (a) continuous bed and banks;
- (b) an extended period of flow for some months after rain ceases, and
- (c) an adequacy of flow that sustains basic ecological processes and maintains biodiversity.

"waters" includes river, stream, lake, lagoon, pond, swamp, wetland, unconfined surface water, bed and bank of any waters, dams, non-tidal or tidal waters (including the sea) or any part thereof.

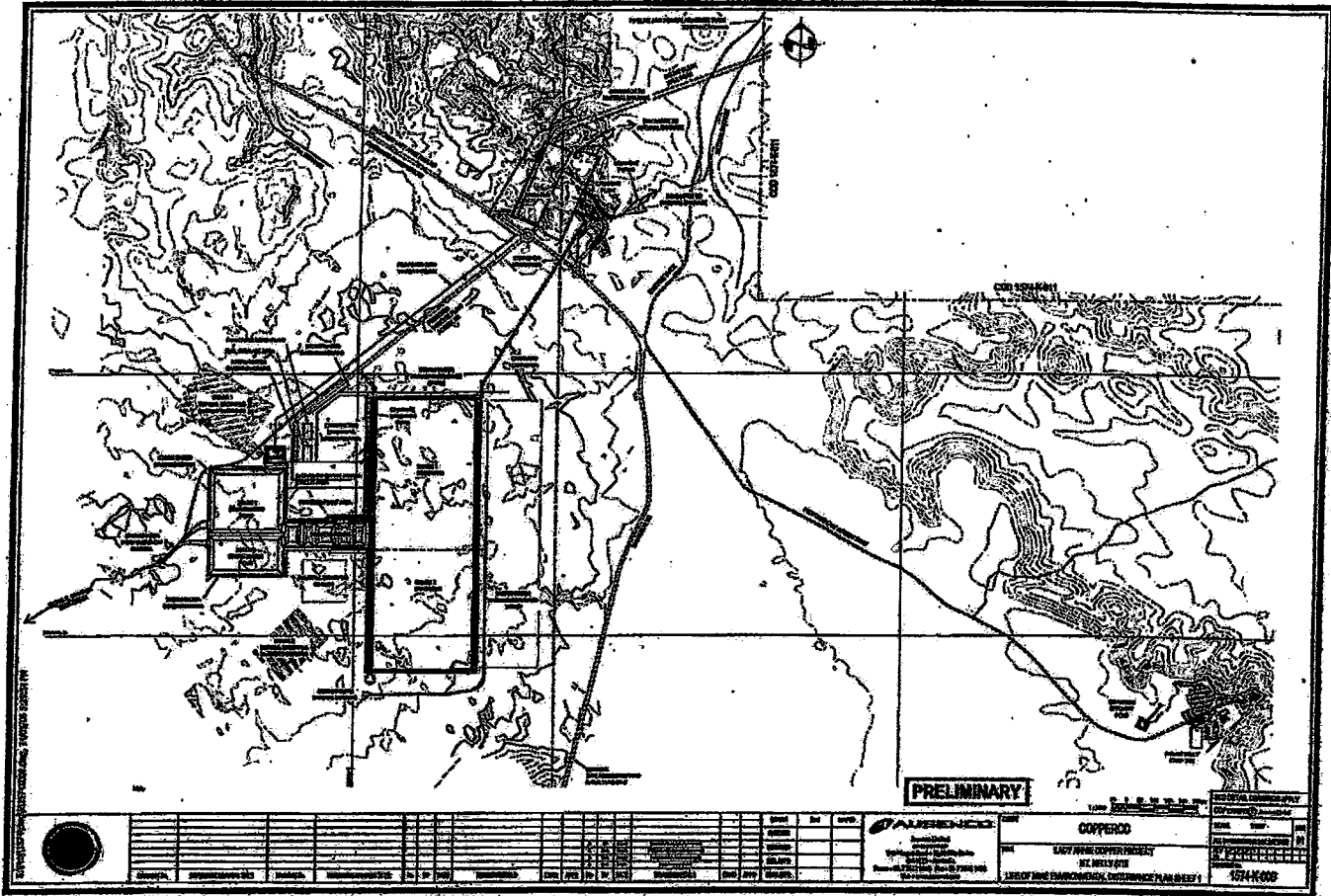
END CONDITIONS FOR SCHEDULE H

Schedule I - Maps / Plans

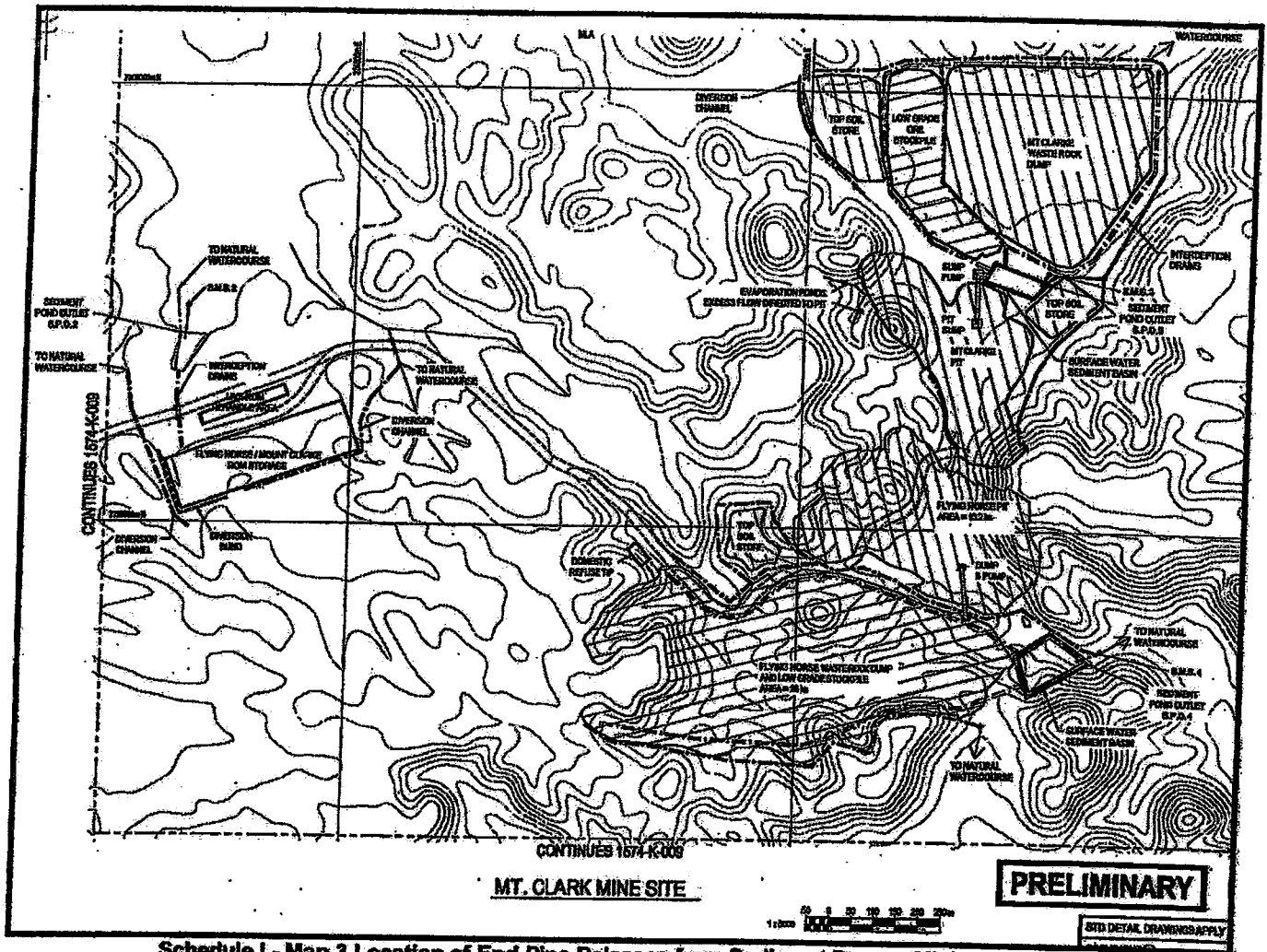


Schedule I - Map 1 Receiving Water Monitoring Locations

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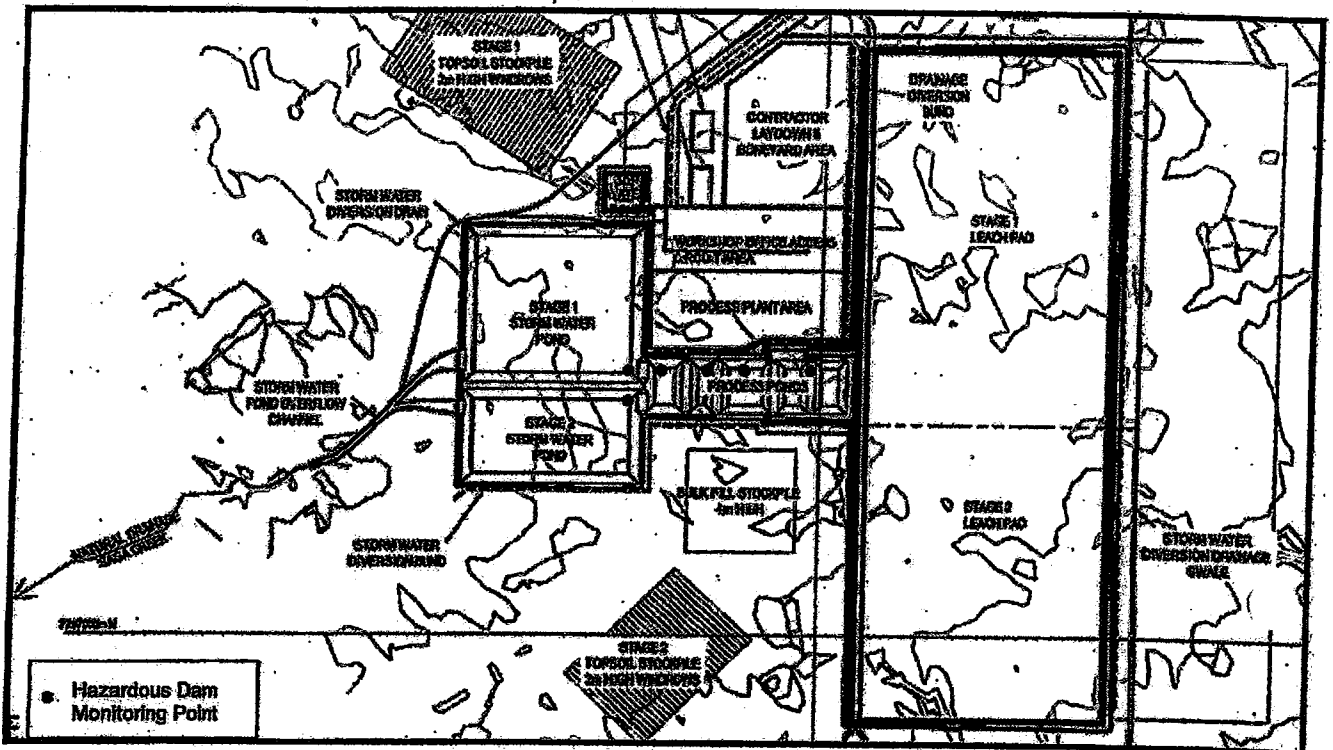


Schedule 1 - Map 2 Location of End Pipe Releases from Sediment Dams - Processing Area

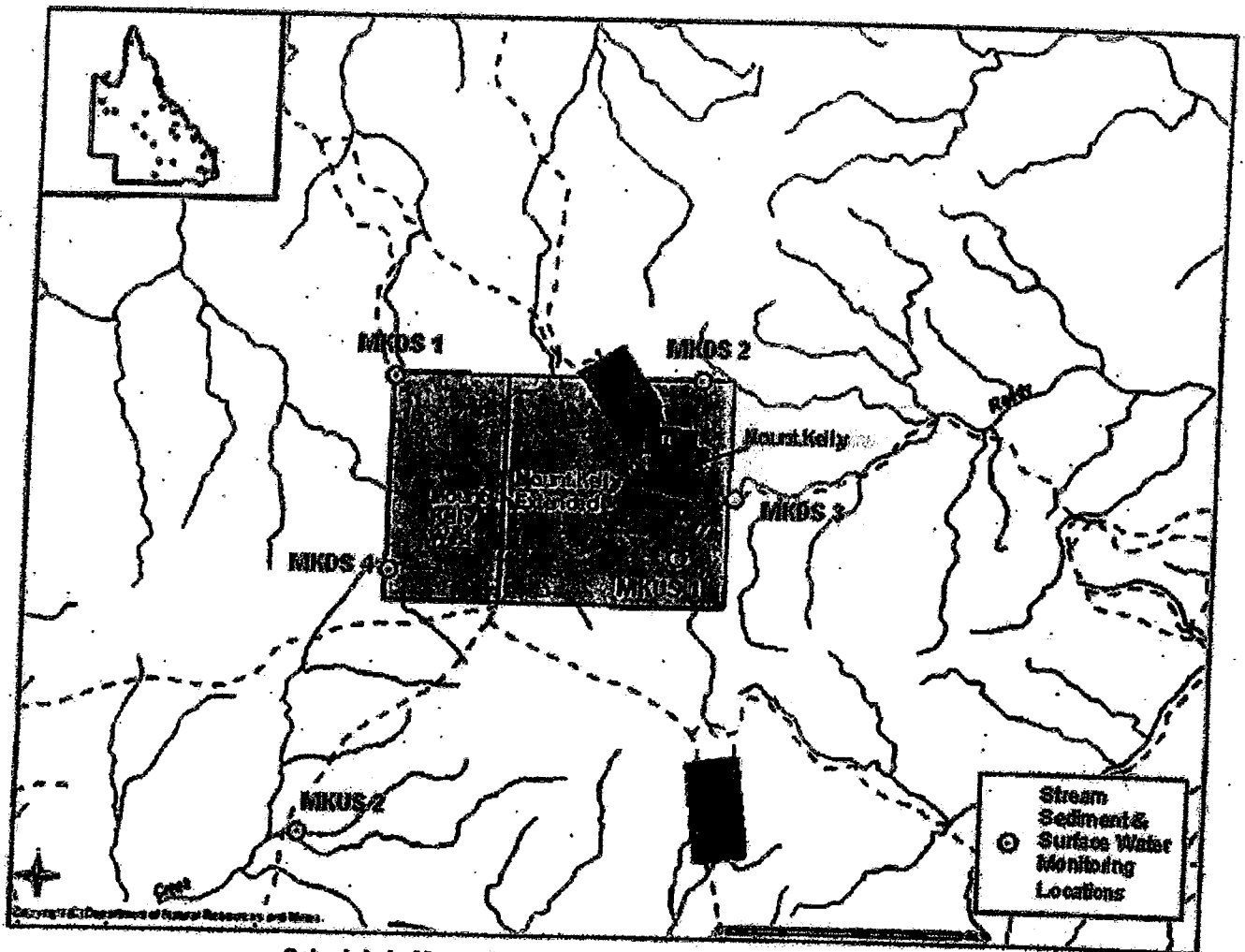


Schedule 1 - Map 3 Location of End Pipe Releases from Sediment Dams - Mining Area

LA 24/7/06

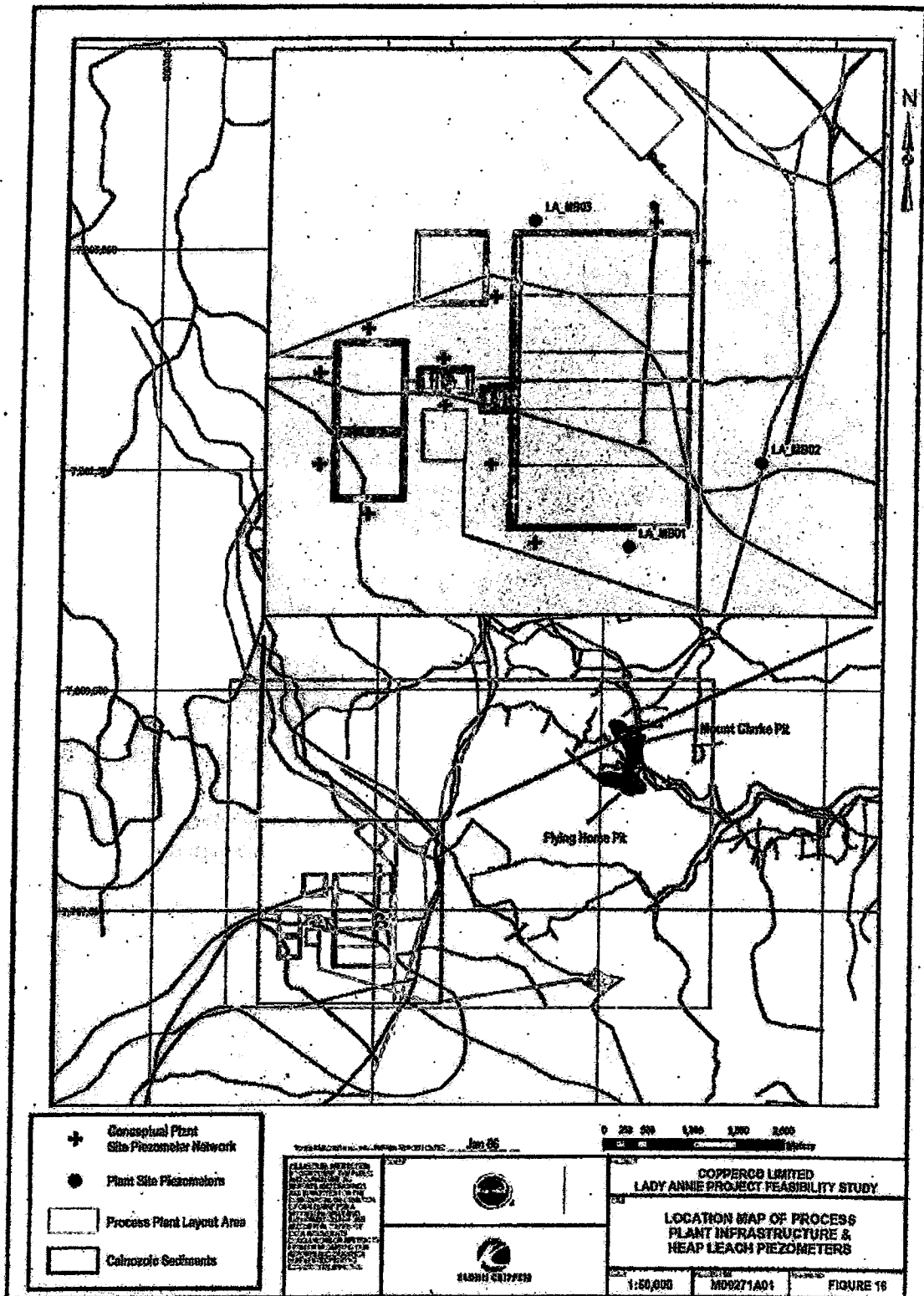


Schedule 1 - Map 4 Location of Hazardous Dams



Schedule 1 - Map 5 Stream Sediments Monitoring Locations

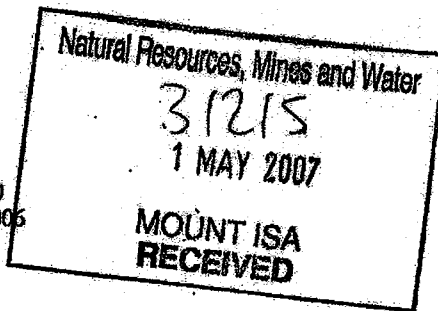
LA 24/7/06



END CONDITIONS FOR SCHEDULE I

END OF ENVIRONMENTAL AUTHORITY

Ln 24/7/06



**Queensland
Government**

Enquiries Neil Maver
Telephone (07) 4744 7820
Your reference MIN100401006
Our reference ISA658

Environmental Protection Agency
Incorporating the
Queensland Parks and Wildlife Ser

30 April 2007

Reefway Pty Ltd
Level 22, Allendale Square
77 St Georges Terrace
Perth WA 6000

CC/ Savannah Resources Pty Ltd
Level 22, Allendale Square
77 St Georges Terrace
Perth WA 6000

Dear Sir/Madam

Re: Amendment of Environmental Authority MIN100401006.

I refer to the application for amendment of Environmental Authority (Mining Activities) MIN100401006 received at the Brisbane EPA office on 2 October 2006.

Please find attached the amended Environmental Authority (EA) MIN100401006. This EA takes effect from 30 April 2007 and the anniversary date of this authority is 24 July of each year.

If you have any inquiries in relation to the above details please contact Neil Maver on (07) 4744 7820.

Yours faithfully

s.49 - Signature

**Geoff Metcalfe
District Manager
Environmental Operations
Mount Isa District, Northern Region**

C/c Mining Registrar

Page 1 of 1

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Queensland Government

**Environmental Protection Agency
Queensland Parks and Wildlife Service**

**Environmental Authority No. MIN100401006
(mining activities)**

Section 258 Environmental Protection Act 1994

This environmental authority is granted under the *Environmental Protection Act 1994* and includes conditions to minimise environmental harm caused, or likely to be caused, by the authorised mining activities. An environmental authority (mining activities) may be for mining activities authorised (under the *Mineral Resources Act 1989*) to occur under one of the following mining tenements: a prospecting permit; mining claim; exploration permit; mineral development licence; or mining lease. In general, a mining activity means: prospecting, exploring, mining; or processing minerals; remediation; rehabilitation; and includes facilitation and supporting activities and any action taken to prevent environmental harm.

Under the provisions of the *Environmental Protection Act 1994* this Environmental Authority is issued to:

Reefway Pty Ltd
Level 22 Allendale Square
77 St Georges Terrace
Perth WA 6000

Savannah Resources Pty Ltd
Level 22, Allendale Square
77 St Georges Terrace
Perth WA 6000

In respect of carrying out activities as part of the following mining project:

Type of Environmental Authority (mining activities)	Authorised mining tenements	Location
Mining Leases	ML 5426, ML 5478, ML90168 ML90169, ML90170, ML90178 ML90179, ML 5435, ML 5446 ML 5447, ML 5448, ML 5474 ML 5476.	100km north of Mount Isa

The mining activities are authorized to the extent defined in Schedule 6 Section 14(c) of the *Environmental Protection Regulation 1998*.

This Environmental Authority is subject to the conditions set out in the attached schedules.

The anniversary date of this Environmental Authority is 24 July each year.

This Environmental Authority takes effect from 30 April 2007.

s.49 - Signature

Geoff Metcalfe
District Manager
Mount Isa District, Northern Region
Delegate of Administering Authority
Environmental Protection Act 1994

ENVIRONMENTAL PROTECTION ACT 1994

This Environmental Authority incorporates the following schedules:

- Schedule A - General
- Schedule B - Air
- Schedule C - Water
- Schedule D - Noise and Vibration
- Schedule E - Waste
- Schedule F - Land
- Schedule G - Community
- Schedule H - Definitions
- Schedule I - Maps / Plans

Schedule A - General

Financial Assurance

(A1-1) Provide a financial assurance in the amount and form required by the administering authority prior to the commencement of activities proposed under this environmental authority.

NOTE: The calculation of financial assurance for condition (A1-1) must be in accordance with Guideline 17 and may include a performance discount. The amount is defined as the maximum total rehabilitation cost for complete rehabilitation of all disturbed areas, which may vary on an annual basis due to progressive rehabilitation. The amount required for the financial assurance must be the highest Total Rehabilitation Cost calculated for any year of the Plan of Operations and calculated using the formula: (Financial Assurance = Highest Total Annual Rehabilitation Cost x Percentage Required).

(A1-2) The financial assurance is to remain in force until the administering authority is satisfied that no claim on the assurance is likely.

NOTE: Where progressive rehabilitation is completed and acceptable to the administering authority, progressive reductions to the amount of financial assurance will be applicable where rehabilitation has been completed in accordance with the acceptance criteria defined within this environmental authority.

Maintenance of Measures, Plant and Equipment

(A2-1) The environmental authority holder must ensure:

- that all measures, plant and equipment necessary to ensure compliance with the conditions of this environmental authority are installed;
- that such measures, plant and equipment are maintained in a proper condition; and
- that such measures, plant and equipment are operated in a proper manner.

Monitoring

(A3-1) Record, compile and keep for a minimum of five years all monitoring results required by this environmental authority and make available for inspection all or any of these records upon request by the administering authority.

(A3-2) Where monitoring is a requirement of this environmental authority, ensure that a competent person(s) conducts all monitoring.

Storage and Handling of Flammable, Combustible and Corrosive Liquids

(A4-1) Spillage of all flammable and combustible liquids must be contained within an on-site containment system and controlled in a manner that prevents environmental harm (other than trivial harm) and maintained in accordance with Section 5.8 of AS 1940 - Storage and Handling of Flammable and Combustible Liquids of 2004.

(A4-2) The on-site storage of corrosive liquids must be in accordance with Section 5.7 of AS 3780 - Storage and Handling of Corrosive Substances 1994.

Definitions

- (A5-1) Words and phrases used throughout this environmental authority are defined in Schedule H - Definitions. Where a definition for a term used in this environmental authority is sought and the term is not defined within this environmental authority, the definitions in the *Environmental Protection Act 1994*, its Regulations and Environmental Protection Policies must be used.

END CONDITIONS FOR SCHEDULE A**Schedule B - Air****Dust Nuisance**

- (B1-1) Subject to Conditions (B1-2) and (B1-3) the release of dust or particulate matter or both resulting from the mining activity must not cause an environmental nuisance at any sensitive or commercial place.
- (B1-2) When requested by the administering authority, dust and particulate monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive or commercial place, and the results must be notified within 14 days to the administering authority following completion of monitoring.
- (B1-3) If the environmental authority holder can provide evidence through monitoring that the following limits are not being exceeded then the holder is not in breach of (B1-1):
- Dust deposition of 120 milligrams per square metre per day, averaged over one month, when monitored in accordance with AS 3580.10.1 Methods for sampling and analysis of ambient air - Determination of particulates - Deposited matter - Gravimetric method of 1991.
- (B1-4) If monitoring indicates exceedence of the relevant limits in Condition (B1-3), then the environmental authority holder must:
- address the complaint including the use of appropriate dispute resolution if required; or
 - immediately implement dust abatement measures so that emissions of dust from the activity do not result in further environmental nuisance.

Odour Nuisance

- (B2-1) Subject to condition (B2-2), the release of noxious or offensive odour(s) or any other noxious or offensive airborne contaminant(s) resulting from the mining activity must not cause an environmental nuisance at any sensitive or commercial place.
- (B2-2) When requested by the administering authority, odour monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive or commercial place, and the results must be notified within 14 days to the administering authority following completion of monitoring.
- (B2-3) If monitoring indicates Condition (B2-1) is not being met then the environmental authority holder must:
- address the complaint including the use of appropriate dispute resolution if required; or
 - immediately implement odour abatement measures so that emissions of odour from the activity do not result in further environmental nuisance.

END CONDITIONS FOR SCHEDULE B

Schedule C - Water

Release to Waters

(C1-1) Receiving waters affected by the release of process water or storm water contaminated by the mining activities or both must be monitored at the locations and frequencies defined in Schedule C - Table 1 and Schedule I - Map 1 & 2, and the results of the test sites comply with the contaminant limits defined in Schedule C - Table 3.

Schedule C - Table 1 (Receiving Water Monitoring Locations and Frequency)

Monitoring point	Easting (AMG 84 Zone 54)	Northing (AMG 84 Zone 54)	Monitoring frequency
MKUS 1- reference site *	305625	7797450	Each flow event
MKUS 2- reference site*	TBD	TBD	Each flow event
MKDS 1- test site	301160	7800135	Each flow event
MKDS 2- test site	306366	7798356	Each flow event
MKDS 3- test site	306370	7798363	Each flow event
MKDS 4- test site	301300	7797255	Each flow event
LA- US1- reference site*	295150	7812680	Each flow event
LA- US2- reference site*	295750	7812480	Each flow event
LA- DS1- test site	294000	7810100	Each flow event
LA- DS2- test site	295500	7810400	Each flow event

NOTE: This does not apply to dams containing hazardous waste

*Reference sites must:

- a) be from the same biogeographical and climatic region;
- b) have similar geology, soil types and topography
- c) contain a range of habitats similar to those at the test site
- d) be of similar flow regime; and
- e) not be so close to the test sites that any disturbances at the test site also result in a change at the reference site.

TBD- to be determined and provided to the QEPA prior to commencement of mining.

C1-2 Subject to Condition (C1-1), if the receiving water contaminant trigger levels defined in Schedule C - Table 2 are exceeded then the environmental authority holder must complete an investigation into the potential for environmental harm and notify the administering authority within 3 months of receiving the analysis results.

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Schedule C - Table 2 (Receiving Water Trigger Limits)

Parameter	Units	Minimum	Maximum	Trigger Type
pH ¹	pH	6	8.5	Range
EC ¹	µS/cm	N/A	250	Maximum
Sulphate ²	mg/L	N/A	500	Maximum
Aluminium ⁴	mg/L	N/A	2.5	Maximum
Aluminium ⁵	mg/L	N/A	11.5	Maximum
Arsenic ²	mg/L	N/A	0.25	Maximum
Boron ²	mg/L	N/A	0.37	Maximum
Cadmium ²	mg/L	N/A	0.005	Maximum
Chromium ²	mg/L	N/A	0.5	Maximum
Cobalt ²	mg/L	N/A	0.5	Maximum
Copper ⁴	mg/L	N/A	0.5	Maximum
Copper ⁵	mg/L	N/A	0.83	Maximum
Fluoride ²	mg/L	N/A	1	Maximum
Lead ⁴	mg/L	N/A	0.05	Maximum
Lead ⁵	mg/L	N/A	0.065	Maximum
Manganese ²	mg/L	N/A	1.9	Maximum
Mercury ²	mg/L	N/A	0.001	Maximum
Molybdenum ²	mg/L	N/A	0.075	Maximum
Nickel ²	mg/L	N/A	0.5	Maximum
Selenium ²	mg/L	N/A	0.01	Maximum
Zinc ²	mg/L	N/A	10	Maximum

¹ Contaminant trigger limits are based on Table 3.3.4 and 3.3.5 of Aquatic Ecosystems ANZECC (2000).
² Contaminant trigger limits are based on 50% of the contaminant limits defined in the ANZECC (2000) Livestock Drinking Water and are to be analysed as total metals (unfiltered).
³ Contaminant trigger limits based on ANZECC (2000) trigger levels for aquatic ecosystems of slightly - moderately disturbed systems - table 3.4.1 level of protection 95% / Table 3.3.4 / 3.3.5 - Tropical Australia upland rivers.
⁴ Contaminant trigger limits are based on 50% of the contaminant limits defined in the ANZECC (2000) Livestock Drinking Water and are to be analysed as total metals (unfiltered). These limits are set for the Mount Kelly Leases only (ML 5426, ML 5478, ML90168, ML90169, ML90170, ML90178, ML 5435, ML 5446, ML 5447, ML 5448, ML 5474 and ML 5476.)
⁵ Contaminant trigger limits are based on site specific background data and are to be analysed as total metals (unfiltered). These trigger limits are set for the Lady Annie Lease only (ML90179).

Schedule C - Table 3 (Receiving Water Contaminant Limits)

Parameter	Units	Minimum	Maximum	Trigger Type
pH	pH	6	9	Range
TDS ²	mg/L	N/A	4000	Maximum
Sulphate ¹	mg/L	N/A	1000	Maximum
Aluminium ⁶	mg/L	N/A	5	Maximum
Aluminium ⁸	mg/L	N/A	28	Maximum
Arsenic ¹	mg/L	N/A	0.5	Maximum
Boron ¹	mg/L	N/A	5	Maximum
Cadmium ¹	mg/L	N/A	0.01	Maximum
Chromium ¹	mg/L	N/A	1	Maximum
Cobalt ¹	mg/L	N/A	1	Maximum
Copper ⁵	mg/L	N/A	1	Maximum
Copper ⁸	mg/L	N/A	1.66	Maximum
Fluoride ¹	mg/L	N/A	2	Maximum
Lead ⁵	mg/L	N/A	0.1	Maximum
Lead ⁸	mg/L	N/A	0.13	Maximum
Manganese ³	mg/L	N/A	2.5	Maximum
Mercury ¹	mg/L	N/A	0.002	Maximum
Molybdenum ¹	mg/L	N/A	0.15	Maximum
Nickel ¹	mg/L	N/A	1	Maximum
Selenium ¹	mg/L	N/A	0.02	Maximum
Zinc ¹	mg/L	N/A	20	Maximum

¹ Contaminant limits based on table 4.3.2 ANZECC (2000) Livestock drinking water quality and are analysed as Total metals (unfiltered)

² Contaminant limits are based on Table 4.3.1 Livestock drinking water quality and are analysed as Total metals (unfiltered)

³ Contaminant limits based on Table 3.4.1 of Aquatic Ecosystems ANZECC (2000) 80% and are to be analysed as filtered metals.

⁴ Contaminant limits based on Table 3.3.4 of Aquatic Ecosystems ANZECC (2000)

⁵ Contaminant limits are based on table 4.3.2 ANZECC (2000) Livestock drinking water quality and are analysed as Total metals (unfiltered). This limit is set for the Mount Kelly Leases only (ML 5426, ML 5478, ML90168, ML90169, ML90170, ML90178, ML 5435, ML 5446, ML 5447, ML 5448, ML 5474 and ML 5476.)

⁶ Contaminant limits are based on site specific background data and are to be analysed as total metals (unfiltered). These trigger limits are set for the Lady Annie Lease only (ML90179).

End of Pipe Release

(C1-3) End of pipe release limits for storm water contaminated by mining activities must be monitored at the locations and frequencies defined in Schedule C - Table 4 and Schedule I - Map 3, 4 and 5 and comply with the contaminant limits defined in Schedule C - Table 5.

Schedule C - Table 4 (End of pipe monitoring locations and frequency)

Monitoring point	Easting (AMG 84, Zone 54)	Northing (AMG 84, Zone 54)	Monitoring frequency
Mount Clarke ROM Area Sediment Dam	303834	7799496	Each flow event
Mount Clarke Pit Area Sediment Dam	305336	7799592	Each flow event
Mount Clarke/Flying Horse Sediment Dam	305887	7798726	Each flow event
Process Plant ROM Pad Sediment Dam 1	303040	7798656	Each flow event
Process Plant ROM Pad Sediment Dam 2	302905	7798900	Each flow event
Process Plant ROM Pad Sediment Dam 3	302771	7799010	Each flow event
Lady Annie Sediment Dam	295307	7811464	Each flow event

NOTE: This does not apply to dams containing hazardous waste.

Schedule C - Table 5 (End of pipe contaminant release limits)

Parameter	Units	Minimum	Maximum	Limit Type
pH	pH	6	9	Range
TDS	mg/L	N/A	4000	Maximum
Sulphate	mg/L	N/A	1000	Maximum
Arsenic	mg/L	N/A	5	Maximum
Cadmium	mg/L	N/A	0.01	Maximum
Chromium	mg/L	N/A	1	Maximum
Cobalt	mg/L	N/A	1	Maximum
Copper	mg/L	N/A	1	Maximum
Lead	mg/L	N/A	0.1	Maximum
Mercury	mg/L	N/A	0.002	Maximum
Zinc	mg/L	N/A	20	Maximum

Contaminant limits based on ANZECC (2000) Livestock drinking water quality and are analysed as Total metals (unfiltered)
NOTE: This does not apply to dams containing hazardous waste.

Dams Containing Hazardous Waste

(C1-4) Water storages containing process water and storm water contaminated by mining activities must be monitored at the locations and frequencies defined in Schedule C - Table 6 and Schedule I - Map 6 and samples analysed for the parameters defined in Schedule C - Table 7.

Schedule C - Table 6 (Water Storage Monitoring Locations of Hazardous Dams)

Monitoring point	Easting (Zone 54, AMG 84)	Northing (Zone 54, AMG 84)	Monitoring frequency
PLS Ponds	302000	7797450	Annually, March
ILS Pond	301900	7797450	Annually, March
Raffinate Pond Pre-Settler	301850	7797450	Annually, March
Raffinate Pond	301800	7797450	Annually, March
Storm water Pond 1	301750	7797450	Annually, March
Storm water Pond 2	301750	7797350	Annually, March

(C1-5) In the event that the water quality within any dam containing hazardous waste does not comply with the contaminant limits defined in Schedule C - Table 7, implement measures to prevent access by all livestock and minimise access by fauna to the dam.

Schedule C - Table 7 (Water Quality Limits for Dams Containing Hazardous Waste)

Parameter	Units	Contaminant Limit	Limit Type
pH	pH	4-9	Range
TDS	mg/L	5,000	Maximum
Boron	mg/L	5	Maximum
Sulphate	mg/L	1000	Maximum
Aluminum	mg/L	5	Maximum
Arsenic	mg/L	0.5	Maximum
Cobalt	mg/L	1	Maximum
Copper	mg/L	1	Maximum
Lead	mg/L	0.1	Maximum
Nickel	mg/L	1	Maximum
Zinc	mg/L	20	Maximum

Contaminant limits based on ANZECC (2000 Livestock drinking water quality and are analysed as total metals (unfiltered)

(C1-6) The design storage allowance on 1 November of each year for any dam containing hazardous waste constructed or operated within the operational land must comply with Schedule C - Table 8.

Schedule C - Table 8 (Storage Design for Dams Containing Hazardous Waste)

Storage Type	Design Storage Allowance ⁽¹⁾	Spillway Critical Design Storm ⁽²⁾	Mandatory Reporting Level ⁽³⁾
Stormwater Pond 1	1: 100 Year ARI 2 month wet season plus process inputs for the 2 month wet season	1: 1000 Year ARI	1: 100 year ARI
Stormwater Pond 2	1: 100 Year ARI 2 month wet season plus process inputs for the 2 month wet season	1: 1000 Year ARI	1: 100 year ARI

Note ⁽¹⁾: The design storage allowance on 1 November of each year for any dam containing hazardous waste constructed within the operational land must be equivalent to the run-off from a 1 in 100 ARI 2 month wet season plus process inputs for the equivalent wet season. Process inputs refers to hazardous mineral process waste and water, which is being disposed of in the storage facility.

Note ⁽²⁾: The critical design storm has a duration that produces the peak discharge for the catchments.

Note ⁽³⁾: The mandatory reporting level refers to the volume below the spillway crest, either the 1: 100 ARI 72 hour storm or the 1:100 ARI wave allowance, whichever is lower.

(C1-7) The spillway for any dam containing hazardous waste, constructed or operated within the operational land must be designed and maintained to withstand the peak flow from the spillway critical design storm defined in Schedule C - Table 8.

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- (C1-8) The holder of the environmental authority must mark the mandatory reporting level defined in Schedule C - Table 8 on the spillway of all dams containing hazardous waste within the operational land.
- (C1-9) The holder of the environmental authority must notify the administering authority when the pondage level of the dam containing hazardous waste, reaches the mandatory reporting level defined in Schedule C - Table 8.

Stream Sediment Contaminant Levels

- (C2-1) All reasonable and practicable erosion protection measures and sediment control measures must be implemented and maintained to minimise erosion and the release of sediment.
- (C2-2) The bed of the receiving waters, affected by the release of process water and storm water contaminated by the mining activities must be monitored at the locations and frequencies defined in Schedule C - Table 9 and Schedule 1 - Map 7 & 8.

Schedule C - Table 9 (Receiving Stream Sediment Monitoring Locations and Frequency)

Monitoring point	Easting (AGD 84 Zone 54)	Northing (AGD 84 Zone 54)	Monitoring frequency
MKUS 1- reference site *	305625	7797450	May each year
MKUS 2- reference site*	TBD	TBD	May each year
MKDS 1- test site	301160	7800135	May each year
MKDS 2- test site	306366	7798356	May each year
MKDS 3- test site	306370	7798363	May each year
MKDS 4- test site	301300	7797255	May each year
LA- US1- reference site*	295150	7812680	Each flow event
LA- US2- reference site*	295750	7812480	Each flow event
LA- DS1- test site	294000	7810100	Each flow event
LA- DS2- test site	295500	7810400	Each flow event

NOTE: This does not apply to dams containing hazardous waste

*Reference sites must:

- a) be from the same biogeographical and climatic region;
- b) have similar geology, soil types and topography
- c) contain a range of habitats similar to those at the test site
- d) be of similar flow regime; and
- e) not be so close to the test sites that any disturbances at the test site also result in a change at the reference site.

TBD- to be determined and provided to the QEPA prior to commencement of mining.

- (C2-3) Subject to Condition (C2-2), if the stream sediment contaminant trigger levels defined in Schedule C - Table 10 are exceeded then the environmental authority holder must complete an investigation into the potential for environmental harm and notify the administering authority within 3 months of receiving the analysis results.

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Schedule C - Table 10 (Receiving Stream Sediment Contaminant Trigger Levels)

Parameter	Units	Contaminant trigger levels	Trigger Type
Antimony ¹	mg/kg dry wt	2	Maximum
Arsenic ¹	mg/kg dry wt	20	Maximum
Cadmium ¹	mg/kg dry wt	1.5	Maximum
Chromium ¹	mg/kg dry wt	80	Maximum
Copper ²	mg/kg dry wt	100	Maximum
Copper ³	mg/kg dry wt	400	Maximum
Lead ¹	mg/kg dry wt	50	Maximum
Nickel ¹	mg/kg dry wt	21	Maximum
Silver ¹	mg/kg dry wt	1	Maximum
Mercury ¹	mg/kg dry wt	0.15	Maximum
Zinc ¹	mg/kg dry wt	200	Maximum

¹ ANZECC (2000): ISQG Low trigger values, Sediment Quality Guidelines, Aquatic Ecosystems, Table 3.5.1.

² Site specific trigger value as calculated in section 3.7 of EM Plan September 2006 is for the Mount Kelly Leases only. (ML 5426, ML 5478, ML90168, ML90169, ML90170, ML90178, ML 5435, ML 5446, ML 5447, ML 5448, ML 5474 and ML 5476.)

³ This limit is set for the Lady Annie Lease only (ML90179).

(C2-4) Subject to Condition (C2-2), stream sediment contaminant limits must not exceed the contaminant limits defined in Schedule C -Table 11.

Schedule C - Table 11 (Receiving Stream Sediment Contaminant Limits)

Parameter	Units	Contaminant limits	Limit Type
Antimony ¹	mg/kg dry wt	25	Maximum
Arsenic ¹	mg/kg dry wt	70	Maximum
Cadmium ¹	mg/kg dry wt	10	Maximum
Chromium ¹	mg/kg dry wt	370	Maximum
Copper ²	mg/kg dry wt	120	Maximum
Copper ³	mg/kg dry wt	500	Maximum
Lead ¹	mg/kg dry wt	220	Maximum
Nickel ¹	mg/kg dry wt	52	Maximum
Silver ¹	mg/kg dry wt	3.7	Maximum
Mercury ¹	mg/kg dry wt	1	Maximum
Zinc ¹	mg/kg dry wt	410	Maximum

¹ ANZECC (2000): ISQG High trigger values, Sediment Quality Guidelines, Aquatic Ecosystems, Table 3.5.1.

² Site specific trigger value as calculated in section 3.6 of EM Plan July 2006 is for the Mount Kelly Leases only. (ML 5426, ML 5478, ML90168, ML90169, ML90170, ML90178, ML 5435, ML 5446, ML 5447, ML 5448, ML 5474 and ML 5476.)

³ This limit is set for the Lady Annie Lease only (ML90179).

(C2-5) All stream sediment sampling must be undertaken in accordance with AS 5667.1 Guidance on Sampling of Bottom Sediments of 1998

Sewage effluent

- (C3-1) All effluent released from the treatment plant must be monitored at the frequency and for the parameters specified in Schedule C - Table 12.
- (C3-2) Sewage effluent used for dust suppression must not exceed sewage effluent release limits defined in Schedule C - Table 12.
- (C3-3) Sewage Effluent used for dust suppression must not cause spray drift or over spray to any sensitive or commercial place, and must not be applied at a rate that causes pooling, ponding and/or runoff of any effluent irrigated.
- (C3-4) Subject to Conditions (C3-1) to (C3-3) inclusive, sewage effluent from sewage treatment facilities must be reused or evaporated and must not be directly released from the sewage treatment plant to any water way or drainage line other than in accordance with Schedule C - Table 12.

Schedule C - Table 12 (Sewage effluent quality targets for dust suppression)

Quality characteristics	Release Limit ³			Monitoring Frequency
	Minimum	Median	Maximum	
pH (pH Units)	6 ²		8.5 ²	Quarterly
Faecal Coliforms (organisms/100mL)		1000 ¹		Quarterly

¹ A minimum of five samples must be collected at not less than a weekly interval for the quarterly sampling
² A minimum of five samples must be collected at not less than a weekly interval for the quarterly sampling with four out of five samples must be less than the maximum
³ A minimum of five samples must be collected at not less than a weekly interval for the quarterly sampling with four out of five samples must be higher than the minimum but lower than the maximum limit.
 Release limits sourced from Queensland Water Recycling Guidelines December 2005 Table 6:2b

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Groundwater

(C4-1) Groundwater, affected by the mining activities must be monitored at the locations and frequencies defined in Schedule C - Table 13 and Schedule I - Map 9 & 10.

Schedule C - Table 13 (Groundwater Monitoring Locations and Frequency)

Monitoring point	Easting (AGD 84 Zone 54)	Northings (AGD 84 Zone 54)	Surface RL	Monitoring frequency
LA MB01 (Process Plant) - reference site	302484	7796800	TBD	Monthly
LA MB02 (Process Plant) - reference site	302891	7797385	TBD	Monthly
LA MB03 (Process Plant) - reference site	302128	7797950	TBD	Monthly
LA MB04 (Process Plant)	TBD	TBD	TBD	Monthly
LA MB05 (Process Plant)	TBD	TBD	TBD	Monthly
LA MB06 (Process Plant)	TBD	TBD	TBD	Monthly
LA MB07 (Process Plant)	TBD	TBD	TBD	Monthly
LA MB08 (Process Plant)	TBD	TBD	TBD	Monthly
LA MB09 (Process Plant)	TBD	TBD	TBD	Monthly
LA MB010 (Process Plant)	TBD	TBD	TBD	Monthly
LA MB011 (Process Plant)	TBD	TBD	TBD	Monthly
LA MB012 (Process Plant)	TBD	TBD	TBD	Monthly
LA MB013 (Process Plant)	TBD	TBD	TBD	Monthly
LA MB014 (Process Plant)	TBD	TBD	TBD	Monthly
MK MB01 (Mount Kelly pit area)	305360	7799013	315.467	Quarterly
MK PB01 (Mount Kelly pit area)	305356	7799019	315.424	Quarterly
LA-TB07 (Lady Annie pit area)	295790	7812280	TBD	Quarterly
LA-TB08 (Lady Annie pit area)	295855	7812247	TBD	Quarterly
LA-TB09 (Lady Annie pit area)	295770	7812179	TBD	Quarterly
LA-TB010 (Lady Annie pit area)	295194	7812022	TBD	Quarterly
LA-TB011 (Lady Annie pit area)	295205	7811904	TBD	Quarterly
LA-TB012 (Lady Annie pit area)	295124	7811933	TBD	Quarterly

NOTE: This does not apply to dams containing hazardous waste

TBD- To be determined

Reference sites must:

- a) be from the same biogeographical and climatic region;
- b) have similar geology, soil types and topography
- c) contain a range of habitats similar to those at the test site
- d) be of similar flow regime; and not be so close to the test sites that any disturbances at the test site also result in a change at the reference site.

(C4-2) Subject to Condition (C4-1), if the groundwater contaminant trigger levels defined in Schedule C - Table 14 are exceeded then the environmental authority holder must complete an investigation into the potential for environmental harm and notify the administering authority within 3 months of receiving the analysis results.

Schedule C - Table 14 (Groundwater Contaminant Trigger Levels)

Parameter	Units	Minimum	Maximum	Trigger type
pH ¹	pH	6	8	Range
TDS ²	mg/L	N/A	2000	Maximum
Sulphate ²	mg/L	N/A	500	Maximum
Aluminium ²	mg/L	N/A	2.5	Maximum
Arsenic ²	mg/L	N/A	0.25	Maximum
Boron ²	mg/L	N/A	0.37	Maximum
Cadmium ²	mg/L	N/A	0.005	Maximum
Chromium ²	mg/L	N/A	0.5	Maximum
Cobalt ²	mg/L	N/A	0.5	Maximum
Copper ²	mg/L	N/A	0.5	Maximum
Fluoride ²	mg/L	N/A	1	Maximum
Lead ²	mg/L	N/A	0.05	Maximum
Manganese ³	mg/L	N/A	1.9	Maximum
Mercury ²	mg/L	N/A	0.001	Maximum
Molybdenum ²	mg/L	N/A	0.075	Maximum
Nickel ²	mg/L	N/A	0.5	Maximum
Selenium ²	mg/L	N/A	0.01	Maximum
Zinc ²	mg/L	N/A	10	Maximum

¹ Contaminant triggers limits are based on Table 3.3.4 and 3.3.5 of Aquatic Ecosystems ANZECC (2000)

² Contaminant trigger limits are based on 50% of the contaminant limits defined in the ANZECC (2000) Livestock Drinking Water and are to be analysed as total metals (unfiltered).

³ Contaminant trigger limits based on Table 3.4.1 of Aquatic Ecosystems ANZECC (2000) and are analysed as Filtered Metals

(C4-3) Subject to Condition (C4-1), groundwater contaminant limits must not exceed the contaminant limits defined in Schedule C - Table 15.

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Schedule C - Table 15 (Groundwater Contaminant Limits)

Parameter	Units	Minimum	Maximum	Limit Type
pH ¹	pH	6	9	Range
TDS ¹	mg/L	N/A	4000	Maximum
Sulphate ¹	mg/L	N/A	1000	Maximum
Aluminium ¹	mg/L	N/A	5	Maximum
Arsenic ¹	mg/L	N/A	0.5	Maximum
Boron ¹	mg/L	N/A	6	Maximum
Cadmium ¹	mg/L	N/A	0.01	Maximum
Chromium ¹	mg/L	N/A	1	Maximum
Cobalt ¹	mg/L	N/A	1	Maximum
Copper ¹	mg/L	N/A	1	Maximum
Fluoride ¹	mg/L	N/A	2	Maximum
Lead ¹	mg/L	N/A	0.1	Maximum
Manganese ²	mg/L	N/A	2.5	Maximum
Mercury ¹	mg/L	N/A	0.002	Maximum
Molybdenum ¹	mg/L	N/A	0.15	Maximum
Nickel ¹	mg/L	N/A	1	Maximum
Selenium ¹	mg/L	N/A	0.02	Maximum
Zinc ¹	mg/L	N/A	20	Maximum

¹ Contaminant limits based on ANZECC (2000) Livestock drinking water quality and are analysed as Total Metals (unfiltered)
² Contaminant limits based on Table 3.4.1 of Aquatic Ecosystems ANZECC (2000) and are analysed as Filtered Metals.

(C4-4) The method of water sampling required by this environmental authority must comply with that set out in the latest edition of the Environmental Protection Agency's Water Quality Sampling Manual.

Voids

(C5-1) Water quality in mining voids and final voids must be monitored at the locations and frequencies defined in Schedule C - Table 16 and for the parameters detailed in Schedule C - Table 17.

(C5-2) In the event that water quality within the mining voids or final voids does not comply with the contaminant limits defined in Schedule C - Table 17, implement measures to prevent access by all livestock and minimise access by fauna to the void.

Schedule C - Table 16 (Voids Monitoring Locations and Frequency)

Monitoring point	Monitoring frequency
Mount Kelly/Flying Horse Pit	Annually
Mount Clarke Pit	Annually
Lady Annie Pit	Annually

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Schedule C - Table 17 (Void Water Quality Limits)

Parameter	Units	Limit	Limit Type
pH	pH	6-9	Range
TDS	mg/L	4000	Maximum
Sulphate	mg/L	1000	Maximum
Arsenic	mg/L	0.5	Maximum
Cadmium	mg/L	0.01	Maximum
Chromium	mg/L	1	Maximum
Copper	mg/L	1	Maximum
Lead	mg/L	0.1	Maximum
Mercury	mg/L	0.002	Maximum
Zinc	mg/L	20	Maximum

Contaminant limits are based on ANZECC (2000 Livestock drinking water quality and analysed for total metals (unfiltered))

Acid Rock Drainage and Leachate Management

(C6-1) Subject to limits defined in Schedule C all reasonable and practicable measures must be implemented to prevent hazardous leachate being directly or indirectly released or likely to be released as a result of the activity to any groundwater, watercourse and waters.

END CONDITIONS FOR SCHEDULE C

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Schedule D - Noise and Vibration

Noise Nuisance

- (D1-1) Subject to Conditions (D1-2) and (D1-3) noise from the mining activity must not cause an environmental nuisance to an affected building.
- (D1-2) When requested by the administering authority, noise monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive or commercial place, and the results must be notified within 14 days to the administering authority following completion of monitoring.
- (D1-3) The method of measurement and reporting of noise levels must comply with the latest edition of the Environmental Protection Agency's Noise Measurement Manual.

Vibration nuisance

- (D2-1) Subject to Conditions (D2-2) and (D2-3) vibration from the mining activity must not cause an environmental nuisance to an affected building.
- (D2-2) When requested by the administering authority, vibration monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive or commercial place, and the results must be notified within 14 days to the administering authority following completion of monitoring.

END CONDITIONS FOR SCHEDULE D

Schedule E - Waste

Storage of Tyres

- (E1-1) Tyres stored awaiting disposal or transport for take-back and, recycling, or waste-to-energy options - should be stockpiled in volumes less than 3m in height and 200m² in area and at least 10m from any other tyre storage area.
- (E1-2) All reasonable and practicable fire prevention measures must be implemented, including removal of grass and other materials within a 10m radius of the scrap tyre storage area.

Disposal of Tyres

- (E2-1) Disposing of scrap tyres resulting from the mining activities in spoil emplacements is acceptable, provided tyres are placed as deep in the spoil as reasonably practicable.
- (E2-2) Scrap tyres resulting from the mining activities disposed within the operational land must not impede saturated aquifers or compromise the stability of the consolidated landform.

Waste Management

- (E3-1) A Waste Management Program, in accordance with the Environmental Protection (Waste Management) Policy 2000, must be included in the Plan of Operations.

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Regulated Waste

- (E 4-1) All regulated waste received and removed from the site, that is over 250kg in weight, must be transported by a person who holds a current authority to transport such waste under the provisions of the *Environmental Protection Act 1994*.
- (E4-2) Except as otherwise provided by the conditions of this authority, all waste removed from the site must be taken to a facility that is lawfully allowed to accept such waste under the provisions of the *Environmental Protection Act 1994*.
- (E4-3) Where regulated waste is removed from the Project (other than by a release as permitted under another schedule of this environmental authority), records must be kept of the following:
- the date, quantity and type of waste removed, and
 - name of the waste transporter that removed the waste; and
 - the intended treatment/disposal destination of the waste.

Note: Records of documents maintained in compliance with a waste tracking system established under the Environmental Protection Act 1994 or any other law for regulated waste will be deemed to satisfy this condition.

Waste Rock Characterisation

- (E5-1) All areas to be mined must undergo a waste rock characterisation survey (where waste rock is to be disposed of on the surface) and a report submitted to the administering authority prior to mining where this survey has not previously been carried out.

END CONDITIONS FOR SCHEDULE E



Schedule F - Land

Rehabilitation Landform Criteria

(F1-1) All areas significantly disturbed by mining activities must be rehabilitated to a stable landform with a self-sustaining vegetation cover in accordance with Schedule F - Table 1 and 2.

Schedule F - Table 1 (Final Land Use and Rehabilitation Approval Schedule)

Disturbance Category	Max. Area (ha)	Land Use			Land Capability		Analogue Site	
		PRE DISTURBANCE	POST DISTURBANCE	PRE DISTURBANCE	POST DISTURBANCE	Longitude	Latitude	
Mount Kelly/Flying Horse Pit	13.2	Habitat	Water Storage	Class 5	Water Storage			
Mount Kelly/Flying Horse Waste Rock Dump	28	Habitat	Habitat	Class 5	Class 5		TBD	TBD
Mount Kelly/Flying Horse Topsoil Stockpile	1.1	Habitat	Habitat	Class 5	Class 5		TBD	TBD
Mount Kelly/Flying Horse Sediment Dams	1.3	Habitat	Water Storage	Class 5	Water Storage			
Mount Kelly/Flying Horse Diversion Drains	1.3	Habitat	LIG or diversion Habitat	Class 5	Class 5		TBD	TBD
Mount Clarke Pit	9.5	Habitat	Water Storage	Class 5	Water Storage			
Mount Clarke Waste Rock Dump	16.3	Habitat/LIG	Habitat/LIG	Class 4 - 5	Class 4 - 5		TBD	TBD
Mount Clarke Low Grade Stockpile	5.4	Habitat/LIG	Habitat/LIG	Class 4 - 5	Class 4 - 5		TBD	TBD
Mount Clarke/Flying Horse/Mount Kelly ROM Storage & Live Rehandle	5.5	Habitat	Habitat/LIG	Class 4 - 5	Class 4 - 5		TBD	TBD

Disturbance Category	Max. Area	Land Use		Land Capability		Analogue Site	
		Habitat/LIG	Habitat/LIG	Class 4 - 5	Class 4 - 5	TBD	TBD
Mount Clarke Topsoil Stockpiles	4.5	Habitat/LIG	Habitat/LIG	Class 4 - 5	Class 4 - 5	TBD	TBD
Mount Clarke Pit Area Sediment Dam	0.6	Habitat	Water Storage	Class 4 - 5	Water Storage		
Mount Clarke ROM Area Sediment Dam	0.4	Habitat	Water Storage	Class 4 - 5	Water Storage		
Mount Clarke - Diversion/Interception /Sediment Dam Drains	3.2	Habitat	LIG or diversion Habitat	Class 4 - 5	Class 4 - 5		
Roads/Tracks	18.8	Existing tracks or LIG	Tracks for grazier or LIG	Class 4 - 5	Class 4 - 5	TBD	TBD
Accommodation Camp and Facilities	5	LIG	LIG	Class 4	Class 4	TBD	TBD
Sewage Plant and Pond	0.2	LIG	LIG	Class 4	Class 4	TBD	TBD
ROM Pad - at process plant	7.8	LIG	LIG	Class 4 - 5	Class 4 - 5	TBD	TBD
Process plant and associated buildings	3.3	LIG	LIG	Class 4	Class 4	TBD	TBD
Overland Conveyor	1.8						
Workshop/Office Access Circuit Area	2.9	LIG	LIG	Class 4	Class 4	TBD	TBD
Heap Leach Pads - Stage 1 and 2	43.2	LIG	Habitat/LIG	Class 4	Class 4 - 5	TBD	TBD
Process Water Ponds - PLS, ILS and Ratifinate	3.4	LIG	Water storages	Class 4	Water storages		
Stormwater Ponds 1 and 2	11.4	LIG	Water storages	Class 4	Water storages		
Stormwater Pond spillway channel	0.7	LIG	LIG or diversion	Class 4	Class 4 - 5	TBD	TBD
Raw Water Pond	0.6	LIG	LIG/Water storage	Class 4	Class 4 or water storage	TBD	TBD
Process Area Topsoil Stockpiles	9.7	LIG	LIG	Class 4	Class 4	TBD	TBD

Disturbance Category	Max. Area	Land Use		Land Capability		Analogue Site
		LIG	LIG or diversion	Class 4	Class 4-5	
Process Plant	2.7	LIG	LIG or diversion	Class 4	Class 4-5	TBD
Drainage Diversions						
Process Plant	1	LIG	LIG or ponds	Class 4-5	Class 4-5	
Sediment Ponds						
Bulk Fill Stockpile	2.6	LIG	LIG	Class 4	Class 4	TBD
Pipelines and Powerlines (on lease)	1	LIG	LIG	Class 4-5	Class 4-5	TBD
Pipelines and Powerlines on Infrastructure ML	88	LIG/Habitat	Permanent Structure	Class 4-5	Permanent Structure	TBD
Rubbish Dumps	0.2	LIG	LIG	Class 4-5	Class 4-5	TBD
Concrete Batch Plant	0.3	LIG	LIG	Class 4	Class 4	TBD
Fuel Storage Area	0.3	LIG	LIG	Class 4	Class 4	TBD
Contractor Laydown Area	4.3	LIG	LIG	Class 4	Class 4	TBD
Exploration	5	LIG	LIG/Habitat	Class 4-5	Class 4-5	TBD
Construction Access (net of specific areas)	59.9	LIG	LIG/Habitat	Class 4-5	Class 4-5	TBD
Gravel Borrow Pits (on and off ML)	6.7	LIG/Habitat	LIG/Habitat	Class 4-5	Class 4-5	TBD
Upgrade to Access Road (off ML)	2.0	LIG/Habitat	Permanent access road for landholder	Class 4-5	Permanent access road for landholder	TBD
Total	388.1					
Lady Annie Mining ML90176						
Lady Annie Pit	36.1	Disturbed	Water Storage	Class 5	Water Storage	
ROM pad	1.5	LIG	LIG/Habitat	Class 4	Class 4	TBD
Waste Rock Dump	61.8	LIG	LIG/Habitat	Class 4-5	Class 4	TBD
Top soil Stores	12.1	LIG	LIG/Habitat	Class 4-5	Class 4	TBD
Low Grade Ore Stockpile	9.5	LIG	LIG/Habitat	Class 4	Class 4	TBD
Sediment Pond	1.9	LIG	LIG/Habitat	Class 4	Water Storage	
Retention Basin	0.4	LIG/Habitat	LIG/Habitat	Class 4-5	Water Storage	
Pit Haul Road	1.3	LIG/Habitat	LIG/Habitat	Class 4-5	ss 4-5	TBD

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Disturbance Category	Max. Area	Land Use			Land Capability			Analogue Site	
		LIG/Habitat	LIG/Habitat	LIG/Habitat	Class 4-5	Class 4-5	Permanent Diversion	TBD	TBD
Diversion Channels	1.7	LIG/Habitat	LIG/Habitat	LIG/Habitat	Class 4-5	Class 4-5	Permanent Diversion	TBD	TBD
Lady Annie Mine Construction Area (net of specific areas)	22.3	LIG/Habitat	LIG/Habitat	LIG/Habitat	Class 4-5	Class 4-5	Permanent Diversion	TBD	TBD
Upgrade to Access Road (off ML)	3.0	LIG/Habitat	LIG/Habitat	Permanent access road for landholder	Class 4-5	Class 4-5	Permanent access road for landholder	TBD	TBD
Old Open Cut and Sanderson's Shaft	0.3	Existing Disturbance	Existing Disturbance	Habitat/LIG	Existing Disturbance	Existing Disturbance	Class 4-5	TBD	TBD
Old Tailings Areas	1.0	Existing Disturbance	Existing Disturbance	Habitat/LIG	Existing Disturbance	Existing Disturbance	Class 4-5	TBD	TBD
Exploration Tracks and Drill Pads	12.4	Existing Disturbance	Existing Disturbance	Habitat/LIG	Existing Disturbance	Existing Disturbance	Class 4-5	TBD	TBD
Rubbish Tip	0.4	Existing Disturbance	Existing Disturbance	Habitat/LIG	Existing Disturbance	Existing Disturbance	Class 4-5	TBD	TBD
Core Shed	0.3	Existing Disturbance	Existing Disturbance	Habitat/LIG	Existing Disturbance	Existing Disturbance	Class 4-5	TBD	TBD
Exploration Sample Yard	0.6	Existing Disturbance	Existing Disturbance	Habitat/LIG	Existing Disturbance	Existing Disturbance	Class 4-5	TBD	TBD
Total	166.6								

*Analogue sites and disturbance description are to be identified and the environmental authority holder must amend the environmental authority to include analogue sites in Schedule F - Table 1 by 30 June 2007.

TBD- To be determined

LIG- Low Intensity Grazing

Classes are derived from the Department of Minerals and Energy's Land Suitability Assessment Techniques (1995)

- (F1-2) Progressive rehabilitation must commence when areas become available within the operational land.
- (F1-3) Complete an investigation into rehabilitation of disturbed areas and submit a report to the administering authority proposing acceptance criteria to meet the outcomes in Schedule F - Table 1 and landform design criteria in Schedule F - Table 2 by 30 June 2007
- (F1-4) The holder of this environmental authority must rehabilitate all existing land disturbances located within the boundary leases of ML90179 (Lady Annie) as identified in Table 1. The holder of this environmental authority must ensure these areas of existing land disturbance, where not otherwise disturbed and rehabilitated under this authority, are rehabilitated to the final land descriptions identified in Tables 1 and 2.

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Schedule F - Table 2 (Landform Design)

Disturbance type	Slope range (%)	Projective surface area (ha)
Waste Rock Dumps	33%-76% (1:3 to angle of repose)	121
Heap Leach Pads	<33% or 1:3	43.2
ROM Pads	33%-76% (1:3 to angle of repose)	14.8

Residual Void Outcome

- (F2-1) Residual voids must not cause any serious environmental harm to land, surface waters or any recognised groundwater aquifer, other than the environmental harm constituted by the existence of the residual void itself and subject to any other condition within this environmental authority.

Dams Containing Hazardous Waste

Description of Dam

- (F3-1) The construction or operation of any dam containing hazardous waste within the operational land must comply with Schedule F - Table 3.

Schedule F - Table 3 (Size and Purpose of Dams Containing Hazardous Waste)

Name of dam containing hazardous waste ⁽¹⁾	Maximum surface area of dam (ha)	Maximum volume of dam (m ³)	Maximum depth of dam (m) ⁽²⁾	Purpose of dam ⁽³⁾
Process Water Ponds (Raffinate Pre-Settler, Raffinate, ILS and PLS)	3.4	53,475	4.5	Storage of Process Solutions
Heap Leach Pads	43.2	N/A	N/A	Storage of Process Solutions
Stormwater Pond 1 (Stage 1 only)	6.47	303,625	6.35	Storage of storm water runoff from processing area
Stormwater Pond 1 & 2 (Stage 2)	10.4	467,720	6.35	Storage of storm water runoff from processing area

Note ⁽¹⁾: The name of the dam containing hazardous waste should refer to the name of the dam e.g. process residue facility and decant dam.

Note ⁽²⁾: For dams that do not require a dam wall, input the maximum void depth e.g. where dams are formed by excavating below the land surface or backfilling a residual void.

Note ⁽³⁾: Purpose of the dam should outline the designed function, e.g. "the permanent containment of tailings resulting from the extraction of nickel, cobalt and other metals at the XYZ Refinery".

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Location of Dam

(F3-2) The location of any dam containing hazardous waste within the licensed place must be located within the polygonal area defined by the co-ordinates defined in Schedule C- Table 4 -Map 4.

Schedule F— Table 4 (Location of Dams Containing Hazardous Waste)

Name of dam containing hazardous waste	Easting(AMG 84, Zone 54) ⁽¹⁾	Northing (AMG 84, Zone 54) ⁽¹⁾
PLS Ponds, ILS, Raffinate Pre-settler and Raffinate Pond	301780	7797640
	302065	7797640
	302035	7797310
	301780	7797310
Stormwater Pond 1 and 2	301470	7797640
	301760	7797640
	301760	7797110
	301470	7797110
Heap Leach Pads	302065	7797945
	302720	7797945
	302720	7796825
	302085	7796825

Note (1): A minimum of 3 control points is required to constrain the location of all activities associated with the dam containing hazardous waste. Additional infrastructure which forms part of any dam containing hazardous waste may include appurtenant works consisting of tailings discharge pipelines, seepage collection systems, runoff diversion bunds, containment systems, pressure relief wells, decant and recycle water systems.

Standards and Criteria

(F3-3) The holder of the environmental authority must design, construct, repair, maintain, operate and decommission the dams defined in Schedule F – Table 3 and 4 in accordance with an acknowledged design plan that must comply with the standard environmental conditions in the "Code of Environmental Compliance for High Hazard Dams Containing Hazardous Waste".

(F3-4) The holder of the environmental authority must design, construct, and operate all low hazardous dams containing hazardous waste and non-hazardous dams in accordance with the criteria outlined in Appendix B of the Code of Environmental Compliance for Mining Activities.

Inspection of Dams

(F3-5) High hazard dams containing hazardous waste shall be inspected by a Registered Professional Engineer Queensland (RPEQ) prior to 1 November each year or at any time if alarming, unusual or otherwise unsatisfactory conditions are observed.

(F3-6) For each inspection, the engineer shall assess the condition of the dam and its foundations, determine the hydraulic adequacy of the dam and assess the adequacy of the works with respect to dam safety.

(F3-7) For each inspection, two copies of the engineer's report and any recommendations as to measures to be taken to ensure the integrity of the dam shall be furnished to the administering authority within 28 days of the inspection.

Decommissioning of Dam – Objective

(F3-8) Dams containing hazardous waste must not be abandoned and must be decommissioned to a situation where water can no longer be stored in the dams. The dams and their contained waste(s) must be stable, whereafter the dams are no longer dams and they become landforms on the operational land and must comply with the rehabilitation requirements of this environmental authority.

Decommissioning of Dam – Documentation and Compliance

(F3-9) Decommissioning activities for dams must be documented in detail in the plan of operations under which the activities are to occur. Where the detailed documentation is not already contained in the Design Plan for the

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dam, the detailed documentation is considered to be an amendment to the design plan and must be submitted as an amendment to the design plan required by the "Code of Environmental Compliance for High Hazard Dams Containing Hazardous Waste".

Infrastructure

- (F4-1) All infrastructure constructed by or for the environmental authority holder during the mining activities including water storage structures, must be removed from the site prior to mining lease surrender, except where agreed in writing by the post mining landowner / holder.

NOTE: This is not applicable where the landowner / holder is also the environmental authority holder.

Contaminated Lands

- (F5-1) A register and map of all potentially contaminated sites and any remediation details, must be kept on site, updated regularly, and included in each Plan of Operations.
- (F5-2) A Spillage Management Plan and an Emergency Plan for all hazardous materials stored on-site, together with a description of suitable equipment and training must be updated and included with each Plan of Operations.

END CONDITIONS FOR SCHEDULE F

Schedule G - Community**Complaint Response**

- (G1-1) All complaints received must be recorded including details of complainant, reasons for the complaint, investigations undertaken, conclusions formed and actions taken. This information must be made available for inspection by the administering authority on request.

END CONDITIONS FOR SCHEDULE G

Schedule H – Definitions

“acceptance criteria” means the measures by which the actions implemented to rehabilitate the land are deemed to be complete. The acceptance criteria indicate the success of the rehabilitation outcome or remediation of areas which have been significantly been disturbed by the mining activities. Acceptance criteria may include information regarding:

- vegetation establishment, survival and succession;
- vegetation productivity, sustained growth and structure development;
- fauna colonisation and habitat development;
- ecosystem processes such as soil development and nutrient cycling, and the recolonisation of specific fauna groups such as collembola, mites and termites which are involved in these processes;
- microbiological studies including recolonisation by mycorrhizal fungi, microbial biomass and respiration;
- effects of various establishment treatments such as deep ripping, topsoil handling, seeding and fertiliser application on vegetation growth and development;
- resilience of vegetation to disease, insect attack, drought and fire;
- vegetation water use and effects on ground water levels and catchment yields.

“affected building”

- for noise means any building or any part of a building, for example the building from which the noise is made, at which the noise can be heard.
- for vibration means any building or any part of a building, for example the activity from which the vibration is made, at which the vibration can be felt.

“ambient (or total) noise” at a place, means the level of noise at the place from all sources (near and far), measured as the Leq for an appropriate time interval.

“appropriately qualified person” means any person who conforms to the EPA operational policy for an “appropriately qualified person (analyst)” in accordance with Section 490(7) of the *Environmental Protection Act 1994*.

“ARD” means acid rock drainage and refers to the low pH, high heavy metal pollutant typical of sulphidic mine wastes, and most commonly associated with the production of ferrous iron and sulphuric acid through the oxidation of sulphide minerals.

“authority” means environmental authority (mining activities) under the *Environmental Protection Act 1994*.

“blasting” means the use of explosive materials to fracture-

- (a) rock, coal and other minerals for later recovery; or
- (b) structural components or other items to facilitate removal from a site or for reuse.

“building” includes a structure of any type and part of a building or structure.

“commercial place” means a work place used as an office or for business or commercial purposes, which is not part of the mining activity and does not include employees accommodation or public roads.

“competent person” means a person with the demonstrated skill and knowledge required to carry out the task to a standard necessary for the reliance upon collected data or protection of the environment.

“dam” means a containment or proposed containment whether permanent or temporary, which is designed to contain, divert or control flowable substances. However this does not include a fabricated or manufactured tank or container designed to a recognised standard.

“design plan” in the context of a dam design is the documentation required under the Code of Environmental Compliance for High Hazard Dams Containing Hazardous Waste to describe the physical dimensions of the dam, the materials and standards to be used for construction of the dam, the procedures and criteria to be used for operating the dam and the decommissioning and rehabilitation objectives in terms of procedures, works and outcomes at the end of dam life. The documents can include design and investigation reports, drawings, specifications and certifications.

“environmental authority holder” means the holder of this environmental authority.

“flow event” means a flow event producing sufficient water to permit a monitoring creek bed flow of 30cm or more at the sampling station.

“flowable substance” means matter or mixture of materials which can be forced to or otherwise flow under any conditions possible in a situation. It includes water, other liquids or a mixture that includes water or any other liquid or suspended solids.

"hazardous waste" means any substance, whether liquid, solid or gaseous, derived by or resulting from, the processing of minerals that tends to destroy life or impair or endanger health.

"infrastructure" means water storage dams, roads and tracks, buildings and other structures built for the purpose of mining activities but does not include facilities required for the long term management of mining impacts or the protection of potential resources. Such facilities include dams containing hazardous waste, waste rock dumps, voids, or ore stockpiles and buildings or other structures whose ownership can be transferred and which have a residual beneficial use for the next owner of the operational land or the background land owner.

"L_{A 10, adj, 10 mins}" means the A-weighted sound pressure level, (adjusted for tonal character and impulsiveness of the sound) exceeded for 10% of any 10-minute measurement period, using Fast response.

"L_{A 1, adj, 10 mins}" means the A-weighted sound pressure level, (adjusted for tonal character and impulsiveness of the sound) exceeded for 1% of any 10-minute measurement period, using Fast response.

"L_{A, max, adj, T}" means the average maximum A-weighted sound pressure level, adjusted for noise character and measured over any 10 minute period, using Fast response.

"land" in the "land schedule" of this document means land excluding waters and the atmosphere.

"land capability" as defined in the DME 1995 Technical Guidelines for the Environmental Management of Exploration and Mining in Queensland.

"land suitability" as defined in the DME 1995 Technical Guidelines for the Environmental Management of Exploration and Mining in Queensland.

"land use" term to describe the selected post mining use of the land, which is planned to occur after the cessation of mining operations.

"leachate" means a liquid that has passed through or emerged from, or is likely to have passed through or emerged from, a material stored, processed or disposed of at the operational land which contains soluble, suspended or miscible contaminants likely to have been derived from the said material.

"mandatory reporting level" means the volume below the spillway crest, equivalent to the lower of the AEP, 72 hour storm or the AEP wave allowance (AEP is the annual exceedence probability).

"mineral" means a substance which normally occurs naturally as part of the earth's crust or is dissolved or suspended in water within or upon the earth's crust and includes a substance which may be extracted from such a substance, and includes—

- (a) clay if mined for use for its ceramic properties, kaolin and bentonite;
 - (b) foundry sand;
 - (c) hydrocarbons and other substances or matter occurring in association with shale or coal and necessarily mined, extracted, produced or released by or in connection with mining for shale or coal or for the purpose of enhancing the safety of current or future mining operations for coal or the extraction or production of mineral oil therefrom;
 - (d) limestone if mined for use for its chemical properties;
 - (e) marble;
 - (f) mineral oil or gas extracted or produced from shale or coal by in situ processes;
 - (g) peat;
 - (h) salt including brine;
 - (i) shale from which mineral oil may be extracted or produced;
 - (j) silica, including silica sand, if mined for use for its chemical properties;
 - (k) rock mined in block or slab form for building or monumental purposes;
- but does not include—
- (l) living matter;
 - (m) petroleum within the meaning of the *Petroleum Act 1923*;
 - (n) soil, sand, gravel or rock (other than rock mined in block or slab form for building or monumental purposes) to be used or to be supplied for use as such, whether intact or in broken form;
 - (o) water.

"noxious" means harmful or injurious to health or physical well being, other than trivial harm.

"offensive" means causing reasonable offence or displeasure; is disagreeable to the sense; disgusting, nauseous or repulsive, other than trivial harm.

"peak particle velocity (ppv)" means a measure of ground vibration magnitude which is the maximum rate of change of ground displacement with time, usually measured in millimetres/second (mms^{-1}).

"protected area" means - a protected area under the *Nature Conservation Act 1992*; or
- a marine park under the *Marine Parks Act 1992*; or
- a World Heritage Area.

"progressive rehabilitation" means rehabilitation (defined below) undertaken progressively or a staged approach to rehabilitation as mining operations are ongoing.

"reference site" (or analogue site) may reflect the original location, adjacent area or another area where rehabilitation success has been completed for a similar biodiversity. Details of the reference site may be as photographs, computer generated images and vegetation models etc.

"rehabilitation" the process of reshaping and revegetating land to restore it to a stable landform and in accordance with the acceptance criteria set out in this environmental authority and, where relevant, includes remediation of contaminated land.

"representative" means a sample set which covers the variance in monitoring or other data either due to natural changes or operational phases of the mining activities.

"residual void" means an open pit resulting from the removal of ore and/or waste rock which will remain following the cessation of all mining activities and completion of rehabilitation processes.

"self sustaining" means an area of land which has been rehabilitated and has maintained the required acceptance criteria without human intervention for a period nominated by the administering authority.

"sensitive place" means;

- a dwelling, residential allotment, mobile home or caravan park, residential marina or other residential premises; or
- a motel, hotel or hostel; or
- an educational institution; or
- a medical center or hospital; or
- a protected area under the *Nature Conservation Act 1992*, the *Marine Parks Act 1992* or a World Heritage Area; or
- a public park or gardens.

"significant disturbance" - includes land

- (a) if it is contaminated land; or
- (b) it has been disturbed and human intervention is needed to rehabilitate it.
 - i. to a state required under the relevant environmental authority; or
 - ii. if the environmental authority does not require the land to be rehabilitated to a particular state - to its state immediately before the disturbance.

Some examples of disturbed land include:

- areas where soil has been compacted, removed, covered, exposed or stockpiled;
- areas where vegetation has been removed or destroyed to an extent where the land has been made susceptible to erosion; (vegetation & topsoil)
- areas where land use suitability or capability has been diminished;
- areas within a watercourse, waterway, wetland or lake where mining activities occur;
- areas submerged by tailings or hazardous contaminant storage and dam walls in all cases;
- areas under temporary infrastructure. Temporary infrastructure includes any infrastructure (roads, tracks, bridges, culverts, dams, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc) which is to be removed after mining activities have ceased; or
- areas where land has been contaminated and a suitability statement has not been issued.

However, the following areas are not included:

- areas off lease (e.g. roads or tracks which provide access to the mining lease);
- areas previously significantly disturbed which have achieved the rehabilitation outcomes;
- by agreement with the EPA, areas previously significantly disturbed which have not achieved the rehabilitation objective(s) due to circumstances beyond the control of the mine operator (such as climatic conditions);
- areas under permanent infrastructure. Permanent infrastructure includes any infrastructure (roads, tracks, bridges, culverts, dams, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc) which is to be left by agreement with the landowner. The agreement to leave permanent infrastructure must be recorded in the Landowner Agreement and lodged with the EPA;
- disturbances that pre-existed the grant of the tenure unless those areas are disturbed during the term of the tenure.

"spillway" means passage or outlet from the dam through which surplus water flows.

"stable" means land form dimensions are or will be stable within tolerable limits now and in the foreseeable future. Stability includes consideration of geotechnical stability, settlement and consolidation allowances, bearing capacity (traffic ability), erosion resistance and geochemical stability with respect to seepage and contaminant generation.

"suitably qualified and experienced person" means a person who is a Registered Professional Engineer of Queensland under the provisions of the *Professional Engineers Act 1988* or a Corporate Member of the Institution of Engineers Australia or holds equivalent professional qualifications and has the following:

- (a) knowledge of engineering principles related to the structures, geomechanics, hydrology, hydraulics, chemistry and environmental impact of dams; and
- (b) at least a total of five years of suitable experience and demonstrated expertise in at least four of the following areas:
 - investigation, design or construction of dams;
 - operation and maintenance of dams;
 - geomechanics with particular emphasis stability, geology and geochemistry;
 - hydrology with particular reference to flooding, estimation of extreme storms, water management or meteorology;
 - hydraulics with particular reference to sediment transport and deposition, erosion control, beach processes;
 - hydrogeology with particular reference to seepage, groundwater, solute transport processes and monitoring thereof; or
 - dam safety.

"tolerable limits" means that a range of values could be accepted to achieve an overall environmental management objective (eg a range of settlement of a tailing capping could still meet the objective of draining the cap quickly, preventing pondage and limiting infiltration and percolation).

"trivial harm" means environmental harm which is not material or serious environmental harm and will not cause actual or potential loss or damage to property of an amount of, or amounts totalling more than \$5,000.

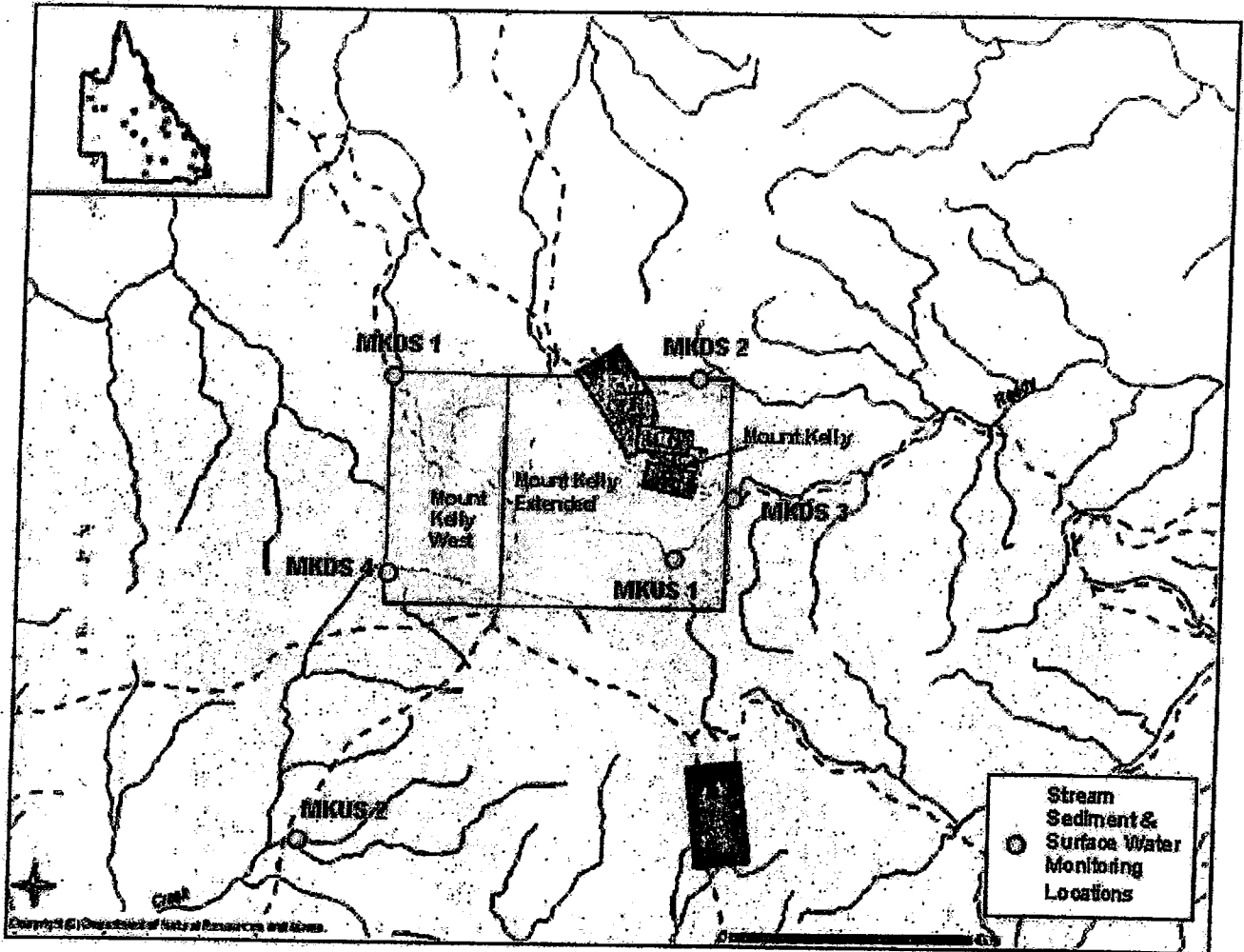
"watercourse" - Means a river, creek or stream in which water flows permanently or intermittently in a visibly defined channel (natural, artificial or artificially improved) with:

- (a) continuous bed and banks;
- (b) an extended period of flow for some months after rain ceases, and
- (c) an adequacy of flow that sustains basic ecological processes and maintains biodiversity.

"waters" includes river, stream, lake, lagoon, pond, swamp, wetland, unconfined surface water, bed and bank of any waters, dams, non-tidal or tidal waters (including the sea) or any part thereof.

END CONDITIONS FOR SCHEDULE H

Schedule I - Maps / Plans

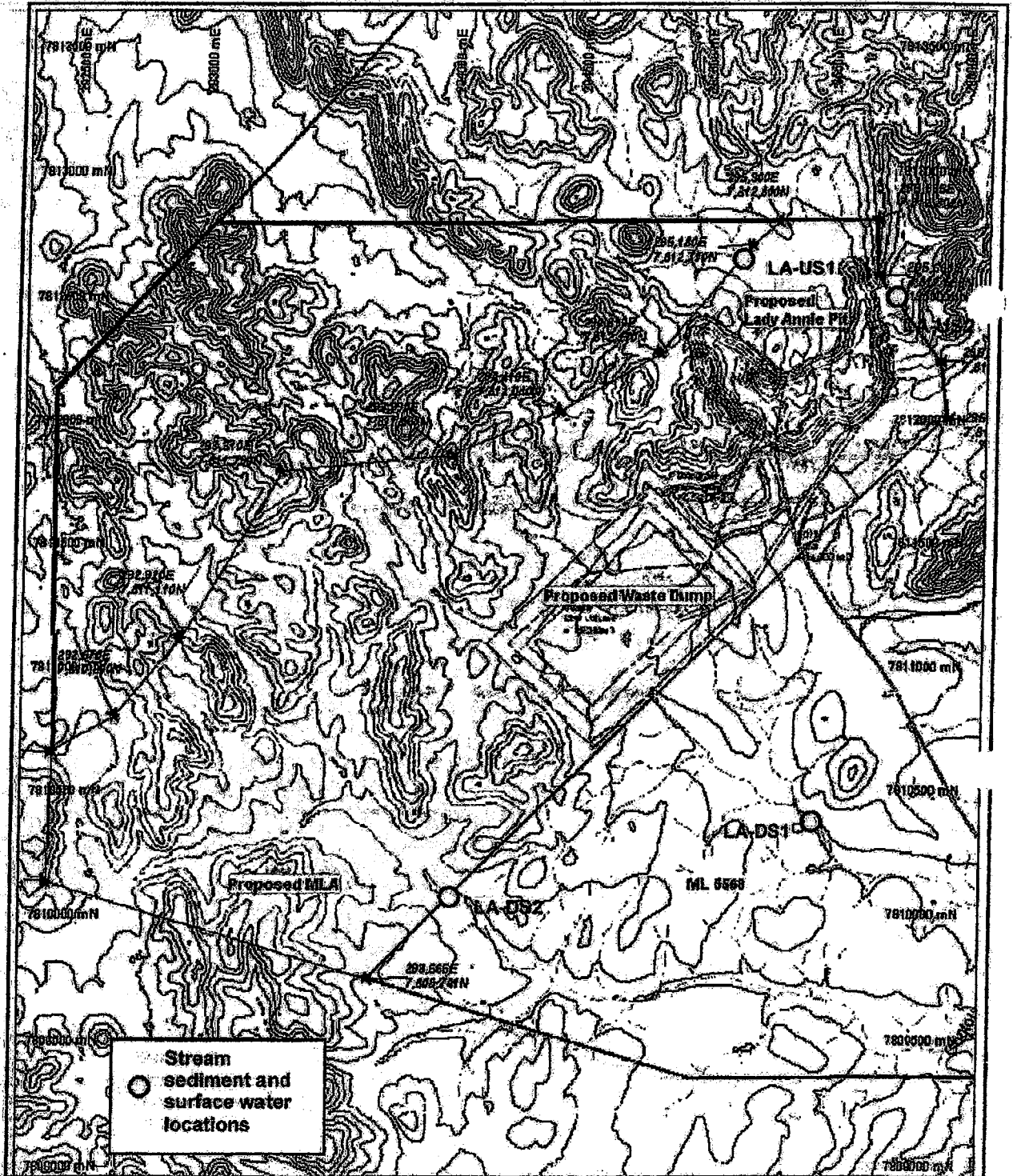


Schedule I - Map 1 Receiving Water Monitoring Locations (Mount Kelly Leases)

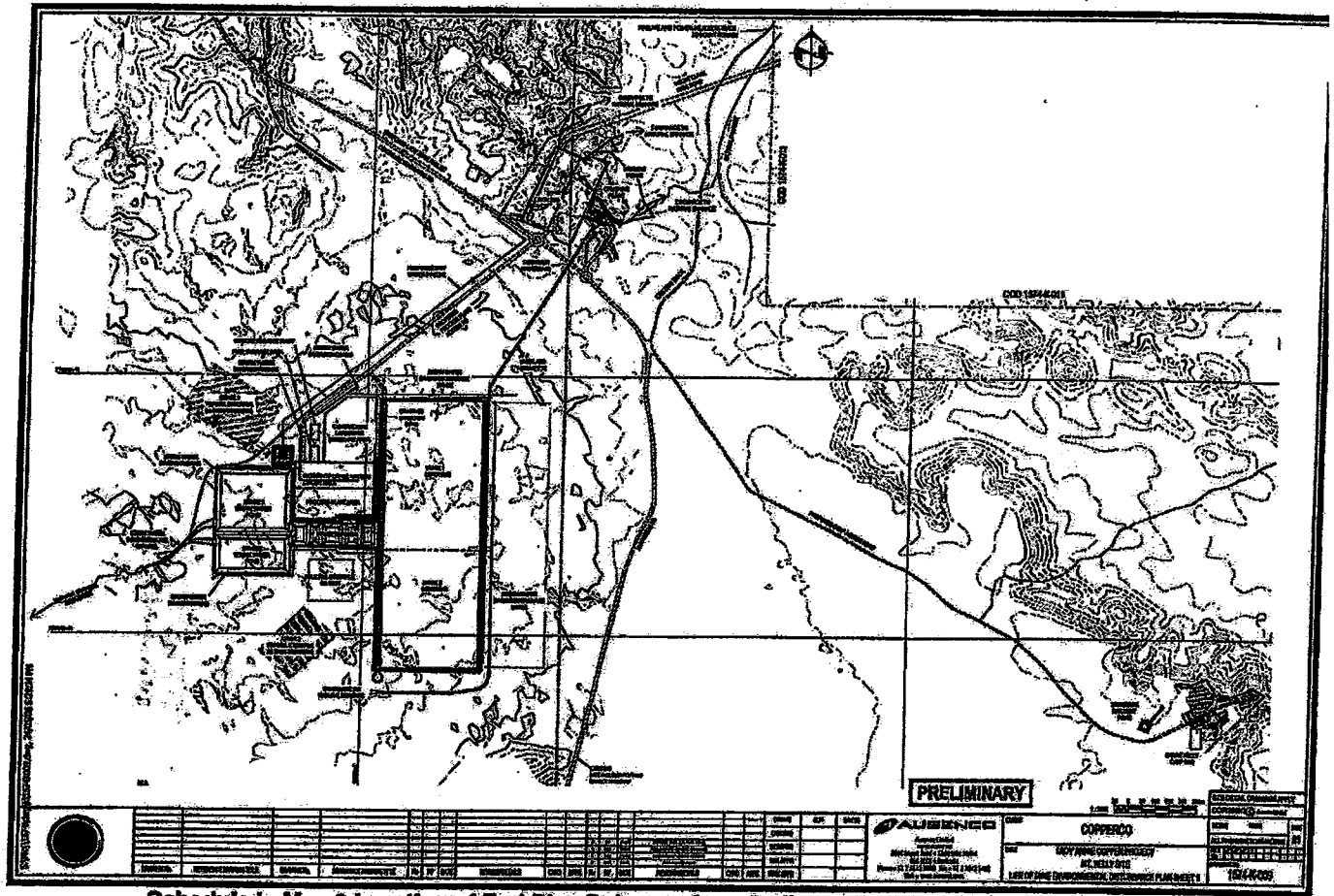
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Page 29 of 38 • 0907

This Environmental Authority takes effect 30 April 2007

Environmental Protection Agency

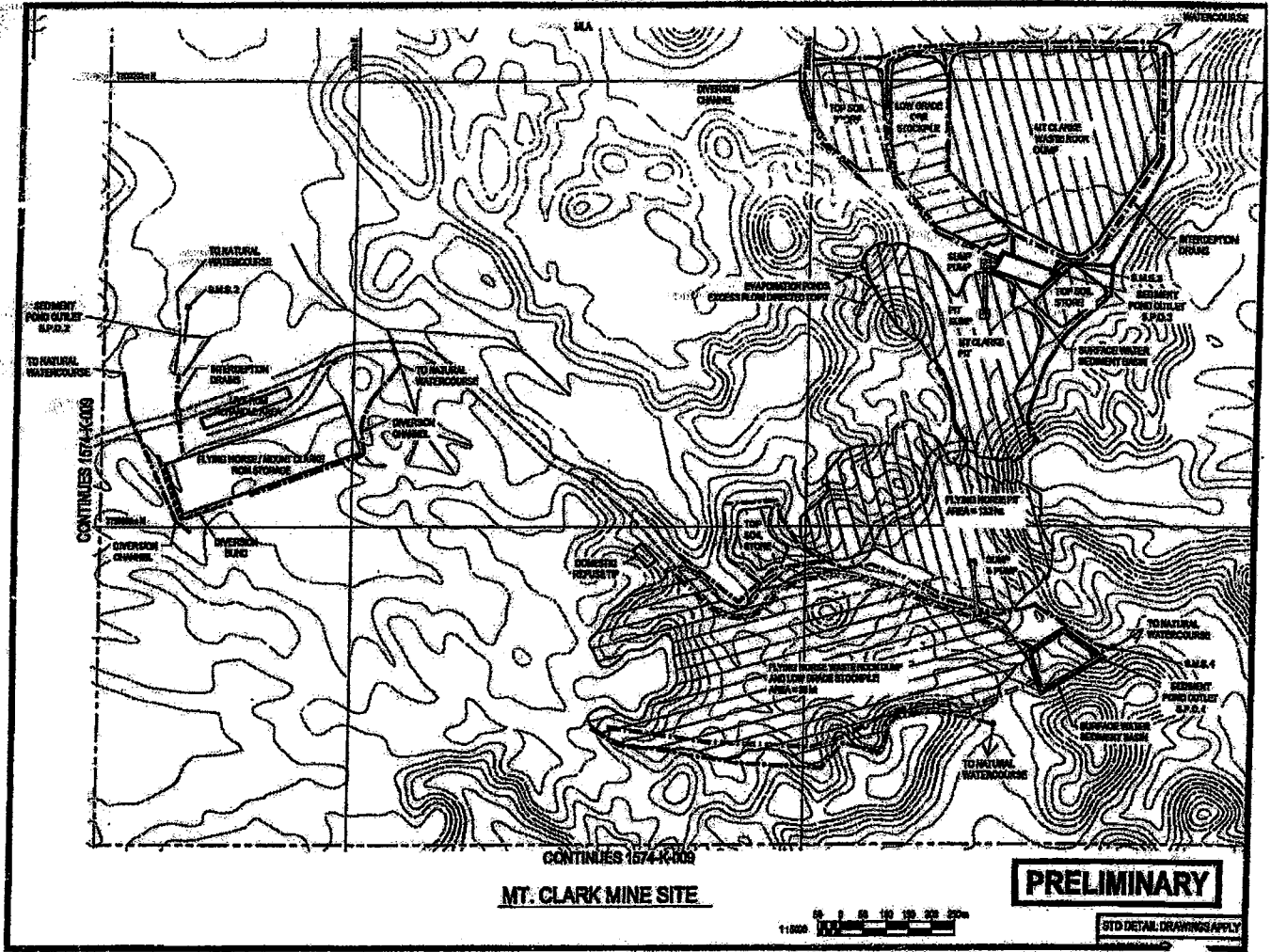


Schedule 1 - Map 2 Receiving Water Monitoring Locations (Lady Annie)

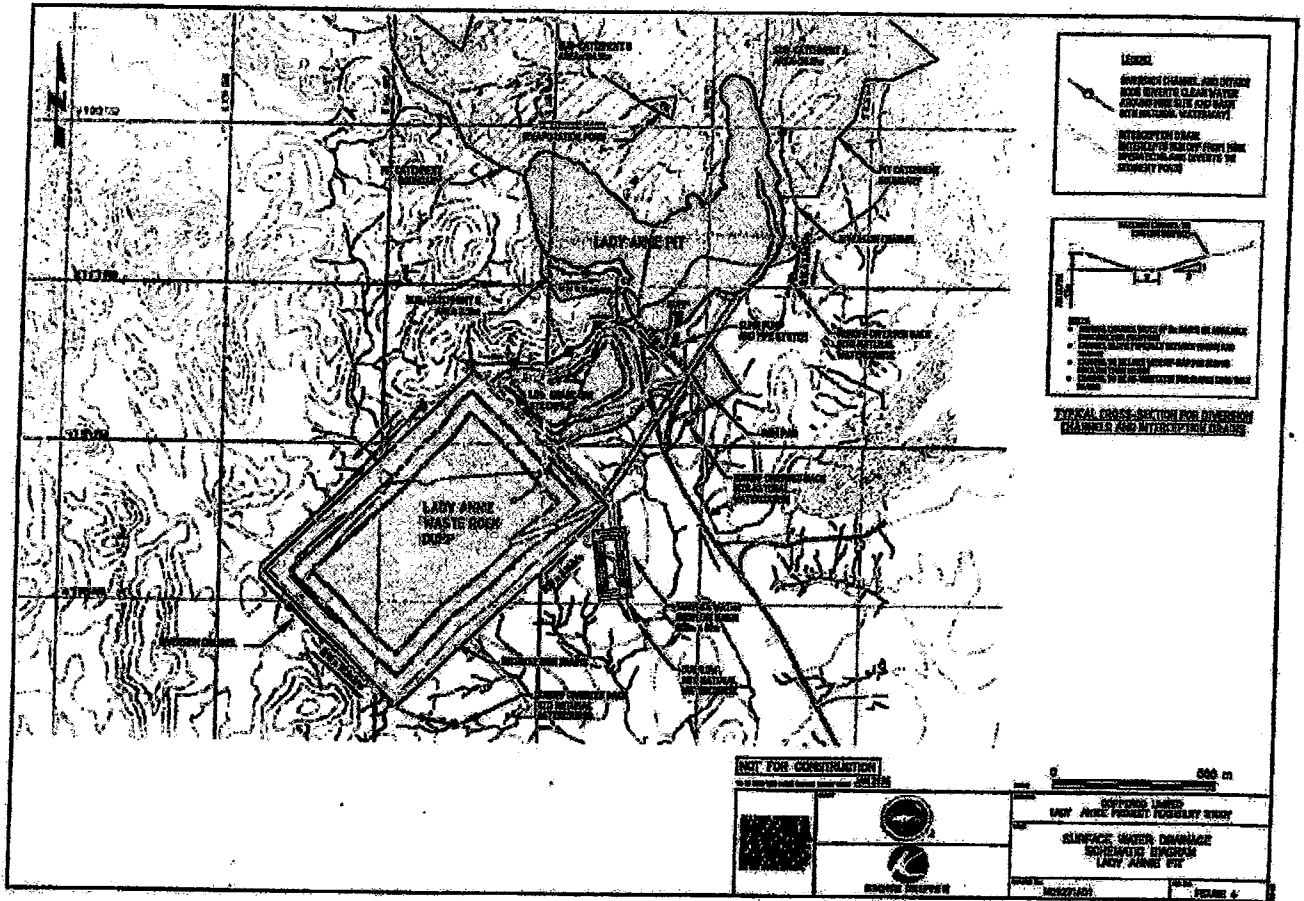


Schedule I - Map 3 Location of End Pipe Releases from Sediment Dams - Processing Area

15/05/2007

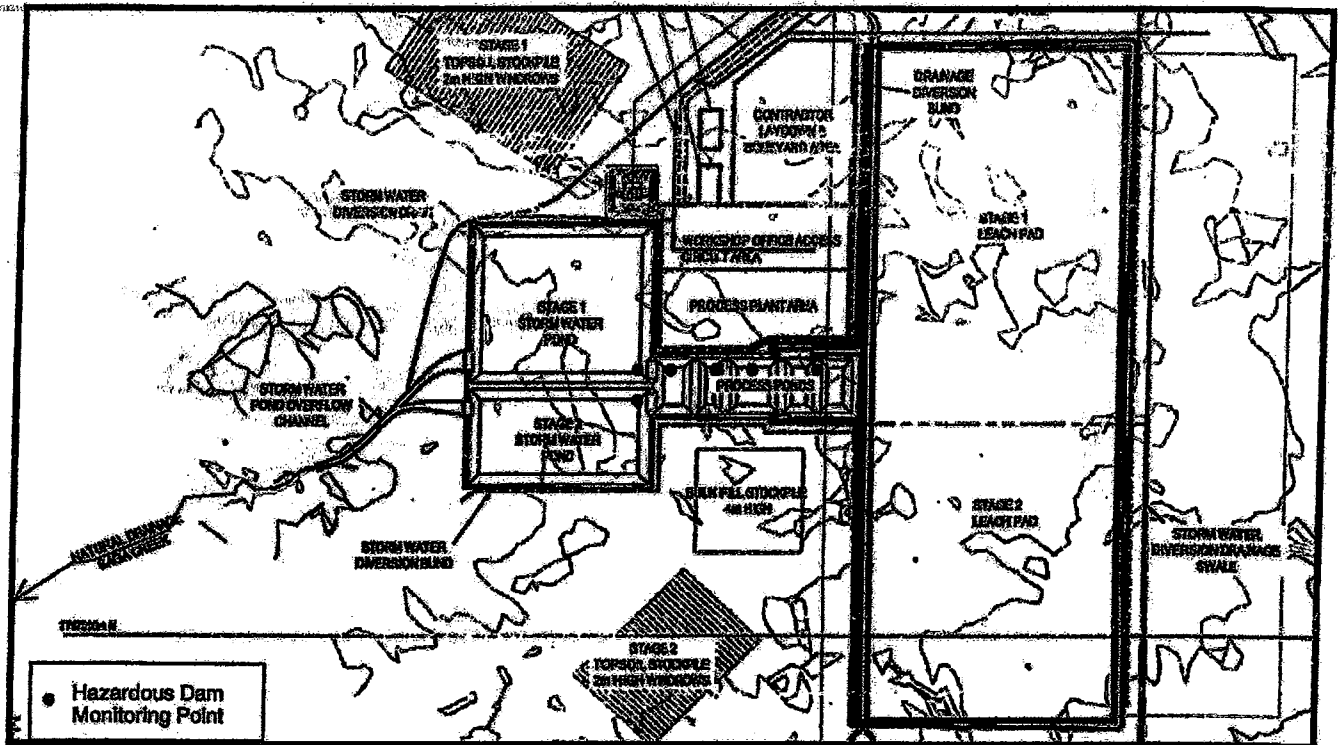


Schedule 1 - Map 4 Location of End Pipe Releases from Sediment Dams - Mining Area

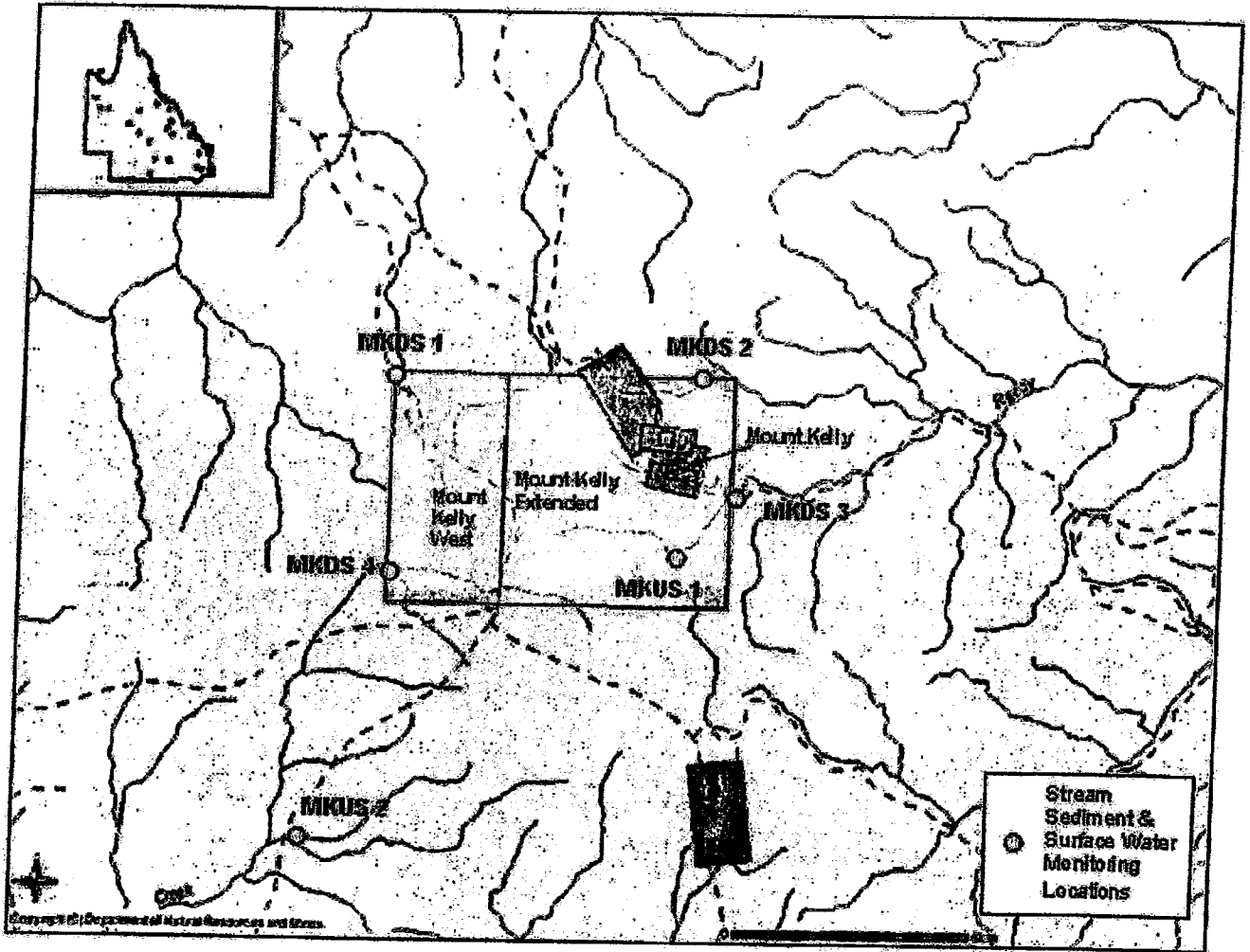


Schedule 1 - Map 5 Location of End Pipe Releases from Sediment Dams – Lady Annie

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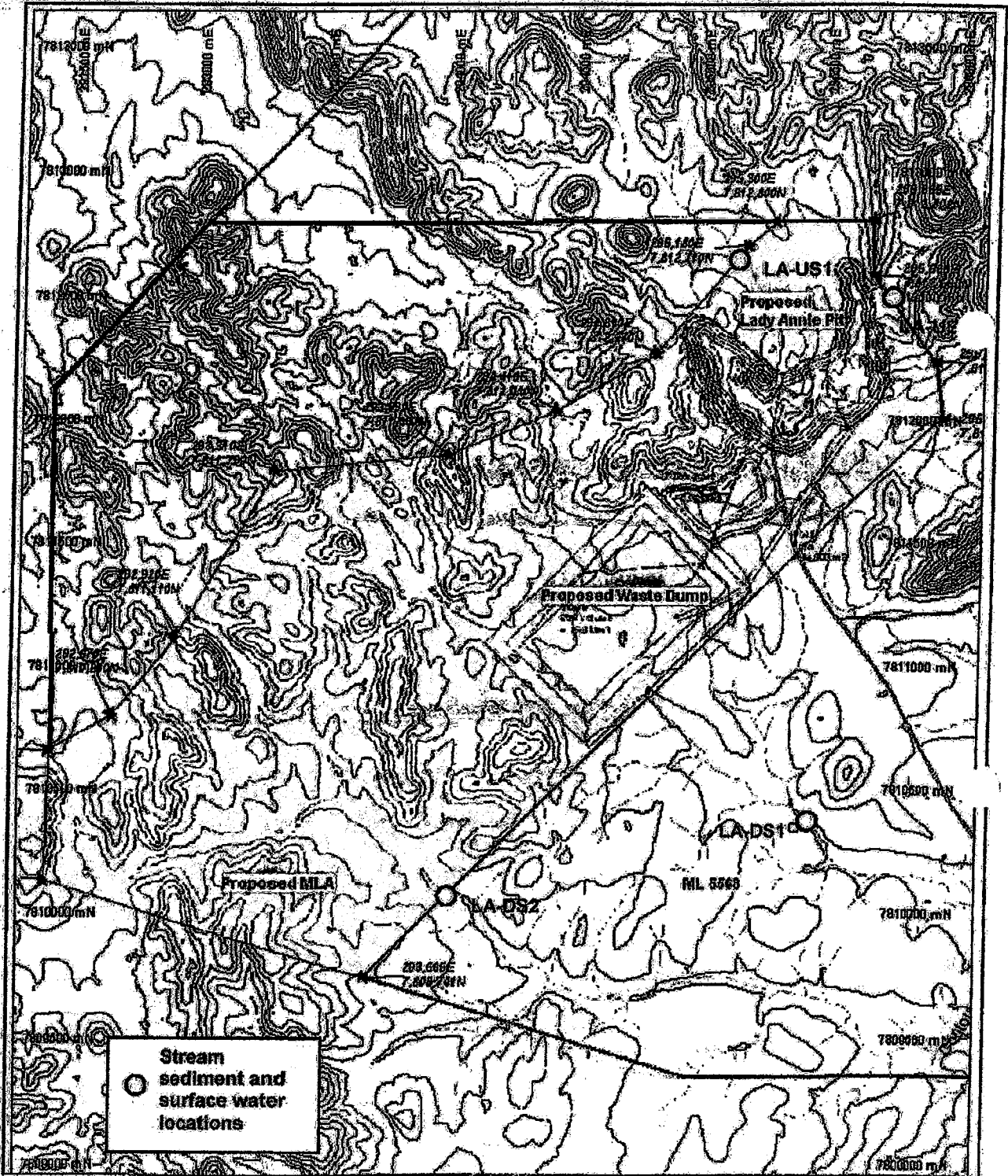


Schedule I - Map 6 Location of Hazardous Dams

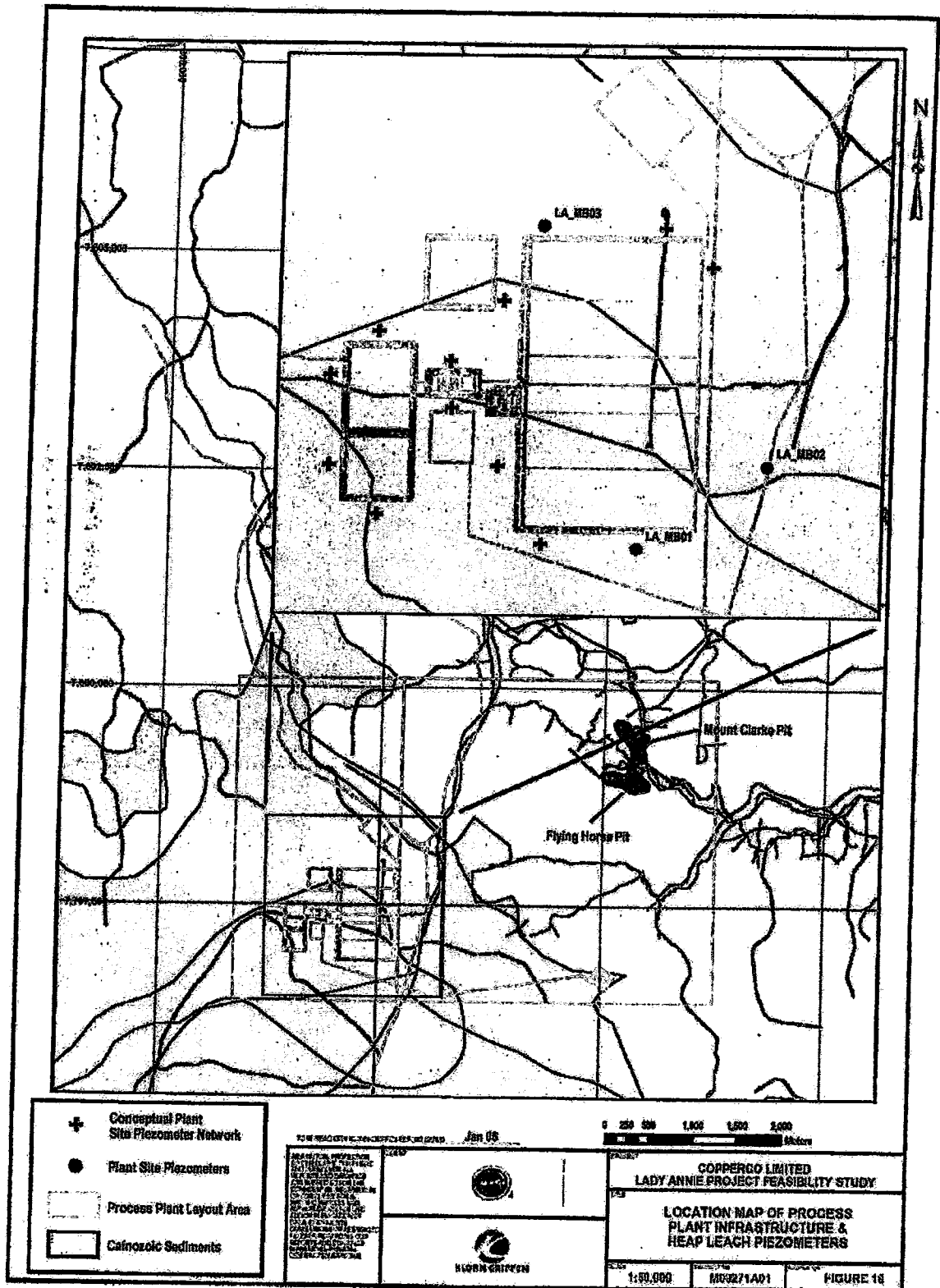


Schedule 1 - Map 7 Stream Sediments Monitoring Locations (Mount Kelly)

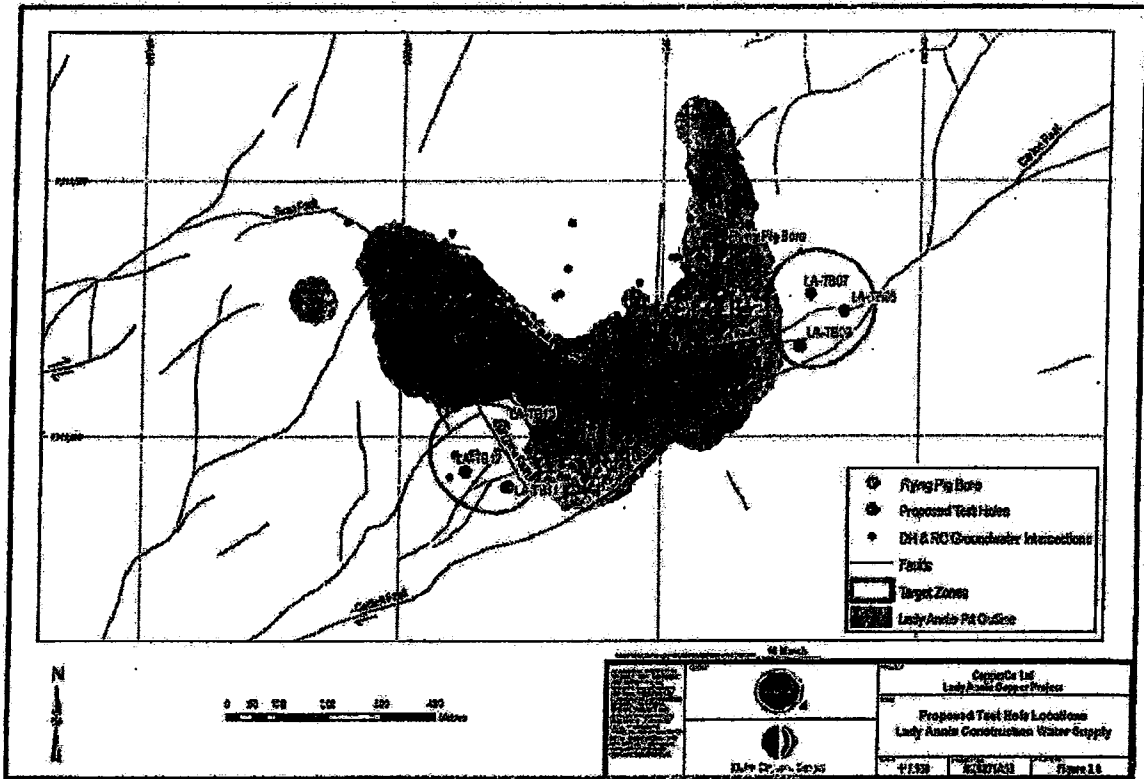
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Schedule 1 - Map 8 Stream Sediments Monitoring Locations (Lady Annie)



Schedule I - Map 9 Groundwater Monitoring Locations (Mount Kelly)



Schedule I - Map 10 Groundwater Monitoring Locations (Lady Annie)

END CONDITIONS FOR SCHEDULE I
END OF ENVIRONMENTAL AUTHORITY

600 30/9/07

ML 5426

ML 5474



**Queensland
Government**

Enquiries Neil Maver
Telephone (07) 4744 7820
Your reference MIN100401006
Our reference ISA658

Environmental Protection Agen
Incorporating the
Queensland Parks and Wildlife

30 March 2006

Reefway Pty Ltd
Level 22, Allendale Square
77 St Georges Terrace
Perth WA 6000

CC/ **Savannah Resources Pty Ltd**
Level 22, Allendale Square
77 St Georges Terrace
Perth WA 6000

Dear Sir/Madam

Re: Amendment of Environmental Authority MIN100401006.

I refer to the application for amendment of Environmental Authority (Mining Activities) MIN100401006 received at the Brisbane EPA office on 14 September 2006.

Please find attached the amended Environmental Authority (EA) MIN100401006. This EA takes effect from 30 March 2007 and the anniversary date of this authority is 24 July of each year.

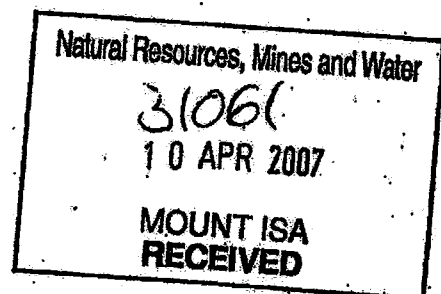
If you have any inquiries in relation to the above details please contact Neil Maver on (07) 4744 7820.

Yours faithfully

s.49 - Signature

Geoff Metcalfe
District Manager
Environmental Operations
Mount Isa District, Northern Region

C/c Mining Registrar





Queensland Government
 Environmental Protection Agency
 Queensland Parks and Wildlife Service

**Environmental Authority No. MIN100401006
 (mining activities)**

Section 228 Environmental Protection Act 1994

This environmental authority is granted under the *Environmental Protection Act 1994* and includes conditions to minimise environmental harm caused, or likely to be caused, by the authorised mining activities. An environmental authority (mining activities) may be for mining activities authorised (under the *Mineral Resources Act 1989*) to occur under one of the following mining tenements: a prospecting permit; mining claim; exploration permit; mineral development licence; or mining lease. In general, a mining activity means: prospecting, exploring, mining; or processing minerals; remediation; rehabilitation; and includes facilitation and supporting activities and any action taken to prevent environmental harm.

Under the provisions of the *Environmental Protection Act 1994* this environmental authority is issued to:

Reefway Pty Ltd
 Level 22 Allendale Square
 77 St Georges Terrace
 Perth WA 6000

Savannah Resources Pty Ltd
 Level 22, Allendale Square
 77 St Georges Terrace
 Perth WA 6000

In respect of carrying out activities as part of the following mining project:

Type of environmental authority (mining activities)	Authorised mining tenements	Location
Mining Leases	ML 5426 ML 5435 ML 5446 ML 5447 ML 5448 ML 5474 ML 5476 ML 5478 ML90168 ML90169 ML90170 ML90178	100km north of Mount Isa

The mining activities are authorised to the extent defined in Schedule 6 Section 14(c) of the *Environmental Protection Regulation 1998*.

This environmental authority is subject to the conditions set out in the attached schedules. The anniversary date of this environmental authority is 24 July each year.

This environmental authority takes effect from 30 March 2007.

s.49 - Signature

GEOFF MEECATE
 District Manager
 Mt Isa District, Northern Region
 Delegate of Administering Authority
Environmental Protection Act 1994

ENVIRONMENTAL PROTECTION ACT 1994

Definitions

- (A5-1) Words and phrases used throughout this environmental authority are defined in Schedule H – Definitions. Where a definition for a term used in this environmental authority is sought and the term is not defined within this environmental authority, the definitions in the *Environmental Protection Act 1994*, its Regulations and Environmental Protection Policies must be used.

END CONTIONS FOR SCHEDULE A

Schedule B - Air

Dust Nuisance

- (B1-1) Subject to Conditions (B1-2) and (B1-3) the release of dust or particulate matter or both resulting from the mining activity must not cause an environmental nuisance at any sensitive or commercial place.
- (B1-2) When requested by the administering authority, dust and particulate monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive or commercial place, and the results must be notified within 14 days to the administering authority following completion of monitoring.
- (B1-3) If the environmental authority holder can provide evidence through monitoring that the following limits are not being exceeded then the holder is not in breach of (B1-1):
- a) Dust deposition of 120 milligrams per square metre per day, averaged over one month, when monitored in accordance with AS 3580.10.1 Methods for sampling and analysis of ambient air - Determination of particulates - Deposited matter - Gravimetric method of 1991.
- (B1-4) If monitoring indicates exceedence of the relevant limits in Condition (B1-3), then the environmental authority holder must:
- a) address the complaint including the use of appropriate dispute resolution if required; or
 - b) immediately implement dust abatement measures so that emissions of dust from the activity do not result in further environmental nuisance.

Odour Nuisance

- (B2-1) Subject to condition (B2-2), the release of noxious or offensive odour(s) or any other noxious or offensive airborne contaminant(s) resulting from the mining activity must not cause an environmental nuisance at any sensitive or commercial place.
- (B2-2) When requested by the administering authority, odour monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive or commercial place, and the results must be notified within 14 days to the administering authority following completion of monitoring.
- (B2-3) If monitoring indicates Condition (B2-1) is not being met then the environmental authority holder must:
- a) address the complaint including the use of appropriate dispute resolution if required; or
 - b) immediately implement odour abatement measures so that emissions of odour from the activity do not result in further environmental nuisance.

END CONDITIONS FOR SCHEDULE B

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Schedule C - Table 2 (Receiving Water Trigger Levels)

Parameter	Units	Minimum	Maximum	Trigger Type
pH ¹	pH	6.0	8.0	Range
EC ¹	µS/cm	N/A	250	Maximum
Sulphate ²	mg/L	N/A	500	Maximum
Aluminium ²	mg/L	N/A	2.5	Maximum
Arsenic ²	mg/L	N/A	0.25	Maximum
Boron ²	mg/L	N/A	0.37	Maximum
Cadmium ²	mg/L	N/A	0.005	Maximum
Chromium ²	mg/L	N/A	0.5	Maximum
Cobalt ²	mg/L	N/A	0.5	Maximum
Copper ²	mg/L	N/A	0.5	Maximum
Fluoride ²	mg/L	N/A	1	Maximum
Lead ²	mg/L	N/A	0.05	Maximum
Manganese ³	mg/L	N/A	1.9	Maximum
Mercury ²	mg/L	N/A	0.001	Maximum
Molybdenum ²	mg/L	N/A	0.075	Maximum
Nickel ²	mg/L	N/A	0.5	Maximum
Selenium ²	mg/L	N/A	0.01	Maximum
Zinc ²	mg/L	N/A	10	Maximum

¹ Contaminant trigger limits are based on Table 3.3.4 and 3.3.5 of Aquatic Ecosystems ANZECC (2000).
² Contaminant trigger limits are based on 50% of the contaminant limits defined in the ANZECC (2000) Livestock Drinking Water and are to be analysed as total metals (unfiltered).
³ Contaminant trigger limits based on Table 3.4.1 of Aquatic Ecosystems ANZECC (2000) 95% and are to be analysed as filtered metals.

6.11 30/3/07

Schedule C - Table 4 (End of pipe monitoring locations and frequency)

Monitoring point	Easting (AMG 84, Zone 54)	Northing (AMG 84, Zone 54)	Monitoring frequency
Mount Clarke ROM Area Sediment Dam	303834	7799496	Each flow event
Mount Clarke Pit Area Sediment Dam	305336	7799592	Each flow event
Mount Clarke/Flying Horse Sediment Dam	305887	7798726	Each flow event
Process Plant ROM Pad Sediment Dam 1	303040	7798656	Each flow event
Process Plant ROM Pad Sediment Dam 2	302905	7798900	Each flow event
Process Plant ROM Pad Sediment Dam 3	302771	7799010	Each flow event

NOTE: This does not apply to dams containing hazardous waste.

Schedule C - Table 5 (End of pipe contaminant release limits)

Parameter	Units	Minimum	Maximum	Limit Type
pH	pH	6	9	Range
TDS	mg/L	N/A	4000	Maximum
Sulphate	mg/L	N/A	1000	Maximum
Arsenic	mg/L	N/A	5	Maximum
Cadmium	mg/L	N/A	0.01	Maximum
Chromium	mg/L	N/A	1	Maximum
Cobalt	mg/L	N/A	1	Maximum
Copper	mg/L	N/A	1	Maximum
Lead	mg/L	N/A	0.1	Maximum
Mercury	mg/L	N/A	0.002	Maximum
Zinc	mg/L	N/A	20	Maximum

Contaminant limits based on ANZECC (2000) Livestock drinking water quality and are analysed as Total metals (unfiltered)
NOTE: This does not apply to dams containing hazardous waste.

Dams Containing Hazardous Waste

(C1-4) Water storages containing process water and storm water contaminated by mining activities must be monitored at the locations and frequencies defined in Schedule C - Table 6 and Schedule 1 - Map 4 and samples analysed for the parameters defined in Schedule C - Table 7.

- (C1-8) The holder of the environmental authority must mark the mandatory reporting level defined in Schedule C - Table 8 on the spillway of all dams containing hazardous waste within the operational land.
- (C1-9) The holder of the environmental authority must notify the administering authority when the pondage level of the dam containing hazardous waste, reaches the mandatory reporting level defined in Schedule C - Table 8.

Stream Sediment Contaminant Levels

- (C2-1) All reasonable and practicable erosion protection measures and sediment control measures must be implemented and maintained to minimise erosion and the release of sediment.
- (C2-2) The bed of the receiving waters, affected by the release of process water and storm water contaminated by the mining activities must be monitored at the locations and frequencies defined in Schedule C - Table 9 and Schedule I - Map 5.

Schedule C - Table 9 (Receiving Stream Sediment Monitoring Locations and Frequency)

Monitoring point	Easting (AGD 94 Zone 54)	Northing (AGD 84 Zone 54)	Monitoring frequency
MKUS 1- reference site *	305625	7797450	May each year
MKUS 2- reference site*	TBD	TBD	May each year
MKDS 1- test site	301160	7800195	May each year
MKDS 2- test site	306366	7798356	May each year
MKDS 3- test site	306370	7798363	May each year
MKDS 4- test site	301300	7797255	May each year

NOTE: This does not apply to dams containing hazardous waste

Reference sites must:

- a) be from the same biogeographical and climatic region;
- b) have similar geology, soil types and topography
- c) contain a range of habitats similar to those at the test site
- d) be of similar flow regime; and
- e) not be so close to the test sites that any disturbances at the test site also result in a change at the reference site.

TBD- to be determined and provided to the QEPA prior to commencement of mining.

- (C2-3) Subject to Condition (C2-2), if the stream sediment contaminant trigger levels defined in Schedule C - Table 10 are exceeded then the environmental authority holder must complete an investigation into the potential for environmental harm and notify the administering authority within 3 months of receiving the analysis results.

Schedule C - Table 10 (Receiving Stream Sediment Contaminant Trigger Levels)

Parameter	Units	Contaminant trigger levels	Trigger type
Antimony ¹	mg/kg dry wt	2	Maximum
Arsenic ¹	mg/kg dry wt	20	Maximum
Cadmium ¹	mg/kg dry wt	1.5	Maximum
Chromium ¹	mg/kg dry wt	80	Maximum
Copper ²	mg/kg dry wt	100	Maximum
Lead ¹	mg/kg dry wt	50	Maximum
Nickel ¹	mg/kg dry wt	21	Maximum
Silver ¹	mg/kg dry wt	1	Maximum
Mercury ¹	mg/kg dry wt	0.15	Maximum
Zinc ¹	mg/kg dry wt	200	Maximum

¹ANZECC (2000): ISQG Low trigger values, Sediment Quality Guidelines, Aquatic Ecosystems, Table 3.5.1.

²Site specific trigger value as calculated in section 3.6 of EM Plan July 2006

- (C2-4) Subject to Condition (C2-2), stream sediment contaminant limits must not exceed the contaminant limits defined in Schedule C - Table 11.

Groundwater

(C4-1) Groundwater, affected by the mining activities must be monitored at the locations and frequencies defined in Schedule C - Table 13 and Schedule I - Map 6.

Schedule C - Table 13 (Groundwater Monitoring Locations and Frequency)

Monitoring point	Easting (AGD 84 Zone 54)	Northings (AGD 84 Zone 54)	Monitoring frequency
LA MB01 (Process Plant) - reference site	302484	7796800	Monthly
LA MB02 (Process Plant) - reference site	302891	7797385	Monthly
LA MB03 (Process Plant) - reference site	302128	7797950	Monthly
LA MB04 (Process Plant)	TBD	TBD	Monthly
LA MB05 (Process Plant)	TBD	TBD	Monthly
LA MB06 (Process Plant)	TBD	TBD	Monthly
LA MB07 (Process Plant)	TBD	TBD	Monthly
LA MB08 (Process Plant)	TBD	TBD	Monthly
LA MB09 (Process Plant)	TBD	TBD	Monthly
LA MB010 (Process Plant)	TBD	TBD	Monthly
LA MB011 (Process Plant)	TBD	TBD	Monthly
LA MB012 (Process Plant)	TBD	TBD	Monthly
LA MB013 (Process Plant)	TBD	TBD	Monthly
LA MB014 (Process Plant)	TBD	TBD	Monthly
MK MB01 (pit area)	305360	7799019	Quarterly
MK PB01 (pit area)	305356	7799019	Quarterly

NOTE: This does not apply to dams containing hazardous waste

TBD- To be determined

Reference sites must:

- a) be from the same biogeographical and climatic region;
- b) have similar geology, soil types and topography
- c) contain a range of habitats similar to those at the test site
- d) be of similar flow regime; and not be so close to the test sites that any disturbances at the test site also result in a change at the reference site.

(C4-2) Subject to Condition (C4-1), if the groundwater contaminant trigger levels defined in Schedule C - Table 14 are exceeded then the environmental authority holder must complete an investigation into the potential for environmental harm and notify the administering authority within 3 months of receiving the analysis results.

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Schedule C – Table 15 (Groundwater Contaminant Limits)

Parameter	Units	Minimum	Maximum	Limit Type
pH ¹	pH	6	9	Range
TDS ¹	mg/L	N/A	4000	Maximum
Sulphate ¹	mg/L	N/A	1000	Maximum
Aluminum ¹	mg/L	N/A	5	Maximum
Arsenic ¹	mg/L	N/A	0.5	Maximum
Boron ¹	mg/L	N/A	5	Maximum
Cadmium ¹	mg/L	N/A	0.01	Maximum
Chromium ¹	mg/L	N/A	1	Maximum
Cobalt ¹	mg/L	N/A	1	Maximum
Copper ¹	mg/L	N/A	1	Maximum
Fluoride ¹	mg/L	N/A	2	Maximum
Lead ¹	mg/L	N/A	0.1	Maximum
Manganese ²	mg/L	N/A	2.5	Maximum
Mercury ¹	mg/L	N/A	0.002	Maximum
Molybdenum ¹	mg/L	N/A	0.15	Maximum
Nickel ¹	mg/L	N/A	1	Maximum
Selenium ¹	mg/L	N/A	0.02	Maximum
Zinc ¹	mg/L	N/A	20	Maximum

¹ Contaminant limits based on ANZECC (2000) Livestock drinking water quality and are analysed as Total Metals (unfiltered)

² Contaminant limits based on Table 3.4.1 of Aquatic Ecosystems ANZECC (2000) and are analysed as Filtered Metals.

(C4-4) The method of water sampling required by this environmental authority must comply with that set out in the latest edition of the Environmental Protection Agency's Water Quality Sampling Manual.

Voids

(C5-1) Water quality in mining voids and final voids must be monitored at the locations and frequencies defined in Schedule C - Table 16 and for the parameters detailed in Schedule C – Table 17.

(C5-2) In the event that water quality within the mining voids or final voids does not comply with the contaminant limits defined in Schedule C – Table 17, implement measures to prevent access by all livestock and minimise access by fauna to the void.

Schedule C - Table 16 (Voids Monitoring Locations and Frequency)

Monitoring point	Monitoring frequency
Mount Kelly/Flying Horse Pit	Annually
Mount Clarke Pit	Annually

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Schedule D - Noise and Vibration**Noise Nuisance**

- (D1-1) Subject to Conditions (D1-2) and (D1-3) noise from the mining activity must not cause an environmental nuisance to an affected building.
- (D1-2) When requested by the administering authority, noise monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive or commercial place, and the results must be notified within 14 days to the administering authority following completion of monitoring.
- (D1-3) The method of measurement and reporting of noise levels must comply with the latest edition of the Environmental Protection Agency's Noise Measurement Manual.

Vibration nuisance

- (D2-1) Subject to Conditions (D2-2) and (D2-3) vibration from the mining activity must not cause an environmental nuisance to an affected building.
- (D2-2) When requested by the administering authority, vibration monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive or commercial place, and the results must be notified within 14 days to the administering authority following completion of monitoring.

END CONDITIONS FOR SCHEDULE D**Schedule E - Waste****Storage of Tyres**

- (E1-1) Tyres stored awaiting disposal or transport for take-back and, recycling, or waste-to-energy options - should be stockpiled in volumes less than 3m in height and 200m² in area and at least 10m from any other tyre storage area.
- (E1-2) All reasonable and practicable fire prevention measures must be implemented, including removal of grass and other materials within a 10m radius of the scrap tyre storage area.

Disposal of Tyres

- (E2-1) Disposing of scrap tyres resulting from the mining activities in spoil emplacements is acceptable, provided tyres are placed as deep in the spoil as reasonably practicable.
- (E2-2) Scrap tyres resulting from the mining activities disposed within the operational land must not impede saturated aquifers or compromise the stability of the consolidated landform.

Waste Management

- (E3-1) A Waste Management Program, in accordance with the Environmental Protection (Waste Management) Policy 2000, must be included in the Plan of Operations.



Schedule F - Land

Rehabilitation Landform Criteria

(F1-1) All areas significantly disturbed by mining activities must be rehabilitated to a stable landform with a self-sustaining vegetation cover in accordance with Schedule F - Table 1 and 2.

Schedule F - Table 1 (Final Land Use and Rehabilitation Approval Schedule)

Disturbance Category	Max Area (ha)	Land Use		Land Capability		Analogue Site	
		PRE DISTURBANCE	POST DISTURBANCE	PRE DISTURBANCE	POST DISTURBANCE	Longitude	Latitude
Mount Kelly/Flying Horse Pit	13.2	Habitat	Water Storage	Class 5	Water Storage		
Mount Kelly/Flying Horse Waste Rock Dump	28	Habitat	Habitat	Class 5	Class 5	TBD	TBD
Mount Kelly/Flying Horse Topsoil Stockpile	1.1	Habitat	Habitat	Class 5	Class 5	TBD	TBD
Mount Kelly/Flying Horse Sediment Dams	1.3	Habitat	Water Storage	Class 5	Water Storage		
Mount Kelly/Flying Horse Diversion Drains	1.3	Habitat	LIG or diversion Habitat	Class 5	Class 5		
Mount Clarke Pit	9.5	Habitat	Water Storage	Class 5	Water Storage	TBD	TBD
Mount Clarke Waste Rock Dump	16.3	Habitat/LIG	Habitat/LIG	Class 4 - 5	Class 4 - 5		
Mount Clarke Low Grade Stockpile	5.4	Habitat/LIG	Habitat/LIG	Class 4 - 5	Class 4 - 5	TBD	TBD
Mount Clarke/Flying Horse/Mount Kelly ROM Storage & Live Rehandle	5.5	Habitat	Habitat/LIG	Class 4 - 5	Class 4 - 5	TBD	TBD

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This environmental authority takes effect on 18 December 2006

Disturbance Category	Max Area	Land Use		Land Capability		Analogue Site	
		LIG	LIG or diversion	Class 4	Class 4-5	TBD	TBD
Process Plant	2.7	LIG	LIG or diversion	Class 4	Class 4-5	TBD	TBD
Drainage Diversions							
Process Plant	1	LIG	LIG or ponds	Class 4-5	Class 4-5		
Sediment Ponds							
Bulk Fill Stockpile	2.6	LIG	LIG	Class 4	Class 4	TBD	TBD
Pipelines and Powerlines (on lease)	1	LIG	LIG	Class 4-5	Class 4-5	TBD	TBD
Pipelines and Powerlines on Infrastructure ML	83	LIG/Habitat	Permanent Structure	Class 4-5	Permanent Structure		
Rubbish Dumps	0.2	LIG	LIG	Class 4-5	Class 4-5	TBD	TBD
Concrete Batch Plant	0.3	LIG	LIG	Class 4	Class 4	TBD	TBD
Fuel Storage Area	0.3	LIG	LIG	Class 4	Class 4	TBD	TBD
Contractor Laydown Area	4.3	LIG	LIG	Class 4	Class 4	TBD	TBD
Exploration	5	LIG	LIG/Habitat	Class 4-5	Class 4-5	TBD	TBD
Construction Access (net of specific areas)	59.9	LIG	LIG/Habitat	Class 4-5	Class 4-5	TBD	TBD
Gravel Borrow Pits (on and off ML)	6.7	LIG/Habitat	LIG/Habitat	Class 4-5	Class 4-5	TBD	TBD
Upgrade to Access Road (off ML)	2.0	LIG/Habitat	Permanent access road for landholder	Class 4-5	Class 4-5	TBD	TBD
Total	368.1						

*Analogue sites and disturbance description are to be identified and the environmental authority holder must amend the environmental authority to include analogue sites in Schedule F - Table 1 by 30 June 2007.
TBD- To be determined
LIG- Low Intensity Grazing
Classes are derived from the Department of Minerals and Energy's Land Suitability Assessment: Techniques (1995)

(F1-2) Progressive rehabilitation must commence when areas become available within the operational land.

(F1-3) Complete an investigation into rehabilitation of disturbed areas and submit a report to the administering authority proposing acceptance criteria to meet the outcomes in Schedule F - Table 1 and landform design criteria in Schedule F - Table 2 by 30 June 2007

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Location of Dam

(F3-2) The location of any dam containing hazardous waste within the licensed place must be located within the polygonal area defined by the co-ordinates defined in Schedule C- Table 4 -Map 4.

Schedule F — Table 4 (Location of Dams Containing Hazardous Waste)

Name of dam containing hazardous waste	Easting (AMG 84, Zone 54) (9)	Northing (AMG 84, Zone 54) (10)
PLS Ponds, ILS, Raffinate Pre-settler and Raffinate Pond	301760	7797640
	302065	7797640
	302035	7797310
	301760	7797310
Stormwater Pond 1 and 2	301470	7797640
	301760	7797640
	301760	7797110
	301470	7797110
Heap Leach Pads	302065	7797945
	302720	7797945
	302720	7796825
	302035	7796825

Note (1): A minimum of 3 control points is required to constrain the location of all activities associated with the dam containing hazardous waste. Additional infrastructure which forms part of any dam containing hazardous waste may include appurtenant works consisting of tailings discharge pipelines, seepage collection systems, runoff diversion bunds, containment systems, pressure relief wells, decant and recycle water systems.

Standards and Criteria

- (F3-3) The holder of the environmental authority must design, construct, repair, maintain, operate and decommission the dams defined in Schedule F - Table 3 and 4 in accordance with an acknowledged design plan that must comply with the standard environmental conditions in the "Code of Environmental Compliance for High Hazard Dams Containing Hazardous Waste".
- (F3-4) The holder of the environmental authority must design, construct, and operate all low hazardous dams containing hazardous waste and non-hazardous dams in accordance with the criteria outlined in Appendix B of the Code of Environmental Compliance for Mining Activities.

Inspection of Dams

- (F3-5) High hazard dams containing hazardous waste shall be inspected by a Registered Professional Engineer Queensland (RPEQ) prior to 1 November each year or at any time if alarming, unusual or otherwise unsatisfactory conditions are observed.
- (F3-6) For each inspection, the engineer shall assess the condition of the dam and its foundations, determine the hydraulic adequacy of the dam and assess the adequacy of the works with respect to dam safety.
- (F3-7) For each inspection, two copies of the engineer's report and any recommendations as to measures to be taken to ensure the integrity of the dam shall be furnished to the administering authority within 28 days of the inspection.

Decommissioning of Dam - Objective

- (F3-8) Dams containing hazardous waste must not be abandoned and must be decommissioned to a situation where water can no longer be stored in the dams. The dams and their contained waste(s) must be stable, whereafter the dams are no longer dams and they become landforms on the operational land and must comply with the rehabilitation requirements of this environmental authority.

Decommissioning of Dam - Documentation and Compliance

- (F3-9) Decommissioning activities for dams must be documented in detail in the plan of operations under which the activities are to occur. Where the detailed documentation is not already contained in the Design Plan for the dam, the detailed documentation is considered to be an amendment to the design plan and must be submitted

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Page 21 of 32 0902

Schedule H – Definitions

"acceptance criteria" means the measures by which the actions implemented to rehabilitate the land are deemed to be complete. The acceptance criteria indicate the success of the rehabilitation outcome or remediation of areas which have been significantly disturbed by the mining activities. Acceptance criteria may include information regarding:

- vegetation establishment, survival and succession;
- vegetation productivity, sustained growth and structure development;
- fauna colonisation and habitat development;
- ecosystem processes such as soil development and nutrient cycling, and the recolonisation of specific fauna groups such as collembola, mites and termites which are involved in these processes;
- microbiological studies including recolonisation by mycorrhizal fungi, microbial biomass and respiration;
- effects of various establishment treatments such as deep ripping, topsoil handling, seeding and fertiliser application on vegetation growth and development;
- resilience of vegetation to disease, insect attack, drought and fire;
- vegetation water use and effects on ground water levels and catchment yields.

"affected building"

- for noise means any building or any part of a building, for example the building from which the noise is made, at which the noise can be heard.
- for vibration means any building or any part of a building, for example the activity from which the vibration is made, at which the vibration can be felt.

"ambient (or total) noise" at a place, means the level of noise at the place from all sources (near and far), measured as the Leq for an appropriate time interval.

"appropriately qualified person" means any person who conforms to the EPA operational policy for an "appropriately qualified person (analyst)" in accordance with Section 490(7) of the *Environmental Protection Act 1994*.

"ARD" means acid rock drainage and refers to the low pH, high heavy metal pollutant typical of sulphidic mine wastes, and most commonly associated with the production of ferrous iron and sulphuric acid through the oxidation of sulphide minerals.

"authority" means environmental authority (mining activities) under the *Environmental Protection Act 1994*.

"blasting" means the use of explosive materials to fracture-

- (a) rock, coal and other minerals for later recovery; or
- (b) structural components or other items to facilitate removal from a site or for reuse.

"building" includes a structure of any type and part of a building or structure.

"commercial place" means a work place used as an office or for business or commercial purposes, which is not part of the mining activity and does not include employees accommodation or public roads.

"competent person" means a person with the demonstrated skill and knowledge required to carry out the task to a standard necessary for the reliance upon collected data or protection of the environment.

"dam" means a containment or proposed containment whether permanent or temporary, which is designed to contain, divert or control flowable substances. However this does not include a fabricated or manufactured tank or container designed to a recognised standard.

"design plan" in the context of a dam design is the documentation required under the Code of Environmental Compliance for High Hazard Dams Containing Hazardous Waste to describe the physical dimensions of the dam, the materials and standards to be used for construction of the dam, the procedures and criteria to be used for operating the dam and the decommissioning and rehabilitation objectives in terms of procedures, works and outcomes at the end of dam life. The documents can include design and investigation reports, drawings, specifications and certifications.

"environmental authority holder" means the holder of this environmental authority.

"flow event" means a flow event producing sufficient water to permit a monitoring creek bed flow of 30cm or more at the sampling station.

"flowable substance" means matter or mixture of materials which can be forced to or otherwise flow under any conditions possible in a situation. It includes water, other liquids or a mixture that includes water or any other liquid or suspended solids.

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"peak particle velocity (ppv)" means a measure of ground vibration magnitude which is the maximum rate of change of ground displacement with time, usually measured in millimetres/second (mms^{-1}).

"protected area" means - a protected area under the *Nature Conservation Act 1992*; or
- a marine park under the *Marine Parks Act 1992*; or
- a World Heritage Area.

"progressive rehabilitation" means rehabilitation (defined below) undertaken progressively or a staged approach to rehabilitation as mining operations are ongoing.

"reference site" (or analogue site) may reflect the original location, adjacent area or another area where rehabilitation success has been completed for a similar biodiversity. Details of the reference site may be as photographs, computer generated images and vegetation models etc.

"rehabilitation" the process of reshaping and revegetating land to restore it to a stable landform and in accordance with the acceptance criteria set out in this environmental authority and, where relevant, includes remediation of contaminated land.

"representative" means a sample set which covers the variance in monitoring or other data either due to natural changes or operational phases of the mining activities.

"residual void" means an open pit resulting from the removal of ore and/or waste rock which will remain following the cessation of all mining activities and completion of rehabilitation processes.

"self sustaining" means an area of land which has been rehabilitated and has maintained the required acceptance criteria without human intervention for a period nominated by the administering authority.

"sensitive place" means:

- a dwelling, residential allotment, mobile home or caravan park, residential marina or other residential premises; or
- a motel, hotel or hostel; or
- an educational institution; or
- a medical center or hospital; or
- a protected area under the *Nature Conservation Act 1992*, the *Marine Parks Act 1992* or a World Heritage Area; or
- a public park or gardens.

"significant disturbance" - includes land

- (a) if it is contaminated land; or
- (b) it has been disturbed and human intervention is needed to rehabilitate it.
 - i. to a state required under the relevant environmental authority; or
 - ii. if the environmental authority does not require the land to be rehabilitated to a particular state - to its state immediately before the disturbance.

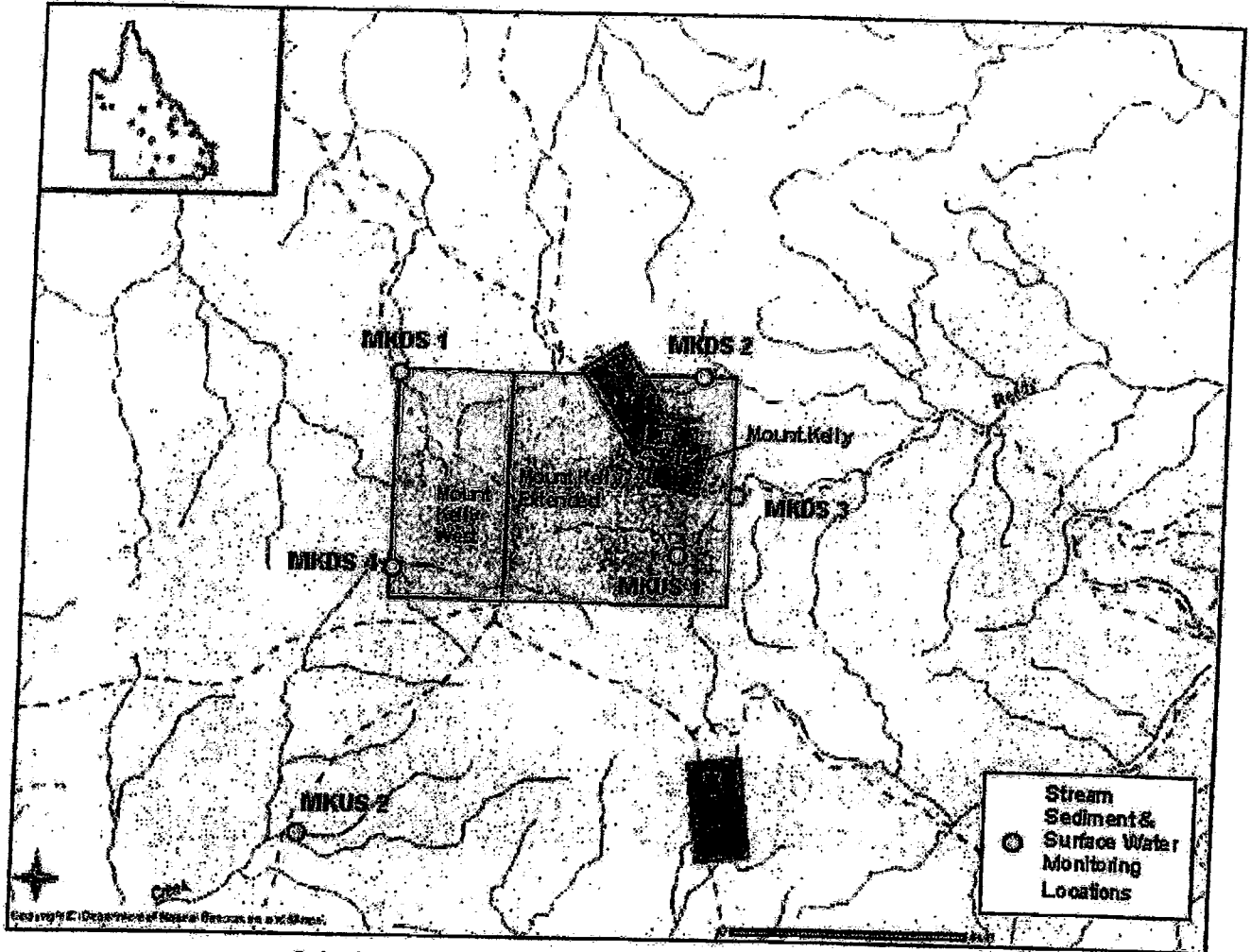
Some examples of disturbed land include:

- areas where soil has been compacted, removed, covered, exposed or stockpiled;
- areas where vegetation has been removed or destroyed to an extent where the land has been made susceptible to erosion; (vegetation & topsoil)
- areas where land use suitability or capability has been diminished;
- areas within a watercourse, waterway, wetland or lake where mining activities occur;
- areas submerged by tailings or hazardous contaminant storage and dam walls in all cases;
- areas under temporary infrastructure. Temporary infrastructure includes any infrastructure (roads, tracks, bridges, culverts, dams, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc) which is to be removed after mining activities have ceased; or
- areas where land has been contaminated and a suitability statement has not been issued.

However, the following areas are not included:

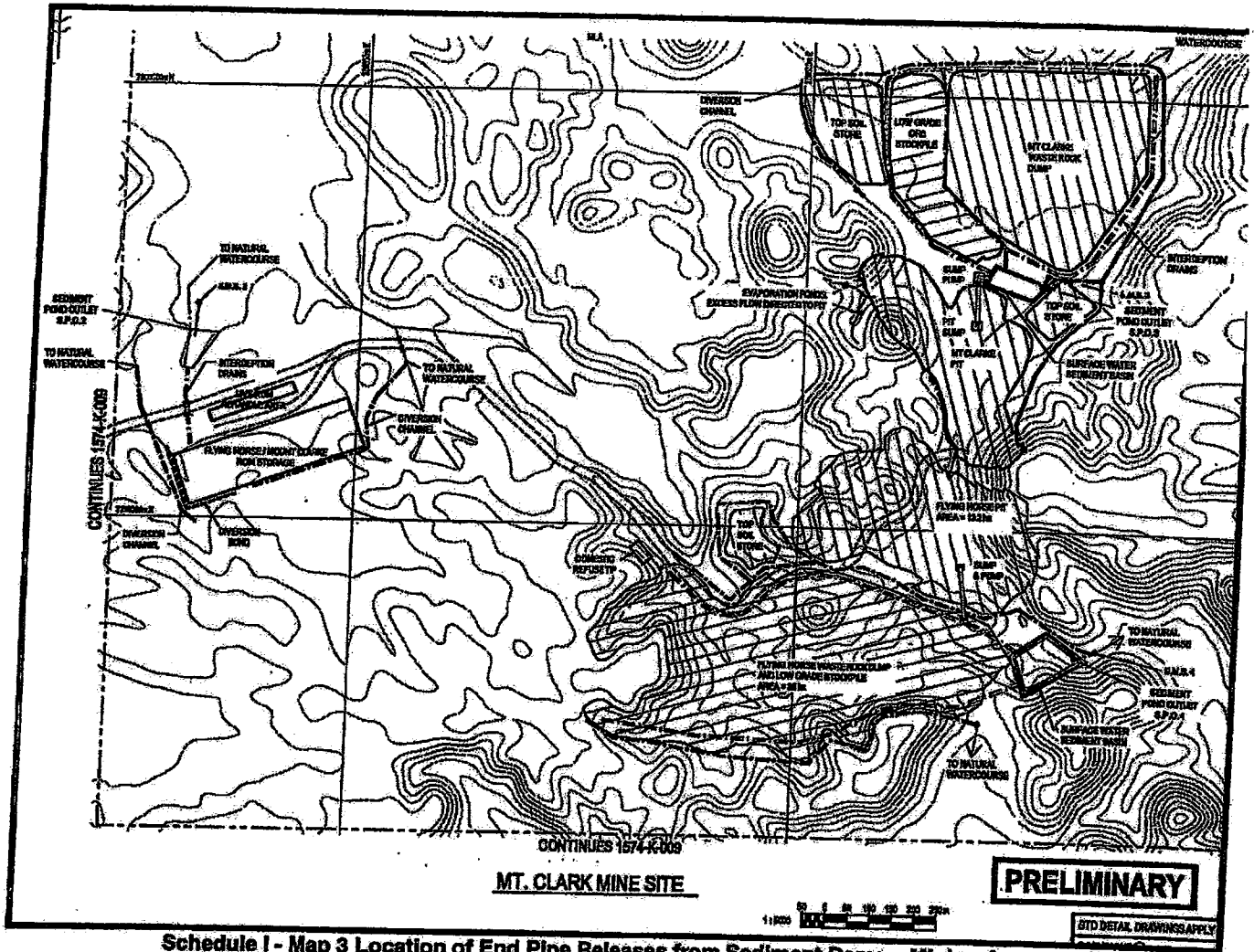
- areas off lease (e.g. roads or tracks which provide access to the mining lease);
- areas previously significantly disturbed which have achieved the rehabilitation outcomes;
- by agreement with the EPA, areas previously significantly disturbed which have not achieved the rehabilitation objective(s) due to circumstances beyond the control of the mine operator (such as climatic conditions);
- areas under permanent infrastructure. Permanent infrastructure includes any infrastructure (roads, tracks, bridges, culverts, dams, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc) which is to be left by agreement with the landowner. The agreement to leave permanent infrastructure must be recorded in the Landowner Agreement and lodged with the EPA;
- disturbances that pre-existed the grant of the tenure unless those areas are disturbed during the term of the tenure.

Schedule I - Maps / Plans

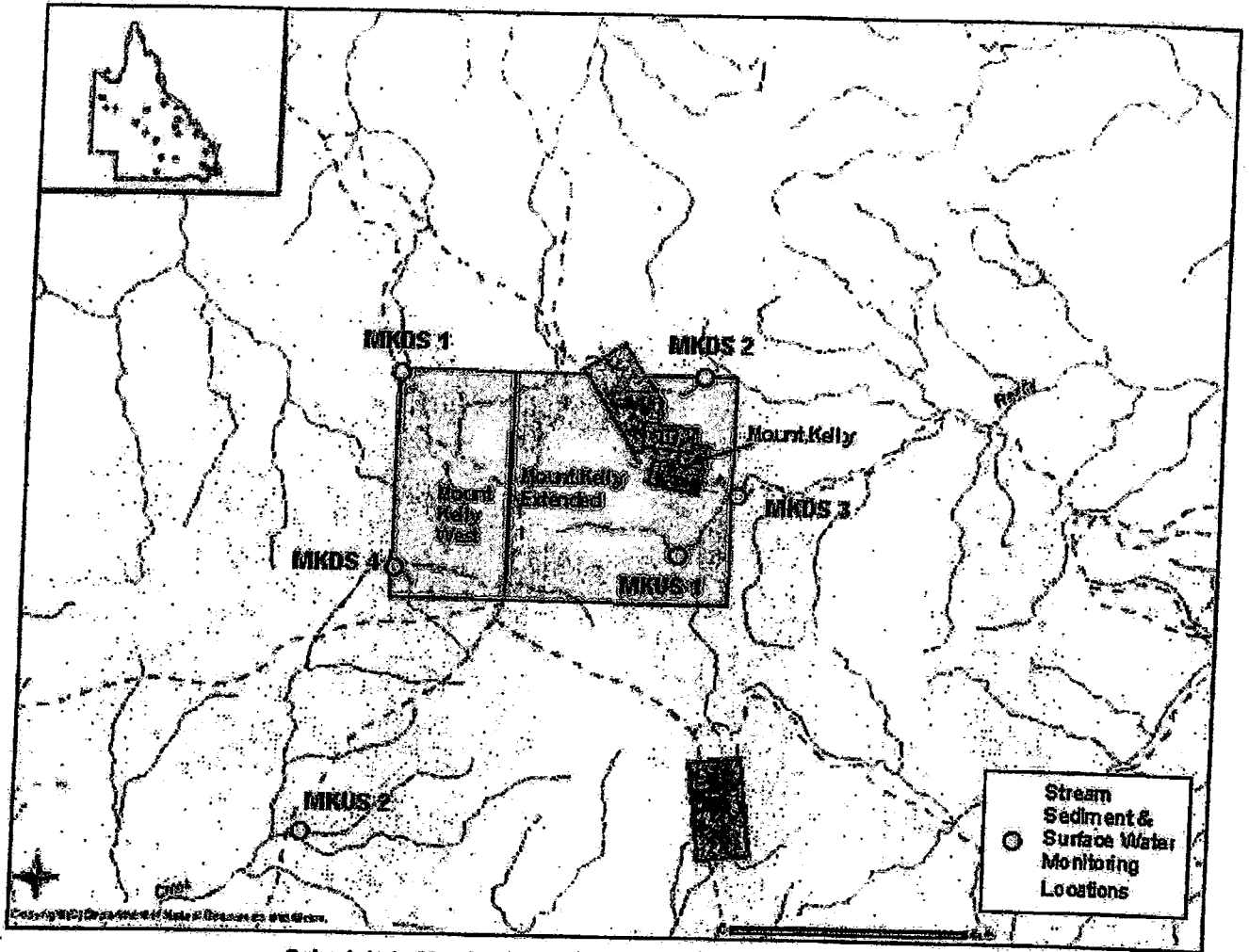


Schedule I - Map 1 Receiving Water Monitoring Locations

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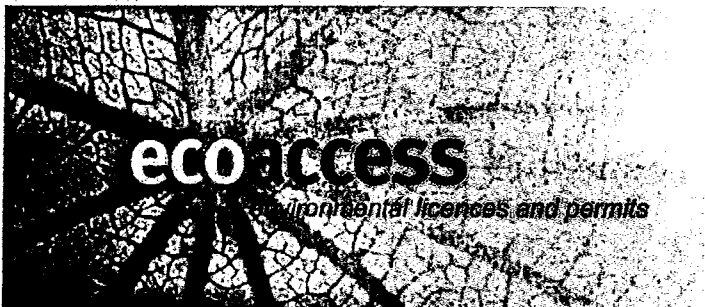


Schedule 1 - Map 3 Location of End Pipe Releases from Sediment Dams – Mining Area



Schedule I - Map 5 Stream Sediments Monitoring Locations

EM 20/3/07



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Notice

Environmental Operations

Decision to realise or claim on financial assurance

This statutory notice is issued by the administering authority pursuant to section 367 of the Environmental Protection Act 1994, to advise you of a decision to realise or claim on financial assurance for your licence.

Savannah Resources Pty Ltd (ACN 096358735)
Lady Annie Operations Pty Ltd (ACN076289097)
Attention Messrs Gary Peter Doran and David John Frank Lomb

Receiver Managers for Savannah Resources Pty Ltd, Lady Annie
Operations Pty Ltd

Deloitte Touche Tohmatsu
Woodside Plaza Level 14
240 St George Terrace
PERTH WA 6000

Your reference : MIN100401006

Our reference : ISA658

Attention: Gary Doran,

Re: Decision to realise financial assurance for a licence held by Lady Annie Operations Pty Ltd (ACN 076289097) and Savannah Resources Pty Ltd (ACN 096358735).

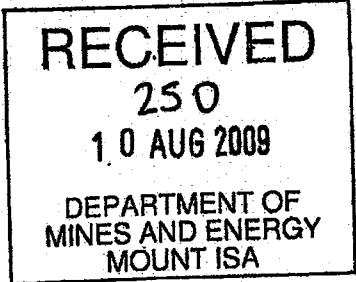
I refer you to the notice dated 30 June 2009 proposing to realise financial assurance in the amount of \$41,998 from Lady Annie Operations Pty Ltd (ACN 076289097) and Savannah Resources Pty Ltd (ACN 096358735).

The notice detailed that you may provide written representations to show why this financial assurance should not be realised by 30 July 2009. No written representation has been made to the Department of Environment and Resource Management.

The administering authority has decided to realise the above mentioned financial assurance as it has incurred costs in the amount of \$41,998 as a result of taking the following action to investigate the discharge of contaminated waters from Lady Annie mine site to Saga and Inca Creeks on 20 January 2009 and 7 February 2009:

Undertaking the service of external environmental consultants to assess and report on;

- Water management on the mine site,
- Integrity of Stormwater Pond 2 wall/s,
- Downstream impacts resulting from the release of contaminants from the minesite;



Queensland Government

55

Department of Environment and Resource Management

Enquiries Warwick Fegan
Telephone (07) 4046 6724
Your reference Lady Annie Mine Site
Our reference ISA658

4 August 2009

Lady Annie Operations Pty Ltd and Savannah Resources Pty Ltd
Attention Messrs Gary Peter Doran and David John Frank Lombe
Receiver Managers for Lady Annie Operations Pty Ltd
Deloitte Touche Tohmatsu
Woodside Plaza Level 14
240 St George Terrace
PERTH WA 6000

Dear Sirs,

I refer you to the letter and notice dated 30 June 2009 detailing the Department of Environment and Resource Management's (DERM) intent to realise part of the Financial Assurance held against Lady Annie Operations Pty Ltd and Savannah Resources Pty Ltd in relation to activities on Lady Annie Mine Site.

The notice of proposal to realise or claim financial assurance dated 30 June 2009 detailed that written representation objecting to the proposal to realise financial assurance was required by 30 June 2009. No submissions were received by DERM.

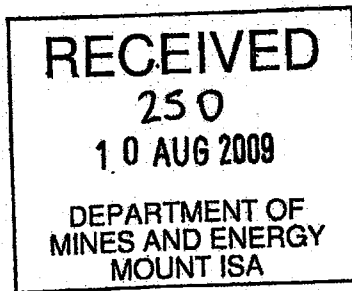
Please find attached a notice of decision to realise or claim financial assurance. DERM will realise \$41,998 of financial assurance.

If you have any queries with regards to the content of this letter please contact Warwick Fegan on (07) 4046 6724.

Yours sincerely

s.49 - Signature

Rob Lawrence
Regional Manager
North Region
Regional Services
Department of Environment and Resource Management



**Queensland
Government**

55

Enquiries Warwick Fegan
Telephone (07) 4046 6724
Your reference Lady Annie Mine Site
Our reference ISA658

Department of
**Environment and Resource
Management**

4 August 2009

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Attention Messrs Gary Peter Doran and David John Frank Lombe
Receiver Managers for Lady Annie Operations Pty Ltd
Deloitte Touche Tohmatsu
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240 St George Terrace
PERTH WA 6000

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**Rob Lawrence
Regional Manager
North Region
Regional Services
Department of Environment and Resource Management**



53

Notice

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Attention Messrs Gary Peter Doran and David John Frank Lomb

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- Integrity of Stormwater Pond 2 wall/s,
- Downstream Impacts resulting from the release of contaminants from the minesite;

25



**Queensland
Government**

Enquiries Neil Maver
Telephone (07) 4046 6731
Your reference MIN100401006
Our reference ISA658

Environmental Protection Agency
Incorporating the
Queensland Parks and Wildlife Service

17 July 2007

Mining Registrar
Department of Mines & Energy
PO Box 334
MOUNT ISA QLD 4825

Department of Mines and Energy

31605
19 JUL 2007 RW

Dear Sir / Madam

Re: Application submitted by Lady Annie Operations Pty Ltd & Savannah Resources Pty Ltd to amend Environmental Authority MIN100401006

I refer to the application to amend Environmental Authority MIN100401006, received at this office on 14 May 2007.

Please find attached the draft amended Environmental Authority MIN100401006 for the Mount Kelly / Lady Annie Project. The amendment application involves the addition of MLA90184 to the project for water & power infrastructure.

Please note that the Environmental Authority holder is now required under s254 of the *Environmental protection Act 1994* to give notice of their application to amend the Environmental Authority to each effected person for each mining lease and publish the notice at least once in a newspaper circulating in the locality of the land to which the mining lease applies.

Should you have any questions please contact Neil Maver on (07) 4046 6731.

Yours sincerely

s.49 - Signature

Ralph Riese
District Manager
Environmental Operations
North West District, Northern region



**Environmental Authority No. MIN100401006
 (mining activities)**

Section 258 Environmental Protection Act 1994

This environmental authority is granted under the *Environmental Protection Act 1994* and includes conditions to minimise environmental harm caused, or likely to be caused, by the authorised mining activities. An environmental authority (mining activities) may be for mining activities authorised (under the *Mineral Resources Act 1989*) to occur under one of the following mining tenements: a prospecting permit; mining claim; exploration permit; mineral development licence; or mining lease. In general, a mining activity means: prospecting, exploring, mining; or processing minerals; remediation; rehabilitation; and includes facilitation and supporting activities and any action taken to prevent environmental harm.

Under the provisions of the *Environmental Protection Act 1994* this Environmental Authority is issued to:

Lady Annie Operations Pty Ltd
 Level 22 Allendale Square
 77 St Georges Terrace
 Perth WA 6000

Savannah Resources Pty Ltd
 Level 22, Allendale Square
 77 St Georges Terrace
 Perth WA 6000

in respect of carrying out activities as part of the following mining project:

Type of Environmental Authority (mining activities)	Authorised mining tenements	Location
Mining Leases	ML5426, ML5435, ML5446, ML5447, ML5448, ML 5474, ML5476, ML5478, ML90168 ML90169, ML90170, ML90178, ML90179, ML90184	100km north of Mount Isa

The mining activities are authorized to the extent defined in Schedule 6 Section 14(c) of the *Environmental Protection Regulation 1998*.

This Environmental Authority is subject to the conditions set out in the attached schedules.

The anniversary date of this Environmental Authority is 24 July each year.

This Environmental Authority takes effect from XX X 2007.

Geoff Metcalfe
 District Manager
 Mount Isa District, Northern Region
 Delegate of Administering Authority
Environmental Protection Act 1994

ENVIRONMENTAL PROTECTION ACT 1994

This Environmental Authority takes effect on XX X 2007

This Environmental Authority incorporates the following schedules:

- Schedule A - General
- Schedule B - Air
- Schedule C - Water
- Schedule D - Noise and Vibration
- Schedule E - Waste
- Schedule F - Land
- Schedule G - Community
- Schedule H - Definitions
- Schedule I - Maps / Plans

Schedule A - General

Financial Assurance

(A1-1) Provide a financial assurance in the amount and form required by the administering authority prior to the commencement of activities proposed under this environmental authority.

NOTE: The calculation of financial assurance for condition (A1-1) must be in accordance with Guideline 17 and may include a performance discount. The amount is defined as the maximum total rehabilitation cost for complete rehabilitation of all disturbed areas, which may vary on an annual basis due to progressive rehabilitation. The amount required for the financial assurance must be the highest Total Rehabilitation Cost calculated for any year of the Plan of Operations and calculated using the formula: (Financial Assurance = Highest Total Annual Rehabilitation Cost x Percentage Required).

(A1-2) The financial assurance is to remain in force until the administering authority is satisfied that no claim on the assurance is likely.

NOTE: Where progressive rehabilitation is completed and acceptable to the administering authority, progressive reductions to the amount of financial assurance will be applicable where rehabilitation has been completed in accordance with the acceptance criteria defined within this environmental authority.

Maintenance of Measures, Plant and Equipment

(A2-1) The environmental authority holder must ensure:

- that all measures, plant and equipment necessary to ensure compliance with the conditions of this environmental authority are installed;
- that such measures, plant and equipment are maintained in a proper condition; and
- that such measures, plant and equipment are operated in a proper manner.

Monitoring

(A3-1) Record, compile and keep for a minimum of five years all monitoring results required by this environmental authority and make available for inspection all or any of these records upon request by the administering authority.

(A3-2) Where monitoring is a requirement of this environmental authority, ensure that a competent person(s) conducts all monitoring.

Storage and Handling of Flammable, Combustible and Corrosive Liquids

(A4-1) Spillage of all flammable and combustible liquids must be contained within an on-site containment system and controlled in a manner that prevents environmental harm (other than trivial harm) and maintained in accordance with Section 5.8 of AS 1940 - Storage and Handling of Flammable and Combustible Liquids of 2004.

(A4-2) The on-site storage of corrosive liquids must be in accordance with Section 5.7 of AS 3780 - Storage and Handling of Corrosive Substances 1994.

Definitions

- (A5-1) Words and phrases used throughout this environmental authority are defined in Schedule H – Definitions. Where a definition for a term used in this environmental authority is sought and the term is not defined within this environmental authority, the definitions in the *Environmental Protection Act 1994*, its Regulations and Environmental Protection Policies must be used.

END CONTIONS FOR SCHEDULE A

Schedule B - Air

Dust Nuisance

- (B1-1) Subject to Conditions (B1-2) and (B1-3) the release of dust or particulate matter or both resulting from the mining activity must not cause an environmental nuisance at any sensitive or commercial place.
- (B1-2) When requested by the administering authority, dust and particulate monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive or commercial place, and the results must be notified within 14 days to the administering authority following completion of monitoring.
- (B1-3) If the environmental authority holder can provide evidence through monitoring that the following limits are not being exceeded then the holder is not in breach of (B1-1):
- a) Dust deposition of 120 milligrams per square metre per day, averaged over one month, when monitored in accordance with AS 3580.10.1 Methods for sampling and analysis of ambient air - Determination of particulates - Deposited matter - Gravimetric method of 1991.
- (B1-4) If monitoring indicates exceedence of the relevant limits in Condition (B1-3), then the environmental authority holder must:
- a) address the complaint including the use of appropriate dispute resolution if required; or
 - b) immediately implement dust abatement measures so that emissions of dust from the activity do not result in further environmental nuisance.

Odour Nuisance

- (B2-1) Subject to condition (B2-2), the release of noxious or offensive odour(s) or any other noxious or offensive airborne contaminant(s) resulting from the mining activity must not cause an environmental nuisance at any sensitive or commercial place.
- (B2-2) When requested by the administering authority, odour monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive or commercial place, and the results must be notified within 14 days to the administering authority following completion of monitoring.
- (B2-3) If monitoring indicates Condition (B2-1) is not being met then the environmental authority holder must:
- a) address the complaint including the use of appropriate dispute resolution if required; or
 - b) immediately implement odour abatement measures so that emissions of odour from the activity do not result in further environmental nuisance.

END CONDITIONS FOR SCHEDULE B

Schedule C - Water

Release to Waters

(C1-1) Receiving waters affected by the release of process water or storm water contaminated by the mining activities of both must be monitored at the locations and frequencies defined in Schedule C - Table 1 and Schedule J - Map 1 & 2, and the results of the test sites comply with the contaminant limits defined in Schedule C - Table 3.

Schedule C - Table 1 (Receiving Water Monitoring Locations and Frequency)

Monitoring point	Easting (AMG 84 Zone 54)	Northing (AMG 84 Zone 54)	Monitoring frequency
MKUS 1- reference site *	305625	7797450	Each flow event
MKUS 2- reference site*	300451	7793920	Each flow event
MKDS 1- test site	301160	7800135	Each flow event
MKDS 2- test site	306046	7800375	Each flow event
MKDS 3- test site	306370	7798363	Each flow event
MKDS 4- test site	301300	7797255	Each flow event
LA- US1- reference site*	295150	7812680	Each flow event
LA- US2- reference site*	295750	7812480	Each flow event
LA- DS1- test site	294000	7810100	Each flow event
LA- DS2- test site	295500	7810400	Each flow event

NOTE: This does not apply to dams containing hazardous waste

*Reference sites must:

- a) be from the same biogeographical and climatic region;
- b) have similar geology, soil types and topography
- c) contain a range of habitats similar to those at the test site
- d) be of similar flow regime; and
- e) not be so close to the test sites that any disturbances at the test site also result in a change at the reference site.

C1-2 Subject to Condition (C1-1), if the receiving water contaminant trigger levels defined in Schedule C - Table 2 are exceeded then the environmental authority holder must complete an investigation into the potential for environmental harm and notify the administering authority within 3 months of receiving the analysis results.

Schedule C - Table 2 (Receiving Water Trigger Limits)

Parameter	Units	Minimum	Maximum	Trigger Type
pH ¹	pH	6		
EC ¹	µS/cm	N/A	8.5	Range
Sulphate ²	mg/L	N/A	250	Maximum
Aluminium ⁴	mg/L	N/A	500	Maximum
Aluminium ⁵	mg/L	N/A	2.5	Maximum
Arsenic ²	mg/L	N/A	11.5	Maximum
Boron ²	mg/L	N/A	0.25	Maximum
Cadmium ²	mg/L	N/A	0.37	Maximum
Chromium ²	mg/L	N/A	0.005	Maximum
Cobalt ²	mg/L	N/A	0.5	Maximum
Copper ⁴	mg/L	N/A	0.5	Maximum
Copper ⁵	mg/L	N/A	0.5	Maximum
Fluoride ²	mg/L	N/A	0.83	Maximum
Lead ⁴	mg/L	N/A	1	Maximum
Lead ⁵	mg/L	N/A	0.05	Maximum
Manganese ³	mg/L	N/A	0.065	Maximum
Mercury ²	mg/L	N/A	1.9	Maximum
Molybdenum ²	mg/L	N/A	0.001	Maximum
Nickel ²	mg/L	N/A	0.075	Maximum
Selenium ²	mg/L	N/A	0.5	Maximum
Zinc ²	mg/L	N/A	0.01	Maximum
			10	Maximum

¹ Contaminant triggers limits are based on Table 3.3.4 and 3.3.5 of Aquatic Ecosystems ANZECC (2000).
² Contaminant trigger limits are based on 50% of the contaminant limits defined in the ANZECC (2000) Livestock Drinking Water and are to be analysed as total metals (unfiltered).
³ Contaminant trigger limits based on ANZECC (2000) trigger levels for aquatic ecosystems of slightly - moderately disturbed systems - table 3.4.1 level of protection 95% / Table 3.3.4 / 3.3.5 - Tropical Australia upland rivers.
⁴ Contaminant trigger limits are based on 50% of the contaminant limits defined in the ANZECC (2000) Livestock Drinking Water and are to be analysed as total metals (unfiltered). These limits are set for the Mount Kelly Leases only (ML 5426, ML 5478, ML90168, ML90169, ML90170, ML90178, ML 5435, ML 5446, ML 5447, ML 5448, ML 5474 and ML 5476.)
⁵ Contaminant trigger limits are based on site specific background data and are to be analysed as total metals (unfiltered). These trigger limits are set for the Lady Annie Lease only (ML90179).

Schedule C - Table 3 (Receiving Water Contaminant Limits)

Parameter	Units	Minimum	Maximum	Trigger Type
pH	pH	6	9	Range
TDS ²	mg/L	N/A	4000	Maximum
Sulphate ¹	mg/L	N/A	1000	Maximum
Aluminium ⁵	mg/L	N/A	5	Maximum
Aluminium ⁶	mg/L	N/A	23	Maximum
Arsenic ¹	mg/L	N/A	0.5	Maximum
Boron ¹	mg/L	N/A	5	Maximum
Cadmium ¹	mg/L	N/A	0.01	Maximum
Chromium ¹	mg/L	N/A	1	Maximum
Cobalt ¹	mg/L	N/A	1	Maximum
Copper ⁵	mg/L	N/A	1	Maximum
Copper ⁶	mg/L	N/A	1.66	Maximum
Fluoride ¹	mg/L	N/A	2	Maximum
Lead ⁵	mg/L	N/A	0.1	Maximum
Lead ⁶	mg/L	N/A	0.13	Maximum
Manganese ³	mg/L	N/A	2.5	Maximum
Mercury ¹	mg/L	N/A	0.002	Maximum
Molybdenum ¹	mg/L	N/A	0.15	Maximum
Nickel ¹	mg/L	N/A	1	Maximum
Selenium ¹	mg/L	N/A	0.02	Maximum
Zinc ¹	mg/L	N/A	20	Maximum

¹ Contaminant limits based on table 4.3.2 ANZECC (2000) Livestock drinking water quality and are analysed as Total metals (unfiltered)

² Contaminant limits are based on Table 4.3.1 Livestock drinking water quality and are analysed as Total metals (unfiltered)

³ Contaminant limits based on Table 3.4.1 of Aquatic Ecosystems ANZECC (2000) 80% and are to be analysed as filtered metals.

⁴ Contaminant limits based on Table 3.3.4 of Aquatic Ecosystems ANZECC (2000)

⁵ Contaminant limits are based on table 4.3.2 ANZECC (2000) Livestock drinking water quality and are analysed as Total metals (unfiltered). This limit is set for the Mount Kelly Leases only (ML 5426, ML 5478, ML90168, ML90169, ML90170, ML90178, ML 5435, ML 5446, ML 5447, ML 5448, ML 5474 and ML 5476.)

⁶ Contaminant limits are based on site specific background data and are to be analysed as total metals (unfiltered). These trigger limits are set for the Lady Annie Lease only (ML90179).

End of Pipe Release.

(C1-3) End of pipe release limits for storm water contaminated by mining activities must be monitored at the locations and frequencies defined in Schedule C - Table 4 and Schedules I - Map 3, 4 and 5 and comply with the contaminant limits defined in Schedule C - Table 5.

Schedule C - Table 4 (End of pipe monitoring locations and frequency)

Monitoring point	Eastings (AMG 84, Zone 54)	Northings (AMG 84, Zone 54)	Monitoring frequency
Mount Clarke ROM Area Sediment Dam	303834	7799496	Each flow event
Mount Clarke Pit Area Sediment Dam	305336	7799592	Each flow event
Mount Clarke/Flying Horse Sediment Dam	305887	7798726	Each flow event
Process Plant ROM Pad Sediment Dam 1	303040	7798656	Each flow event
Process Plant ROM Pad Sediment Dam 2	302905	7798900	Each flow event
Process Plant ROM Pad Sediment Dam 3	302771	7799010	Each flow event
Lady Annie Sediment Dam	295307	7811484	Each flow event

NOTE: This does not apply to dams containing hazardous waste.

Schedule C - Table 5 (End of pipe contaminant release limits)

Parameter	Units	Minimum	Maximum	Limit Type
pH	pH	6	9	Range
TDS	mg/L	N/A	4000	Maximum
Sulphate	mg/L	N/A	1000	Maximum
Arsenic	mg/L	N/A	5	Maximum
Cadmium	mg/L	N/A	0.01	Maximum
Chromium	mg/L	N/A	1	Maximum
Cobalt	mg/L	N/A	1	Maximum
Copper	mg/L	N/A	1	Maximum
Lead	mg/L	N/A	0.1	Maximum
Mercury	mg/L	N/A	0.002	Maximum
Zinc	mg/L	N/A	20	Maximum

Contaminant limits based on ANZECC (2000) Livestock drinking water quality and are analysed as Total metals (unfiltered)
NOTE: This does not apply to dams containing hazardous waste.

Dams Containing Hazardous Waste

(C1-4) Water storages containing process water and storm water contaminated by mining activities must be monitored at the locations and frequencies defined in Schedule C - Table 6 and Schedule 1 - Map 6 and samples analysed for the parameters defined in Schedule C - Table 7.

Schedule C - Table 6 (Water Storage Monitoring Locations of Hazardous Dams)

Monitoring point	Eastings (Zone 54, AMG 84)	Northing (Zone 54, AMG 84)	Monitoring frequency
PLS Ponds	302000	7797450	Annually, March
ILS Pond	301900	7797450	Annually, March
Raffinate Pond Pre-Settler	301850	7797450	Annually, March
Raffinate Pond	301800	7797450	Annually, March
Storm water Pond 1	301750	7797450	Annually, March
Storm water Pond 2	301750	7797350	Annually, March

(C1-5) In the event that the water quality within any dam containing hazardous waste does not comply with the contaminant limits defined in Schedule C - Table 7, implement measures to prevent access by all livestock and minimise access by fauna to the dam.

Schedule C - Table 7 (Water Quality Limits for Dams Containing Hazardous Waste)

Parameter	Units	Contaminant Limit	Limit Type
pH	pH	4-9	Range
TDS	mg/L	5,000	Maximum
Boron	mg/L	5	Maximum
Sulphate	mg/L	1000	Maximum
Aluminium	mg/L	5	Maximum
Arsenic	mg/L	0.5	Maximum
Cobalt	mg/L	1	Maximum
Copper	mg/L	1	Maximum
Lead	mg/L	0.1	Maximum
Nickel	mg/L	1	Maximum
Zinc	mg/L	20	Maximum

Contaminant limits based on ANZECC (2000 Livestock drinking water quality and are analysed as total metals (unfiltered).)

(C1-6) The design storage allowance on 1 November of each year for any dam containing hazardous waste constructed or operated within the operational land must comply with Schedule C - Table 8.

Schedule C - Table 8 (Storage Design for Dams Containing Hazardous Waste)

Storage Type	Design Storage Allowance ⁽¹⁾	Spillway Critical Design Storm ⁽²⁾	Mandatory Reporting Level ⁽³⁾
Stormwater Pond 1	1: 100 Year ARI 2 month wet season plus process inputs for the 2 month wet season	1: 1000 Year ARI	1: 100 year ARI
Stormwater Pond 2	1: 100 Year ARI 2 month wet season plus process inputs for the 2 month wet season	1: 1000 Year ARI	1: 100 year ARI

Note⁽¹⁾: The design storage allowance on 1 November of each year for any dam containing hazardous waste constructed within the operational land must be equivalent to the run-off from a 1 in 100 ARI 2 month wet season plus process inputs for the equivalent wet season. Process inputs refers to hazardous mineral process waste and water, which is being disposed of in the storage facility.

Note⁽²⁾: The critical design storm has a duration that produces the peak discharge for the catchments.

Note⁽³⁾: The mandatory reporting level refers to the volume below the spillway crest, either the 1: 100 ARI 72 hour storm or the 1:100 ARI wave allowance, whichever is lower.

(C1-7) The spillway for any dam containing hazardous waste, constructed or operated within the operational land must be designed and maintained to withstand the peak flow from the spillway critical design storm defined in Schedule C - Table 8.

- (C1-8) The holder of the environmental authority must mark the mandatory reporting level defined in Schedule C - Table 8 on the spillway of all dams containing hazardous waste within the operational land.
- (C1-9) The holder of the environmental authority must notify the administering authority when the pondage level of the dam containing hazardous waste, reaches the mandatory reporting level defined in Schedule C - Table 8.

Stream Sediment Contaminant Levels

- (C2-1) All reasonable and practicable erosion protection measures and sediment control measures must be implemented and maintained to minimise erosion and the release of sediment.
- (C2-2) The bed of the receiving waters, affected by the release of process water and storm water contaminated by the mining activities must be monitored at the locations and frequencies defined in Schedule C - Table 9 and Schedule 1 - Map 7 & 8.

Schedule C - Table 9 (Receiving Stream Sediment Monitoring Locations and Frequency)

Monitoring point	Easting (AGD 84 Zone 54)	Northing (AGD 84 Zone 54)	Monitoring frequency
MKUS 1- reference site*	305625	7797450	May each year
MKUS 2- reference site*	300451	7793920	May each year
MKDS 1- test site	301160	7800135	May each year
MKDS 2- test site	306046	7800375	May each year
MKDS 3- test site	306970	7798363	May each year
MKDS 4- test site	301300	7797255	May each year
LA- US1- reference site*	295150	7812680	May each year
LA- US2- reference site*	295750	7812480	May each year
LA- DS1- test site	294000	7810100	May each year
LA- DS2- test site	295500	7810400	May each year

NOTE: This does not apply to dams containing hazardous waste
*Reference sites must:

- a) be from the same biogeographical and climatic region;
- b) have similar geology, soil types and topography
- c) contain a range of habitats similar to those at the test site
- d) be of similar flow regime; and
- e) not be so close to the test sites that any disturbances at the test site also result in a change at the reference site.

- (C2.3) Subject to Condition (C2-2), if the stream sediment contaminant trigger levels defined in Schedule C - Table 10 are exceeded then the environmental authority holder must complete an investigation into the potential for environmental harm and notify the administering authority within 3 months of receiving the analysis results.

Schedule C - Table 10 (Receiving Stream Sediment Contaminant Trigger Levels)

Parameter	Units	Contaminant trigger levels	Trigger Type
Antimony ¹	mg/kg dry wt	2	Maximum
Arsenic ¹	mg/kg dry wt	20	Maximum
Cadmium ¹	mg/kg dry wt	1.5	Maximum
Chromium ¹	mg/kg dry wt	80	Maximum
Copper ²	mg/kg dry wt	100	Maximum
Copper ³	mg/kg dry wt	400	Maximum
Lead ¹	mg/kg dry wt	50	Maximum
Nickel ¹	mg/kg dry wt	21	Maximum
Silver ¹	mg/kg dry wt	1	Maximum
Mercury ¹	mg/kg dry wt	0.15	Maximum
Zinc ¹	mg/kg dry wt	200	Maximum

¹ ANZECC (2000): ISQG Low trigger values, Sediment Quality Guidelines, Aquatic Ecosystems, Table 3.5.1.

² Site specific trigger value as calculated in section 3.7 of EM Plan September 2006 is for the Mount Kelly Leases only. (ML 5426, ML 5478, ML90168, ML90169, ML90170, ML90178, ML 5435, ML 5446, ML 5447, ML 5448, ML 5474 and ML 5476.)

³ This limit is set for the Lady Annie Lease only (ML90179).

(C2-4) Subject to Condition (C2-2), stream sediment contaminant limits must not exceed the contaminant limits defined in Schedule C - Table 11.

Schedule C - Table 11 (Receiving Stream Sediment Contaminant Limits)

Parameter	Units	Contaminant limits	Limit Type
Antimony ¹	mg/kg dry wt	25	Maximum
Arsenic ¹	mg/kg dry wt	70	Maximum
Cadmium ¹	mg/kg dry wt	10	Maximum
Chromium ¹	mg/kg dry wt	370	Maximum
Copper ²	mg/kg dry wt	120	Maximum
Copper ³	mg/kg dry wt	500	Maximum
Lead ¹	mg/kg dry wt	220	Maximum
Nickel ¹	mg/kg dry wt	52	Maximum
Silver ¹	mg/kg dry wt	3.7	Maximum
Mercury ¹	mg/kg dry wt	1	Maximum
Zinc ¹	mg/kg dry wt	410	Maximum

¹ ANZECC (2000): ISQG High trigger values, Sediment Quality Guidelines, Aquatic Ecosystems, Table 3.5.1.

² Site specific trigger value as calculated in section 3.6 of EM Plan July 2006 is for the Mount Kelly Leases only. (ML 5426, ML 5478, ML90168, ML90169, ML90170, ML90178, ML 5435, ML 5446, ML 5447, ML 5448, ML 5474 and ML 5476.)

³ This limit is set for the Lady Annie Lease only (ML90179).

(C2-5) All stream sediment sampling must be undertaken in accordance with AS 5667.1 Guidance on Sampling of Bottom Sediments of 1998

Sewage effluent

- (C3-1) All effluent released from the treatment plant must be monitored at the frequency and for the parameters specified in Schedule C - Table 12.
- (C3-2) Sewage effluent used for dust suppression must not exceed sewage effluent release limits defined in Schedule C - Table 12.
- (C3-3) Sewage Effluent used for dust suppression must not cause spray drift or over spray to any sensitive or commercial place, and must not be applied at a rate that causes pooling, ponding and/or runoff of any effluent irrigated.
- (C3-4) Subject to Conditions (C3-1) to (C3-3) inclusive, sewage effluent from sewage treatment facilities must be reused or evaporated and must not be directly released from the sewage treatment plant to any water way or drainage line other than in accordance with Schedule C - Table 12.

Schedule C - Table 12 (Sewage effluent quality targets for dust suppression)

Quality characteristics	Release Limit ³			Monitoring Frequency
	Minimum	Median	Maximum	
pH (pH Units)	6 ³		8.5 ²	Quarterly
Faecal Coliforms (organisms/100mL)		1000 ¹		Quarterly

¹ A minimum of five samples must be collected at not less than a weekly interval for the quarterly sampling
² A minimum of five samples must be collected at not less than a weekly interval for the quarterly sampling with four out of five samples must be less than the maximum
³ A minimum of five samples must be collected at not less than a weekly interval for the quarterly sampling with four out of five samples must be higher than the minimum but lower than the maximum limit.
 Release limits sourced from Queensland Water Recycling Guidelines December 2005 Table 6:2b

Groundwater

(C4-1) Groundwater, affected by the mining activities must be monitored at the locations and frequencies defined in Schedule C - Table 13 and Schedule I - Map 9 & 10.

Schedule C - Table 13 (Groundwater Monitoring Locations and Frequency)

Monitoring point	Easting (AGD 84 Zone 54)	Northings (AGD 84 Zone 54)	Surface RL	Monitoring frequency
LA MB01 (Process Plant) - reference site	302484	7796800	TBD	Monthly
LA MB02 (Process Plant) - reference site	302891	7797385	TBD	Monthly
LA MB03 (Process Plant) - reference site	302128	7797950	TBD	Monthly
LA MB04 (Process Plant)	TBD	TBD	TBD	Monthly
LA MB05 (Process Plant)	TBD	TBD	TBD	Monthly
LA MB06 (Process Plant)	TBD	TBD	TBD	Monthly
LA MB07 (Process Plant)	TBD	TBD	TBD	Monthly
LA MB08 (Process Plant)	TBD	TBD	TBD	Monthly
LA MB09 (Process Plant)	TBD	TBD	TBD	Monthly
LA MB010 (Process Plant)	TBD	TBD	TBD	Monthly
LA MB011 (Process Plant)	TBD	TBD	TBD	Monthly
LA MB012 (Process Plant)	TBD	TBD	TBD	Monthly
LA MB013 (Process Plant)	TBD	TBD	TBD	Monthly
LA MB014 (Process Plant)	TBD	TBD	TBD	Monthly
MK MB01 (Mount Kelly pit area)	305360	7799013	315.467	Quarterly
MK PB01 (Mount Kelly pit area)	305356	7799019	315.424	Quarterly
LA - TB07 (Lady Annie pit area)	295790	7812280	TBD	Quarterly
LA - TB08 (Lady Annie pit area)	295855	7812247	TBD	Quarterly
LA - TB09 (Lady Annie pit area)	295770	7812179	TBD	Quarterly
LA - TB010 (Lady Annie pit area)	295194	7812022	TBD	Quarterly
LA - TB011 (Lady Annie pit area)	295205	7811904	TBD	Quarterly
LA - TB012 (Lady Annie pit area)	295124	7811933	TBD	Quarterly

NOTE: This does not apply to dams containing hazardous waste

TBD- To be determined

Reference sites must:

- a) be from the same biogeographical and climatic region;
- b) have similar geology, soil types and topography
- c) contain a range of habitats similar to those at the test site
- d) be of similar flow regime; and not be so close to the test sites that any disturbances at the test site also result in a change at the reference site.

(C4-2) Subject to Condition (C4-1), if the groundwater contaminant trigger levels defined in Schedule C - Table 14 are exceeded then the environmental authority holder must complete an investigation into the potential for environmental harm and notify the administering authority within 3 months of receiving the analysis results.

Schedule C - Table 14 (Groundwater Contaminant Trigger Levels)

Parameter	Units	Minimum	Maximum	Trigger type
pH ¹	pH	6	8	Range
TDS ²	mg/L	N/A	2000	Maximum
Sulphate ²	mg/L	N/A	500	Maximum
Aluminium ²	mg/L	N/A	2.5	Maximum
Arsenic ²	mg/L	N/A	0.25	Maximum
Boron ²	mg/L	N/A	0.37	Maximum
Cadmium ²	mg/L	N/A	0.005	Maximum
Chromium ²	mg/L	N/A	0.5	Maximum
Cobalt ²	mg/L	N/A	0.5	Maximum
Copper ²	mg/L	N/A	0.5	Maximum
Fluoride ²	mg/L	N/A	1	Maximum
Lead ²	mg/L	N/A	0.05	Maximum
Manganese ³	mg/L	N/A	1.9	Maximum
Mercury ²	mg/L	N/A	0.001	Maximum
Molybdenum ²	mg/L	N/A	0.075	Maximum
Nickel ²	mg/L	N/A	0.5	Maximum
Selenium ²	mg/L	N/A	0.01	Maximum
Zinc ²	mg/L	N/A	10	Maximum

¹ Contaminant triggers limits are based on Table 3.3.4 and 3.3.5 of Aquatic Ecosystems ANZECC (2000)

² Contaminant trigger limits are based on 50% of the contaminant limits defined in the ANZECC (2000) Livestock Drinking Water and are to be analysed as total metals (unfiltered).

³ Contaminant trigger limits based on Table 3.4.1 of Aquatic Ecosystems ANZECC (2000) and are analysed as Filtered Metals

(C4-3) Subject to Condition (C4-1), groundwater contaminant limits must not exceed the contaminant limits defined in Schedule C - Table 15.

Schedule C – Table 15 (Groundwater Contaminant Limits)

Parameter	Units	Minimum	Maximum	Limit Type
pH ¹	pH	6	9	Range
TDS ¹	mg/L	N/A	4000	Maximum
Sulphate ¹	mg/L	N/A	1000	Maximum
Aluminum ¹	mg/L	N/A	5	Maximum
Arsenic ¹	mg/L	N/A	0.5	Maximum
Boron ¹	mg/L	N/A	5	Maximum
Cadmium ¹	mg/L	N/A	0.01	Maximum
Chromium ¹	mg/L	N/A	1	Maximum
Cobalt ¹	mg/L	N/A	1	Maximum
Copper ¹	mg/L	N/A	1	Maximum
Fluoride ¹	mg/L	N/A	2	Maximum
Lead ¹	mg/L	N/A	0.1	Maximum
Manganese ²	mg/L	N/A	2.5	Maximum
Mercury ¹	mg/L	N/A	0.002	Maximum
Molybdenum ¹	mg/L	N/A	0.15	Maximum
Nickel ¹	mg/L	N/A	1	Maximum
Selenium ¹	mg/L	N/A	0.02	Maximum
Zinc ¹	mg/L	N/A	20	Maximum

¹ Contaminant limits based on ANZECC (2000) Livestock drinking water quality and are analysed as Total Metals (unfiltered)

² Contaminant limits based on Table 3.4.1 of Aquatic Ecosystems ANZECC (2000) and are analysed as Filtered Metals.

(C4-4) The method of water sampling required by this environmental authority must comply with that set out in the latest edition of the Environmental Protection Agency's Water Quality Sampling Manual.

Voids

(C5-1) Water quality in mining voids and final voids must be monitored at the locations and frequencies defined in Schedule C - Table 16 and for the parameters detailed in Schedule C – Table 17.

(C5-2) In the event that water quality within the mining voids or final voids does not comply with the contaminant limits defined in Schedule C – Table 17, implement measures to prevent access by all livestock and minimise access by fauna to the void.

Schedule C - Table 16 (Voids Monitoring Locations and Frequency)

Monitoring point	Monitoring frequency
Mount Kelly/Flying Horse Pit	Annually
Mount Clarke Pit	Annually
Lady Annie Pit	Annually

Schedule C - Table 17 (Void Water Quality Limits)

Parameter	Units	Limit	Limit Type
pH	pH	6-9	Range
TDS	mg/L	4000	Maximum
Sulphate	mg/L	1000	Maximum
Arsenic	mg/L	0.5	Maximum
Cadmium	mg/L	0.01	Maximum
Chromium	mg/L	1	Maximum
Copper	mg/L	1	Maximum
Lead	mg/L	0.1	Maximum
Mercury	mg/L	0.002	Maximum
Zinc	mg/L	20	Maximum

Contaminant limits are based on ANZECC (2000 Livestock drinking water quality and analysed for total metals (unfiltered))

Acid Rock Drainage and Leachate Management

(C6-1) Subject to limits defined in Schedule C all reasonable and practicable measures must be implemented to prevent hazardous leachate being directly or indirectly released or likely to be released as a result of the activity to any groundwater, watercourse and waters.

END CONDITIONS FOR SCHEDULE C

Schedule D - Noise and Vibration**Noise Nuisance**

- (D1-1) Subject to Conditions (D1-2) and (D1-3) noise from the mining activity must not cause an environmental nuisance to an affected building.
- (D1-2) When requested by the administering authority, noise monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive or commercial place, and the results must be notified within 14 days to the administering authority following completion of monitoring.
- (D1-3) The method of measurement and reporting of noise levels must comply with the latest edition of the Environmental Protection Agency's Noise Measurement Manual.

Vibration nuisance

- (D2-1) Subject to Conditions (D2-2) and (D2-3) vibration from the mining activity must not cause an environmental nuisance to an affected building.
- (D2-2) When requested by the administering authority, vibration monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive or commercial place, and the results must be notified within 14 days to the administering authority following completion of monitoring.

END CONDITIONS FOR SCHEDULE D**Schedule E - Waste****Storage of Tyres**

- (E1-1) Tyres stored awaiting disposal or transport for take-back and, recycling, or waste-to-energy options - should be stockpiled in volumes less than 3m in height and 200m² in area and at least 10m from any other tyre storage area.
- (E1-2) All reasonable and practicable fire prevention measures must be implemented, including removal of grass and other materials within a 10m radius of the scrap tyre storage area.

Disposal of Tyres

- (E2-1) Disposing of scrap tyres resulting from the mining activities in spoil emplacements is acceptable, provided tyres are placed as deep in the spoil as reasonably practicable.
- (E2-2) Scrap tyres resulting from the mining activities disposed within the operational land must not impede saturated aquifers or compromise the stability of the consolidated landform.

Waste Management

- (E3-1) A Waste Management Program, in accordance with the Environmental Protection (Waste Management) Policy 2000, must be included in the Plan of Operations.

Regulated Waste

- (E 4-1) All regulated waste received and removed from the site that is over 250kg in weight, must be transported by a person who holds a current authority to transport such waste under the provisions of the *Environmental Protection Act 1994*.
- (E4-2) Except as otherwise provided by the conditions of this authority, all waste removed from the site must be taken to a facility that is lawfully allowed to accept such waste under the provisions of the *Environmental Protection Act 1994*.
- (E4-3) Where regulated waste is removed from the Project (other than by a release as permitted under another schedule of this environmental authority), records must be kept of the following:
- the date, quantity and type of waste removed, and
 - name of the waste transporter that removed the waste; and
 - the intended treatment/disposal destination of the waste.
- Note: Records of documents maintained in compliance with a waste tracking system established under the Environmental Protection Act 1994 or any other law for regulated waste will be deemed to satisfy this condition.*

Waste Rock Characterisation

- (E5-1) All areas to be mined must undergo a waste rock characterisation survey (where waste rock is to be disposed of on the surface) and a report submitted to the administering authority prior to mining where this survey has not previously been carried out.

END CONDITIONS FOR SCHEDULE E

Schedule F - Land

Rehabilitation Landform Criteria

(F1-1) All areas significantly disturbed by mining activities must be rehabilitated to a stable landform with a self-sustaining vegetation cover in accordance with Schedule F - Table 1 and 2.

Schedule F - Table 1 (Final Land Use and Rehabilitation Approval Schedule)

Disturbance Category	Max. Area (ha)	Land Use		Land Capability		Reference Site	
		PRE DISTURBANCE	POST DISTURBANCE	PRE DISTURBANCE	POST DISTURBANCE	Longitude	Latitude
Mount Kelly Mining Lease & Infrastructure							
Mount Kelly/Flying Horse Pit	13.2	Habitat	Water Storage	Class 5	Water Storage	Hilltop	
Mount Kelly/Flying Horse Waste Rock Dump	28	Habitat	Habitat	Class 5	Class 5	304745	7799087
Mount Kelly/Flying Horse Topsoil Stockpile	1.1	Habitat	Habitat	Class 5	Class 5	Mid Slope	
Mount Kelly/Flying Horse Sediment Dams	1.3	Habitat	Water Storage	Class 5	Water Storage	304800	7798974
Mount Kelly/Flying Horse Diversion Drains	1.3	Habitat	LIG or diversion Habitat	Class 5	Class 5	Bottom Slope	
Mount Clarke Pit	9.5	Habitat	Water Storage	Class 5	Water Storage	304851	7798977
Mount Clarke Waste Rock Dump	16.3	Habitat/LIG	Habitat/LIG	Class 4 - 5	Class 4 - 5	Hilltop	
Mount Clarke Low Grade Stockpile	5.4	Habitat/LIG	Habitat/LIG	Class 4 - 5	Class 4 - 5	305806	7799695
Mount Clarke/Flying Horse/Mount Kelly ROM Storage & Live Rehandle	5.5	Habitat	Habitat/LIG	Class 4 - 5	Class 4 - 5	Mid Slope	
						305760	7799718
						Bottom Slope	
						305741	7799750
						305741	7799750
						302766	7799144

Disturbance Category	Max. Area	Land Use		Land Capability		Reference Site	
		Habitat/LIG	Habitat/LIG	Class 4 - 5	Class 4 - 5	305741	7799750
Mount Clarke Topsoil Stockpile	4.5	Habitat/LIG	Habitat/LIG	Class 4 - 5	Class 4 - 5	305741	7799750
Mount Clarke Pit Area Sediment Dam	0.6	Habitat	Water Storage	Class 4 - 5	Water Storage		
Mount Clarke ROM Area Sediment Dam	0.4	Habitat	Water Storage	Class 4 - 5	Water Storage		
Mount Clarke - Diversion/Interception/Sediment Dam Drains Roads/Tracks	3.2	Habitat	LIG or diversion Habitat	Class 4 - 5	Class 4 - 5	305741	7799750
Accommodation Camp and Facilities	18.8	Existing tracks or LIG	Tracks for grazer or LIG	Class 4 - 5	Class 4 - 5	303422	7797704
Sewage Plant and Pond	5	LIG	LIG	Class 4	Class 4	303422	7797704
ROM Pad - at process plant.	0.2	LIG	LIG	Class 4	Class 4	303422	7797704
Process plant and associated buildings	7.8	LIG	LIG	Class 4 - 5	Class 4 - 5	302766	7799144
Overland Conveyor	3.3	LIG	LIG	Class 4	Class 4	302766	7799144
Workshop/Office Access Circuit Area	1.8					303422	7797704
Heap Leach Pads - Stage 1 and 2	2.9	LIG	LIG	Class 4	Class 4	302659	7797575
Process Water Ponds - PLS, ILS and Fluffinate	43.2	LIG	Habitat/LIG	Class 4	Class 4 - 5	302659	7797575
Stormwater Ponds 1 and 2	3.4	LIG	Water storages	Class 4	Water storages		
Stormwater Pond spillway channel	11.4	LIG	Water storages	Class 4	Water storages		
Raw Water Pond	0.7	LIG	LIG or diversion	Class 4	Class 4 - 5	302659	7797575
Process Area Topsoil Stockpiles	0.6	LIG	LIG/Water storage	Class 4	Class 4 or water storage	302659	7797575
Process Plant Drainage Diversions	9.7	LIG	LIG	Class 4	Class 4	302659	7797575
Process Plant Sediment Ponds.	2.7	LIG	LIG or diversion	Class 4	Class 4 - 5	302659	7797575
Bulk Fill Stockpile	1	LIG	LIG or ponds	Class 4 - 5	Class 4 - 5		
Pipelines and Powerlines (on Mt Kelly MLs)	2.6	LIG	LIG	Class 4	Class 4	302659	7797575
Pipelines and Power lines on ML90178	1	LIG/Habitat	Permanent infrastructure	Class 4 - 5	Permanent infrastructure		
	83	LIG/Habitat	Permanent infrastructure	Class 4 - 5	Permanent infrastructure		

Disturbance Category	Max. Area	Land Use		Land Capability		Reference Site
		LIG/Habitat	Permanent Infrastructure	Class 4 - 5	Permanent Infrastructure	
Pipeline and Power line on Birla MLT	9	LIG/Habitat	Permanent Infrastructure	Class 4 - 5	Permanent Infrastructure	
Rubbish Dumps	0.2	LIG	LIG	Class 4 - 5	Class 4 - 5	303422 7797704
Concrete Batch Plant	0.3	LIG	LIG	Class 4	Class 4	302659 7797575
Fuel Storage Area	0.3	LIG	LIG	Class 4	Class 4	302659 7797575
Contractor Laydown Area	4.3	LIG	LIG	Class 4	Class 4	302659 7797575
Exploration	5	LIG	LIG/Habitat	Class 4 - 5	Class 4 - 5	303422 7797704
Construction Access (net of specific areas)	59.9	LIG	LIG/Habitat	Class 4 - 5	Class 4 - 5	303422 7797704
Gravel Borrow Pits (on and off ML)	6.7	LIG/Habitat	LIG/Habitat	Class 4 - 5	Class 4 - 5	303422 7797704
Upgrade to Access Road (off ML)	2.0	LIG/Habitat	Permanent access road for landholder	Class 4 - 5	Permanent access road for landholder	
Total	377.1					
Lady Annie Mining Lease						
Lady Annie Pit	36.1	Disturbed	Water Storage	Class 5	Water Storage	
ROM pad	1.5	LIG	LIG/Habitat	Class 4	Class 4	295496 7810802
Waste Rock Dump	61.8	LIG	LIG/Habitat	Class 4 - 5	Class 4	295496 7810802
Top Soil Stores	12.1	LIG	LIG/Habitat	Class 4 - 5	Class 4	295496 7810802
Low Grade Ore Stockpile	9.5	LIG	LIG/Habitat	Class 4	Class 4	295496 7810802
Sediment Pond	1.9	LIG	LIG/Habitat	Class 4	Water Storage	
Retention Basin	0.4	LIG/Habitat	LIG/Habitat	Class 4-5	Water Storage	
Pit Haul Road	1.3	LIG/Habitat	LIG/Habitat	Class 4-5	Class 4-5	295496 7810802
Diversion Channels	1.7	LIG/Habitat	LIG/Habitat	Class 4-5	Permanent Diversion	
Lady Annie Mine Construction Area (net of specific areas)	22.3	LIG/Habitat	LIG/Habitat	Class 4-5	Class 4-5	295496 7810802
Upgrade to Haul / Access Road (off ML)	14.0	LIG/Habitat	Permanent access road for landholder	Class 4-5	Permanent access road for landholder	
Old Open Cut and Sanderson's Shaft	0.3	Existing Disturbance	Habitat/LIG	Existing Disturbance	Class 4 - 5	295496 7810802
Old Tailings Areas	1.0	Existing Disturbance	Habitat/LIG	Existing Disturbance	Class 4 - 5	295496 7810802

Lady Annie Operations Pty Ltd & Savannah Resources Pty Ltd
 Environmental Authority No. MINT00401006

Disturbance Category	Max. Area	Land Use		Land Capability		Reference Site
		Existing Disturbance	Habitat/LIG	Existing Disturbance	Class 4 -5	
Exploration Tracks and Drill Pads	12.4	Existing Disturbance	Habitat/LIG	Existing Disturbance	Class 4 -5	295496 7810802
Flubfish Tip	0.4	Existing Disturbance	Habitat/LIG	Existing Disturbance	Class 4 -5	295496 7810802
Core Shed	0.3	Existing Disturbance	Habitat/LIG	Existing Disturbance	Class 4 -5	295496 7810802
Exploration Sample Yard	0.6	Existing Disturbance	Habitat/LIG	Existing Disturbance	Class 4 -5	295496 7810802
Total	177.6					

LIG- Low Intensity Grazing

Classes are derived from the Department of Minerals and Energy's Land Suitability Assessment Techniques (1995)

(F1-2)

(F1-3)

(F1-4)

Progressive rehabilitation must commence when areas become available within the operational land.

Complete an investigation into rehabilitation of disturbed areas and submit a report to the administering authority proposing acceptance criteria to meet the outcomes in Schedule F - Table 1 and landform design criteria in Schedule F - Table 2 by 30 June 2007

The holder of this environmental authority must rehabilitate all existing land disturbances located within the boundary leases of ML90179 (Lady Annie) as identified in Table 1. The holder of this environmental authority must ensure these areas of existing land disturbance, where not otherwise disturbed and rehabilitated under this authority, are rehabilitated to the final land descriptions identified in Tables 1 and 2.



Schedule F - Table 2 (Landform Design)

Disturbance type	Slope range (%)	Projective surface area (ha)
Waste Rock Dumps	33%-76% (1:3 to angle of repose)	121
Heap Leach Pads	<33% or 1:3	43.2
ROM Pads	33%-76% (1:3 to angle of repose)	14.8

Residual Void Outcome

(F2-1) Residual voids must not cause any serious environmental harm to land, surface waters or any recognised groundwater aquifer, other than the environmental harm constituted by the existence of the residual void itself and subject to any other condition within this environmental authority.

Dams Containing Hazardous Waste

Description of Dam

(F3-1) The construction or operation of any dam containing hazardous waste within the operational land must comply with Schedule F - Table 3.

Schedule F — Table 3 (Size and Purpose of Dams Containing Hazardous Waste)

Name of dam containing hazardous waste ⁽¹⁾	Maximum surface area of dam (ha)	Maximum volume of dam (m ³)	Maximum depth of dam (m) ⁽²⁾	Purpose of dam ⁽³⁾
Process Water Ponds (Raffinate Pre-Settler, Raffinate, ILS and PLS)	3.4	53,475	4.5	Storage of Process Solutions
Heap Leach Pads	43.2	N/A	N/A	Storage of Process Solutions
Stormwater Pond 1 (Stage 1 only)	6.47	303,825	6.35	Storage of storm water runoff from processing area
Stormwater Pond 1 & 2 (Stage 2)	10.4	467,720	6.35	Storage of storm water runoff from processing area

Note ⁽¹⁾: The name of the dam containing hazardous waste should refer to the name of the dam e.g. process residue facility and decant dam.

Note ⁽²⁾: For dams that do not require a dam wall, input the maximum void depth e.g. where dams are formed by excavating below the land surface or backfilling a residual void.

Note ⁽³⁾: Purpose of the dam should outline the designed function, e.g. "the permanent containment of tailings resulting from the extraction of nickel, cobalt and other metals at the XYZ Refinery".



Location of Dam

(F3-2) The location of any dam containing hazardous waste within the licensed place must be located within the polygonal area defined by the co-ordinates defined in Schedule C- Table 4 -Map 4.

Schedule F— Table 4 (Location of Dams Containing Hazardous Waste)

Name of dam containing hazardous waste	Easting(AMG 84, Zone 54) ⁽¹⁾	Northing (AMG 84, Zone 54) ⁽¹⁾
PLS Ponds, ILS, Raffinate Pre-settler and Raffinate Pond	301760	7797640
	302065	7797640
	302035	7797310
	301760	7797310
Stormwater Pond 1 and 2	301470	7797640
	301760	7797640
	301760	7797110
	301470	7797110
Heap Leach Pads	302065	7797945
	302720	7797945
	302720	7796825
	302035	7796825

Note ⁽¹⁾: A minimum of 3 control points is required to constrain the location of all activities associated with the dam containing hazardous waste. Additional infrastructure which forms part of any dam containing hazardous waste may include appurtenant works consisting of tailings discharge pipelines, seepage collection systems, runoff diversion bunds, containment systems, pressure relief wells, decant and recycle water systems.

Standards and Criteria

- (F3-3) The holder of the environmental authority must design, construct, repair, maintain, operate and decommission the dams defined in Schedule F – Table 3 and 4 in accordance with an acknowledged design plan that must comply with the standard environmental conditions in the "Code of Environmental Compliance for High Hazard Dams Containing Hazardous Waste".
- (F3-4) The holder of the environmental authority must design, construct, and operate all low hazardous dams containing hazardous waste and non-hazardous dams in accordance with the criteria outlined in Appendix B of the Code of Environmental Compliance for Mining Activities.

Inspection of Dams

- (F3-5) High hazard dams containing hazardous waste shall be inspected by a Registered Professional Engineer Queensland (RPEQ) prior to 1 November each year or at any time if alarming, unusual or otherwise unsatisfactory conditions are observed.
- (F3-6) For each inspection, the engineer shall assess the condition of the dam and its foundations, determine the hydraulic adequacy of the dam and assess the adequacy of the works with respect to dam safety.
- (F3-7) For each inspection, two copies of the engineer's report and any recommendations as to measures to be taken to ensure the integrity of the dam shall be furnished to the administering authority within 28 days of the inspection.

Decommissioning of Dam – Objective

- (F3-8) Dams containing hazardous waste must not be abandoned and must be decommissioned to a situation where water can no longer be stored in the dams. The dams and their contained waste(s) must be stable, whereafter the dams are no longer dams and they become landforms on the operational land and must comply with the rehabilitation requirements of this environmental authority.

Decommissioning of Dam – Documentation and Compliance

- (F3-9) Decommissioning activities for dams must be documented in detail in the plan of operations under which the activities are to occur. Where the detailed documentation is not already contained in the Design Plan for the

dam, the detailed documentation is considered to be an amendment to the design plan and must be submitted as an amendment to the design plan required by the "Code of Environmental Compliance for High Hazard Dams Containing Hazardous Waste".

Infrastructure

- (F4-1) All infrastructure, constructed by or for the environmental authority holder during the mining activities including water storage structures, must be removed from the site prior to mining lease surrender, except where agreed in writing by the post mining landowner / holder.

NOTE: This is not applicable where the landowner / holder is also the environmental authority holder.

Contaminated Lands

- (F5-1) A register and map of all potentially contaminated sites and any remediation details, must be kept on-site, updated regularly, and included in each Plan of Operations.
- (F5-2) A Spillage Management Plan and an Emergency Plan for all hazardous materials stored on-site, together with a description of suitable equipment and training must be updated and included with each Plan of Operations.

END CONDITIONS FOR SCHEDULE F

Schedule G - Community**Complaint Response**

- (G1-1) All complaints received must be recorded including details of complainant, reasons for the complaint, investigations undertaken, conclusions formed and actions taken. This information must be made available for inspection by the administering authority on request.

END CONDITIONS FOR SCHEDULE G

Schedule H – Definitions

"acceptance criteria" means the measures by which the actions implemented to rehabilitate the land are deemed to be complete. The acceptance criteria indicate the success of the rehabilitation outcome or remediation of areas which have been significantly disturbed by the mining activities. Acceptance criteria may include information regarding:

- vegetation establishment, survival and succession;
- vegetation productivity, sustained growth and structure development;
- fauna colonisation and habitat development;
- ecosystem processes such as soil development and nutrient cycling, and the recolonisation of specific fauna groups such as collembola, mites and termites which are involved in these processes;
- microbiological studies including recolonisation by mycorrhizal fungi, microbial biomass and respiration;
- effects of various establishment treatments such as deep ripping, topsoil handling, seeding and fertiliser application on vegetation growth and development;
- resilience of vegetation to disease, insect attack, drought and fire;
- vegetation water use and effects on ground water levels and catchment yields.

"affected building"

- for noise means any building or any part of a building, for example the building from which the noise is made, at which the noise can be heard.
- for vibration means any building or any part of a building, for example the activity from which the vibration is made, at which the vibration can be felt.

"ambient (or total) noise" at a place, means the level of noise at the place from all sources (near and far), measured as the Leq for an appropriate time interval.

"appropriately qualified person" means any person who conforms to the EPA operational policy for an "appropriately qualified person (analyst)" in accordance with Section 490(7) of the *Environmental Protection Act 1994*.

"ARD" means acid rock drainage and refers to the low pH, high heavy metal pollutant typical of sulphidic mine wastes, and most commonly associated with the production of ferrous iron and sulphuric acid through the oxidation of sulphide minerals.

"authority" means environmental authority (mining activities) under the *Environmental Protection Act 1994*.

"blasting" means the use of explosive materials to fracture-

- (a) rock, coal and other minerals for later recovery; or
- (b) structural components or other items to facilitate removal from a site or for reuse.

"building" includes a structure of any type and part of a building or structure.

"commercial place" means a work place used as an office or for business or commercial purposes, which is not part of the mining activity and does not include employees accommodation or public roads.

"competent person" means a person with the demonstrated skill and knowledge required to carry out the task to a standard necessary for the reliance upon collected data or protection of the environment.

"dam" means a containment or proposed containment whether permanent or temporary, which is designed to contain, divert or control flowable substances. However this does not include a fabricated or manufactured tank or container designed to a recognised standard.

"design plan" in the context of a dam design is the documentation required under the Code of Environmental Compliance for High Hazard Dams Containing Hazardous Waste to describe the physical dimensions of the dam, the materials and standards to be used for construction of the dam, the procedures and criteria to be used for operating the dam and the decommissioning and rehabilitation objectives in terms of procedures, works and outcomes at the end of dam life. The documents can include design and investigation reports, drawings, specifications and certifications.

"environmental authority holder" means the holder of this environmental authority.

"flow event" means a flow event producing sufficient water to permit a monitoring creek bed flow of 30cm or more at the sampling station.

"flowable substance" means matter or mixture of materials which can be forced to or otherwise flow under any conditions possible in a situation. It includes water, other liquids or a mixture that includes water or any other liquid or suspended solids.

"hazardous waste" means any substance, whether liquid, solid or gaseous, derived by or resulting from, the processing of minerals that tends to destroy life or impair or endanger health.

"infrastructure" means water storage dams, roads and tracks, buildings and other structures built for the purpose of mining activities but does not include facilities required for the long term management of mining impacts or the protection of potential resources. Such facilities include dams containing hazardous waste, waste rock dumps, voids, or ore stockpiles and buildings or other structures whose ownership can be transferred and which have a residual beneficial use for the next owner of the operational land or the background land owner.

"L_A 10, adj, 10 mins" means the A-weighted sound pressure level, (adjusted for tonal character and impulsiveness of the sound) exceeded for 10% of any 10-minute measurement period, using Fast response.

"L_A 1, adj, 10 mins" means the A-weighted sound pressure level, (adjusted for tonal character and impulsiveness of the sound) exceeded for 1% of any 10-minute measurement period, using Fast response.

"L_{A, max adj, T}" means the average maximum A-weighted sound pressure level, adjusted for noise character and measured over any 10 minute period, using Fast response.

"land" in the "land schedule" of this document means land excluding waters and the atmosphere.

"land capability" as defined in the DME 1995 Technical Guidelines for the Environmental Management of Exploration and Mining in Queensland.

"land suitability" as defined in the DME 1995 Technical Guidelines for the Environmental Management of Exploration and Mining in Queensland.

"land use" term to describe the selected post mining use of the land, which is planned to occur after the cessation of mining operations.

"leachate" means a liquid that has passed through or emerged from, or is likely to have passed through or emerged from, a material stored, processed or disposed of at the operational land which contains soluble, suspended or miscible contaminants likely to have been derived from the said material.

"mandatory reporting level" means the volume below the spillway crest, equivalent to the lower of the AEP, 72 hour storm or the AEP wave allowance (AEP is the annual exceedence probability).

"mineral" means a substance which normally occurs naturally as part of the earth's crust or is dissolved or suspended in water within or upon the earth's crust and includes a substance which may be extracted from such a substance, and includes—

- (a) clay if mined for use for its ceramic properties, kaolin and bentonite;
 - (b) foundry sand;
 - (c) hydrocarbons and other substances or matter occurring in association with shale or coal and necessarily mined, extracted, produced or released by or in connection with mining for shale or coal or for the purpose of enhancing the safety of current or future mining operations for coal or the extraction or production of mineral oil therefrom;
 - (d) limestone if mined for use for its chemical properties;
 - (e) marble;
 - (f) mineral oil or gas extracted or produced from shale or coal by in situ processes;
 - (g) peat;
 - (h) salt including brine;
 - (i) shale from which mineral oil may be extracted or produced;
 - (j) silica, including silica sand, if mined for use for its chemical properties;
 - (k) rock mined in block or slab form for building or monumental purposes;
- but does not include—
- (l) living matter;
 - (m) petroleum within the meaning of the *Petroleum Act 1923*;
 - (n) soil, sand, gravel or rock (other than rock mined in block or slab form for building or monumental purposes) to be used or to be supplied for use as such, whether intact or in broken form;
 - (o) water.

"noxious" means harmful or injurious to health or physical well being, other than trivial harm.

"offensive" means causing reasonable offence or displeasure; is disagreeable to the sense; disgusting, nauseous or repulsive, other than trivial harm.

"peak particle velocity (ppv)" means a measure of ground vibration magnitude which is the maximum rate of change of ground displacement with time; usually measured in millimetres/second (mms⁻¹).

"protected area" means - a protected area under the *Nature Conservation Act 1992*; or
- a marine park under the *Marine Parks Act 1992*; or
- a World Heritage Area.

"progressive rehabilitation" means rehabilitation (defined below) undertaken progressively or a staged approach to rehabilitation as mining operations are ongoing.

"reference site" (or analogue site) may reflect the original location, adjacent area or another area where rehabilitation success has been completed for a similar biodiversity. Details of the reference site may be as photographs, computer generated images and vegetation models etc.

"rehabilitation" the process of reshaping and revegetating land to restore it to a stable landform and in accordance with the acceptance criteria set out in this environmental authority and, where relevant, includes remediation of contaminated land.

"representative" means a sample set which covers the variance in monitoring or other data either due to natural changes or operational phases of the mining activities.

"residual void" means an open pit resulting from the removal of ore and/or waste rock which will remain following the cessation of all mining activities and completion of rehabilitation processes.

"self sustaining" means an area of land which has been rehabilitated and has maintained the required acceptance criteria without human intervention for a period nominated by the administering authority.

"sensitive place" means;

- a dwelling, residential allotment, mobile home or caravan park, residential marina or other residential premises; or
- a motel, hotel or hostel; or
- an educational institution; or
- a medical center or hospital; or
- a protected area under the *Nature Conservation Act 1992*, the *Marine Parks Act 1992* or a World Heritage Area; or
- a public park or gardens.

"significant disturbance" - includes land

- (a) if it is contaminated land; or
- (b) it has been disturbed and human intervention is needed to rehabilitate it.
 - i. to a state required under the relevant environmental authority; or
 - ii. if the environmental authority does not require the land to be rehabilitated to a particular state - to its state immediately before the disturbance.

Some examples of disturbed land include:

- areas where soil has been compacted, removed, covered, exposed or stockpiled;
- areas where vegetation has been removed or destroyed to an extent where the land has been made susceptible to erosion; (vegetation & topsoil)
- areas where land use suitability or capability has been diminished;
- areas within a watercourse, waterway, wetland or lake where mining activities occur;
- areas submerged by tailings or hazardous contaminant storage and dam walls in all cases;
- areas under temporary infrastructure. Temporary infrastructure includes any infrastructure (roads, tracks, bridges, culverts, dams, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc) which is to be removed after mining activities have ceased; or
- areas where land has been contaminated and a suitability statement has not been issued.

However, the following areas are not included:

- areas off lease (e.g. roads or tracks which provide access to the mining lease);
- areas previously significantly disturbed which have achieved the rehabilitation outcomes;
- by agreement with the EPA, areas previously significantly disturbed which have not achieved the rehabilitation objective(s) due to circumstances beyond the control of the mine operator (such as climatic conditions);
- areas under permanent infrastructure. Permanent infrastructure includes any infrastructure (roads, tracks, bridges, culverts, dams, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc) which is to be left by agreement with the landowner. The agreement to leave permanent infrastructure must be recorded in the Landowner Agreement and lodged with the EPA;
- disturbances that pre-existed the grant of the tenure unless those areas are disturbed during the term of the tenure.

"**spillway**" means passage or outlet from the dam through which surplus water flows.

"**stable**" means land form dimensions are or will be stable within tolerable limits now and in the foreseeable future. Stability includes consideration of geotechnical stability, settlement and consolidation allowances, bearing capacity (traffic ability), erosion resistance and geochemical stability with respect to seepage and contaminant generation.

"**suitably qualified and experienced person**" means a person who is a Registered Professional Engineer of Queensland under the provisions of the *Professional Engineers Act 1988* or a Corporate Member of the Institution of Engineers Australia or holds equivalent professional qualifications and has the following:

- (a) knowledge of engineering principles related to the structures, geomechanics, hydrology, hydraulics, chemistry and environmental impact of dams; and
- (b) at least a total of five years of suitable experience and demonstrated expertise in at least four of the following areas:
- investigation, design or construction of dams;
 - operation and maintenance of dams;
 - geomechanics with particular emphasis stability, geology and geochemistry;
 - hydrology with particular reference to flooding, estimation of extreme storms, water management or meteorology;
 - hydraulics with particular reference to sediment transport and deposition, erosion control, beach processes;
 - hydrogeology with particular reference to seepage, groundwater, solute transport processes and monitoring thereof; or
 - dam safety.

"**tolerable limits**" means that a range of values could be accepted to achieve an overall environmental management objective (eg. a range of settlement of a tailing capping could still meet the objective of draining the cap quickly, preventing pondage and limiting infiltration and percolation).

"**trivial harm**" means environmental harm which is not material or serious environmental harm and will not cause actual or potential loss or damage to property of an amount of, or amounts totalling more than \$5,000.

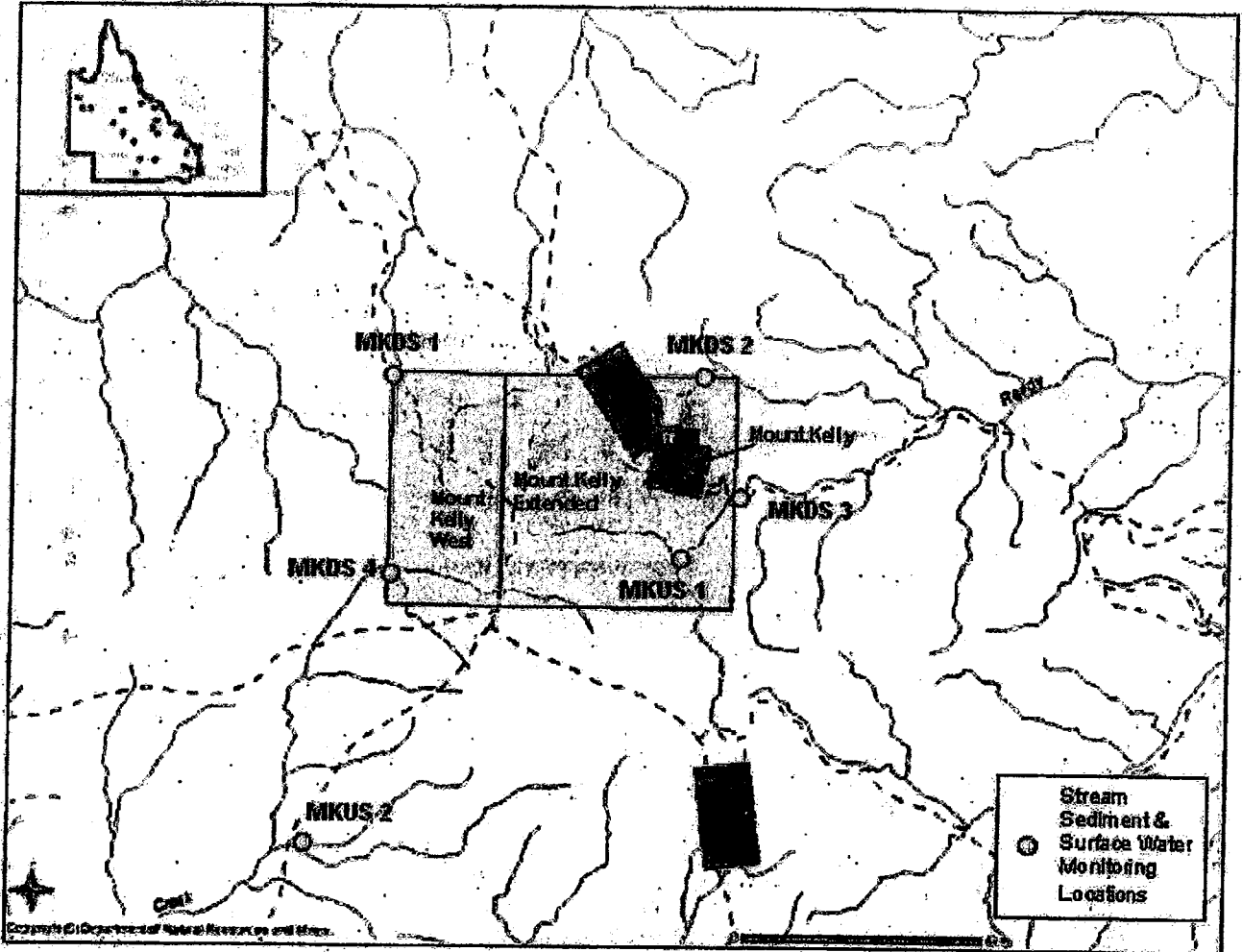
"**watercourse**" - Means a river, creek or stream in which water flows permanently or intermittently in a visibly defined channel (natural, artificial or artificially improved) with:

- (a) continuous bed and banks;
- (b) an extended period of flow for some months after rain ceases, and
- (c) an adequacy of flow that sustains basic ecological processes and maintains biodiversity.

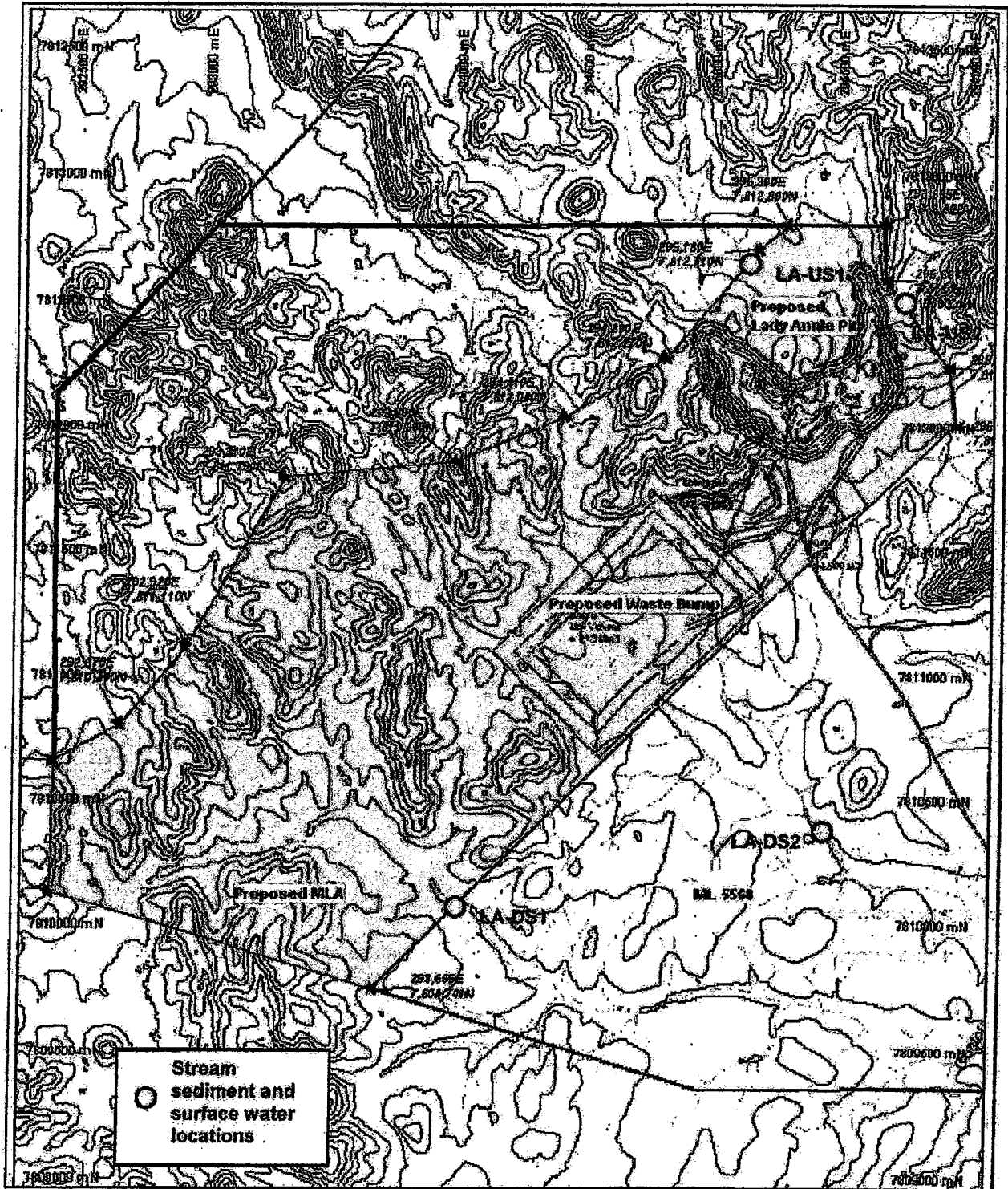
"**waters**" includes river, stream, lake, lagoon, pond, swamp, wetland, unconfined surface water, bed and bank of any waters, dams, non-tidal or tidal waters (including the sea) or any part thereof.

END CONDITIONS FOR SCHEDULE H

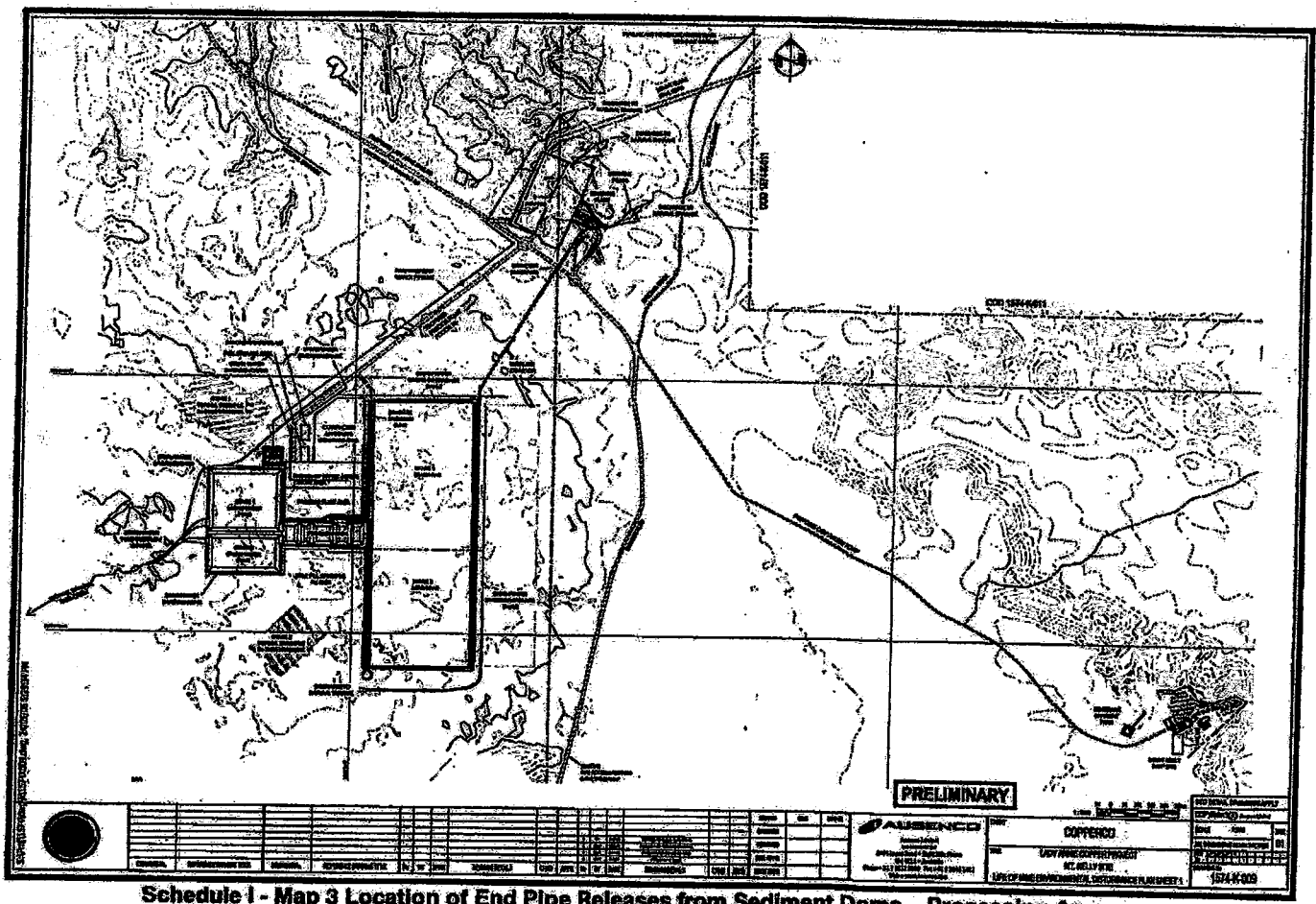
Schedule I - Maps / Plans



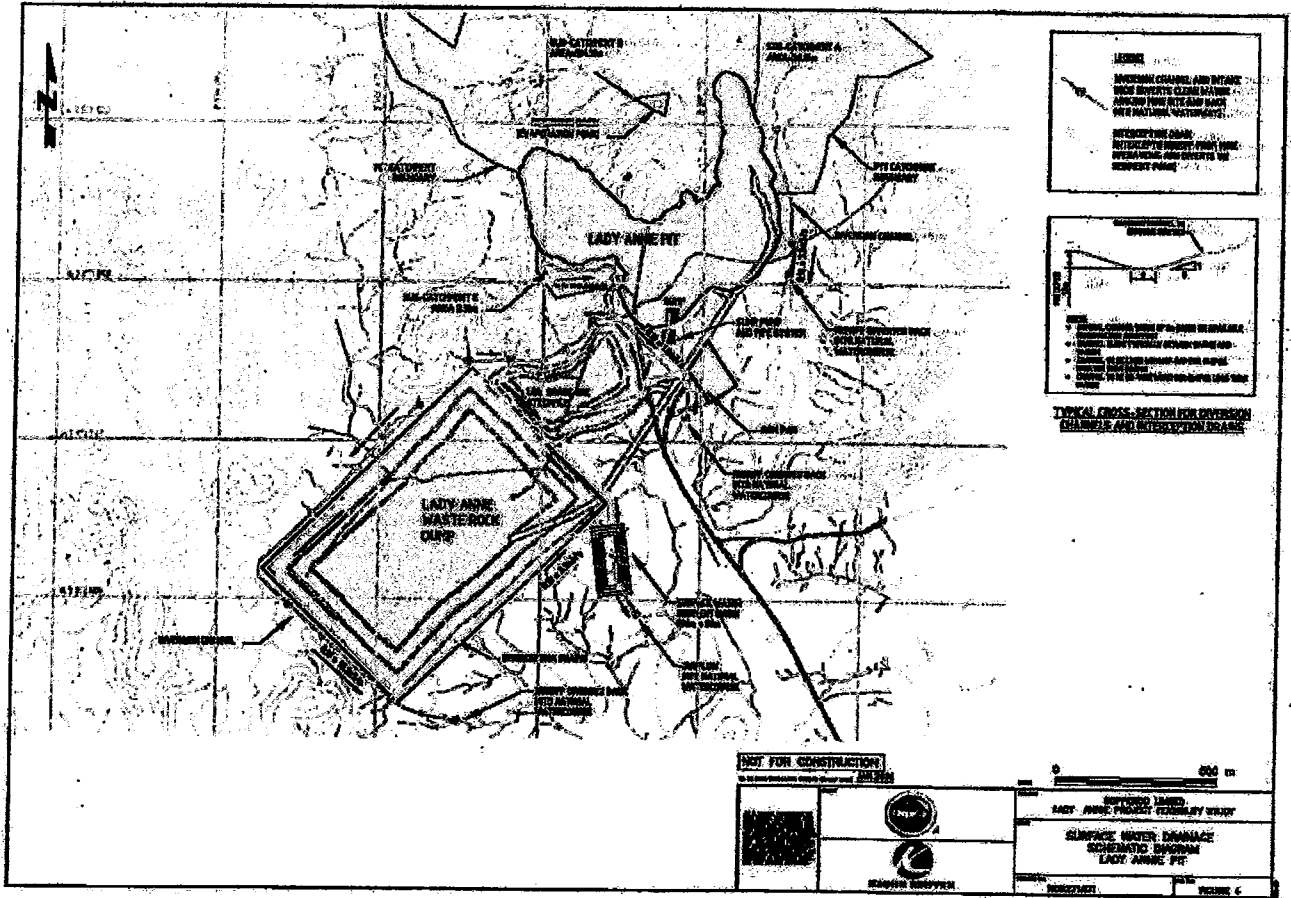
Schedule I - Map 1 Receiving Water Monitoring Locations (Mount Kelly Leases)



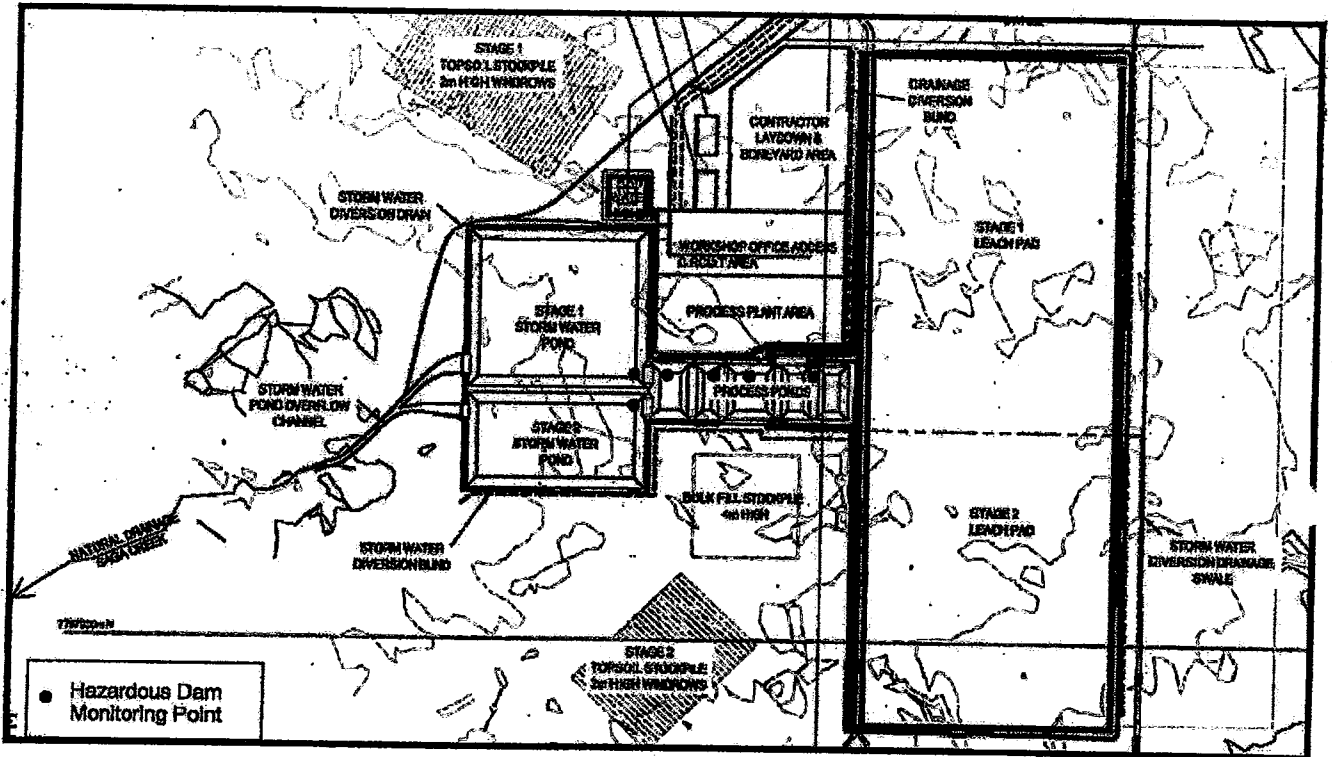
Schedule I - Map 2 Receiving Water Monitoring Locations (Lady Annie)



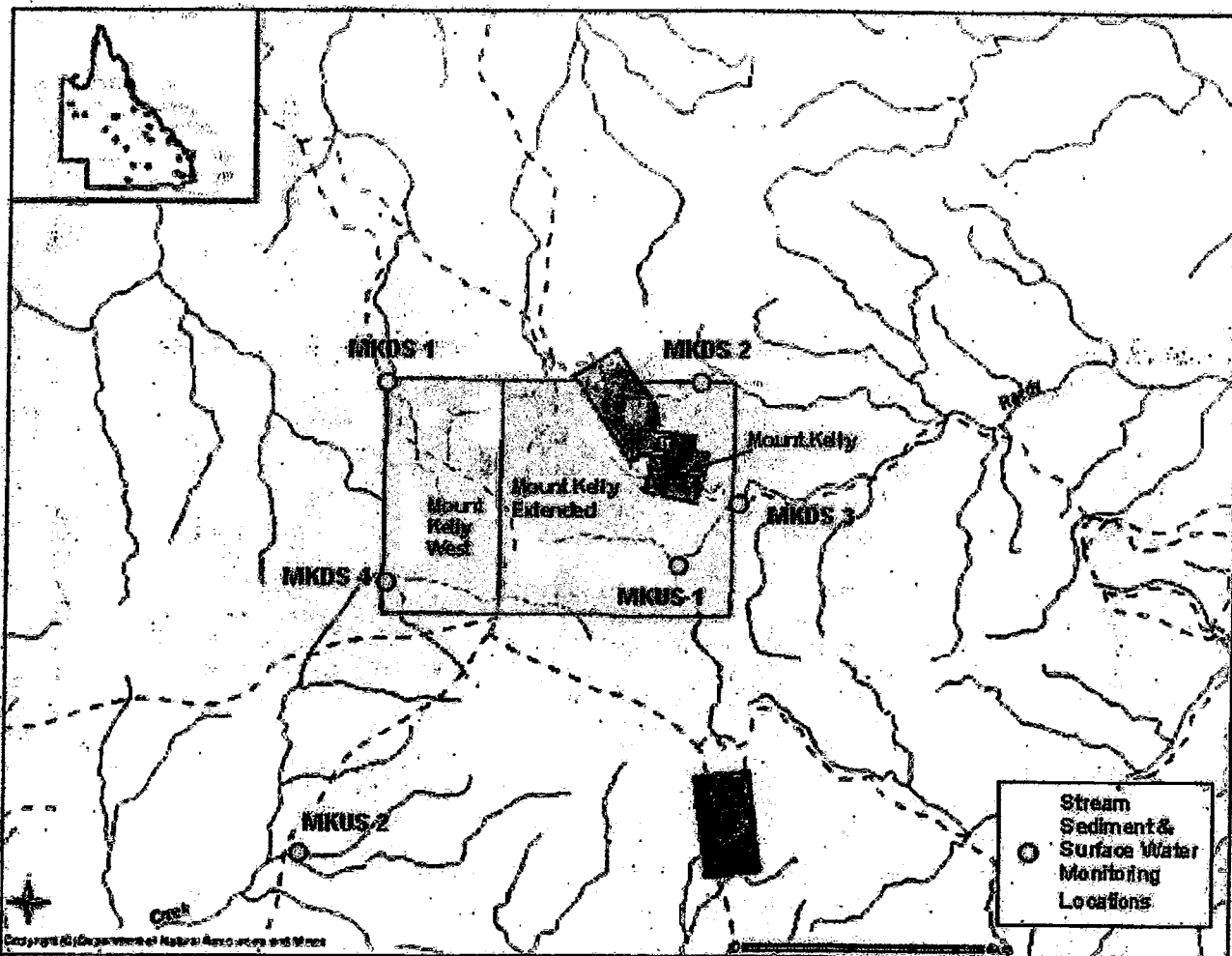
Schedule I - Map 3 Location of End Pipe Releases from Sediment Dams - Processing Area



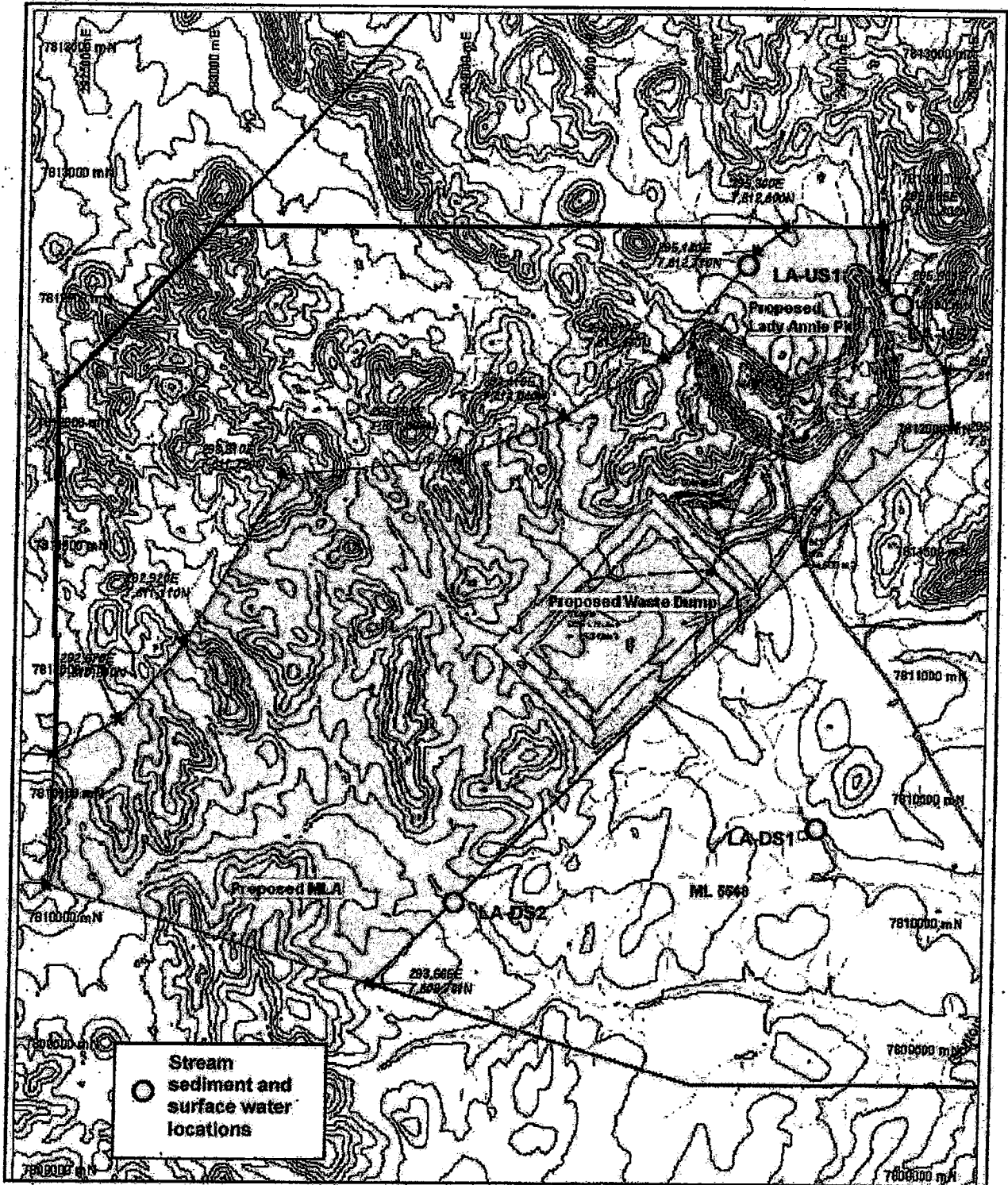
Schedule 1 - Map 5 Location of End Pipe Releases from Sediment Dams - Lady Annie



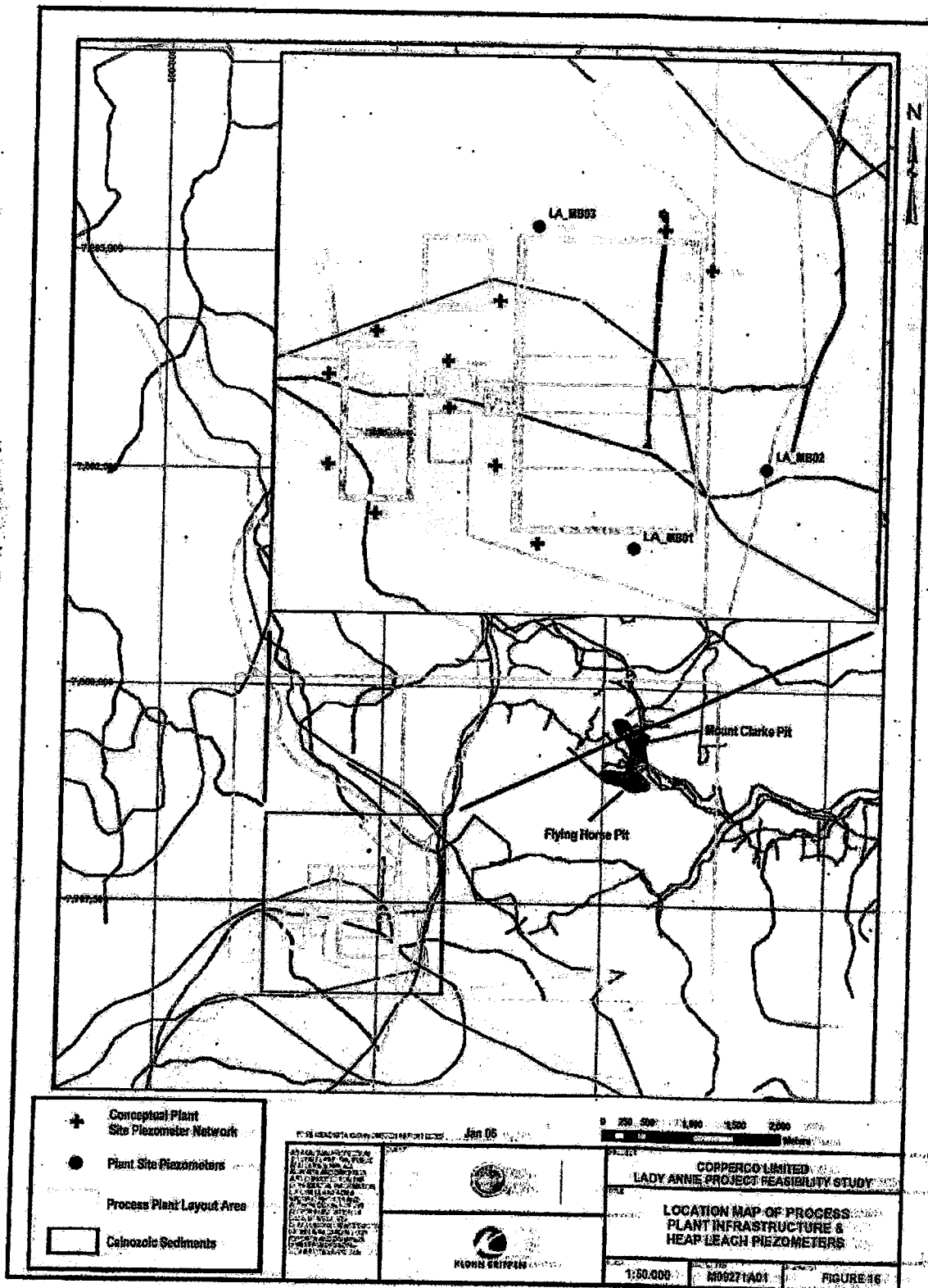
Schedule I - Map 6 Location of Hazardous Dams



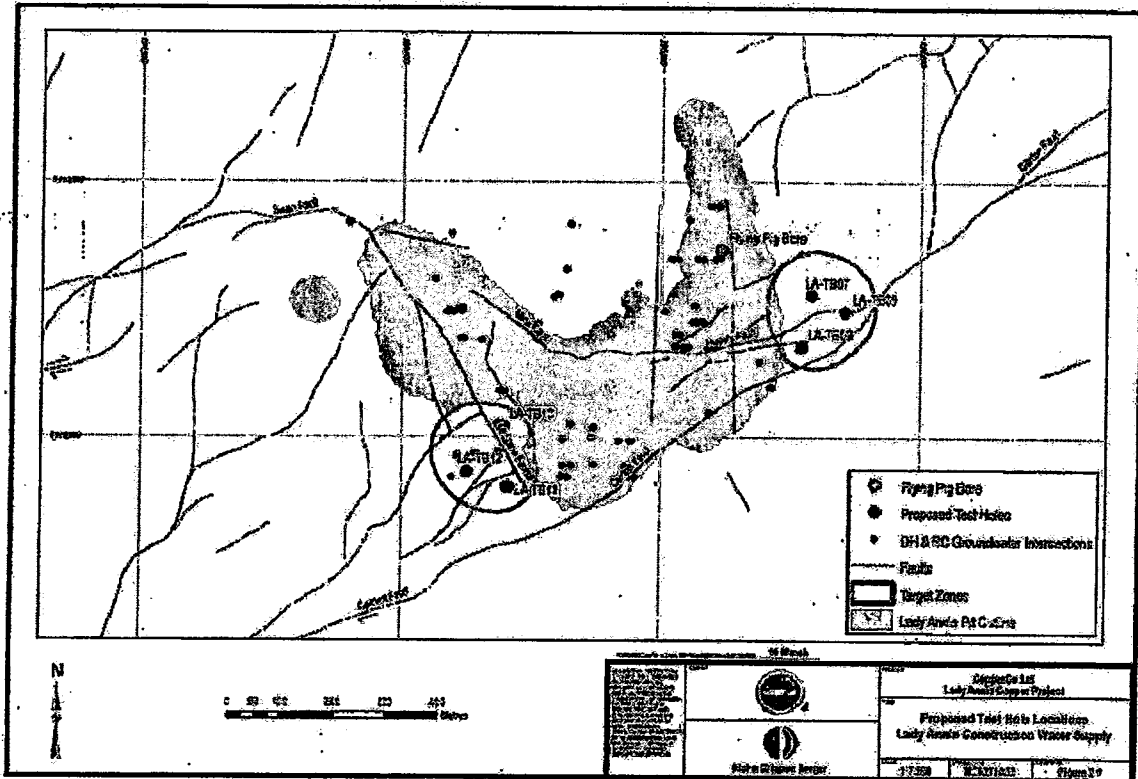
Schedule I - Map 7 Stream Sediments Monitoring Locations (Mount Kelly)



Schedule I - Map 8 Stream Sediments Monitoring Locations (Lady Annie)



Schedule I - Map 9. Groundwater Monitoring Locations (Mount Kelly)



Schedule I - Map 10 Groundwater Monitoring Locations (Lady Annie)

END CONDITIONS FOR SCHEDULE I

END OF ENVIRONMENTAL AUTHORITY



Queensland
Government

Enquiries Jodie Marlow
Telephone (07) 4744 7820
Your reference MIN100401006
Our reference ISA658

Environmental Protection Agency

Incorporating the
Queensland Parks and Wildlife Service

26 September 2006

Wayne Frampton
Mining Registrar
Department of Natural Resources Mines and Water
PO BOX 334
Mount Isa Qld 4825

Dear Wayne

Re: Mount Kelly Amendment Application- EA MIN100401006 Reefway Pty Ltd and Savannah Resources Pty Ltd

The Environmental Protection Agency (EPA) received an amendment application on 14 September 2006.

A draft environmental authority (MIN100401006) for this application has been prepared by this agency and is attached. The environmental authority holder is now required under section 254 of the *Environmental Protection Act 1994* to give notice of their application to amend the environmental authority to each affected person for each mining lease and publish the notice at least once in a newspaper circulating in the locality of the land to which the mining lease is subject.

This amendment application includes the addition of mining lease application 90178 to the Mount Kelly Project which consists of the following mining leases: ML 5426, ML 5435, ML 5446, ML 5447, ML 5448, ML 5474, ML 5476, ML 5478, ML90168, ML90169, and ML90170. The attached environmental authority is also the draft environmental authority for this mining lease application.

Should you have any further enquiries please do not hesitate to contact Jodie Marlow on 07 4744 7820.

Yours sincerely,

s.49 - Signature

GEORGE MEICHAIE
District Manager
Environmental Operations Division
North West District
Enc

Natural Resources, Mines and Water

29650

27 SEP 2006

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Page 1 of 1

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ABN 87 221 158 788



Environmental Authority No. MIN100401006
(mining activities)

Section 228 Environmental Protection Act 1994

This environmental authority is granted under the *Environmental Protection Act 1994* and includes conditions to minimise environmental harm caused, or likely to be caused, by the authorised mining activities. An environmental authority (mining activities) may be for mining activities authorised (under the *Mineral Resources Act 1989*) to occur under one of the following mining tenements: a prospecting permit; mining claim; exploration permit; mineral development licence; or mining lease. In general, a mining activity means: prospecting, exploring, mining; or processing minerals; remediation; rehabilitation; and includes facilitation and supporting activities and any action taken to prevent environmental harm.

Under the provisions of the *Environmental Protection Act 1994* this environmental authority is issued to:

Reefway Pty Ltd
 Level 22 Allendale Square
 77 St Georges Terrace
 Perth WA 6000

Savannah Resources Pty Ltd
 Level 22, Allendale Square
 77 St Georges Terrace
 Perth WA 6000

In respect of carrying out activities as part of the following mining project:

Type of environmental authority (mining activities)	Authorised mining tenements	Location
Mining Leases	ML 5426 ML 5436 ML 5446 ML 5447 ML 5448 ML 5474 ML 5476 ML 5478 ML90168 ML90169 ML90170 ML90178	100km north of Mount Isa

The mining activities are authorized to the extent defined in Schedule 6 Section 14(c) of the *Environmental Protection Regulation 1998*.

This environmental authority is subject to the conditions set out in the attached schedules. The anniversary date of this environmental authority is 24 July each year.

This environmental authority takes effect from X 2006 for granted tenements and will take effect for ML 90168, 90170, 90169 and ML90178 upon date of grant of tenure.

Geoff Metcalfe
 District Manager
 Mt Isa District, Northern Region
 Delegate of Administering Authority
Environmental Protection Act 1994

ENVIRONMENTAL PROTECTION ACT 1994

This environmental authority incorporates the following schedules:

- Schedule A - General
- Schedule B - Air
- Schedule C - Water
- Schedule D - Noise and Vibration
- Schedule E - Waste
- Schedule F - Land
- Schedule G - Community
- Schedule H - Definitions
- Schedule I - Maps / Plans

Schedule A - General

Financial Assurance

- (A1-1) Provide a financial assurance in the amount and form required by the administering authority prior to the commencement of activities proposed under this environmental authority.

NOTE: The calculation of financial assurance for condition (A1-1) must be in accordance with Guideline 17 and may include a performance discount. The amount is defined as the maximum total rehabilitation cost for complete rehabilitation of all disturbed areas, which may vary on an annual basis due to progressive rehabilitation. The amount required for the financial assurance must be the highest Total Rehabilitation Cost calculated for any year of the Plan of Operations and calculated using the formula: (Financial Assurance = Highest Total Annual Rehabilitation Cost x Percentage Required).

- (A1-2) The financial assurance is to remain in force until the administering authority is satisfied that no claim on the assurance is likely.

NOTE: Where progressive rehabilitation is completed and acceptable to the administering authority, progressive reductions to the amount of financial assurance will be applicable where rehabilitation has been completed in accordance with the acceptance criteria defined within this environmental authority.

Maintenance of Measures, Plant and Equipment

- (A2-1) The environmental authority holder must ensure:

- that all measures, plant and equipment necessary to ensure compliance with the conditions of this environmental authority are installed;
- that such measures, plant and equipment are maintained in a proper condition; and
- that such measures, plant and equipment are operated in a proper manner.

Monitoring

- (A3-1) Record, compile and keep for a minimum of five years all monitoring results required by this environmental authority and make available for inspection all or any of these records upon request by the administering authority.
- (A3-2) Where monitoring is a requirement of this environmental authority, ensure that a competent person(s) conducts all monitoring.

Storage and Handling of Flammable, Combustible and Corrosive Liquids

- (A4-1) Spillage of all flammable and combustible liquids must be contained within an on-site containment system and controlled in a manner that prevents environmental harm (other than trivial harm) and maintained in accordance with Section 5.8 of AS 1940 - Storage and Handling of Flammable and Combustible Liquids of 2004.
- (A4-2) The on-site storage of corrosive liquids must be in accordance with Section 5.7 of AS 3780 - Storage and Handling of Corrosive Substances 1994.

Definitions

- (A5-1) Words and phrases used throughout this environmental authority are defined in Schedule H – Definitions. Where a definition for a term used in this environmental authority is sought and the term is not defined within this environmental authority, the definitions in the *Environmental Protection Act 1994*, its Regulations and Environmental Protection Policies must be used.

END CONDITIONS FOR SCHEDULE A

Schedule B - Air**Dust Nuisance**

- (B1-1) Subject to Conditions (B1-2) and (B1-3) the release of dust or particulate matter or both resulting from the mining activity must not cause an environmental nuisance at any sensitive or commercial place.
- (B1-2) When requested by the administering authority, dust and particulate monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive or commercial place, and the results must be notified within 14 days to the administering authority following completion of monitoring.
- (B1-3) If the environmental authority holder can provide evidence through monitoring that the following limits are not being exceeded then the holder is not in breach of (B1-1):
- Dust deposition of 120 milligrams per square metre per day, averaged over one month, when monitored in accordance with AS 3580.10.1 Methods for sampling and analysis of ambient air - Determination of particulates - Deposited matter - Gravimetric method of 1991.
- (B1-4) If monitoring indicates exceedence of the relevant limits in Condition (B1-3), then the environmental authority holder must:
- address the complaint including the use of appropriate dispute resolution if required; or
 - immediately implement dust abatement measures so that emissions of dust from the activity do not result in further environmental nuisance.

Odour Nuisance

- (B2-1) Subject to condition (B2-2), the release of noxious or offensive odour(s) or any other noxious or offensive airborne contaminant(s) resulting from the mining activity must not cause an environmental nuisance at any sensitive or commercial place.
- (B2-2) When requested by the administering authority, odour monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive or commercial place, and the results must be notified within 14 days to the administering authority following completion of monitoring.
- (B2-3) If monitoring indicates Condition (B2-1) is not being met then the environmental authority holder must:
- address the complaint including the use of appropriate dispute resolution if required; or
 - immediately implement odour abatement measures so that emissions of odour from the activity do not result in further environmental nuisance.

END CONDITIONS FOR SCHEDULE B

Schedule C - Water

Release to Waters

(C1-1) Receiving waters affected by the release of process water or storm water contaminated by the mining activities or both must be monitored at the locations and frequencies defined in Schedule C - Table 1 and Schedule I - Map 1, and comply with the contaminant limits defined in Schedule C - Table 3.

Schedule C - Table 1 (Receiving Water Monitoring Locations and Frequency)

Monitoring point	Easting (AMG 84 Zone 54)	Northing (AMG 84 Zone 54)	Monitoring frequency
MKUS 1- reference site *	305825	7797450	Each flow event
MKUS 2- reference site*	TBD	TBD	Each flow event
MKDS 1- test site	301160	7800135	Each flow event
MKDS 2- test site	308366	7798356	Each flow event
MKDS 3- test site	306370	7798363	Each flow event
MKDS 4- test site	301300	7797255	Each flow event

NOTE: This does not apply to dams containing hazardous waste

Reference sites must:

- a) be from the same biogeographical and climatic region;
- b) have similar geology, soil types and topography
- c) contain a range of habitats similar to those at the test site
- d) be of similar flow regime; and
- e) not be so close to the test sites that any disturbances at the test site also result in a change at the reference site.

TBD- to be determined and provided to the QEPA prior to commencement of mining.

C1-2 Subject to Condition (C1-1), if the receiving water contaminant trigger levels defined in Schedule C - Table 2 are exceeded then the environmental authority holder must complete an investigation into the potential for environmental harm and notify the administering authority within 3 months of receiving the analysis results.

Schedule C - Table 2 (Receiving Water Trigger Levels)

Parameter	Units	Minimum	Maximum	Trigger Type
pH ¹	pH	6.0	8.0	Range
EC ¹	µS/cm	N/A	250	Maximum
Sulphate ²	mg/L	N/A	500	Maximum
Aluminium ²	mg/L	N/A	2.5	Maximum
Arsenic ²	mg/L	N/A	0.25	Maximum
Boron ²	mg/L	N/A	0.37	Maximum
Cadmium ²	mg/L	N/A	0.005	Maximum
Chromium ²	mg/L	N/A	0.5	Maximum
Cobalt ²	mg/L	N/A	0.5	Maximum
Copper ²	mg/L	N/A	0.5	Maximum
Fluoride ²	mg/L	N/A	1	Maximum
Lead ²	mg/L	N/A	0.05	Maximum
Manganese ³	mg/L	N/A	1.9	Maximum
Mercury ²	mg/L	N/A	0.001	Maximum
Molybdenum ²	mg/L	N/A	0.075	Maximum
Nickel ²	mg/L	N/A	0.5	Maximum
Selenium ²	mg/L	N/A	0.01	Maximum
Zinc ²	mg/L	N/A	10	Maximum

¹ Contaminant triggers limits are based on Table 3.3.4 and 3.3.5 of Aquatic Ecosystems ANZECC (2000).
² Contaminant trigger limits are based on 50% of the contaminant limits defined in the ANZECC (2000) Livestock Drinking Water and are to be analysed as total metals (unfiltered).
³ Contaminant trigger limits based on Table 3.4.1 of Aquatic Ecosystems ANZECC (2000) 95% and are to be analysed as filtered metals.

Schedule C - Table 3 (Receiving Water Contaminant Limits)

Parameter	Units	Minimum	Maximum	Trigger Type
pH ⁴	pH	6.0	9.0	Range
TDS ²	mg/L	N/A	4000	Maximum
Sulphate ¹	mg/L	N/A	1000	Maximum
Aluminium ¹	mg/L	N/A	5	Maximum
Arsenic ¹	mg/L	N/A	0.5	Maximum
Boron ¹	mg/L	N/A	5	Maximum
Cadmium ¹	mg/L	N/A	0.01	Maximum
Chromium ¹	mg/L	N/A	1	Maximum
Cobalt ¹	mg/L	N/A	1	Maximum
Copper ¹	mg/L	N/A	1	Maximum
Fluoride ¹	mg/L	N/A	2	Maximum
Lead ¹	mg/L	N/A	0.1	Maximum
Manganese ³	mg/L	N/A	2.5	Maximum
Mercury ¹	mg/L	N/A	0.002	Maximum
Molybdenum ¹	mg/L	N/A	0.15	Maximum
Nickel ¹	mg/L	N/A	1	Maximum
Selenium ¹	mg/L	N/A	0.02	Maximum
Zinc ¹	mg/L	N/A	20	Maximum

¹ Contaminant limits based on table 4.3.2 ANZECC (2000) Livestock drinking water quality and are analysed as Total metals (unfiltered)

² Contaminant limits are based on Table 4.3.1 Livestock drinking water quality and are analysed as Total metals (unfiltered)

³ Contaminant limits based on Table 3.4.1 of Aquatic Ecosystems ANZECC (2000) 50% and are to be analysed as filtered metals.

⁴ Contaminant limits based on Table 3.3.4 of Aquatic Ecosystems ANZECC (2000)

End of Pipe Release

(C1-3) End of pipe release limits for storm water contaminated by mining activities must be monitored at the locations and frequencies defined in Schedule C - Table 4 and Schedule I - Map 2 and 3 and comply with the contaminant limits defined in Schedule C - Table 5.

Schedule C - Table 4 (End of pipe monitoring locations and frequency)

Monitoring point	Easting (AMG 84, Zone 54)	Northing (AMG 84, Zone 54)	Monitoring frequency
Mount Clarke ROM Area Sediment Dam	303834	7799496	Each flow event
Mount Clarke Pit Area Sediment Dam	305336	7799592	Each flow event
Mount Clarke/Flying Horse Sediment Dam	305887	7798726	Each flow event
Process Plant ROM Pad Sediment Dam 1	303040	7798656	Each flow event
Process Plant ROM Pad Sediment Dam 2	302905	7798900	Each flow event
Process Plant ROM Pad Sediment Dam 3	302771	7799010	Each flow event

NOTE: This does not apply to dams containing hazardous waste.

Schedule C - Table 5 (End of pipe contaminant release limits)

Parameter	Units	Minimum	Maximum	Limit Type
pH	pH	6	9	Range
TDS	mg/L	N/A	4000	Maximum
Sulphate	mg/L	N/A	1000	Maximum
Arsenic	mg/L	N/A	5	Maximum
Cadmium	mg/L	N/A	0.01	Maximum
Chromium	mg/L	N/A	1	Maximum
Cobalt	mg/L	N/A	1	Maximum
Copper	mg/L	N/A	1	Maximum
Lead	mg/L	N/A	0.1	Maximum
Mercury	mg/L	N/A	0.002	Maximum
Zinc	mg/L	N/A	20	Maximum

Contaminant limits based on ANZECC (2000) Livestock drinking water quality and are analysed as Total metals (unfiltered)

NOTE: This does not apply to dams containing hazardous waste.

Dams Containing Hazardous Waste

(C1-4) Water storages containing process water and storm water contaminated by mining activities must be monitored at the locations and frequencies defined in Schedule C - Table 6 and Schedule I - Map 4 and samples analysed for the parameters defined in Schedule C - Table 7.

Schedule C - Table 6 (Water Storage Monitoring Locations of Hazardous Dams)

Monitoring point	Easting (Zone 54, AMG 84)	Northing (Zone 54, AMG 84)	Monitoring frequency
PLS Ponds	302000	7797450	Annually, March
ILS Pond	301900	7797450	Annually, March
Raffinate Pond Pre-Settler	301850	7797450	Annually, March
Raffinate Pond	301800	7797450	Annually, March
Storm water Pond 1	301750	7797450	Annually, March
Storm water Pond 2	301750	7797350	Annually, March

(C1-5) In the event that the water quality within any dam containing hazardous waste does not comply with the contaminant limits defined in Schedule C - Table 7, implement measures to prevent access by all livestock and minimise access by fauna to the dam.

Schedule C - Table 7 (Water Quality Limits for Dams Containing Hazardous Waste)

Parameter	Units	Contaminant Limit	Limit Type
pH	pH	4-9	Range
TDS	mg/L	5,000	Maximum
Boron	mg/L	5	Maximum
Sulphate	mg/L	1000	Maximum
Aluminum	mg/L	5	Maximum
Arsenic	mg/L	0.5	Maximum
Cobalt	mg/L	1	Maximum
Copper	mg/L	1	Maximum
Lead	mg/L	0.1	Maximum
Nickel	mg/L	1	Maximum
Zinc	mg/L	20	Maximum

Contaminant limits based on ANZECC (2000 Livestock drinking water quality and are analysed as total metals (unfiltered).)

(C1-6) The design storage allowance on 1 November of each year for any dam containing hazardous waste constructed or operated within the operational land must comply with Schedule C - Table 8.

Schedule C - Table 8 (Storage Design for Dams Containing Hazardous Waste)

Storage Type	Design Storage Allowance ⁽¹⁾	Spillway Critical Design Storm ⁽²⁾	Mandatory Reporting Level ⁽³⁾
Stormwater Pond 1	1: 100 Year ARI 2 month wet season plus process inputs for the 2 month wet season	1: 1000 Year ARI	1: 100 year ARI
Stormwater Pond 2	1: 100 Year ARI 2 month wet season plus process inputs for the 2 month wet season	1: 1000 Year ARI	1: 100 year ARI

Note ⁽¹⁾: The design storage allowance on 1 November of each year for any dam containing hazardous waste constructed within the operational land must be equivalent to the run-off from a 1 in 100 ARI 2 month wet season plus process inputs for the equivalent wet season. Process inputs refers to hazardous mineral process waste and water, which is being disposed of in the storage facility.

Note ⁽²⁾: The critical design storm has a duration that produces the peak discharge for the catchments.

Note ⁽³⁾: The mandatory reporting level refers to the volume below the spillway crest, either the 1: 100 ARI 72 hour storm or the 1:100 ARI wave allowance, whichever is lower.

(C1-7) The spillway for any dam containing hazardous waste, constructed or operated within the operational land must be designed and maintained to withstand the peak flow from the spillway critical design storm defined in Schedule C - Table 8.

- (C1-8) The holder of the environmental authority must mark the mandatory reporting level defined in Schedule C - Table 8 on the spillway of all dams containing hazardous waste within the operational land.
- (C1-9) The holder of the environmental authority must notify the administering authority when the pondage level of the dam containing hazardous waste, reaches the mandatory reporting level defined in Schedule C - Table 8.

Stream Sediment Contaminant Levels

- (C2-1) All reasonable and practicable erosion protection measures and sediment control measures must be implemented and maintained to minimise erosion and the release of sediment.
- (C2-2) The bed of the receiving waters, affected by the release of process water and storm water contaminated by the mining activities must be monitored at the locations and frequencies defined in Schedule C - Table 9 and Schedule I - Map 5.

Schedule C - Table 9 (Receiving Stream Sediment Monitoring Locations and Frequency)

Monitoring point	Easting (AGD 84 Zone 54)	Northing (AGD 84 Zone 54)	Monitoring frequency
MKUS 1- reference site *	305625	7797450	May each year
MKUS 2- reference site*	TBD	TBD	May each year
MKDS 1- test site	301160	7800135	May each year
MKDS 2- test site	306366	7798956	May each year
MKDS 3- test site	306370	7798363	May each year
MKDS 4- test site	301300	7797255	May each year

NOTE: This does not apply to dams containing hazardous waste

Reference sites must:

- a) be from the same biogeographical and climatic region;
- b) have similar geology, soil types and topography
- c) contain a range of habitats similar to those at the test site
- d) be of similar flow regime; and
- e) not be so close to the test sites that any disturbances at the test site also result in a change at the reference site.

TBD- to be determined and provided to the QEPA prior to commencement of mining.

- (C2-3) Subject to Condition (C2-2), if the stream sediment contaminant trigger levels defined in Schedule C - Table 10 are exceeded then the environmental authority holder must complete an investigation into the potential for environmental harm and notify the administering authority within 3 months of receiving the analysis results.

Schedule C - Table 10 (Receiving Stream Sediment Contaminant Trigger Levels)

Parameter	Units	Contaminant trigger levels	Trigger Type
Antimony ¹	mg/kg dry wt	2	Maximum
Arsenic ¹	mg/kg dry wt	20	Maximum
Cadmium ¹	mg/kg dry wt	1.5	Maximum
Chromium ¹	mg/kg dry wt	80	Maximum
Copper ²	mg/kg dry wt	100	Maximum
Lead ¹	mg/kg dry wt	50	Maximum
Nickel ¹	mg/kg dry wt	21	Maximum
Silver ¹	mg/kg dry wt	1	Maximum
Mercury ¹	mg/kg dry wt	0.15	Maximum
Zinc ¹	mg/kg dry wt	200	Maximum

¹ANZECC (2000): ISQG Low trigger values, Sediment Quality Guidelines, Aquatic Ecosystems, Table 3.5.1.

² Site specific trigger value as calculated in section 3.6 of EM Plan July 2006

- (C2-4) Subject to Condition (C2-2), stream sediment contaminant limits must not exceed the contaminant limits defined in Schedule C -Table 11.

Schedule C - Table 11 (Receiving Stream Sediment Contaminant Limits)

Parameter	Units	Contaminant limits	Limit Type
Antimony ¹	mg/kg dry wt	25	Maximum
Arsenic ¹	mg/kg dry wt	70	Maximum
Cadmium ¹	mg/kg dry wt	10	Maximum
Chromium ¹	mg/kg dry wt	370	Maximum
Copper ²	mg/kg dry wt	120	Maximum
Lead ¹	mg/kg dry wt	220	Maximum
Nickel ¹	mg/kg dry wt	52	Maximum
Silver ¹	mg/kg dry wt	3.7	Maximum
Mercury ¹	mg/kg dry wt	1	Maximum
Zinc ¹	mg/kg dry wt	410	Maximum

¹ANZECC (2000): ISQG High trigger values, Sediment Quality Guidelines, Aquatic Ecosystems, Table 3.5.1.

² Site specific trigger value as calculated in section 3.6 of EM Plan July 2006

(C2-5) All stream sediment sampling must be undertaken in accordance with AS 5667.1 Guidance on Sampling of Bottom Sediments of 1998

Sewage effluent

- (C3-1) All effluent released from the treatment plant must be monitored at the frequency and for the parameters specified in Schedule C - Table 12.
- (C3-2) Sewage effluent used for dust suppression must not exceed sewage effluent release limits defined in Schedule C - Table 12.
- (C3-3) Sewage Effluent used for dust suppression must not cause spray drift or over spray to any sensitive or commercial place, and must not be applied at a rate that causes pooling, ponding and/or runoff of any effluent irrigated.
- (C3-4) Subject to Conditions (C3-1) to (C3-3) inclusive, sewage effluent from sewage treatment facilities must be reused or evaporated and must not be directly released from the sewage treatment plant to any water way or drainage line other than in accordance with Schedule C - Table 12.

Schedule C - Table 12 (Sewage effluent quality targets for dust suppression)

Quality characteristics	Release/Limit ⁴			Monitoring Frequency
	Minimum	Median	Maximum	
pH. (pH Units)	6 ³		8.5 ²	Quarterly
Faecal Coliforms (organisms/100mL)		1000 ¹		Quarterly

¹ A minimum of five samples must be collected at not less than a weekly interval for the quarterly sampling

² A minimum of five samples must be collected at not less than a weekly interval for the quarterly sampling with four out of five samples must be less than the maximum

³ A minimum of five samples must be collected at not less than a weekly interval for the quarterly sampling with four out of five samples must be higher than the minimum but lower than the maximum limit.

Release limits sourced from Queensland Water Recycling Guidelines December 2005 Table 6:2b

Groundwater

(C4-1) Groundwater, affected by the mining activities must be monitored at the locations and frequencies defined in Schedule C - Table 13 and Schedule I - Map 6.

Schedule C - Table 13 (Groundwater Monitoring Locations and Frequency)

Monitoring point	Easting (AGD 84 Zone 54)	Northings (AGD 84 Zone 54)	Monitoring frequency
LA MB01 (Process Plant)- reference site	302484	7796800	Monthly
LA MB02 (Process Plant) - reference site	302891	7797385	Monthly
LA MB03 (Process Plant) - reference site	302128	7797950	Monthly
LA MB04 (Process Plant)	TBD	TBD	Monthly
LA MB05 (Process Plant)	TBD	TBD	Monthly
LA MB06 (Process Plant)	TBD	TBD	Monthly
LA MB07 (Process Plant)	TBD	TBD	Monthly
LA MB08 (Process Plant)	TBD	TBD	Monthly
LA MB09 (Process Plant)	TBD	TBD	Monthly
LA MB010 (Process Plant)	TBD	TBD	Monthly
LA MB011 (Process Plant)	TBD	TBD	Monthly
LA MB012 (Process Plant)	TBD	TBD	Monthly
LA MB013 (Process Plant)	TBD	TBD	Monthly
LA MB014 (Process Plant)	TBD	TBD	Monthly
MK MB01 (pit area)	305360	7799013	Quarterly
MK PB01 (pit area)	305356	7799019	Quarterly

NOTE: This does not apply to dams containing hazardous waste

TBD- To be determined

Reference sites must:

- a) be from the same biogeographical and climatic region;
- b) have similar geology, soil types and topography
- c) contain a range of habitats similar to those at the test site
- d) be of similar flow regime; and not be so close to the test sites that any disturbances at the test site also result in a change at the reference site.

(C4-2) Subject to Condition (C4-1), if the groundwater contaminant trigger levels defined in Schedule C - Table 14 are exceeded then the environmental authority holder must complete an investigation into the potential for environmental harm and notify the administering authority within 3 months of receiving the analysis results.

Schedule C - Table 14 (Groundwater Contaminant Trigger Levels)

Parameter	Units	Minimum	Maximum	Trigger type
pH ¹	pH	6	8	Range
TDS ²	mg/L	N/A	2000	Maximum
Sulphate ²	mg/L	N/A	500	Maximum
Aluminium ²	mg/L	N/A	2.5	Maximum
Arsenic ²	mg/L	N/A	0.25	Maximum
Boron ²	mg/L	N/A	0.37	Maximum
Cadmium ²	mg/L	N/A	0.005	Maximum
Chromium ²	mg/L	N/A	0.5	Maximum
Cobalt ²	mg/L	N/A	0.5	Maximum
Copper ²	mg/L	N/A	0.5	Maximum
Fluoride ²	mg/L	N/A	1	Maximum
Lead ²	mg/L	N/A	0.05	Maximum
Manganese ³	mg/L	N/A	1.9	Maximum
Mercury ²	mg/L	N/A	0.001	Maximum
Molybdenum ²	mg/L	N/A	0.075	Maximum
Nickel ²	mg/L	N/A	0.5	Maximum
Selenium ²	mg/L	N/A	0.01	Maximum
Zinc ²	mg/L	N/A	10	Maximum

¹ Contaminant triggers limits are based on Table 3.3.4 and 3.3.5 of Aquatic Ecosystems ANZECC (2000)

² Contaminant trigger limits are based on 50% of the contaminant limits defined in the ANZECC (2000) Livestock Drinking Water and are to be analysed as total metals (unfiltered).

³ Contaminant trigger limits based on Table 3.4.1 of Aquatic Ecosystems ANZECC (2000) and are analysed as Filtered Metals

(C4-3) Subject to Condition (C4-1), groundwater contaminant limits must not exceed the contaminant limits defined in Schedule C - Table 15.

Schedule C – Table 15 (Groundwater Contaminant Limits)

Parameter	Units	Minimum	Maximum	Limit Type
pH ¹	pH	6	9	Range
TDS ¹	mg/L	N/A	4000	Maximum
Sulphate ¹	mg/L	N/A	1000	Maximum
Aluminium ¹	mg/L	N/A	5	Maximum
Arsenic ¹	mg/L	N/A	0.5	Maximum
Boron ¹	mg/L	N/A	5	Maximum
Cadmium ¹	mg/L	N/A	0.01	Maximum
Chromium ¹	mg/L	N/A	1	Maximum
Cobalt ¹	mg/L	N/A	1	Maximum
Copper ¹	mg/L	N/A	1	Maximum
Fluoride ¹	mg/L	N/A	2	Maximum
Lead ¹	mg/L	N/A	0.1	Maximum
Manganese ²	mg/L	N/A	2.5	Maximum
Mercury ¹	mg/L	N/A	0.002	Maximum
Molybdenum ¹	mg/L	N/A	0.15	Maximum
Nickel ¹	mg/L	N/A	1	Maximum
Selenium ¹	mg/L	N/A	0.02	Maximum
Zinc ¹	mg/L	N/A	20	Maximum

¹ Contaminant limits based on ANZECC (2000) Livestock drinking water quality and are analysed as Total Metals (unfiltered)

² Contaminant limits based on Table 3.4.1 of Aquatic Ecosystems ANZECC (2000) and are analysed as Filtered Metals .

(C4-4) The method of water sampling required by this environmental authority must comply with that set out in the latest edition of the Environmental Protection Agency's Water Quality Sampling Manual.

Voids

(C5-1) Water quality in mining voids and final voids must be monitored at the locations and frequencies defined in Schedule C - Table 16 and for the parameters detailed in Schedule C – Table 17.

(C5-2) In the event that water quality within the mining voids or final voids does not comply with the contaminant limits defined in Schedule C – Table 17, implement measures to prevent access by all livestock and minimise access by fauna to the void.

Schedule C - Table 16 (Voids Monitoring Locations and Frequency)

Monitoring point	Monitoring frequency
Mount Kelly/Flying Horse Pit	Annually
Mount Clarke Pit	Annually

Schedule C - Table 17 (Void Water Quality Limits)

Parameter	Units	Limit	Limit Type
pH	pH	6-9	Range
TDS	mg/L	4000	Maximum
Sulphate	mg/L	1000	Maximum
Arsenic	mg/L	0.5	Maximum
Cadmium	mg/L	0.01	Maximum
Chromium	mg/L	1	Maximum
Copper	mg/L	1	Maximum
Lead	mg/L	0.1	Maximum
Mercury	mg/L	0.002	Maximum
Zinc	mg/L	20	Maximum

Contaminant limits are based on ANZECC (2000 Livestock drinking water quality and analysed for total metals (unfiltered)).

Acid Rock Drainage and Leachate Management

- (CG-1) Subject to limits defined in Schedule C all reasonable and practicable measures must be implemented to prevent hazardous leachate being directly or indirectly released or likely to be released as a result of the activity to any groundwater, watercourse and waters.

END CONDITIONS FOR SCHEDULE C

Schedule D - Noise and Vibration**Noise Nuisance**

- (D1-1) Subject to Conditions (D1-2) and (D1-3) noise from the mining activity must not cause an environmental nuisance to an affected building.
- (D1-2) When requested by the administering authority, noise monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive or commercial place, and the results must be notified within 14 days to the administering authority following completion of monitoring.
- (D1-3) The method of measurement and reporting of noise levels must comply with the latest edition of the Environmental Protection Agency's Noise Measurement Manual.

Vibration nuisance

- (D2-1) Subject to Conditions (D2-2) and (D2-3) vibration from the mining activity must not cause an environmental nuisance to an affected building.
- (D2-2) When requested by the administering authority, vibration monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive or commercial place, and the results must be notified within 14 days to the administering authority following completion of monitoring.

END CONDITIONS FOR SCHEDULE D

Schedule E - Waste**Storage of Tyres**

- (E1-1) Tyres stored awaiting disposal or transport for take-back and, recycling, or waste-to-energy options - should be stockpiled in volumes less than 3m in height and 200m² in area and at least 10m from any other tyre storage area.
- (E1-2) All reasonable and practicable fire prevention measures must be implemented, including removal of grass and other materials within a 10m radius of the scrap tyre storage area.

Disposal of Tyres

- (E2-1) Disposing of scrap tyres resulting from the mining activities in spoil emplacements is acceptable, provided tyres are placed as deep in the spoil as reasonably practicable.
- (E2-2) Scrap tyres resulting from the mining activities disposed within the operational land must not impede saturated aquifers or compromise the stability of the consolidated landform.

Waste Management

- (E3-1) A Waste Management Program, in accordance with the Environmental Protection (Waste Management) Policy 2000, must be included in the Plan of Operations.

Regulated Waste

- (E4-1) All regulated waste received and removed from the site, that is over 250kg in weight, must be transported by a person who holds a current authority to transport such waste under the provisions of the *Environmental Protection Act 1994*.
- (E4-2) Except as otherwise provided by the conditions of this authority, all waste removed from the site must be taken to a facility that is lawfully allowed to accept such waste under the provisions of the *Environmental Protection Act 1994*.
- (E4-3) Where regulated waste is removed from the Project (other than by a release as permitted under another schedule of this environmental authority), records must be kept of the following:
- the date, quantity and type of waste removed, and
 - name of the waste transporter that removed the waste; and
 - the intended treatment/disposal destination of the waste.

Note: Records of documents maintained in compliance with a waste tracking system established under the Environmental Protection Act 1994 or any other law for regulated waste will be deemed to satisfy this condition.

Waste Rock Characterisation

- (E5-1) All areas to be mined must undergo a waste rock characterisation survey (where waste rock is to be disposed of on the surface) and a report submitted to the administering authority prior to mining where this survey has not previously been carried out.

END CONDITIONS FOR SCHEDULE E

Schedule F - Land

Rehabilitation Landform Criteria

(F1-1) All areas significantly disturbed by mining activities must be rehabilitated to a stable landform with a self-sustaining vegetation cover in accordance with Schedule F - Table 1 and 2.

Schedule F - Table 1 (Final Land Use and Rehabilitation Approval Schedule)

Disturbance Category	Max. Area (ha)	Land Use			Land Capability		Analogue Site	
		PRE DISTURBANCE	POST DISTURBANCE	PRE DISTURBANCE	POST DISTURBANCE	Longitude	Latitude	
Mount Kelly/Flying Horse Pit	13.2	Habitat	Water Storage	Class 5	Water Storage			
Mount Kelly/Flying Horse Waste Rock Dump	28	Habitat	Habitat	Class 5	Class 5	TBD	TBD	TBD
Mount Kelly/Flying Horse Topsoil Stockpile	1.1	Habitat	Habitat	Class 5	Class 5	TBD	TBD	TBD
Mount Kelly/Flying Horse Sediment Dams	1.3	Habitat	Water Storage	Class 5	Water Storage			
Mount Kelly/Flying Horse Diversion Drains	1.3	Habitat	LIG or diversion Habitat	Class 5	Class 5	TBD	TBD	TBD
Mount Clarke Pit	9.5	Habitat	Water Storage	Class 5	Water Storage			
Mount Clarke Waste Rock Dump	16.3	Habitat/LIG	Habitat/LIG	Class 4 - 5	Class 4 - 5	TBD	TBD	TBD
Mount Clarke Low Grade Stockpile	5.4	Habitat/LIG	Habitat/LIG	Class 4 - 5	Class 4 - 5	TBD	TBD	TBD
Mount Clarke/Flying Horse/Mount Kelly ROM Storage & Live Rehandle	5.5	Habitat	Habitat/LIG	Class 4 - 5	Class 4 - 5	TBD	TBD	TBD

Disturbance Category	Max Area	Land Use		Land Capability		Analogue Site	
		Habitat/LIG	Habitat/LIG	Class 4 - 5	Class 4 - 5	TBD	TBD
Mount Clarke Topsoil Stockpile	4.5	Habitat/LIG	Habitat/LIG	Class 4 - 5	Class 4 - 5	TBD	TBD
Mount Clarke Pit Area Sediment Dam	0.6	Habitat	Water Storage	Class 4 - 5	Water Storage		
Mount Clarke ROM Area Sediment Dam	0.4	Habitat	Water Storage	Class 4 - 5	Water Storage		
Mount Clarke - Diversion/Interception /Sediment Dam Drains	3.2	Habitat	LIG or diversion Habitat	Class 4 - 5	Class 4 - 5	TBD	TBD
Roads/Tracks	18.8	Existing tracks or LIG	Tracks for grazer or LIG	Class 4 - 5	Class 4 - 5	TBD	TBD
Accommodation Camp and Facilities	5	LIG	LIG	Class 4	Class 4	TBD	TBD
Sewage Plant and Pond	0.2	LIG	LIG	Class 4	Class 4	TBD	TBD
ROM Pad - at process plant	7.8	LIG	LIG	Class 4 - 5	Class 4 - 5	TBD	TBD
Process plant and associated buildings	3.3	LIG	LIG	Class 4	Class 4	TBD	TBD
Overland Conveyor	1.8					TBD	TBD
Workshop/Office	2.9	LIG	LIG	Class 4	Class 4	TBD	TBD
Access Circuit Area	43.2	LIG	Habitat/LIG	Class 4	Class 4	TBD	TBD
Heap Leach Pads - Stage 1 and 2	3.4	LIG	Water storages	Class 4	Water storages	TBD	TBD
Process Water Ponds - PLS, ILS and Raffinate	11.4	LIG	Water storages	Class 4	Water storages	TBD	TBD
Stormwater Ponds 1 and 2	0.7	LIG	LIG or diversion	Class 4	Class 4 - 5	TBD	TBD
Stormwater Pond spillway channel	0.6	LIG	LIG/Water storage	Class 4	Class 4 or water storage	TBD	TBD
Raw Water Pond	9.7	LIG	LIG	Class 4	Class 4	TBD	TBD
Process Area Topsoil Stockpiles							

Disturbance Category	Max. Area	Land Use		Land Capability		Analogue Site	
		LIG	LIG or diversion	Class 4	Class 4 - 5	TBD	TBD
Process Plant	2.7	LIG	LIG or diversion	Class 4	Class 4 - 5	TBD	TBD
Drainage Diversions	1	LIG	LIG or ponds	Class 4 - 5	Class 4 - 5		
Sediment Ponds	2.6	LIG	LIG	Class 4	Class 4	TBD	TBD
Bulk Fill Stockpile	1	LIG	LIG	Class 4 - 5	Class 4 - 5	TBD	TBD
Pipelines and Powerlines (on lease)	83	LIG/Habitat	Permanent Structure	Class 4 - 5	Permanent Structure		
Pipelines and Powerlines on Infrastructure ML							
Rubbish Dumps	0.2	LIG	LIG	Class 4 - 5	Class 4 - 5	TBD	TBD
Concrete Batch Plant	0.3	LIG	LIG	Class 4	Class 4	TBD	TBD
Fuel Storage Area	0.3	LIG	LIG	Class 4	Class 4	TBD	TBD
Contractor Laydown Area	4.3	LIG	LIG	Class 4	Class 4	TBD	TBD
Exploration	5	LIG	LIG/Habitat	Class 4 - 5	Class 4 - 5	TBD	TBD
Construction Access (net of specific areas)	59.9	LIG	LIG/Habitat	Class 4 - 5	Class 4 - 5	TBD	TBD
Gravel Borrow Pits (on and off ML)	6.7	LIG/Habitat	LIG/Habitat	Class 4 - 5	Class 4 - 5	TBD	TBD
Upgrade to Access Road (off ML)	2.0	LIG/Habitat	Permanent access road for landholder	Class 4 - 5	Permanent access road for landholder	TBD	TBD
Total	368.1						

*Analogue sites and disturbance description are to be identified and the environmental authority holder must amend the environmental authority to include analogue sites in Schedule F - Table 1 by 30 June 2007.

TBD- To be determined

LIG- Low Intensity Grazing

Classes are derived from the Department of Minerals and Energy's Land Suitability Assessment Techniques (1996)

(F1-2) Progressive rehabilitation must commence when areas become available within the operational land.

(F1-3) Complete an investigation into rehabilitation of disturbed areas and submit a report to the administering authority proposing acceptance criteria to meet the outcomes in Schedule F - Table 1 and landform design criteria in Schedule F - Table 2 by 30 June 2007



Schedule F - Table 2 (Landform Design)

Disturbance type	Slope range (%)	Projective surface area (ha)
Waste Rock Dumps	33%-76% (1:3 to angle of repose)	49.7
Heap Leach Pads	<33% or 1:3	43.2
ROM Pads	33%-76% (1:3 to angle of repose)	13.3

Residual Void Outcome

(F2-1) Residual voids must not cause any serious environmental harm to land, surface waters or any recognised groundwater aquifer, other than the environmental harm constituted by the existence of the residual void itself and subject to any other condition within this environmental authority.

Dams Containing Hazardous Waste

Description of Dam

(F3-1) The construction or operation of any dam containing hazardous waste within the operational land must comply with Schedule F - Table 3.

Schedule F — Table 3 (Size and Purpose of Dams Containing Hazardous Waste)

Name of dam containing hazardous waste ⁽¹⁾	Maximum surface area of dam (ha)	Maximum volume of dam (m ³)	Maximum depth of dam (m) ⁽²⁾	Purpose of dam ⁽³⁾
Process Water Ponds (Raffinate Pre-Settler, Raffinate, ILS and PLS)	3.4	51,100	4.5	Storage of Process Solutions
Heap Leach Pads	43.2	N/A	N/A	Storage of Process Solutions
Stormwater Pond 1 (Stage 1 only)	6.47	302,760	6.35	Storage of storm water runoff from processing area
Stormwater Pond 1 & 2 (Stage 2)	10.4	467,720	6.35	Storage of storm water runoff from processing area

- Note ⁽¹⁾: The name of the dam containing hazardous waste should refer to the name of the dam e.g. process residue facility and decant dam.
- Note ⁽²⁾: For dams that do not require a dam wall, input the maximum void depth e.g. where dams are formed by excavating below the land surface or backfilling a residual void.
- Note ⁽³⁾: Purpose of the dam should outline the designed function, e.g. "the permanent containment of tailings resulting from the extraction of nickel, cobalt and other metals at the XYZ Refinery".



Location of Dam

(F3-2) The location of any dam containing hazardous waste within the licensed place must be located within the polygonal area defined by the co-ordinates defined in Schedule C- Table 4 –Map 4.

Schedule F — Table 4 (Location of Dams Containing Hazardous Waste)

Name of dam containing hazardous waste	Easting(AMG 84, Zone 54) ⁽¹⁾	Northing (AMG 84, Zone 54) ⁽¹⁾
PLS Ponds, ILS, Raffinate Pre-settler and Raffinate Pond	301760	7797640
	302065	7797640
	302035	7797310
	301760	7797310
Stormwater Pond 1 and 2	301470	7797640
	301760	7797640
	301760	7797110
	301470	7797110
Heap Leach Pads	302065	7797945
	302720	7797945
	302720	7796825
	302035	7796825

Note ⁽¹⁾: A minimum of 3 control points is required to constrain the location of all activities associated with the dam containing hazardous waste. Additional infrastructure which forms part of any dam containing hazardous waste may include appurtenant works consisting of tailings discharge pipelines, seepage collection systems, runoff diversion bunds, containment systems, pressure relief wells, decant and recycle water systems.

Standards and Criteria

(F3-3) The holder of the environmental authority must design, construct, repair, maintain, operate and decommission the dams defined in Schedule F – Table 3 and 4 in accordance with an acknowledged design plan that must comply with the standard environmental conditions in the “Code of Environmental Compliance for High Hazard Dams Containing Hazardous Waste”.

(F3-4) The holder of the environmental authority must design, construct, and operate all low hazardous dams containing hazardous waste and non-hazardous dams in accordance with the criteria outlined in Appendix B of the Code of Environmental Compliance for Mining Activities.

Inspection of Dams

(F3-5) High hazard dams containing hazardous waste shall be inspected by a Registered Professional Engineer Queensland (RPEQ) prior to 1 November each year or at any time if alarming, unusual or otherwise unsatisfactory conditions are observed.

(F3-6) For each inspection, the engineer shall assess the condition of the dam and its foundations, determine the hydraulic adequacy of the dam and assess the adequacy of the works with respect to dam safety.

(F3-7) For each inspection, two copies of the engineer's report and any recommendations as to measures to be taken to ensure the integrity of the dam shall be furnished to the administering authority within 28 days of the inspection.

Decommissioning of Dam – Objective

(F3-8) Dams containing hazardous waste must not be abandoned and must be decommissioned to a situation where water can no longer be stored in the dams. The dams and their contained waste(s) must be stable, whereafter the dams are no longer dams and they become landforms on the operational land and must comply with the rehabilitation requirements of this environmental authority.

Decommissioning of Dam – Documentation and Compliance

(F3-9) Decommissioning activities for dams must be documented in detail in the plan of operations under which the activities are to occur. Where the detailed documentation is not already contained in the Design Plan for the dam, the detailed documentation is considered to be an amendment to the design plan and must be submitted

as an amendment to the design plan required by the "Code of Environmental Compliance for High Hazard Dams Containing Hazardous Waste":

Infrastructure

- (F4-1) All infrastructure, constructed by or for the environmental authority holder during the mining activities including water storage structures, must be removed from the site prior to mining lease surrender, except where agreed in writing by the post mining landowner / holder.

NOTE: This is not applicable where the landowner / holder is also the environmental authority holder.

Contaminated Lands

- (F5-1) A register and map of all potentially contaminated sites and any remediation details, must be kept on site, updated regularly, and included in each Plan of Operations.
- (F5-2) A Spillage Management Plan and an Emergency Plan for all hazardous materials stored on-site, together with a description of suitable equipment and training must be updated and included with each Plan of Operations.

END CONDITIONS FOR SCHEDULE F

Schedule G - Community**Complaint Response**

- (G1-1) All complaints received must be recorded including details of complainant, reasons for the complaint, investigations undertaken, conclusions formed and actions taken. This information must be made available for inspection by the administering authority on request.

END CONDITIONS FOR SCHEDULE G

Schedule H – Definitions

“acceptance criteria” means the measures by which the actions implemented to rehabilitate the land are deemed to be complete. The acceptance criteria indicate the success of the rehabilitation outcome or remediation of areas which have been significantly been disturbed by the mining activities. Acceptance criteria may include information regarding:

- vegetation establishment, survival and succession;
- vegetation productivity, sustained growth and structure development;
- fauna colonisation and habitat development;
- ecosystem processes such as soil development and nutrient cycling, and the recolonisation of specific fauna groups such as collembola, mites and termites which are involved in these processes;
- microbiological studies including recolonisation by mycorrhizal fungi, microbial biomass and respiration;
- effects of various establishment treatments such as deep ripping, topsoil handling, seeding and fertiliser application on vegetation growth and development;
- resilience of vegetation to disease, insect attack, drought and fire;
- vegetation water use and effects on ground water levels and catchment yields.

“affected building”

- for noise means any building or any part of a building, for example the building from which the noise is made, at which the noise can be heard.
- for vibration means any building or any part of a building, for example the activity from which the vibration is made, at which the vibration can be felt.

“ambient (or total) noise” at a place, means the level of noise at the place from all sources (near and far), measured as the Leq for an appropriate time interval.

“appropriately qualified person” means any person who conforms to the EPA operational policy for an “appropriately qualified person (analyst)” in accordance with Section 490(7) of the *Environmental Protection Act 1994*.

“ARD” means acid rock drainage and refers to the low pH, high heavy metal pollutant typical of sulphidic mine wastes, and most commonly associated with the production of ferrous iron and sulphuric acid through the oxidation of sulphide minerals.

“authority” means environmental authority (mining activities) under the *Environmental Protection Act 1994*.

“blasting” means the use of explosive materials to fracture-

- (a) rock, coal and other minerals for later recovery; or
- (b) structural components or other items to facilitate removal from a site or for reuse.

“building” includes a structure of any type and part of a building or structure.

“commercial place” means a work place used as an office or for business or commercial purposes, which is not part of the mining activity and does not include employees accommodation or public roads.

“competent person” means a person with the demonstrated skill and knowledge required to carry out the task to a standard necessary for the reliance upon collected data or protection of the environment.

“dam” means a containment or proposed containment whether permanent or temporary, which is designed to contain, divert or control flowable substances. However this does not include a fabricated or manufactured tank or container designed to a recognised standard.

“design plan” in the context of a dam design is the documentation required under the Code of Environmental Compliance for High Hazard Dams Containing Hazardous Waste to describe the physical dimensions of the dam, the materials and standards to be used for construction of the dam, the procedures and criteria to be used for operating the dam and the decommissioning and rehabilitation objectives in terms of procedures, works and outcomes at the end of dam life. The documents can include design and investigation reports, drawings, specifications and certifications.

“environmental authority holder” means the holder of this environmental authority.

“flow event” means a flow event producing sufficient water to permit a monitoring creek bed flow of 300m or more at the sampling station.

“flowable substance” means matter or mixture of materials which can be forced to or otherwise flow under any conditions possible in a situation. It includes water, other liquids or a mixture that includes water or any other liquid or suspended solids.

"hazardous waste" means any substance, whether liquid, solid or gaseous, derived by or resulting from, the processing of minerals that tends to destroy life or impair or endanger health.

"infrastructure" means water storage dams, roads and tracks, buildings and other structures built for the purpose of mining activities but does not include facilities required for the long term management of mining impacts or the protection of potential resources. Such facilities include dams containing hazardous waste, waste rock dumps, voids, or ore stockpiles and buildings or other structures whose ownership can be transferred and which have a residual beneficial use for the next owner of the operational land or the background land owner.

"LA 10, adj, 10 mins" means the A-weighted sound pressure level, (adjusted for tonal character and impulsiveness of the sound) exceeded for 10% of any 10-minute measurement period, using Fast response.

"LA 1, adj, 10 mins" means the A-weighted sound pressure level, (adjusted for tonal character and impulsiveness of the sound) exceeded for 1% of any 10-minute measurement period, using Fast response.

"LA, max adj, 1" means the average maximum A-weighted sound pressure level, adjusted for noise character and measured over any 10 minute period, using Fast response.

"land" in the "land schedule" of this document means land excluding waters and the atmosphere.

"land capability" as defined in the DME 1995 Technical Guidelines for the Environmental Management of Exploration and Mining in Queensland.

"land suitability" as defined in the DME 1995 Technical Guidelines for the Environmental Management of Exploration and Mining in Queensland.

"land use" term to describe the selected post mining use of the land, which is planned to occur after the cessation of mining operations.

"leachate" means a liquid that has passed through or emerged from, or is likely to have passed through or emerged from, a material stored, processed or disposed of at the operational land which contains soluble, suspended or miscible contaminants likely to have been derived from the said material.

"mandatory reporting level" means the volume below the spillway crest, equivalent to the lower of the AEP, 72 hour storm or the AEP wave allowance (AEP is the annual exceedence probability).

"mineral" means a substance which normally occurs naturally as part of the earth's crust or is dissolved or suspended in water within or upon the earth's crust and includes a substance which may be extracted from such a substance, and includes—

- (a) clay if mined for use for its ceramic properties, kaolin and bentonite;
 - (b) foundry sand;
 - (c) hydrocarbons and other substances or matter occurring in association with shale or coal and necessarily mined, extracted, produced or released by or in connection with mining for shale or coal or for the purpose of enhancing the safety of current or future mining operations for coal or the extraction or production of mineral oil therefrom;
 - (d) limestone if mined for use for its chemical properties;
 - (e) marble;
 - (f) mineral oil or gas extracted or produced from shale or coal by in situ processes;
 - (g) peat;
 - (h) salt including brine;
 - (i) shale from which mineral oil may be extracted or produced;
 - (j) silica, including silica sand, if mined for use for its chemical properties;
 - (k) rock mined in block or slab form for building or monumental purposes;
- but does not include—
- (l) living matter;
 - (m) petroleum within the meaning of the *Petroleum Act 1923*;
 - (n) soil, sand, gravel or rock (other than rock mined in block or slab form for building or monumental purposes) to be used or to be supplied for use as such, whether intact or in broken form;
 - (o) water.

"noxious" means harmful or injurious to health or physical well being, other than trivial harm.

"offensive" means causing reasonable offence or displeasure; is disagreeable to the sense; disgusting, nauseous or repulsive, other than trivial harm.

"peak particle velocity (ppv)" means a measure of ground vibration magnitude which is the maximum rate of change of ground displacement with time, usually measured in millimetres/second (mms^{-1}).

"protected area" means - a protected area under the *Nature Conservation Act 1992*; or

- a marine park under the *Marine Parks Act 1992*; or
- a World Heritage Area.

"progressive rehabilitation" means rehabilitation (defined below) undertaken progressively or a staged approach to rehabilitation as mining operations are ongoing.

"reference site" (or analogue site) may reflect the original location, adjacent area or another area where rehabilitation success has been completed for a similar biodiversity. Details of the reference site may be as photographs, computer generated images and vegetation models etc.

"rehabilitation" the process of reshaping and revegetating land to restore it to a stable landform and in accordance with the acceptance criteria set out in this environmental authority and, where relevant, includes remediation of contaminated land.

"representative" means a sample set which covers the variance in monitoring or other data either due to natural changes or operational phases of the mining activities.

"residual void" means an open pit resulting from the removal of ore and/or waste rock which will remain following the cessation of all mining activities and completion of rehabilitation processes.

"self sustaining" means an area of land which has been rehabilitated and has maintained the required acceptance criteria without human intervention for a period nominated by the administering authority.

"sensitive place" means;

- a dwelling, residential allotment, mobile home or caravan park, residential marina or other residential premises; or
- a motel, hotel or hostel; or
- an educational institution; or
- a medical center or hospital; or
- a protected area under the *Nature Conservation Act 1992*, the *Marine Parks Act 1992* or a World Heritage Area; or
- a public park or gardens.

"significant disturbance" - includes land

- (a) if it is contaminated land; or
- (b) it has been disturbed and human intervention is needed to rehabilitate it.
 - i. to a state required under the relevant environmental authority; or
 - ii. if the environmental authority does not require the land to be rehabilitated to a particular state - to its state immediately before the disturbance.

Some examples of disturbed land include:

- areas where soil has been compacted, removed, covered, exposed or stockpiled;
- areas where vegetation has been removed or destroyed to an extent where the land has been made susceptible to erosion; (vegetation & topsoil)
- areas where land use suitability or capability has been diminished;
- areas within a watercourse, waterway, wetland or lake where mining activities occur;
- areas submerged by tailings or hazardous contaminant storage and dam walls in all cases;
- areas under temporary infrastructure. Temporary infrastructure includes any infrastructure (roads, tracks, bridges, culverts, dams, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc) which is to be removed after mining activities have ceased; or
- areas where land has been contaminated and a suitability statement has not been issued.

However, the following areas are not included:

- areas off lease (e.g. roads or tracks which provide access to the mining lease);
- areas previously significantly disturbed which have achieved the rehabilitation outcomes;
- by agreement with the EPA, areas previously significantly disturbed which have not achieved the rehabilitation objective(s) due to circumstances beyond the control of the mine operator (such as climatic conditions);
- areas under permanent infrastructure. Permanent infrastructure includes any infrastructure (roads, tracks, bridges, culverts, dams, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc) which is to be left by agreement with the landowner. The agreement to leave permanent infrastructure must be recorded in the Landowner Agreement and lodged with the EPA;
- disturbances that pre-existed the grant of the tenure unless those areas are disturbed during the term of the tenure.

"spillway" means passage or outlet from the dam through which surplus water flows.

"stable" means land form dimensions are or will be stable within tolerable limits now and in the foreseeable future. Stability includes consideration of geotechnical stability, settlement and consolidation allowances, bearing capacity (traffic ability), erosion resistance and geochemical stability with respect to seepage and contaminant generation.

"suitably qualified and experienced person" means a person who is a Registered Professional Engineer of Queensland under the provisions of the *Professional Engineers Act 1988* or a Corporate Member of the Institution of Engineers Australia or holds equivalent professional qualifications and has the following:

- (a) knowledge of engineering principles related to the structures, geomechanics, hydrology, hydraulics, chemistry and environmental impact of dams; and
- (b) at least a total of five years of suitable experience and demonstrated expertise in at least four of the following areas:
 - investigation, design or construction of dams;
 - operation and maintenance of dams;
 - geomechanics with particular emphasis stability, geology and geochemistry;
 - hydrology with particular reference to flooding, estimation of extreme storms, water management or meteorology;
 - hydraulics with particular reference to sediment transport and deposition, erosion control, beach processes;
 - hydrogeology with particular reference to seepage, groundwater,
 - solute transport processes and monitoring thereof; or
 - dam safety.

"tolerable limits" means that a range of values could be accepted to achieve an overall environmental management objective (eg a range of settlement of a talling capping could still meet the objective of draining the cap quickly, preventing pondage and limiting infiltration and percolation).

"trivial harm" means environmental harm which is not material or serious environmental harm and will not cause actual or potential loss or damage to property of an amount of, or amounts totalling more than \$5,000.

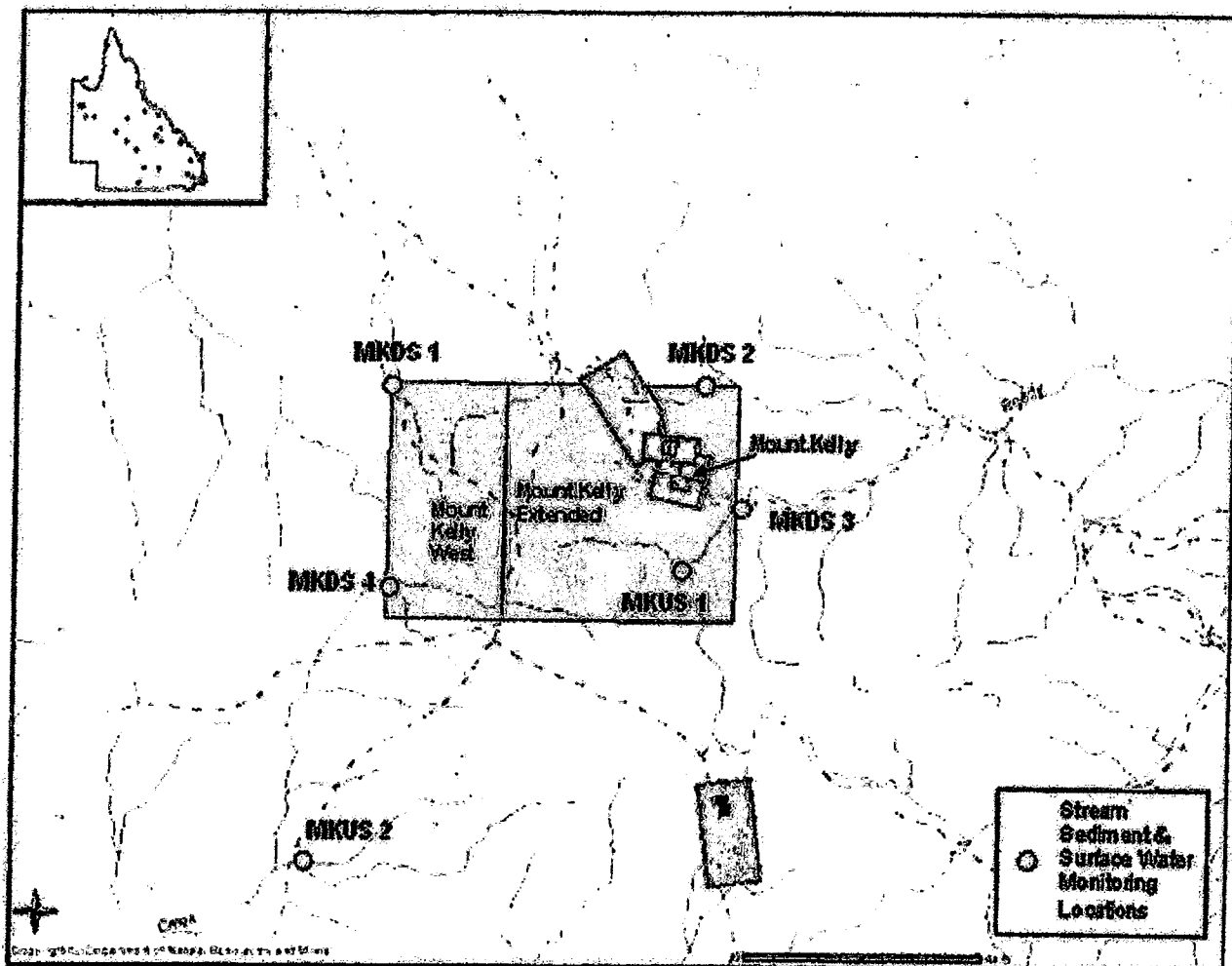
"watercourse" - Means a river, creek or stream in which water flows permanently or intermittently in a visibly defined channel (natural, artificial or artificially improved) with:

- (a) continuous bed and banks;
- (b) an extended period of flow for some months after rain ceases, and
- (c) an adequacy of flow that sustains basic ecological processes and maintains biodiversity.

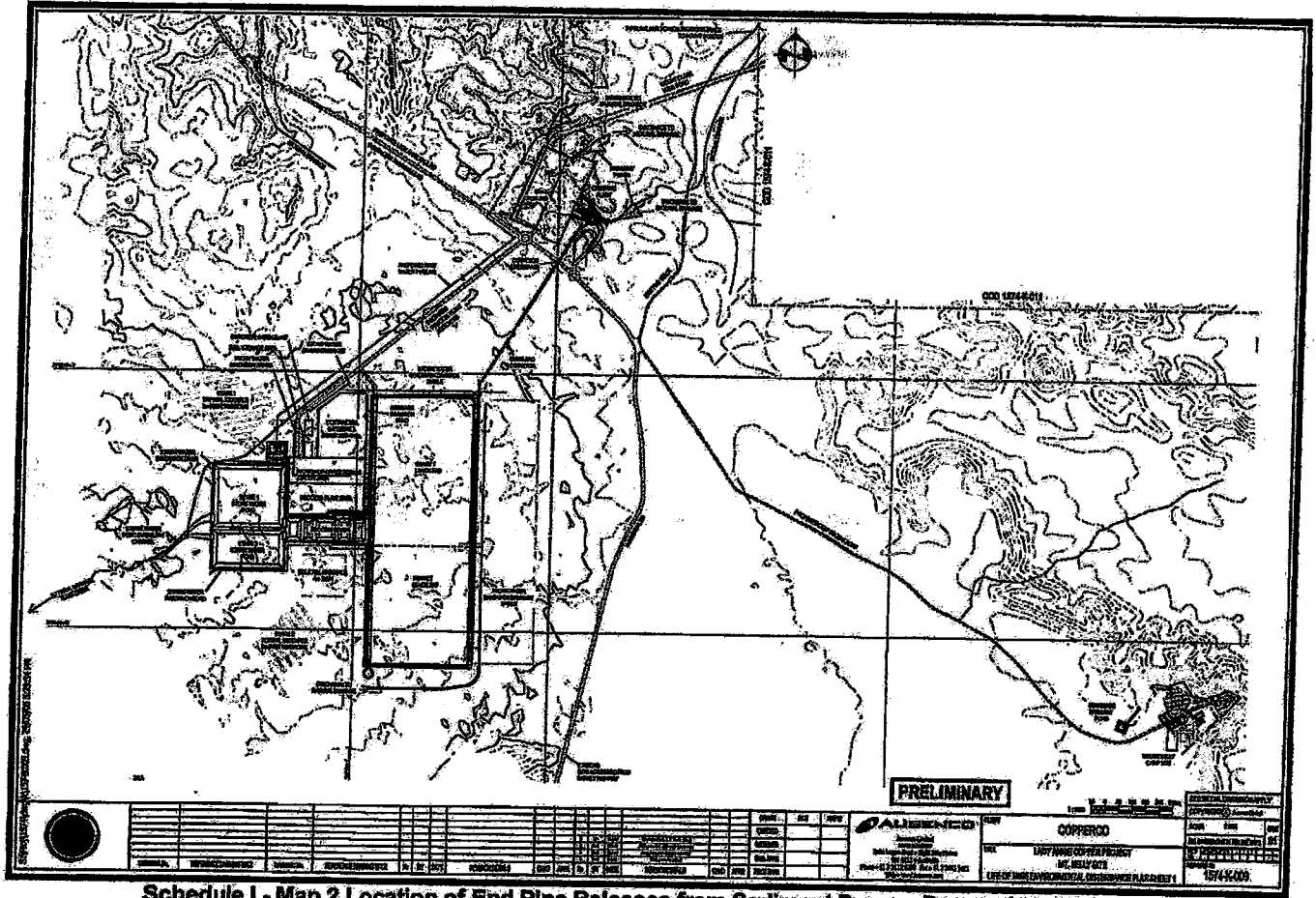
"waters" includes river, stream, lake, lagoon, pond, swamp, wetland, unconfined surface water, bed and bank of any waters, dams, non-tidal or tidal waters (including the sea) or any part thereof.

END CONDITIONS FOR SCHEDULE H

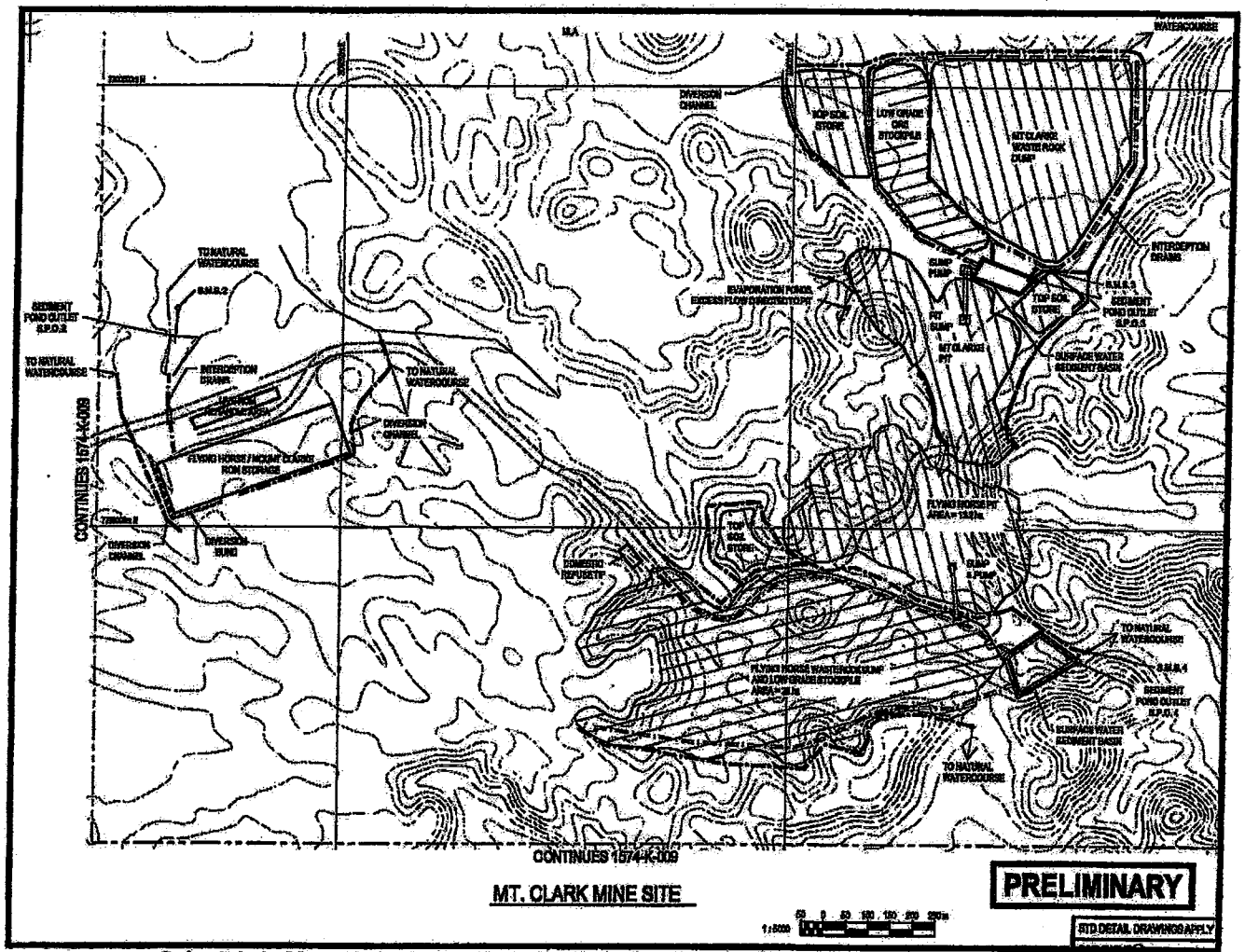
Schedule 1 - Maps / Plans



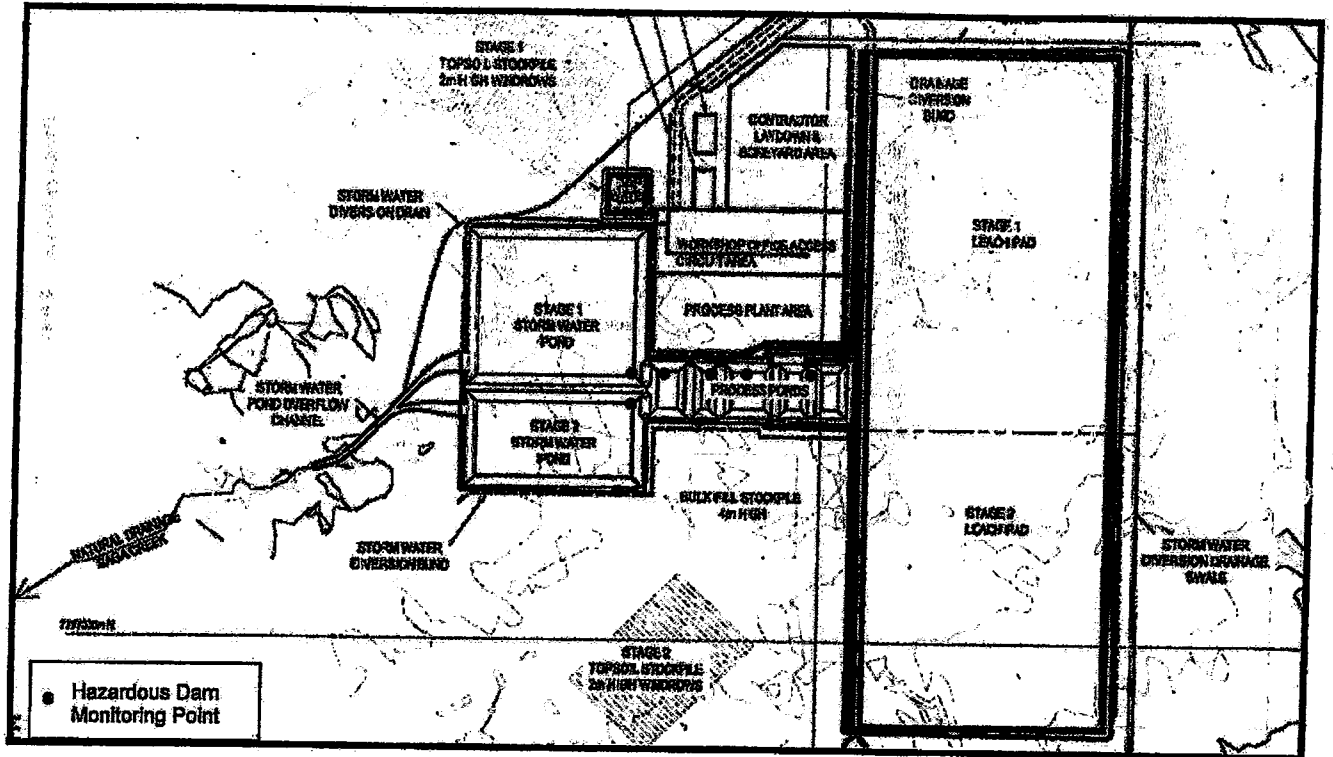
Schedule 1 - Map 1 Receiving Water Monitoring Locations



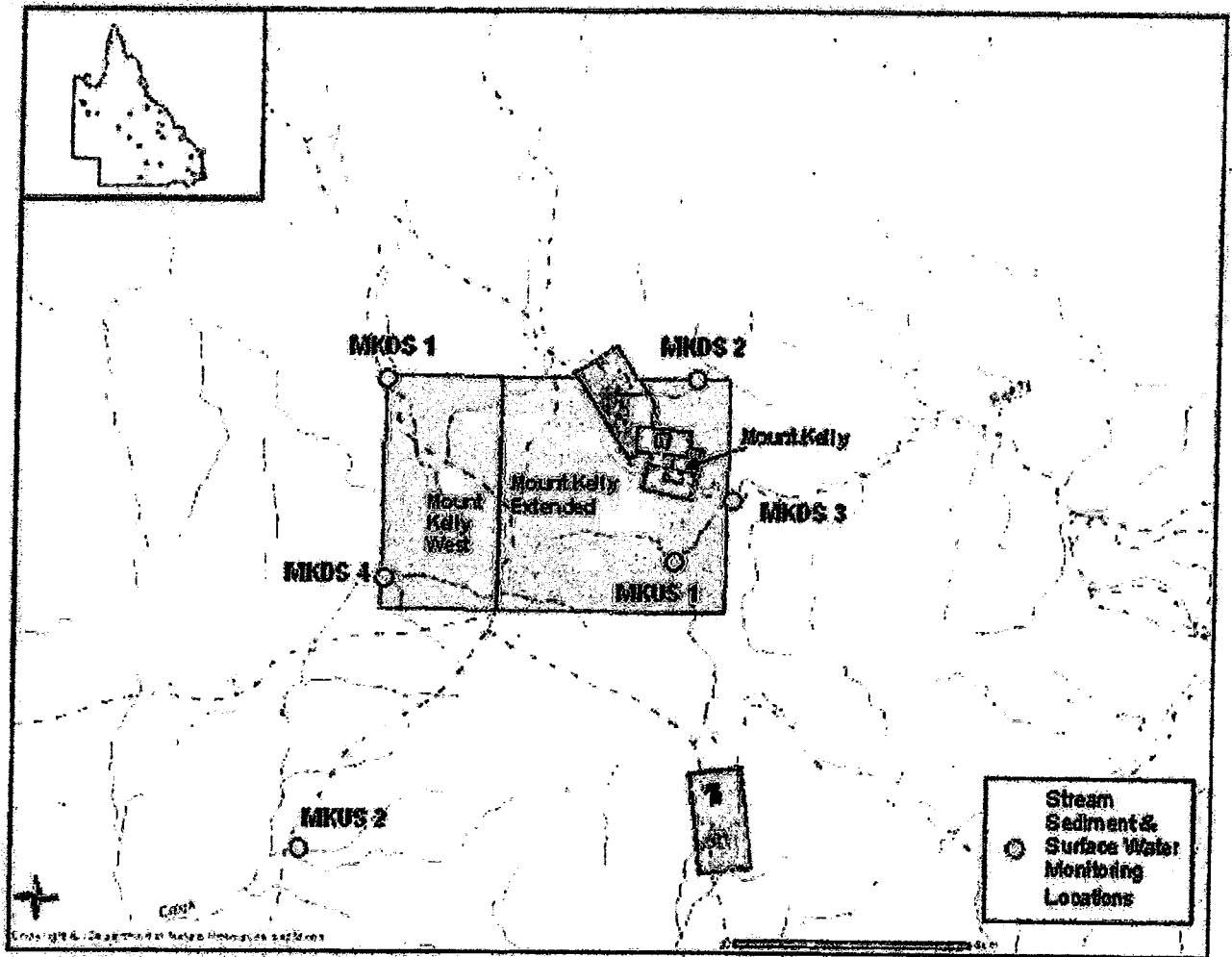
Schedule I - Map 2 Location of End Pipe Releases from Sediment Dams - Processing Area



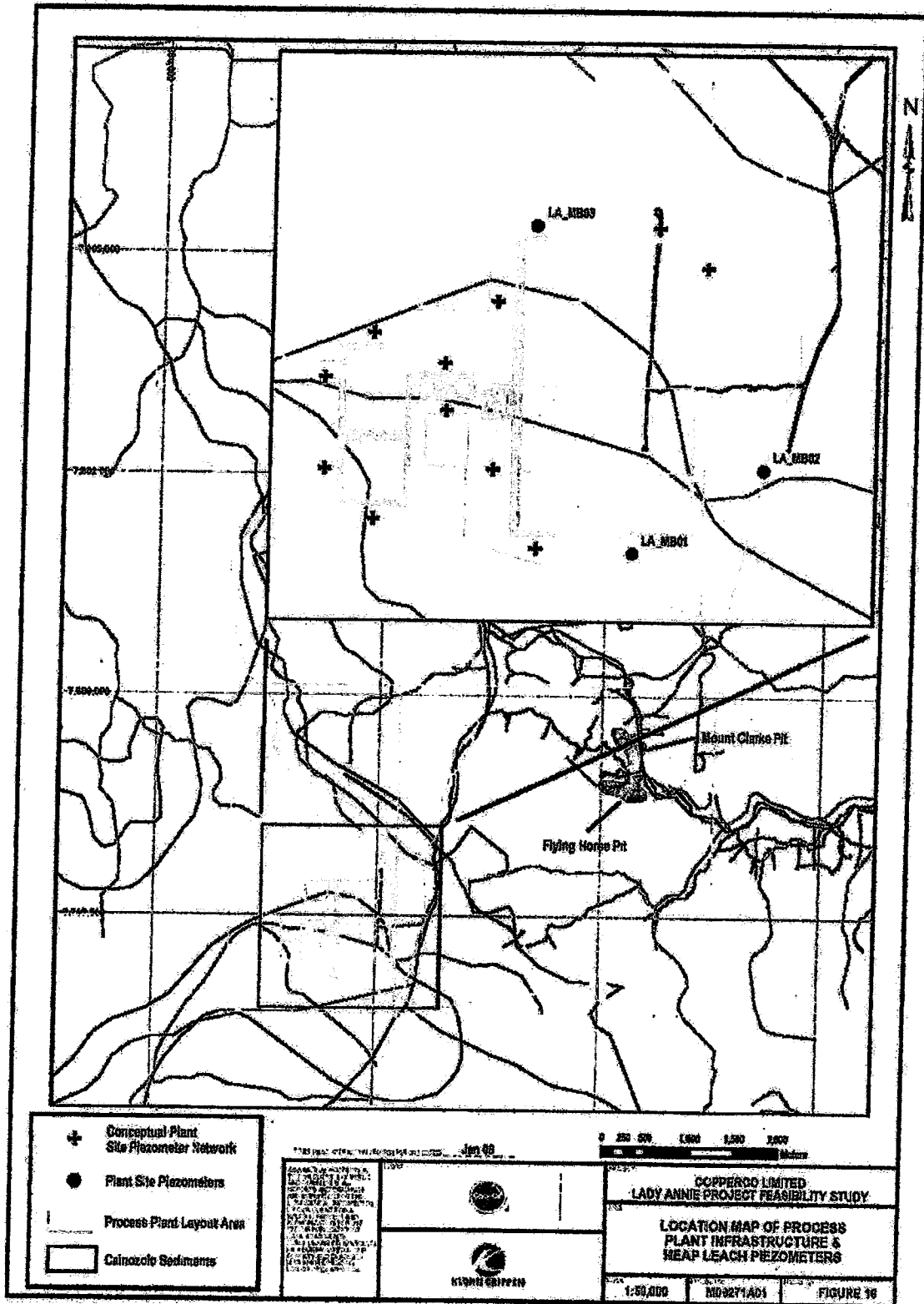
Schedule I - Map 3 Location of End Pipe Releases from Sediment Dams - Mining Area



Schedule 1 - Map 4 Location of Hazardous Dams



Schedule 1 - Map 5 Stream Sediments Monitoring Locations



Schedule I - Map 6 Groundwater Monitoring Locations

END CONDITIONS FOR SCHEDULE I

END OF ENVIRONMENTAL AUTHORITY



Queensland
Government

Enquiries Neil Maver
Telephone (07) 4744 7820
Your reference MIN100401006
Our reference ISA658

Environmental Protection Agency

Incorporating the
Queensland Parks and Wildlife Service

31 January 2007

Wayne Frampton
Mining Registrar
Department of Mines & Energy
PO BOX 334
MOUNT ISA QLD 4825

Natural Resources, Mines and Water

30583

1 FEB 2007

MOUNT ISA
RECEIVED

Dear Wayne

Re: Application submitted by Reefway Pty Ltd and Savannah Resources Pty Ltd to amend Environmental Authority MIN100401006 (Mount Kelly Project)

The Environmental Protection Agency (EPA) received the application to amend Environmental Authority MIN100401006 on 2 October 2006.

Attached is a draft amended Environmental Authority MIN100401006 prepared by this agency. The Environmental Authority holder is now required under Section 254 of the *Environmental Protection Act 1994* to give notice of their application to amend the Environmental Authority to each affected person for each mining lease and publish the notice at least once in a newspaper circulating in the locality of the land to which the mining lease is subject.

This amendment application includes the addition of mining lease application 90179 to the Mount Kelly Project which consists of the following mining leases: ML5426, ML5435, ML5446, ML5447, ML5448, ML5474, ML5476, ML5478, ML90168, ML90169, ML90170 & ML90178. The attached Environmental Authority is also the draft Environmental Authority for this mining lease application.

Should you have any further enquiries please do not hesitate to contact Neil Maver on (07) 4744 7820.

Yours sincerely

s.49 - Signature

GEOFF Metcalfe
District Manager
Environmental Operations
North West District

Page 1 of 1

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12-513

File D Part 2

Cnr Carnooweal & Mary Streets Mount Isa
Queensland 4825 Australia
PO Box 2316 Mount Isa
Queensland 4825 Australia
Telephone (07) 4744 7888
Facsimile (07) 4744 7800
Website www.epa.qld.gov.au
ABN 87 221 158 786
Page 165 of 250



Queensland Government
Environmental Protection Agency
Queensland Parks and Wildlife Service

Mt Isa District Office
PO Box 2316 MOUNT ISA QLD 4825
Phone: (07) 4744 7888 Fax: (07) 4744 7800
www.env.qld.gov.au ABN: 87221158786

Notice of specified objection period for application for amendment of environmental authority (mining lease)

Section 255 Environmental Protection Act 1994

This notice is issued by the administering authority pursuant to section 255 of the Environmental Protection Act 1994, to advise you of the objection period for an application for an amendment to an environmental authority (mining lease).

Enquires to : Neil Maver
Telephone : (07) 4744 7820
Your reference : MIN100401006
Our reference : ISA658

Reefway Pty Ltd
Level 22 Allendale Square
77 St Georges Terrace
Perth WA 6000

Attention: Phillip Hartog,

Re: Application to amend environmental authority (mining lease) number MIN100401006, in relation to the Mount Kelly Project.

Thank you for the above mentioned application received by this office on 2 October 2006.

A draft environmental authority has been prepared by this agency and is attached.

Please note that section 254 of the *Environmental Protection Act 1994* requires that within 10 business days of your receipt of the draft environmental authority, you must give notice of your application to amend the environmental authority to each affected person for each mining lease and publish the notice at least once in a newspaper circulating in the locality of the land to which the mining lease is subject. The definition of "affected person", as prescribed by the Act, is attached.

You are advised that any person/entity may make an objection to the administering authority about the application, the draft environmental authority for the application or a condition included in the draft environmental authority.

The **objection period** for this application, during which objections may be given, concludes on **date prescribed under the Mineral Resources Act 1989**.

During this time you are required to make application documents available for inspection by interested and or affected persons and to provide copies of application documents upon request.



An application notice template, titled "Public Notice of application for amendment of environmental authority (mining lease), Section 254", is available from all Environmental Protection Agency (EPA) offices or via the EPA web site, and should be used to produce the application notice.

s.49 - Signature

Signed

31/1/07
Date

Geoff Metcalfe
District Manager
Delegate of Administering Authority
Environmental Protection Act 1994



Definitions of "affected person" and "interested person", as prescribed by the Act

Who is an "affected person" for a project

- 38.(1)** A person is an "affected person" for a project if the person is —
- (a) a person mentioned in subsection (2) for the operational land or any land joining it; or
 - (b) any of the following under the *Native Title Act 1993* (Cwth) for the operational land or for an area that includes any of the land —
 - (i) a registered native title body corporate;
 - (ii) a registered native title claimant;
 - (iii) a representative Aboriginal/Torres Strait Islander body; or
 - (c) a relevant local government for the operational land.
- (2)** For subsection (1)(a), the persons are as follows —
- (a) for freehold land — a registered proprietor;
 - (b) for land that is held from the State for an estate or interest less than fee simple and for which the interest is recorded in a register mentioned in the *Land Act 1994* ("Land Act"), section 276 — a person recorded in the register as the registered holder of the interest;
 - (c) for land subject to a mining claim, mineral development licence or mining lease — a holder of, or an applicant for, the tenement;
 - (d) for land subject to an authority to prospect or a lease or licence under the *Petroleum Act 1923* —
 - (i) a holder of the authority; or
 - (ii) a lessee under the lease; or
 - (iii) a licensee under the licence;
 - (e) for land under the Land Act or the *Nature Conservation Act 1992* ("NCA") for which there are trustees — a trustee of the land;
 - (f) for Aboriginal land under the *Aboriginal Land Act 1991* ("ALA") that is taken to be a reserve because of section 87(2) or 87(4)(b) of that Act — a grantee of the land;
 - (g) for DOGIT land under the ALA or the *Torres Strait Islander Land Act 1991* — a trustee for the land;
 - (h) for land held under a lease under the *Local Government (Aboriginal Lands) Act 1978*, section 6 — a relevant local government;
 - (i) for Torres Strait Islander land under the *Torres Strait Islander Land Act 1991* that is taken to be a reserve because of section 84(2) or 84(4)(b) of that Act — a grantee of the land;
 - (j) for land under a lease from the State under the *Aborigines and Torres Strait Islanders (Land Holding) Act 1985* that has been excised from land granted in trust for Aboriginal or Torres Strait Islander purposes under the Land Act — a trustee of the land;
 - (k) for land that is any of the following, the State —
 - (i) unallocated State land;
 - (ii) a reserve under the Land Act for which there is no trustee;
 - (iii) a national park, national park (Aboriginal land), national park (scientific), national park (Torres Strait Islander land), national park (recovery) or forest reserve under the NCA;
 - (iv) a conservation park under the NCA for which there are no trustees;
 - (v) a State forest or timber reserve under the *Forestry Act 1959*;
 - (vi) a State controlled road under the *Transport Infrastructure Act 1994*;
 - (vii) a fish habitat area under the *Fisheries Act 1994*.
 - (l) another person prescribed under a regulation.

"interested person" means an interested person proposed by the proponent under section 41(3)(b).

Statutory declaration

Mining

Statutory declaration for public notice requirements

A statutory declaration is a written statement of facts that is sworn or declared under the Oaths Act 1867. This statutory declaration should be completed and forwarded to the administering authority within 5 business days after the objection period, in accordance with section 214 of the Environmental Protection Act 1994. You must attach a copy of the application notice to this statutory declaration.

OATHS ACT 1867

QUEENSLAND

TO WIT

Re: Public notice prepared for the application for:

(please tick one of the following)

- environmental authority (mining lease); or
 environmental authority (mining claim); or
 amendment of environmental authority (mining lease)

Described as:**On land described as:**

I

insert the name of the person making this declaration

of

insert the street address of the person making this declaration

In the State of Queensland do solemnly and sincerely declare that in accordance with section 214 of the *Environmental Protection Act 1994*, in relation to the above mentioned application:

Statutory declaration
Statutory declaration for public notice requirements

Proponent/company name

Have (please tick only one of the following):

- fully complied with the public notice requirements of either: sections 211 and 212 of the *Environmental Protection Act 1994*, in the case of an application for an environmental authority (mining lease or mining claim); or sections 254 and 212 of the *Environmental Protection Act 1994*, in the case of an application to amend an environmental authority (mining lease).

OR

- not fully complied with the public notification requirements of sections 211 and 212 or sections 254 and 212 of the *Environmental Protection Act 1994* and the details of non compliance are as follows:

The application notice (attached) was published in the following media:

1.	
2.	

1.	
2.	

Insert publication name

Insert publication date

And the application notice has been given to the following persons

1.	
2.	
3.	

Insert name, address and dates

Statutory declaration
Statutory declaration for public notice requirements

Taken and declared before me, at

Insert location

this

day of

in the year

Insert day (e.g. 18th)

Insert month

Insert year

Signed

(Person making this declaration)

Signed

(Delete whichever are not applicable --- Justice of the
Peace / Commissioner for Declarations / Solicitor /
Barrister)

Printed name and registration number (if applicable)

Public Notice

PUBLIC NOTICE OF APPLICATION FOR AMENDMENT OF ENVIRONMENTAL AUTHORITY (MINING LEASE)

Page 2 of this document contains the form and format to be used for a PUBLIC NOTICE OF APPLICATION FOR AMENDMENT OF ENVIRONMENTAL AUTHORITY (MINING LEASE). All version information for this notice is contained on this page only

**DO NOT INCLUDE THIS PAGE
IN THE FINAL DOCUMENT**





**Environmental Authority No. MIN100401006
 (mining activities)**

Section 258 Environmental Protection Act 1994

This environmental authority is granted under the *Environmental Protection Act 1994* and includes conditions to minimise environmental harm caused, or likely to be caused, by the authorised mining activities. An environmental authority (mining activities) may be for mining activities authorised (under the *Mineral Resources Act 1989*) to occur under one of the following mining tenements: a prospecting permit; mining claim; exploration permit; mineral development licence; or mining lease. In general, a mining activity means: prospecting, exploring, mining; or processing minerals; remediation; rehabilitation; and includes facilitation and supporting activities and any action taken to prevent environmental harm.

Under the provisions of the *Environmental Protection Act 1994* this Environmental Authority is issued to:

Reefway Pty Ltd
 Level 22 Allendale Square
 77 St Georges Terrace
 Perth WA 6000

Savannah Resources Pty Ltd
 Level 22, Allendale Square
 77 St Georges Terrace
 Perth WA 6000

In respect of carrying out activities as part of the following mining project:

Type of Environmental Authority (mining activities)	Authorised mining tenements	Location
Mining Leases	ML 5426, ML 5478, ML90168 ML90169, ML90170, ML90178 ML90179, ML 5435, ML 5446 ML 5447, ML 5448, ML 5474 ML 5476,	100km north of Mount Isa

The mining activities are authorized to the extent defined in Schedule 6 Section 14(c) of the *Environmental Protection Regulation 1998*.

This Environmental Authority is subject to the conditions set out in the attached schedules.

The anniversary date of this Environmental Authority is 24 July each year.

This Environmental Authority takes effect from ~~X 2007~~ for granted tenements and will take effect for ML90178 and ML90179 upon date of grant of tenure.

Geoff Metcalfe
 District Manager
 Mt Isa District, Northern Region
 Delegate of Administering Authority
Environmental Protection Act 1994

Definitions

- (A5-1) Words and phrases used throughout this environmental authority are defined in Schedule H – Definitions. Where a definition for a term used in this environmental authority is sought and the term is not defined within this environmental authority, the definitions in the *Environmental Protection Act 1994*, its Regulations and Environmental Protection Policies must be used.

END CONDITIONS FOR SCHEDULE A

Schedule B - Air**Dust Nuisance**

- (B1-1) Subject to Conditions (B1-2) and (B1-3) the release of dust or particulate matter or both resulting from the mining activity must not cause an environmental nuisance at any sensitive or commercial place.
- (B1-2) When requested by the administering authority, dust and particulate monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive or commercial place, and the results must be notified within 14 days to the administering authority following completion of monitoring.
- (B1-3) If the environmental authority holder can provide evidence through monitoring that the following limits are not being exceeded then the holder is not in breach of (B1-1):
- Dust deposition of 120 milligrams per square metre per day, averaged over one month, when monitored in accordance with AS 3580.10.1 Methods for sampling and analysis of ambient air - Determination of particulates - Deposited matter - Gravimetric method of 1991.
- (B1-4) If monitoring indicates exceedence of the relevant limits in Condition (B1-3), then the environmental authority holder must:
- address the complaint including the use of appropriate dispute resolution if required; or
 - immediately implement dust abatement measures so that emissions of dust from the activity do not result in further environmental nuisance.

Odour Nuisance

- (B2-1) Subject to condition (B2-2), the release of noxious or offensive odour(s) or any other noxious or offensive airborne contaminant(s) resulting from the mining activity must not cause an environmental nuisance at any sensitive or commercial place.
- (B2-2) When requested by the administering authority, odour monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive or commercial place, and the results must be notified within 14 days to the administering authority following completion of monitoring.
- (B2-3) If monitoring indicates Condition (B2-1) is not being met then the environmental authority holder must:
- address the complaint including the use of appropriate dispute resolution if required; or
 - immediately implement odour abatement measures so that emissions of odour from the activity do not result in further environmental nuisance.

END CONDITIONS FOR SCHEDULE B

Schedule C - Table 2 (Receiving Water Trigger Limits)

Parameter	Units	Minimum	Maximum	Trigger Type
pH ¹	pH	6	8.5	Range
EC ¹	µS/cm	N/A	250	Maximum
Sulphate ²	mg/L	N/A	500	Maximum
Aluminium ⁴	mg/L	N/A	2.5	Maximum
Aluminium ⁵	mg/L	N/A	11.5	Maximum
Arsenic ²	mg/L	N/A	0.25	Maximum
Boron ²	mg/L	N/A	0.37	Maximum
Cadmium ²	mg/L	N/A	0.005	Maximum
Chromium ²	mg/L	N/A	0.5	Maximum
Cobalt ²	mg/L	N/A	0.5	Maximum
Copper ⁴	mg/L	N/A	0.5	Maximum
Copper ⁵	mg/L	N/A	0.83	Maximum
Fluoride ²	mg/L	N/A	1	Maximum
Lead ⁴	mg/L	N/A	0.05	Maximum
Lead ⁵	mg/L	N/A	0.065	Maximum
Manganese ³	mg/L	N/A	1.9	Maximum
Mercury ²	mg/L	N/A	0.001	Maximum
Molybdenum ²	mg/L	N/A	0.075	Maximum
Nickel ²	mg/L	N/A	0.5	Maximum
Selenium ²	mg/L	N/A	0.01	Maximum
Zinc ²	mg/L	N/A	10	Maximum

¹ Contaminant trigger limits are based on Table 3.3.4 and 3.3.5 of Aquatic Ecosystems ANZECC (2000).

² Contaminant trigger limits are based on 50% of the contaminant limits defined in the ANZECC (2000) Livestock Drinking Water and are to be analysed as total metals (unfiltered).

³ Contaminant trigger limits based on ANZECC (2000) trigger levels for aquatic ecosystems of slightly - moderately disturbed systems - table 3.4.1 level of protection 95% / Table 3.3.4 / 3.3.5 - Tropical Australia upland rivers.

⁴ Contaminant trigger limits are based on 50% of the contaminant limits defined in the ANZECC (2000) Livestock Drinking Water and are to be analysed as total metals (unfiltered). These limits are set for the Mount Kelly Leases only (ML 5426, ML 5478, ML90168, ML90169, ML90170, ML90178, ML 5435, ML 5446, ML 5447, ML 5448, ML 5474 and ML 5476.)

⁵ Contaminant trigger limits are based on site specific background data and are to be analysed as total metals (unfiltered). These trigger limits are set for the Lady Annie Lease only (ML90179).

Schedule C - Table 4 (End of pipe monitoring locations and frequency)

Monitoring point	Easting (AMG 84, Zone 54)	Northing (AMG 84, Zone 54)	Monitoring frequency
Mount Clarke ROM Area Sediment Dam	303834	7799498	Each flow event
Mount Clarke Pit Area Sediment Dam	305336	7799592	Each flow event
Mount Clarke/Flying Horse Sediment Dam	305887	7798726	Each flow event
Process Plant ROM Pad Sediment Dam 1	309040	7798656	Each flow event
Process Plant ROM Pad Sediment Dam 2	302905	7798900	Each flow event
Process Plant ROM Pad Sediment Dam 3	302771	7799010	Each flow event
Lady Annie Sediment Dam	295307	7811464	Each flow event

NOTE: This does not apply to dams containing hazardous waste.

Schedule C - Table 5 (End of pipe contaminant release limits)

Parameter	Units	Minimum	Maximum	Limit Type
pH	pH	6	9	Range
TDS	mg/L	N/A	4000	Maximum
Sulphate	mg/L	N/A	1000	Maximum
Arsenic	mg/L	N/A	5	Maximum
Cadmium	mg/L	N/A	0.01	Maximum
Chromium	mg/L	N/A	1	Maximum
Cobalt	mg/L	N/A	1	Maximum
Copper	mg/L	N/A	1	Maximum
Lead	mg/L	N/A	0.1	Maximum
Mercury	mg/L	N/A	0.002	Maximum
Zinc	mg/L	N/A	20	Maximum

Contaminant limits based on ANZECC (2000) Livestock drinking water quality and are analysed as Total metals (unfiltered)

NOTE: This does not apply to dams containing hazardous waste.

Dams Containing Hazardous Waste

(C1-4) Water storages containing process water and storm water contaminated by mining activities must be monitored at the locations and frequencies defined in Schedule C - Table 6 and Schedule I - Map 6 and samples analysed for the parameters defined in Schedule C - Table 7.

- (C1-8) The holder of the environmental authority must mark the mandatory reporting level defined in Schedule C - Table 8 on the spillway of all dams containing hazardous waste within the operational land.
- (C1-9) The holder of the environmental authority must notify the administering authority when the pondage level of the dam containing hazardous waste, reaches the mandatory reporting level defined in Schedule C - Table 8.

Stream Sediment Contaminant Levels

- (C2-1) All reasonable and practicable erosion protection measures and sediment control measures must be implemented and maintained to minimise erosion and the release of sediment.
- (C2-2) The bed of the receiving waters, affected by the release of process water and storm water contaminated by the mining activities must be monitored at the locations and frequencies defined in Schedule C - Table 9 and Schedule I - Map 7 & 8.

Schedule C - Table 9 (Receiving Stream Sediment Monitoring Locations and Frequency)

Monitoring point	Easting (AGD 84 Zone 54)	Northing (AGD 84 Zone 54)	Monitoring frequency
MKUS 1- reference site *	305625	7797450	May each year
MKUS 2- reference site*	TBD	TBD	May each year
MKDS 1- test site	301180	7800135	May each year
MKDS 2- test site	306366	7798356	May each year
MKDS 3- test site	306370	7798363	May each year
MKDS 4- test site	301300	7797255	May each year
LA- US1- reference site*	295150	7812680	Each flow event
LA- US2- reference site*	295750	7812480	Each flow event
LA- DS1- test site	294000	7810100	Each flow event
LA- DS2- test site	295500	7810400	Each flow event

NOTE: This does not apply to dams containing hazardous waste

*Reference sites must:

- a) be from the same biogeographical and climatic region;
- b) have similar geology, soil types and topography
- c) contain a range of habitats similar to those at the test site
- d) be of similar flow regime; and
- e) not be so close to the test sites that any disturbances at the test site also result in a change at the reference site.

TBD- to be determined and provided to the QEPA prior to commencement of mining.

- (C2-3) Subject to Condition (C2-2), if the stream sediment contaminant trigger levels defined in Schedule C - Table 10 are exceeded then the environmental authority holder must complete an investigation into the potential for environmental harm and notify the administering authority within 3 months of receiving the analysis results.

Sewage effluent

- (C3-1) All effluent released from the treatment plant must be monitored at the frequency and for the parameters specified in Schedule C - Table 12.
- (C3-2) Sewage effluent used for dust suppression must not exceed sewage effluent release limits defined in Schedule C - Table 12.
- (C3-3) Sewage Effluent used for dust suppression must not cause spray drift or over spray to any sensitive or commercial place, and must not be applied at a rate that causes pooling, ponding and/or runoff of any effluent irrigated.
- (C3-4) Subject to Conditions (C3-1) to (C3-3) inclusive, sewage effluent from sewage treatment facilities must be reused or evaporated and must not be directly released from the sewage treatment plant to any water way or drainage line other than in accordance with Schedule C - Table 12.

Schedule C - Table 12 (Sewage effluent quality targets for dust suppression)

Quality characteristics	Release Limit ³			Monitoring Frequency
	Minimum	Median	Maximum	
pH (pH Units)	6 ³		8.5 ²	Quarterly
Faecal Coliforms (organisms/100mL)		1000 ¹		Quarterly

¹ A minimum of five samples must be collected at not less than a weekly interval for the quarterly sampling
² A minimum of five samples must be collected at not less than a weekly interval for the quarterly sampling with four out of five samples must be less than the maximum
³ A minimum of five samples must be collected at not less than a weekly interval for the quarterly sampling with four out of five samples must be higher than the minimum but lower than the maximum limit.
 Release limits sourced from Queensland Water Recycling Guidelines December 2005 Table 6:2b

Schedule C - Table 14 (Groundwater Contaminant Trigger Levels)

Parameter	Units	Minimum	Maximum	Trigger type
pH ¹	pH	6	8	Range
TDS ²	mg/L	N/A	2000	Maximum
Sulphate ²	mg/L	N/A	500	Maximum
Aluminium ²	mg/L	N/A	2.5	Maximum
Arsenic ²	mg/L	N/A	0.25	Maximum
Boron ²	mg/L	N/A	0.37	Maximum
Cadmium ²	mg/L	N/A	0.005	Maximum
Chromium ²	mg/L	N/A	0.5	Maximum
Cobalt ²	mg/L	N/A	0.5	Maximum
Copper ²	mg/L	N/A	0.5	Maximum
Fluoride ²	mg/L	N/A	1	Maximum
Lead ²	mg/L	N/A	0.05	Maximum
Manganese ³	mg/L	N/A	1.9	Maximum
Mercury ²	mg/L	N/A	0.001	Maximum
Molybdenum ²	mg/L	N/A	0.075	Maximum
Nickel ²	mg/L	N/A	0.5	Maximum
Selenium ²	mg/L	N/A	0.01	Maximum
Zinc ²	mg/L	N/A	10	Maximum

¹ Contaminant triggers limits are based on Table 3.3.4 and 3.3.5 of Aquatic Ecosystems ANZECC (2000)

² Contaminant trigger limits are based on 50% of the contaminant limits defined in the ANZECC (2000) Livestock Drinking Water and are to be analysed as total metals (unfiltered).

³ Contaminant trigger limits based on Table 3.4.1 of Aquatic Ecosystems ANZECC (2000) and are analysed as Filtered Metals

(C4-3) Subject to Condition (C4-1), groundwater contaminant limits must not exceed the contaminant limits defined in Schedule C-Table 15.

Schedule C - Table 17 (Void Water Quality Limits)

Parameter	Units	Limit	Limit Type
pH	pH	6-9	Range
TDS	mg/L	4000	Maximum
Sulphate	mg/L	1000	Maximum
Arsenic	mg/L	0.5	Maximum
Cadmium	mg/L	0.01	Maximum
Chromium	mg/L	1	Maximum
Copper	mg/L	1	Maximum
Lead	mg/L	0.1	Maximum
Mercury	mg/L	0.002	Maximum
Zinc	mg/L	20	Maximum

Contaminant limits are based on ANZECC (2000 Livestock drinking water quality and analysed for total metals (unfiltered)).

Acid Rock Drainage and Leachate Management

(C6-1) Subject to limits defined in Schedule C all reasonable and practicable measures must be implemented to prevent hazardous leachate being directly or indirectly released or likely to be released as a result of the activity to any groundwater, watercourse and waters.

END CONDITIONS FOR SCHEDULE C

Regulated Waste

- (E 4-1) All regulated waste received and removed from the site, that is over 250kg in weight, must be transported by a person who holds a current authority to transport such waste under the provisions of the *Environmental Protection Act 1994*.
- (E4-2) Except as otherwise provided by the conditions of this authority, all waste removed from the site must be taken to a facility that is lawfully allowed to accept such waste under the provisions of the *Environmental Protection Act 1994*.
- (E4-3) Where regulated waste is removed from the Project (other than by a release as permitted under another schedule of this environmental authority), records must be kept of the following:
- the date, quantity and type of waste removed, and
 - name of the waste transporter that removed the waste; and
 - the intended treatment/disposal destination of the waste.

Note: Records of documents maintained in compliance with a waste tracking system established under the Environmental Protection Act 1994 or any other law for regulated waste will be deemed to satisfy this condition.

Waste Rock Characterisation

- (E5-1) All areas to be mined must undergo a waste rock characterisation survey (where waste rock is to be disposed of on the surface) and a report submitted to the administering authority prior to mining where this survey has not previously been carried out.

END CONDITIONS FOR SCHEDULE E

Disturbance Category	Max. Area	Land Use		Land Capability		Analogue Site	
		Habitat/LIG	Habitat/LIG	Class 4 - 5	Class 4 - 5	TBD	TBD
Mount Clarke Topsoil Stockpile	4.5	Habitat/LIG	Habitat/LIG	Class 4 - 5	Class 4 - 5	TBD	TBD
Mount Clarke Pit Area Sediment Dam	0.6	Habitat	Water Storage	Class 4 - 5	Water Storage		
Mount Clarke ROM Area Sediment Dam	0.4	Habitat	Water Storage	Class 4 - 5	Water Storage		
Mount Clarke -- Diversion/Interception /Sediment Dam Drains	3.2	Habitat	LIG or diversion Habitat	Class 4 - 5	Class 4 - 5	TBD	TBD
Roads/Tracks	18.8	Existing tracks or LIG	Tracks for grazer or LIG	Class 4 - 5	Class 4 - 5	TBD	TBD
Accommodation Camp and Facilities	5	LIG	LIG	Class 4	Class 4	TBD	TBD
Sewage Plant and Pond	0.2	LIG	LIG	Class 4	Class 4	TBD	TBD
ROM Pad -- at process plant	7.8	LIG	LIG	Class 4 - 5	Class 4 - 5	TBD	TBD
Process plant and associated buildings	3.3	LIG	LIG	Class 4	Class 4	TBD	TBD
Overland Conveyor	1.8					TBD	TBD
Workshop/Office Access Circuit Area	2.9	LIG	LIG	Class 4	Class 4	TBD	TBD
Heap Leach Pads -- Stage 1 and 2	43.2	LIG	Habitat/LIG	Class 4	Class 4 - 5	TBD	TBD
Process Water Ponds -- PLS, ILS and Effluents	3.4	LIG	Water storages	Class 4	Water storages		
Stormwater Ponds 1 and 2	11.4	LIG	Water storages	Class 4	Water storages		
Stormwater Pond spillway channel	0.7	LIG	LIG or diversion	Class 4	Class 4 - 5	TBD	TBD
Flaw Water Pond	0.6	LIG	LIG/Water storage	Class 4	Class 4 or water storage	TBD	TBD
Process Area Topsoil Stockpiles	9.7	LIG	LIG	Class 4	Class 4	TBD	TBD

Disturbance Category	Max. Area	Land Use		Land Capability		Analogue Site	
		LIG/Habitat	LIG/Habitat	Class 4-5	Permanent Diversion	TBD	TBD
Diversion Channels	1.7	LIG/Habitat	LIG/Habitat	Class 4-5	Permanent Diversion	TBD	TBD
Lady Annie Mine Construction Area (net of specific areas)	22.3	LIG/Habitat	LIG/Habitat	Class 4-5	Class 4-5	TBD	TBD
Upgrade to Access Road (off ML)	3.0	LIG/Habitat	Permanent access road for landholder	Class 4-5	Permanent access road for landholder		
Old Open Cut and Sanderson's Shaft	0.3	Existing Disturbance	Habitat/LIG	Existing Disturbance	Class 4-5	TBD	TBD
Old Tailings Areas	1.0	Existing Disturbance	Habitat/LIG	Existing Disturbance	Class 4-5	TBD	TBD
Exploration Tracks and Drill Pads	12.4	Existing Disturbance	Habitat/LIG	Existing Disturbance	Class 4-5	TBD	TBD
Rubbish Tip	0.4	Existing Disturbance	Habitat/LIG	Existing Disturbance	Class 4-5	TBD	TBD
Core Shed	0.3	Existing Disturbance	Habitat/LIG	Existing Disturbance	Class 4-5	TBD	TBD
Exploration Sample Yard	0.6	Existing Disturbance	Habitat/LIG	Existing Disturbance	Class 4-5	TBD	TBD
Total	166.6						

*Analogue sites and disturbance description are to be identified and the environmental authority holder must amend the environmental authority to include analogue sites in Schedule F - Table 1 by 30 June 2007.

TBD - To be determined

LIG - Low Intensity Grazing

Classes are derived from the Department of Minerals and Energy's Land Suitability Assessment Techniques (1995)

- (F1-2) Progressive rehabilitation must commence when areas become available within the operational land.
- (F1-3) Complete an investigation into rehabilitation of disturbed areas and submit a report to the administering authority proposing acceptance criteria to meet the outcomes in Schedule F - Table 1 and landform design criteria in Schedule F - Table 2 by 30 June 2007
- (F1-4) The holder of this environmental authority must rehabilitate all existing land disturbances located within the boundary leases of ML90179 (Lady Annie) as identified in Table 1. The holder of this environmental authority must ensure these areas of existing land disturbance, where not otherwise disturbed and rehabilitated under this authority, are rehabilitated to the final land descriptions identified in Tables 1 and 2.

Location of Dam

(F3-2) The location of any dam containing hazardous waste within the licensed place must be located within the polygonal area defined by the co-ordinates defined in Schedule C- Table 4 –Map 4.

Schedule F – Table 4 (Location of Dams Containing Hazardous Waste)

Name of dam containing hazardous waste	Easting(AMG 84, Zone 54) ⁽¹⁾	Northing (AMG 84, Zone 54) ⁽¹⁾
PLS Ponds, ILS, Raffinate Pre-settler and Raffinate Pond	301760	7797640
	302085	7797640
	302035	7797310
	301760	7797310
Stormwater Pond 1 and 2	301470	7797640
	301760	7797640
	301760	7797110
	301470	7797110
Heap Leach Pads	302065	7797945
	302720	7797945
	302720	7796825
	302035	7796825

Note ⁽¹⁾: A minimum of 3 control points is required to constrain the location of all activities associated with the dam containing hazardous waste. Additional infrastructure which forms part of any dam containing hazardous waste may include appurtenant works consisting of tailings discharge pipelines, seepage collection systems, runoff diversion bunds, containment systems, pressure relief walls, decant and recycle water systems.

Standards and Criteria

(F3-3) The holder of the environmental authority must design, construct, repair, maintain, operate and decommission the dams defined in Schedule F – Table 3 and 4 in accordance with an acknowledged design plan that must comply with the standard environmental conditions in the "Code of Environmental Compliance for High Hazard Dams Containing Hazardous Waste".

(F3-4) The holder of the environmental authority must design, construct, and operate all low hazardous dams containing hazardous waste and non-hazardous dams in accordance with the criteria outlined in Appendix B of the Code of Environmental Compliance for Mining Activities.

Inspection of Dams

(F3-5) High hazard dams containing hazardous waste shall be inspected by a Registered Professional Engineer Queensland (RPEQ) prior to 1 November each year or at any time if alarming, unusual or otherwise unsatisfactory conditions are observed.

(F3-6) For each inspection, the engineer shall assess the condition of the dam and its foundations, determine the hydraulic adequacy of the dam and assess the adequacy of the works with respect to dam safety.

(F3-7) For each inspection, two copies of the engineer's report and any recommendations as to measures to be taken to ensure the integrity of the dam shall be furnished to the administering authority within 28 days of the inspection.

Decommissioning of Dam – Objective

(F3-8) Dams containing hazardous waste must not be abandoned and must be decommissioned to a situation where water can no longer be stored in the dams. The dams and their contained waste(s) must be stable, whereafter the dams are no longer dams and they become landforms on the operational land and must comply with the rehabilitation requirements of this environmental authority.

Decommissioning of Dam – Documentation and Compliance

(F3-9) Decommissioning activities for dams must be documented in detail in the plan of operations under which the activities are to occur. Where the detailed documentation is not already contained in the Design Plan for the

Schedule H – Definitions

“acceptance criteria” means the measures by which the actions implemented to rehabilitate the land are deemed to be complete. The acceptance criteria indicate the success of the rehabilitation outcome or remediation of areas which have been significantly been disturbed by the mining activities. Acceptance criteria may include information regarding:

- vegetation establishment, survival and succession;
- vegetation productivity, sustained growth and structure development;
- fauna colonisation and habitat development;
- ecosystem processes such as soil development and nutrient cycling, and the recolonisation of specific fauna groups such as collembola, mites and termites which are involved in these processes;
- microbiological studies including recolonisation by mycorrhizal fungi, microbial biomass and respiration;
- effects of various establishment treatments such as deep ripping, topsoil handling, seeding and fertiliser application on vegetation growth and development;
- resilience of vegetation to disease, insect attack, drought and fire;
- vegetation water use and effects on ground water levels and catchment yields.

“affected building”

- for noise means any building or any part of a building, for example the building from which the noise is made, at which the noise can be heard.
- for vibration means any building or any part of a building, for example the activity from which the vibration is made, at which the vibration can be felt.

“ambient (or total) noise” at a place, means the level of noise at the place from all sources (near and far), measured as the Leq for an appropriate time interval.

“appropriately qualified person” means any person who conforms to the EPA operational policy for an “appropriately qualified person (analyst)” in accordance with Section 490(7) of the *Environmental Protection Act 1994*.

“ARD” means acid rock drainage and refers to the low pH, high heavy metal pollutant typical of sulphidic mine wastes, and most commonly associated with the production of ferrous iron and sulphuric acid through the oxidation of sulphide minerals.

“authority” means environmental authority (mining activities) under the *Environmental Protection Act 1994*.

“blasting” means the use of explosive materials to fracture-

- (a) rock, coal and other minerals for later recovery; or
- (b) structural components or other items to facilitate removal from a site or for reuse.

“building” includes a structure of any type and part of a building or structure.

“commercial place” means a work place used as an office or for business or commercial purposes, which is not part of the mining activity and does not include employees accommodation or public roads.

“competent person” means a person with the demonstrated skill and knowledge required to carry out the task to a standard necessary for the reliance upon collected data or protection of the environment.

“dam” means a containment or proposed containment whether permanent or temporary, which is designed to contain, divert or control flowable substances. However this does not include a fabricated or manufactured tank or container designed to a recognised standard.

“design plan” in the context of a dam design is the documentation required under the Code of Environmental Compliance for High Hazard Dams Containing Hazardous Waste to describe the physical dimensions of the dam, the materials and standards to be used for construction of the dam, the procedures and criteria to be used for operating the dam and the decommissioning and rehabilitation objectives in terms of procedures, works and outcomes at the end of dam life. The documents can include design and investigation reports, drawings, specifications and certifications.

“environmental authority holder” means the holder of this environmental authority.

“flow event” means a flow event producing sufficient water to permit a monitoring creek bed flow of 30cm or more at the sampling station.

“flowable substance” means matter or mixture of materials which can be forced to or otherwise flow under any conditions possible in a situation. It includes water, other liquids or a mixture that includes water or any other liquid or suspended solids.

"peak particle velocity (ppv)" means a measure of ground vibration magnitude which is the maximum rate of change of ground displacement with time, usually measured in millimetres/second (mms^{-1}).

"protected area" means - a protected area under the *Nature Conservation Act 1992*; or
- a marine park under the *Marine Parks Act 1992*; or
- a World Heritage Area.

"progressive rehabilitation" means rehabilitation (defined below) undertaken progressively or a staged approach to rehabilitation as mining operations are ongoing.

"reference site" (or analogue site) may reflect the original location, adjacent area or another area where rehabilitation success has been completed for a similar biodiversity. Details of the reference site may be as photographs, computer generated images and vegetation models etc.

"rehabilitation" the process of reshaping and revegetating land to restore it to a stable landform and in accordance with the acceptance criteria set out in this environmental authority and, where relevant, includes remediation of contaminated land.

"representative" means a sample set which covers the variance in monitoring or other data either due to natural changes or operational phases of the mining activities.

"residual void" means an open pit resulting from the removal of ore and/or waste rock which will remain following the cessation of all mining activities and completion of rehabilitation processes.

"self sustaining" means an area of land which has been rehabilitated and has maintained the required acceptance criteria without human intervention for a period nominated by the administering authority.

"sensitive place" means;

- a dwelling, residential allotment, mobile home or caravan park, residential marina or other residential premises; or
- a motel, hotel or hostel; or
- an educational institution; or
- a medical center or hospital; or
- a protected area under the *Nature Conservation Act 1992*, the *Marine Parks Act 1992* or a World Heritage Area; or
- a public park or gardens.

"significant disturbance" - includes land

- (a) if it is contaminated land; or
- (b) it has been disturbed and human intervention is needed to rehabilitate it.
 - i. to a state required under the relevant environmental authority; or
 - ii. if the environmental authority does not require the land to be rehabilitated to a particular state - to its state immediately before the disturbance.

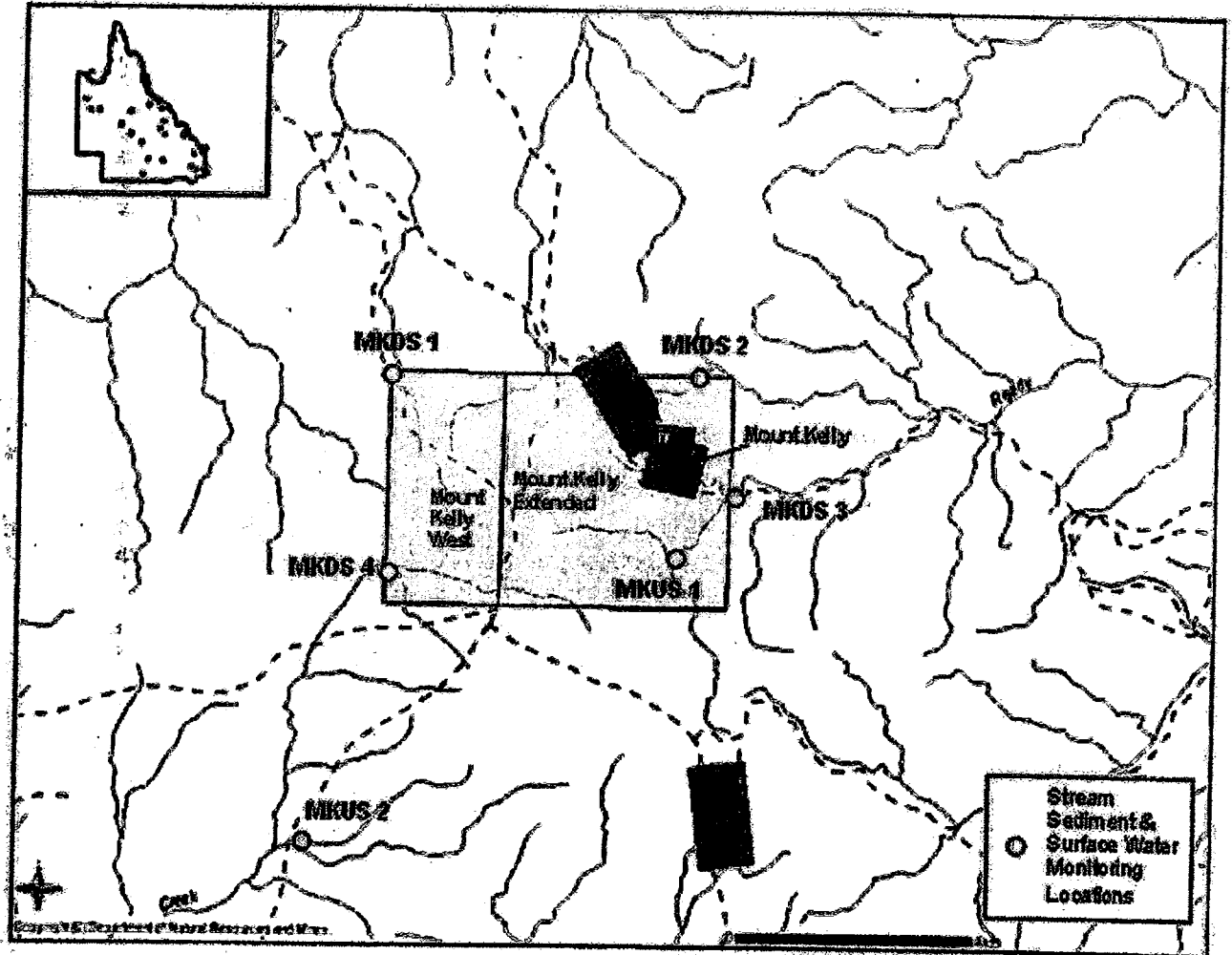
Some examples of disturbed land include:

- areas where soil has been compacted, removed, covered, exposed or stockpiled;
- areas where vegetation has been removed or destroyed to an extent where the land has been made susceptible to erosion; (vegetation & topsoil)
- areas where land use suitability or capability has been diminished;
- areas within a watercourse, waterway, wetland or lake where mining activities occur;
- areas submerged by tailings or hazardous contaminant storage and dam walls in all cases;
- areas under temporary infrastructure. Temporary infrastructure includes any infrastructure (roads, tracks, bridges, culverts, dams, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc) which is to be removed after mining activities have ceased; or
- areas where land has been contaminated and a suitability statement has not been issued.

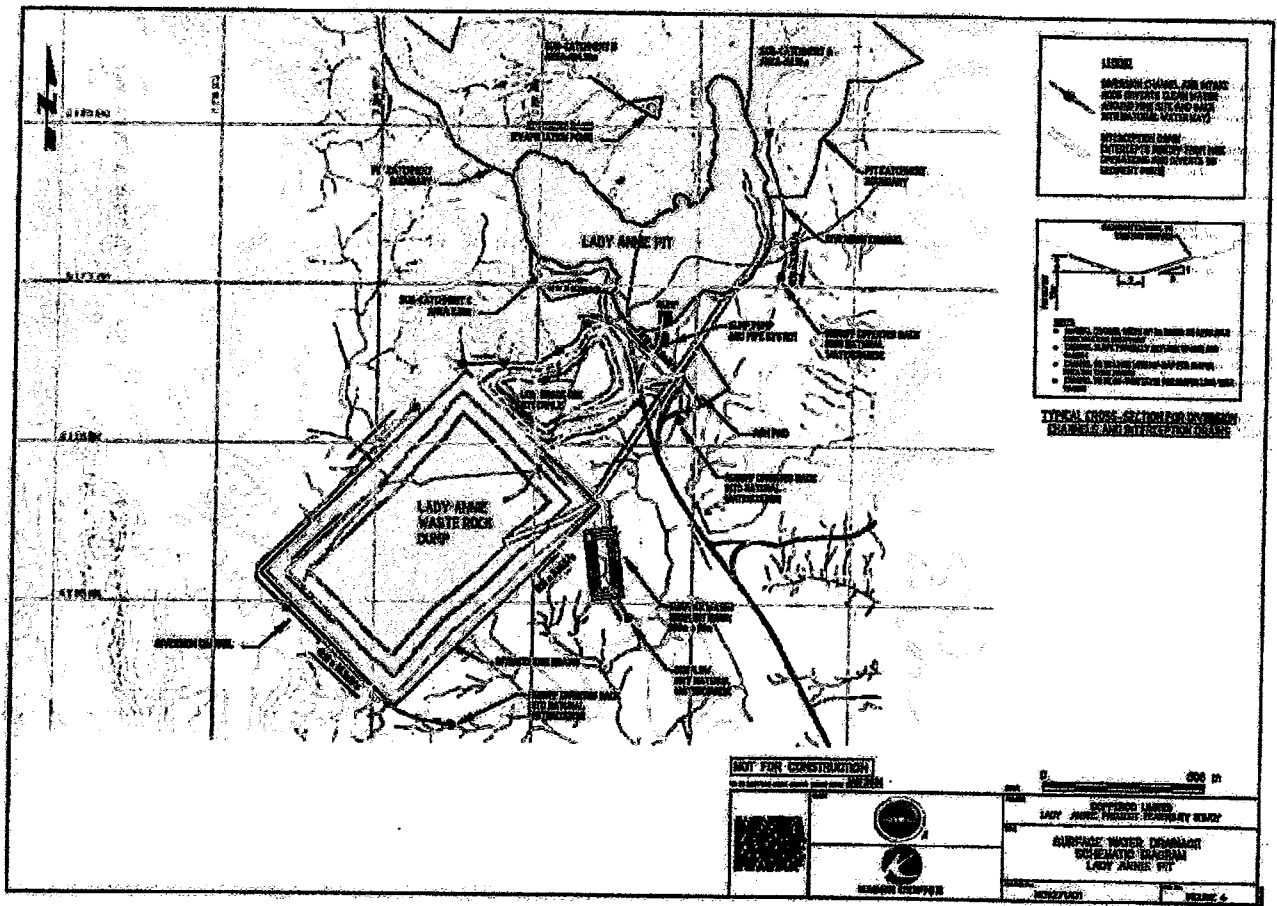
However, the following areas are not included:

- areas off lease (e.g. roads or tracks which provide access to the mining lease);
- areas previously significantly disturbed which have achieved the rehabilitation outcomes;
- by agreement with the EPA, areas previously significantly disturbed which have not achieved the rehabilitation objective(s) due to circumstances beyond the control of the mine operator (such as climatic conditions);
- areas under permanent infrastructure. Permanent infrastructure includes any infrastructure (roads, tracks, bridges, culverts, dams, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc) which is to be left by agreement with the landowner. The agreement to leave permanent infrastructure must be recorded in the Landowner Agreement and lodged with the EPA;
- disturbances that pre-existed the grant of the tenure unless those areas are disturbed during the term of the tenure.

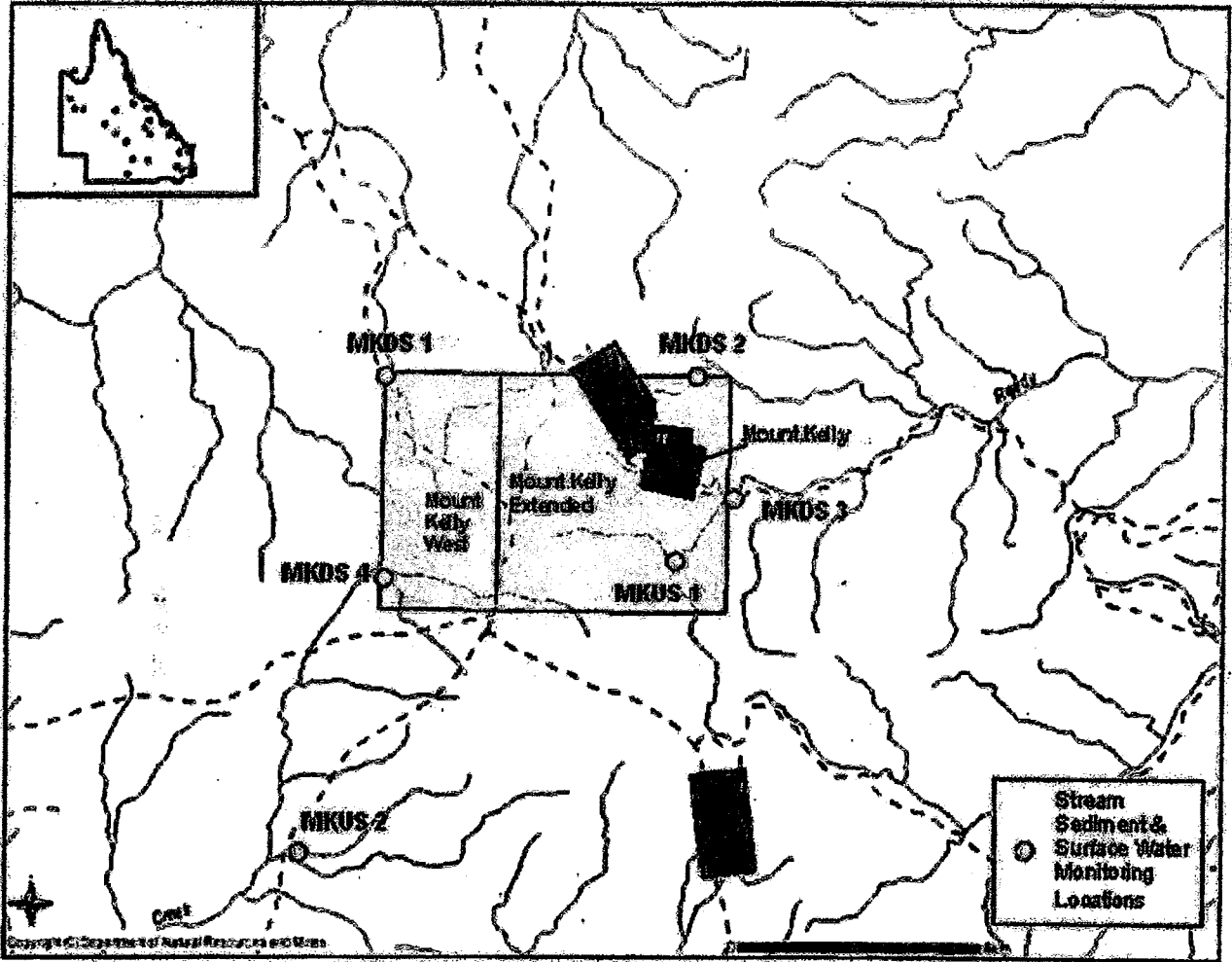
Schedule 1 - Maps / Plans



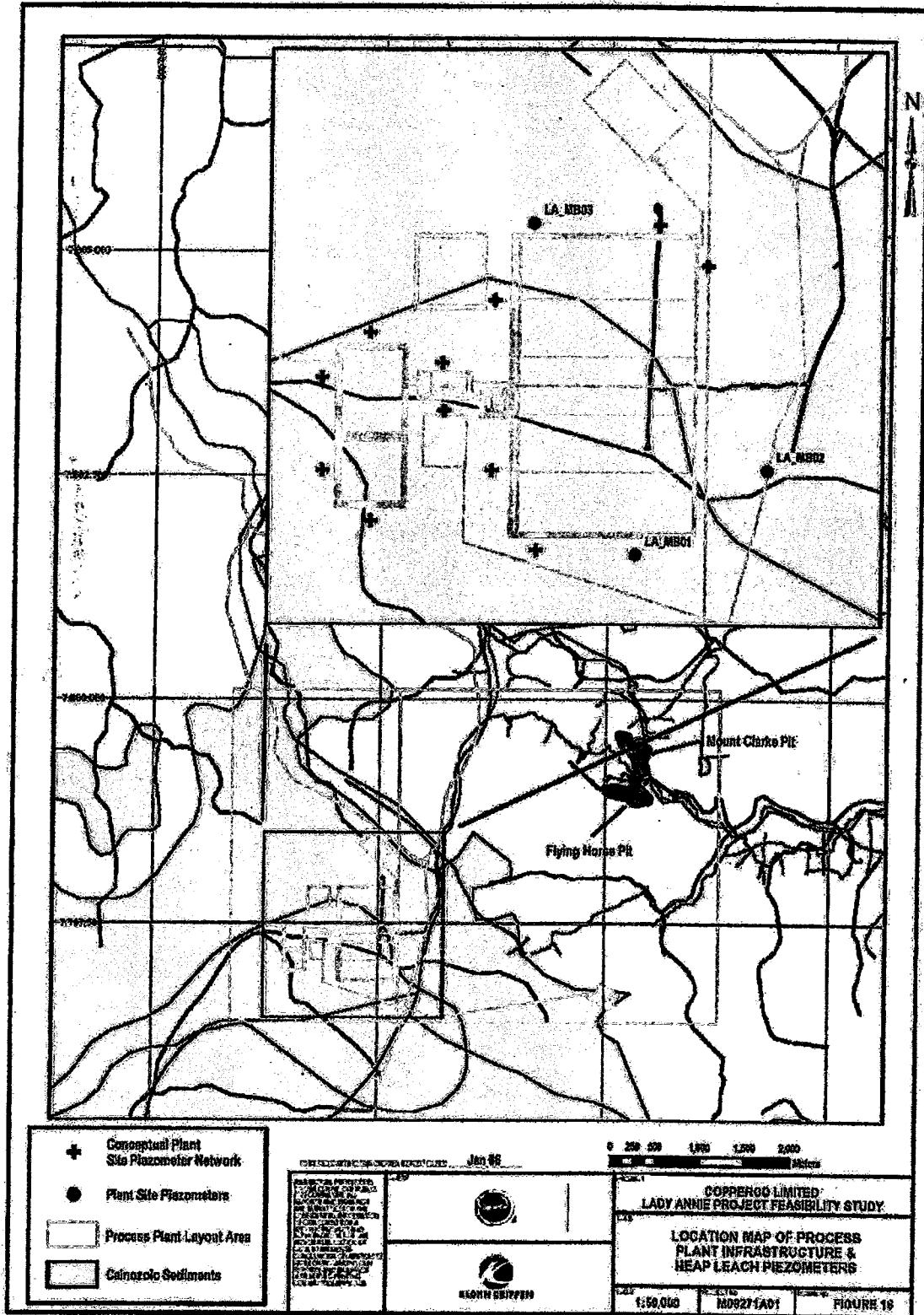
Schedule 1 - Map 1 Receiving Water Monitoring Locations (Mount Kelly Leases)



Schedule I - Map 5 Location of End Pipe Releases from Sediment Dams - Lady Annie



Schedule I - Map 7 Stream Sediments Monitoring Locations (Mount Kelly)



Schedule I - Map 9 Groundwater Monitoring Locations (Mount Kelly)

5426



**Queensland
Government**

Enquiries Jodie Marlow
Telephone (07) 4744 7820
Your reference MIN00401001
Our reference ISA658

Environmental Protection Agency
Incorporating the
Queensland Parks and Wildlife Service

31 May 2006

Wayne Frampton
Mining Registrar
Department of Natural Resources Mines and Water
PO BOX 334
Mount Isa Qld 4825

Dear Wayne

RE: Mount Kelly Project EA MIN00401001 Reefway Pty Ltd and Savannah Resources Pty Ltd

The Environmental Protection Agency (EPA) received an amendment application on the 25 January 2006.

A draft environmental authority (MIN00401001) for this application has been prepared by this agency and is attached. The environmental authority holder is now required under section 254 of the *Environmental Protection Act 1994* to give notice of their application to amend the environmental authority to each affected person for each mining lease and publish the notice at least once in a newspaper circulating in the locality of the land to which the mining lease is subject.

This amendment application also included the addition of three mining lease applications: 90168, 90169 and 90170. The attached environmental authority is also the draft environmental authority for these mining lease applications.

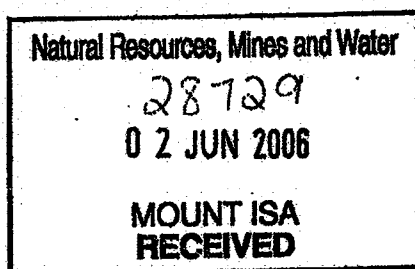
Should you have any further enquiries please do not hesitate to contact Jodie Marlow on 07 4744 7820.

Yours sincerely

s.49 - Signature

**Geoff Metcalfe
District Manager
Environmental Operations Division
North West District
Enc**

Page 1 of 1



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Queensland Government

**Environmental Protection Agency
Queensland Parks and Wildlife Service**

**Environmental Authority No. MIN00401001
(mining activities)**

Section 228 Environmental Protection Act 1994

ENVIRONMENTAL PROTECTION ACT 1994

This environmental authority is granted under the *Environmental Protection Act 1994* and includes conditions to minimise environmental harm caused, or likely to be caused, by the authorised mining activities. An environmental authority (mining activities) may be for mining activities authorised (under the *Mineral Resources Act 1989*) to occur under one of the following mining tenements: a prospecting permit; mining claim; exploration permit; mineral development licence; or mining lease. In general, a mining activity means: prospecting, exploring, mining; or processing minerals; remediation; rehabilitation; and includes facilitation and supporting activities and any action taken to prevent environmental harm.

Under the provisions of the *Environmental Protection Act 1994* this environmental authority is issued to:

Reefway Pty Ltd
Level 22 Allendale Square
77 St Georges Terrace
Perth WA 6000

Savannah Resources Pty Ltd
Level 22, Allendale Square
77 St Georges Terrace
Perth WA 6000

In respect of carrying out activities as part of the following mining project:

Type of environmental authority (mining activities)	Authorised mining tenements	Location
Mining Leases	ML 5426 ML 5435 ML 5446 ML 5447 ML 5448 ML 5474 ML 5476 ML 5478 ML90168 ML90169 ML90170	100km north of Mount Isa

DRAFT

The mining activities are authorized to the extent defined in Schedule 6 Section 12(c) of the *Environmental Protection Regulation 1998*.

This environmental authority is subject to the conditions set out in the attached schedules. The anniversary date of this environmental authority is X each year.

This environmental authority takes effect from X for granted tenements and will take effect for ML 90168, 90170 and 90169 upon date of grant of tenure.

Geoff Metcalfe
District Manager
Mt Isa District, Northern Region
Delegate of Administering Authority
Environmental Protection Act 1994

This environmental authority takes effect on X

This environmental authority incorporates the following schedules:

- Schedule A - General
- Schedule B - Air
- Schedule C - Water
- Schedule D - Noise and Vibration
- Schedule E - Waste
- Schedule F - Land
- Schedule G - Community
- Schedule H - Definitions
- Schedule I - Maps / Plans

Schedule A - General

Financial Assurance

- (A1-1) Provide a financial assurance in the amount and form required by the administering authority prior to the commencement of activities proposed under this environmental authority.

NOTE: The calculation of financial assurance for condition (A1-1) must be in accordance with Guideline 17 and may include a performance discount. The amount is defined as the maximum total rehabilitation cost for complete rehabilitation of all disturbed areas, which may vary on an annual basis due to progressive rehabilitation. The amount required for the financial assurance must be the highest Total Rehabilitation Cost calculated for any year of the Plan of Operations and calculated using the formula: (Financial Assurance = Highest Total Annual Rehabilitation Cost x Percentage Required).

- (A1-2) The financial assurance is to remain in force until the administering authority is satisfied that no claim on the assurance is likely.

NOTE: Where progressive rehabilitation is completed and acceptable to the administering authority, progressive reductions to the amount of financial assurance will be applicable where rehabilitation has been completed in accordance with the acceptance criteria defined within this environmental authority.

Maintenance of Measures, Plant and Equipment

- (A2-1) The environmental authority holder must ensure:

- that all measures, plant and equipment necessary to ensure compliance with the conditions of this environmental authority are installed;
- that such measures, plant and equipment are maintained in a proper condition; and
- that such measures, plant and equipment are operated in a proper manner.

Monitoring

- (A3-1) Record, compile and keep for a minimum of five years all monitoring results required by this environmental authority and make available for inspection all or any of these records upon request by the administering authority.
- (A3-2) Where monitoring is a requirement of this environmental authority, ensure that a competent person(s) conducts all monitoring.

Storage and Handling of Flammable, Combustible and Corrosive Liquids

- (A4-1) Spillage of all flammable and combustible liquids must be contained within an on-site containment system and controlled in a manner that prevents environmental harm (other than trivial harm) and maintained in accordance with Section 5.8 of AS 1940 - Storage and Handling of Flammable and Combustible Liquids of 2004.
- (A4-2) The on-site storage of corrosive liquids must be in accordance with Section 5.7 of AS 3780 - Storage and Handling of Corrosive Substances 1994.

Definitions

- (A5-1) Words and phrases used throughout this environmental authority are defined in Schedule H – Definitions. Where a definition for a term used in this environmental authority is sought and the term is not defined within this environmental authority, the definitions in the *Environmental Protection Act 1994*, its Regulations and Environmental Protection Policies must be used.

END CONDITIONS FOR SCHEDULE A

Schedule B - Air

Dust Nuisance

- (B1-1) Subject to Conditions (B1-2) and (B1-3) the release of dust or particulate matter or both resulting from the mining activity must not cause an environmental nuisance at any sensitive or commercial place.
- (B1-2) When requested by the administering authority, dust and particulate monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive or commercial place, and the results must be notified within 14 days to the administering authority following completion of monitoring.
- (B1-3) If the environmental authority holder can provide evidence through monitoring that the following limits are not being exceeded then the holder is not in breach of (B1-1):
- a) Dust deposition of 120 milligrams per square metre per day, averaged over one month, when monitored in accordance with AS 3580.10.1 Methods for sampling and analysis of ambient air - Determination of particulates - Deposited matter - Gravimetric method of 1991.
- (B1-4) If monitoring indicates exceedence of the relevant limits in Condition (B1-3), then the environmental authority holder must:
- a) address the complaint including the use of appropriate dispute resolution if required; or
 - b) immediately implement dust abatement measures so that emissions of dust from the activity do not result in further environmental nuisance.

Odour Nuisance

- (B2-1) Subject to condition (B2-2), the release of noxious or offensive odour(s) or any other noxious or offensive airborne contaminant(s) resulting from the mining activity must not cause an environmental nuisance at any sensitive or commercial place.
- (B2-2) When requested by the administering authority, odour monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive or commercial place, and the results must be notified within 14 days to the administering authority following completion of monitoring.
- (B2-3) If monitoring indicates Condition (B2-1) is not being met then the environmental authority holder must:
- a) address the complaint including the use of appropriate dispute resolution if required; or
 - b) immediately implement odour abatement measures so that emissions of odour from the activity do not result in further environmental nuisance.

END CONDITIONS FOR SCHEDULE B

Schedule C - Water

Release to Waters

(C1-1) Receiving waters affected by the release of process water or storm water contaminated by the mining activities or both must be monitored at the locations and frequencies defined in Schedule C - Table 1 and Schedule 1 - Map 1, and comply with the contaminant limits defined in Schedule C - Table 3.

Schedule C - Table 1 (Receiving Water Monitoring Locations and Frequency)

Monitoring point	Eastings (AMG 84 Zone 54)	Northing (AMG 84 Zone 54)	Monitoring frequency
MKUS 1- reference site *	305625	7797450	Each flow event
MKUS 2- reference site*	TBD	TBD	Each flow event
MKDS 1- test site	301160	7800135	Each flow event
MKDS 2- test site	306366	7798356	Each flow event
MKDS 3- test site	306370	7798363	Each flow event
MKDS 4- test site	301300	7797255	Each flow event

NOTE: This does not apply to dams containing hazardous waste

Reference sites must:

- a) be from the same biogeographical and climatic region;
- b) have similar geology, soil types and topography
- c) contain a range of habitats similar to those at the test site
- d) be of similar flow regime; and
- e) not be so close to the test sites that any disturbances at the test site also result in a change at the reference site.

TBD- to be determined and provided to the QEPA prior to commencement of mining.

C1-2 Subject to Condition (C1-1), if the receiving water contaminant trigger levels defined in Schedule C - Table 2 are exceeded then the environmental authority holder must complete an investigation into the potential for environmental harm and notify the administering authority within 3 months of receiving the analysis results.

Schedule C - Table 2 (Receiving Water Trigger Levels)

Parameter	Units	Minimum	Maximum	Trigger Type
pH ¹	pH	6.0	8.0	Range
EC ¹	µS/cm	N/A	250	Maximum
Sulphate ²	mg/L	N/A	500	Maximum
Aluminium ²	mg/L	N/A	2.5	Maximum
Arsenic ²	mg/L	N/A	0.25	Maximum
Boron ²	mg/L	N/A	0.37	Maximum
Cadmium ²	mg/L	N/A	0.005	Maximum
Chromium ²	mg/L	N/A	0.5	Maximum
Cobalt ²	mg/L	N/A	0.5	Maximum
Copper ²	mg/L	N/A	0.5	Maximum
Fluoride ²	mg/L	N/A	1	Maximum
Lead ²	mg/L	N/A	0.05	Maximum
Manganese ³	mg/L	N/A	1.9	Maximum
Mercury ²	mg/L	N/A	0.001	Maximum
Molybdenum ²	mg/L	N/A	0.075	Maximum
Nickel ²	mg/L	N/A	0.5	Maximum
Selenium ²	mg/L	N/A	0.01	Maximum
Zinc ²	mg/L	N/A	10	Maximum

¹ Contaminant trigger limits are based on Table 3.3.4 and 3.3.5 of Aquatic Ecosystems ANZECC (2000).

² Contaminant trigger limits are based on 50% of the contaminant limits defined in the ANZECC (2000) Livestock Drinking Water and are to be analysed as total metals (unfiltered).

³ Contaminant trigger limits based on Table 3.4.1 of Aquatic Ecosystems ANZECC (2000) 95% and are to be analysed as filtered metals.

Schedule C - Table 3 (Receiving Water Contaminant Limits)

Parameter	Units	Minimum	Maximum	Trigger Type
pH ⁴	pH	6.0	9.0	Range
TDS ²	mg/L	N/A	4000	Maximum
Sulphate ¹	mg/L	N/A	1000	Maximum
Aluminium ¹	mg/L	N/A	5	Maximum
Arsenic ¹	mg/L	N/A	0.5	Maximum
Boron ¹	mg/L	N/A	5	Maximum
Cadmium ¹	mg/L	N/A	0.01	Maximum
Chromium ¹	mg/L	N/A	1	Maximum
Cobalt ¹	mg/L	N/A	1	Maximum
Copper ¹	mg/L	N/A	1	Maximum
Fluoride ¹	mg/L	N/A	2	Maximum
Lead ¹	mg/L	N/A	0.1	Maximum
Manganese ³	mg/L	N/A	2.5	Maximum
Mercury ¹	mg/L	N/A	0.002	Maximum
Molybdenum ¹	mg/L	N/A	0.15	Maximum
Nickel ¹	mg/L	N/A	1	Maximum
Selenium ¹	mg/L	N/A	0.02	Maximum
Zinc ¹	mg/L	N/A	20	Maximum

¹ Contaminant limits based on table 4.3.2 ANZECC (2000) Livestock drinking water quality and are analysed as Total metals (unfiltered)

² Contaminant limits are based on Table 4.3.1 Livestock drinking water quality and are analysed as Total metals (unfiltered)

³ Contaminant limits based on Table 3.4.1 of Aquatic Ecosystems ANZECC (2000) 80% and are to be analysed as filtered metals.

⁴ Contaminant limits based on Table 3.3.4 of Aquatic Ecosystems ANZECC (2000)

End of Pipe Release

(C1-3) End of pipe release limits for storm water contaminated by mining activities must be monitored at the locations and frequencies defined in Schedule C - Table 4 and Schedule I - Map 2 and 3 and comply with the contaminant limits defined in Schedule C - Table 5.

Schedule C - Table 4 (End of pipe monitoring locations and frequency)

Monitoring point	Eastings (AMG 84, Zone 54)	Northing (AMG 84, Zone 54)	Monitoring frequency
Mount Clarke ROM Area Sediment Dam	303834	7799496	Each flow event
Mount Clarke Pit Area Sediment Dam	305336	7799592	Each flow event
Mount Clarke/Flying Horse Sediment Dam	305887	7798726	Each flow event
Process Plant ROM Pad Sediment Dam 1	303040	7798656	Each flow event
Process Plant ROM Pad Sediment Dam 2	302905	7798900	Each flow event
Process Plant ROM Pad Sediment Dam 3	302771	7799010	Each flow event

NOTE: This does not apply to dams containing hazardous waste.

Schedule C - Table 5 (End of pipe contaminant release limits)

Parameter	Units	Minimum	Maximum	Limit Type
pH	pH	6	9	Range
TDS	mg/L	N/A	4000	Maximum
Sulphate	mg/L	N/A	1000	Maximum
Arsenic	mg/L	N/A	5	Maximum
Cadmium	mg/L	N/A	0.01	Maximum
Chromium	mg/L	N/A	1	Maximum
Cobalt	mg/L	N/A	1	Maximum
Copper	mg/L	N/A	1	Maximum
Lead	mg/L	N/A	0.1	Maximum
Mercury	mg/L	N/A	0.002	Maximum
Zinc	mg/L	N/A	20	Maximum

Contaminant limits based on ANZECC (2000) Livestock drinking water quality and are analysed as Total metals (unfiltered)

NOTE: This does not apply to dams containing hazardous waste.

Dams Containing Hazardous Waste

- (C1-4) Water storages containing process water and storm water contaminated by mining activities must be monitored at the locations and frequencies defined in Schedule C - Table 6 and Schedule 1 - Map 4 and samples analysed for the parameters defined in Schedule C - Table 7.

Schedule C - Table 6 (Water Storage Monitoring Locations of Hazardous Dams)

Monitoring point	Easting (Zone 54, AMG 84)	Northing (Zone 54, AMG 84)	Monitoring frequency
PLS Ponds	302000	7797450	Annually, March
ILS Pond	301900	7797450	Annually, March
Raffinate Pond Pre-Settler	301850	7797450	Annually, March
Raffinate Pond	301800	7797450	Annually, March
Storm water Pond 1	301750	7797450	Annually, March
Storm water Pond 2	301750	7797350	Annually, March

(C1-5) In the event that the water quality within any dam containing hazardous waste does not comply with the contaminant limits defined in Schedule C - Table 7, implement measures to prevent access by all livestock and minimise access by fauna to the dam.

Schedule C - Table 7 (Water Quality Limits for Dams Containing Hazardous Waste)

Parameter	Units	Contaminant Limit	Limit Type
pH	pH	4-9	Range
TDS	mg/L	5,000	Maximum
Boron	mg/L	5	Maximum
Sulphate	mg/L	1000	Maximum
Aluminium	mg/L	5	Maximum
Arsenic	mg/L	0.5	Maximum
Cobalt	mg/L	1	Maximum
Copper	mg/L	1	Maximum
Lead	mg/L	0.1	Maximum
Nickel	mg/L	1	Maximum
Zinc	mg/L	20	Maximum

Contaminant limits based on ANZECC (2000) Livestock drinking water quality and are analysed as total metals (unfiltered).

(C1-6) The design storage allowance on 1 November of each year for any dam containing hazardous waste constructed or operated within the operational land must comply with Schedule C - Table 8.

Schedule C - Table 8 (Storage Design for Dams Containing Hazardous Waste)

Storage Type	Design Storage Allowance	Spillway Critical Design Storm ⁽²⁾	Mandatory Reporting Level ⁽¹⁾
Stormwater Pond 1	1: 100 Year ARI 2 month wet season plus process inputs for the 2 month wet season	1: 1000 Year ARI	1: 100 year ARI
Stormwater Pond 2	1: 100 Year ARI 2 month wet season plus process inputs for the 2 month wet season	1: 1000 Year ARI	1: 100 year ARI

Note ⁽¹⁾: The design storage allowance on 1 November of each year for any dam containing hazardous waste constructed within the operational land must be equivalent to the run-off from a 1 in 100 ARI 2 month wet season plus process inputs for the equivalent wet season. Process inputs refers to hazardous mineral process waste and water, which is being disposed of in the storage facility.

Note ⁽²⁾: The critical design storm has a duration that produces the peak discharge for the catchments.

Note ⁽³⁾: The mandatory reporting level refers to the volume below the spillway crest, either the 1: 100 ARI 72 hour storm or the 1:100 ARI wave allowance, whichever is lower.

(C1-7) The spillway for any dam containing hazardous waste, constructed or operated within the operational land must be designed and maintained to withstand the peak flow from the spillway critical design storm defined in Schedule C - Table 8.

- (C1-8) The holder of the environmental authority must mark the mandatory reporting level defined in Schedule C - Table 8 on the spillway of all dams containing hazardous waste within the operational land.
- (C1-9) The holder of the environmental authority must notify the administering authority when the pondage level of the dam containing hazardous waste, reaches the mandatory reporting level defined in Schedule C - Table 8.

Stream Sediment Contaminant Levels

- (C2-1) All reasonable and practicable erosion protection measures and sediment control measures must be implemented and maintained to minimise erosion and the release of sediment.
- (C2-2) The bed of the receiving waters, affected by the release of process water and storm water contaminated by the mining activities must be monitored at the locations and frequencies defined in Schedule C - Table 9 and Schedule I - Map 5.

Schedule C - Table 9 (Receiving Stream Sediment Monitoring Locations and Frequency)

Monitoring point	Easting (AGD 84 Zone 54)	Northing (AGD 84 Zone 54)	Monitoring frequency
MKUS 1- reference site *	305925	7797450	May each year
MKUS 2- reference site*	TBD	TBD	May each year
MKDS 1- test site	301160	7800135	May each year
MKDS 2- test site	306366	7798356	May each year
MKDS 3- test site	306370	7798363	May each year
MKDS 4- test site	301900	7797255	May each year

NOTE: This does not apply to dams containing hazardous waste
Reference sites must:

- a) be from the same biogeographical and climatic region;
- b) have similar geology, soil types and topography
- c) contain a range of habitats similar to those at the test site
- d) be of similar flow regime; and
- e) not be so close to the test sites that any disturbances at the test site also result in a change at the reference site.

TBD- to be determined and provided to the QEPA prior to commencement of mining.

- (C2-3) Subject to Condition (C2-2), if the stream sediment contaminant trigger levels defined in Schedule C - Table 10 are exceeded then the environmental authority holder must complete an investigation into the potential for environmental harm and notify the administering authority within 3 months of receiving the analysis results.

Schedule C - Table 10 (Receiving Stream Sediment Contaminant Trigger Levels)

Parameter	Units	Contaminant trigger levels	Trigger Type
Antimony ¹	mg/kg dry wt	2	Maximum
Arsenic ¹	mg/kg dry wt	20	Maximum
Cadmium ¹	mg/kg dry wt	1.5	Maximum
Chromium ¹	mg/kg dry wt	80	Maximum
Copper ²	mg/kg dry wt	100	Maximum
Lead ¹	mg/kg dry wt	50	Maximum
Nickel ¹	mg/kg dry wt	21	Maximum
Silver ¹	mg/kg dry wt	1	Maximum
Mercury ¹	mg/kg dry wt	0.15	Maximum
Zinc ¹	mg/kg dry wt	200	Maximum

¹ANZECC (2000); ISQG-Low trigger values, Sediment Quality Guidelines, Aquatic Ecosystems, Table 3.5.1.

² Site specific trigger value as calculated in section 3.5 of EM Plan January 2006

- (C2-4) Subject to Condition (C2-2), stream sediment contaminant limits must not exceed the contaminant limits defined in Schedule C -Table 11.

Schedule C - Table 11 (Receiving Stream Sediment Contaminant Limits)

Parameter	Units	Contaminant limits	Limit Type
Antimony ¹	mg/kg dry wt	25	Maximum
Arsenic ¹	mg/kg dry wt	70	Maximum
Cadmium ¹	mg/kg dry wt	10	Maximum
Chromium ¹	mg/kg dry wt	370	Maximum
Copper ²	mg/kg dry wt	120	Maximum
Lead ¹	mg/kg dry wt	220	Maximum
Nickel ¹	mg/kg dry wt	52	Maximum
Silver ¹	mg/kg dry wt	3.7	Maximum
Mercury ¹	mg/kg dry wt	1	Maximum
Zinc ¹	mg/kg dry wt	410	Maximum

¹ ANZECC (2000): ISQG High trigger values, Sediment Quality Guidelines, Aquatic Ecosystems, Table 3.5.1.

² Site specific trigger value as calculated in section 3.5 of EM Plan January 2006

(C2-5) All stream sediment sampling must be undertaken in accordance with AS 5687.1 Guidance on Sampling of Bottom Sediments of 1998

Sewage effluent

(C3-1) All effluent released from the treatment plant must be monitored at the frequency and for the parameters specified in Schedule C - Table 12.

(C3-2) Sewage effluent used for dust suppression must not exceed sewage effluent release limits defined in Schedule C - Table 12.

(C3-3) Sewage Effluent used for dust suppression must not cause spray drift or over spray to any sensitive or commercial place, and must not be applied at a rate that causes pooling, ponding and/or runoff of any effluent irrigated.

(C3-4) Subject to Conditions (C3-1) to (C3-3) inclusive, sewage effluent from sewage treatment facilities must be reused or evaporated and must not be directly released from the sewage treatment plant to any water way or drainage line other than in accordance with Schedule C - Table 12.

Schedule C - Table 12 (Sewage effluent quality targets for dust suppression)

Quality Characteristics	Release Limit			Monitoring Frequency
	Minimum	Median	Maximum	
pH (pH Units)	6 ³		8.5 ²	Quarterly
Faecal Coliforms (organisms/100mL)		1000 ¹		Quarterly

¹ A minimum of five samples must be collected at not less than a weekly interval for the quarterly sampling

² A minimum of five samples must be collected at not less than a weekly interval for the quarterly sampling with four out of five samples must be less than the maximum

³ A minimum of five samples must be collected at not less than a weekly interval for the quarterly sampling with four out of five samples must be higher than the minimum but lower than the maximum limit.

Release limits sourced from Queensland Water Recycling Guidelines December 2005 Table 6:2b

Groundwater

(C4-1) Groundwater, affected by the mining activities must be monitored at the locations and frequencies defined in Schedule C - Table 13 and Schedule I - Map 6.

Schedule C - Table 13 (Groundwater Monitoring Locations and Frequency)

Monitoring point	Easting (AGD 84 Zone 54)	Northings (AGD 84 Zone 54)	Monitoring frequency
LA MB01 (Process Plant) - reference site	302484	7796800	Monthly
LA MB02 (Process Plant) - reference site	302891	7797385	Monthly
LA MB03 (Process Plant) - reference site	302128	7797950	Monthly
LA MB04 (Process Plant)	TBD	TBD	Monthly
LA MB05 (Process Plant)	TBD	TBD	Monthly
LA MB06 (Process Plant)	TBD	TBD	Monthly
LA MB07 (Process Plant)	TBD	TBD	Monthly
LA MB08 (Process Plant)	TBD	TBD	Monthly
LA MB09 (Process Plant)	TBD	TBD	Monthly
LA MB010 (Process Plant)	TBD	TBD	Monthly
LA MB011 (Process Plant)	TBD	TBD	Monthly
LA MB012 (Process Plant)	TBD	TBD	Monthly
LA MB013 (Process Plant)	TBD	TBD	Monthly
LA MB014 (Process Plant)	TBD	TBD	Monthly
MK MB01 (pit area)	305360	7799013	Quarterly
MK PB01 (pit area)	305356	7799019	Quarterly

NOTE: This does not apply to dams containing hazardous waste

TBD - To be determined

Reference sites must:

- a) be from the same biogeographical and climatic region;
- b) have similar geology, soil types and topography
- c) contain a range of habitats similar to those at the test site
- d) be of similar flow regime; and not be so close to the test sites that any disturbances at the test site also result in a change at the reference site.

(C4-2) Subject to Condition (C4-1), if the groundwater contaminant trigger levels defined in Schedule C - Table 14 are exceeded then the environmental authority holder must complete an investigation into the potential for environmental harm and notify the administering authority within 3 months of receiving the analysis results.

Schedule C - Table 14 (Groundwater Contaminant Trigger Levels)

Parameter	Units	Minimum	Maximum	Trigger type
pH ¹	pH	6	8	Range
TDS ²	mg/L	N/A	2000	Maximum
Sulphate ²	mg/L	N/A	500	Maximum
Aluminium ²	mg/L	N/A	2.5	Maximum
Arsenic ²	mg/L	N/A	0.25	Maximum
Boron ²	mg/L	N/A	0.37	Maximum
Cadmium ²	mg/L	N/A	0.005	Maximum
Chromium ²	mg/L	N/A	0.5	Maximum
Cobalt ²	mg/L	N/A	0.5	Maximum
Copper ²	mg/L	N/A	0.5	Maximum
Fluoride ²	mg/L	N/A	1	Maximum
Lead ²	mg/L	N/A	0.05	Maximum
Manganese ³	mg/L	N/A	1.9	Maximum
Mercury ²	mg/L	N/A	0.001	Maximum
Molybdenum ²	mg/L	N/A	0.075	Maximum
Nickel ²	mg/L	N/A	0.5	Maximum
Selenium ²	mg/L	N/A	0.01	Maximum
Zinc ²	mg/L	N/A	10	Maximum

¹ Contaminant triggers limits are based on Table 3.3.4 and 3.3.5 of Aquatic Ecosystems ANZECC (2000)

² Contaminant trigger limits are based on 50% of the contaminant limits defined in the ANZECC (2000) Livestock Drinking Water and are to be analysed as total metals (unfiltered).

³ Contaminant trigger limits based on Table 3.4.1 of Aquatic Ecosystems ANZECC (2000) and are analysed as Filtered Metals

(C4-3) Subject to Condition (C4-1), groundwater contaminant limits must not exceed the contaminant limits defined in Schedule C-Table 15.

Schedule C – Table 15 (Groundwater Contaminant Limits)

Parameter	Units	Minimum	Maximum	Limit Type
pH ¹	pH	6	9	Range
TDS ¹	mg/L	N/A	4000	Maximum
Sulphate ¹	mg/L	N/A	1000	Maximum
Aluminum ¹	mg/L	N/A	5	Maximum
Arsenic ¹	mg/L	N/A	0.5	Maximum
Boron ¹	mg/L	N/A	5	Maximum
Cadmium ¹	mg/L	N/A	0.01	Maximum
Chromium ¹	mg/L	N/A	1	Maximum
Cobalt ¹	mg/L	N/A	1	Maximum
Copper ¹	mg/L	N/A	1	Maximum
Fluoride ¹	mg/L	N/A	2	Maximum
Lead ¹	mg/L	N/A	0.1	Maximum
Manganese ²	mg/L	N/A	2.5	Maximum
Mercury ¹	mg/L	N/A	0.002	Maximum
Molybdenum ¹	mg/L	N/A	0.15	Maximum
Nickel ¹	mg/L	N/A	1	Maximum
Selenium ¹	mg/L	N/A	0.02	Maximum
Zinc ¹	mg/L	N/A	20	Maximum

¹ Contaminant limits based on ANZECC (2000) Livestock drinking water quality and are analysed as Total Metals (unfiltered)

² Contaminant limits based on Table 3.4.1 of Aquatic Ecosystems ANZECC (2000) and are analysed as Filtered Metals .

(C4-4) The method of water sampling required by this environmental authority must comply with that set out in the latest edition of the Environmental Protection Agency's Water Quality Sampling Manual.

Voids

(C5-1) Water quality in mining voids and final voids must be monitored at the locations and frequencies defined in Schedule C - Table 16 and for the parameters detailed in Schedule C – Table 17.

(C5-2) In the event that water quality within the mining voids or final voids does not comply with the contaminant limits defined in Schedule C – Table 17, implement measures to prevent access by all livestock and minimise access by fauna to the void.

Schedule C - Table 16 (Voids Monitoring Locations and Frequency)

Monitoring point	Monitoring frequency
Mount Kelly/Flying Horse Pit	Annually
Mount Clarke Pit	Annually

Schedule C - Table 17 (Void Water Quality Limits)

Parameter	Units	Limit	Limit Type
pH	pH	6-9	Range
TDS	mg/L	4000	Maximum
Sulphate	mg/L	1000	Maximum
Arsenic	mg/L	0.5	Maximum
Cadmium	mg/L	0.01	Maximum
Chromium	mg/L	1	Maximum
Copper	mg/L	1	Maximum
Lead	mg/L	0.1	Maximum
Mercury	mg/L	0.002	Maximum
Zinc	mg/L	20	Maximum

Contaminant limits are based on ANZECC (2000 Livestock drinking water quality and analysed for total metals (unfiltered))

Acid Rock Drainage and Leachate Management

(C6-1) Subject to limits defined in Schedule C all reasonable and practicable measures must be implemented to prevent hazardous leachate being directly or indirectly released or likely to be released as a result of the activity to any groundwater, watercourse and waters.

END CONDITIONS FOR SCHEDULE C

Schedule D - Noise and Vibration

Noise Nuisance

- (D1-1) Subject to Conditions (D1-2) and (D1-3) noise from the mining activity must not cause an environmental nuisance to an affected building.
- (D1-2) When requested by the administering authority, noise monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive or commercial place, and the results must be notified within 14 days to the administering authority following completion of monitoring.
- (D1-3) The method of measurement and reporting of noise levels must comply with the latest edition of the Environmental Protection Agency's Noise Measurement Manual.

Vibration nuisance

- (D2-1) Subject to Conditions (D2-2) and (D2-3) vibration from the mining activity must not cause an environmental nuisance to an affected building.
- (D2-2) When requested by the administering authority, vibration monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive or commercial place, and the results must be notified within 14 days to the administering authority following completion of monitoring.

END CONDITIONS FOR SCHEDULE D

Schedule E - Waste

Storage of Tyres

- (E1-1) Tyres stored awaiting disposal or transport for take-back and, recycling, or waste-to-energy options - should be stockpiled in volumes less than 3m in height and 200m² in area and at least 10m from any other tyre storage area.
- (E1-2) All reasonable and practicable fire prevention measures must be implemented, including removal of grass and other materials within a 10m radius of the scrap tyre storage area.

Disposal of Tyres

- (E2-1) Disposing of scrap tyres resulting from the mining activities in spoil emplacements is acceptable, provided tyres are placed as deep in the spoil as reasonably practicable.
- (E2-2) Scrap tyres resulting from the mining activities disposed within the operational land must not impede saturated aquifers or compromise the stability of the consolidated landform.

Waste Management

- (E3-1) A Waste Management Program, in accordance with the Environmental Protection (Waste Management) Policy 2000, must be included in the Plan of Operations.

Regulated Waste

- (E 4-1) All regulated waste received and removed from the site, that is over 250kg in weight, must be transported by a person who holds a current authority to transport such waste under the provisions of the *Environmental Protection Act 1994*.
- (E4-2). Except as otherwise provided by the conditions of this authority, all waste removed from the site must be taken to a facility that is lawfully allowed to accept such waste under the provisions of the *Environmental Protection Act 1994*.
- (E4-3) Where regulated waste is removed from the Project (other than by a release as permitted under another schedule of this environmental authority), records must be kept of the following:
- the date, quantity and type of waste removed, and
 - name of the waste transporter that removed the waste; and
 - the intended treatment/disposal destination of the waste.

Note: Records of documents maintained in compliance with a waste tracking system established under the Environmental Protection Act 1994 or any other law for regulated waste will be deemed to satisfy this condition.

Waste Rock Characterisation

- (E5-1) All areas to be mined must undergo a waste rock characterisation survey (where waste rock is to be disposed of on the surface) and a report submitted to the administering authority prior to mining where this survey has not previously been carried out.

END CONDITIONS FOR SCHEDULE E

Schedule F - Land

Rehabilitation Landform Criteria

(F1-1) All areas significantly disturbed by mining activities must be rehabilitated to a stable landform with a self-sustaining vegetation cover in accordance with Schedule F - Table 1 and 2.

Schedule F - Table 1 (Final Land Use and Rehabilitation Approval Schedule)

Disturbance Category	Max. Area (ha)	Land Use			Land Capability		Analogue Site	
		PRE DISTURBANCE	POST DISTURBANCE	PRE DISTURBANCE	POST DISTURBANCE	Longitude	Latitude	
Mount Kelly/Flying Horse Pit	13.2	Habitat	Water Storage	Class 5	Water Storage			
Mount Kelly/Flying Horse Waste Rock Dump	28	Habitat	Habitat	Class 5	Class 5		TBD	TBD
Mount Kelly/Flying Horse Topsoil Stockpile	1.1	Habitat	Habitat	Class 5	Class 5		TBD	TBD
Mount Kelly/Flying Horse Sediment Dams	1.3	Habitat	Water Storage	Class 5	Water Storage			
Mount Kelly/Flying Horse Diversion Drains	1.3	Habitat	LIG or diversion Habitat	Class 5	Class 5		TBD	TBD
Mount Clarke Pit	9.5	Habitat	Water Storage	Class 5	Water Storage			
Mount Clarke Waste Rock Dump	16.3	Habitat/LIG	Habitat/LIG	Class 4 - 5	Class 4 - 5		TBD	TBD
Mount Clarke Low Grade Stockpile	5.4	Habitat/LIG	Habitat/LIG	Class 4 - 5	Class 4 - 5		TBD	TBD
Mount Clarke/Flying Horse/Mount Kelly ROM Storage & Live Rehandle	5.5	Habitat	Habitat/LIG	Class 4 - 5	Class 4 - 5		TBD	TBD

Disturbance Category	Max. Area	Land Use		Land Capability		Analogue Site	
		Habitat/LIG	Habitat/LIG	Class 4 - 5	Class 4 - 5	TBD	TBD
Mount Clarke Topsoil Stockpiles	4.5	Habitat/LIG	Habitat/LIG	Class 4 - 5	Class 4 - 5	TBD	TBD
Mount Clarke Pit Area Sediment Dam	0.8	Habitat	Water Storage	Class 4 - 5	Water Storage		
Mount Clarke ROM Area Sediment Dam	0.4	Habitat	Water Storage	Class 4 - 5	Water Storage		
Mount Clarke - Diversion/Interception /Sediment Dam Drains	3.2	Habitat	LIG or diversion Habitat	Class 4 - 5	Class 4 - 5	TBD	TBD
Roads/Tracks	18.8	Existing tracks or LIG	Tracks for grazier or LIG	Class 4 - 5	Class 4 - 5	TBD	TBD
Accommodation Camp and Facilities	5	LIG	LIG	Class 4	Class 4	TBD	TBD
Sewage Plant and Pond	0.2	LIG	LIG	Class 4	Class 4	TBD	TBD
ROM Pad - at process plant	7.8	LIG	LIG	Class 4 - 5	Class 4 - 5	TBD	TBD
Process plant and associated buildings	3.3	LIG	LIG	Class 4	Class 4	TBD	TBD
Overland Conveyor	1.8					TBD	TBD
Workshop/Office	2.9	LIG	LIG	Class 4	Class 4	TBD	TBD
Access Circuit Area		LIG	LIG	Class 4	Class 4	TBD	TBD
Heap Leach Pads - Stage 1 and 2	43.2	LIG	Habitat/LIG	Class 4	Class 4 - 5	TBD	TBD
Process Water Ponds - PLS, ILS and Raffinate	3.4	LIG	Water storages	Class 4	Water storages		
Stormwater Ponds 1 and 2	11.4	LIG	Water storages	Class 4	Water storages		
Stormwater Pond spillway channel	0.7	LIG	LIG or diversion	Class 4	Class 4 - 5	TBD	TBD
Raw Water Pond	0.6	LIG	LIG/Water storage	Class 4	Class 4 or water storage	TBD	TBD
Process Area Topsoil Stockpiles	9.7	LIG	LIG	Class 4	Class 4	TBD	TBD

Disturbance Category	Max. Area	Land Use		Land Capability		Analogue Site	
		LIG	LIG or diversion	Class 4	Class 4 - 5	TBD	TBD
Process Plant	2.7	LIG	LIG or diversion	Class 4	Class 4 - 5	TBD	TBD
Drainage Diversions	1	LIG	LIG or ponds	Class 4 - 5	Class 4 - 5		
Process Plant	2.6	LIG	LIG	Class 4	Class 4	TBD	TBD
Sediment Ponds	1	LIG	LIG	Class 4 - 5	Class 4 - 5	TBD	TBD
Bulk Fill/Stockpile	0.2	LIG	LIG	Class 4 - 5	Class 4 - 5	TBD	TBD
Pipelines and Powerlines (on lease)	0.3	LIG	LIG	Class 4	Class 4	TBD	TBD
Rubbish Dumps	0.3	LIG	LIG	Class 4	Class 4	TBD	TBD
Concrete Batch Plant	4.3	LIG	LIG	Class 4	Class 4	TBD	TBD
Fuel Storage Area	5	LIG	LIG/Habitat	Class 4 - 5	Class 4 - 5	TBD	TBD
Contractor Laydown Area	59.9	LIG	LIG/Habitat	Class 4 - 5	Class 4 - 5	TBD	TBD
Exploration	276.4						
Construction Access (net of specific areas)							
Total							

*Analogue sites and disturbance description are to be identified and the environmental authority holder must amend the environmental authority to include analogue sites in Schedule F - Table 1 by 30 June 2007.

TBD - To be determined

LIG - Low Intensity Grazing

Classes are derived from the Department of Minerals and Energy's Land Suitability Assessment Techniques (1995)

(F1-2) Progressive rehabilitation must commence when areas become available within the operational land.

(F1-3) Complete an investigation into rehabilitation of disturbed areas and submit a report to the administering authority proposing acceptance criteria to meet the outcomes in Schedule F - Table 1 and landform design criteria in Schedule F - Table 2 by 30 June 2007.



Schedule F - Table 2 (Landform Design)

Disturbance type	Slope range (%)	Projective surface area (ha)
Waste Rock Dumps	33%-76% (1:3 to angle of repose)	49.7
Heap Leach Pads	<33% or 1:3	43.2
ROM Pads	33%-76% (1:3 to angle of repose)	13.3

Residual Void Outcome

(F2-1) Residual voids must not cause any serious environmental harm to land, surface waters or any recognised groundwater aquifer, other than the environmental harm constituted by the existence of the residual void itself and subject to any other condition within this environmental authority.

Dams Containing Hazardous Waste

Description of Dam

(F3-1) The construction or operation of any dam containing hazardous waste within the operational land must comply with Schedule F - Table 3.

Schedule F — Table 3 (Size and Purpose of Dams Containing Hazardous Waste)

Name of dam containing hazardous waste ⁽¹⁾	Maximum surface area of dam (ha)	Maximum volume of dam (m ³)	Maximum depth of dam (m) ⁽²⁾	Purpose of dam ⁽³⁾
Process Water Ponds (Raffinate Pre-Settler, Raffinate, ILS and PLS)	3.4	51,100	4.5	Storage of Process Solutions
Heap Leach Pads	43.2	N/A	N/A	Storage of Process Solutions
Stormwater Pond 1 (Stage 1 only)	6.47	302,760	6.35	Storage of storm water runoff from processing area
Stormwater Pond 1 & 2 (Stage 2)	10.4	467,720	6.35	Storage of storm water runoff from processing area.

Note ⁽¹⁾: The name of the dam containing hazardous waste should refer to the name of the dam e.g. process residue facility and decant dam.

Note ⁽²⁾: For dams that do not require a dam wall, input the maximum void depth e.g. where dams are formed by excavating below the land surface or backfilling a residual void.

Note ⁽³⁾: Purpose of the dam should outline the designed function, e.g. "the permanent containment of tailings resulting from the extraction of nickel, cobalt and other metals at the XYZ Refinery".



Location of Dam

(F3-2) The location of any dam containing hazardous waste within the licensed place must be located within the polygonal area defined by the co-ordinates defined in Schedule C- Table 4 -Map 4.

Schedule F - Table 4 (Location of Dams Containing Hazardous Waste)

Name of dam containing hazardous waste	Easting(AMG 84, Zone 54) ⁽¹⁾	Northing (AMG 84, Zone 54) ⁽¹⁾
PLS Ponds, ILS, Raffinate Pre-settler and Raffinate Pond	301760	7797640
	302065	7797640
	302035	7797310
	301760	7797310
Stormwater Pond 1 and 2	301470	7797640
	301760	7797640
	301760	7797110
	301470	7797110
Heap Leach Pads	302065	7797945
	302720	7797945
	302720	7796825
	302035	7796825

Note ⁽¹⁾: A minimum of 3 control points is required to constrain the location of all activities associated with the dam containing hazardous waste. Additional infrastructure which forms part of any dam containing hazardous waste may include appurtenant works consisting of tailings discharge pipelines, seepage collection systems, runoff diversion bunds, containment systems, pressure-relief wells, decant and recycle water systems.

Standards and Criteria

(F3-3) The holder of the environmental authority must design, construct, repair, maintain, operate and decommission the dams defined in Schedule F - Table 3 and 4 in accordance with an acknowledged design plan that must comply with the standard environmental conditions in the "Code of Environmental Compliance for High Hazard Dams Containing Hazardous Waste".

(F3-4) The holder of the environmental authority must design, construct, and operate all low hazardous dams containing hazardous waste and non-hazardous dams in accordance with the criteria outlined in Appendix B of the Code of Environmental Compliance for Mining Activities.

Inspection of Dams

(F3-5) High hazard dams containing hazardous waste shall be inspected by a Registered Professional Engineer Queensland (RPEQ) prior to 1 November each year or at any time if alarming, unusual or otherwise unsatisfactory conditions are observed.

(F3-6) For each inspection, the engineer shall assess the condition of the dam and its foundations, determine the hydraulic adequacy of the dam and assess the adequacy of the works with respect to dam safety.

(F3-7) For each inspection, two copies of the engineer's report and any recommendations as to measures to be taken to ensure the integrity of the dam shall be furnished to the administering authority within 28 days of the inspection.

Decommissioning of Dam - Objective

(F3-8) Dams containing hazardous waste must not be abandoned and must be decommissioned to a situation where water can no longer be stored in the dams. The dams and their contained waste(s) must be stable, whereafter the dams are no longer dams and they become landforms on the operational land and must comply with the rehabilitation requirements of this environmental authority.

Decommissioning of Dam - Documentation and Compliance

(F3-9) Decommissioning activities for dams must be documented in detail in the plan of operations under which the activities are to occur. Where the detailed documentation is not already contained in the Design Plan for the dam, the detailed documentation is considered to be an amendment to the design plan and must be submitted.

as an amendment to the design plan required by the "Code of Environmental Compliance for High Hazard Dams Containing Hazardous Waste".

Infrastructure

- (F4-1) All infrastructure, constructed by or for the environmental authority holder during the mining activities including water storage structures, must be removed from the site prior to mining lease surrender, except where agreed in writing by the post mining landowner / holder.

NOTE: This is not applicable where the landowner / holder is also the environmental authority holder.

Contaminated Lands

- (F5-1) A register and map of all potentially contaminated sites and any remediation details, must be kept on site, updated regularly, and included in each Plan of Operations.
- (F6-2) A Spillage Management Plan and an Emergency Plan for all hazardous materials stored on-site, together with a description of suitable equipment and training must be updated and included with each Plan of Operations.

END CONDITIONS FOR SCHEDULE F

Schedule G - Community

Complaint Response

- (G1-1) All complaints received must be recorded including details of complainant, reasons for the complaint, investigations undertaken, conclusions formed and actions taken. This information must be made available for inspection by the administering authority on request.

END CONDITIONS FOR SCHEDULE G

Schedule H – Definitions

“acceptance criteria” means the measures by which the actions implemented to rehabilitate the land are deemed to be complete. The acceptance criteria indicate the success of the rehabilitation outcome or remediation of areas which have been significantly disturbed by the mining activities. Acceptance criteria may include information regarding:

- vegetation establishment, survival and succession;
- vegetation productivity, sustained growth and structure development;
- fauna colonisation and habitat development;
- ecosystem processes such as soil development and nutrient cycling, and the recolonisation of specific fauna groups such as collembola, mites and termites which are involved in these processes;
- microbiological studies including recolonisation by mycorrhizal fungi, microbial biomass and respiration;
- effects of various establishment treatments such as deep ripping, topsoil handling, seeding and fertiliser application on vegetation growth and development;
- resilience of vegetation to disease, insect attack, drought and fire;
- vegetation water use and effects on ground water levels and catchment yields.

“affected building”

- for noise means any building or any part of a building, for example the building from which the noise is made, at which the noise can be heard.
- for vibration means any building or any part of a building, for example the activity from which the vibration is made, at which the vibration can be felt.

“ambient (or total) noise” at a place, means the level of noise at the place from all sources (near and far), measured as the Leq for an appropriate time interval.

“appropriately qualified person” means any person who conforms to the EPA operational policy for an “appropriately qualified person (analyst)” in accordance with Section 490(7) of the *Environmental Protection Act 1994*.

“ARD” means acid rock drainage and refers to the low pH, high heavy metal pollutant typical of sulphidic mine wastes, and most commonly associated with the production of ferrous iron and sulphuric acid through the oxidation of sulphide minerals.

“authority” means environmental authority (mining activities) under the *Environmental Protection Act 1994*.

“blasting” means the use of explosive materials to fracture-

- (a) rock, coal and other minerals for later recovery; or
- (b) structural components or other items to facilitate removal from a site or for reuse.

“building” includes a structure of any type and part of a building or structure.

“commercial place” means a work place used as an office or for business or commercial purposes, which is not part of the mining activity and does not include employees accommodation or public roads.

“competent person” means a person with the demonstrated skill and knowledge required to carry out the task to a standard necessary for the reliance upon collected data or protection of the environment.

“dam” means a containment or proposed containment whether permanent or temporary, which is designed to contain, divert or control flowable substances. However this does not include a fabricated or manufactured tank or container designed to a recognised standard.

“design plan” in the context of a dam design is the documentation required under the Code of Environmental Compliance for High Hazard Dams Containing Hazardous Waste to describe the physical dimensions of the dam, the materials and standards to be used for construction of the dam, the procedures and criteria to be used for operating the dam and the decommissioning and rehabilitation objectives in terms of procedures, works and outcomes at the end of dam life. The documents can include design and investigation reports, drawings, specifications and certifications.

“environmental authority holder” means the holder of this environmental authority.

“flow event” means a flow event producing sufficient water to permit a monitoring creek bed flow of 30cm or more at the sampling station.

“flowable substance” means matter or mixture of materials which can be forced to or otherwise flow under any conditions possible in a situation. It includes water, other liquids or a mixture that includes water or any other liquid or suspended solids.

"hazardous waste" means any substance, whether liquid, solid or gaseous, derived by or resulting from, the processing of minerals that tends to destroy life or impair or endanger health.

"infrastructure" means water storage dams, roads and tracks, buildings and other structures built for the purpose of mining activities but does not include facilities required for the long term management of mining impacts or the protection of potential resources. Such facilities include dams containing hazardous waste, waste rock dumps, voids, or ore stockpiles and buildings or other structures whose ownership can be transferred and which have a residual beneficial use for the next owner of the operational land or the background land owner.

" $L_{A, 10, adj, 10 mins}$ " means the A-weighted sound pressure level, (adjusted for tonal character and impulsiveness of the sound) exceeded for 10% of any 10-minute measurement period, using Fast response.

" $L_{A, 1, adj, 10 mins}$ " means the A-weighted sound pressure level, (adjusted for tonal character and impulsiveness of the sound) exceeded for 1% of any 10-minute measurement period, using Fast response.

" $L_{A, max adj, 1}$ " means the average maximum A-weighted sound pressure level, adjusted for noise character and measured over any 10 minute period, using Fast response.

"land" in the "land schedule" of this document means land excluding waters and the atmosphere.

"land capability" as defined in the DME 1995 Technical Guidelines for the Environmental Management of Exploration and Mining in Queensland.

"land suitability" as defined in the DME 1995 Technical Guidelines for the Environmental Management of Exploration and Mining in Queensland.

"land use" term to describe the selected post mining use of the land, which is planned to occur after the cessation of mining operations.

"leachate" means a liquid that has passed through or emerged from, or is likely to have passed through or emerged from, a material stored, processed or disposed of at the operational land which contains soluble, suspended or miscible contaminants likely to have been derived from the said material.

"mandatory reporting level" means the volume below the spillway crest, equivalent to the lower of the AEP, 72 hour storm or the AEP wave allowance (AEP is the annual exceedence probability).

"mineral" means a substance which normally occurs naturally as part of the earth's crust or is dissolved or suspended in water within or upon the earth's crust and includes a substance which may be extracted from such a substance, and includes—

- (a) clay if mined for use for its ceramic properties, kaolin and bentonite;
 - (b) foundry sand;
 - (c) hydrocarbons and other substances or matter occurring in association with shale or coal and necessarily mined, extracted, produced or released by or in connection with mining for shale or coal or for the purpose of enhancing the safety of current or future mining operations for coal or the extraction or production of mineral oil therefrom;
 - (d) limestone if mined for use for its chemical properties;
 - (e) marble;
 - (f) mineral oil or gas extracted or produced from shale or coal by in situ processes;
 - (g) peat;
 - (h) salt including brine;
 - (i) shale from which mineral oil may be extracted or produced;
 - (j) silica, including silica sand, if mined for use for its chemical properties;
 - (k) rock mined in block or slab form for building or monumental purposes;
- but does not include—
- (l) living matter;
 - (m) petroleum within the meaning of the *Petroleum Act 1923*;
 - (n) soil, sand, gravel or rock (other than rock mined in block or slab form for building or monumental purposes) to be used or to be supplied for use as such, whether intact or in broken form;
 - (o) water.

"noxious" means harmful or injurious to health or physical well being, other than trivial harm.

"offensive" means causing reasonable offence or displeasure; is disagreeable to the sense; disgusting, nauseous or repulsive, other than trivial harm.

"peak particle velocity (ppv)" means a measure of ground vibration magnitude which is the maximum rate of change of ground displacement with time, usually measured in millimetres/second (mms⁻¹).

"protected area" means - a protected area under the *Nature Conservation Act 1992*; or
- a marine park under the *Marine Parks Act 1992*; or
- a World Heritage Area.

"progressive rehabilitation" means rehabilitation (defined below) undertaken progressively or a staged approach to rehabilitation as mining operations are ongoing.

"reference site" (or analogue site) may reflect the original location, adjacent area or another area where rehabilitation success has been completed for a similar biodiversity. Details of the reference site may be as photographs, computer generated images and vegetation models etc.

"rehabilitation" the process of reshaping and revegetating land to restore it to a stable landform and in accordance with the acceptance criteria set out in this environmental authority and, where relevant, includes remediation of contaminated land.

"representative" means a sample set which covers the variance in monitoring or other data either due to natural changes or operational phases of the mining activities.

"residual void" means an open pit resulting from the removal of ore and/or waste rock which will remain following the cessation of all mining activities and completion of rehabilitation processes.

"self sustaining" means an area of land which has been rehabilitated and has maintained the required acceptance criteria without human intervention for a period nominated by the administering authority.

"sensitive place" means;

- a dwelling, residential allotment, mobile home or caravan park, residential marina or other residential premises; or
- a motel, hotel or hostel; or
- an educational institution; or
- a medical center or hospital; or
- a protected area under the *Nature Conservation Act 1992*, the *Marine Parks Act 1992* or a World Heritage Area; or
- a public park or gardens.

"significant disturbance" - includes land

- (a) if it is contaminated land; or
- (b) it has been disturbed and human intervention is needed to rehabilitate it.
 - i. to a state required under the relevant environmental authority; or
 - ii. if the environmental authority does not require the land to be rehabilitated to a particular state - to its state immediately before the disturbance.

Some examples of disturbed land include:

- areas where soil has been compacted, removed, covered, exposed or stockpiled;
- areas where vegetation has been removed or destroyed to an extent where the land has been made susceptible to erosion; (vegetation & topsoil)
- areas where land use suitability or capability has been diminished;
- areas within a watercourse, waterway, wetland or lake where mining activities occur;
- areas submerged by tailings or hazardous contaminant storage and dam walls in all cases;
- areas under temporary infrastructure. Temporary infrastructure includes any infrastructure (roads, tracks, bridges, culverts, dams, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc) which is to be removed after mining activities have ceased; or
- areas where land has been contaminated and a suitability statement has not been issued.

However, the following areas are not included:

- areas off lease (e.g. roads or tracks which provide access to the mining lease);
- areas previously significantly disturbed which have achieved the rehabilitation outcomes; by agreement with the EPA, areas previously significantly disturbed which have not achieved the rehabilitation objective(s) due to circumstances beyond the control of the mine operator (such as climatic conditions);
- areas under permanent infrastructure. Permanent infrastructure includes any infrastructure (roads, tracks, bridges, culverts, dams, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc) which is to be left by agreement with the landowner. The agreement to leave permanent infrastructure must be recorded in the Landowner Agreement and lodged with the EPA;
- disturbances that pre-existed the grant of the tenure unless those areas are disturbed during the term of the tenure.

"spillway" means passage or outlet from the dam through which surplus water flows.

"stable" means land form dimensions are or will be stable within tolerable limits now and in the foreseeable future. Stability includes consideration of geotechnical stability, settlement and consolidation allowances, bearing capacity (traffic ability), erosion resistance and geochemical stability with respect to seepage and contaminant generation.

"suitably qualified and experienced person" means a person who is a Registered Professional Engineer of Queensland under the provisions of the *Professional Engineers Act 1988* or a Corporate Member of the Institution of Engineers Australia or holds equivalent professional qualifications and has the following:

- (a) knowledge of engineering principles related to the structures, geomechanics, hydrology, hydraulics, chemistry and environmental impact of dams; and
- (b) at least a total of five years of suitable experience and demonstrated expertise in at least four of the following areas:
- investigation, design or construction of dams;
 - operation and maintenance of dams;
 - geomechanics with particular emphasis stability, geology and geochemistry;
 - hydrology with particular reference to flooding, estimation of extreme storms, water management or meteorology;
 - hydraulics with particular reference to sediment transport and deposition, erosion control, beach processes;
 - hydrogeology with particular reference to seepage, groundwater, solute transport processes and monitoring thereof; or
 - dam safety.

"tolerable limits" means that a range of values could be accepted to achieve an overall environmental management objective (eg a range of settlement of a tailing capping could still meet the objective of draining the cap quickly, preventing pondage and limiting infiltration and percolation).

"trivial harm" means environmental harm which is not material or serious environmental harm and will not cause actual or potential loss or damage to property of an amount of, or amounts totalling more than \$5,000.

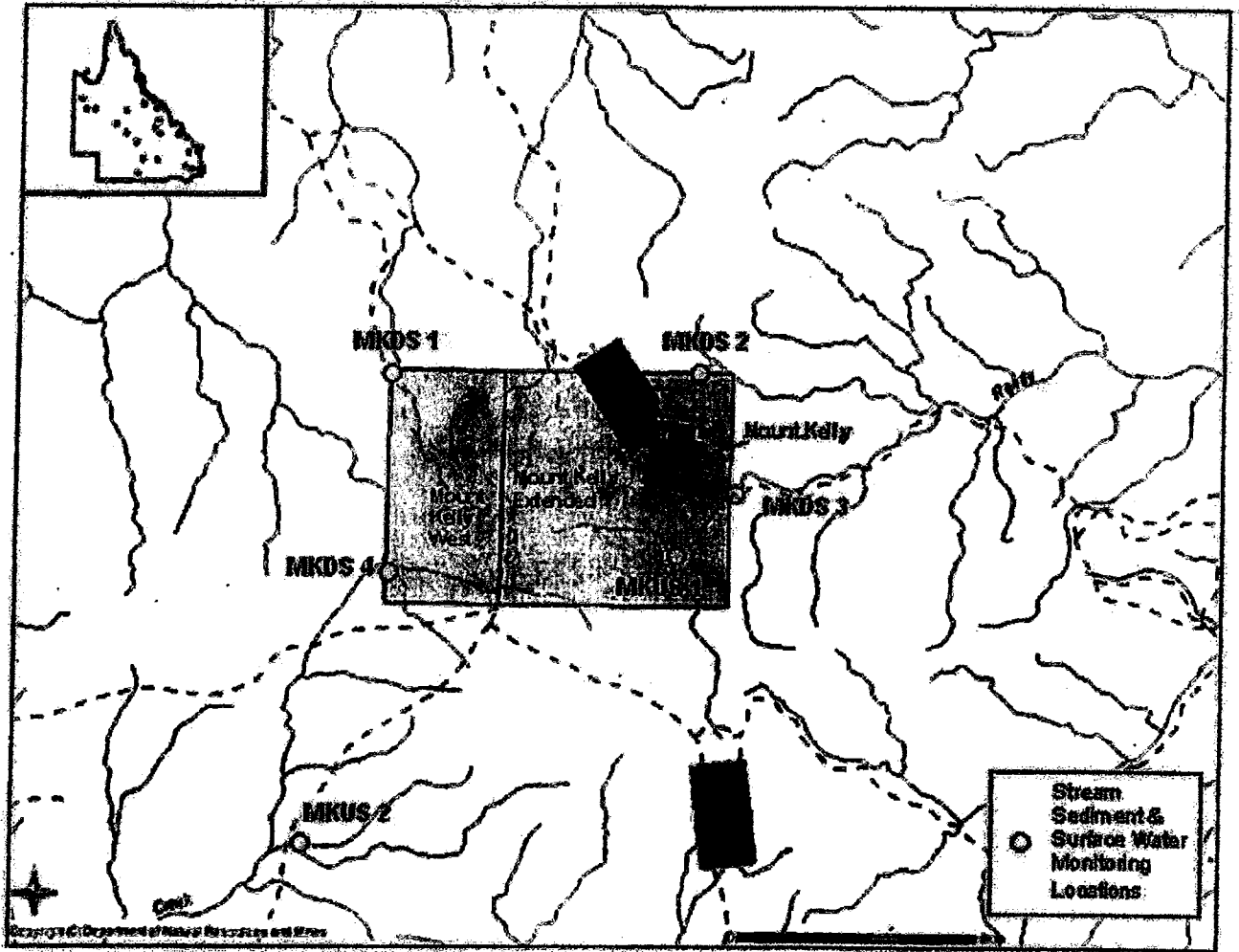
"watercourse" - Means a river, creek or stream in which water flows permanently or intermittently in a visibly defined channel (natural, artificial or artificially improved) with:

- (a) continuous bed and banks;
- (b) an extended period of flow for some months after rain ceases, and
- (c) an adequacy of flow that sustains basic ecological processes and maintains biodiversity.

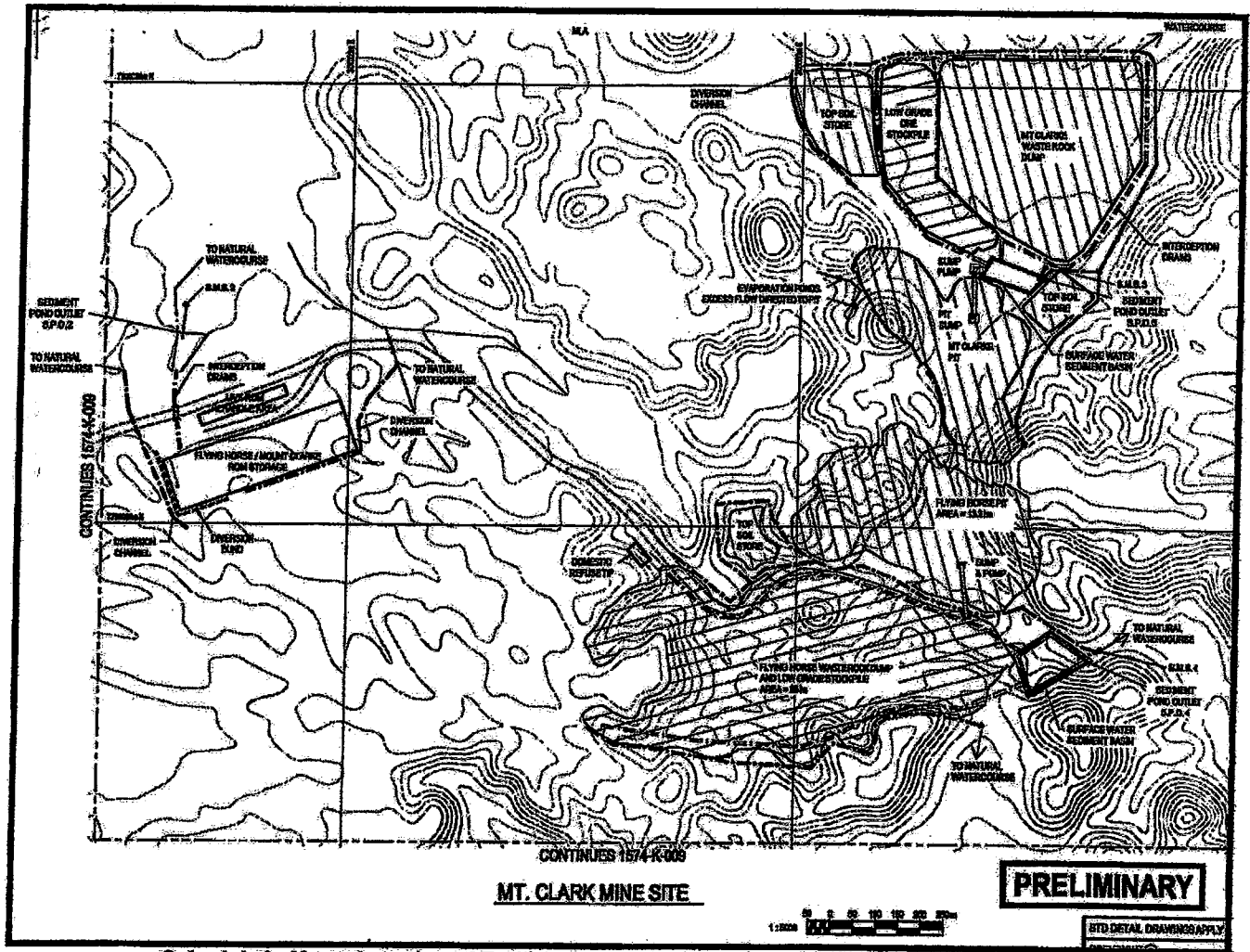
"waters" includes river, stream, lake, lagoon, pond, swamp, wetland, unconfined surface water, bed and bank of any waters, dams, non-tidal or tidal waters (including the sea) or any part thereof.

END CONDITIONS FOR SCHEDULE H

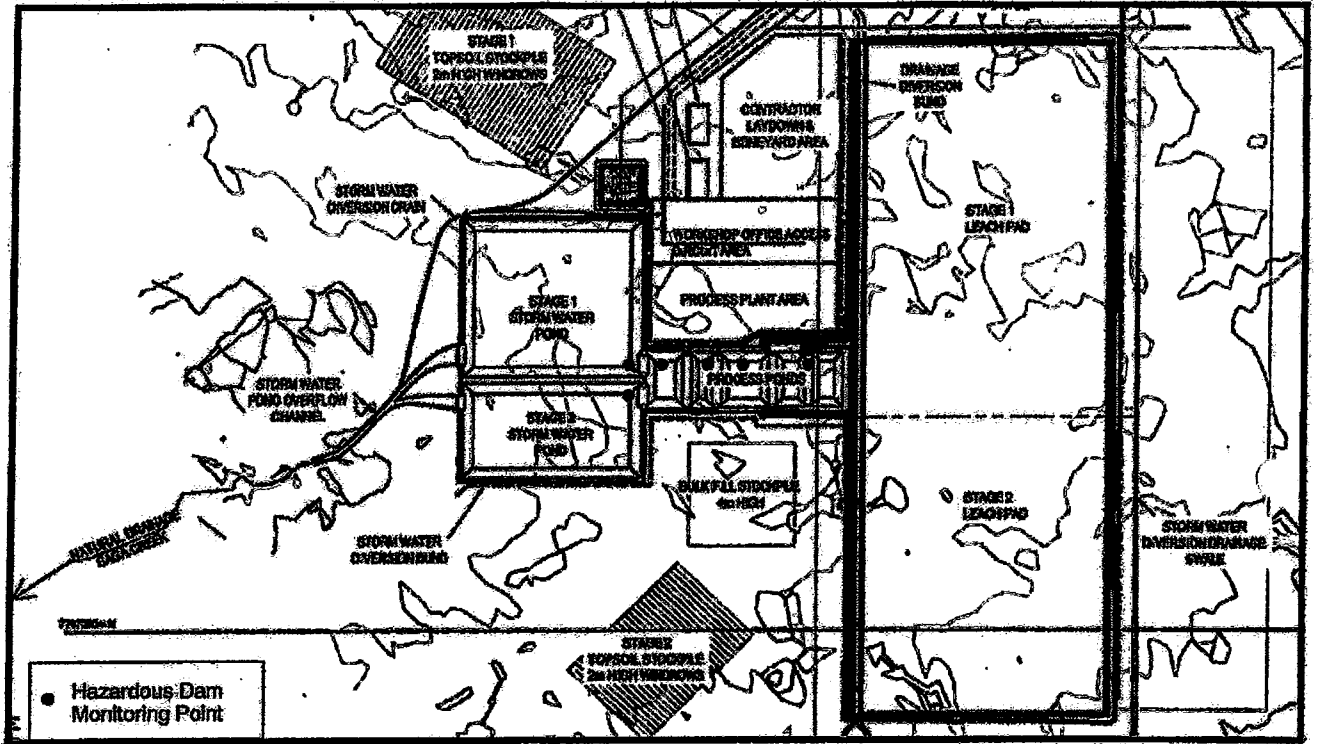
Schedule I - Maps / Plans



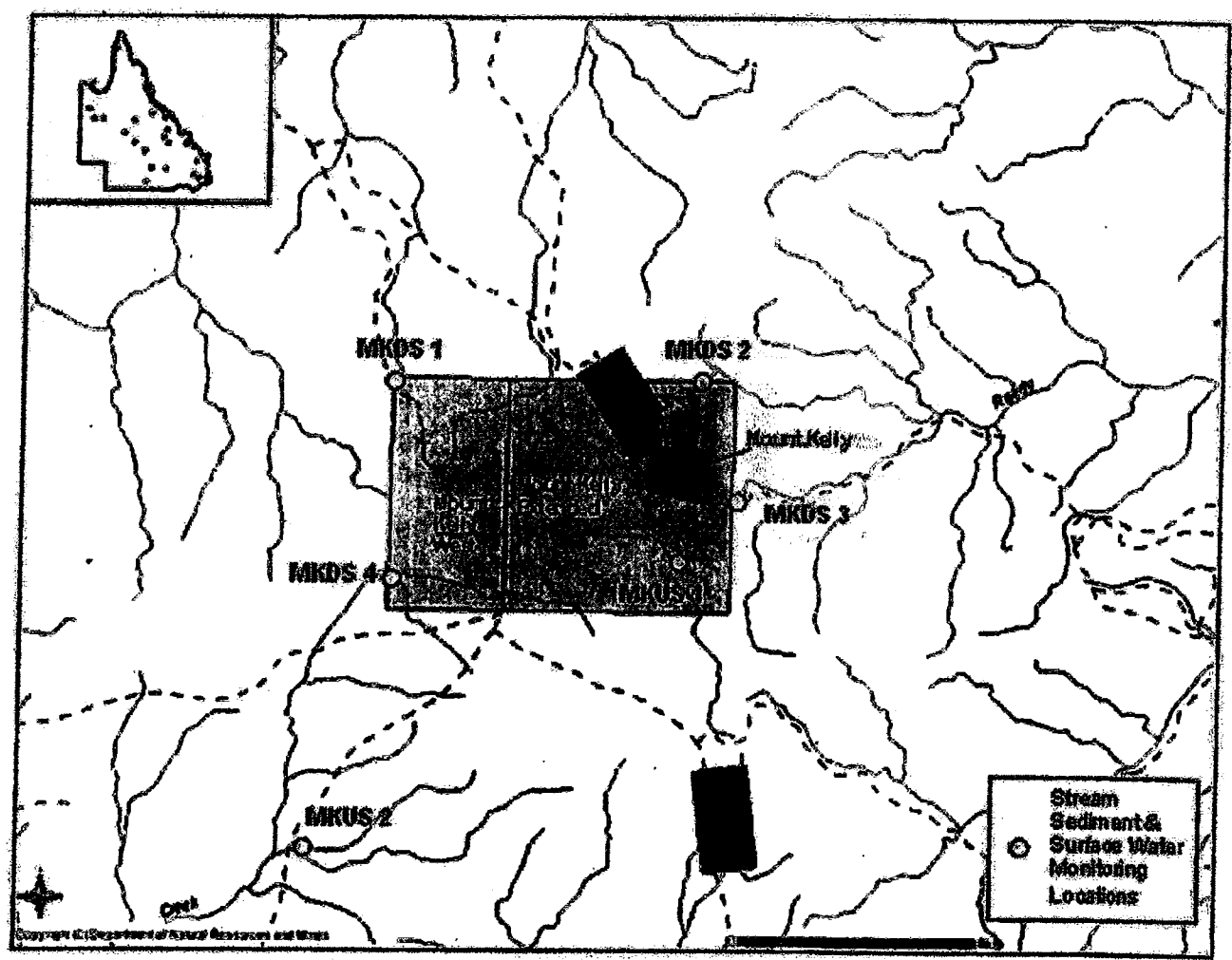
Schedule I - Map 1 Receiving Water Monitoring Locations



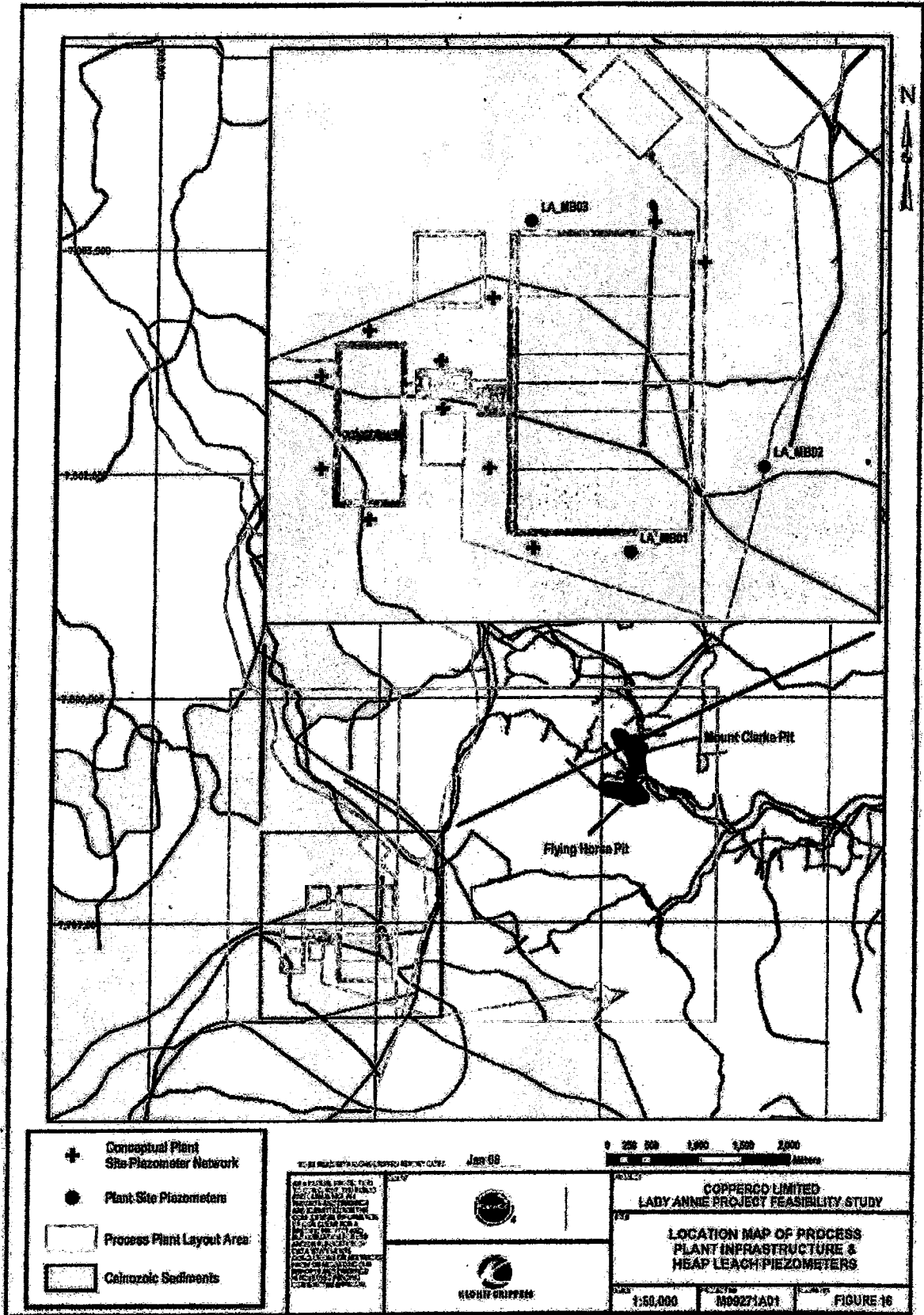
Schedule I - Map 3 Location of End Pipe Releases from Sediment Dams - Mining Area



Schedule 1 - Map 4 Location of Hazardous Dams



Schedule I - Map 5 Stream Sediments Monitoring Locations



Schedule 1 - Map 6 Groundwater Monitoring Locations

END CONDITIONS FOR SCHEDULE I
END OF ENVIRONMENTAL AUTHORITY

Lady Annie Off Lease Discharge

Note: Statewide Services have had no direct involvement in this issue and all the information has been sourced from S&H and EPA staff members. The relevant S&H staff members involved have recorded details of their involvement in their notebooks and a mine record of the S&H site inspection has been recorded on the CopperCo mine record book at Lady Annie mine site.

The actual mining operations (copper heap leach) site is Mount Kelly and involves primarily ML 90169 (Savannah Resources Pty Ltd 100%) and ML90170 (Lady Annie Operations Pty Ltd 100%).

EPA is the lead agency for managing mine discharges via the Environmental Management Plan, Environmental Authority No MIN100401006 and Plan of Operations expiring on 1 January 2009 under the *Environmental Protection Act 1994*. The current status of the Plan of Operations has not been advised to DME as at 27 February 2009.

Safety and Health have a responsibility for safety on the mine site under the *Mining and Quarrying Safety and Health Act 1999*.

Statewide Services manages the project financial assurance for the EPA and could provide information on the boundaries of the mining lease/s granted under the *Mineral Resources Act 1989* if required to determine if the issue was on or off the mining lease/s. There does not appear to be an immediate concern with the boundaries as the affected Saga and Inca Creeks are predominantly off lease

- 9 January 2008 – EPA advise Plan of Operations for the Lady Annie project approved to expire on 1 January 2009. Revised Financial Assurance of \$7,677,713.00 required for the project.
- 23 January 2008 – Macquarie Bank bond for the revised Financial Assurance lodged with the DME Mount Isa office.
- 26 November 2008 – Administrators appointed to CopperCo Limited and its associated companies Copperco Queensland Operations Pty Ltd, Lady Annie Operations Pty Ltd, Lady Annie Pty Ltd and Savannah Resources Pty Ltd (CopperCo). The administrators subsequently appointed Ferrier Hodgson as receivers and managers of CopperCo.
- 6 February 2009 – ASX listed resource company Cape Lambert Iron Ore Limited (Cape Lambert) assigned the securities of Macquarie Bank Limited in CopperCo. Cape Lambert subsequently appointed Deloitte as new receivers and managers and expressions of interest advertised for the sale of all or part of the project closing on 10 March 2009. .
- District Inspector of Mines Hermann Fasching (DIO) was notified at approximately 7.30am on Saturday 21 February 2009 by Member for Mount Isa Mrs Betty Kiernan MP of landholder complaints about possible contaminated discharge from Lady Annie mine site into Saga and Inca Creeks.
- DIO then notified EPA District Manager Cairns, Ingrid Fomiatti Minnesma (EPA DM), of the issue at approximately 8.15 am on the same day.
- DIO then contacted Mrs Kiernan MP to advise of his referral and also gave her the mobile number of the EPA Northern region Director of Environmental Operations, Rob Lawrence.

- EPA Environmental Operations Mount Isa staff attended the site on Monday 23 February 2009 and the investigation is continuing. (pers comms EPA Mount Isa 23-27/2/09)
- Inspector of Mines – Chemical, Damien Lee (IMC) drove to the site on Tuesday 24 February 2009 accompanied by District Workers Representative, Desmond Laffin, to inspect the site from a S&H perspective. His findings and recommendations are recorded in the mine record book.
- The issue appeared in the North West Star, Townsville Bulletin and Courier Mail newspapers that circulate in the district.
- The off lease discharge resulted from the failure of Storm Water Pond 2 at the Mount Kelly mine site due to abnormally high rainfall over the past 2 months. The low pH discharge flowed into Saga Creek, then into Inca Creek which flows into the Buckley River. (pers comms EPA DM 27/2/09)
- Deloitte posted a media release on the Copperco website on Friday 27 February 2009 about the incident and their present and future involvement as receivers and managers.
- The Buckley River crosses Northern Territory border about 50 kilometres south south west of Camoweal and flows into the Georgina River system that empties into Lake Eyre.(Merlin and internet)
- The Copperco Lady Annie mine site on ML90179 is located 15 kilometres north west of Mount Kelly and is in the catchment for Gunpowder Creek that flows into the Leichardt River.
- Cape Lambert are presently in the process of replacing the Macquarie Bank EPA Financial Assurance bond for the CopperCo Mount Kelly project PJ 90084 of \$7, 677, 713 with a National Australia Bank bond for the same amount. It is expected this bond will be lodged during the week commencing 2 March 2009.
- There is no security held under section 277 of the *Mineral Resources Act 1989*.

Mount Gordon mine site had nowhere to store process water due to all storages being full and were considering utilising their underground workings. (pers comms IMC 26/2/09) The mine was shut down on or about 25 February 2009 as reported in the North West Star on 26 February 2009.

There have reportedly been off lease discharges from other mine sites but these haven't been reported to Statewide services.

IMC Damien Lee inspected the Great Australia mine discharge adjacent to Cloncurry township and recorded his findings in the mine record book.

Mine closures are always reported to EPA and the Inspectorate due to the environmental and safety impacts.



Minister's Office File Ref:	Insert number
Department File Ref:	B200902006

Requested by: Regional Director, Northern **Date Requested:** 27 February 2009 **For action by:** 3 March 2009

For action and return to department

- For approval For information
 For meeting With correspondence

For retention by Minister's office

- Speaking points Ministerial Statement
 Draft media release

SUBJECT Lady Annie copper mine discharge into Saga and Inca Creeks

Purpose

To advise the Minister of background and issues relating to the discharge of contaminated water from Copperco Limited heap leach copper mining operation known as the Lady Annie Mine.

Urgency

- If urgent, please provide details including –
 - The Minister proposes to visit the site on Tuesday 3 March 2009
 - The issue was known on Saturday 21 February 2009.
 - The situation is still under investigation by EPA
 - The briefing note needs to be actioned by Monday 2 March 2009

Background

- 9 January 2008 – Environmental Protection Agency (EPA) advise the Plan of Operations for the Lady Annie project approved to expire on 1 January 2009. Revised Financial Assurance of \$7,677,713.00 required for the project.
- 23 January 2008 – Macquarie Bank bond for the revised Financial Assurance lodged with the Department of Mines and Energy (DME) Mount Isa office.
- 26 November 2008 – Administrators appointed to CopperCo Limited and its associated companies Copperco Queensland Operations Pty Ltd, Lady Annie Operations Pty Ltd, Lady Annie Pty Ltd and Savannah Resources Pty Ltd (CopperCo). The administrators subsequently appointed Ferrier Hodgson as receivers and managers of CopperCo.
- 6 February 2009 – ASX listed resource company Cape Lambert Iron Ore Limited (Cape Lambert) assigned the securities of Macquarie Bank Limited in CopperCo. Cape Lambert subsequently appointed Deloitte as new receivers and managers and expressions of interest advertised for the sale of all or part of the project closing on 10 March 2009. (CopperCo web site <http://www.copperco.com.au/>)
- District Inspector of Mines Hermann Fasching (DIO) was notified at approximately 7.30am on Saturday 21 February 2009 by Member for Mount Isa Mrs Betty Kiernan MP of landholder complaints about possible contaminated discharge from Lady Annie mine site into Saga and Inca Creeks. (pers comms DIO)
- DIO then notified EPA District Manager Cairns, Ingrid Fomiatti Minnesma (EPA DM), of the issue at approximately 8.15 am on the same day. (pers comms DIO)
- DIO then contacted Mrs Kiernan MP to advise of his referral and also gave her the mobile number of the EPA Northern region Director of Environmental Operations, Rob Lawrence. (pers comms DIO)
- EPA Environmental Operations Mount Isa staff attended the site on Monday 23 February 2009 and the investigation is continuing. (pers comms EPA Mount Isa 23-27/2/09)
- Inspector of Mines – Chemical, Damien Lee (IMC) drove to the site on Tuesday 24 February 2009 accompanied by District Workers Representative, Desmond Laffin, to

Minister's Office File Ref:	Insert number
Department File Ref:	B200902006

inspect the site from a S&H perspective. His findings and recommendations are recorded in the mine record book. (pers comms IMC)

- The issue appeared in the North West Star, Townsville Bulletin and Courier Mail newspapers that circulate in the district.
- The off lease discharge resulted from the failure of Storm Water Pond 2 at the Mount Kelly mine site due to abnormally high rainfall over the past 2 months. The low pH discharge flowed into Saga Creek, then into Inca Creek which flows into the Buckley River. (pers comms EPA DM 27/2/09)
- Deloitte posted a media release on the Copperco website on Friday 27 February 2009 about the incident and their present and future involvement as receivers and managers. (CopperCo website <http://www.copperco.com.au/>)
- The Buckley River crosses Northern Territory border about 50 kilometres south west of Camooweal and flows into the Georgina River system that empties into Lake Eyre.(Merlin and internet)
- The Copperco Lady Annie mine site on ML90179 is located 15 kilometres north west of Mount Kelly and is in the catchment for Gunpowder Creek that flows into the Leichhardt River.
- Cape Lambert are presently in the process of replacing the Macquarie Bank EPA Financial Assurance bond for the CopperCo Mount Kelly project PJ 90084 of \$7, 677, 713 with a National Australia Bank bond for the same amount. It is expected this bond will be lodged during the week commencing 2 March 2009.

Issues

- The EPA is the lead agency for mine site discharges via the Environmental Management Plan, Environmental Authority No MIN100401006 and Plan of Operations expiring on 1 January 2009 under the *Environmental Protection Act 1994*. The current status of the Plan of Operations has not been advised to DME as at 27 February 2009.
 - The Mount Isa office of the Mines Inspectorate is responsible for ensuring that acceptable safety and health standards are established and practised on the mine site. They will continue to monitor the situation on the mining lease following their initial inspection.
 - The Mount Isa office of Statewide Service manages the unconditional financial assurance bond for the Lady Annie project for the EPA. This bond can be called up if requested by the EPA. There is no security held under section 277 of the *Mineral Resources Act 1989*.
2. Analysis of the issues and assessment of alternative actions or options is the responsibility of the EPA as a result of their ongoing monitoring and investigations.
 3. No policy initiatives involved due to ongoing monitoring and investigations.

Media Implications

4. Not Applicable.

Consultation

5. Not Applicable as only background information obtained.

Financial Implications

6. Not Applicable. Financial Assurance of \$7, 677, 713 .00 unconditional bank bond held.

Elected Representatives

7. Mount Isa City Council – Mayor John Maloney; State electorate of Mount Isa – Mrs Betty Kiernan MP; Federal electorate of Kennedy – Mr Bob Katter MLA

Remedial Action

8. Not Applicable as EPA investigation ongoing.

Attachments

9. Alphabetically list each attachment to the briefing note by title.

Phillips Erin

From: Kadletz Oskar
Sent: Tuesday, 17 March 2009 10:23 AM
To: Croton Luke; Frampton Wayne
Cc: Fasching Hermann; Lawrence Rob; Cooper Warren
Subject: NOTES FROM MINISTER'S MEETING RE MINE FLOODING WITH LANDHOLDERS IN MOUNT ISA 16 MARCH 2009

Luke, Wayne,

Present were Rob Lawrence and Hamish Butler from the EPA, myself and Hermann Fasching from DME, Colin Saltmere as a Traditional Owner, Doug Coventry chair of Southern Gulf Catchments, as well as landholders from stations downstream of Lady Annie, Mount Gordon, and Mount Oxide Mines including stations Koolamara, Bonyapadinga??, Flora downs, Yelvertoft, Chidna, Stanbroke, Fort Constantine, Lorraine Station, Camilleroy, Augustus, and Carlton Hills. Betty took a contact list which Hermann Fasching will get a copy of.

Notes from yesterday's meeting between the Minister, Betty Kiernan, and landholders:

- Meeting discussed issues relating to discharges from Lady Annie, Birla Mount Gordon, and Mount Oxide
- Rob Lawrence gave updates on activities for Lady Annie and Mount Gordon, including discussions with the mining companies
- I and the Minister discussed the situation at Mount Oxide as an abandoned mine site; Minister asked that issues be addressed directly to DME for this site
- Betty Kiernan's intent to have most of the graziers in the same room so all could be given the same information
- Landholders downstream of Lady Annie Mine dissatisfied with the level of discharge notification by the mine site
- All wanted more information on water impacts and water safety for stock and potable uses
- There was discussion on stream fencing,
- Concern over media impact on the "clean green and organic" nature of their product, but determination to have contamination issues addressed
- Although not specifically said by EPA or Minister, the landholders will need to address immediate response stock management themselves in the first instance. At least one landholder asked this question directly.
- Minister/Agencies will investigate flooding disaster relief options as another form of assistance
- At least one landholder has sent a legal letter of claim to Lady Annie. Minister and Betty supported landholders seeking concurrent legal assistance from Glen Martin on 4687 2934 (set up by DME previously?)
- Brussy Spreadborough from Chidna gave photos of Mount Oxide to the NW Star – front page article 16 March 2008
- Financial assurance – Minister was asked whether assurance could be used to address downstream issues.
- Discussion on protection of incomes of impacted landholders, strengthening landholder compensation arrangements, immediate response impacts on landholder finances and property saleability

Minister's 7-point action plan:

1. EPA will continue with environmental protection orders for Lady Annie Mine
2. EPA will review need for supplementary orders
3. People at the meeting to provide round table comment to the above before they go out
4. Buckley and Gunpowder/Leichhardt Rivers to be tested for impacts further downstream ASAP – landholder concern waters are clearer than they should be???
5. DPI to assist with stock testing to check for impacts
6. The meeting re-convene next week and on a roughly fortnightly basis to address the issues
7. DPI to provide guidance and advice. Also role for Biosecurity Queensland?

Mt Oxide Action Points

1. DME to liaise directly with landholder of Chidna Station (Vernon "Brussie" Spreadborough)
2. DME to investigate ways to "neutralise" the precipitate downstream of Mount Oxide and if possible
3. DME to work with EPA on downstream river sampling to provide information for landholder's queries on safety of water for stock and potable uses

4. DME to review fencing and exclusion options for affected areas around Mt Oxide Mine (control of cattle access to potentially contaminating areas)
5. DME review site risks and remediation requirements with a view to a new funding submission.

Mount Gordon Action

1. EPA to bring dam safety expert to site to inspect tailings dam, and report on potential failure risks and their mitigation

Cheers,

Oskar

Oskar Kadletz

Manager, Mining Industry Liaison Unit, Northern Region

Department of Mines & Energy

First Floor, State Government Building, Corner Walker and Stanley Streets,

PO Box 1752 Townsville Queensland 4810.

Telephone: (07) 4760 7409; QNET 97409

Facsimile: (07) 4760 7400

Mobile: s.49

E-mail: Oskar.Kadletz@dme.qld.gov.au

Phillips Erin

From: Frampton Wayne
Sent: Thursday, 12 March 2009 1:48 PM
To: Cooper Warren; Kadletz Oskar
Subject: FW: Lady Annie Mine
Attachments: Lady Annie (Sites).pdf; sample summary_allIFM.XLS

FYI

Wayne Frampton
Acting Regional Director
Northern Region
Telephone 47472038, Qnet 32038
Mobile ^{s.49} Facsimile 0747437165
Email: wayne.frampton@dme.qld.gov.au
www.dme.qld.gov.au

Department of Mines and Energy
13 Isa Street, Mount Isa Q 4825
PO Box 334, Mount Isa Q 4825

From: Rob Lawrence [<mailto:Rob.Lawrence@epa.qld.gov.au>]
Sent: Thursday, 12 March 2009 12:21 PM
To: Frampton Wayne
Cc: Crystal Whittaker; Hollie Wakefield
Subject: Lady Annie Mine

Hi Wayne

FYI the attached spreadsheet provided results of the sampling downstream of the Lady Annie Mine. Map attached shows samples sites.

Let me know if you have any questions

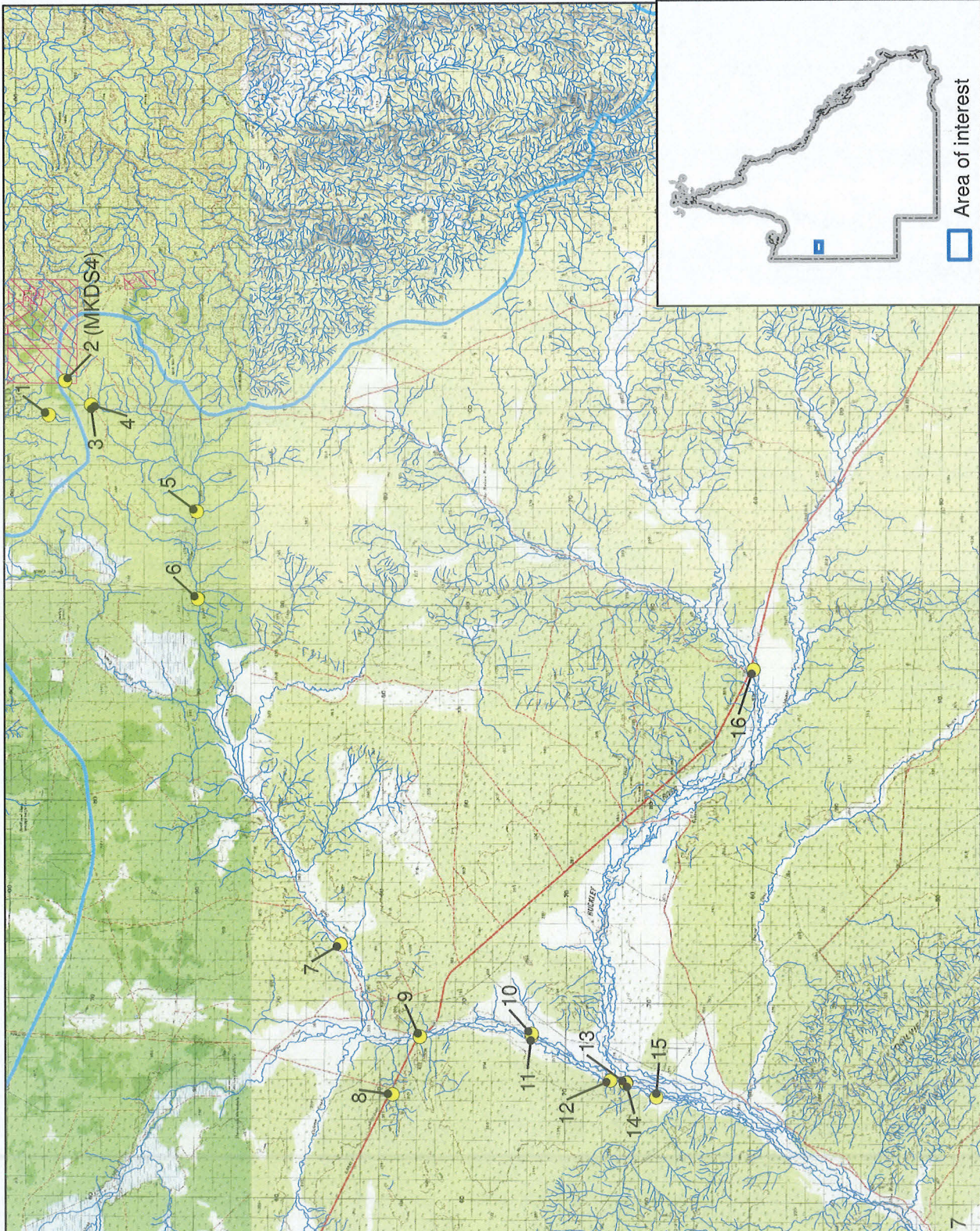
Regards

Rob

Rob Lawrence
Director,
Environmental Protection Agency
Level 2, 5B Sheridan St,
Cairns. QLD. 4870.

Ph 07 40466638
Fax 07 404666771
Email: rob.lawrence@epa.qld.gov.au

No	Location
1	Reference site
2	Lady Annie stormwater pond discharge (MKDS4)
3	Saga Creek DS2
4	Saga Creek DS1
5	Yellow Pool
6	Inca Creek DS2 (Yelvertoft Station) - upstream of Bailey Dam
7	Inca Creek DS1 (Yelvertoft Station) - Between Mile Dam and Baileys Dam
8	Government Dam
9	Dip Hole
10	Inca Dam
11	Ana Branch Inca Creek
12	Fish Kill
13	15 meters Confluence Buckley River and Inca Creek
14	Confluence Buckley River and Inca Creek
15	Buckley River downstream of Flora Station (no flow)
16	Buckley River crossing at Barkley Highway
17	Buckley River downstream of Flora Station (flowing)



Area of interest

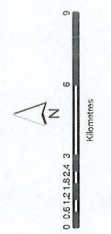
Data Sources:
 © The State of Queensland (Environmental Protection Agency), 2019
 - 1:50,000 Topographic Maps
 - 1:100K Topographic Maps
 - Geoscience Australia
 - Pinny Brown, MapInfo Australia Pty. Ltd
 - SDN road data, 2009

MAP PRODUCTION
 Environmental Services, For Northern Region
 Environmental Agency, Cairns
 25 February 2020

Version: 000205_A0_04P

DISCLAIMER
 Due to varying sources of data, spatial locations may not coincide when overlaid.

COVENANT OF WARRANTY
 This map is compiled from information supplied by various sources. While all care is taken in the preparation of this map, neither the service nor its officers or staff warrant the accuracy or completeness of the information which may result from inaccuracy or omission in the map from the use of the information contained therein.



Sites (Yellow dot)

Riverine Drainage Lines (Blue line)

Mining Lease (Red hatched area)

Catchments (QLD) (Blue outline)

Phillips Erin

From: Moussie Jodie
Sent: Monday, 29 June 2009 12:19 PM
To: 'Jason.Alexander@copperco.com.au'
Cc: Bell Tara; Wilson Peter (Mt. Isa)
Subject: Southern Drain Design & Extra Lease area

Tracking:	Recipient	Delivery	Read
	'Jason.Alexander@copperco.com.a		
	Bell Tara	Delivered: 29/06/2009 12:19 PM	Read: 29/06/2009 12:22 PM
	Wilson Peter (Mt. Isa)	Delivered: 29/06/2009 12:19 PM	

Good Afternoon Jason

I refer you to your email regarding the extra area required to accommodation drainage requirements.

The option we would recommend would be to apply for a Mining Lease because the proposed development is consistent with the existing Mining Lease and operations , also this will give you security of tenure over the land, and will not affect the sale of the abutting Mining Lease 90169.

Consideration of the following would be required:

- The term applied for would need to be compatible with the abutting Mining Lease 90169. This Mining Lease expires on 31 December 2027.
- Consent will be required from the holder of Exploration Permit 14384. No consent is required if the holder of the ML and EPM are identical.
- As the Mining Lease will take some time to be granted we would recommend getting consent and or compensation with the landholder and traditional owners to undertake construction of the drain. This was done previously with the power/water/road Mining Lease s 90178 and 90184. However this Mining Lease application would not be for infrastructure and would be required to go through a Right To Negotiate process. For more information on the RTN process, please contact Georgie Lucas on (07) 4799 7676.
- Cultural Heritage clearances by the traditional owners would be required before undertaking any construction. For Cultural Heritage enquires, please contact John Richter on (07) 47997303.

Please do not hesitate to contact me if you have any queries.

Regards,

Jodie Moussie
District Tenures Officer
Queensland Mines and Energy
Department of Employment, Economic Development and Innovation
Telephone: 07 4747 2095 (Ext 32095)
Facsimile: 07 4743 7165
Email: Jodie.Moussie@deedi.qld.gov.au
www.dme.qld.gov.au

13 Isa Street, Mount Isa Qld 4825
PO Box 334, Mount Isa Qld 4825

From: Jason Alexander [<mailto:Jason.Alexander@copperco.com.au>]
Sent: Friday, 26 June 2009 1:35 PM
To: Moussie Jodie

Cc: Adam Norton

Subject: Southern Drain Design & Extra Lease area

Importance: High

Hi Jodie,

As discussed on the phone, here are two representations of the area we need to look at to accommodate the DERM's drainage requirements.

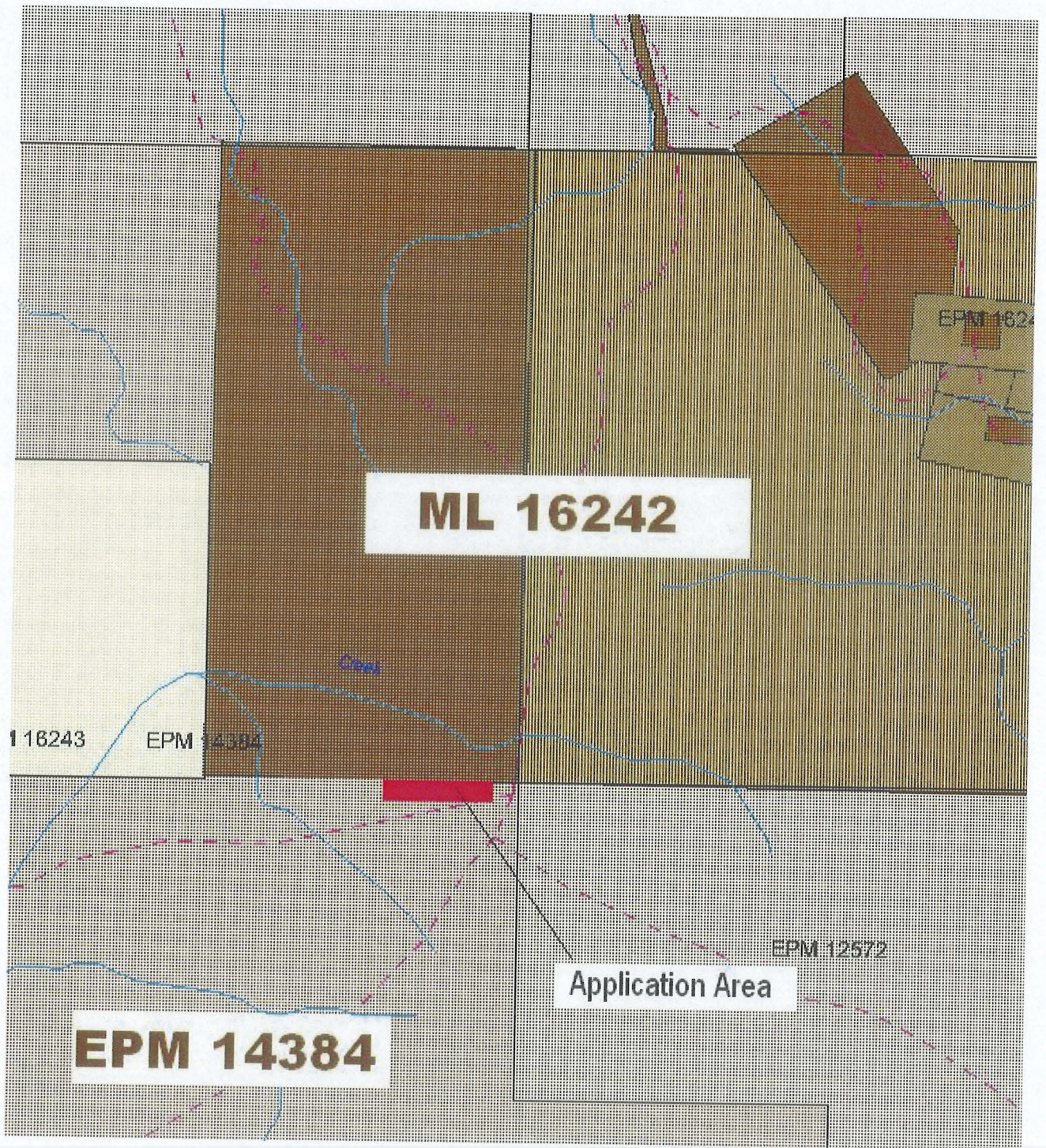
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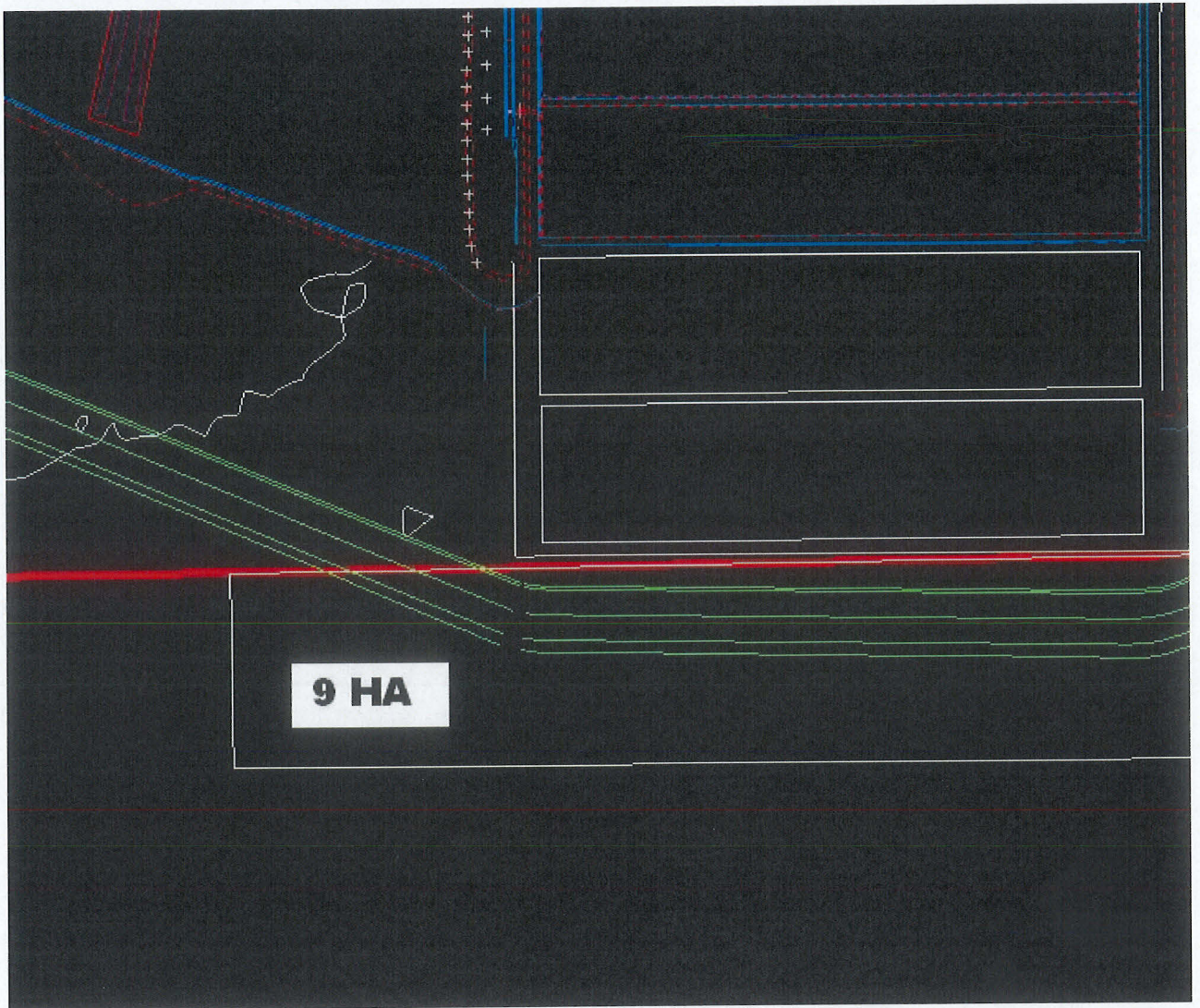
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Regards,
Jason.





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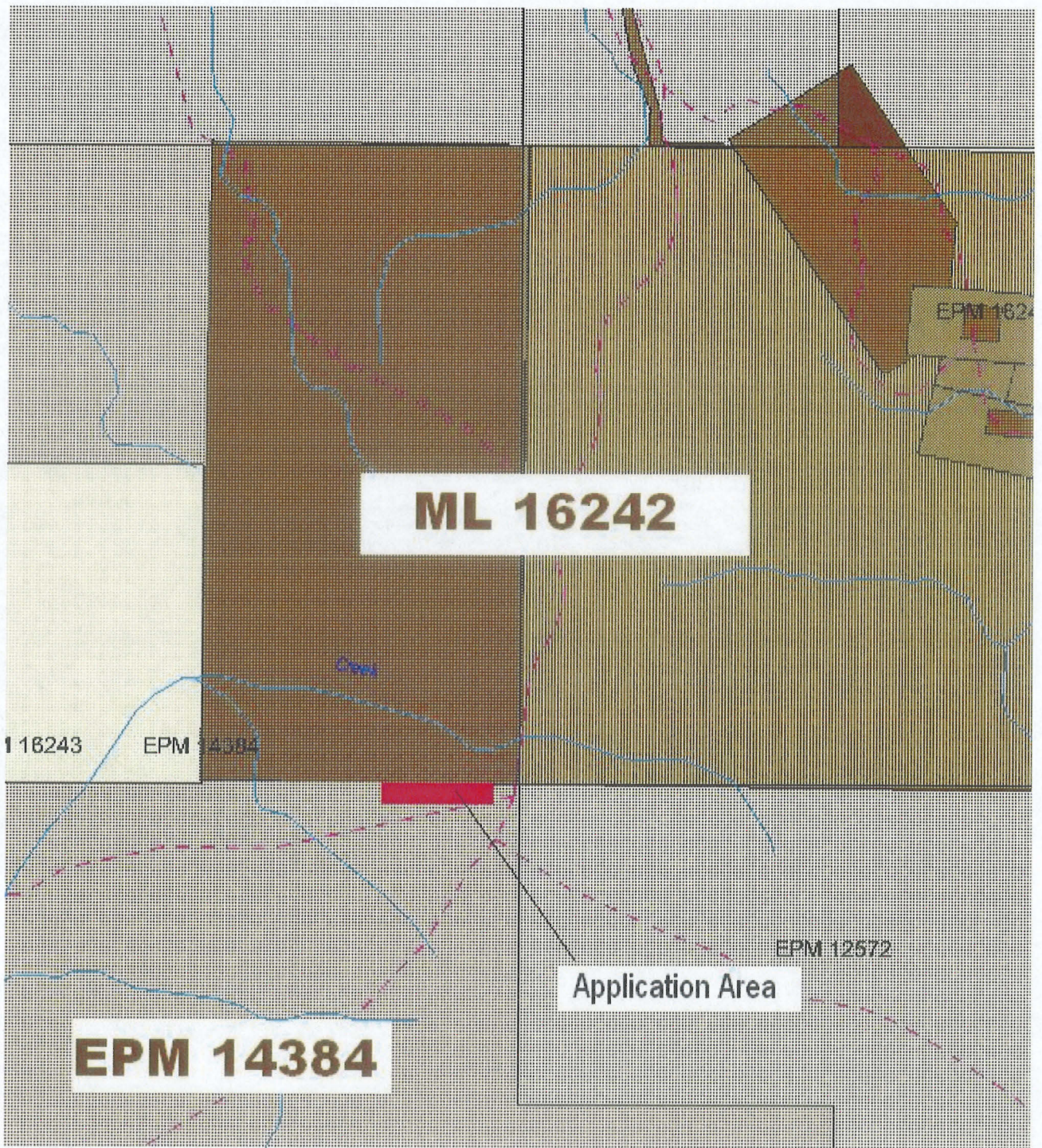
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Regards,
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ML 16242

116243

EPM 14384

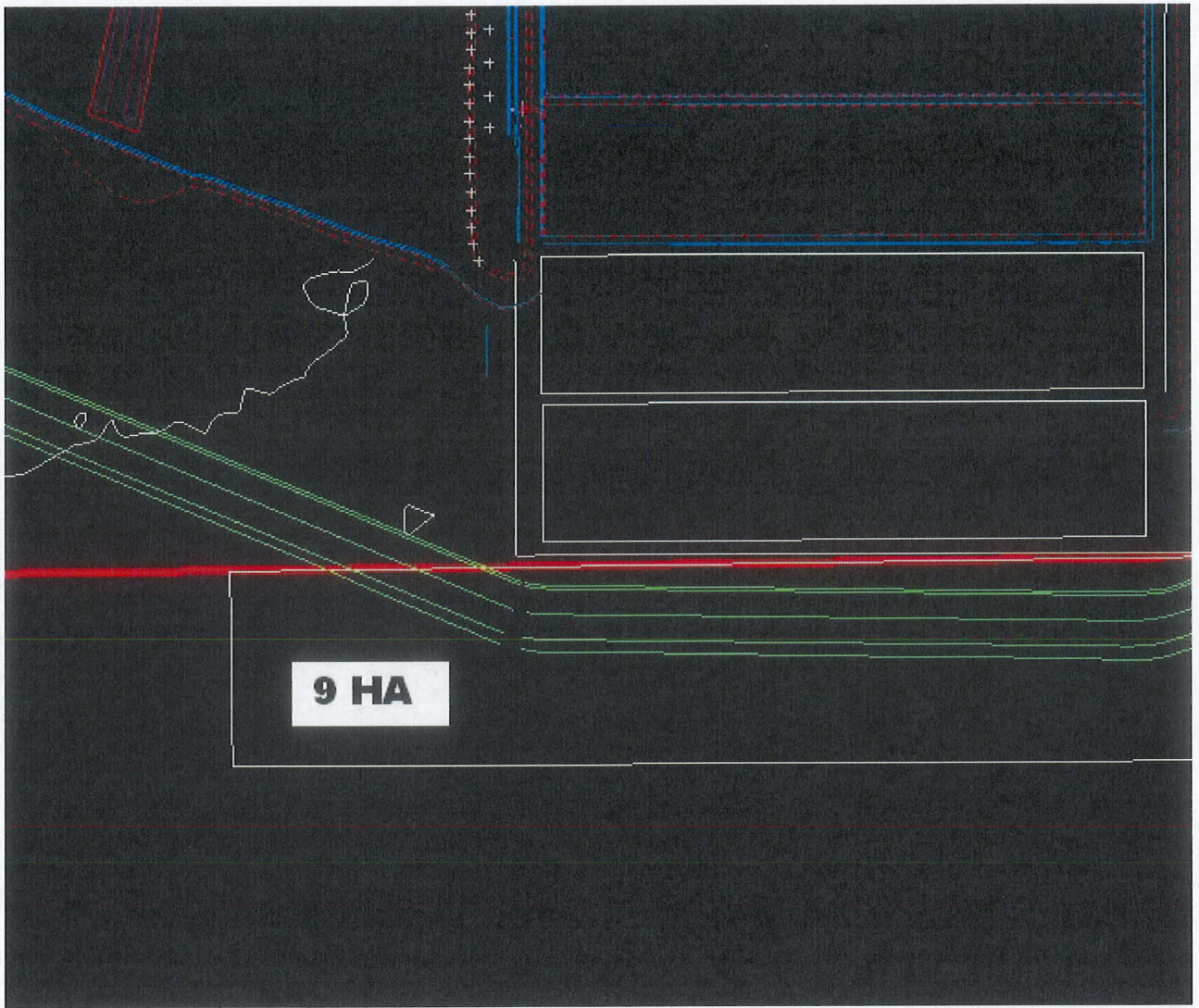
Creek

EPM 1624

EPM 12572

Application Area

EPM 14384



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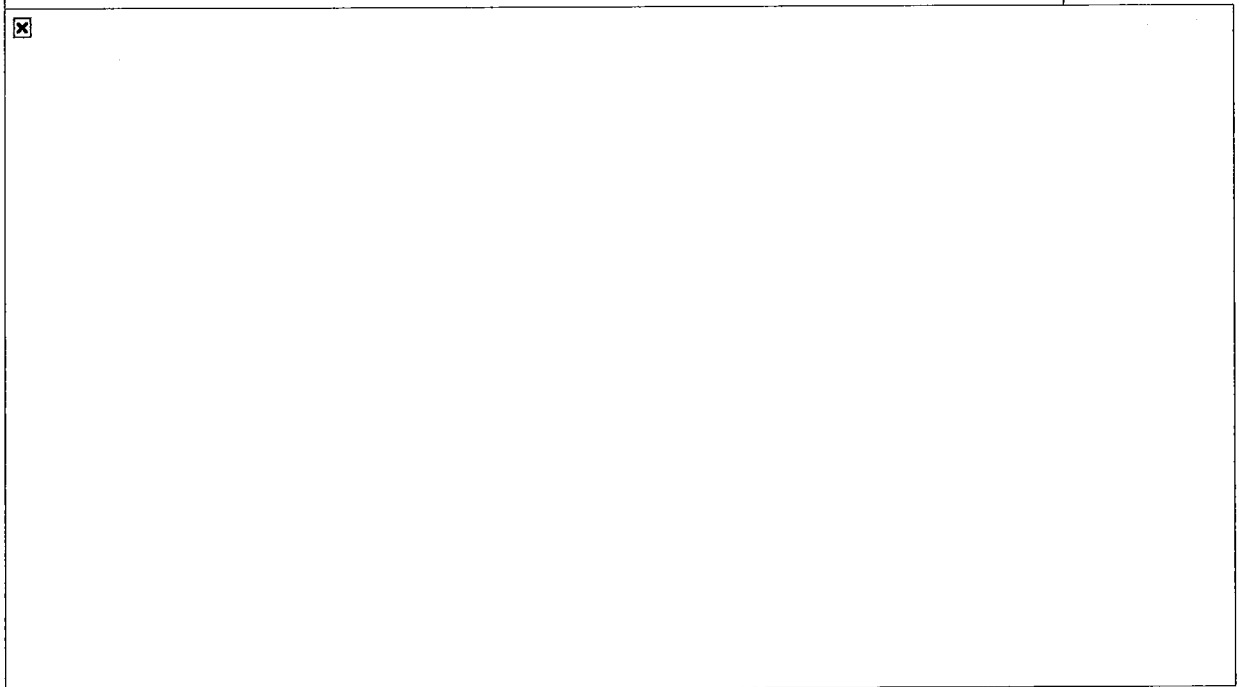
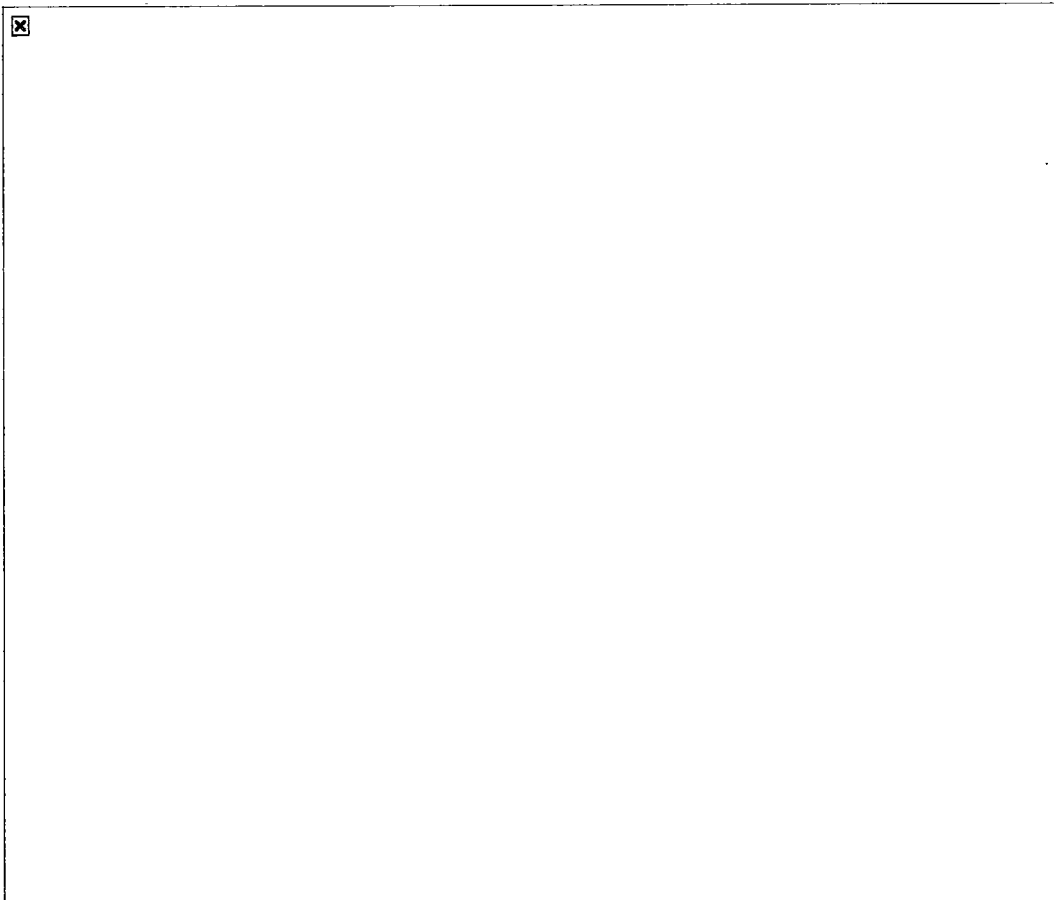
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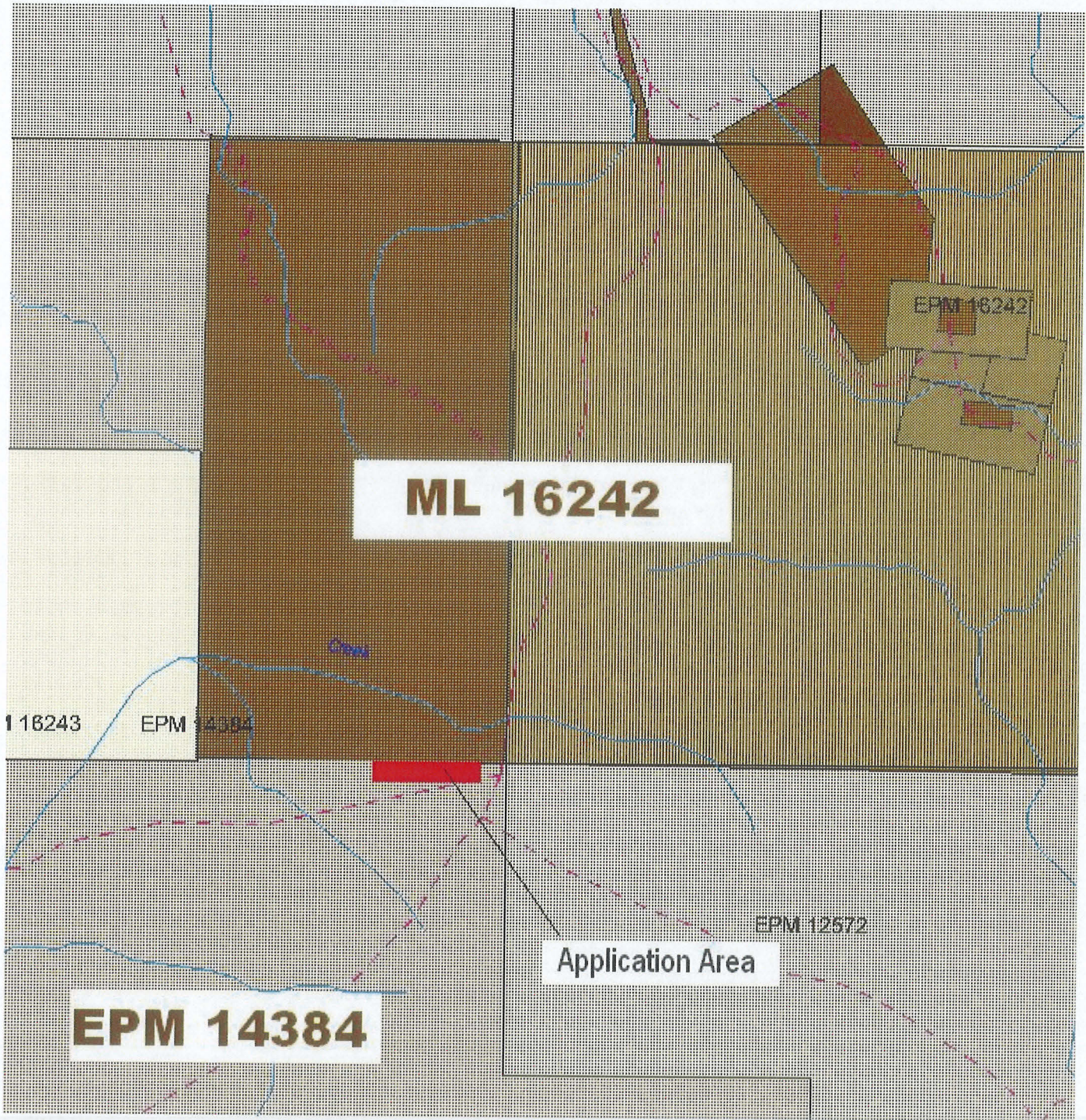
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