

Permit

Environmental Protection Act 1994

Environmental authority EPML00579213

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

Environmental authority number: EPML00579213

Environmental authority takes effect on 13 April 2022.

Environmental authority holder(s)

Name(s)	Registered address
PEABODY COPPABELLA PTY LTD	Level 5 100 Melbourne Street SOUTH BRISBANE QLD 4101
CITIC AUSTRALIA COPPABELLA PTY LTD	Level 7, CITIC House 99 King Street MELBOURNE VIC 3000
WINCHESTER COAL OPERATIONS PTY LTD	Commonwealth Bank Building Level 25 240 Queen St BRISBANE CITY QLD 4000
KC RESOURCES PTY. LTD.	Suite 3B Level 33 52 Martin Place SYDNEY NSW 2000
NS COAL PTY LTD	Level 2, Navision House 10 Market Street BRISBANE CITY QLD 4000

Environmentally relevant activity and location details

Environmentally relevant activity/activities	Location(s)
Schedule 3 - 13 - Mining black coal	ML70161, ML70163, ML70164, ML70236 ML70237, PL1015
Schedule 3 - 08 - A petroleum or GHG storage activity, other than items 1 to 7, that includes an activity from Schedule 2 with an AES	ML70161, ML70163, ML70164, ML70236 ML70237, PL1015

Ancillary 31 - Mineral processing - 2(b) - Processing, in a year, the following quantities of mineral products, other than coke - more than 100,000t	ML70161, ML70163, ML70164, ML70236 ML70237, PL1015
Ancillary 33 - Crushing, milling, grinding or screening - Crushing, grinding, milling or screening more than 5000t of material in a year	ML70161, ML70163, ML70164, ML70236 ML70237, PL1015
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	ML70161, ML70163, ML70164, ML70236 ML70237, PL1015

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. An annual return will be due each year on 01 April.

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.

Juliana McCosker
Department of Environment and Science
Delegate of the administering authority
Environmental Protection Act 1994

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Issue date: 13 April 2022

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 to 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)

Conditions of environmental authority

General	
Condition Number	Condition
A1	Maintenance of measures, plant and equipment The holder must: 1. Install all measures, plant and equipment necessary to ensure compliance with the conditions of this environmental authority; and 2. Maintain such measures, plant and equipment in a proper conditions; and 3. Operate such measures, plant and equipment in a proper manner.
A2	Spillage of all flammable and combustible liquids must be contained within an on- site containment system and controlled in a manner that prevents environmental harm (other than trivial harm) and maintained in accordance with Section 5.9 of AS 1940 - Storage and Handling of Flammable and Combustible Liquids.
A3	Monitoring and recording Record, compile and keep for a minimum of five (5) 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.
A4	Where monitoring is a requirement of this environmental authority, ensure that a competent person(s) conducts all monitoring.
A5	All complaints received must be recorded including details of complainant, reasons for the complaint, investigations undertaken, conclusions formed and actions taken; This information must be made available for inspection by the administering authority on request.
A6	Definitions Words and phrases used throughout this environmental authority are defined in the definitions section at the end of this document. 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 Policy must be used.

Air	
Condition Number	Condition
B1	Dust nuisance 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 or commercial place.
B2	If monitoring indicates exceedance of the relevant limits in condition B3, then the environmental authority holder must: 1. address the complaint including the use of appropriate dispute resolution if required; and 2. immediately implement dust abatement measures so that emissions of dust from the activity do not result in further environmental nuisance.
B3	If the environmental authority holder can provide evidence through monitoring that the following limits are not being exceeded then the holder is not in breach of B1: 1. dust deposition of 120 milligrams per square metre per day, averaged over one month, when monitored in accordance with AS 3580.10.1 Methods for sampling and analysis of ambient air - Determination of particulates - Deposited matter - Gravimetric method of 1991 (or more recent editions), or 2. a concentration of particulate matter with an aerodynamic diameter of less than 10 micrometre (µm) (PM10) suspended in the atmosphere of 50 micrograms per cubic metre over a 24 hour averaging time, at a sensitive or commercial place downwind of the operational land, when monitored in accordance with: a) 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 more recent editions), and b) b. 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, then the environmental authority holder must: 1. address the complaint including the use of appropriate dispute resolution if required; and 2. immediately implement dust abatement measures so that emissions of dust from the activity do not result in further environmental nuisance.
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Land	
Condition Number	Condition
C1	Rehabilitation landform criteria All areas significantly disturbed by mining activities must be progressively rehabilitated to the final land description as defined in Table C1 - Final land use and rehabilitation approval schedule.
C2	Progressive rehabilitation must commence when areas become available within the operational land.
C3	Areas which are to be progressively rehabilitated to native ecosystem must comply with the following outcomes: 1. achievement of a self-sustaining native ecosystem with a species composition and distribution consisting of at least three Acacia species, one Eucalypt species and either a Melaleuca or Grevillea species as an upper story and three understorey species. An exotic groundcover initially established to control erosion will be replaced gradually in a plant succession with either native or naturalised species. Projective vegetative cover will be seventy percent (70%). 2. all areas significantly disturbed by mining activities must be rehabilitated to the landform design criteria defined in Table C2 - Landform design; and 3. landforms are stable and comply with the design criteria defined in Table C2 - Landform design.
C4	Residual Voids Residual voids must comply with the following outcomes: 1. residual voids must not cause any serious environmental harm to land, surface waters or any recognised ground water 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 2. residual voids must comply with Table C3 - Residual void design.

C5	Manage topsoil in accordance with site specific procedures and management plans.
C6	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 and the administering authority.
C7	Procedures for managing emergency spills and uncontrolled discharge events must be detailed in the Plan of Operations.
C8	The environmental authority holder is authorised to carry out exploration activities in or within five hundred (500) metres of Endangered Regional Ecosystems located within ML70164, ML70236 & ML70237.

Table C1 - Final land use and rehabilitation approval schedule

Disturbance type	Projective surface area (ha)	Post-mine land description	Post mine land suitability classification
Elevated landform (overburden) - upper slopes	700	Establish a landform and revegetate with native species with input from Aboriginal people, the objective being to develop a conservation area useful to Aboriginal people.	Class 4
- lower slopes	840	Establish pasture species to control erosion initially and thereafter develop a self-sustaining native ecosystem.	Class 5
- access tracks and haul roads	250	Establish a landform and revegetate with native species with input from Aboriginal people, the objective being to develop a conservation area useful to Aboriginal people.	Class 4
Elevated landform (co-disposal) - upper surface	150	Establish a landform and revegetate with native species with input from Aboriginal people, the objective being to develop a conservation area useful to Aboriginal people.	Class 4
- slopes	70	Establish pasture species to control erosion initially and thereafter develop a self-sustaining native ecosystem.	Class 5
Residual Voids	80	Water filled voids complementary to the post-mine land use of the surround land.	Class 5
Rail Loop	30	Establish a landform and revegetate with native species with input from Aboriginal people, the objective being to develop a conservation area useful to Aboriginal people.	Class 4
CHPP General Area	150	Establish a landform and revegetate with native species with input from Aboriginal people. the objective being to develop a conservation area useful to Aboriginal people.	Class 4
Water Management Structures	120	Establish a landform and revegetate with native species with input from Aboriginal people, the objective being to develop a conservation area useful to Aboriginal people.	Class 4
Undisturbed	1753		
Total	4143		

Table C2 - Landform design

Slope range (%)	Maximum Vertical Height (metres)	Maximum distance between erosion control structures e.g. benches, contour banks or graded banks (metres)
1V:7H (approx. 14%)	70 (Johnston Pit North Dump, South Pit Dump and East Pit South Dump only)	75
	50 – all other areas	

Table C3 - Residual void design

Void Identification	Void wall - competent rock slope highwall (%)	Void wall – low wall	Void maximum surface area (ha)
Creek Pit	10V:1H	Between 1V:3H – 1V:4H	20
Johnson Pit	10V:1H	Between 1V:3H – 1V:4H	30
South Pit	10V:1H	Between 1V:3H – 1V:4H	20
East Pit	10V:1H	Between 1V:3H – 1V:4H	10

C9	When carrying out exploration activities in or within five hundred (500) metres of any Endangered Regional Ecosystems, the holder of the environmental authority must do so in accordance with conditions C10 to C14 .
C10	Drilling or Seismic Grid - spacing of gridlines or 2D seismic lines is not less than five hundred (500) metres apart; and - spacings may be reduced to two hundred and fifty (250) metres at no more than fifty (50) specified points; and 3D seismic lines constructed within Endangered Regional Ecosystems must not exceed a total disturbance area of twenty (20) hectares.
C11	Drill Sites - operational area is to be no greater than five hundred (500) square metres; and - sump size is to be no greater than ten (10) square metres; and - topsoil stripping must be limited to sump area; and - clearing of mature trees must be avoided as far as practicable.
C12	Tracks - spacings between tracks must not be less than two hundred and fifty (250) metres; and - existing access and fence line tracks must be used where possible and any new tracks constructed must link natural clearings where possible; and - track construction involving blade clearing or established ground cover vegetation and/or clearing of mature trees is prevented or minimised; and - line of site clearing must be avoided; and - construction of new crossings over watercourses must be avoided and is only permitted when no reasonable alternative is available; and - all tracks must be constructed and maintained with adequate drainage to avoid accelerated erosion.
C13	Other Land Disturbances - activities must not include costeaning or bulk sampling; and - all equipment such as earthmoving and drilling equipment must be used in a manner which minimises unnecessary disturbance of topsoil and ground cover vegetation; and - camp sites must not be established.

C14	Disturbance due to exploration activities must be rehabilitated in accordance with provisions detailed in the Code of Environmental Compliance for Exploration and Mineral Development Projects.
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Acoustic	
Condition Number	Condition
D1	Noise Subject to condition D2, noise from the mining activity must not cause an environmental nuisance, at any sensitive place.
D2	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 place, and the results must be notified within fourteen (14) days to the administering authority following completion of monitoring.
D3	If the environmental authority holder can provide evidence through monitoring that the limits defined in Table D1 – Noise Limits and Table D2 - Airblast Overpressure Level – Sensitive Place inclusive are not being exceeded then the holder is not in breach of condition D1. Monitoring must include: 1. L A, max adj, T; 2. The level and frequency of occurrence of impulsive or tonal noise; 3. Atmospheric conditions including wind speed and direction; and 4. Location, date and time of recording.
D4	If monitoring indicates exceedance of the limits in Table D1 – Noise Limits, then the environmental authority holder must: 1. Address the complaint including the use of appropriate dispute resolution if required; or 2. Immediately implement noise abatement measures so that emissions of noise from the activity do not result in further environmental nuisance.

Table D1 - 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'					
LA10, adj, 10 mins	b/g+5	b/g+5	b/g+0	b/g+5	b/g+5	b/g+0
LA1, adj, 10 mins	b/g+10	b/g+10	b/g+5	b/g+10	b/g+10	b/g+5

Table D2 - Airblast Overpressure Level - Sensitive Place

Noise parameter	Monday to Saturday	Sundays and public holidays
	6 am – 7 pm	9am – 7pm
	Noise measured at a 'Noise sensitive place'	
Air blast overpressure level (dB linear peak)	115dB (80 th percentile)	115dB (80 th percentile)
Air blast overpressure level (dB linear peak)	120dB (maximum)	120dB (maximum)

D6	Vibration Subject to condition D7 , vibration from the mining activity must not cause an environmental nuisance, at any sensitive place.
D7	When requested by the administering authority, vibration monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on any mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive place, and the results must be notified within fourteen (14) days to the administering authority following completion of monitoring.
D8	If the environmental authority holder can provide evidence through monitoring that the limits defined in Table D3 – Vibration limits are not being exceeded then the holder is not in breach of condition D6 . Monitoring must include: 1. Location of the blasts/s within the mining area (including which bench level); and 2. Atmospheric conditions including temperature, relative humidity and wind speed and direction; and 3. Location, date and time of recording.

D9	If monitoring indicates exceedance of the relevant limits in Table D3 – Vibration limits, then the environmental authority holder must: 1. Address the complaint including the use of appropriate dispute resolution if required; or 2. Immediately implement vibration abatement measures so that vibration from the activity does not result in further environmental nuisance
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Table D3 - Vibration limits

Vibration parameter	Vibration measured at a sensitive place	
	Monday to Saturday 6 am – 7 pm	Sundays and public holidays 9 am – 7 pm
Houses and low rise residential buildings and commercial building not included below	10 mm/s peak particle velocity	10 mm/s peak particle velocity

Waste	
Condition Number	Condition Number
E1	Tyres Tyres stored awaiting disposal or transport for take-back and, recycling, or waste-to-energy options - should be stockpiled: 1. in volumes less than 5m in height and 200 square metres in area; and 2. in a manner that: a) allows onsite firefighting equipment to be used safely and reaching all extents of the tyre stockpile; and b) prevents water retention and minimises mosquito breeding events.
E2	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.

E3	Scrap tyres resulting from the mining activities disposed within the operations land must not impede saturate aquifers or compromise the stability of the consolidated landform.
E4	Waste Management Program A waste management program, including details of regulated waste, must be developed and implemented. The waste management program must at a minimum include the following: 1. types and amounts of waste generated; and 2. description of how the types of waste generated will be dealt with under the waste management hierarchy; and 3. procedures for identifying and implementing opportunities to minimise the amount of waste generated and improve practices employed; and 4. procedures for dealing with accidents, spills and incidents that may impact on waste management; and 5. location of disposal of wastes; and 6. staff training on matters relevant to waste management; and 7. mechanisms and dates for review of the waste management program.

Regulated Structures	
Condition Number	Condition
F1	Assessment of consequence category The consequence category of any structure must be assessed by a suitably qualified and experienced person in accordance with the Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (ESR/2016/1933) at the following times: 1. prior to the design and construction of the structure, if it is not an existing structure; or 2. prior to any change in its purpose or the nature of its stored contents.
F2	A consequence assessment report and certification must be prepared for each structure assessed and the report may include a consequence assessment for more than one structure.

F3	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 Consequence Categories and Hydraulic Performance of Structures (ESR/2016/1933).
F4	Design and construction of a regulated structure Conditions F5 to F9 inclusive do not apply to existing structures.
F5	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 Consequence Categories and Hydraulic Performance of Structures (ESR/2016/1933).
F6	Construction of a regulated structure is prohibited unless the holder has submitted a consequence category assessment report and certification to the administering authority has been certified by a suitably qualified and experienced person for the design and design plan and the associated operating procedures in compliance with the relevant condition of this authority.
F7	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 Consequence Categories and Hydraulic Performance of Structures (ESR/2016/1933), and must be recorded in the Regulated Dams/Levees register.
F8	Regulated structures must: 1. be designed and constructed in accordance with and conform, to the requirements of the Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (ESR/2016/1933); 2. Be designed and constructed with due consideration given to ensuring that the design integrity would not be compromised on account of; a) floodwaters from entering the regulated dam from any watercourse or drainage line; and b) wall failure due to erosion by floodwaters arising from any watercourse or drainage line 3. have the floor and sides of the dam designed and constructed to prevent or minimize the passage of the wetting front and any entrained contaminants though either the floor or sides of the dam during the operational life of the dam and for any period of decommissioning and rehabilitation of the dam.
F9	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: 1. the 'as constructed' drawings and specifications meet the original intent of the design plan for that regulated structure 2. construction of the regulated structure is in accordance with the design plan.

F10	Operation of a regulated structure Operation of a regulated structure, except for an existing structure, is prohibited unless the holder has submitted to the administering authority: 1. one paper copy and one electronic copy of the design plan and certification of the 'design plan' in accordance with F6, and 2. a set of 'as constructed' drawings and specifications, and 3. certification of those 'as constructed drawings and specifications' in accordance with F9, and 4. the requirements of this authority relating to the construction of the regulated structure have been met; 5. the holder has entered the details required under this authority, into a Register of Regulate Dams; and 6. there is a current operational plan for the regulated structures
F11	For existing structures that are regulated structures: 1. where the existing structure that is a regulated structure is to be managed as part of an integrated containment system for the purpose of sharing the DSA volume across the system, the holder must submit to the administering authority within 12 months of the commencement of this condition a copy of the certified system design plan including that structure; and 2. there must be a current operational plan for the existing structures.
F12	Each regulated structure must be maintained and operated, for the duration of its operational life until decommissioned and rehabilitated, in a manner that is consistent with the current operational plan and, if applicable, the current design plan and associated certified 'as constructed' drawings.
F13	Mandatory reporting level Conditions F14 to F17 inclusive only apply to Regulated Structures which have not been certified as low consequence category for 'failure to contain – overtopping'.
F14	The Mandatory Reporting Level (the MRL) must be marked on a regulated dam in such a way that during routine inspections of that dam, it is clearly observable.

F15	The holder 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 dam reaches the MRL.
F16	The holder must, immediately on becoming aware that the MRL has been reached, act to prevent the occurrence of any unauthorised discharge from the regulated dam.
F17	The holder must record any changes to the MRL in the Register of Regulated Structures.
F18	Design storage allowance The holder must assess the performance of each regulated dam or linked containment system over the preceding November to May period based on actual observations of the available storage in each regulated dam or linked containment system taken prior to 1 July of each year.
F19	By 1 November of each year, storage capacity must be available in each regulated dam (or network of linked containment systems with a shared DSA volume), to meet the Design Storage Allowance (DSA) volume for the dam (or network of linked containment systems).
F20	The holder must, as soon as possible and within forty-eight (48) hours of becoming aware that the regulated dam (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.
F21	The holder must, immediately on becoming aware that a regulated dam (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 dam or linked containment systems.
F22	Annual inspection report Each regulated structure must be inspected each calendar year by a suitably qualified and experienced person.
F23	At each annual inspection, the condition and adequacy of all components of the regulated structure must be assessed and 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.

F24	The suitably qualified and experienced person who prepared the annual inspection report must certify the report in accordance with the Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (ESR/2016/1933).
F25	The holder must: 1. within 20 business days of receipt of the annual inspection report, provide to the administering authority: a) the recommendations section of the annual inspection report; and b) if applicable, any actions being taken in response to those recommendations; and 2. if, following receipt of the recommendations and (if applicable) actions, the administering authority requests a full copy of the annual inspection report from the holder, provide this to the administering authority within 10 business days of receipt of the request.
F26	Transfer arrangements The holder must provide a copy of any reports, documentation and certifications prepared under this authority, including but not limited to any Register of Regulated Structures, consequence assessment, design plan and other supporting documentation, to a new holder on transfer of this authority.
F27	Decommissioning and rehabilitation Dams must not be abandoned but be either: 1. decommissioned and rehabilitated to achieve compliance with condition F28; or 2. be left in-situ for a beneficial use(s) provided that: a) it no longer contains contaminants that will migrate into the environment; and b) it contains water of a quality that is demonstrated to be suitable for its intended beneficial use(s); and c) the administering authority, the holder of the environmental authority and the landholder agree in writing that the dam will be used by the landholder following the cessation of the environmentally relevant activity(ies).

F28	After decommissioning, all significantly disturbed land caused by the carrying out of the environmentally relevant activity(ies) must be rehabilitated to meet the following final acceptance criteria: 1. the landform is safe for humans and fauna; 2. the landform is stable with no subsidence or erosion gullies for at least three (3) years 3. any contaminated land (e.g. contaminated soils) is remediated and rehabilitated 4. not allowing for acid mine drainage; or 5. there is no ongoing contamination to waters (including groundwater); 6. rehabilitation is undertaken in a manner such that any actual or potential acid sulfate soils on the area of significant disturbance are treated to prevent or minimize environmental harm in accordance with the Queensland Acid Sulfate Soil Technical Manual (Soil Management Guidelines v4.0)(2001) 7. all significantly disturbed land is reinstated to the pre-disturbed soil suitability class; 8. for land that is not being cultivated by the landholder: a) groundcover, that is not a declared pest species is established and self-sustaining b) vegetation of similar species richness and species diversity to pre-selected analogue sites is established and self-sustaining, and c) the maintenance requirements for rehabilitated land is no greater than that required for the land prior to its disturbance caused by carrying out the petroleum activities. 9. For land that is to be cultivated by the landholder, cover crop is revegetated, unless the landholder will be preparing the site for cropping within 3 months of petroleum activities being completed.
F29	Register of Regulated Dams A Register of Regulated Dams must be established and maintained by the holder for each regulated dam.
F30	The holder must provisionally enter the required information in the Register of Regulated Dams when a design plan for a regulated dam is submitted to the administering authority.

F31	The holder must make a final entry of the required information in the Register of Regulated Dams once compliance with condition F10 and F11 has been achieved.
F32	The holder must ensure that the information contained in the Register of Regulated Dams is current and complete on any given day.
F33	All entries in the Register of Regulated Dams must be approved by the chief executive officer for the holder of this authority, or their delegate, as being accurate and correct.
F34	The holder must, at the same time as providing the annual return, supply to the administering authority a copy of the records contained in the Register of Regulated Dams, in the electronic format required by the administering authority.
F35	Transitional arrangements All existing structures that have not been assessed in accordance with either the Manual or the former Manual for Assessing Hazard Categories and Hydraulic Performance of Dams must be assessed and certified in accordance with the Manual within 6 months of amendment of the authority adopting this schedule.
F36	All existing structures must subsequently comply with the timetable for any further assessments in accordance with the Manual specified in Table F1-Transitional requirements for existing structures , depending on the consequence category for each existing structure assessed in the most recent previous certification for that structure.
F37	Table F1-Transitional hydraulic performance requirements for existing structures ceases to apply for a structure once any of the following events has occurred: 1. it has been brought into compliance with the hydraulic performance criteria applicable to the structure under the Manual; or 2. it has been decommissioned; or 3. it has been certified as no longer being assessed as a regulated structure.
F38	Certification of the transitional assessment required by Conditions F35 and F36 (as applicable) must be provided to the administering authority within 6 months of amendment of the authority adopting this schedule.

Table F1 – Transitional hydraulic performance requirements for existing structures

Transition period required for existing structures to achieve the requirements of the Manual for Assessing Consequence Categories and Hydraulic Performance of Dams			
Compliance with criteria	High	Significant	Low
Greater than 90% and a history of good compliance performance in last 5 years	No transition required	No transition required	No transitional conditions apply. Review consequence assessment every 7 years.
Greater than 70% to less than/equal to 90%	Within 7 years, unless otherwise agreed with the administering authority, based on no history of unauthorised releases.	Within 10 years, unless otherwise agreed with the administering authority, based on no history of unauthorised releases.	No transitional conditions apply. Review consequence assessment every 7 years.
Greater than 50% to less than/equal to 70%	Within 5 years unless otherwise agreed with the administering authority, based on no history of unauthorised releases.	Within 7 years unless otherwise agreed with the administering authority, based on no history of unauthorised releases.	Review consequence assessment every 7 years.
Less than/equal to 50%	Within 5 years or as per compliance requirements (e.g. TEP timing)	Within 5 years or as per compliance requirements (e.g. TEP timing)	Review consequence assessment every 5 years.

Water	
Condition Number	Condition Number
G1	Contaminant Release Contaminants that will or have the potential to cause environmental harm must not be released directly or indirectly to any waters except as permitted under the conditions of this environmental authority.
G2	The release of contaminants to waters must only occur from the release points specified in Table G1 – Contaminant Release Points, Sources and Receiving Waters and depicted in Figure 1 attached to this environmental authority.
G3	The release of contaminants to waters must not exceed the release limits stated in Table G2 – Contaminant Release Limits when measured at the monitoring points specified in Table G1 – Contaminant Release Points, Sources and Receiving Waters for each quality characteristic.
G4	The release of contaminants to waters from the release points must be monitored at the locations specified in Table G1 - Contaminant Release Points, Sources and Receiving Waters for each quality characteristic and at the frequency specified in Table G2 - Contaminant Release Limits and Table G3 – Release Contaminant Trigger Investigation Levels.

Table G1 - Contaminant Release Points, Sources and Receiving Waters

Release Point (RP)	Northing (GDA94)	Easting (GDA94)	Contaminant Source and Location	Monitoring Point	Receiving waters description
RP 1	7581878	647146	Worked Water Dam Spillway or Pipe	Return Water Dam Gantry	30 Mile Creek
RP 2	7581766	646388	Return Water Dam Spillway or Pipe	Return Water Dam Gantry	30 Mile Creek

Table G2 - Contaminant Release Limits

Quality Characteristic	Interim Release Limits for all mines	Future Release Limits from 31 DEC 2011	Monitoring frequency	Comments
Electrical conductivity ($\mu\text{S}/\text{cm}$)	2500	Future limit to be determined to achieve aquatic ecosystem protection (no drinking water value); An end-of-pipe limit to achieve in the range 0 to 1000 EC in the receiving waters - for mines in the upper catchments must have natural flow i.e. the 20 th percentile flow trigger.	Daily during release	
pH (pH Unit)	6.5 (minimum) 9.0 (maximum)	6.5 (minimum) 9.0 (maximum)	Daily during release	
Turbidity (NTU)	NA*	Limit to be determined based on receiving water reference data and achievable best practice sedimentation control and treatment	Daily during release*	Turbidity is required to assess ecosystems impacts and can provide instantaneous results
Suspended Solids (mg/L)	5000	Limit to be determined based on receiving water reference data and achievable best practice sedimentation control and treatment	Daily during release*	Suspended solids are required to measure the performance of sediment and erosion control measures.
Sulphate (SO_4^{2-}) (mg/L)	1000	1000	Daily during release*	Drinking water environmental values from NHMRC 2006 guidelines OR ANZECC and ARMCANZ 2000 stock water quality guidelines.

Note: NA – not available, * local trigger values need to be developed; These future limits will apply from a yet to be negotiated date using alternative numbers that will be derived from the information gathered by any combination of the following: (1) the results of near field monitoring, (2) any studies or investigations carried out in accordance with recommendations 2 and 3 of the Cumulative Impact Study on water quality in the Fitzroy River Basin, (3) any review of the QLD Water Quality Guidelines, (4) other relevant information. This information should be available by the end of 2011 if not

before and when it becomes available limits will be determined for each mine site based on the environmental values to be protected and in accordance with criteria of Table G2.

Table G3 - Release Contaminant Trigger Investigation Levels

Quality Characteristic	Trigger Levels (□g/L)	Comment on Trigger Level	Monitoring Frequency
Aluminium	100	<i>For aquatic ecosystem protection, based on LOR for ICPMS</i>	Commencement of release and thereafter weekly during the release.
Arsenic	13	<i>For aquatic ecosystem protection, based on SMD guideline</i>	
Cadmium	0.2	<i>For aquatic ecosystem protection, based on SMD guideline</i>	
Chromium	1	<i>For aquatic ecosystem protection, based on SMD guideline</i>	
Copper	2	<i>For aquatic ecosystem protection, based on LOR for ICPMS</i>	
Iron	300	<i>For aquatic ecosystem protection, based on low reliability guideline</i>	
Lead	10	<i>For aquatic ecosystem protection, based on LOR for ICPMS</i>	
Mercury (inorganic)	0.2	<i>For aquatic ecosystem protection, based on LOR for CV FIMS</i>	
Nickel	11	<i>For aquatic ecosystem protection, based on SMD guideline</i>	
Zinc	8	<i>For aquatic ecosystem protection, based on SMD guideline</i>	
Boron	370	<i>For aquatic ecosystem protection, based on SMD guideline</i>	
Cobalt	90	<i>For aquatic ecosystem protection, based on low reliability guideline</i>	
Manganese	1900	<i>For aquatic ecosystem protection, based on SMD guideline</i>	
Molybdenum	34	<i>For aquatic ecosystem protection, based on low reliability guideline</i>	
Selenium	10	<i>For aquatic ecosystem protection, based on LOR for ICPMS</i>	
Silver	1	<i>For aquatic ecosystem protection, based on LOR for ICPMS</i>	
Uranium	1	<i>For aquatic ecosystem protection, based on LOR for ICPMS</i>	
Vanadium	10	<i>For aquatic ecosystem protection, based on LOR for ICPMS</i>	
Ammonia	1000	<i>For aquatic ecosystem protection, based on SMD guideline</i>	
Nitrate	1100	<i>For aquatic ecosystem protection, based on ambient Qld WQ Guidelines (2006) for TN</i>	
Petroleum hydrocarbons (C6-C9)	20		
Petroleum hydrocarbons (C10-C36)	100		
Fluoride (total)	2000	<i>Protection of livestock and short term irrigation guideline</i>	

Notes:

1. All metals and metalloids must be measured as total (unfiltered) and dissolved (filtered). Trigger levels for metal/metalloids apply if dissolved results exceed trigger.

2. The list of quality characteristics required to be monitored as per Table G3 will be reviewed once the results of the monitoring data is gathered for the interim period until 31 December 2011 or an earlier date if the data is, or becomes, available and if it is determined that there is no need to monitor for certain individual quality characteristics these can be removed from Table G3.
3. SMD – slightly moderately disturbed level of protection, guideline refers ANZECC and ARMCANZ (2000).
4. LOR – typical reporting for method stated. ICPMS/CV FIMS – analytical method required to achieve LOR

G5	If quality characteristics of the release exceed any of the trigger levels specified in Table G3 - Release Contaminant Trigger Investigation Levels during a release event, the environmental authority holder must compare the downstream results in the receiving waters to the trigger values specified in Table G3 - Release Contaminant Trigger Investigation Levels and: 1. where the trigger values are not exceeded then no action is to be taken; or 2. where the downstream results exceed the trigger values specified Table G3 for any quality characteristic, compare the results of the downstream site to the data from background monitoring sites and; a) if the result is less than the background monitoring site data, then no action is to be taken; or b) if the result is greater than the background monitoring site data, complete an investigation in accordance with the ANZECC and ARMCANZ 2000 methodology, into the potential for environmental harm and provide a written report to the administering authority in the next annual return, outlining: i. details of the investigations carried out; and ii. actions taken to prevent environmental harm. Note: Where an exceedance of a trigger level has occurred and is being investigated, in accordance with G5 (2)(b) of this condition, no further reporting is required for subsequent trigger events for that quality characteristic.
G6	If an exceedance in accordance with Condition G5 (2)(b) is identified, the holder of the authority must notify the administering authority within fourteen (14) days of receiving the result.
G7	Contaminant Release Events The holder must install, operate and maintain a stream flow gauging station to determine and record stream flows at the locations upstream of each Release Point as specified in Table G4 – Contaminant Release during Flow Events for any receiving water into which a release occurs.
G8	Notwithstanding any other condition of this environmental authority, the release of contaminants to waters must only take place during periods of natural flow events specified as minimum flow in Table G4 – Contaminant Release during Flow Events for the contaminant release point(s) specified in Table G1 – Contaminant Release Points, Sources and Receiving Waters.

Table G4 - Contaminant Release during Flow Events

Receiving water description	Release Point	Gauging station description	Northing (GDA94)	Easting (GDA94)	Minimum Flow in Receiving Water Required for a Release Event	Flow recording Frequency
Harrybrandt Creek	RP1 RP2	UP GS MP 1	7579495	648857	Greater than or equal to 0.25m ³ /sec	Continuous (minimum daily)

G9	Contaminant release flow rate must not exceed twenty percent (20%) of receiving water flow rate.
G10	The daily quantity of contaminants released from each release point must be measured and recorded at the monitoring points in Table G1 – Contaminant Release Points, Sources and Receiving Waters .
G11	Releases to waters must be undertaken so as not to cause erosion of the bed and banks of the receiving waters, or cause a material build-up of sediment in such waters.
G12	Notification of Release Event The authority holder must notify the administering authority as soon as practicable (within no later than 6 hours of having commenced controlled release of mine affected water to the receiving environment from an authorised discharge point, and no later than 12 hours after any uncontrolled release from an authorised discharge point). Notification must include the submission of written advice to the administering authority of the following information: 1. release commencement date/time; 2. expected release cessation date/time; 3. release point/s; 4. release volume (estimated); 5. receiving water/s including the natural flow rate; and 6. any details (including available data) regarding likely impacts on the receiving water(s). Note: Notification to the administering authority must be addressed to the Manager and Project Manager of the local Administering Authority via email or facsimile.

G13	The authority holder must notify the administering authority as soon as practicable, (nominally within twenty-four (24) hours after cessation of a release) of the cessation of a release notified under condition G12 and within twenty-eight (28) days provide the following information in writing: 1. release cessation date/time; 2. natural flow volume in receiving water; 3. volume of water released; 4. details regarding the compliance of the release with the conditions of Department Interest: Water of this environmental authority (i.e. contamination limits, natural flow, discharge volume); 5. all in-situ water quality monitoring results; and 6. any other matters pertinent to the water release event.
G14	Notification of Release Event Exceedance If the release limits defined in Table G2 - Contaminant Release Limits are exceeded, the holder of the environmental authority must notify the administering authority within twenty-four (24) hours of receiving the results.
G15	The authority holder must, within twenty-eight (28) days of a release that exceeds the conditions of this authority, provide a report to the administering authority detailing: 1. the reason for the release; 2. the location of the release; 3. all water quality monitoring results; 4. any general observations; 5. all calculations; and 6. any other matters pertinent to the water release event.
G16	Monitoring of Water Storage Quality Water storages stated in Table G5 – Water Storage Monitoring which are associated with the release points must be monitored for the water quality characteristics specified in Table G6 - Onsite Water Storage Contaminant Limits at the monitoring locations and at the monitoring frequency specified in Table G5 – Water Storage Monitoring.
G17	In the event that waters storages defined in Table G5 – Water Storage Monitoring exceed the contaminant limits defined in Table G6 – Onsite Water Storage Contaminant Limits, the holder of the environmental authority must implement measures, where practicable, to prevent access to waters by all livestock.

G18	Receiving Environment Monitoring and Contaminant Trigger Levels The quality of the receiving waters must be monitored at the locations specified in Table G8 - Receiving Water Upstream Background Sites and Downstream Monitoring Points for each quality characteristic and at the monitoring frequency stated in Table G7 – Receiving Waters Contaminant Trigger Levels.
G19	If quality characteristics of the receiving water at the downstream monitoring points exceed any of the trigger levels specified in Table G7 - Receiving Waters Contaminant Trigger Levels during a release event the environmental authority holder must compare the downstream results to the upstream results in the receiving waters and: 1. where the downstream result is the same or a lower value than the upstream value for the quality characteristic then no action is to be taken; or 2. where the downstream results exceed the upstream results complete an investigation in accordance with the ANZECC and ARMCANZ 2000 methodology, into the potential for environmental harm and provide a written report to the administering authority in the next annual return, outlining: a) details of the investigations carried out; and b) actions taken to prevent environmental harm. Note: Where an exceedance of a trigger level has occurred and is being investigated, in accordance with G19(2) of this condition, no further reporting is required for subsequent trigger events for that quality characteristic.

Table G5 - Water Storage Monitoring

Water Storage Description	Northing (GDA94)	Easting (GDA94)	Monitoring Location	Frequency of Monitoring
Raw Water Dam (RWD)	7582089	647347	RWD Gantry	Quarterly
Return Water Dam	7581943	646285	Return Water Dam Gantry	Quarterly

Table G6 - Onsite Water Storage Contaminant Limits

Quality Characteristic	Test Value	Contaminant Limit
pH (pH unit)	Range	Greater than 4, less than 9 ₂
EC (µS/cm)	Maximum	5970 ¹
Fluoride (mg/L)	Maximum	2 ₁

Aluminium (mg/L)	Maximum	5 ₁
Arsenic (mg/L)	Maximum	0.5 ¹
Cadmium (mg/L)	Maximum	0.01 ¹
Cobalt (mg/L)	Maximum	1 ₁
Copper (mg/L)	Maximum	1 ₁
Lead (mg/L)	Maximum	0.1 ¹
Nickel (mg/L)	Maximum	1 ₁
Zinc (mg/L)	Maximum	20 ¹

Notes:

1 Contaminant limit based on ANZECC and ARMCANZ (2000) stock water quality guidelines.

2 Page 4.2-15 of ANZECC and ARMCANZ (2000) "Soil and animal health will not generally be affected by water with pH in the range of 4–9".

Note: Total measurements (unfiltered) must be taken and analysed.

Table G7 - Receiving Waters Contaminant Trigger Levels

Quality Characteristic	Trigger Level	Monitoring Frequency	Comments
pH	6.5 – 8.0	Daily during the release	See Table G2 comments
Electrical Conductivity (μ S/cm)	1000		
Turbidity (NTU)	No Limits		
Suspended solids (mg/L)	5000		
Sulphate (SO ₄ ²⁻) (mg/L)	1000		

G20	Receiving Environment Monitoring Program (REMP) A REMP must be developed and implemented by 27 February 2010 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 water. A copy of the REMP must be provided to the administering authority prior to its implementation and due consideration given to any comments made on the REMP by the administering authority. For the purposes of the REMP, the receiving environment is the waters of the Isaac River and connected waterways within 20km downstream of the release.
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G21	The REMP must address (but not necessarily be limited to) the following: 1. description of potentially affected receiving waters including key communities and background water quality characteristics based on accurate and reliable monitoring data that takes into consideration any temporal variation (e.g. seasonality); and 2. description of applicable environmental values and water quality objectives to be achieved (i.e. as scheduled pursuant to the Environmental Protection (Water) Policy 1997); and 3. any relevant reports prepared by other governmental or professional research organisations that relate to the receiving environment within which the REMP is proposed; and 4. water quality targets within the receiving environment to be achieved, and clarification of contaminant concentrations or levels indicating adverse environmental impacts during the REMP. 5. monitoring for any potential adverse environmental impacts caused by the release; 6. monitoring of stream flow and hydrology; 7. monitoring of toxicants should consider the indicators specified in Table G3 to assess the extent of the compliance of concentrations with water quality objectives and/or the ANZECC and ARMCANZ 2000 guidelines for slightly to moderately disturbed ecosystems; 8. monitoring of physical chemical parameters as a minimum those specified in Table G2 (in addition to dissolved oxygen saturation and temperature); 9. monitoring biological indicators (for macroinvertebrates in accordance with the AusRivas methodology) and metals/metalloids in sediments (in accordance with ANZECC and ARMCANZ 2000, BATLEY and/or the most recent version of AS5667.1 Guidance on Sampling of Bottom Sediments) for permanent, semipermanent water holes and water storages 10. the locations of monitoring points (including the locations specified in Table G8 which are background and downstream impacted sites for each release point; 11. the frequency or scheduling of sampling and analysis sufficient to determine water quality objectives and to derive site specific reference values within two (2) years (depending on wet season flows) in accordance with the Queensland Water Quality Guidelines 2006. For ephemeral streams, this should include periods of flow irrespective of mine or other discharges; 12. specify sampling and analysis methods and quality assurance and control; 13. any historical datasets to be relied upon; 14. description of the statistical basis on which conclusions are drawn, and; 15. any spatial and temporal controls to exclude potential confounding factors.
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G22	A report outlining the findings of the REMP, including all monitoring results and interpretations in accordance with condition G20 must be prepared and submitted in writing to the administering authority by 1 October 2011. This should include an assessment of background water quality, any assimilative capacity for those contaminants monitored and the suitability of current discharge limits to protect downstream environment values.
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Table G8 - Receiving Water Upstream Background Sites and Downstream Monitoring Points

Monitoring Points	Receiving Waters Location Description	Northing (AGD84)	Easting (AGD84)
Upstream Background Monitoring Points			
UP GS MP 1	Harrybrandt Creek (prior to confluence with 30 Mile Creek)	7579495	648857
Downstream Monitoring Points			
DN MP 1	30 Mile Creek at Peak Downs Highway	7580616	648525
DN GS MP 2	Harrybrandt Creek upstream of Harrybrandt Homestead crossing	7580205	657025

Note: The data from background monitoring points must not be used where they are affected by releases from other mines.

G23	Water Re-use Mine affected water may be piped or trucked or transferred by some other means that does not contravene the conditions of this environmental authority and deposited into artificial water storage structures, such as farm dams or tanks, or used directly at properties owned by the environmental authority holder or a third party (with the written consent of the third party).
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G24	Water General All determinations of water quality must be: 1. performed by a person or body possessing appropriate experience and qualifications to perform the required measurements; 2. made in accordance with methods prescribed in the latest edition of the administering authority's Water Quality Sampling Manual; Note: Condition G26 requires the Water Quality Manual to be followed and where it is not followed because of exceptional circumstances this should be explained and reported with the results. 3. collected from the monitoring locations identified within this environmental authority, within ten (10) hours of each other where possible; 4. carried out on representative samples; and 5. laboratory testing must be undertaken using a laboratory accredited (e.g. NATA) for the method of analysis being used.
G25	The release of contaminants directly or indirectly to waters: 1. must not produce any visible discolouration of receiving waters; nor 2. must not produce any slick or other visible or odorous evidence of oil, grease or petrochemicals nor contain visible floating oil, grease, scum, litter or other objectionable matter.
G26	Annual Water Monitoring Reporting The following information must be recorded in relation to all water monitoring required under the conditions of this environmental authority and submitted to the administering authority in the specified format with each annual return: 1. the date on which the sample was taken; 2. the time at which the sample was taken; 3. the monitoring point at which the sample was taken; 4. the measured or estimated daily quantity of the contaminants released from all release points; 5. the release flow rate at the time of sampling for each release point; 6. the results of all monitoring and details of any exceedances with the conditions of this environmental authority; and 7. water quality monitoring data must be provided to the administering authority in the specified electronic format upon request.

G27	Water Management Plan A Water Management Plan must be developed and implemented by 27 February 2010 that provides for the proper and effective management of the actual and potential environmental impacts resulting from the mining activity and to ensure compliance with the conditions of this environmental authority.
G28	The Water Management Plan must be developed in accordance with the administering authorities Guideline for Preparing a Water Management Plan 2009 (to be developed by 1 October) or any updates that become available from time to time and must include at least the following components: 1. Contaminant Source Study; 2. Site Water Balance and Model; 3. Water Management System; 4. Saline Drainage Prevention and Management Measures; 5. Acid Rock Drainage Prevention and Management Measures (if applicable); 6. Emergency and Contingency Planning; 7. Monitoring and Review.
G29	Each year the holder of the environmental authority must undertake a review of the Water Management Plan prior to the wet season (i.e. by 1 November) and a further review following the wet season (i.e. by 1 May the following 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.
G30	A copy of the Water Management Plan and/or a review of the Water Management Plan must be provided to the administering authority on request.
G31	Acid Rock Draining The holder of this environmental authority must ensure proper and effective measures are taken to avoid or otherwise minimise the generation and/or release of acid rock drainage.
G32	Stormwater and Water sediment controls 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.
G33	The maintenance and cleaning of any vehicles, plant or equipment must not be carried out in areas from which contaminants can be released into any receiving waters.

G34	Any spillage of wastes, contaminants or other materials must be cleaned up as quickly as practicable to minimise the release of wastes, contaminants or materials to any stormwater drainage system or receiving waters.
G35	Fitzroy River Basin Study The administering authority and the holder of this environmental authority both acknowledge that the conditions for release of contaminants to the Isaac River System in this environmental authority have been calculated without the benefit of the findings of projects proposed to be undertaken as per recommendations 2 and 3 of the Study of cumulative impacts on water quality of mining activities in the Fitzroy River Basin (April 2009). The administering authority may, based on the information provided in the study report when it becomes available, all relevant information available at the time and the regulatory framework applicable at that time, consult with the holder of this environmental authority about the conditions in the environmental authority concerning the treatment and disposal of waste water. The aim of the consultation shall be the meaningful review of the contaminant release limits imposed in this authority having regard to: 1. the study results; 2. near field monitoring results; 3. QLD Water Quality Guidelines; and 4. best practice environmental management. If this review leads to a change in the requirements on this environmental authority holder, this shall be advanced by way of an authority amendment or a Transitional Environmental Program and as is necessary or desirable. 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.
G36	Sewage effluent All effluent released from the treatment plant must be monitored at the frequency and for the parameters specified in Table G9 - Sewage effluent quality targets for dust suppression and irrigation.
G37	Sewage effluent used for dust suppression or irrigation must not exceed sewage effluent release limits defined in Table G9 - Sewage effluent quality targets for dust suppression and irrigation .
G38	Sewage effluent used for dust suppression or irrigation must not cause spray drift or over spray to any sensitive place.

G39	Co-disposal Drainage control systems for the co-disposal area must be detailed in the Plan of Operations.
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Table G9 - Sewage effluent quality targets for dust suppression and irrigation

Quality characteristics	Release limit	Units	Limit type	Monitoring frequency
5-day Biochemical Oxygen Demand (uninhibited)	Less than 20	mg/l	max	Monitored only when effluent is used in operations
pH	6.5 – 8.5		range	Monitored only when effluent is used in operations
Free Chlorine Residual	0.5-0.9	mg/l	max	Monitored only when effluent is used in operations
Faecal Coliforms, based on the average of a minimum of five samples collected	Less than 1000	Colonies per 100 millilitres	max	Monitored only when effluent is used in operations

Petroleum Activities	
Condition Number	Condition Number
H1	Petroleum activities Petroleum activities not associated with the mining of incidental coal seam gas are authorised to be carried out on PL1015.
H2	For the purpose of this environmental authority, Conditions H3 to H13 only relate to petroleum activities not associated with the mining of incidental coal seam gas authorised by Condition H1 .

H3	Venting and flaring Unless venting is authorised under the Petroleum and Gas (Production and Safety Act) 2004, or the Petroleum Act 1923, waste gas from petroleum activities must be flared in a manner that complies with all of Condition H3(1) and H3(2) and H3(3), or H3(4): 1. an automatic ignition system is used; and 2. a flame is visible at all times while the waste gas is being flared; and 3. there are no visible smoke emissions other than for a total period of no more than 5 minutes in any 2 hours; or 4. it uses an enclosed flare.
H4	Stimulation activities Stimulation activities are not permitted.
H5	Groundwater The extraction of groundwater as part of the petroleum activity(ies) from underground aquifers must not directly or indirectly cause environmental harm to any waters, unless already authorised under this environmental authority.
H6	Drilling activities Oil based or synthetic based drilling muds must not be used in the carrying out of the petroleum activity(ies).
H7	Drilling activities must not result in the connection of the target gas producing formation and another aquifer.
H8	Practices and procedures must be in place to detect, as soon as practicable, any fractures that have or may result in the connection of a target formation and another aquifer as a result of drilling activities.
H9	Planning for land disturbance The location of the petroleum activity(ies) must be selected in accordance with the following site planning principles: 1. maximise the use of areas of pre-existing disturbance; 2. in order of preference, avoid, minimise or mitigate any impacts, including cumulative impacts, on areas of native vegetation or other areas of ecological value; 3. minimise disturbance to land that may result in land degradation; 4. in order of preference, avoid then minimise isolation, fragmentation, edge effects or dissection of tracts of native vegetation; and 5. in order of preference, avoid then minimise clearing of native mature trees.

H10	Waste Measures must be implemented so that waste is managed in accordance with the waste and resource management hierarchy and the waste resource management principles.
H11	Waste, including waste fluids, but excluding waste used in closed-loop systems, must be transported off-site for lawful re-use, remediation, recycling or disposal.
H12	Waste fluids, other than flare precipitant stored in flare pits, or residual drilling material or drilling fluids stored in sumps, must be contained in either: 1. an above ground container; or 2. a structure which contains the wetting front.
H13	Water All water generated as a result of the petroleum activities must be managed in accordance with Schedule G – Water of this environmental authority.

Definitions

Key terms and/or phrases used in this document are defined in this section. Where a term is not defined, the definition in the *Environmental Protection Act 1994*, its regulations or environmental protection policies must be used. If a word remains undefined it has its ordinary meaning.

Affected person is someone whose drinking water can potentially be impacted as a result of discharges from a dam or their life can be put at risk due to dwellings or workplaces being in the path of a dam break flood.

Annual inspection report means an assessment prepared by a suitably qualified and experienced person containing details of the assessment against the most recent consequence assessment report and design plan (or system design plan);

- (a) against recommendations contained in previous annual inspections reports;
- (b) against recognised dam safety deficiency indicators;
- (c) for changes in circumstances potentially leading to a change in consequence category;
- (d) for conformance with the conditions of this authority;
- (e) for conformance with the 'as constructed' drawings;
- (f) for the adequacy of the available storage in each regulated dam, 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 **dam** (or network of linked containment systems);
- (g) for evidence of conformance with the current operational plan.

Annual exceedance probability or AEP the probability that at least one event in excess of a particular magnitude will occur in any given year.

Assessed or assessment by a suitably qualified and experienced person in relation to a consequence assessment of a dam, 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 of the assessment:

- (a) exactly what has been assessed and the precise nature of that determination;
- (b) the relevant legislative, regulatory and technical criteria on which the assessment has been based;
- (c) the relevant data and facts on which the assessment 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 assessment has been based using the relevant data and facts, and the relevant criteria.

Associated works in relation to a dam, means:

- (a) operations of any kind and all things constructed, erected or installed for that dam; and
- (b) any land used for those operations.

Authority means an environmental authority or a development approval.

Certification means assessment and approval must be undertaken by a suitably qualified and experienced person in relation to any assessment or documentation required by this Manual, including design plans, 'as constructed' drawings and specifications, construction, operation or an annual report regarding regulated structures, undertaken in accordance with the Board of Professional Engineers of Queensland Policy Certification by RPEQs (ID: 1.4 (2A)).

Certifying, certify or certified have a corresponding meaning as 'certification'.

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 the purpose of preparing a design plan.

Coal seam gas water means groundwater that is necessarily or unavoidably brought to the surface in the process of coal seam gas exploration or production.

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

Consequence 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 *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (ESR/2016/1933)*.

Dam means a land-based structure or a void that contains, diverts or controls flowable substances, and includes any substances that are thereby contained, diverted or controlled by that land-based structure or void and **associated works**.

Dam crest volume means the volume of material (liquids and/or solids) that could be within the walls of a dam at any time when the upper level of that material is at the crest level of that dam. That is, the instantaneous maximum volume within the walls, without regard to flows entering or leaving (for example, via spillway).

Design plan is a document setting out how all identified consequence scenarios are addressed in the planned design and operation of a regulated structure.

Design storage allowance or DSA means an available volume, estimated in accordance with the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (ESR/2016/1933)* published by the administering authority, must be provided in a dam as at 1 November each year in order to prevent a discharge from that dam to an **annual exceedance probability (AEP)** specified in that Manual.

Designer for the purposes of a regulated dam, means the certifier of the design plan for the regulated dam.

Development approval means a development approval under the *Integrated Planning Act 1997* or the *Sustainable Planning Act 2009* in relation to a matter that involves an environmentally relevant activity under the *Environmental Protection Act 1994*.

Disturbance of land includes:

- a) compacting, removing, covering, exposing or stockpiling of earth
- b) removal or destruction of vegetation or topsoil of both to an extent with the land has been made susceptible to erosion
- c) carrying out mining within a watercourse, waterway, wetland or lake
- d) the submersion of areas by tailings or hazardous contaminant storage and dam/structure walls
- e) temporary infrastructure, including any infrastructure (roads, tracks, bridges, culverts, dams/structures, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc.) which is to be removed after the mining activity has ceased.
- f) releasing of contaminants into the soil, or underlying geological strata.

However, the following areas are not included when calculating areas of 'disturbance':

- a) areas off lease (e.g. roads or tracks which provide access to the mining lease)
- b) areas previously disturbed which have achieved the rehabilitation outcomes
- c) by agreement with the administering authority, areas previously disturbed which have not achieved the rehabilitation objective(s) due to circumstances beyond the control of the mine operator 9such as climatic conditions)
- d) areas under permanent infrastructure. Permanent infrastructure includes any infrastructure (roads, tracks, bridges, culverts, dams/structures, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc.) which is to be left by agreement with the landowners.
- e) disturbance that pre-existed the grant of tenure.

Enclosed flare means a device where the residual gas is burned in a cylindrical or rectilinear enclosure that includes a burning system and a damper where air for the combustion reaction is admitted.

Emergency action plan means documentation forming part of the operational plan held by the holder or a nominated responsible officer, that identifies emergency conditions that sets out procedures and actions that will be followed and taken by the dam owner and operating personnel in the event of an emergency. The actions are to minimise the risk and consequences of failure, and ensure timely warning to downstream communities and the implementation of protection measures. The plan must require dam owners to annually update contact.

Existing structure means a structure that was in existence prior to the adoption of this schedule of conditions under the authority.

Extreme Storm Storage – means a storm storage allowance determined in accordance with the criteria in the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (ESR/2016/1933)* published by the administering authority

Flare pit means containment area where any hydrocarbon that is discovered in an over-pressured reservoir during a drilling operation is diverted to, and combusted. The flare pit is only used during the drilling and work over process on a petroleum well.

Flowable substance means matter or a mixture of materials which can flow under any conditions potentially affecting that substance. Constituents of a flowable substance can include water, other liquids fluids or solids, or a mixture that includes water and any other liquids fluids or solids either in solution or suspension.

Holder means:

- a) where this document is an environmental authority, any person who is the holder of, or is acting under, that environmental authority; or
- b) where this document is a development approval, any person who is the registered operator for that development approval.

Hydraulic performance means the capacity of a regulated dam to contain or safely pass flowable substances based on the design criteria specified for the relevant consequence category in the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (ESR/2016/1933)*.

Incidental coal seam gas is defined in section 318CM of the *Mineral Resources Act 1989* and means coal seam gas mined, or proposed to be mined under the conditions below:

- 1. the mining lease holder may mine coal seam gas in the area of the mining lease only if:
 - (a) the mining happens as a necessary result of coal or oil shale mining carried out under the mining lease; or
 - (b) the mining is necessary to ensure a safe mine working environment for coal or oil shale mining under the mining lease; or
 - (c) the mining is necessary to minimise the fugitive emission of methane during the course of coal mining operations.

Incidental coal seam gas includes coal seam gas in a goaf if the gas is mined, or proposed to be mine, under (1)(a) – (1)(c).

Land in the 'land schedule' of this document means land excluding waters and the atmosphere, that is, the term has a different meaning from the term as defined in the *Environmental Protection Act 1994*. For the purposes of the *Acts Interpretation Act 1954* it is expressly noted that the term 'land' in this environmental authority relates to physical land and not to interests in land.

Land use means the selected post mining use of the land, which is planned to occur after the cessation of mining operations.

Levee means an embankment that only provides for the containment and diversion of stormwater or flood flows from a contributing catchment, or containment and diversion of flowable materials resulting from releases from other works, during the progress of those stormwater or flood flows or those releases; and does not store any significant volume of **water** or **flowable substances** at any other times.

Low consequence dam means any dam that is not a high or significant consequence category as assessed using the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (ESR/2016/1933)*; and

Mandatory reporting level or MRL means a warning and reporting level determined in accordance with the criteria in the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (ESR/2016/1933)* published by the administering authority.

Manual means the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (ESR/2016/1933)* published by the administering authority.

Modification or modifying (see definition of 'construction')

Operational plan includes:

- (a) normal operating procedures and rules (including clear documentation and definition of process inputs in the DSA allowance);
- (b) 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.

Prescribed environmental matter has the meaning in section 10 of the *Environmental Offsets Act 2014*, limited to the matters of State environmental significant listed in schedule 2 of the Environmental Offsets Regulation 2014.

Register of Regulated Dams includes:

- (a) Date of entry in the register;
- (b) Name of the dam, its purpose and intended/actual contents;
- (c) The consequence category of the dam as assessed using the Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (ESR/2016/1933);
- (d) Dates, names, and reference for the design plan plus dates, names, and reference numbers of all document(s) lodged as part of a design plan for the dam;
- (e) Name and qualifications of the suitably qualified and experienced person who certified the design plan and 'as constructed' drawings;
- (f) For the regulated dam, other than in relation to any levees –
 - i. The dimensions (metres) and surface area (hectares) of the dam measured at the footprint of the dam;
 - ii. Coordinates (latitude and longitude in GDA94) within five metres at any point from the outside of the dam including its storage area
 - iii. Dam crest volume (megalitres);
 - iv. Spillway crest level (metres AHD).
 - v. Maximum operating level (metres AHD);
 - vi. Storage rating table of stored volume versus level (metres AHD);
 - vii. Design storage allowance (megalitres) and associated level of the dam (metres AHD);
 - viii. Mandatory reporting level (metres AHD);
- (g) The design plan title and reference relevant to the dam;
- (h) The date construction was certified as compliant with the design plan;
- (i) The name and details of the suitably qualified and experienced person who certified that the constructed dam was compliant with the design plan;
- (j) Details of the composition and construction of any liner;
- (k) The system for the detection of any leakage through the floor and sides of the dam;
- (l) Dates when the regulated dam underwent an annual inspection for structural and operational adequacy, and to ascertain the available storage volume for 1 November of any year;
- (m) Dates when recommendations and actions arising from the annual inspection were provided to the administering authority;

- (n) Dam water quality as obtained from any monitoring required under this authority as at 1 November of each year.

Regulated dam means any dam in the significant or high consequence category as assessed using the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (ESR/2016/1933)* published by the administering authority.

Regulated structure includes land-based containment structures, levees, bunds and voids, but not a tank or container designed and constructed to an Australian Standard that deals with strength and structural integrity.

Rehabilitation means the process of reshaping and revegetating land to restore it to a stable landform.

Residual drilling material means waste drilling materials including muds and cuttings or cement returns from well holes and which have been left behind after the drilling fluids are pumped out.

Significant residual impact has the meaning in section 8 of the *Environmental Offsets Act 2014*.

Stimulation means a technique used to increase the permeability of natural underground reservoir that is undertaken above the formation pressure and involves the addition of chemicals. It includes fracturing / hydrofracturing, fracture acidizing and the use of proppant treatments.

Explanatory note: This definition is restricted from that in the *Petroleum and Gas (Production and Safety) Act 2004* in order to only capture the types of stimulation activities that pose a risk to environmental values of water quality in aquifers.

Structure means dam or levee.

Spillway means a weir, channel, conduit, tunnel, gate or other structure designed to permit discharges from the dam, normally under flood conditions or in anticipation of flood conditions.

Suitably qualified and experienced person in relation to regulated structures means a person who is a Registered Professional Engineer of Queensland (RPEQ) under the provisions of the *Professional Engineers Act 2002*, and has demonstrated competency and relevant experience:

- for regulated dams, an RPEQ who is a civil engineer with the required qualifications in dam safety and dam design.
- for regulated levees, an RPEQ who is a civil engineer with the required qualifications in the design of flood protection embankments.

Note: It is permissible that a suitably qualified and experienced person obtain subsidiary certification from an RPEQ who has demonstrated competence and relevant experience in either geomechanics, hydraulic design or engineering hydrology.

System design plan means a plan that manages an integrated containment system that shares the required DSA and/or ESS volume across the integrated containment system.

Void means any constructed, open excavation in the ground.

Watercourse has the meaning in Schedule 4 of the *Environmental Protection Act 1994* and means a river, creek or stream in which water flows permanently or intermittently—

- (a) in a natural channel, whether artificially improved or not; or
- (b) in an artificial channel that has changed the course of the watercourse.

Watercourse includes the bed and banks and any other element of a river, creek or stream confining or containing water.

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.

Waste and resource management hierarchy has the meaning provided in section 9 of the *Waste Reduction and Recycling Act 2011* and is the following precepts, listed in the preferred order in which waste and resource management options should be considered:

- a) AVOID unnecessary resource consumption
- b) REDUCE waste generation and disposal
- c) RE-USE waste resources without further manufacturing
- d) RECYCLE waste resources to make the same or different products
- e) RECOVER waste resources, including the recovery of energy
- f) TREAT waste before disposal, including reducing the hazardous nature of waste
- g) DISPOSE of waste only if there is no viable alternative.

Waste and resource management principles has the meaning in section 4(2)(b) of the *Waste Reduction and Recycling Act 2011* and means the:

- a) polluter pays principle
- b) user pays principle
- c) proximity principle
- d) product stewardship principle

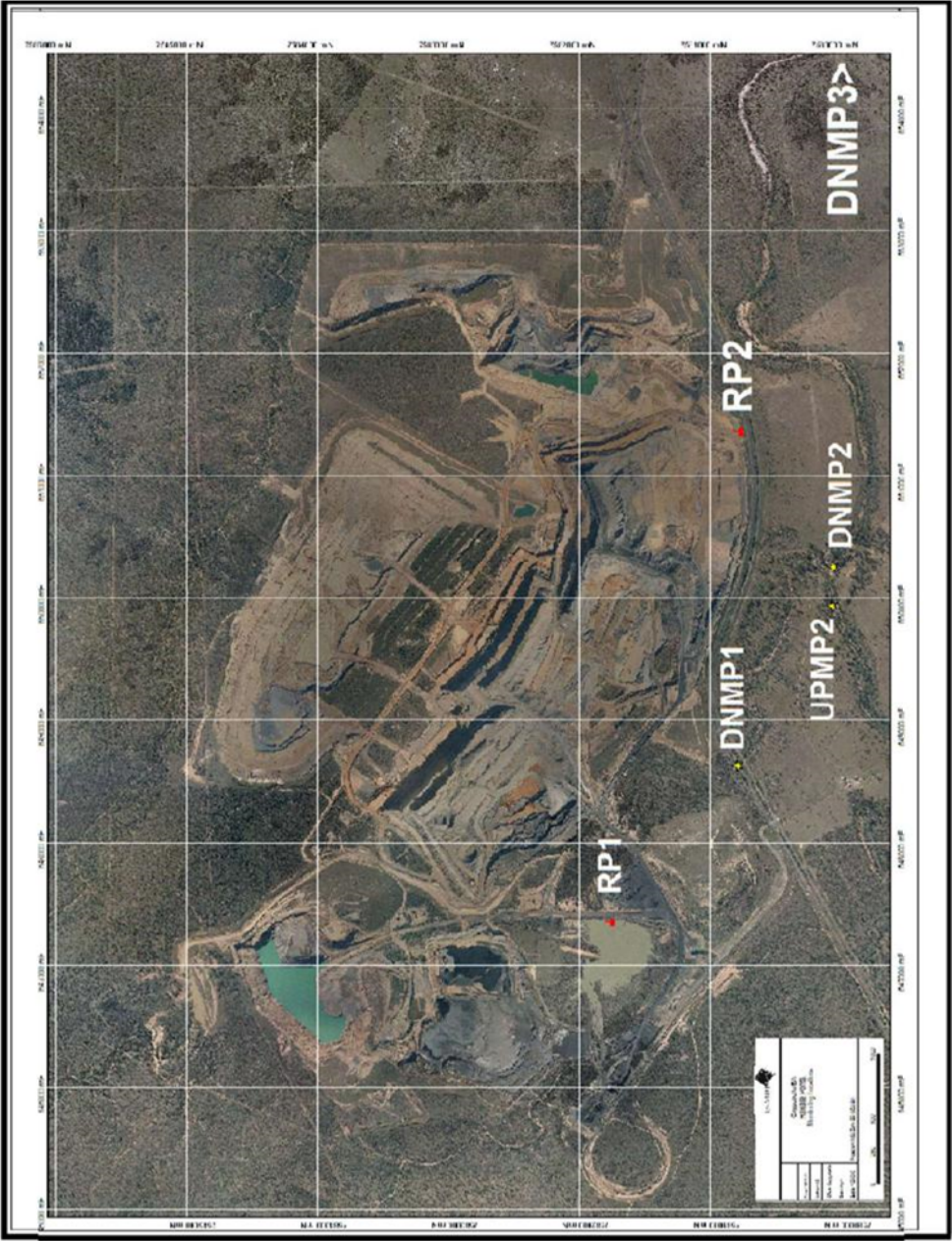
Waste fluids has the meaning in section 13 of the *Environmental Protection Act 1994* in conjunction with the common meaning of “fluid” which is “a substance which is capable of flowing and offers no permanent resistance to changes of shape”. Accordingly, to be a waste fluid, the waste must be a substance which is capable of flowing and offers no permanent resistance to changes of shape.

Water year means the 12-month period from 1 July to 30 June.

Wet season means the time of year, covering one or more months, when most of the average annual rainfall in a region occurs. For the purposes of DSA determination this time of year is deemed to extend from 1 November in one year to 31 May in the following year inclusive.

Appendices

Figure 1 – Authorised Release Points



END OF ENVIRONMENTAL AUTHORITY