Permit

Environmental Protection Act 1994

Environmental authority EPML00888813

This environmental authority is issued by the administering authority under Chapter 5 of the Environmental Protection Act 1994

Environmental authority number: EPML00888813

Environmental authority takes effect on 13 March 2024**.**

Environmental authority holder(s)

Name(s)	Registered address
CENTURY MINING PTY LTD	Level 26, 360 Collins St MELBOURNE VIC 3000

Environmentally relevant activity and location details

Environmentally relevant activity/activities	Location(s)
Schedule 3 - 18 - Mining lead, silver or zinc separately or in any combination	ML90045 and ML90058
Ancillary 15 - Fuel burning - Using fuel burning equipment that is capable of burning at least 500kg of fuel in an hour	
Ancillary 16 - Extraction and Screening - 2(b) - Extracting, other than by dredging, in a year, the following quantity of material - more than 100,000t but not more than 1,000,000t	
Ancillary 31 - Mineral processing - 2(b) - Processing, in a year, the following quantities of mineral products, other than coke - more than 100,000t	
Ancillary 33 - Crushing, milling, grinding or screening - Crushing, grinding, milling or screening more than 5000t of material in a year	

Environmentally relevant activity/activities	Location(s)
Ancillary 60 - Waste disposal - 1(d) - Operating a facility for disposing of, in a year, the following quantity of waste mentioned in subsection (1)(a) - more than 200,000t	
Ancillary 63 - Sewage Treatment - 1(b-ii) - Operating sewage treatment works, other than no-release works, with a total daily peak design capacity of more than 100 but not more than 1500EP - otherwise	
Ancillary 64 - Water treatment - 3 - Treating 10ML or more raw water in a day	

Additional information for applicants

Environmentally relevant activities

The description of any environmentally relevant activity (ERA) for which an environmental authority (EA) is issued is a restatement of the ERA as defined by legislation at the time the EA is issued. Where there is any inconsistency between that description of an ERA and the conditions stated by an EA as to the scale, intensity or manner of carrying out an ERA, the conditions prevail to the extent of the inconsistency.

An EA authorises the carrying out of an ERA and does not authorise any environmental harm unless a condition stated by the EA specifically authorises environmental harm.

A person carrying out an ERA must also be a registered suitable operator under the *Environmental Protection Act 1994* (EP Act).

Contaminated land

It is a requirement of the EP Act that an owner or occupier of contaminated land give written notice to the administering authority if they become aware of the following:

- the happening of an event involving a hazardous contaminant on the contaminated land (notice must be given within 24 hours); or
- a change in the condition of the contaminated land (notice must be given within 24 hours); or
- a notifiable activity (as defined in Schedule 3) having been carried out, or is being carried out, on the contaminated land (notice must be given within 20 business days)

that is causing, or is reasonably likely to cause, serious or material environmental harm.

For further information, including the form for giving written notice, refer to the Queensland Government website www.qld.gov.au, using the search term ‘duty to notify’.

Take effect

Please note that, in accordance with section 200 of the EP Act, an EA has effect:

a) if the authority is for a prescribed ERA and it states that it takes effect on the day nominated by the holder of the authority in a written notice given to the administering authority - on the nominated day; or

b) if the authority states a day or an event for it to take effect-on the stated day or when the stated event happens; or

c) otherwise - on the day the authority is issued.

However, if the EA is authorising an activity that requires an additional authorisation (a relevant tenure for a resource activity, a development permit under the *Planning Act 2016* or an SDA Approval under the *State Development and Public Works Organisation Act 1971*), this EA will not take effect until the additional authorisation has taken effect.

If this EA takes effect when the additional authorisation takes effect, you must provide the administering authority written notice within 5 business days of receiving notification of the related additional authorisation taking effect.

The anniversary day of this environmental authority is the same day each year as the original take effect date unless you apply to change the anniversary day. The payment of the annual fee will be due each year on this day.

If you have incorrectly claimed that an additional authorisation is not required, carrying out the ERA without the additional authorisation is not legal and could result in your prosecution for providing false or misleading information or operating without a valid environmental authority.

	13 March 2024
Signature	Date

Rebecca McAuley
Department of Environment, Science and Innovation
Delegate of the administering authority
Environmental Protection Act 1994

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Privacy statement

Pursuant to section 540 of the EP Act, the Department is required to maintain a register of certain documents and information authorised under the EP Act. A copy of this document will be kept on the public register. The register is available for inspection by members of the public who are able take extracts, or copies of the documents from the register. Documents that are required to be kept on the register are published in their entirety, unless alteration is required by the EP Act. There is no general discretion allowing the Department to withhold documents or information required to be kept on the public register. For more information on the Department's public register, search 'public register' at www.qld.gov.au. For queries about privacy matters please email privacy@des.qld.gov.au or telephone 13 74 68.

Obligations under the *Environmental Protection Act 1994*

In addition to the requirements found in the conditions of this environmental authority, the holder must also meet their obligations under the EP Act, and the regulations made under the EP Act. For example, the holder must comply with the following provisions of the Act:

- general environmental duty (section 319)
- duty to notify environmental harm (section 320-320G)
- offence of causing serious or material environmental harm (sections 437-439)
- offence of causing environmental nuisance (section 440)
- offence of depositing prescribed water contaminants in waters and related matters (section 440ZG)
- offence to place contaminant where environmental harm or nuisance may be caused (section 443)

Other permits required

This permit only provides an approval under the *Environmental Protection Act 1994*. In order to lawfully operate you may also require permits / approvals from your local government authority, other business units within the department and other State Government agencies prior to commencing any activity at the site. For example, this may include permits / approvals with your local Council (for planning approval), the Department of Transport and Main Roads (to access State controlled roads), the Department of Resources (to clear vegetation), and the Department of Agriculture and Fisheries (to clear marine plants or to obtain a quarry material allocation).

Conditions of environmental authority

Schedule A - General

A1 This environmental authority authorises environmental harm referred to in the conditions. Where there is no condition or this environmental authority is silent on a matter, the lack of a condition or silence does not authorise environmental harm.

A2 In carrying out the mining activity authorised by this environmental authority, the holder of this environmental authority must comply with Schedule A – Table 1 (Authorised Mining Activities), Schedule J - Figure 7: Century Pit, Schedule J - Figure 8: East Fault Block (EFB) Project Layout and Schedule J - Figure 9: Silver King (SK) Project Layout and Shallow groundwater monitoring wells.

Schedule A – Table 1 (Authorised Mining Activities)

Mine Domain	Mine Feature Name	Tenure	Map Reference (GDA94, MGA, Zone 54)		Maximum area of disturbance (ha) for mine feature
			Easting	Northing	
Open Cut Pits	Century Pit	ML90045	246922	7927903	300
	East Fault Block (EFB) Pit	ML90045	248284	7927489	9.2 (6.2ha located within the Century Pit extent)
	Silver King (SK) Pit	ML90045	245970	7925814	3.3
Underground	Silver King Box Cut (Adit/Portal)	ML90045	246306	7925810	1.1
Run of mine (ROM)	Century ROM Pad	ML90045	248424	7927314	29.1
	East Fault Block (EFB) ROM Pad	ML90045			
	Silver King (SK) ROM Pad	ML90045	246166	7926096	7.0
Waste Rock Dump (WRD)	West WRD (WWRD)	ML90045 ML90058	245135	7927939	427.9
	South WRD (SWRD)	ML90045	247765	7925735	216.9
	North WRD (NWRD)	ML90045	248391	7929068	433.0
	Short Haul WRD (SHWRD)	ML90045	247013	7927033	26.2
	In-Pit WRD (IPWRD)	ML90045	248049	7927130	(wholly located within the Century Pit Void extent)
	Former Bulk Sample WRD	ML90045	245724	7926845	17.4
	Silver King Temporary WRD (SKWRD)	ML90045	246094	7925588	8.0
Stockpiles	SWRD Topsoil Stockpiles	ML90045	various		12.5
	WWRD Topsoil Stockpiles	ML90045	various		23.7
	Clay Storage Area (Former Bulk Sample TSF area)	ML90045	249837	7925963	4.3
Borrow areas	Airport Borrow Pits1& 2	ML90045	various		20.0
	Village Borrow Pit	ML90045	253905	7926148	1.6
	Access Road Borrow	ML90045	255513	7925673	2.4
	TSF Borrow Pits	ML90045	various		9.9
	Evaporation Dam Borrow A	ML90045	255446	7920796	3.5

	Evaporation Dam CWD Borrow Pits 2 & 3	ML90045	various		3.3
Tailings Storage Facility (TSF)	Tailing Storage Dam (Includes Tailings area, TSF capping trials area, Lead Dams area, relocated BSTSF materials, Liquor dams and TSF Wall)	ML90045	251584	7921611	398.2
	Evaporation Dam (Includes Dam, Walls A, B & C and Spillways 1 & 2)	ML90045	253627	7920958	443.2
Clean Water Diversion (CWD)	TSF and Evaporation Dam CWDs & Clean Water Bund	ML90045	Various		41.5
Dam structures	Process Water Dam	ML90045	249202	7926971	0.6
	Concentrate Storage Pond	ML90045	249285	7926983	0.6
	Raw Water Dam	ML90045	249079	7926323	2.2
	Sediment Dam 1	ML90045	250206	7927090	4.2
	Sediment Dam 2	ML90045	248415	7926480	1.9
	Sediment Dam 3	ML90045	246957	7926553	11.9
	Sediment Dam 5	ML90045	247212	7929042	2.2
	Sediment Dam 6	ML90045	248745	7930736	4.4
	Sediment Dam 6 Diversion (rehab)	ML90045	249024	7930546	2.9
	Sediment Dam 8	ML90045 ML90058	245101	7929672	8.7
	Sediment Dam 9	ML90045	246269	7928943	0.7
	Sediment Dam 10	ML90045	246031	7927064	33.4
	Sediment Dam 11	ML90045	246269	7925563	0.6
	Sediment Dam 12	ML90045	246358	7926142	1.3
	TSF Sediment Dams	ML90045	various		1.6
Watercourse diversion structures	Page Creek Watercourse Diversion and Levee	ML90045	246058	7928134	26.7
Darimah Village	Village	ML90045	254483	7926920	18.0
	Village water treatment plant (WTP)	ML90045	254199	7927358	0.4
	Village waste water treatment plant (WWTP)	ML90045	253997	7926850	3.4
Processing and administration area	Mineral Processing Water treatment plant (WTP)	ML90045	248769	7927305	0.3
	Mineral Processing area (includes Primary Crusher, Concentrator, Product handling area, Scaffolding Laydown Yard)	ML90045	249116	7927010	18.9
	Mine Maint Mac, Carpark and Warehouse	ML90045	248829	7926805	5.4
	Mill Offices	ML90045	248985	7926877	3.5
	Site Services and Exploration (includes Zinafex Admin Area (ZAC) and Rock Yard)	ML90045	249514	7926956	7.4
	Rehab Area	ML90045	249227	7926716	4.7
	Power Plant and Laydown Yard	ML90045	249029	7926689	2.2

	Fuel Farm, Lub Yard Laydown and SG1 Substation	ML90045	248873	7926624	3.2
	Switchyard and Warehouse Laydown	ML90045	248812	7926828	2.5
Miscellaneous infrastructure and laydown areas	Raw Water Substation	ML90045	248972	7926371	0.1
	Transfer Tanks And Sewage Treatment	ML90045	249278	7926438	0.4
	Sandblast Yard and Laydown	ML90045	249733	7926336	6.9
	Emergency Response Training (ERT) Yard and building	ML90045	252761	7928208	0.9
	Old Construction Camp	ML90045	252636	7928459	13.4
	Old Construction Camp Airstrip (on-lease extent)	ML90045	254209	7928918	3.7
	NWRD Landfill (Camp refuse area northwest of NWRD)	ML90045	249031	7929923	0.2
	Cultural Heritage Site and access (0.09ha)	ML90045	249428	7930232	n/a
	Regulated Waste Landfill Site (Light Vehicle Workshop & Waste world)	ML90045	250286	7926736	10.5
	South Go-Line	ML90045	248026	7926704	7.6
	North Go-Line	ML90045	247009	7929071	7.5
	Chemical Storage area (ORICA)	ML90045	249182	7926066	2.2
	Magazine area (ORICA)	ML90045	249718	7925616	0.7
	Crushing Area (NPC Area)	ML90045	248980	7925680	24.6
	TSF Powerline footprint disturbance	ML90045	Linear		4.5
	Silver King shafts and mine spoils area	ML90045	246046	7925839	6
	Silver King Explosives Magazine	ML90045	245820	7927571	3.9
	Silver King Infrastructure areas	ML90045	245883	7926189	15.5
Century Airstrip area	Century Airstrip and Airport infrastructure	ML90045	258568	7924195	42.7
Access Road	Main bitumen access road to Mine Admin area (includes road to Airport, Darimah Village & Old Construction Camp)	ML90045	Linear		4.4
Haul Roads	Mine Operations Roads (1 to 6); Silver King Haul Road (traversing Page Creek)	ML90045	Linear		61.8
Roads and Tracks	Miscellaneous	ML90045	Linear		188.40km

Maintenance of measures, plant and equipment

A3 The environmental authority holder must:

(a) install all measures, plant and equipment necessary to ensure compliance with the conditions of this environmental authority; and

(b) maintain such measures, plant and equipment in a proper and efficient condition; and

(c) operate such measures, plant and equipment in a proper and efficient manner.

Risk management system

A4 A risk management system for the activities that conforms to the Australian Standard for Risk Management (AS/NZS ISO 31000:2009) of the latest edition of Australian Standard for Risk Management must be developed and implemented.

Emergency response / contingency

A5 An emergency response and contingency plan must be developed, and implemented to respond to emergency events and incidents.

A6 The emergency response and contingency plan must include the following matters at a minimum:

(a) response procedures and contingency plans to be implemented to prevent or minimise the risk of environmental harm arising from emergency events;

(b) response procedures to minimise the extent and duration of environmental harm caused by emergency events;

(c) contingency plans including the practices and procedures to be employed to restore the environment or to mitigate any environmental harm caused;

(d) the physical resources to be used in response to emergencies;

(e) procedures to investigate the cause of any emergencies, including the release of contaminants off site, and where necessary, the implementation of remedial actions to prevent the recurrence of similar events;

(f) the provision and availability of documented procedures to staff attending any emergency to enable them to effectively respond;

(g) training and qualifications required by staff that will be called upon to respond to emergencies to enable them to effectively respond;

(h) timely and accurate reporting of the circumstance and nature of the emergency to the administering authority in accordance with conditions A7-A10;

(i) procedures for accessing monitoring points required by this environmental authority and other relevant monitoring points during emergencies to determine environmental harm caused;

(j) procedures to notify any person who may be affected by the emergency.

Notification of emergencies, incidents and exceptions – administering authority

A7 The environmental authority holder must notify the administering authority by telephone, email or facsimile as soon as practicable but within 24 hours, after becoming aware of any emergency or incident which results in the release of contaminants not in accordance, or reasonably expected to be not in accordance with the conditions of this environmental authority.

A8 The environmental authority holder must notify the administering authority by telephone, email or facsimile as soon as practicable but within 48 hours, after becoming aware of any monitoring result that demonstrates an exceedance of any limit prescribed by this environmental authority.

A9 The notification must include, but not be limited to, the following:

(a) the environmental authority number and name of the holder;

(b) the name and telephone number of the designated contact person;

(c) the location of the emergency, incident or exception;

(d) the date and time of the emergency, incident or exception;

(e) the time the environmental authority holder became aware of the emergency, incident or exception;

(f) the estimated quantity and type of substances involved in the emergency, incident or exception;

(g) the actual or potential cause of the emergency, incident or exception;

(h) a description of the nature and effects of the emergency, incident or exception including the risk of impacts to the environment, livestock or public health;

(i) any sampling conducted or proposed, relevant to the emergency, incident or exception;

(j) immediate actions taken to prevent or mitigate any further environmental harm or adverse impacts to livestock and public health caused by the release; and

(k) details of any notification of any person who may have been affected by the emergency, incident or exception.

A10 Within fourteen days following the initial notification of an emergency, incident or exception, further written advice must be provided to the administering authority, including the following:

(a) results and interpretation of any samples taken and analysed;

(b) outcomes of actions taken at the time to prevent or minimise unlawful environmental harm; and

(c) proposed actions to prevent a recurrence of the emergency, incident or exception.

Notification of emergencies, incidents and exceptions – other stakeholders

A11 The environmental authority holder must notify any person who may have been affected by the emergency, incident or exception by telephone or facsimile immediately after becoming aware of any emergency, incident or exception that has the potential to impact on environmental values or is reasonably expected to be not in accordance with the conditions of this environmental authority.

A12 The notification required by condition A11 must include, but not be limited to, the following:

(a) the location of the emergency, incident or exception;

(b) the date and time of the release, incident or exception;

(c) the estimated quantity and type of any substances (if available concentrations) involved in the emergency, incident or exception;

(d) the potential impacts to environmental values caused by the emergency, incident or exception; and

(e) where there is potential impact on livestock or human health, precautionary measures that should be taken.

Complaints

A13 Records must be kept of all environmental complaints received about the activities to which this environmental authority relates, including the following details:

(a) name, address and contact number for complainant;

(b) time and date of complaint;

(c) reasons for the complaint;

(d) investigations undertaken;

(e) conclusions formed;

(f) actions taken to resolve the complaint;

(g) any abatement measures implemented; and

(h) the person responsible for resolving the complaint.

A14 When requested by the administering authority, the environmental authority holder must undertake relevant monitoring within a reasonable period (agreed to in writing by the administering authority) to investigate any complaint of environmental harm which, in the opinion of the authorised officer, is

neither frivolous or vexatious or based on mistaken belief. The results of the investigation (including an analysis and interpretation of the monitoring results) and abatement measures implemented must be provided to the administering authority within five (5) days of completion of the investigation.

Third-party reporting

A15 The holder of this environmental authority must:

(a) within one year of the commencement of this environmental authority, obtain from an appropriately qualified person a report on compliance with the conditions of this environmental authority.

(b) obtain further such reports at regular intervals, not exceeding three-yearly intervals, from the completion of the report referred to above.

(c) within ninety (90) business days of receipt, provide to the administering authority:

i. a copy of the report

ii. details of actions proposed or taken to address any identified non-compliant matter/s, including any associated timeframe requirements (if applicable)

iii. details of actions proposed or taken to prevent a recurrence of any non-compliant matter/s identified, including any associated timeframe requirements (if applicable).

Annual monitoring report

A16 An annual monitoring report must be prepared by 31 July of each year (commencing 30 June 2012) covering the period 1 June to 31 May and presented to the administering authority when requested. This report shall include but not be limited to:

(a) a summary of the previous twelve months monitoring results required under this environmental authority in graphical form showing relevant limits;

(b) an evaluation/explanation of the data from any monitoring programs;

(c) a summary of any record of quantities of releases required to be kept under this environmental authority;

(d) a summary of the record of equipment failures or events recorded, which have resulted in noncompliance with the conditions of this environmental authority; and

(e) an outline of actions taken or proposed to be taken to minimise the environmental risk from any deficiency identified by the monitoring or recording programs.

Records

A17 The environmental authority holder shall 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.

Monitoring

A18 Where monitoring is required by this environmental authority it must be:

(a) performed by a person or body possessing appropriate experience and qualifications to perform the required sample collection, measurements and determinations;

(b) conducted in accordance with methods prescribed in the latest edition of the administering authority's monitoring and sampling manual;

(c) conducted at monitoring locations identified within this environmental authority;

(d) carried out on representative samples;

(e) carried out using instruments and devices that are calibrated, and appropriately operated and maintained; and

(f) where laboratory testing is required, must be undertaken using a laboratory accredited (e.g. NATA) for the method of analysis being used, except as otherwise authorised by the administering authority in writing.

Review

A19 Any management or monitoring plans, systems or programs required to be developed and implemented by a condition of this environmental authority must be reviewed for effectiveness in minimising the likelihood of environmental harm at regular intervals based on risk, but at a minimum every three (3) years and amended immediately if required.

Exploration

A20 Disturbance due to exploration activities in areas not scheduled to be mined must be rehabilitated in accordance with provision detailed in the administering authority's *Code of Environmental Compliance for Exploration and Mineral Development Projects*.

Definitions

A21 Words and phrases used throughout this environmental authority are defined in Schedule I - 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.

Transition to New Standards

A22 Where a condition of this environmental authority requires compliance with a standard, guideline or relevant legislation published externally to this environmental authority and the standard, guideline or relevant legislation is amended or changed subsequent to the issues of this environmental authority the holder of this environmental authority, unless otherwise agreed to by the administrating authority, must:

(a) comply with the amended or changed standard, guideline or relevant legislation within twelve (12) months of the amendment or change being made, unless a different period is specified in the amended standard, guideline or relevant legislation; and

(b) continue to remain in compliance with the previous standard, guideline or relevant legislation until compliance with the amended or changed standard or guideline is achieved.

Regard for Comment

A23 Where comments are provided by the administering authority with respect to any plans or programs required to be developed by a condition of this environmental authority then the holder of this environmental authority must have due regard for these comments and, following dialogue with the administering authority and technical experts, incorporate these comments into the plans or programs.

END OF CONDITIONS FOR SCHEDULE A

Schedule B - Air

Dust nuisance

B1 Subject to conditions B2 and B3 the release of dust or particulate matter or both resulting from the mining activity must not cause an environmental nuisance, at any sensitive place.

B2 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 place, and the results must be notified to the administering authority within 14 days of their receipt by the environmental authority holder.

B3 If the environmental authority holder can provide evidence that the environmental authority holder is not exceeding the following limits then the holder is not in breach of condition B1:

(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 2003 (or most recent edition); and

(b) a concentration of particulate matter with an aerodynamic diameter of less than 10 micrometre (µm) (PM10) suspended in the atmosphere of 150 micrograms per cubic metre over a 24 hour averaging time, at a sensitive place downwind of the operational land, when monitored in accordance with:

- particulate matter – "*Determination of Suspended Particulate PM10 High-Volume Sampler With Size-Selective Inlet - Gravimetric Method, When Monitored in Accordance with AS 3580.9.6 Methods for Sampling and Analysis of Ambient Air - Determination of Suspended Particulate Matter - PM (sub) 10 High-Volume Sampler With Size-Selective Inlet - Gravimetric Method"* of 1990; or
- Any alternative method of sampling PM10, which may be permitted by the *"Air Quality Sampling Manual"* as published from time to time by the administering authority.

B4 If monitoring indicates exceedance of the relevant limits in condition B3, by the environmental authority holder 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

B5 Subject to condition B6, 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 place.

B6 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 place, and the results must be notified to the administering authority within 14 days of their receipt by the environmental authority holder.

B7 If monitoring indicates condition B5 is not being met by the environmental authority holder 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.

Point source release of contaminants to the atmosphere

B8 Contaminants must not be released to the atmosphere from a release point shown in Schedule B - Table 1 (Release of contaminants) other than:

(a) in accordance with the criteria shown in Schedule B - Table 1; and

(b) directed vertically upwards, with no impedance.

Schedule B - Table 1 (Release of contaminants)

Release point	Minimum release height (m)	Minimum velocity (m/s)	Contaminant released	Maximum release limit (g/min)	Sampling frequency
MINE SITE Diesel Generator (1a) Diesel Generator (2a) Diesel Generator (3a) Diesel Generator (4a) Diesel Generator (5a)	7.8	35	Nitrogen Dioxide Hydrocarbons Carbon Monoxide Total Suspended Particulates	380 52 7.5 3.5	Once during any 12 month period for any generator that has operated for a continuous period in excess of 7 days during that 12 month period.

B9 When requested by the administering authority, monitoring of contaminant releases to the atmosphere must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint of air contamination (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) and the results must be notified to the administering authority within 14 days of their receipt by the environmental authority holder.

B10 If the environmental authority holder can provide evidence that the environmental authority holder is not exceeding the limits in Schedule B - Table 1 (Release of contaminants) then the holder is not in breach of condition B8. Monitoring must include:

(a) monitoring provisions for the release points listed in Schedule B - Table 1 must comply with *"AS 4323.1 Stationary Source Emissions Method 1: Selection of Sampling Positions"* of 1995;

(b) the following tests must be performed for each required determination specified in Schedule B - Table 1:

- gas velocity and volume flow rate; and
- temperature; and
- water vapour concentration (moisture content);

(c) any sampling of contaminants released to the atmosphere must be representative of the emissions; and

(d) during the sampling period the following additional information must be gathered:

- relevant process rate at the time of sampling; and
- operating or mixing temperature of contaminant releases; and
- reference to the actual test methods and accuracies.

END OF CONDITIONS FOR SCHEDULE B

Schedule C - Water

General

C1 Contaminants must not be released directly or indirectly to any waters other than in accordance with this environmental authority.

Contaminant release to waters (for all releases)

C2 Unless otherwise permitted under the conditions of this environmental authority, the release of mine affected water from the mining activity must only occur from the release points specified in Schedule C - Table 1 (Contaminant release points) and depicted in Schedule J - Figure 1 (Contaminant release points).

Note: The release of mine affected water to any infrastructure contained within the surface water containment areas is permitted.

Schedule C - Table 1 (Contaminant release points)

Release points	GDA 94 MGA zone 54		Contaminant source	Receiving waters description
	Easting	Northing		
MSP1 – spillway of sediment dam 1	250 300	7 927 226	Contaminated site stormwater	North Mitton Creek
MSP3 – spillway of sediment dam 3	246 785	7 926 731	Contaminated site stormwater and overflow of contaminated leachate (AMD) from the southern waste rock dump V-notch weir	Page Creek
MSP5 – spillway of sediment dam 5	247 015	7 929 215	Contaminated site stormwater	Page Creek
MSP8 – spillway of sediment dam 8	245 150	7 929 840	Contaminated site stormwater and contaminated leachate (AMD) from the western waste rock dump	Bull Ridge Creek
MSP9 – spillway of sediment dam 9	246 434	7 929 010	Contaminated site stormwater	Page Creek
MSP10 – spillway of sediment dam 10	246 140	7 926920	Contaminated leachate (AMD) from the western waste rock dump	Page Creek
MSP11 – evaporation dam wall decant point C_SW06_EDAMS	254 815	7 920 723	Contaminated seepage from evaporation dam	Coglan Creek
MSP12 – evaporation dam spillway2	254 158	7 919 826	Contaminated overflow from the evaporation dam	Coglan Creek
MSP13 – evaporation dam spillway1	255108	7 921 849	Contaminated overflow from the evaporation dam	Coglan Creek

Mine affected water release events (for controlled release events)

C3 Unless otherwise permitted under the conditions of this environmental authority, the controlled release of mine affected water to receiving waters must only take place:

(a) when there is natural flow in the respective receiving waters and for a period of twenty-eight (28) days after the natural flow event has ceased in the respective receiving waters; and

(b) from the release point(s) specified in Schedule C - Table 1 (Contaminant release points); and

(c) if the receiving waters do not exceed the release limits stated in Schedule C - Table 2 (Release limits for controlled releases) when measured at the monitoring points specified in Schedule C - Table 1 (Contaminant release points).

Schedule C - Table 2 (Release limits for controlled releases)

Quality Characteristic	Release limit at spillway[1]	Downstream receiving water limit[2,3]
Physicochemical		
Electrical Conductivity (µS/cm)	1500[4]	1500[4]
pH (pH units)	6.0 - 8.0[5]	6.0 - 8.0[5]
Water Hardness ($CaCO_3$) (mg/L)	Must be measured for interpretation purposes	
Total Suspended Solids (mg/L)	50[6]	50[6] or reference value plus 10%[7] whichever is the highest
Major Cations & Anions		
Ca/Mg ratio	0.04 - 9[8]	0.04 - 9[8]
Total Magnesium (mg/L)	Must be measured for interpretation purposes	
Total Calcium (mg/L)	Must be measured for interpretation purposes	
Sulfate (SO_4^{2-}) (mg/L)	770[9]	770[9]
Metals & Metalloids		
Total Arsenic[13] (µg/L)	Must be measured for interpretation purposes	13[10]
Total Cadmium (µg/L)	Must be measured for interpretation purposes	0.57[11,12]
Total Copper (µg/L)	Must be measured for interpretation purposes	3.5[11,12]
Total Lead (µg/L)	Must be measured for interpretation purposes	13.6[11,12]
Total Manganese (µg/L)	Must be measured for interpretation purposes	1900[10]
Total Nickel (µg/L)	Must be measured for interpretation purposes	27.5[11,12]
Total Selenium (µg/L)	Must be measured for interpretation purposes	11[10]
Total Zinc (µg/L)	Must be measured for interpretation purposes	20[11,12]

1 Spillway/release points as specified in Schedule C - Table 1 (Contaminant release points).

2 Downstream monitoring points as specified in Schedule C - Table 4 (Receiving water reference sites and downstream compliance monitoring points).

3 Downstream receiving water limit is applied to the closest downstream receiving waters monitoring point of the respective release.

4 Limit derived from studies undertaken by the administering authority.

5 Limit derived from the environmental report written by Barry Butler (ACTFR) titled *"The Condition of Stream Ecosystems Influenced by OZ Minerals Century Mine"* and dated June 2009.

6 Limit derived from current best practice standards.

7 Contaminant limit based on quality of upstream reference site sampled at the time of release plus 10%.

8 Limit derived from the report written by Barry Butler (ACTFR) titled *"Receiving Water Limits for Magnesium at the OZ Minerals Century Mine Site, North-West Queensland"* and dated September 2008.

9 Limit derived from Dunlop, J. Mann, R. Hobbs, D. Smith, R. Nanjappa, V. Vardy, S and Vink, S. "Regional aquatic ecosystem protection trigger values for sodium sulfate in sodium bicarbonate dominated waters".

10 Limit derived from Table 3.4.1 of ANZECC (2000) for 95% ecosystem protection for freshwater ecosystems.

11 Limit derived from Table 3.4.1 of ANZECC (2000) for 95% ecosystem protection for freshwater ecosystems with hardness adjustment for moderate hardness as per Table 3.4.4 of ANZECC (2000).

12 The holder of this environmental authority may calculate hardness adjusted release limits based on alternative hardness categories if sampling of hardness at the same sample event at the same sampling location shows that other categories are appropriate.

13 Speciated arsenic concentrations can be included for analysis from the outset, or alternatively, an arsenic (total species) sample can be determined with analysis for As (III) and As (V) only required if 13 µg/L is exceeded - note that the sample bottle requirements for As (total species) and As (speciated) may differ.

Mine affected water release events (for uncontrolled release events)

C4 The uncontrolled release of mine affected water from release points identified in Schedule C - Table 1 (Contaminant release points), to receiving waters may only occur:

(a) For regulated structures:

(i) if the criteria of the surface water containment area as specified in Schedule D - Table 3 (Hydraulic performance of regulated structures) are exceeded; and

(ii) if the holder of this environmental authority has taken all reasonable and practical measures to prevent a release from the regulated structure.

(b) For non-regulated structures:

(i) If the water quality is compliant with Schedule C - Table 3 (Release limits for an uncontrolled release).

Schedule C - Table 3 (Release limits for an uncontrolled release)

Quality Characteristic	Release limit at spillway[1]	Downstream receiving water limit[2,3]
Physicochemical		
Electrical conductivity (µS/cm)	5000	1500[4]
pH (pH units)	6.0 – 9.0	6.0 - 8.0[5]
Water hardness ($CaCO_3$)	Must be measured for interpretation purposes	
Total Suspended Solids (mg/L)	Must be measured for interpretation purposes	50[6] or reference value plus 10%[7] whichever is the higher
Major Cations & Anions		
Ca/Mg ratio	Must be measured for interpretation purposes	0.04 - 9[8]
Total Magnesium	Must be measured for interpretation purposes	
Total Calcium	Must be measured for interpretation purposes	

Quality Characteristic	Release limit at spillway[1]	Downstream receiving water limit[2,3]
Sulfate (SO_4^{2-}) (mg/L)	Must be measured for interpretation purposes	770[9]
Metals & Metalloids		
Total Arsenic[13] (µg/L)	Must be measured for interpretation purposes	13[10]
Total Cadmium (µg/L)	Must be measured for interpretation purposes	0.57[11,12]
Total Copper (µg/L)	Must be measured for interpretation purposes	3.5[11,12]
Total Lead (µg/L)	Must be measured for interpretation purposes	13.6[11,12]
Total Manganese (µg/L)	Must be measured for interpretation purposes	1900[10]
Total Nickel (µg/L)	Must be measured for interpretation purposes	27.5[11,12]
Total Selenium (µg/L)	Must be measured for interpretation purposes	11[10]
Total Zinc (µg/L)	Must be measured for interpretation purposes	20[11,12]

1. Spillway/Release points as specified in Schedule C - Table 1 (Contaminant release points).
2. Downstream monitoring points as specified in Schedule C - Table 4 (Receiving water reference sites and downstream compliance monitoring points).
3. Downstream receiving water limit is applied to the closest downstream receiving waters monitoring point of the respective release.
4. Limit derived from studies undertaken by the administering authority.
5. Limit derived from the environmental report written by Barry Butler (ACTFR) titled *"The Condition of Stream Ecosystems Influenced by OZ Minerals Century Mine"* and dated June 2009.
6. Limit derived from current best practice standards.
7. Contaminant limit based on quality of upstream reference site sampled at the time of release plus 10%.
8. Limit derived from the report written by Barry Butler (ACTFR) titled "Receiving Water Limits for Magnesium at the OZ Minerals Century Mine Site, North-West Queensland" and dated September 2008.
9. Limit derived from Dunlop, J. Mann, R. Hobbs, D. Smith, R. Nanjappa, V. Vardy, S and Vink, S. "Regional aquatic ecosystem protection trigger values for sodium sulfate in sodium bicarbonate dominated waters".
10. Limit derived from Table 3.4.1 of ANZECC (2000) for 95% ecosystem protection for freshwater ecosystems.
11. Limit derived from Table 3.4.1 of ANZECC (2000) for 95% ecosystem protection for freshwater ecosystems with hardness adjustment for moderate hardness as per Table 3.4.4 of ANZECC (2000).
12. The holder of this environmental authority may calculate hardness adjusted release limits based on alternative hardness categories if sampling of hardness at the same sample event at the same sampling location shows that other categories are appropriate.
13. Speciated arsenic concentrations can be included for analysis from the outset, or alternatively, an arsenic (total species) sample can be determined with analysis for As (III) and As (V) only required if 13 µg/L is exceeded - note that the sample bottle requirements for As (total species) and As (speciated) may differ.

C5 An uncontrolled release of mine affected water to waters must not exceed the release limits stated in Schedule C - Table 3 (Release limits for an uncontrolled release) at the locations stated in Schedule C - Table 1 (Contaminant release points).

Receiving waters monitoring

C6 The release of mine affected water must not cause the downstream receiving waters limits specified in Schedule C - Table 2 (Release limits for a controlled release) and Schedule C - Table 3 (Release limits for an uncontrolled release) to be exceeded at the downstream compliance monitoring points specified in Schedule C - Table 4 (Receiving water reference sites and downstream compliance monitoring points) and as shown in Schedule J - Figure 2 (Receiving water monitoring points and reference sites).

Schedule C - Table 4 (Receiving water reference sites and downstream compliance monitoring points)

Monitoring Points	Receiving Waters Location Description	GDA 94 MGA zone 54	
		Easting	Northing
Receiving Water Reference[1] Sites			
P_SW17_REF	Page Creek upstream	246 864	7 925 109
C_SW14_REF	Coglan Creek upstream	256 260	7 923 258
SM_SW05_REF	South Mitton Creek upstream	253 265	7 926 237
P_SW32_REF	Silver King Tributary upstream	245 537	7 925 896
Downstream Compliance Monitoring Points			
B_SW01_REC	Bull Ridge Creek	242 739	7 934 568
P_SW03_REC	Page Creek	246 684	7 930 113
NM_SW04_REC	North Mitton Creek	253 031	7 927 828
C_SW08_REC	Coglan Creek	260 217	7 923 065
SM_SW04_REC	South Mitton Creek	258 044	7 926 163
P_SW33_REC	Silver King Tributary	TBA[2] by 01/07/2022	TBA[2] by 01/07/2022

1. Reference sites must:
   a) be from the same bio-geographic and climatic region;
   b) have similar geology, soil types and topography;
   c) contain a range of habitats similar to those at the test sites;
   d) have a similar flow regime; and
   e) not be so close to the test sites that any disturbance at the test site also results in a change at the reference site.
2. To be advised.

C7 The release of contaminants directly or indirectly to waters:

(a) must not produce any visible discolouration of receiving waters; nor

(b) must not produce any slick or other visible or odorous evidence of oil, grease or petrochemicals; nor

(c) contain visible floating oil, grease, scum, litter or other objectionable matter.

C8 Releases to waters must be undertaken so as to minimise erosion of the bed and banks of the receiving waters, and minimise the material build up of sediment in such waters.

Contaminant release monitoring (for all releases)

C9 The release of mine affected water from the release points specified in Schedule C - Table 1 (Contaminant release points) must be monitored at the locations specified in Schedule C - Table 1 (Contaminant release points) for the quality characteristics and at the frequency specified in Schedule C - Table 5 (Contaminant release monitoring).

Schedule C - Table 5 (Contaminant release monitoring)

Quality Characteristic	Monitoring Frequency[2,3]
Physicochemical	Event based sampling of discharge:
Electrical conductivity	
pH	
Water Hardness ($CaCO_3$)	
Total Suspended Solids[2]	
Major Cations & Anions	
Ca/Mg ratio	
Total Calcium	
Total Magnesium	
Sulfate (SO_4^{2-})	
Metals & Metalloids (measured as total and dissolved)[4]	Every 72 hours during release (the first sample must be taken within 18 hours of the commencement of the discharge event[1]) for two (2) weeks and then weekly thereafter until the release ceases.
Arsenic	
Cadmium	
Copper	
Lead	
Manganese	
Nickel	
Selenium	
Zinc	
Organics	
Oils and greases	

1 Discharge event is a release of water from a release point as specified in Schedule C - Table 1 (Contaminant Release Points).

2 Grab sampling is the preferred method for sampling collection, however, the use of remote sampling techniques such as automated methods is acceptable, except for the use of establishing reference data.

3 Monitoring during discharge events will only be conducted where safe access can be gained.

4 For sampling of metals and metalloids these must be measured as total (unfiltered) and dissolved (filtered) – filtering must be conducted in the field.

C10 The receiving water reference sites and downstream compliance monitoring points must be monitored at the locations specified in Schedule C - Table 4 (Receiving water reference sites and downstream compliance monitoring points) for the quality characteristics and at the frequency specified in Schedule C - Table 5 (Contaminant release monitoring).

Release and stream flow monitoring

C11 An estimate of the daily quantity of contaminants released from each release point must be determined, recorded and based on available measured data recorded at the monitoring points in Schedule C - Table 1 (Contaminant release points).

C12 The holder of this environmental authority must install, operate and maintain a stream flow gauging station and record stream flows at the locations specified in Schedule C - Table 6 (Stream flow monitoring).

Schedule C - Table 6 (Stream flow monitoring)

Gauging station description	Receiving water description	GDA 94 MGA zone 54		Flow recording frequency
		Easting	Northing	
P_SW03_REC	Page Creek	246 817	7 930 095	Weekly and daily in a discharge event[1].
C_SW08_REC	Coglan Creek	258 195	7 922 668	
NM_SW04_REC	North Mitton Creek	252 386	7 927 873	
B_SW01_REC	Bull Ridge Creek	242 694	7 934 433	

1. Discharge event is a release of water from a release point as specified in Schedule C - Table 1 (Contaminant release points).

Stream sediment

C13 Sediment quality of receiving waters and reference waters must be monitored annually (after the wet season) at the monitoring locations defined in Schedule C - Table 4 (Receiving water reference sites and downstream compliance monitoring points) and identified on Schedule J - Figure 2 (Receiving water monitoring points and reference sites) and for the parameters defined in Schedule C - Table 7 (Stream sediment trigger levels).

Schedule C - Table 7 (Stream sediment trigger levels)

Parameter[1]	Trigger Level
Arsenic (mg/kg)	70[2]
Cadmium (mg/kg)	10[2]
Copper (mg/kg)	270[2]
Lead (mg/kg)	220[2]
Manganese (mg/kg)	For interpretation purposes
Nickel (mg/kg)	52[2]
Selenium (mg/kg)	3 times greater than reference site[3]
Zinc (mg/kg)	410[2]
Particle size distribution	For interpretation purposes

1. All samples must be sieved to remove the >2 mm sediment fraction prior to analysis
2. Trigger level derived from ANZECC (2000) Interim Sediment Quality Guidelines – High
3. Reference sites as specified in Schedule C - Table 4 (Receiving water reference sites and downstream compliance monitoring points)

C14 All stream sediment sampling must be undertaken in accordance with the most recent version of Australian Standard AS 5667.12 *Guidance on Sampling of Bottom Sediment*.

Sediment quality monitoring program (SQMP)

C15 The holder of the environmental authority must develop and implement a SQMP. The SQMP must incorporate the following:

(a) compare reference site sediment quality data to downstream compliance monitoring point data;

(b) propose appropriate locally-derived sediment quality trigger values for downstream compliance monitoring points once a sufficient body of data has been collected; and

(c) identify if downstream compliance monitoring point data trends indicate that contaminants are accumulating at the site(s).

C16 If the quality characteristics of sediments at the downstream compliance monitoring points defined in Schedule C - Table 4 (Receiving water reference sites and downstream compliance monitoring points) exceed any of the trigger levels specified in Schedule C - Table 7 (Stream sediment trigger levels), the holder of this environmental authority must compare results of the downstream site to the data from reference monitoring sites and:

(a) where the downstream result is the same or a lower value than the reference site value for the quality characteristic during the same sampling event then no action is to be taken;

(b) where the downstream results exceed the reference site, undertake an investigation as to whether the exceedance is attributable to the mining activity;

(c) if the exceedance is not attributable to the mining activity then no further action is required;

(d) if the exceedance is attributable to the mining activity, complete the investigation in accordance with the ANZECC & ARMCANZ 2000 methodology, into the potential for environmental harm and provide a written report to the administering authority within three (3) months, outlining:

(i) details of the investigations carried out; and

(ii) actions taken or to be taken to minimise environmental harm including measures to remediate the receiving environment to the extent of the contamination.

Note: Where an exceedance of a trigger level has occurred and is being investigated, in accordance with C16(d) of this condition, no further reporting is required for subsequent trigger events of an equal-to or lesser extent for that quality characteristic.

C17 The holder of this environmental authority must implement the measures proposed under condition C16 to remediate the receiving environment to the extent of the contamination.

Receiving environment monitoring program (REMP)

C18 The holder of this environmental authority must implement a REMP to monitor and record the effects of the release of contaminants on the receiving environment periodically and whilst contaminants are being discharged from the site, with the aims of identifying and describing the extent of any adverse impacts to local environmental values, and monitoring any changes in the receiving waters.

For the purposes of the REMP, the receiving environment is defined as the waters of:

- Little Archie Creek, Bull Ridge Creek, North Mitton Creek, and Coglan Creek to the point where they cross the boundaries of ML90045 or ML90058; and
- Page Creek to its confluence with Lawn Hill Creek; and
- Lawn Hill Creek to a point 1000m downstream of the confluence with Page Creek

C19 The REMP must:

(a) assess the condition or state of receiving waters, including upstream conditions, spatially within the REMP area, considering background water quality characteristics based on accurate and reliable monitoring data that takes into consideration temporal variation (e.g. seasonality);

(b) be designed to facilitate assessment against water quality objectives for the relevant environmental values that need to be protected; and

(c) include monitoring from reference sites and downstream sites from the release (as a minimum, the locations specified in Schedule C - Table 4 (Receiving water reference sites and downstream compliance monitoring points);

(d) specify the frequency and timing of sampling required in order to reliably assess ambient conditions and to provide sufficient data to derive site specific background reference values in accordance with the *Queensland Water Quality Guidelines*. This should include monitoring during periods of natural flow irrespective of mine or other discharges;

(e) include monitoring for potential adverse environmental impacts caused by a release from the mining activity (if any);

(f) include monitoring of water quality characteristics specified in Schedule C - Table 5 (Contaminant release monitoring) and dissolved oxygen saturation and temperature;

(g) include monitoring of sediment quality for particle size distribution, metals and metalloids;

(h) Include monitoring biological indicators;

(i) apply procedures and/or guidelines from ANZECC & ARMCANZ 2000 and the latest edition of the Administering Authority's *Monitoring and Sampling Manual* or other relevant guideline documents / suitable modification of any of those methods including design for program, sampling and analysis methods and quality assurance and control;

(j) incorporate stream flow and hydrological information in the interpretations of water, sediment quality and biological data; and

(k) include interim sediment quality targets within the receiving environment to be investigated when exceeded during the period of the REMP.

C20 A report outlining the findings of the REMP must be prepared annually and be made available to the administering authority on request.

Water management plan

C21 A water management plan must be developed and implemented that provides for the proper and effective management of the actual and potential environmental impacts to waters resulting from the mining activity and to ensure compliance with the conditions of this environmental authority.

C22 The water management plan must be developed in accordance with the most recent edition of the administering authority's guideline *Preparation of Water Management Plans for Mining Activities* and must include at least the following components:

(a) contaminant source study;

(b) site water balance and model;

(c) water management system;

(d) saline drainage prevention and management measures;

(e) acid rock drainage prevention and management measures;

(f) emergency and contingency planning; and

(g) monitoring and review.

C23 The holder of this environmental authority must undertake a review of the water management plan before 1 November each year to ensure that proper and effective measures, practices or procedures are in place so that the mine is operated in accordance with the conditions of this environmental authority and that environmental harm is prevented or minimised.

Erosion and sediment control

C24 An Erosion and Sediment Control Plan must be developed by an appropriately qualified person and implemented for all stages of the mining activities on the site to minimise erosion and the release of sediment to receiving waters and contamination of storm water.

C25 The Erosion and Sediment Control Plan may be included in the Plan of Operations or the water management plan, and provides for at least the following stormwater management functions:

(a) prevent or minimise the contamination of stormwater;

(b) diverting uncontaminated stormwater run-off around areas disturbed by mining activities or where contaminants or wastes are stored or handled;

(c) contaminated stormwater runoff, rainfall and leachate is collected, treated, reused, or released in accordance with the conditions of this environmental authority;

(d) roofing or minimising the size of areas where contaminants or wastes are stored or handled;

(e) erosion and sediment control structures are placed to minimise erosion of disturbed areas and minimise the contamination of any receiving waters;

(f) processes or procedures to ensure that erosion and sediment control structures are maintained and adequate storage is available in sediment dams;

(g) training of staff that will be responsible for maintenance and operations of sediment and erosion control structures.

C26 Erosion protection measures and sediment control measures must be implemented and maintained to minimise erosion and the release of sediment and contamination of receiving waters.

C27 The maintenance and cleaning of any vehicles, plant or equipment must not result in a release of contaminants into any receiving waters, unless in accordance with release limits and locations identified in this environmental authority.

Groundwater

C28 Groundwater quality and standing water levels must be monitored:

(a) at the locations specified in Schedule C - Table 8 (Groundwater monitoring point locations), depicted in Schedule J - Figure 4 (Groundwater monitoring points) and Schedule J - Figure 9 (Silver King (SK) Project Layout and Shallow groundwater monitoring wells); and

(b) at the frequencies specified in Schedule C – Table 9 (Groundwater monitoring frequency and quality limits); and

(c) for the quality characteristics identified in Schedule C - Table 9 (Groundwater monitoring frequency and quality limits).

Schedule C - Table 8 (**Groundwater monitoring point locations)**

Monitoring point	GDA 94 MGA zone 54		Surface RL (m)	Geology
	Easting	Northing		
A_GW07	249056	7930046	153.35	Limestone
B_GW01	245488	7930193	134.42	Shale
B_<New> [1]	TBA [1]	TBA [1]	TBA [1]	TBA [1]
C_GW01	250217	7925495	169.34	Shale
C_GW09	255798	7920635	142.07	Shale

P_<New> [2]	TBA [2]	TBA [2]	TBA [2]	TBA [2]
NM_GW14	250110	7926677	153.73	Limestone
NM_GW16	249827	7929583	150.2	Limestone
Interpretation Bores and Monitoring Wells				
NM_GW09	255992	7927773	128.75	Not identified
NM_GW13	254669	7928686	130.62	Not identified
SM_GW01	253079	7927235	147.288	Not identified
SM_GW04	252625	7925114	149.63	Not identified
P_GW04	246021	7925523	148.65	Shale
P_GW05	246010	7926132	144.89	Shale
P_GW06	246231	7926960	141.25	Shale
P_GW07	246367	7925402	143.94	Shale
P_GW10	246666	7925643	142.67	Shale
P_GW15	247255	7926582	143.74	Shale
P_GW27	245953	7933023	127.52	Not identified
P_GW31	245954	7927738	139.83	Shale
P_GW32	247104	7929412	137.06	Limestone
P_GW33	248460	7927729	155.42	Limestone
PW012	248794	7927496	171.30	Limestone
SK_SW1	246138	7925388	TBA [3]	Regolith to top of competent rock
SK_SW2	246215	7925511	TBA [3]	
SK_SW3	246331	7925561	TBA [3]	
SK_SW4	246221	7925809	TBA [3]	
SK_SW5	246468	7926039.	TBA [3]	
SK_SW6	246401	7926220	TBA [3]	
SK_SW7	246159	7926232	TBA [3]	

[1] By 01/07/2026, the holder is to advise the administering authority of relevant details applicable to addition compliance bore B_<New>, which, by this date, is to be constructed in a suitable groundwater monitoring location, west of monitoring point B__GW01 and north of the Western Waste Rock Dump (WWRD), in proximity to the conceptual location indicated in Schedule J, Figure 4 (Groundwater monitoring points).

[2] By 01/07/2026, the holder is to advise the administering authority of relevant details applicable to addition compliance bore P_<New>, which, by this date, is to be constructed in a suitable groundwater monitoring location, north of monitoring point P_GW032 and north of the Northern Waste Rock Dump (NWRD), in proximity to the conceptual location indicated in Schedule J, Figure 4 (Groundwater monitoring points).

[3] By 01/07/2026, the holder is to advise the administering authority of surface reference level (RL) details applicable to the specified interpretation bore / monitoring well.

Schedule C - Table 9 (Groundwater monitoring frequency and quality limits)

Monitoring point	Monitoring frequency	Quality characteristics and contaminant limits										
		Contaminant Limit Type	Standing Water level (m AHD)	Total Dissolved Solids (mg/L)	Major ions	pH (scale range)	EC (uS/cm)	Sulfate as SO4 (mg/L)	Arsenic (mg/L)	Cadmium (mg/L)	Lead (mg/L)	Zinc (mg/L)
Compliance bores												
A_GW07	Quarterly	Limit A	For interpretation	For interpretation	For interpretation	-	867 [3]	6 [3]	-	-	-	0.037 [3]
		Limit B				6 to 8	895 [4]	10 [4]	0.013 [2]	0.0002 [2]	0.0034 [2]	0.067 [4]
B_GW01		Limit A				-	1440 [3]	276 [3]	0.01 [3]	-	-	0.037 [3]
		Limit B				6 to 8	1570 [4]	362 [4]	0.021 [4]	0.0002 [2]	0.0034 [2]	0.067 [4]
B_<new>		Limit A				6 to 8	TBA [5]	TBA [5]	TBA [5]	TBA [5]	TBA [5]	TBA [5]
		Limit B				6 to 8	TBA [5]	TBA [5]	TBA [5]	TBA [5]	TBA [5]	TBA [5]
C_GW01		Limit A				-	4800 [3]	2903 [3]	-	-	-	0.037 [3]
		Limit B				6 to 8	4917 [4]	3000 [4]	0.013 [2]	0.0002 [2]	0.0034 [2]	0.067 [4]
C_GW09		Limit A				-	4800 [3]	2065 [3]	-	0.0005 [3]	-	0.16
		Limit B				5 to 8	4917 [4]	2504 [4]	0.013 [2]	0.0008 [4]	0.0034 [2]	0.24
P_<new>		Limit A				6 to 8	TBA [5]	TBA [5]	TBA [5]	TBA [5]	TBA [5]	TBA [5]
		Limit B				6 to 8	TBA [5]	TBA [5]	TBA [5]	TBA [5]	TBA [5]	TBA [5]
NM_GW14		Limit A				6 to 8	TBA [5]	TBA [5]	TBA [5]	TBA [5]	TBA [5]	TBA [5]
		Limit B				6 to 8	TBA [5]	TBA [5]	TBA [5]	TBA [5]	TBA [5]	TBA [5]
NM_GW16		Limit A				-	867 [3]	5 [3]	-	-	-	0.037 [3]
		Limit B				6 to 8	895 [4]	10 [4]	0.013 [2]	0.0002 [2]	0.0034 [2]	0.067 [4]
Interpretation bores and monitoring wells												
P_GW04	Quarterly	NA [6]	For interpretation	For interpretation	For interpretation	For interpretation	For interpretation	For interpretation	For interpretation	For interpretation	For interpretation	For interpretation
P_GW05												
P_GW06												
P_GW07												
P_GW10												
P_GW15												
P_GW31												
P_GW32												
P_GW33												
PW012												
SK_SW1	Following rainfall events in excess of 50mm within 24 hours.											
SK_SW2												
SK_SW3												
SK_SW4												
SK_SW5												
SK_SW6												
SK_SW7												

NM_GW09	Biannual (6 monthly)	NA	For interpretation	NA [6]
NM_GW13				NA [6]
SM_GW01				NA [6]
SM_GW04				NA [6]
P_GW27				NA [6]

[1] All metals and metalloids must be measured dissolved (filtered).
[2] ANZG 2018 Toxicant default guideline value (DVG) freshwater, 95% species protection.
[3] Site-specific contaminant limit based on 80th percentile of bore monitoring results.
[4] Site-specific contaminant limit based on 95th percentile of bore monitoring results.
[5] Site-specific contaminant limits are to be advised (TBA) by the holder to the administering authority:
    a) INTERIM limits are to be derived and advised once 8 to 12 sample records are held.
    b) FINAL limits are to be derived and advised once 18 sample records are held.
[6] Not applicable (NA).

C29 A quality characteristic measured at a compliance bore specified in Schedule C - Table 8 (Groundwater monitoring point locations) must not exceed the corresponding Limit A specified in Schedule C - Table 9 (Groundwater monitoring frequency and quality limits) on any five consecutive sampling occasions.

C30 A quality characteristic measured at a compliance bore specified in Schedule C - Table 8 (Groundwater monitoring point locations), must not exceed the corresponding Limit B value specified in Schedule C - Table 9 (Groundwater monitoring frequency and quality limits) on any three consecutive sampling occasions.

Bore construction, maintenance and decommissioning

C31 Any new groundwater bores installed or existing groundwater bores re-developed must be constructed, operated, and decommissioned in accordance with methods prescribed in *Minimum Construction Requirements for Water Bores in Australia – 2nd Edition (LWBC) (or equivalent)*.

C32 The construction, maintenance and decommissioning of groundwater monitoring bores must be undertaken in a manner that:

(a) prevents contaminants entering the groundwater.
(b) ensures the integrity of the bores to obtain representative groundwater samples from the target aquifer.
(c) maintains the hydrogeological environment within the aquifer.

C33 A bore drill log must be kept for each groundwater monitoring bore which includes:

(a) bore identification reference and geographic coordinate location.
(b) specific construction information including but not limited to depth of bore, depth and length of casing, depth and length of screening and bore sealing details.
(c) standing groundwater level and water quality parameters including physical parameters and results of laboratory analysis for the possible trigger parameters.
(d) lithological data and stratigraphic interpretation by an appropriately qualified person to identify important features associated with groundwater monitoring.
(e) target aquifer formation of the bore.

Groundwater Monitoring Program

C34 By 30/09/2024, the holder must implement and maintain a Groundwater Management Program that is developed and documented by appropriately qualified person/s.

C35 The Groundwater Monitoring Program required by condition C34 must:

(a) include characterisation of groundwater system/s present at the Century Mine locality.

(b) identify potential sources of contamination to groundwater from the activity.

(c) identify environmental values that may be impacted by groundwater.

(d) ensure that potential impacts to environmental values from groundwater contamination sources and/or varied groundwater levels due to the activity are identified and monitored.

(e) document sampling and monitoring methodology.

(f) Include biannual monitoring of groundwater standing water levels on an ongoing basis, sufficient to confirm contemporaneous groundwater elevations and flow paths and to validate modelled interpolation of predictive short and longer term groundwater levels and flow paths.

(g) ensure that adequate groundwater monitoring and data analysis is undertaken to achieve the following objectives:

i. detect any changes and/or impacts to groundwater quality caused by the activity.

ii. detect any influence on groundwater levels caused by the activity.

iii. determine temporal and spatial trends in groundwater quality and groundwater levels.

iv. determine any interaction or impact from groundwater on surface water.

(h) include an appropriate quality assurance and quality control program.

(i) include a hydrological groundwater model.

(j) include a review process to identify improvements to the program that includes addressing any comments provided by the administering authority.

C36 From 30/09/2025, the Groundwater Monitoring Program must be reviewed on an annual basis by 30 September by an appropriately qualified person/s to determine whether it continues to meet the requirements stated in Condition C35.

Groundwater Monitoring Report

C37 A Groundwater Monitoring Report must be prepared by an appropriately qualified person a submitted to the administering authority initially by 30/09/2026, and subsequently by 30 September annually thereafter.

C38 The Groundwater Monitoring Report required by condition C37 must include, but not be limited to:

a) An assessment and interpretation of groundwater quality results from each monitoring event, including time series graph of all data and an assessment of trends in the groundwater quality and level, a graphical comparison with at least the past five (5) years previous monitoring data, to 31 May in the year of reporting.

b) Recommendation/s of the review conducted by the appropriately qualified person(s) under condition C36.

d) Documented considerations given to seepage and groundwater mounding associated with waste rock dump and tailing storage facility structures; tailings disposal and water transfers/movements to the Century Pit; Century Pit water level; bore water levels; and Western and Eastern Borefield groundwater extraction activities and groundwater levels.

d) A review and validation or update of following matters utilising observed groundwater quality data and other observed information, including:

i. Prior groundwater model projections that the Century Open Cut Pit will effectively contain contaminated pit waters and will remain a groundwater sink in perpetuity.

ii. Connectivity between groundwater and surface waters, including but not limited to Bull Ridge Creek, Page Creek, Archie Creek, North Mitton Creek, and South Mitton Creek.

iii. The influence of any connectivity between key mine landform features, ephemeral surface water features and groundwater.

e) Investigation and reporting of any potential deterioration in groundwater quality, when measured at any bore listed in Schedule C - Table 8 (Groundwater monitoring point locations).

Groundwater Model

C39 By 30 July 2025, the holder must provide the administering authority with updated numerical groundwater modelling and an associated groundwater model report that is developed and documented by an appropriately qualified person.

C40 The numerical groundwater model and groundwater model report required by Condition C39 must:

(a) At a minimum address and report on matters outlines in the *Australian groundwater modelling guidelines.*

Barnett, B., Townley, L.R., Post, V., Evans, R.E., Hunt, R.J., Peeters, L., Richardson, S., Werner, A.D., Knapton, A., Boronkay, A., 2012. Australian groundwater modelling guidelines, Waterlines Report Series. Canberra.

(b) Include a relevant hydrogeological model and description of the hydrostratigraphy and aquifer properties of groundwater units.

(c) Be calibrated and include sensitivity analysis to evaluate the relative effect of model input parameters and boundary conditions on model calibration and predictive simulation outputs.

(d) Incorporate observed and predictive interpolations of pit water levels, pit inflows and outflows (tailings deposition, surface contributions and groundwater), and groundwater levels across the site, relative to conducted mining operations, end of mine life, and longer-term post closure outlooks.

(e) Predict operational and post-mining seepage rates, including seepage and water fluxes from the Open Cut Pit and other waste containment structures into the underlying groundwater systems.

(f) Include modelled representation of current and predictive groundwater levels, groundwater level contours and groundwater flow directions.

END OF CONDITIONS FOR SCHEDULE C

Schedule D - Regulated Structures

Assessment of Hazard Category

D1 The hazard category of any structure must be assessed by a suitably qualified and experienced person:

(a) in accordance with the *Manual for Assessing Hazard Categories and Hydraulic Performance of Dams*; and

(b) in any of the following situations:

(i) prior to the design and construction of the regulated structure; or

(ii) prior to any change in its purpose or the nature of its stored contents.

D2 A hazard assessment report and certification must be prepared for any regulated structure assessed and the report may include a hazard assessment for more than one regulated structure.

D3 The holder of this environmental authority must, on receipt of a hazard assessment report and certification, provide to the administering authority one paper copy and one electronic copy of the hazard assessment report and certification.

D4 Certification must be provided by the suitably qualified and experienced person who undertook the assessment, in the form set out in the *Manual for Assessing Hazard Categories and Hydraulic Performance of Dams*.

D5 The holder of this environmental authority must take reasonable and practical measures so that each regulated structure associated with the mining activity is designed, constructed, operated and maintained in accordance with accepted engineering standards and is fit for the purpose for which it is intended.

D6 The onus remains at all times on the holder of this environmental authority to determine whether any of the dams on the licensed place are regulated structures, as defined herein, and if so to immediately comply with the *Manual for Assessing Hazard Categories and Hydraulic Performance of Dams*.

Note: A change of status of a dam might occur due to natural incremental increases in storage capacity, the nature of the material stored, or to changed conditions of use of the storage or of downstream activities (whether related to on-site operations or to the downstream environment) – resulting in an increased risk beyond low hazard, as assessed against the criteria in Table 3 (Contaminant concentrations and minimum dam volumes) in the Manual for Assessing Hazard Categories and Hydraulic Performance of Dams;

Design and Construction of a Regulated Structure

D7 All regulated structures must be designed by, and constructed under the supervision of a suitably qualified and experienced person in accordance with the requirements of the *Manual for Assessing Hazard Categories and Hydraulic Performance of Dams.*

Note: Certification of design and construction may be undertaken by different persons. Construction of a regulated structure includes modification of an existing regulated structure.

D8 Construction of a regulated structure is prohibited unless the holder of this environmental authority has:

(a) submitted a hazard category assessment report and certification to the administering authority;

(b) commissioned a suitably qualified and experienced person to prepare a design plan for the regulated structure; and

(c) received the certification from a suitably qualified and experienced person for the design plan and the associated operating procedures in compliance with the relevant conditions of this environmental authority.

D9 Certification must be provided by the suitably qualified and experienced person who oversees the preparation of the design plan, in the form set out in the *Manual for Assessing Hazard Categories and Hydraulic Performance of Dams*.

D10 Regulated structures must:

a) be designed and constructed in accordance with and conform to the requirements of the *Manual for Assessing Hazard Categories and Hydraulic Performance of Dams*; and

b) be designed and constructed with due consideration given to ensuring that the design integrity will not be compromised on account of:

i) floodwaters from entering the regulated structure from any watercourse or drainage line; and

ii) wall failure due to erosion by floodwaters arising from any watercourse or drainage line.

D11 The design plan for a regulated structure must include, but is not limited to:

(a) certification that the design plan;
  (i) is in accordance with the *Manual for Assessing Hazard Categories and Hydraulic Performance of Dams,* including subsidiary certifications if necessary; and
  (ii) addresses the requirements in condition D11 (b) to (h).

(b) a design report which provides:
  (i) a description of all the documents which constitute the design plan;
  (ii) a statement of:
    a) the applicable standards including engineering criteria, industry guidelines, relevant legislation and regulatory documents, relied upon in preparing the design plan;
    b) all relevant facts and data used in preparing the design plan, including any efforts made to obtain necessary facts and data, and any limitations or assumptions to facts and data used in preparing the design plan;
    c) the hazard category of the regulated structure; and
    d) setting out the reasoning of the suitably qualified and experienced person who has certified the design plan, as to how the design plan provides the necessary required performance.
  (iii) documentation of hydrological analyses and estimates required to determine all elements of the design including volumes and flow capacities;
  (iv) detailed criteria for the design, operation, maintenance and decommissioning of the regulated structure, including any assumptions; and
  (v) design, specification and operational rules for any related regulated structures and systems used to prevent failure scenarios;

(c) drawings showing the lines and dimensions, and locations of built regulated structures and land forms associated with the regulated structure;

(d) consideration of the interaction of the pit design with the regulated structure design;

(e) an operational plan that includes:
  (i) normal operating procedures and rules (including clear documentation and definition of process inputs in the Design Storage Allowance (DSA); and
  (ii) contingency and emergency action plans including operating procedures designed to avoid and/or minimise environmental impacts including threats to human life

resulting from any overtopping or loss of structural integrity of the regulated structure.

(f) a plan for the decommissioning and rehabilitation of the regulated structure at the end of its operational life;

(g) details of reports on investigations and studies done in support of the design plan; and

(h) any other matter required by the suitably qualified and experienced person.

D12 Certification by the suitably qualified and experienced person who supervises the construction must be submitted to the administering authority on the completion of construction of the regulated structure, and state that:

(a) the 'as constructed' drawings and specifications meet the original intent of the design plan for that regulated structure; and

(b) construction of the regulated structure is in accordance with the design plan.

D13 Where a regulated structure is to be managed as part of an integrated containment system and the DSA volume is to be shared across the integrated containment system, the design and operating rules for the system as a whole must be documented in a system design plan that is certified by a suitably qualified and experienced person.

D14 The system design plan must contain:

(a) the design plans;

(b) the ‘as constructed’ plans;

(c) the operational rules for each individual regulated structure that forms part of the integrated system;

(d) the standards of serviceability and accessibility of water transfer equipment or regulated structures; and

(e) the operational rules for the system as a whole.

Operation of a Regulated Structure

D15 Operation of a regulated structure is prohibited unless:

(a) the holder of this environmental authority has submitted to the administering authority:

(i) one paper copy and one electronic copy of the design plan and certification of the design plan in accordance with condition D11;

(ii) a set of ‘as constructed’ drawings and specifications;

(iii) certification of those ‘as constructed drawings and specifications’ in accordance with condition D12; and

(iv) where the regulated structure is to be managed as part of an integrated containment system for the purpose of sharing the DSA volume across the system, a copy of the certified system design plan in accordance with condition D13.

(b) the requirements of this environmental authority relating to the construction of the regulated structure have been met; and

(c) relevant details for the regulated structure have been included in Schedule D - Table 1 (Location of Regulated Structures) and Schedule D - Table 2 (Basic Details of Regulated Structures) of this environmental authority.

D16 Each regulated structure must be maintained and operated in a manner that is consistent with the current design plan, the current operational plan, and the associated certified ‘as constructed’ drawings for the duration of its operational life until decommissioned and rehabilitated.

D17 The holder of this environmental authority must take reasonable and practicable control measures to prevent harm to persons, livestock or wildlife through the construction and operation of a

regulated structure. Reasonable and practicable measures may include, but are not limited to:

(a) the secure use of fencing, bunding or screening; and

(b) escape arrangements for trapped livestock and fauna.

Mandatory Reporting Level

D18 The mandatory reporting level (MRL) must be marked on a regulated structure in such a way that during routine inspections of that regulated structure, it is clearly observable.

D19 The holder of this environmental authority must, as soon as practical and within forty-eight (48) hours of becoming aware, notify the administering authority when the level of the contents of a regulated structure reaches the MRL.

D20 The holder of this environmental authority must, immediately on becoming aware that the MRL has been reached, act to prevent the occurrence of any unauthorised discharge from the regulated structure.

Annual Inspection Report

D21 Each regulated structure must be inspected each calendar year by a suitably qualified and experienced person.

D22 At each annual inspection, the condition and adequacy of all components of the regulated structure must be assessed:

(a) against the most recent hazard assessment report and design plan (or system design plan);

(b) against recommendations contained in previous annual inspection reports;

(c) against recognised regulated structure safety deficiency indicators;

(d) for changes in circumstances potentially leading to a change in hazard category;

(e) for conformance with the conditions of this environmental authority;

(f) for conformance with the 'as constructed' drawings;

(g) for the adequacy of the available storage in each regulated structure, based on an actual observation or observations taken after 31 May each year but prior to 1 November of that year, of accumulated sediment, state of the containment barrier and the level of liquids in the regulated structure (or network of linked containment systems); and

(h) for evidence of conformance with the current operational plan.

D23 A suitably qualified and experienced person must prepare an annual inspection report containing details of the assessment and include recommended actions to ensure the integrity of the regulated structure.

D24 The suitably qualified and experienced person who prepared the annual inspection report must certify the report in accordance with the *Manual for Assessing Hazard Categories and Hydraulic Performance of Dams*.

D25 The holder of this environmental authority must:

(a) upon receipt of the annual inspection report, consider the report and its recommendations and take action to ensure that the regulated structure will safely perform its intended function; and

(b) within twenty (20) business days of receipt of the annual inspection report, notify the administering authority in writing, of the recommendations of the inspection report and the actions being taken to ensure the integrity of each regulated structure.

D26 A copy of the annual inspection report must be provided to the administering authority upon request

within ten (10) business days.

Design Storage Allowance

D27 On 1 November of each year, storage capacity must be available in each regulated structure (or network of linked containment systems with a shared DSA volume), to meet the DSA volume for the regulated structure (or network of linked containment systems).

D28 The holder of this environmental authority must, as soon as possible and within forty-eight (48) hours of becoming aware that the regulated structure (or network of linked containment systems) will not have the available storage to meet the DSA volume on 1 November of any year, notify the administering authority.

D29 The holder of this environmental authority must, immediately on becoming aware that a regulated structure (or network of linked containment systems) will not have the available storage to meet the DSA volume on 1 November of any year, act to prevent the occurrence of any unauthorised discharge from the regulated structure or linked containment systems.

Performance Review

D30 The holder of this environmental authority must assess the performance of each regulated structure or linked containment system over the preceding November to May period based on actual observations of the available storage in each regulated structure or linked containment system taken prior to 1 July of each year.

D31 The holder of this environmental authority must take action to modify its water management or linked containment system so as to ensure that the regulated structure or linked containment system will perform in accordance with the requirements of this environmental authority, for the subsequent November to May period.

Transfer Arrangements

D32 The holder of this environmental authority must provide a copy of any reports, documentation and certifications prepared under this environmental authority, including but not limited to any Register of Regulated Structures, hazard assessment, design plan and other supporting documentation, to a new holder of this environmental authority and the administering authority on transfer of this environmental authority.

Decommissioning and Rehabilitation

D33 Prior to the surrender of this environmental authority, each regulated structure must be decommissioned such that:

(a) ongoing environmental harm is minimised by the regulated structure by:
    (i) becoming a safe site for humans and animals at the completion of rehabilitation; and
    (ii) becoming a stable landform, that no longer contains flowable substances and minimises erosion impacts; and
    (iii) not allowing for acid mine drainage; and
        a) being approved or authorised under relevant legislation for a beneficial use; or
        b) being a void authorised by the administering authority to remain after decommissioning.

(b) the regulated structure is compliant with all other relevant rehabilitation requirements of this environmental authority.

Regulated Structures Location and Performance

D34 Each regulated structure named in Column 1, of Schedule D - Table 1 (Location of Regulated Structures) must be wholly located within the control points noted in columns 2 and 3 of Schedule D -Table 1 (Location of Regulated Structures).

Schedule D - Table 1 (Location of Regulated Structures)

Column 1	Location (GDA 94 MGA zone 54)		Mining Lease
Name of Regulated Structure	Easting[1]	Northing[1]	
Sediment Dam 3	246 885	7 926 827	ML90045
	247 272	7 926 551	
	246 928	7 926 293	
	246 785	7 926 770	
Sediment Dam 8	245 092	7 929 511	ML90045
	245 041	7 929 554	
	244 944	7 929 591	
	244 947	7 929 620	
	245 111	7 929 744	
	245 169	7 929 853	
	245 304	7 929 829	
	245 296	7 929 682	
	245 241	7 929 616	
	245 184	7 929 637	
	245 143	7 929 578	
	245 143	7 929 578	
Sediment Dam 10	245 969	7 926 594	ML90045
	245 934	7 926 795	
	245 925	7 926 907	
	245 876	7 927 052	
	245 777	7 927 188	
	245 587	7 927 252	
	245 606	7 927 371	
	245 630	7 927 387	
	245 950	7 927 430	
	246 009	7 927 425	
	246 278	7 926 962	
	246 208	7 926 848	
	246 203	7 926 766	
	246 202	7 926 713	
	246 013	7 926 577	
	245 979	7 926 578	
Sediment Dam 12	246272	7926161	ML90045
	246324	7926093	
	246426	7926066	
	246438	7926143	
	246342	7926248	
Process Water Dam	249 173	7 927 007	ML90045
	249 245	7 927 018	
	249 262	7 926 930	
	249 191	7 926 917	
Evaporation Dam	254 125	7 919 695	ML90045
	251 965	7 920 595	
	252 895	7 921 115	
	252 795	7 921 575	
	253 285	7 921 865	
	254 815	7 922 195	
	255 175	7 921 825	

Column 1	Location (GDA 94 MGA zone 54)		Mining Lease
Name of Regulated Structure	Easting[1]	Northing[1]	
Tailings Storage Facility	252 895	7 921 135	ML90045
	251 855	7 920 615	
	250 535	7 920 955	
	250 565	7 921 405	
	251 105	7 923 595	
	251 255	7 923 625	
	252 805	7 921 825	
Page Creek Diversion Levee	246 759.74	7 929 136.40	ML90045
	246 788.72	7 929 128.65	
	246 639.08	7 928 875.53	
	246 659.14	7 928 852.29	
	246 143.80	7 928 589.78	
	246 170.94	7 928 574.21	
	245 917.54	7 927 950.41	
	245 937.49	7 927 942.05	
	246 380.11	7 926 970.36	
	246 570.42	7 926 736.12	
	246 596.31	7 926 752.64	
	246 682.56	7 926 432.08	
	249 710.65	7 926 442.61	
	246 722.06	7 925 614.24	
	246 752.03	7 925 615.43	
	246 732.34	7 925 196.24	
	249 737.87	7 924 889.76	

1 A minimum of 3 control points is required to constrain the regulated structure. Additional infrastructure which forms part of any regulated structure (which is not required to be located within the control points) 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.

D35 Each regulated structure named in column 1 of Schedule D - Table 2 (Basic Details of Regulated Structures), must be consistent with the details noted in columns 2 through to and including column 7 of Schedule D - Table 2 (Basic Details of Regulated Structures).

Schedule D - Table 2 (Basic Details of Regulated Structures)

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7
Name of Regulated Structure	Hazard Category	Surface Area at Spillway (ha)	Maximum Volume at Spillway (GL)	Maximum Depth at Spillway (m)	Spillway Level (RL (m))	Use
Sediment Dam 3	Significant	10.8	0.54	7.7	1141.0	The containment of contaminated site stormwater and overflow of contaminated leachate from the southern waste rock dump
Sediment Dam 8	Significant	5.6	0.27	6.5	1133.0	The containment of contaminated site stormwater and contaminated leachate from the western waste rock dump

Sediment Dam 10	Significant	27.1	1.18	6.6	1141.5	The containment of contaminated site stormwater and contaminated leachate from the western waste rock dump
Sediment Dam 12	Significant	1.3	0.0242	2.6	144.0	The containment of contaminated site stormwater and contaminated leachate from the Silver King ROM Pad.
Process Water Dam	Significant	0.6	0.013	4	155.79	The containment of process water used in the extraction of zinc and lead at the Century Mine.
Evaporation Dam	High	497.6	57.6	28.9	1170.9	Containment of supernatant from the tailings storage facility and contaminated water (pumped)
Tailings Storage Facility	High	1000	140	35	1179.5	The containment of tailings resulting from the extraction of zinc and lead at the Century Mine.
Page Creek Diversion Levee	Significant	NA	NA	NA	NA	Prevention of ingress of flood waters from Page Creek (diversion) to the open cut pit

D36 Each regulated structure named in column 1 of Schedule D - Table 1 (Location of Regulated Structures), must meet the hydraulic performance criteria noted in columns 2 through to and including column 4 of Schedule D - Table 3 (Hydraulic Performance of Regulated Structures).

Schedule D - Table 3 (Hydraulic Performance of Regulated Structures)

Column 1	Column 2	Column 3	Column 4
Name of Regulated Structure	**Spillway Capacity AEP**	**Design Storage Allowance AEP**	**Mandatory Reporting Level AEP RL (m)**
Sediment Dam 3	0.001	0.05	1137.0
Sediment Dam 8	0.001	0.05	1128.9
Sediment Dam 10	0.001	0.05	1137.8
Sediment Dam 12	0.01	0.05	NA

Process Water Dam	0.01	-	50mm below spillway
Evaporation Dam	0.0001	0.01 ARI two (2) month wet season plus process inputs for the 2 month wet season	1,168.8
Tailings Storage Facility	0.0001	NA	NA

1. Manual for Assessing Hazard Categories and Hydraulic Performance of Dams

Tailings Storage Facility

D37 The environmental authority holder is responsible for the making of determination and keeping of records of the Tailings Storage Facility water quality characteristics at the frequency and location specified in Schedule D - Table 4 (Tailings storage facility contaminant monitoring requirement) of the environmental authority.

Schedule D - Table 4 (Tailings storage facility contaminant monitoring requirement)

Quality characteristic determination	Tailings Storage Facility Decant and Evaporation Dam[1]	Tailings Discharge Pipe[1]
pH (pH Units)	Monthly	Monthly
Total Dissolved Solids (mg/L)	Monthly	Monthly
Total Suspended Solids (mg/L)	Monthly	Not Applicable
Electrical Conductivity (mS/cm)	Monthly	Monthly
5 day biochemical oxygen demand (mg/L)	Monthly	Monthly
Total nitrogen	Monthly	Monthly
Total phosphorous	Monthly	Monthly
Total Zinc (mg/L)	Monthly	Monthly
Total Cadmium (mg/L)	Monthly	Monthly
Total Lead (mg/L)	Monthly	Monthly
Turbidity (NTU)	Monthly	Not Applicable
SO_4(mg/L)	Monthly	Monthly
Total Hydrocarbons (mg/L)	Monthly	Monthly

1. Monitoring at the frequency specified is only required to occur in the event that tailings are being discharged/deposited to the tailings storage facility

D38 The monthly quantity of contaminants released to the tailings storage facility will be determined by the environmental authority holder utilising a flow meter installed in the tailings discharge pipe.

D39 The monthly quantity of contaminants released to the evaporation pond will be determined by the environmental authority holder utilising calculations based on the height of water over the decant structure and estimates of inputs from other sources.

D40 The water level in the tailings storage facility and evaporation dam must be monitored and recorded

weekly.

D41 Decommissioning activities for dams must be documented in detail in the design plan under which the activities 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.

Onsite Water Storages

D42 Water storages stated in Schedule D - Table 5 (Water storage monitoring) must be monitored for the water quality characteristics specified in Schedule D - Table 6 (Onsite water storage contaminant limits) at the monitoring locations and at the monitoring frequency specified in Schedule D - Table 5 (Water Storage Monitoring).

Schedule D - Table 5 (Water Storage Monitoring)

Water Storage Description	GDA 94 MGA zone 54		Monitoring Location	Frequency of Monitoring
	Easting	Northing		
Sediment dam 1	250 300	7 927 226	Within sediment dam 1	Quarterly
Sediment dam 2	248 380	7 926 607	Within sediment dam 2	
Sediment dam 3	246 785	7 926 731	Within sediment dam 3	
Sediment dam 5	246 994	7 929 235	Within sediment dam 5	
Sediment dam 8	245 164	7 929 840	Within sediment dam 8	
Sediment dam 9	246 477	7 929 045	Within sediment dam 9	
Sediment dam 10	246 141	7 927 903	Within sediment dam 10	
Sediment dam 11	246 269	7 925 563	Within sediment dam 11	
Sediment dam 12	246 358	7 926 142	Within sediment dam 12	
Evaporation Dam Seepage	254 798	7 920 729	C_SW06_EDAMS	
Evaporation dam	254 713	7 920 889	Within evaporation dam	

D43 In the event that water storages defined in Schedule D - Table 5 (Water storage monitoring) exceed the contaminant limits, or falls outside of a contaminant limit range, defined in Schedule D - Table 6 (Onsite water storage contaminant limits), the environmental authority holder must implement measures, where practicable, to prevent access to waters by livestock.

Schedule D - Table 6 (Onsite water storage contaminant limits)

Quality Characteristic	Contaminant Limit
pH	4.0 [1] (minimum) 9.0 [1] (maximum)
Electrical conductivity	5970 µS/cm [2]
Sulphate	1000 mg/L [2]
Total arsenic	0.5 mg/L [2]
Total cadmium	0.01 mg/L [2]
Total copper	1 mg/L [2]
Total lead	0.1 mg/L [2]
Total nickel	1 mg/L [2]
Total zinc	20 mg/L [2]

1. Page 4.2-15 of ANZECC & ARMCANZ (2000) “Soil and animal health will not generally be affected by water with pH in the range of 4-9”.
2. Contaminant limits are based on ANZECC 2000 – livestock drinking water.

Lead concentrate storage areas

D44 The holder of this environmental authority must develop and maintain a procedure to manage the environmental aspects and impacts associated with storage and handling of lead concentrate within the operational tailings storage facility.

D45 The procedure referred to in condition D44 must be implemented to minimise the potential for environmental harm.

D46 Except where lead concentrate is being reclaimed or rehandled, a water cover must be maintained over the stored concentrate to minimise airborne emissions.

Concentrate Pond

D47 The Concentrate Pond must be designed, constructed and operated to prevent the discharge of contaminants from the structure to land or waters.

D48 The Concentrate Pond structure must be inspected each calendar year by a suitably qualified and experienced person.

D49 At each annual inspection, the suitably qualified and experienced person must prepare an annual inspection report containing details of the assessment and include any recommended actions to ensure the integrity of the structure is maintained.

D50 The holder must within 20 business days of receipt of the annual inspection report, provide any recommended actions to the administering authority and in addition, when the recommended actions will be implemented.

END OF CONDITIONS FOR SCHEDULE D

Schedule E - Sewage Treatment

Sewage effluent

E1 Sewage treatment and disposal activities must be undertaken in accordance with written procedures that:

- identify potential risks to the environment from the activity during routine operations, closure and an emergency
- establish and maintain control measures that minimise the potential for environmental harm
- ensure plant, equipment and measures are maintained in a proper and effective condition
- ensure plant, equipment and measures are operated in a proper and effective manner
- ensure that staff are trained in and aware of their obligations under the *Environmental Protection Act 1994*
- ensure that reviews of environmental performance are undertaken at least annually.

E2 Treated sewage effluent from the sewage treatment facilities must either be disposed/deposited into the Open-cut Pit, as authorised by EA condition G9, or be removed from site, in accordance with EA conditions G10 and G11.

END OF CONDITIONS FOR SCHEDULE E

Schedule F - Noise and Vibration

Noise nuisance

F1 Subject to Conditions F2 and F3 noise from the mining activity must not cause an environmental nuisance, at any sensitive place.

F2 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 to the administering authority within 14 days of their receipt by the environmental authority holder.

F3 If the environmental authority holder can provide evidence through monitoring that the limits defined in Schedule F - Table 1 (Noise limits) are not being exceeded by the environmental authority holder then the holder is not in breach of Condition F1. Monitoring must include:

(a) $L_{A, max\ adj, T}$; and

(b) the level and frequency of occurrence of impulsive or tonal noise; and

(c) atmospheric conditions including wind speed and direction; and

(d) location, date and time of recording.

F4 If monitoring indicates exceedance of the limits in Schedule F - Table 1 (Noise limits), by the environmental authority holder then the environmental authority holder must:

(a) address the complaint including the use of appropriate dispute resolution if required; or

(b) immediately implement noise abatement measures so that emissions of noise from the activity do not result in further environmental nuisance.

F5 The method of measurement and reporting of noise levels must comply with the latest edition of the administering authority's "*Noise Measurement Manual*".

Schedule F - Table 1 (Noise limits)

Noise level dB(A) measured as	Monday to Saturday			Sundays and public holidays		
	7am - 6pm	6pm - 10pm	10pm - 7am	9am - 6pm	6pm - 10pm	10pm - 9am
	Noise measured at a 'Noise sensitive place'					
L_{A10}, adj, 10 mins	b/g+5	b/g+5	b/g+5	b/g+5	b/g+5	b/g+5
L_{A1}, adj, 10 mins	b/g+10	b/g+10	b/g+5	b/g+10	b/g+10	b/g+5
	Noise measured at a 'Commercial place'					
L_{A10}, adj, 10 mins	b/g+10	b/g+10	b/g+5	b/g+10	b/g+10	b/g+5
L_{A1}, adj, 10 mins	b/g+15	b/g+15	b/g+10	b/g+15	b/g+15	b/g+10

Note: The method of measurement and reporting of noise levels must comply with the latest edition of the administering authority's "*Noise Measurement Manual*".

END OF CONDITIONS FOR SCHEDULE F

Schedule G - Waste

Storage of tyres

G1 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 200m^2 in area and at least 10m from any other tyre storage area.

G2 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

G3 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.

G4 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.

Regulated Waste Landfill Site

G5 Regulated waste authorised for disposal on site will be disposed of only at the locations shown in Schedule J - Figure 5.

G6 The regulated waste licensed for disposal at the landfill site marked ‘Landfill’ on Schedule J - Figure 5 shall be limited to:

(a) copper sulfate and zinc oxide bags;
(b) xanthate bulk bags;
(c) empty acid containers;
(d) empty detergent / sanitiser containers;
(e) grease trap residues;
(f) empty solvent containers;
(g) paint tins;
(h) containers which have contained caustic solutions, laboratory solutions, oxidising agents, reducing agents, resins, pesticides or herbicides, alkalis, surfactants and aerosol lubricants;
(i) sediments from vehicle wash down bays;
(j) lime sludges;
(k) rubber and synthetic polymer liners and other miscellaneous rubber and synthetic polymer products excluding tyres; and
(l) any other waste for which written agreement for disposal had been obtained from the administering authority.

Regulated Waste Rock Dump

G7 The regulated waste licensed for disposal in the Waste Rock Dumps as defined in Schedule J - Figure 6 shall be limited to:

(a) truck tyres;
(b) waste rock contaminated by hydrocarbon spills;
(c) lime grit;
(d) mill scats;
(e) empty xanthate boxes

(f) regulated wastes generated at the Port Site de-watering facility including activated carbon, filter cloths, and contaminated materials; and

(g) any other waste for which written agreement for disposal has been obtained from the administering authority.

Regulated Waste Tailings Storage Facility and Century Open-cut Pit

G8 The defined tailings release point points, in respect to the Tailings Storage Facility, are: Spigot 1, Spigot 2 and Spigot 3 as described on schedule J – Figure 3 (TSF Containment Area) and, in respect to the Century Open-cut Pit, documented spigot locations located within the confines of the Century Open-cut Pit void.

G9 The regulated waste licensed for disposal in the Tailings Storage Facility marked as 'Tailings Storage Facility' on Schedule J - Figure 3 (TSF Containment Area) and/or in the Century Open-cut Pit shall be limited to:

(a) tailings from the mineral processing operation originating from activities located on ML90045 and ML90058;

(b) sewage treatment plant effluent and sludges originating from activities located on ML90045 and ML90058;

(c) water from workshops which has passed through the relevant pollution control equipment located at the relevant workshop and originating from activities located on ML90045 and ML90058;

(d) vehicle wash down waters which have passed through the relevant pollution control equipment installed at vehicle wash down locations and originating from activities located on ML90045 and ML90058;

(e) work shop wash down waters which have passed through the relevant pollution control equipment installed at the relevant workshop locations and originating from activities located on ML90045 and ML90058;

(f) regulated wastes generated at the Port Site de-watering facility including activated carbon, filter cloths, and contaminated materials and soils;

(g) sludges from vehicle wash down areas originating from activities located on ML90045 and ML90058;

(h) neutralised laboratory waste originating from activities located on ML90045 and ML90058;

(i) concentrate spillage and associated regulated wastes originating from activities located on ML90045 and ML90058, the pipeline to Karumba or the Karumba de-watering facility;

(j) tailings from the mineral processing of the bulk sample of up to 500,000 tonnes of ore originating from bulk sample activities conducted at the Dugald River Mine;

(k) Any other waste for which written agreement for disposal has been obtained from the administering authority.

G10 Where regulated waste is removed from the site (other than by a release as permitted under another schedule of this environmental authority), records must be kept of the following:

(a) the date, quantity and type of waste removed, and

(b) name of the waste transporter that removed the waste; and

(c) 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 (Waste Management) Regulation 2000* or any other law for regulated waste will be deemed to satisfy this condition.

G11 Unless otherwise in accordance with environmental authority conditions, all off-site movement of regulated wastes must be conducted by a licensed regulated waste transporter.

Waste Rock Management

G12 The holder must develop, implement and submit to the administering authority a waste rock management plan. The holder must update the plan when any change to waste rock disposal is proposed and resubmit the plan on revision or on request of the administering authority.

G13 Waste rock disposal must not occur on the site unless the holder has submitted to the administering authority a waste rock and spoil management plan, together with the certification by an appropriately qualified person that the plan has addressed the requirements of this environmental authority in accordance with best practice environmental management.

G14 The waste rock management plan must include where relevant, at least:

(a) characterisation of the waste rock and spoil to predict the quality of runoff and seepage generated, including salinity, acidity, alkalinity, dissolved metals, metalloids and non-metallic inorganic substances;

(b) a program of progressive sampling program to validate pre-mine waste rock and spoil characterisation. The waste rock sampling program must include validation of salinity, acid and alkali producing potential and metal concentrations including arsenic, cadmium, copper, chromium, lead, manganese, nickel, selenium and zinc;

(c) where the acid rock drainage potential / neutral mine drainage potential of waste rock material has not been conclusively determined, geochemical kinetic testing must be conducted to indicate oxidation rates, potential reaction products and effectiveness of control strategies;

(d) records must be maintained of all waste rock characterisation and disposal including contingency planning for the management of acid rock / neutral mine drainage;

(e) a materials balance and disposal plan demonstrating how potentially acid forming and acid forming waste rock will be selectively placed and/or encapsulated to minimise the generation of acid mine drainage;

(f) a materials balance and disposal plan demonstrating how waste rock that has a potential to generate neutral and/or saline mine drainage will be selectively placed and managed to minimise the generation of neutral and/or saline mine drainage;

(g) a sampling program to verify encapsulation and/or placement of potentially acid forming / acid forming waste rock ./ waste rock that has a potential to generate neutral mine drainage;

(h) how often the performance of the plan will be assessed;

(i) a rehabilitation strategy which meets the rehabilitation objectives specified in Schedule H; and

(j) monitoring or rehabilitation, research and/or trials to verify the requirements and methods for decommissioning and final rehabilitation of the placed materials, including the prevention and management of acid mine drainage, erosion minimisation and establishment of vegetation cover.

G15 Any seepage from waste rock dumps must be captured and must not be released except in accordance with the conditions of this environmental authority.

END OF CONDITIONS FOR SCHEDULE G

Schedule H - Land

Rehabilitation landform criteria

H1 On application of surrender or partial surrender of the environmental authority all areas significantly disturbed by mining activities must be rehabilitated to a stable landform with a self-sustaining vegetation cover in accordance with Schedule H - Table 1 (Final land use and rehabilitation approval schedule) and other tables.

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

	Disturbance type					
	Residual Void(s)[1]	**Tailings Storage Facility[2]**	**Waste Rock Final Landforms[3]**	**Fixed Plant & Infrastructure[4]**	**Mine Water Management Structures[5]**	**Access Roads & Aerodrome[6]**
Disturbance area (ha)	306.3	1000	1500	200	70	160
Post mine land description	Steep sheer rock faces with narrow benches as well as more moderate slopes	Native ecosystem analogue, not suitable for cattle grazing.	Native ecosystem, analogue not suitable for cattle grazing.	Native ecosystem, suitable for low intensity cattle grazing.	Native ecosystem, suitable for low intensity cattle grazing.	Native ecosystem, suitable for low intensity cattle grazing.
Post mine land capability classification	5	5	5	3, 4, 5	3, 4, 5	3, 4, 5
Slope Range (%)	0-Vertical	0-60%	0-60%	0-40%	0-40%	0-40%

Notes:

1. Includes the combined Century Pit and East Fault Pit areas and the Silver King Pit area.
2. Includes placed tailings and containment embankments; lead storage dams ; evaporation dam impoundment; and clean water diversion structures.
3. Includes: southern, western; northern and short haul waste rock dumps
4. Includes: concentrator; workshops; warehouses; fuel storage facilities; mine administration; accommodation village and site services areas; Concentrate Pond.
5. Includes: sediment dams 1, 2, 3, 5, 6, 8, 9, 10, 11; 12 and Page creek stream diversion
6. Includes: access roads and tracks; aerodrome and borrow pits.

H2 Progressive rehabilitation must be conducted in accordance with the most recent version of Guideline 18, as produced from time to time by the administering authority.

H3 The environmental authority holder must submit sustainability success and criteria for rehabilitation by 31 October 2008.

H4 Progressive rehabilitation must commence when areas become available within the operational

land.

Residual void outcome

H5 Residual voids must comply with the following outcomes:

(a) 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; and

(b) residual voids must comply with Schedule H - Table 2.

Schedule H - Table 2 (Residual void design)

Void Identification	Void wall - competent rock max slope (%)	Void wall - incompetent rock max slope (%)	Void maximum surface area (ha)
Pit	58%	48%	306.3

Storage and handling of dangerous goods

H6 All explosive, corrosive, toxic or otherwise hazardous substances (solids, liquids or gases) including classified dangerous goods must be stored and handled in accordance with the relevant Australian Standard where such a standard is available and the manufacturer's recommendations for storage and handling.

H7 All containment systems for chemicals and flammable or combustible liquids must be designed to minimise rainfall collection within the system.

H8 Spillage of any contaminant must be contained and rectified to prevent environmental harm.

Acid Rock Drainage Management

H9 Subject to the release 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 or watercourse.

Infrastructure

H10 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 land owner / holder.

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

Century Open-cut Pit

H11 Contaminants located within the pit void must not be released to waters.

H12 The water level in the Open-cut Pit must be monitored monthly and identified water levels are to be documented in the Annual Monitoring Report, required under condition A16.

H13 The water level within the pit must not at any time exceed 1105mRL.

END OF CONDITIONS FOR SCHEDULE H

Schedule I - 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.

"acid rock drainage" means any contaminated discharge emanating from a mining activity formed through a series of chemical and biological reactions, when geological strata is disturbed and exposed to oxygen and moisture as a result of mining activities.

"AEP" means the Annual Exceedance Probability, which is the probability that at least one event in excess of a particular magnitude will occur in any given year.

"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.

"ANZECC 2000" means *Australian and New Zealand Conservation Council Water Quality and Monitoring Guidelines*, 2000.

"appropriately qualified person" means a person who has professional qualifications, training, skills or experience relevant to the nominated subject matter and can give authoritative assessment, advice and analysis on performance relating to the subject matter using the relevant protocols, standards, methods or literature.

"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.

"certification", "certifying" or **"certified"** by a suitably qualified and experienced person in relation to a design plan or an annual report regarding dams, means that a statutory declaration has been made by that person and, when taken together with any attached or appended documents referenced in that declaration, all of the following aspects are addressed and are sufficient to allow an independent audit at any time:

a) exactly what is being certified and the precise nature of that certification;

b) the relevant legislative, regulatory and technical criteria on which the certification has been based;

c) the relevant data and facts on which the certification has been based, the source of that material, and the efforts made to obtain all relevant data and facts; and

d) the reasoning on which the certification has been based using the relevant data and facts, and the relevant criteria.

"CFU" means colony forming units

"chemical" means:

a) an agricultural chemical product or veterinary chemical product within the meaning of the *Agricultural and Veterinary Chemicals Code Act 1994* (Commonwealth); or

b) a dangerous good under the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG Code); or

c) a lead substance with the meaning in the *Work Health and Safety Regulation 2011*; or

d) a drug or poison in the Standard for the Uniform Scheduling of Drugs and Poisons prepared by the Australian Health Ministers' Advisory Council and published by the Commonwealth; or

(i) any substance used as, or intended for use as:

i. a pesticide, insecticide, fungicide, herbicide, rodenticide, nematocide, miticide, fumigant or related product; or

ii. a surface active agent, including, for example, soap or related detergent; or

iii. a paint solvent, pigment, dye, printing ink, industrial polish, adhesive, sealant, food additive, bleach, sanitiser, disinfectant, or biocide; or

iv. a fertiliser for agricultural, horticultural or garden use; or

(ii) a substance used for, or intended for use for:

i. mineral processing or treatment of metal, pulp and paper, textile, timber, water or wastewater; or

ii. manufacture of plastic or synthetic rubber.

"construction" or **"constructed"** in relation to a dam includes building a new dam and modifying or lifting an existing dam, but does not include investigations and testing necessary for purposes of preparing a design plan.

"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.

"contaminated" means the substance has come into contact with a contaminant.

"contaminant" A contaminant can be:

a) a gas, liquid or solid; or

b) an odour; or

c) an organism (whether alive or dead), including a virus; or

d) energy, including noise, heat, radioactivity and electromagnetic radiation; or

e) a combination of contaminants.

"control measure" means any action or activity that can be used to prevent or eliminate a hazard or reduce it to an acceptable level.

"dam" means a land-based structure or a void that is designed to contain, divert or control flowable substances, and includes any substances that are thereby contained, diverted or controlled by that land-based structure or void and associated works. A dam does *not* mean a fabricated or manufactured tank or container, designed and constructed to an Australian Standard that deals with strength and structural integrity of that tank or container.

"design storage allowance" or **"DSA"** means an available volume, estimated in accordance with the "Queensland Mines and Energy, Technical Guidelines for Site Water Management, 1995" published by the administering authority, that must be provided in a dam as at the first of November each year in order to prevent a discharge from that dam to an annual exceedance probability (AEP) specified in table 5 of that Manual.

"effluent" treated wastewater discharged from sewage treatment plants.

"emergency event" means in the context of this environmental authority is an unexpected situation which will disrupt production and where environmental harm has the potential to occur if alternate actions are not taken (eg. mechanical failure of a component of the monohydrate gypsum conveyance system).

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

"environmentally relevant activity" means an environmentally relevant activity as defined under Section 18 of the *Environmental Protection Act 1994* and listed under Schedule 2 of the *Environmental Protection Regulation 2008.*

"GL" means gigalitres.

"hazard" in relation to a dam as defined, means the potential for environmental harm resulting from the collapse or failure of the dam to perform its primary purpose of containing, diverting or controlling flowable substances.

"hazard category" means a category, either low significant or high, into which a dam is assessed as a result of the application of tables and other criteria in the "Queensland Mines and Energy, Technical Guidelines for Site Water Management, 1995" published by the administering authority.

"$L_{A\ 10,\ adj,\ 10\ mins}$" 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 use" term to describe the selected post mining use of the land, which is planned to occur after the cessation of mining operations.

"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 exceedance probability).

"m" means metres

"mg/kg" means milligrams per kilogram.

"mg/L" means milligrams per litre.

"mm" means millimetres.

"µS/cm" means microsiemens per centimetre.

"mine affected water" means the following types of water:

i) any water captured within the surface water containment areas;

ii) pit water, tailings dam water, processing plant water;

iii) water contaminated by a mining activity which would have been an environmentally relevant activity under Schedule 2 of the *Environmental Protection Regulation 2008* if it had not formed part of the mining activity;

iv) rainfall runoff which has been in contact with any areas disturbed by mining activities which have not yet been successfully rehabilitated, excluding rainfall runoff discharging through release points associated

with erosion and sediment control structures that have been installed in accordance with the standards and requirements of an Erosion and Sediment Control Plan to manage runoff containing sediment only, provided that this water has not been mixed with waters captured within the surface water containment areas, pit water, tailings dam water, processing plant water or workshop water;

v) groundwater which has been in contact with any areas disturbed by mining activities which have not yet been rehabilitated;

vi) groundwater from the mine's dewatering activities;

vii) a mix of mine affected water (under any of paragraphs i)-vi) and other water.

"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}).

"process water" means water used or produced during the mining activities.

"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.

"QWQG" means *Queensland Water Quality Guidelines,* 2009.

"reference site" (or analogue site in relation to rehabilitation requirements) may reflect the original location, adjacent area or another area where rehabilitation success has been completed for a similar biodiversity.

"regulated structure" means any dam/structure in the significant or high hazard category as assessed using the "Queensland Mines and Energy, Technical Guidelines for Site Water Management, 1995" published by the administering authority.

"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.

"RL(m)" means reduced level in metres.

"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 administering authority 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 administering authority;
- 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 geotechnical stability of the rehabilitated landform where instability related to the excessive settlement and subsidence caused by consolidation / settlement of the wastes deposited, and sliding / slumping instability has ceased.

"suitably qualified and experienced person" in relation to dams means a person who is a Registered Professional Engineer of Queensland (RPEQ) under the provisions of the *Professional Engineers Act 2002*, or at the relevant time holds a 'deemed registration' within the meaning of the *Mutual Recognition (Queensland) Act 1992*; and has knowledge, suitable experience and demonstrated expertise in relevant fields, as set out below:

(a) knowledge of engineering principles related to the structures, geomechanics, hydrology, hydraulics, chemistry and environmental impact of dams; and
(b) a total of five years of demonstrated expertise in the geomechanics of dams with particular emphasis on stability, geology and geochemistry, and
(c) a total of five years of demonstrated expertise in three of the following categories:

- investigation and design of dams.
- construction, operation and maintenance of dams.
- 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.
- dam safety.

"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.

"wastewater" means used water from the activity, process water or contaminated storm water.

"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 all or any part of a river, stream, lake, lagoon, pond, swamp, wetland, unconfined surface water, unconfined water in natural or artificial watercourses, bed and banks of a watercourse, dams, non-tidal or tidal waters (including the sea), stormwater channel, stormwater drain, roadside gutter, stormwater run-off, and groundwater.

"water quality" means the chemical, physical and biological condition of water.

END OF CONDITIONS

Schedule J - Figures

Figure 1 (Contaminant release points)

Figure 2 (Receiving waters monitoring points and reference sites)

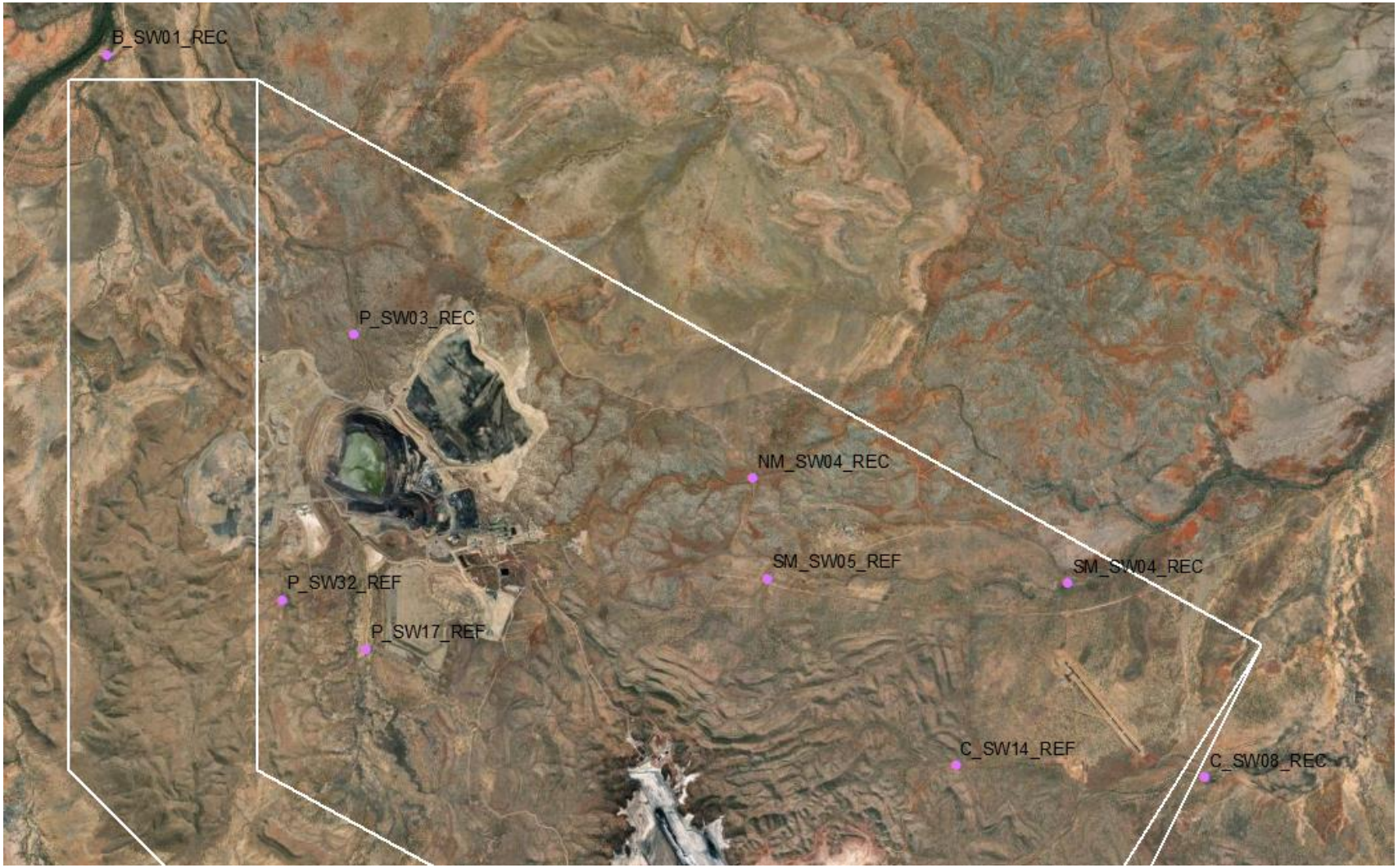


Figure 3 (TSF Containment Area)

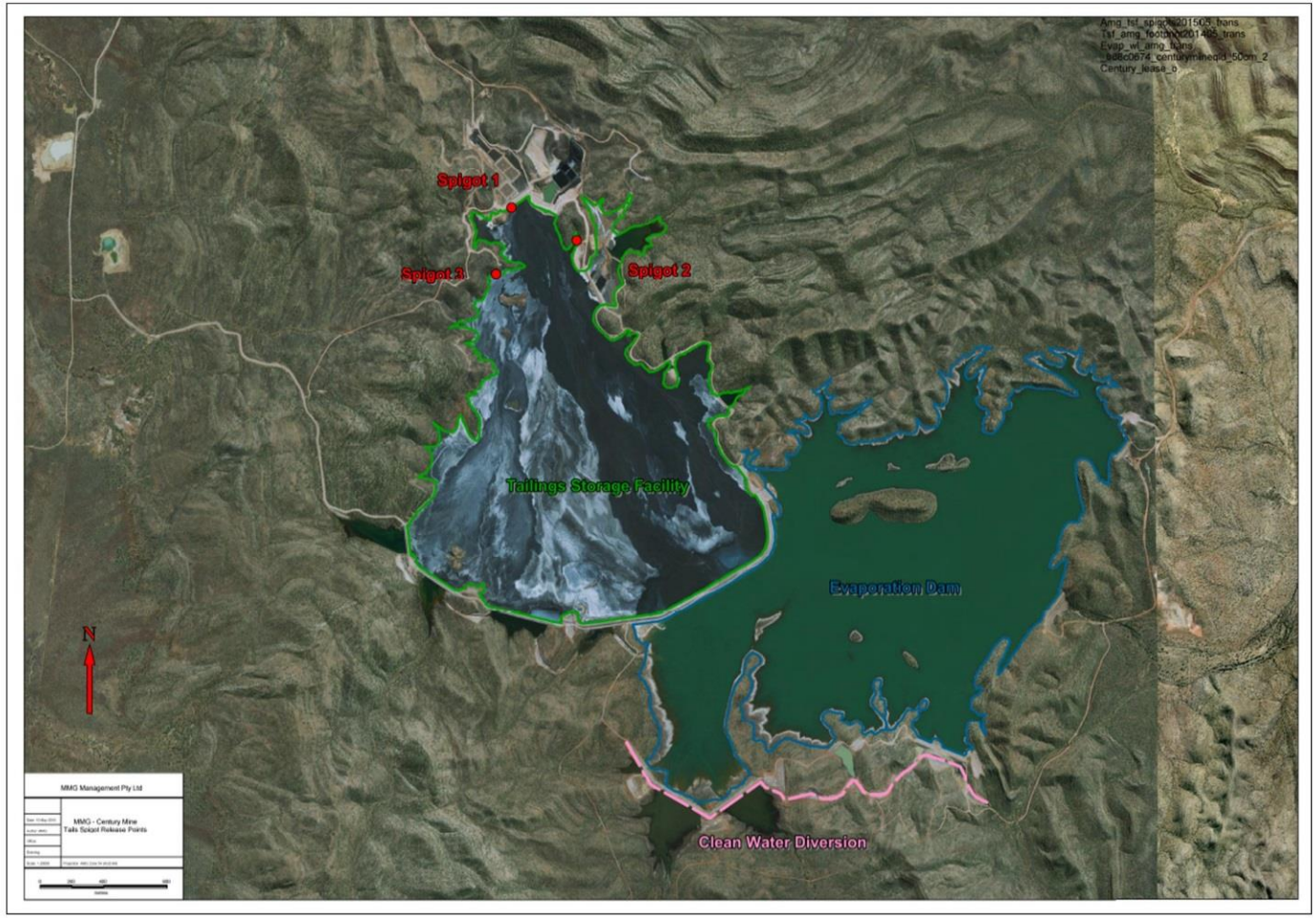


Figure 4 (Groundwater monitoring points)

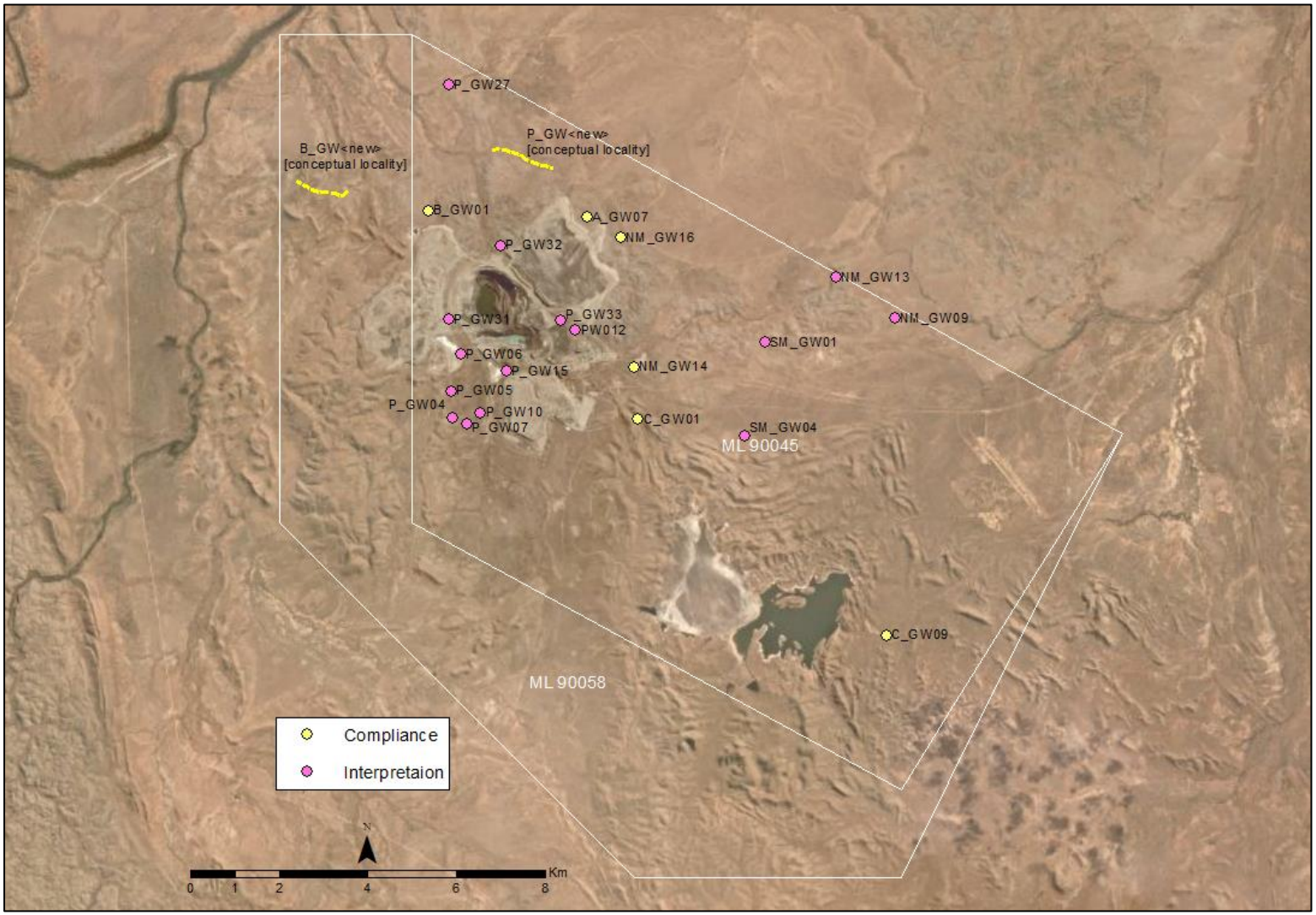


Figure 5 (Regulated waste landfill site)

Figure 6 (Land Disturbance Type)

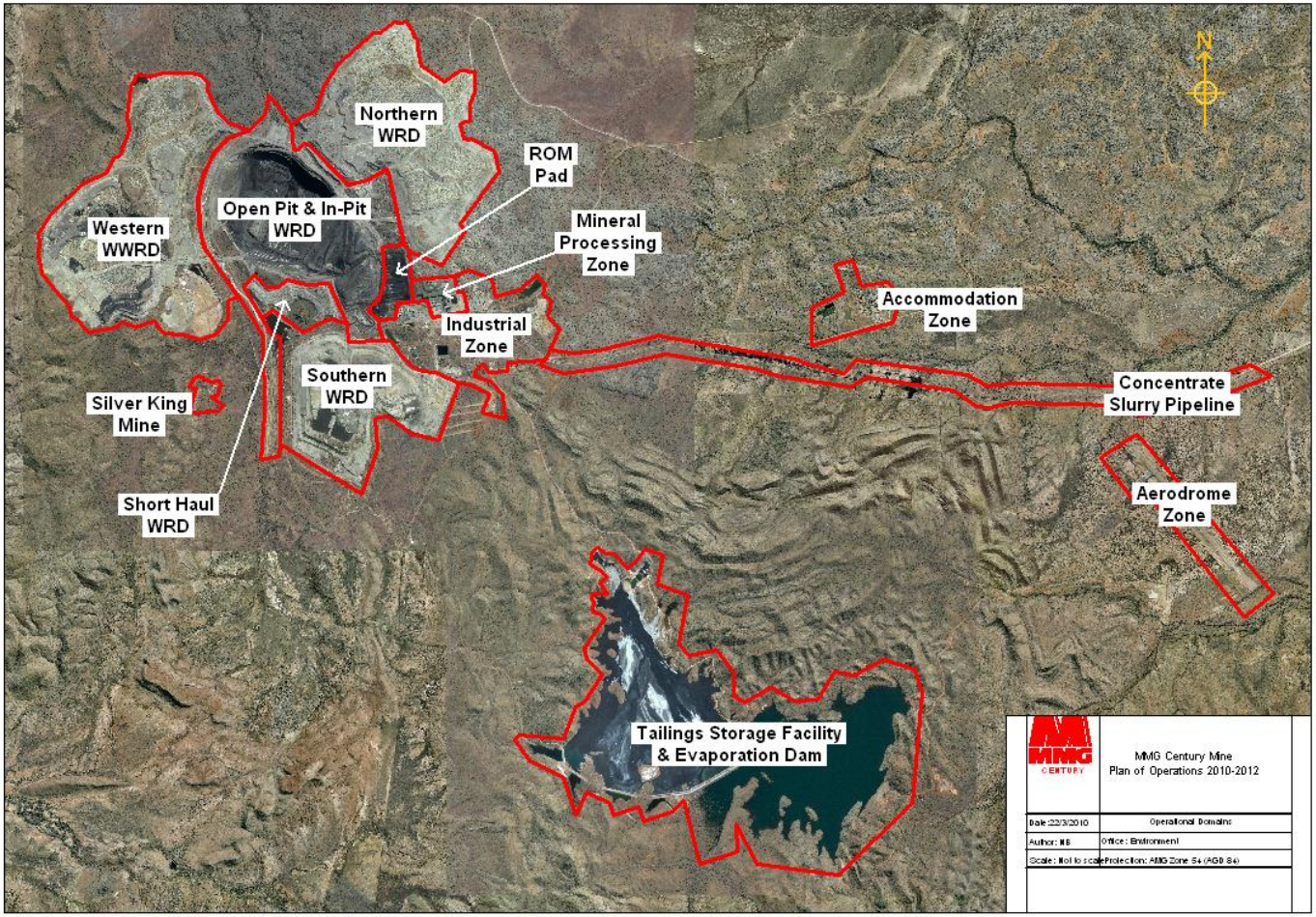
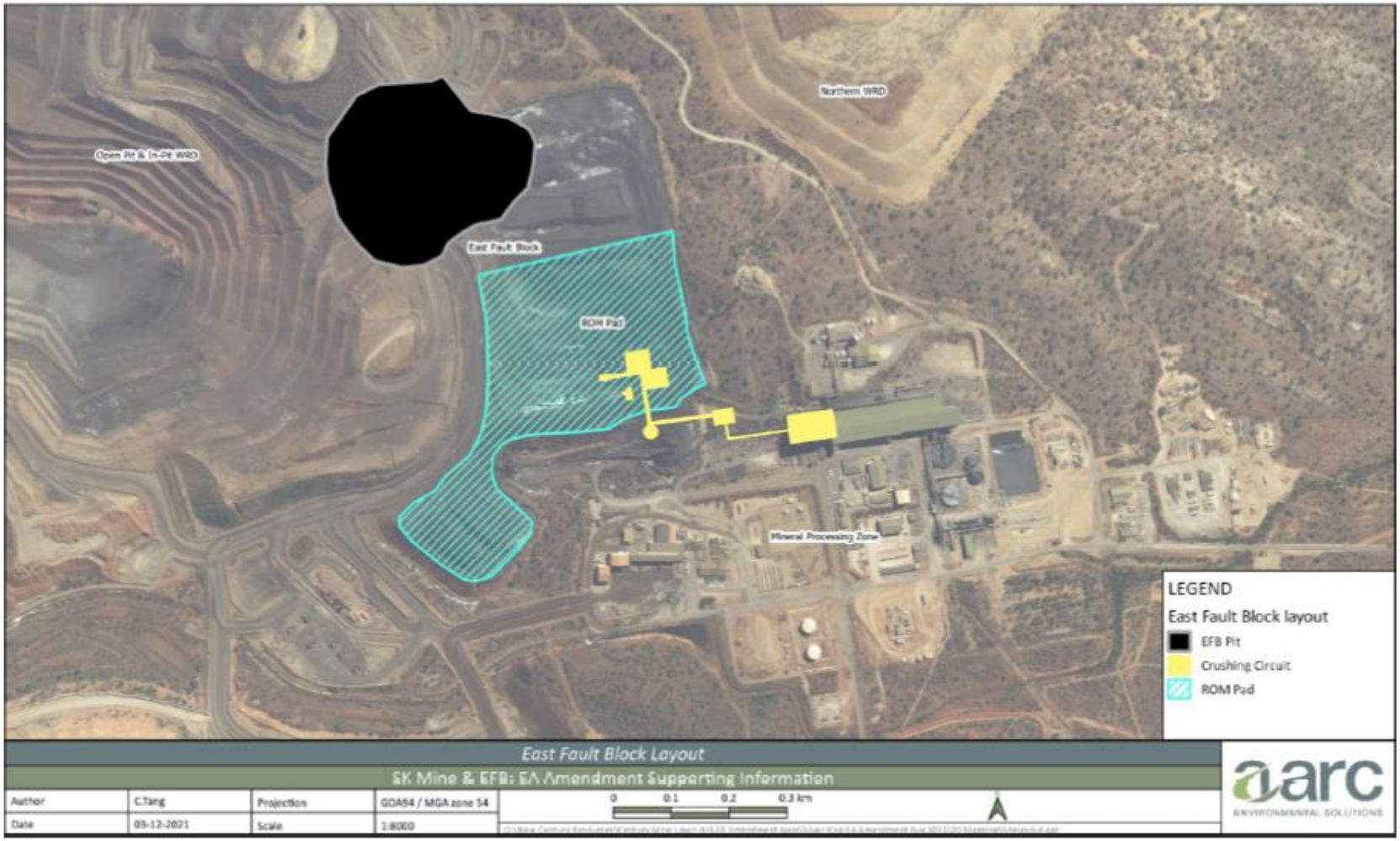


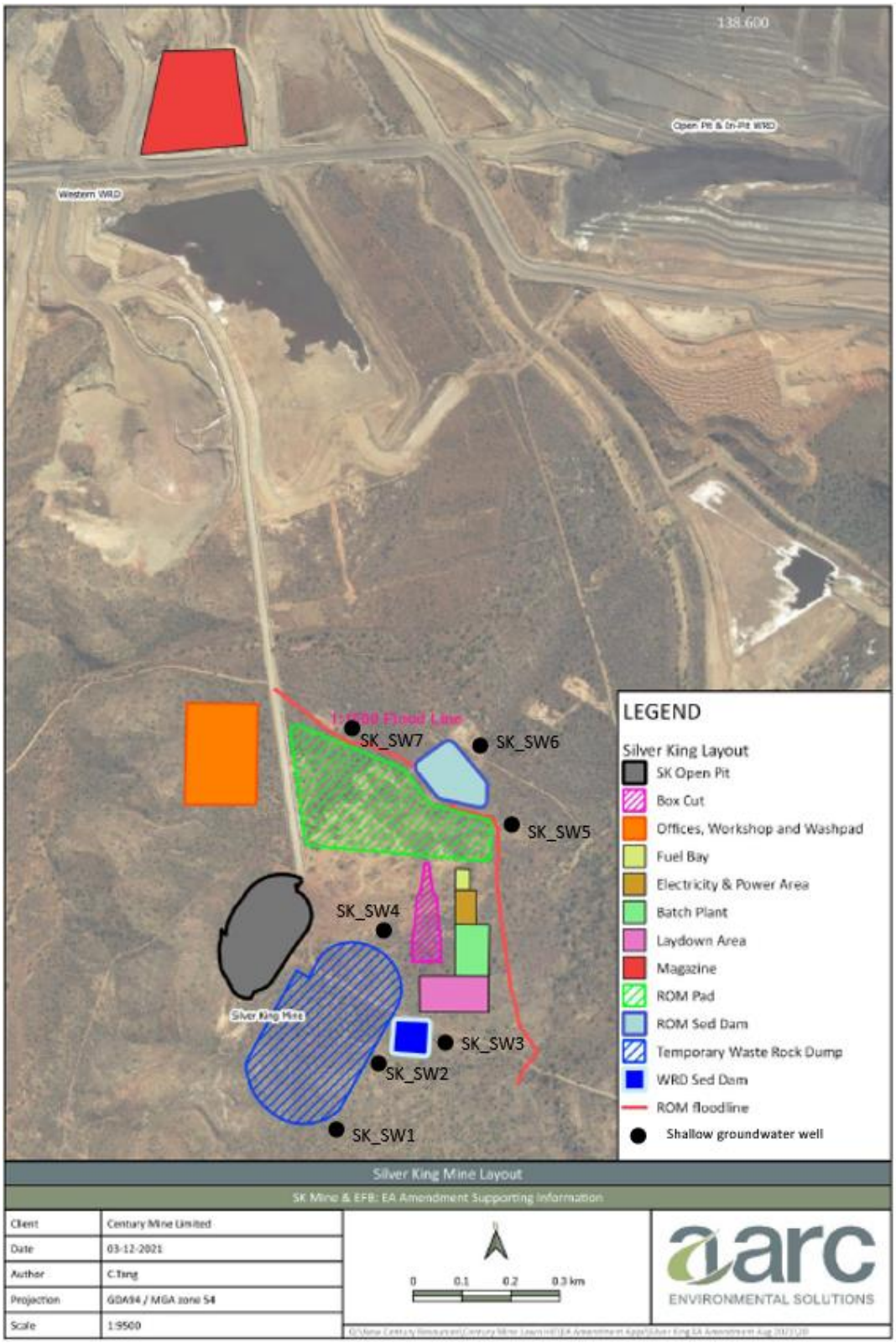
Figure 7: Century Pit

Figure 8: East Fault Block (EFB) Project Layout



Source: ARC Solutions (2021) report '*Silver King Mine and East Fault Block Environmental Authority Amendment – Supporting Information*' (07/12/2021)

Figure 9: Silver King (SK) Project Layout and Shallow groundwater monitoring wells



Source: ARC Solutions (2021) report '*Silver King Mine and East Fault Block Environmental Authority Amendment – Supporting Information*' (07/12/2021); Shallow groundwater well locations added

END OF ENVIRONMENTAL AUTHORITY

ABN 46 640 294 485