Permit

Environmental Protection Act 1994

Environmental authority EPML00516813

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

Environmental authority number: EPML00516813

Environmental authority takes effect on 07 June 2019

Environmental authority holder(s)

Name(s)	Registered address
Jellinbah Group Pty Ltd	Level 7 Comalco Place, 12 Creek Street BRISBANE CITY QLD 4000
TREMELL PTY. LTD.	Level 7 Comalco Place 12 Creek Street BRISBANE CITY QLD 4000
MARUBENI COAL PTY. LTD.	Level 7 Comalco Place 12 Creek Street BRISBANE CITY QLD 4000
SOJITZ COAL RESOURCES PTY LIMITED	Level 34, Central One Plaza, 345 Queens Street BRISBANE CITY QLD 4000 Australia

Environmentally relevant activity and location details

Environmentally relevant activity/activities	Location(s)
Resource Activity, Ancillary 15 - Fuel burning, Using fuel burning equipment that is capable of burning at least 500kg of fuel in an hour	ML2418
Resource Activity, Ancillary 15 - Fuel burning, Using fuel burning equipment that is capable of burning at least 500kg of fuel in an hour	ML6992
Resource Activity, Ancillary 15 - Fuel burning, Using fuel burning equipment that is capable of burning at least 500kg of fuel in an hour	ML700011
Resource Activity, Ancillary 15 - Fuel burning, Using fuel burning equipment that is capable of burning at least 500kg of fuel in an hour	ML700012

ABN 46 640 294 485

Environmentally relevant activity/activities	Location(s)
Resource Activity, Ancillary 15 - Fuel burning, Using fuel burning equipment that is capable of burning at least 500kg of fuel in an hour	ML700013
Resource Activity, Ancillary 15 - Fuel burning, Using fuel burning equipment that is capable of burning at least 500kg of fuel in an hour	ML70445
Resource Activity, Ancillary 15 - Fuel burning, Using fuel burning equipment that is capable of burning at least 500kg of fuel in an hour	ML70446
Resource Activity, Ancillary 15 - Fuel burning, Using fuel burning equipment that is capable of burning at least 500kg of fuel in an hour	ML70448
Resource Activity, Ancillary 15 - Fuel burning, Using fuel burning equipment that is capable of burning at least 500kg of fuel in an hour	ML70449
Resource Activity, Ancillary 15 - Fuel burning, Using fuel burning equipment that is capable of burning at least 500kg of fuel in an hour	ML80018
Resource Activity, Ancillary 60 - Waste disposal, 1: Operating a facility for disposing of, in a year, the following quantity of waste mentioned in subsection (1) (a), (a) less than 50,000t	ML80053
Resource Activity, Ancillary 60 - Waste disposal, 1: Operating a facility for disposing of, in a year, the following quantity of waste mentioned in subsection (1) (a), (a) less than 50,000t	ML80068
Resource Activity, Ancillary 60 - Waste disposal, 1: Operating a facility for disposing of, in a year, the following quantity of waste mentioned in subsection (1) (a), (a) less than 50,000t	ML80108
Resource Activity, Ancillary 60 - Waste disposal, 1: Operating a facility for disposing of, in a year, the following quantity of waste mentioned in subsection (1) (a), (a) less than 50,000t	ML80129
Resource Activity, Ancillary 60 - Waste disposal, 1: Operating a facility for disposing of, in a year, the following quantity of waste mentioned in subsection (1) (a), (a) less than 50,000t	ML80140

Environmentally relevant activity/activities	Location(s)
Resource Activity, Ancillary 60 - Waste disposal, 1: Operating a facility for disposing of, in a year, the following quantity of waste mentioned in subsection (1) (a), (a) less than 50,000t	ML80165
Resource Activity, Ancillary 60 - Waste disposal, 1: Operating a facility for disposing of, in a year, the following quantity of waste mentioned in subsection (1) (a), (a) less than 50,000t	ML80184
Resource Activity, Ancillary 60 - Waste disposal, 1: Operating a facility for disposing of, in a year, the following quantity of waste mentioned in subsection (1) (a), (a) less than 50,000t	ML2418
Resource Activity, Ancillary 60 - Waste disposal, 1: Operating a facility for disposing of, in a year, the following quantity of waste mentioned in subsection (1) (a), (a) less than 50,000t	ML6992
Resource Activity, Ancillary 60 - Waste disposal, 1: Operating a facility for disposing of, in a year, the following quantity of waste mentioned in subsection (1) (a), (a) less than 50,000t	ML700011
Resource Activity, Ancillary 60 - Waste disposal, 1: Operating a facility for disposing of, in a year, the following quantity of waste mentioned in subsection (1) (a), (a) less than 50,000t	ML700012
Resource Activity, Ancillary 60 - Waste disposal, 1: Operating a facility for disposing of, in a year, the following quantity of waste mentioned in subsection (1) (a), (a) less than 50,000t	ML700013
Resource Activity, Ancillary 60 - Waste disposal, 1: Operating a facility for disposing of, in a year, the following quantity of waste mentioned in subsection (1) (a), (a) less than 50,000t	ML70445
Resource Activity, Ancillary 60 - Waste disposal, 1: Operating a facility for disposing of, in a year, the following quantity of waste mentioned in subsection (1) (a), (a) less than 50,000t	ML70446
Resource Activity, Ancillary 60 - Waste disposal, 1: Operating a facility for disposing of, in a year, the	ML70448

Environmentally relevant activity/activities	Location(s)
following quantity of waste mentioned in subsection (1) (a), (a) less than 50,000t	
Resource Activity, Ancillary 60 - Waste disposal, 1: Operating a facility for disposing of, in a year, the following quantity of waste mentioned in subsection (1) (a), (a) less than 50,000t	ML70449
Resource Activity, Ancillary 60 - Waste disposal, 1: Operating a facility for disposing of, in a year, the following quantity of waste mentioned in subsection (1) (a), (a) less than 50,000t	ML80018
Resource Activity, Ancillary 08 - Chemical Storage, 3: Storing more than 500 cubic metres of chemicals of class C1 or C2 combustible liquids under AS 1940 or dangerous goods class 3 under subsection (1)(c)	ML80053
Resource Activity, Ancillary 08 - Chemical Storage, 3: Storing more than 500 cubic metres of chemicals of class C1 or C2 combustible liquids under AS 1940 or dangerous goods class 3 under subsection (1)(c)	ML80068
Resource Activity, Ancillary 08 - Chemical Storage, 3: Storing more than 500 cubic metres of chemicals of class C1 or C2 combustible liquids under AS 1940 or dangerous goods class 3 under subsection (1)(c)	ML80108
Resource Activity, Ancillary 08 - Chemical Storage, 3: Storing more than 500 cubic metres of chemicals of class C1 or C2 combustible liquids under AS 1940 or dangerous goods class 3 under subsection (1)(c)	ML80129
Resource Activity, Ancillary 08 - Chemical Storage, 3: Storing more than 500 cubic metres of chemicals of class C1 or C2 combustible liquids under AS 1940 or dangerous goods class 3 under subsection (1)(c)	ML80140
Resource Activity, Ancillary 08 - Chemical Storage, 3: Storing more than 500 cubic metres of chemicals of class C1 or C2 combustible liquids under AS 1940 or dangerous goods class 3 under subsection (1)(c)	ML80165
Resource Activity, Ancillary 08 - Chemical Storage, 3: Storing more than 500 cubic metres of chemicals of class C1 or C2 combustible liquids under AS 1940 or dangerous goods class 3 under subsection (1)(c)	ML80184

Environmentally relevant activity/activities	Location(s)
Resource Activity, Ancillary 08 - Chemical Storage, 3: Storing more than 500 cubic metres of chemicals of class C1 or C2 combustible liquids under AS 1940 or dangerous goods class 3 under subsection (1)(c)	ML2418
Resource Activity, Ancillary 08 - Chemical Storage, 3: Storing more than 500 cubic metres of chemicals of class C1 or C2 combustible liquids under AS 1940 or dangerous goods class 3 under subsection (1)(c)	ML6992
Resource Activity, Ancillary 08 - Chemical Storage, 3: Storing more than 500 cubic metres of chemicals of class C1 or C2 combustible liquids under AS 1940 or dangerous goods class 3 under subsection (1)(c)	ML700011
Resource Activity, Ancillary 08 - Chemical Storage, 3: Storing more than 500 cubic metres of chemicals of class C1 or C2 combustible liquids under AS 1940 or dangerous goods class 3 under subsection (1)(c)	ML700012
Resource Activity, Ancillary 08 - Chemical Storage, 3: Storing more than 500 cubic metres of chemicals of class C1 or C2 combustible liquids under AS 1940 or dangerous goods class 3 under subsection (1)(c)	ML700013
Resource Activity, Ancillary 08 - Chemical Storage, 3: Storing more than 500 cubic metres of chemicals of class C1 or C2 combustible liquids under AS 1940 or dangerous goods class 3 under subsection (1)(c)	ML70445
Resource Activity, Ancillary 08 - Chemical Storage, 3: Storing more than 500 cubic metres of chemicals of class C1 or C2 combustible liquids under AS 1940 or dangerous goods class 3 under subsection (1)(c)	ML70446
Resource Activity, Ancillary 08 - Chemical Storage, 3: Storing more than 500 cubic metres of chemicals of class C1 or C2 combustible liquids under AS 1940 or dangerous goods class 3 under subsection (1)(c)	ML70448
Resource Activity, Ancillary 08 - Chemical Storage, 3: Storing more than 500 cubic metres of chemicals of class C1 or C2 combustible liquids under AS 1940 or dangerous goods class 3 under subsection (1)(c)	ML70449
Resource Activity, Ancillary 08 - Chemical Storage, 3: Storing more than 500 cubic metres of chemicals of	ML80018

Environmentally relevant activity/activities	Location(s)
class C1 or C2 combustible liquids under AS 1940 or dangerous goods class 3 under subsection (1)(c)	
Resource Activity, Schedule 2A, 13: Mining black coal	ML80053
Resource Activity, Schedule 2A, 13: Mining black coal	ML80068
Resource Activity, Schedule 2A, 13: Mining black coal	ML80108
Resource Activity, Schedule 2A, 13: Mining black coal	ML80129
Resource Activity, Schedule 2A, 13: Mining black coal	ML80140
Resource Activity, Schedule 2A, 13: Mining black coal	ML80165
Resource Activity, Schedule 2A, 13: Mining black coal	ML80184
Resource Activity, Schedule 2A, 13: Mining black coal	ML2418
Resource Activity, Schedule 2A, 13: Mining black coal	ML6992
Resource Activity, Schedule 2A, 13: Mining black coal	ML700011
Resource Activity, Schedule 2A, 13: Mining black coal	ML700012
Resource Activity, Schedule 2A, 13: Mining black coal	ML700013
Resource Activity, Schedule 2A, 13: Mining black coal	ML70445
Resource Activity, Schedule 2A, 13: Mining black coal	ML70446
Resource Activity, Schedule 2A, 13: Mining black coal	ML70448
Resource Activity, Schedule 2A, 13: Mining black coal	ML70449
Resource Activity, Schedule 2A, 13: Mining black coal	ML80018
Resource Activity, Ancillary 33 - Crushing, milling, grinding or screening, Crushing, grinding, milling or screening more than 5000t of material in a year	ML80053
Resource Activity, Ancillary 33 - Crushing, milling, grinding or screening, Crushing, grinding, milling or screening more than 5000t of material in a year	ML80068
Resource Activity, Ancillary 33 - Crushing, milling, grinding or screening, Crushing, grinding, milling or screening more than 5000t of material in a year	ML80108
Resource Activity, Ancillary 33 - Crushing, milling, grinding or screening, Crushing, grinding, milling or screening more than 5000t of material in a year	ML80129

Environmentally relevant activity/activities	Location(s)
Resource Activity, Ancillary 33 - Crushing, milling, grinding or screening, Crushing, grinding, milling or screening more than 5000t of material in a year	ML80140
Resource Activity, Ancillary 33 - Crushing, milling, grinding or screening, Crushing, grinding, milling or screening more than 5000t of material in a year	ML80165
Resource Activity, Ancillary 33 - Crushing, milling, grinding or screening, Crushing, grinding, milling or screening more than 5000t of material in a year	ML80184
Resource Activity, Ancillary 33 - Crushing, milling, grinding or screening, Crushing, grinding, milling or screening more than 5000t of material in a year	ML2418
Resource Activity, Ancillary 33 - Crushing, milling, grinding or screening, Crushing, grinding, milling or screening more than 5000t of material in a year	ML6992
Resource Activity, Ancillary 33 - Crushing, milling, grinding or screening, Crushing, grinding, milling or screening more than 5000t of material in a year	ML700011
Resource Activity, Ancillary 33 - Crushing, milling, grinding or screening, Crushing, grinding, milling or screening more than 5000t of material in a year	ML700012
Resource Activity, Ancillary 33 - Crushing, milling, grinding or screening, Crushing, grinding, milling or screening more than 5000t of material in a year	ML700013
Resource Activity, Ancillary 33 - Crushing, milling, grinding or screening, Crushing, grinding, milling or screening more than 5000t of material in a year	ML70445
Resource Activity, Ancillary 33 - Crushing, milling, grinding or screening, Crushing, grinding, milling or screening more than 5000t of material in a year	ML70446
Resource Activity, Ancillary 33 - Crushing, milling, grinding or screening, Crushing, grinding, milling or screening more than 5000t of material in a year	ML70448
Resource Activity, Ancillary 33 - Crushing, milling, grinding or screening, Crushing, grinding, milling or screening more than 5000t of material in a year	ML70449

Environmentally relevant activity/activities	Location(s)
Resource Activity, Ancillary 33 - Crushing, milling, grinding or screening, Crushing, grinding, milling or screening more than 5000t of material in a year	ML80018
Resource Activity, Ancillary 31 - Mineral processing, 2: Processing, in a year, the following quantities of mineral products, other than coke, (b) more than 100,000t	ML80053
Resource Activity, Ancillary 31 - Mineral processing, 2: Processing, in a year, the following quantities of mineral products, other than coke, (b) more than 100,000t	ML80068
Resource Activity, Ancillary 31 - Mineral processing, 2: Processing, in a year, the following quantities of mineral products, other than coke, (b) more than 100,000t	ML80108
Resource Activity, Ancillary 31 - Mineral processing, 2: Processing, in a year, the following quantities of mineral products, other than coke, (b) more than 100,000t	ML80129
Resource Activity, Ancillary 31 - Mineral processing, 2: Processing, in a year, the following quantities of mineral products, other than coke, (b) more than 100,000t	ML80140
Resource Activity, Ancillary 31 - Mineral processing, 2: Processing, in a year, the following quantities of mineral products, other than coke, (b) more than 100,000t	ML80165
Resource Activity, Ancillary 31 - Mineral processing, 2: Processing, in a year, the following quantities of mineral products, other than coke, (b) more than 100,000t	ML80184
Resource Activity, Ancillary 31 - Mineral processing, 2: Processing, in a year, the following quantities of mineral products, other than coke, (b) more than 100,000t	ML2418
Resource Activity, Ancillary 31 - Mineral processing, 2: Processing, in a year, the following quantities of mineral products, other than coke, (b) more than 100,000t	ML6992

Environmentally relevant activity/activities	Location(s)
Resource Activity, Ancillary 31 - Mineral processing, 2: Processing, in a year, the following quantities of mineral products, other than coke, (b) more than 100,000t	ML700011
Resource Activity, Ancillary 31 - Mineral processing, 2: Processing, in a year, the following quantities of mineral products, other than coke, (b) more than 100,000t	ML700012
Resource Activity, Ancillary 31 - Mineral processing, 2: Processing, in a year, the following quantities of mineral products, other than coke, (b) more than 100,000t	ML700013
Resource Activity, Ancillary 31 - Mineral processing, 2: Processing, in a year, the following quantities of mineral products, other than coke, (b) more than 100,000t	ML70445
Resource Activity, Ancillary 31 - Mineral processing, 2: Processing, in a year, the following quantities of mineral products, other than coke, (b) more than 100,000t	ML70446
Resource Activity, Ancillary 31 - Mineral processing, 2: Processing, in a year, the following quantities of mineral products, other than coke, (b) more than 100,000t	ML70448
Resource Activity, Ancillary 31 - Mineral processing, 2: Processing, in a year, the following quantities of mineral products, other than coke, (b) more than 100,000t	ML70449
Resource Activity, Ancillary 31 - Mineral processing, 2: Processing, in a year, the following quantities of mineral products, other than coke, (b) more than 100,000t	ML80018
Resource Activity, Ancillary 16 - Extraction and Screening, 3: Screening, in a year, the following quantity of material, (c) more than 1,000,000t	ML80053
Resource Activity, Ancillary 16 - Extraction and Screening, 3: Screening, in a year, the following quantity of material, (c) more than 1,000,000t	ML80068

Environmentally relevant activity/activities	Location(s)
Resource Activity, Ancillary 16 - Extraction and Screening, 3: Screening, in a year, the following quantity of material, (c) more than 1,000,000t	ML80108
Resource Activity, Ancillary 16 - Extraction and Screening, 3: Screening, in a year, the following quantity of material, (c) more than 1,000,000t	ML80129
Resource Activity, Ancillary 16 - Extraction and Screening, 3: Screening, in a year, the following quantity of material, (c) more than 1,000,000t	ML80140
Resource Activity, Ancillary 16 - Extraction and Screening, 3: Screening, in a year, the following quantity of material, (c) more than 1,000,000t	ML80165
Resource Activity, Ancillary 16 - Extraction and Screening, 3: Screening, in a year, the following quantity of material, (c) more than 1,000,000t	ML80184
Resource Activity, Ancillary 16 - Extraction and Screening, 3: Screening, in a year, the following quantity of material, (c) more than 1,000,000t	ML2418
Resource Activity, Ancillary 16 - Extraction and Screening, 3: Screening, in a year, the following quantity of material, (c) more than 1,000,000t	ML6992
Resource Activity, Ancillary 16 - Extraction and Screening, 3: Screening, in a year, the following quantity of material, (c) more than 1,000,000t	ML700011
Resource Activity, Ancillary 16 - Extraction and Screening, 3: Screening, in a year, the following quantity of material, (c) more than 1,000,000t	ML700012
Resource Activity, Ancillary 16 - Extraction and Screening, 3: Screening, in a year, the following quantity of material, (c) more than 1,000,000t	ML700013
Resource Activity, Ancillary 16 - Extraction and Screening, 3: Screening, in a year, the following quantity of material, (c) more than 1,000,000t	ML70445
Resource Activity, Ancillary 16 - Extraction and Screening, 3: Screening, in a year, the following quantity of material, (c) more than 1,000,000t	ML70446

Environmentally relevant activity/activities	Location(s)
Resource Activity, Ancillary 16 - Extraction and Screening, 3: Screening, in a year, the following quantity of material, (c) more than 1,000,000t	ML70448
Resource Activity, Ancillary 16 - Extraction and Screening, 3: Screening, in a year, the following quantity of material, (c) more than 1,000,000t	ML70449
Resource Activity, Ancillary 16 - Extraction and Screening, 3: Screening, in a year, the following quantity of material, (c) more than 1,000,000t	ML80018
Resource Activity, Ancillary 38 - Surface Coating, 1: Anodising, electroplating, enamelling or galvanising using, in a year, the following quantity of surface coating materials, (a) 1t to 100t	ML80053
Resource Activity, Ancillary 38 - Surface Coating, 1: Anodising, electroplating, enamelling or galvanising using, in a year, the following quantity of surface coating materials, (a) 1t to 100t	ML80068
Resource Activity, Ancillary 38 - Surface Coating, 1: Anodising, electroplating, enamelling or galvanising using, in a year, the following quantity of surface coating materials, (a) 1t to 100t	ML80108
Resource Activity, Ancillary 38 - Surface Coating, 1: Anodising, electroplating, enamelling or galvanising using, in a year, the following quantity of surface coating materials, (a) 1t to 100t	ML80129
Resource Activity, Ancillary 38 - Surface Coating, 1: Anodising, electroplating, enamelling or galvanising using, in a year, the following quantity of surface coating materials, (a) 1t to 100t	ML80140
Resource Activity, Ancillary 38 - Surface Coating, 1: Anodising, electroplating, enamelling or galvanising using, in a year, the following quantity of surface coating materials, (a) 1t to 100t	ML80165
Resource Activity, Ancillary 38 - Surface Coating, 1: Anodising, electroplating, enamelling or galvanising using, in a year, the following quantity of surface coating materials, (a) 1t to 100t	ML80184
Resource Activity, Ancillary 38 - Surface Coating, 1: Anodising, electroplating, enamelling or galvanising	ML2418

Environmentally relevant activity/activities	Location(s)
using, in a year, the following quantity of surface coating materials, (a) 1t to 100t	
Resource Activity, Ancillary 38 - Surface Coating, 1: Anodising, electroplating, enamelling or galvanising using, in a year, the following quantity of surface coating materials, (a) 1t to 100t	ML6992
Resource Activity, Ancillary 38 - Surface Coating, 1: Anodising, electroplating, enamelling or galvanising using, in a year, the following quantity of surface coating materials, (a) 1t to 100t	ML700011
Resource Activity, Ancillary 38 - Surface Coating, 1: Anodising, electroplating, enamelling or galvanising using, in a year, the following quantity of surface coating materials, (a) 1t to 100t	ML700012
Resource Activity, Ancillary 38 - Surface Coating, 1: Anodising, electroplating, enamelling or galvanising using, in a year, the following quantity of surface coating materials, (a) 1t to 100t	ML700013
Resource Activity, Ancillary 38 - Surface Coating, 1: Anodising, electroplating, enamelling or galvanising using, in a year, the following quantity of surface coating materials, (a) 1t to 100t	ML70445
Resource Activity, Ancillary 38 - Surface Coating, 1: Anodising, electroplating, enamelling or galvanising using, in a year, the following quantity of surface coating materials, (a) 1t to 100t	ML70446
Resource Activity, Ancillary 38 - Surface Coating, 1: Anodising, electroplating, enamelling or galvanising using, in a year, the following quantity of surface coating materials, (a) 1t to 100t	ML70448
Resource Activity, Ancillary 38 - Surface Coating, 1: Anodising, electroplating, enamelling or galvanising using, in a year, the following quantity of surface coating materials, (a) 1t to 100t	ML70449
Resource Activity, Ancillary 38 - Surface Coating, 1: Anodising, electroplating, enamelling or galvanising using, in a year, the following quantity of surface coating materials, (a) 1t to 100t	ML80018

Environmentally relevant activity/activities	Location(s)
Resource Activity, Ancillary 16 - Extraction and Screening, 2: Extracting, other than by dredging, in a year, the following quantity of material, (c) more than 1,000,000t	ML80053
Resource Activity, Ancillary 16 - Extraction and Screening, 2: Extracting, other than by dredging, in a year, the following quantity of material, (c) more than 1,000,000t	ML80068
Resource Activity, Ancillary 16 - Extraction and Screening, 2: Extracting, other than by dredging, in a year, the following quantity of material, (c) more than 1,000,000t	ML80108
Resource Activity, Ancillary 16 - Extraction and Screening, 2: Extracting, other than by dredging, in a year, the following quantity of material, (c) more than 1,000,000t	ML80129
Resource Activity, Ancillary 16 - Extraction and Screening, 2: Extracting, other than by dredging, in a year, the following quantity of material, (c) more than 1,000,000t	ML80140
Resource Activity, Ancillary 16 - Extraction and Screening, 2: Extracting, other than by dredging, in a year, the following quantity of material, (c) more than 1,000,000t	ML80165
Resource Activity, Ancillary 16 - Extraction and Screening, 2: Extracting, other than by dredging, in a year, the following quantity of material, (c) more than 1,000,000t	ML80184
Resource Activity, Ancillary 16 - Extraction and Screening, 2: Extracting, other than by dredging, in a year, the following quantity of material, (c) more than 1,000,000t	ML2418
Resource Activity, Ancillary 16 - Extraction and Screening, 2: Extracting, other than by dredging, in a year, the following quantity of material, (c) more than 1,000,000t	ML6992
Resource Activity, Ancillary 16 - Extraction and Screening, 2: Extracting, other than by dredging, in a	ML700011

Environmentally relevant activity/activities	Location(s)
year, the following quantity of material, (c) more than 1,000,000t	
Resource Activity, Ancillary 16 - Extraction and Screening, 2: Extracting, other than by dredging, in a year, the following quantity of material, (c) more than 1,000,000t	ML700012
Resource Activity, Ancillary 16 - Extraction and Screening, 2: Extracting, other than by dredging, in a year, the following quantity of material, (c) more than 1,000,000t	ML700013
Resource Activity, Ancillary 16 - Extraction and Screening, 2: Extracting, other than by dredging, in a year, the following quantity of material, (c) more than 1,000,000t	ML70445
Resource Activity, Ancillary 16 - Extraction and Screening, 2: Extracting, other than by dredging, in a year, the following quantity of material, (c) more than 1,000,000t	ML70446
Resource Activity, Ancillary 16 - Extraction and Screening, 2: Extracting, other than by dredging, in a year, the following quantity of material, (c) more than 1,000,000t	ML70448
Resource Activity, Ancillary 16 - Extraction and Screening, 2: Extracting, other than by dredging, in a year, the following quantity of material, (c) more than 1,000,000t	ML70449
Resource Activity, Ancillary 16 - Extraction and Screening, 2: Extracting, other than by dredging, in a year, the following quantity of material, (c) more than 1,000,000t	ML80018
Resource Activity, Ancillary 15 - Fuel burning, Using fuel burning equipment that is capable of burning at least 500kg of fuel in an hour	ML80053
Resource Activity, Ancillary 15 - Fuel burning, Using fuel burning equipment that is capable of burning at least 500kg of fuel in an hour	ML80068
Resource Activity, Ancillary 15 - Fuel burning, Using fuel burning equipment that is capable of burning at least 500kg of fuel in an hour	ML80108

Environmentally relevant activity/activities	Location(s)
Resource Activity, Ancillary 15 - Fuel burning, Using fuel burning equipment that is capable of burning at least 500kg of fuel in an hour	ML80129
Resource Activity, Ancillary 15 - Fuel burning, Using fuel burning equipment that is capable of burning at least 500kg of fuel in an hour	ML80140
Resource Activity, Ancillary 15 - Fuel burning, Using fuel burning equipment that is capable of burning at least 500kg of fuel in an hour	ML80165
Resource Activity, Ancillary 15 - Fuel burning, Using fuel burning equipment that is capable of burning at least 500kg of fuel in an hour	ML80184

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 Sustainable Planning Act 2009 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.

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.

Gillian Naylor
Department of Environment and Science
Delegate of the administering authority
Environmental Protection Act 1994

Date issued: 07 June 2019

Enquiries:
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Department of Environment and Science
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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)

Legislative requirements and conditions of environmental authority

Legislative requirements

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.

Conditions of environmental authority

Agency interest: General	
Condition number	**Condition**
A1	Provide a financial assurance in the amount and form required by the administering authority prior to the commencement of activities proposed under this environmental authority.
A2	In carrying out the mining activities authorised by this environmental authority, the environmental authority holder must comply with the approved disturbance footprint in **Figure 1 Authorised Disturbance**.
A3	The financial assurance is to remain in force until the administering authority is satisfied that no claim on the assurance is likely.
A4	The environmental authority holder must ensure: a) that all measures, plant and equipment necessary to ensure compliance with the conditions of this environmental authority are installed; b) that such measures, plant and equipment are maintained in a proper condition; and c) that such measures, plant and equipment are operated in a proper manner.
A5	The environmental authority holder is approved for a coal extraction rate of up to **7.5 million tonnes per annum (Mtpa)** of run-of-mine (ROM) ore in accordance with this environmental authority.
A6	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.
A7	Where monitoring is a requirement of this environmental authority, ensure that a competent person(s) conducts all monitoring.
A8	Monitoring results for rehabilitation will need to be kept until final surrender is accepted.
A9	Spillage of all flammable and combustible liquids must be contained within an on-site containment system and controlled in a manner that prevents environmental harm (other than trivial harm) and maintained in accordance with Section 5.8 of *AS 1940 – Storage and Handling of Flammable and Combustible Liquids of 2004.*

A10	Words and phrases used throughout this environmental authority are defined in the 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.
A11	As soon as practicable 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, the administering authority must be notified of the release by telephone or email (CRMining@ehp.qld.gov.au).
A12	The notification of emergencies or incidents as required by condition **A11** must include but not be limited to the following: a) the holder of the environmental authority; b) the location of the emergency or incident; c) the number of the environmental authority; d) the name and telephone number of the designated contact person; e) the time of the release; f) the time the holder of the environmental authority became aware of the release; g) the suspected cause of the release; h) the environmental harm caused, threatened, or suspected to be caused by the release; and i) actions taken to prevent any further release and mitigate any environmental harm caused by the release.
A13	Not more than **fourteen (14) days** following the initial notification of an emergency or incident, written advice must be provided of the information supplied in accordance with condition **A12** in relation to: a) proposed actions to prevent a recurrence of the emergency or incident; and b) outcomes of actions taken at the time to prevent or minimise environmental harm.
A14	As soon as practicable, but not more than **six (6) weeks** following the conduct of any environmental monitoring performed in relation to the 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, written advice must be provided of the results of any such monitoring performed to the administering authority.
A15	**Complaint Response** All complaints received must be recorded including details of the 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.

Agency interest: Air	
Condition number	**Condition**
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 or commercial 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 or commercial place, and the results must be notified within **fourteen (14) days** to the administering authority following completion of monitoring.
B3	The environmental authority holder shall ensure that all reasonable and feasible avoidance and mitigation measures are employed so that the dust particulate emissions generated by the mining activities do not cause exceedances of the following levels when measured at any sensitive or commercial place. 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 condition **B1**: a) dust deposition of one-hundred and twenty (120) milligrams per square metre per day, averaged over one (1) 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;* b) a concentration of particulate matter with an aerodynamic diameter of less than 10 micrometre (µm) (PM_{10}) suspended in the atmosphere of one-hundred and fifty (50) micrograms per cubic metre over a twenty four (24) hour averaging time, at a sensitive or commercial place downwind of the operational land, when monitored in accordance with; i) particulate matter - Determination of suspended particulate PM_{10} 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 ii) Australian Standard *AS3580.9.9 Methods for sampling and analysis of ambient air – Determination of suspended particulate matter – PM10 low volume sampler – Gravimetric method.*
B4	If monitoring indicates exceedance of the relevant limits in condition **B3**, then the environmental authority holder must: a) address the complaint including the use of appropriate dispute resolution if required; and b) immediately implement dust abatement measures so that emissions of dust from the activity do not result in further environmental nuisance.

B5	The holder of the environmental authority must develop and implement an Air Quality Management Plan prior to the commencement of mining activities within ML70445, ML70446, ML70448 and ML70449.
B6	The Air Quality Management Plan (as required under condition **B5**) must address, as a minimum, the following: a) a procedure for routine monitoring of real time meteorological conditions (rainfall, temperature, wind direction and wind speed) at Mackenzie North to identify periods when nearby sensitive receivers are at risk of elevated dust levels; b) implementation of a Trigger Action Response Plan, which will identify and initiate appropriate air quality mitigation measures, for periods when adverse meteorological conditions combine with high mining intensity at Mackenzie North; c) monitoring of particular matter with an aerodynamic diameter of less than 10 micrometre (µm) (PM_{10}) suspended in the atmosphere on a regular basis (as defined within the Air Quality Management Plan) to be undertaken in accordance with either: i) Australian Standard *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 ii) any alternative method of sampling PM_{10}, which may be permitted by the *Air Quality Sampling Manual* as published from time to time by the administering authority.

Agency interest: Water	
Condition number	**Condition**
C1	**Contaminant Release** Contaminants that will, or have the potential to cause environmental harm must not be released directly or indirectly to any waters as a result of the authorised mining activities, except as permitted under the conditions of this environmental authority.
C2	Unless otherwise permitted under the conditions of this environmental authority, the release of mine affected water to waters must only occur from the release points specified in **Table C1 Mine Affected Water Release Points, Sources and Receiving Waters** and **Figure 2a Authorised Release Points and Receiving Environment Monitoring Locations – Mackenzie River and Figure 2b Authorised Release Points and Receiving Environment Monitoring Locations – Blackwater Creek**.
C3	The release of mine affected water to internal water management infrastructure that is installed and operated in accordance with a water management plan that complies with conditions **C30** and **C31** inclusive is permitted.
C4	Conditions **C5** through to **C8 do not apply for releases conducted in accordance with condition C48.**

Table C1: Mine Affected Water Release Points, Sources and Receiving Waters

Release Point (RP)	Easting (MGA GDA94, Zone 55)	Northing (MGA GDA94, Zone 55)	Mine Affected Water Source and Location	Monitoring Point	Receiving waters description
RP 1	697440	7413330	Max Dam Bypass	Bluff / Jellinbah Road	Blackwater Creek
RP 2	697985	7410730	South Dam Bypass	Bluff /Jellinbah Road	Blackwater Creek
RP 3	694940	7425570	Plains Bypass	Plains Bypass Channel	Mackenzie River
RP4	696360	7428060	Mackenzie North WMS	End-of-pipe at RP4	Mackenzie River
RP5	696387	7425862	Plains MAW dams	Plains Bypass Channel	Mackenzie River

C5	The release of mine affected water to waters in accordance with condition **C2** must not exceed the release limits stated in **Table C2 Mine Affected Water Release Limits** when measured at the monitoring points specified in **Table C1 Mine Affected Water Release Points, Sources and Receiving Waters** for each quality characteristic.

Table C2: Mine Affected Water Release Limits

Quality Characteristic	Release Limits	Monitoring frequency	Comment
Electrical conductivity (μS/cm)	Release limits specified in Table C4 for variable flow criteria.	Daily during release (the first sample must be taken within 2 hours of commencement of release)	
pH (pH Unit)	6.5 (minimum) 9.0 (maximum)	Daily during release (the first sample must be taken within 2 hours of commencement of release)	
Turbidity (NTU)	<u>Blackwater Creek</u> Low flow (<2 m^3/s): 1,885 High Flow (>2 m^3/s): 2,900 <u>Mackenzie River</u> All flows: 1,000	Daily during release* (first sample within 2 hours of commencement of release)	Turbidity is required to assess ecosystems impacts and can provide instantaneous results.
Suspended Solids (mg/L)	N/A	Daily during release* (first sample within 2 hours of commencement of release)	Suspended solids are required to measure the performance of sediment and erosion control measures.
Sulphate (SO_4^{2-}) (mg/L)	Release limits specified in Table C4 for variable flow criteria.	Daily during release* (first sample within 2 hours of commencement of release)	Drinking water environmental values from NHMRC 2006 guidelines OR ANZECC.

Notes:
**Limit for suspended solids can be omitted if turbidity limit is included. Limit for turbidity not required if suspended solids limit included. Both indicators should be measured in all cases.*

C6	The release of mine affected water to waters from the release points must be monitored at the locations specified in **Table C1 Mine Affected Water Release Points, Sources and Receiving Waters** for each quality characteristics and at the frequency specified in **Table C2 Mine Affected Water Release Limits** and **Table C3 Release Contaminant Trigger Investigation Levels**. ***Note:*** *The administering authority will take into consideration any extenuating circumstances prior to determining an appropriate enforcement response in the event condition **C5** is contravened due to a temporary lack of safe or practical access. The administering authority expects the environmental authority holder to take all reasonable and practicable measures to maintain safe and practical access to designated monitoring locations.*

Table C3: Release Contaminant Trigger Investigation Levels

Quality Characteristic	Trigger Levels (µg/L)	Comment on Trigger Level	Monitoring Frequency
Aluminium	55	*For aquatic ecosystem protection, based on SMD guideline*	Commencement of release and thereafter weekly during release
Arsenic	13	*For aquatic ecosystem protection, based on SMD guideline*	
Cadmium	0.2	*For aquatic ecosystem protection, based on SMD guideline*	
Chromium	1	*For aquatic ecosystem protection, based on SMD guideline*	
Copper	2	*For aquatic ecosystem protection, based on LOR for ICPMS*	
Iron	300	*For aquatic ecosystem protection, based on low reliability guideline*	
Lead	4	*For aquatic ecosystem protection, based on SMD guideline*	
Mercury	0.2	*For aquatic ecosystem protection, based on LOR for CV FIMS*	
Nickel	11	*For aquatic ecosystem protection, based on SMD guideline*	
Zinc	8	*For aquatic ecosystem protection, based on SMD guideline*	
Boron	370	*For aquatic ecosystem protection, based on SMD guideline*	
Cobalt	90	*For aquatic ecosystem protection, based on low reliability guideline*	
Manganese	1900	*For aquatic ecosystem protection, based on SMD guideline*	
Molybdenum	34	*For aquatic ecosystem protection, based on low reliability guideline*	
Selenium	10	*For aquatic ecosystem protection, based on LOR for ICPMS*	
Silver	1	*For aquatic ecosystem protection, based on LOR for ICPMS*	
Uranium	1	*For aquatic ecosystem protection, based on LOR for ICPMS*	
Vanadium	10	*For aquatic ecosystem protection, based on LOR for ICPMS*	
Ammonia	900	*For aquatic ecosystem protection, based on SMD guideline*	
Nitrate	1100	*For aquatic ecosystem protection, based on ambient Qld WQ Guidelines (2006) for TN*	
Petroleum hydrocarbons (C6-C9)	20		
Petroleum hydrocarbons (C10-C36)	100		
Fluoride (total)	2000	*Protection of livestock and short term irrigation guideline*	
Sodium	180000	*Australian Drinking Water Guidelines (2004)*	

Note:

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

b) The quality characteristics required to be monitored as per Table C3 can be reviewed once the results of two years monitoring data is available, or if sufficient data is available to adequately demonstrate negligible environmental risk, and it may be determined that a reduced monitoring frequency is appropriate or that certain quality characteristics can be removed from Table C3 by amendment.

c) SMD – slightly moderately disturbed level of protection, guideline refers ANZECC & ARMCANZ (2000).

d) LOR – typical reporting for method stated. ICPMS/CV FIMS – analytical method required to achieve LOR.

C7	The release of mine affected water to waters, in accordance with condition **C2,** must only take place during periods of natural flow events in accordance with the receiving water flow criteria for discharge specified in **Table C4 Mine Affected Water Release during Flow Events** for the release point(s) specified in **Table C1 Mine Affected Water Release Points, Sources and Receiving Waters**.
C8	The release of mine affected water to waters, in accordance with condition **C2,** must not exceed the Electrical Conductivity and Sulphate Release Limits or the Maximum Release Rate (for all combined release point flows) for each receiving water flow criteria for discharge specified in **Table C4 Mine Affected Water Release during Flow Events** when measured at the monitoring points specified **in Table C1 Mine Affected Water Release Points, Sources and Receiving Waters**.
C9	The holder must ensure a stream flow gauging station/s is installed, operated and maintained to determine and record stream flows at the locations and flow recording frequency specified in **Table C4 Mine Affected Water Release during Flow Events**.
C10	The daily quantity of mine affected water released from each release point, in accordance with condition **C2**, must be measured and recorded at the monitoring points in **Table C1 Mine Affected Water Release Points, Sources and Receiving Waters**.
C11	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.
C12	**Notification of Release Event** The environmental authority holder must notify the administering authority via WaTERS as soon as practicable and no later than **24 hours** after commencing to release mine affected water to the receiving environment. Notification must include the submission of written advice to the administering authority of the following information: a) release commencement date/time; b) expected release cessation date/time; c) release point/s; d) release volume (estimated); e) receiving water/s including the natural flow rate; and f) any details (including available data) regarding likely impacts on the receiving water(s).

Table C4: Mine Affected Water Release during Flow Events

Receiving waters/ stream	Release Point (RP)	Gauging station	East (GDA94)	North (GDA94)	Receiving Water Flow Recording Frequency	Receiving Water Flow Criteria for discharge (m^3/s)	Maximum release rate (for all combined RP flows)	Electrical Conductivity and Sulphate Release Limits
Blackwater Creek	RP 1 RP 2	MP 1	694760	7413420	Continuous (minimum daily)	**Low Flow*** <2.0 m3/s for a period of 28 days after natural flow events that exceed 2 m^3/s	0.5 m^3/s	Electrical conductivity <700 µS/cm* Sulphate (SO_4^{2-}) 250 mg/L
						Medium Flow >2.0 m3/s	0.16 m^3/s	Electrical conductivity <3500 µS/cm Sulphate (SO_4^{2-}) 350 mg/L
						Medium Flow >5.0 m3/s	0.40 m^3/s	Electrical conductivity <3500 µS/cm Sulphate (SO_4^{2-}) 350 mg/L
						High Flow >10.0m^3/s	0.44 m^3/s	Electrical conductivity <6000 µS/cm Sulphate (SO_4^{2-}) 500 mg/L
Mackenzie River	RP3 RP4 RP5	MP5	697281	7428227	Continuous (minimum daily)	**Low Flow** >1m^3/s	0.43m^3/s	Electrical conductivity <310 µS/cm Sulphate (SO_4^{2-}) 250 mg/L
						Low Flow >10m^3/s	0.11m^3/s	Electrical conductivity <3000 µS/cm Sulphate (SO_4^{2-}) 500 mg/L
						Medium Flow >50m^3/s	0.32m^3/s	Electrical Conductivity <2500 µS/cm Sulphate (SO_4^{2-}) <500 mg/L
							0.26m^3/s	Electrical Conductivity <3500 µS/cm Sulphate (SO_4^{2-}) <600 mg/L
						High Flow >120m^3/s	0.37m^3/s	Electrical Conductivity <10000 µS/cm

Receiving waters/ stream	Release Point (RP)	Gauging station	East (GDA94)	North (GDA94)	Receiving Water Flow Recording Frequency	Receiving Water Flow Criteria for discharge (m^3/s)	Maximum release rate (for all combined RP flows)	Electrical Conductivity and Sulphate Release Limits
								Sulphate (SO_4^{2-}) <750 mg/L
						High Flow >250m^3/s	0.51m^3/s	Electrical Conductivity <15000 µS/cm Sulphate (SO_4^{2-}) <1000 mg/L

Note: *******Concurrent release of mine affected water to both the Mackenzie River and Blackwater Creek must be controlled such that the total release from all combined Release Points does not exceed the "Maximum Release Rate" for Mackenzie River*

C13	The environmental authority holder must notify the administering authority as soon as practicable (nominally within **twenty-four (24) hours** after cessation of a release event) of the cessation of a release notified under condition **C12** and within **twenty-eight (28) days** provide the following information in writing: a) release cessation date/time; b) natural flow volume in receiving water; c) volume of water released; d) details regarding the compliance of the release with the conditions of Agency Interest: Water of this environmental authority (i.e. contamination limits, natural flow, discharge volume); e) all in-situ water quality monitoring results; and f) any other matters pertinent to the water release event. ***Note:*** *Successive or intermittent releases occurring within* ***twenty-four (24) hours*** *of the cessation of any individual release can be considered part of a single release event and do not require individual notification for the purpose of compliance with conditions* ***C12 and C13*** *provided the relevant details of the release are included within the notification provided in accordance with conditions* ***C12*** *and* ***C13****.*
C14	**Notification of Release Event Exceedance** For releases under condition **C2**, if the release limits defined in **Table C2 Mine Affected Water Release Limits** are exceeded, the holder of the environmental authority must notify the administering authority within **twenty-four (24) hours** of receiving the results.
C15	For releases under condition **C48**, if the release limits defined in **Table C9 Enhanced 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.

C16	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: a) the reason for the release; b) the location of the release; c) all water quality monitoring results; d) any general observations; e) all calculations; and f) any other matters pertinent to the water release event.
C17	**Mine Affected Water Investigation** For releases under condition **C2**, if quality characteristics of the release exceed any of the trigger levels specified in **Table C3 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 C3 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 C3 Release Contaminant Trigger Investigation Levels** 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 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* ***C17 2(b)*** *of this condition, no further reporting is required for subsequent trigger events for that quality characteristic.*
C18	If any exceedance in accordance with condition **C17 2(b)** is identified, the holder of the authority must notify the administering authority within **fourteen (14) days** of receiving the result.
C19	**Monitoring of Water Storage Quality** Water storages defined in **Table C5 Water Storage Monitoring** which are associated with the release points must be monitored for the water quality characteristics specified in **Table C6 Onsite Water Storage Contaminant Limits** at the monitoring locations and at the monitoring frequency specified in **Table C5 Water Storage Monitoring**.
C20	In the event that water storages defined in **Table C5 Water Storage Monitoring** exceed the contaminant limits defined in **Table C6 Onsite Water Storage Contaminant Limits**, the holder of the environmental authority must implement measures, where practicable, to prevent access to waters by all livestock.

Table C5: Water Storage Monitoring

Water Storage Description	Easting (MGA GDA94, Zone 55)	Northing (MGA GDA94, Zone 55)	Monitoring Location	Frequency of Monitoring
Central Release Dam	700164	7410002	Highest Bank	Bi-annually
North Mine Water Dam	698476	741324	Highest Bank	Bi-annually
South Clean Water Dam	698769	7410301	Highest Bank	Bi-annually

Table C6: Onsite Water Storage Contaminant Limits

Quality Characteristic	Test Value	Contaminant Limit
pH (pH unit)	Range	Greater than 4, less than 9[#]
EC (µS/cm)	Maximum	5970*
Sulphate (mg/L)	Maximum	1000*
Fluoride (mg/L)	Maximum	2*
Aluminium (mg/L)	Maximum	5*
Arsenic (mg/L)	Maximum	0.5*
Cadmium (mg/L)	Maximum	0.01*
Cobalt (mg/L)	Maximum	1*
Copper (mg/L)	Maximum	1*
Lead (mg/L)	Maximum	0.1*
Nickel (mg/L)	Maximum	1*
Zinc (mg/L)	Maximum	20*

Note:

[#] *Contaminant limit based on ANZECC & ARMCANZ (2000) stock water quality guidelines.*

* *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".*

- *Total measurements (unfiltered) must be taken and analysed*

C21	**Receiving Environment Monitoring and Contaminant Trigger Levels** The quality of the receiving waters must be monitored at the locations specified in **Table C8 Receiving Water Upstream Background Sites and Down Stream Monitoring Points** for each quality characteristic and at the monitoring frequency stated in **Table C7 Receiving Waters Contaminant Trigger Levels**. ***Note:*** *The administering authority will take into consideration any extenuating circumstances prior to determining an appropriate enforcement response in the event condition **C21** is contravened due to a temporary lack of safe or practical access. The administering authority expects the environmental authority holder to take all reasonable and practicable measures to maintain safe and practical access to designated monitoring locations.*

Table C7: Receiving Waters Contaminant Trigger Levels

Quality Characteristic	Trigger Level	Monitoring Frequency
pH	Blackwater Creek < 6.5 or > 9	Daily during releases
	Mackenzie River < 6.5 or > 8.5	
Electrical Conductivity (μS/cm)	Blackwater Creek > 1000 μS/cm	
	Mackenzie River > 400 μS/cm	
Turbidity (NTU)	Blackwater Creek Low flow (<2 m^3/s): 1,885 High Flow (>2 m^3/s): 2,991	
	Mackenzie River N/A	
Suspended solids (mg/L)	690	
Sulphate (SO_4^{2-}) (mg/L)	250	
Sodium (mg/L)	180 (Australian Drinking Water Guidelines, 2004)	

Table C8: Receiving Water Upstream Background Sites and Down Stream Monitoring Points

Monitoring Points	Receiving Waters Location Description	Easting (MGA GDA94, Zone 55)	Northing (MGA GDA94, Zone 55)
Upstream Background Monitoring Points			
MP2	Blackwater Creek 1360 metres upstream of RP 2	695630	7410000
MP4	Upstream Mackenzie River	694538	7426005
Downstream Monitoring Points			
MP1	Blackwater Creek 1500 metres downstream of RP1	694760	7413420
MP5	Downstream Mackenzie River	697281	7428227

Notes:

Monitoring of the Mackenzie River is only required when releasing via RP3, RP5 and/or RP4.

C22	If quality characteristics of the receiving water at the downstream monitoring points exceed any of the trigger levels specified in **Table C7 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: a) 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 b) where the downstream results exceed the upstream results complete an investigation 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* ***C22 (b)*** *of this condition, no further reporting is required for subsequent trigger events for that quality characteristic.*
C23	**Receiving Environment Monitoring Program (REMP)** The environmental authority holder must develop and implement a Receiving Environment Monitoring Program (REMP) to monitor, identify and describe any adverse impacts to surface water environmental values, quality and flows due to the authorised mining activity. This must include monitoring the effects of the mine on the receiving environment periodically (under natural flow conditions) and while mine affected water is being discharged from the site. For the purposes of the REMP, the receiving environment is the waters of the Mackenzie River and connected or surrounding waterways within 5km downstream of the release. The REMP should encompass any sensitive receiving waters or environmental values downstream of the authorised mining activity that will potentially be directly affected by an authorised release of mine affected water.

C24	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); and 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 background reference sites (e.g. upstream or background) and downstream sites from the release (as a minimum, the locations specified in **Table C8 Receiving Water Upstream Background Sites and Down Stream Monitoring Points**); and 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 2009*. This should include monitoring during periods of natural flow irrespective of mine or other discharges; and e) include monitoring and assessment of dissolved oxygen saturation, temperature and all water quality parameters listed in **Tables C2 Mine Affected Water Release Limits** and **C3 Release Contaminant Trigger Investigation Levels**); and f) include, where appropriate, monitoring of metals/metalloids in sediments (in accordance with ANZECC & ARMCANZ 2000, BATLEY and/or the most recent version of AS5667.*1 Guidance on Sampling of Bottom Sediments*); and g) include, where appropriate, monitoring of macroinvertebrates in accordance with the AusRivas methodology, and h) apply procedures and/or guidelines from ANZECC & ARMCANZ 2000 and other relevant guideline documents; and i) describe sampling and analysis methods and quality assurance and control; and j) incorporate stream flow and hydrological information in the interpretations of water quality and biological data.
C25	A report outlining the findings of the REMP, including all monitoring results and interpretations in accordance with conditions **C23** and **C24** must be prepared annually and made available on request to the administrating authority. This must include an assessment of background reference water quality, the condition of downstream water quality compared against water quality objectives, and the suitability of current discharge limits to protect downstream environmental values.
C26	**Water Reuse** 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 consent of the third party).

C27	**Water General** All determinations of water quality and biological monitoring must be: a) performed by a person or body possessing appropriate experience and qualifications to perform the required measurements; b) made in accordance with methods prescribed in the latest edition of the administering authority's Monitoring and Sampling Manual; c) collected from the monitoring locations identified within this environmental authority, within 48 hour of each other where possible; d) carried out on representative samples; and e) analysed at a laboratory accredited (e.g. NATA) for the method of analysis being used. ***Note:*** *Condition* ***C27*** *requires the* Monitoring and Sampling Manual *to be followed and where it is not followed because of exceptional circumstances this should be explained and reported with the results.*
C28	The release of any contaminants as permitted by this environmental authority, directly or indirectly to waters, other than internal water management infrastructure that is installed and operated in accordance with a water management plan that complies with conditions **C30 to C35** inclusive: a) must not produce any visible discolouration of receiving waters; and b) 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.
C29	**Annual Water Monitoring and 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: a) the date on which the sample was taken; b) the time at which the sample was taken; c) the monitoring point at which the sample was taken; d) the measured or estimated daily quantity of mine affected water released from all release points; e) the release flow rate at the time of sampling for each release point; f) the results of all monitoring and details of any exceedances of the conditions of this environmental authority; and g) water quality monitoring data must be provided to the administering authority in the specified electronic format upon request.
C30	**Water Management Plan** A Water Management Plan must be developed by an appropriately qualified person and implemented by the environmental authority holder.

C31	The Water Management Plan must: a) provide for effective management of actual and potential environmental impacts resulting from water management associated with the mining activity carried out under this environmental authority; and b) be developed in accordance with the administering authority's guideline *Preparation of water management plans for mining activities* and include: i) a study of the source of contaminants; ii) a water balance model for the site; iii) a water management system for the site; iv) measures to manage and prevent saline drainage; v) measures to manage and prevent acid rock drainage; vi) contingency procedures for emergencies; and vii) a program for monitoring and review of the effectiveness of the water management plan.
C32	The Water Management Plan must be reviewed each calendar year and a report prepared by an appropriately qualified person. The report must: a) assess the plan against the requirements under condition **C31**; b) include recommended actions to ensure actual and potential environmental impacts are effectively managed for the coming year; and c) identify any amendments made to the water management plan following the review.
C33	The holder of this environmental authority must attach to the review report required by condition **C32**, a written response to the report and recommended actions, detailing the actions taken or to be taken by the environmental authority holder on stated dates: a) to ensure compliance with this environmental authority; and b) to prevent a recurrence of any non-compliance issues identified.
C34	The review report required by condition **C32** and the written response to the review report required by condition **C33** must be submitted to the administering authority with the subsequent annual return under the signature of the appointed signatory for the annual return.
C35	A copy of the Water Management Plan must be provided to the administering authority on request.
C36	**Saline Drainage** 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 saline drainage.
C37	**Acid Rock Drainage** 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.
C38	**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 stormwater.

C39	Stormwater, other than mine affected water, is permitted to be released to waters from: a) erosion and sediment control structures that are installed and operated in accordance with the Erosion and Sediment Control Plan required by condition **C38**; and b) water management infrastructure that is installed and operated, in accordance with a Water Management Plan that complies with conditions **C30 to C35** inclusive, for the purpose of ensuring water does not become mine affected water.
C40	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.
C41	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.
C42	All reasonable and practicable erosion protection measures and sediment control measures must be implemented and maintained to minimise erosion and the release of sediment.
C43	**Sewage Treatment** The holder of this authority must ensure that the disposal of sewage effluent from mobile, temporary and permanent sewage treatment facilities less than 21 equivalent persons must not cause environmental nuisance or material or serious environmental harm.
C44	Treated effluent used for irrigation must not cause spray drift or over spray to any sensitive or commercial place.
C45	Treated effluent must not be reused for irrigation so as to create a likelihood of contact or exposure to persons.
C46	Treated effluent must not be released from the site to any waters or the bed and banks of any waters or to land in a manner other than that authorised in this authority.
C47	Suitable banks and/or diversion drains must be installed and maintained to exclude stormwater runoff from entering any structures used for the storage or treatment of sewage or treated effluent.
C48	**Enhanced Contaminant Release** The enhanced release of mine affected water must only occur under natural flow events from release points **RP3** and **RP5**, as specified in **Table C1 Mine Affected Water Release Points, Sources and Receiving Waters** and depicted in **Figure 2a Authorised Release Points and Receiving Environment Monitoring Locations – Mackenzie River** attached to this environmental authority.
C49	**Contaminant Release Events** The enhanced release of mine affected water in accordance with condition **C48** may only take place when the receiving water flow criteria for an enhanced release as specified in **Table C9 Enhanced Contaminant Release Limits** is met.
C50	The enhanced release of mine affected water must not exceed the release limits stated in **Table C9 Enhanced Contaminant Release Limits** when measured at mine affected water storages releasing to release points **RP3** and **RP5** as specified in **Table C1 Mine Affected Water Release Points, Sources and Receiving Waters**.

Table C9: Enhanced Contaminant Release Limits

Quality characteristic	Maximum Release Rate (for all combined RP flows)	Receiving Water Flow Criteria	Enhanced Release Limit	Monitoring Frequency
Electrical conductivity (µS/cm)	2.7m^3/s	>10m^3/s	8,000µS/cm	Continuous (minimum hourly)
pH (pH units)			6.5 – 9.3	
Sulphate (SO_4^{2-}) (mg/L)			286mg/L[1]	Daily during enhanced release (first sample within two hours of commencement of release)
Turbidity (NTU)			1,000	
Suspended Solids (mg/L)			N/A[2]	

Note:

[1] Sulphate limit determined from site specific relationship between EC and Sulphate for 8,000µS/cm.

[2] Limit for suspended solids can be omitted if turbidity limit is included. Limit for turbidity not required if suspended solids included. Both indicators should be measured in all cases.

C51	The enhanced release of mine affected water to waters in accordance with condition **C48** must cease when Electrical Conductivity (EC) exceeds 400µS/cm when measured at monitoring point **MP5** as specified in **Table C8 Receiving Water Upstream Background Sites and Down Stream Monitoring Points**.
C52	**Enhanced contaminant release – control of contaminant releases** The enhanced release of mine affected water in accordance with condition **C48**, must have release control mechanisms. Release control mechanisms must be: a) Fitted at control points on mine affected water storages releasing to release points **RP3** and **RP5**, as specified in **Table C1 Mine Affected Water Release Points, Sources and Receiving Waters** and depicted in **Figure 2a Authorised Release Points and Receiving Environment Monitoring Locations – Mackenzie River** attached to this environmental authority, prior to the commencement of an enhanced release at that point: b) Capable of immediately ceasing or reducing the discharge of mine water.
C53	**Enhanced Monitoring** The enhanced release of mine affected water in accordance with condition **C48**, must be able to be monitored via real-time telemetry (minimum hourly) for flow rate, EC and pH at: a) The control points on mine affected water storages releasing to release points **RP3** and **RP5** as specified in **Table C1 Mine Affected Water Release Points, Sources and Receiving Waters** prior to commencement of enhanced release at that point; and b) At monitoring points **MP4** and **MP5** as specified in **Table C8 Receiving Water Upstream Background Sites and Downstream Monitoring Points**.

C54	The enhanced release of mine affected water to waters from the release points **RP3** and **RP5** must be monitored at the control points on mine affected water storages releasing to locations specified in **Table C1 Mine Affected Water Release Points, Sources and Receiving Waters** for each quality characteristics and at the frequency specified in **Table C9 Enhanced Contaminant Release Limits** and **Table C3 Release Contaminant Trigger Investigation Levels**.
C55	**Enhanced Monitoring** All continuous environmental monitoring systems required by this environmental authority must have an instrument availability during release events of at least 80%, except for the continuous monitoring of mine affected water storages releasing to release points **RP3** and **RP5** as specified in **Table C1 Mine Affected Water Release Points, Sources and Receiving Waters** which must have an instrument availability of at least 90%.
C56	**Receiving environment monitoring and contaminant trigger levels** Assessment of the quality of the receiving waters conducted under condition **C22** must use real-time monitoring for pH, EC and flow at MP5 during enhanced release to Mackenzie River.
C57	**Release notification – potentially affected stakeholders** The environmental authority holder must notify all potentially affected stakeholders on commencement (within **2 hours** or another timeframe as agreed to in writing with the relevant potentially affected stakeholder) of enhanced release of mine affected water to the receiving environment. Notification must be in the form agreed to by the potentially affected stakeholder. Notification must include the following information unless otherwise agreed to by the potentially affected stakeholder: a) Release commencement date/time; b) Release location (release point/s); c) Release rate; d) Receiving waters for the release; e) Receiving water flow rate f) Water quality of the release including salinity and pH; and g) Estimated duration of the release.

C58	**Enhanced Contaminant release - Annual Reporting** The environmental authority holder must provide the administering authority an annual independent assessment of the effectiveness of the on-site water management practices, to be submitted by **31 August each year**. This assessment must be undertaken by an appropriately qualified person that is independent of the environmental authority holder and must demonstrate the continued effectiveness of on-site water management to the extent that is practicable including: a) Control of mine-affected water generation; i) minimisation of disturbance within rehabilitated or undisturbed areas; ii) minimisation of raw water imports for mining processes; iii) prioritised re-use of mine-affected water where practicable, particularly in high water usage processes such as coal beneficiation; iv) effective irrigation, evaporation and re-use of treated sewage effluent to prevent it from entering mine-affected water storages. b) Separation of mine-affected and non-mine-affected catchments on site: i) mine-affected water catchments are being effectively reduced by the environmental authority holder's implemented rehabilitation program; ii) mine design should allow for runoff from successfully rehabilitated disturbed areas to be shed from site without being retained in the mine-affected water system; iii) rehabilitation completion criteria should include water quality limits to define successfully rehabilitated (i.e. non mine-affected) catchments. For example, water quality is an indicator that an area has been successfully rehabilitated and is no longer generating mine affected water. c) Details of any progressive rehabilitation that demonstrates mine-affected water catchments are being effectively reduced by the environmental authority holder's implemented rehabilitation program.
C59	If the administering authority determines that the annual assessment report does not demonstrate the continued effectiveness of the onsite water management practices in accordance with condition **C58,** the holder of the environmental authority must comply with any written direction given by the administering authority to cease water releases undertaken in accordance with condition **C48.**
C60	**Groundwater** The holder of the environmental authority must ensure there continues to be no connectivity between the Mackenzie River and the mining operations by conducting groundwater monitoring at the locations and frequency defined in **Table C10 Ground water monitoring locations and frequency**.

Table C10: Groundwater monitoring locations and frequency

Monitoring point	Easting (MGA GDA 94, Zone 55)	Northing (MGA GDA 94, Zone 55)	Monitoring frequency
MS0203	695563	7425501	Annually
MSP0209	695741	7425478	Annually
MSP0213	695567	7425498	Annually
JMR4WA	695950	7427175	Annually
JMR23WA	697212	7428280	Annually

C61	Groundwater levels must be monitored and groundwater draw down fluctuations in excess of two metres per year, resulting from mining activities, must be notified within **fourteen (14) days** to the administering authority following completion of monitoring.
C62	Groundwater standing level must be monitored during exploration activities ahead of mining and any necessary management strategy implemented to manage predicted impacts.
C63	Alternative methods for sampling groundwater levels as required by **Table C10 Ground water monitoring locations and frequency** must be implemented if bore locations are de-commissioned due to coal pit progression and notification must be given to the administering authority within one month.

Agency interest: Regulated Structures	
Condition number	**Condition**
D1	**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: a) prior to the design and construction of the structure, if it is not an existing structure; or b) prior to any change in its purpose or the nature of its stored contents.
D2	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.
D3	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).
D4	**Design and construction of a regulated structure** Conditions **D5** to **D9** do not apply to existing structures.
D5	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).
D6	Construction of a regulated structure is prohibited unless: a) the holder has submitted a consequence category assessment report and certification to the administering authority; and b) certification for the design, design plan and the associated operating procedures has been certified by a suitably qualified and experienced person in compliance with the relevant condition of this authority.
D7	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 Register of Regulated Structures.

D8	Regulated structures must: a) be designed and constructed in compliance with the 'Manual for assessing consequence categories and hydraulic performance of structures' (ESR/2016/1933); b) be designed and constructed with due consideration given to ensuring that the design integrity would not be compromised on account of: i. floodwaters from entering the regulated dam from any watercourse or drainage line; and ii. wall failure due to erosion by floodwaters arising from any watercourse or drainage line. c) have the floor and sides of the dam designed and constructed to prevent or minimise the passage of the wetting front and any entrained contaminants through 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.
D9	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.
D10	**Notification of affected persons** All affected persons must be provided with a copy of the emergency action plan in place for each regulated structure a) for existing structures that are regulated structures, within **ten (10) business days** of this condition taking effect; b) prior to the operation of the new regulated structure; and c) if the emergency action plan is amended, within **five (5) business days** of it being amended.
D11	**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 in respect of regulated structure, all of the following: a) one paper copy and one electronic copy of the design plan and certification of the 'design plan' in accordance with condition **D6**; b) a set of 'as constructed' drawings and specifications; c) certification of the 'as constructed drawings and specifications' in accordance with condition **D9**; d) 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; e) the requirements of this authority relating to the construction of the regulated structure have been met; f) the holder has entered the details required under this authority, into a Register of Regulated Structures; and g) there is a current operational plan for the regulated structure.

D12	For existing structures that are regulated structures: a) 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 **twelve (12) months** of the commencement of this condition a copy of the certified system design plan including that structure; and b) there must be a current operational plan for the existing structures.
D13	Each regulated structure must be maintained and operated, for the duration of its operational life until decommissioned and rehabilitated, in compliance with the current operational plan and, if applicable, the current design plan and associated certified 'as constructed' drawings.
D14	**Mandatory reporting level** Conditions **D15** to **D16** inclusive only apply to Regulated Structures which have not been certified as low consequence category for 'failure to contain – overtopping'.
D15	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.
D16	The holder must, as soon as practicable but 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.
D17	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.
D18	The holder must record any changes to the MRL in the Register of Regulated Structures.
D19	**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.
D20	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).
D21	The holder must, as soon as practicable but 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.
D22	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.
D23	**Annual inspection report** Each regulated structure must be inspected each calendar year by a suitably qualified and experienced person.

D24	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 a recommendations section, with any recommended actions to ensure the integrity of the regulated structure or a positive statement that no recommendations are required.
D25	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).
D26	The holder must 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 c) If, following receipt of the recommendations and (if applicable) recommended actions, the administering authority requests a copy of the annual inspection report from the holder, provide this to the administering authority within 10 business days of receipt of the request.
D27	**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.
D28	**Decommissioning and rehabilitation** Regulated structures must not be abandoned but be either: a) decommissioned and rehabilitated to achieve compliance with condition **D29**; or b) be left in-situ for a use by the landholder provided that: i. it no longer contains contaminants that will migrate into the environment; and ii. it contains water of a quality that is demonstrated to be suitable for its intended use(s); and c) the holder of the environmental authority and the landholder agree in writing that the; i. dam will be used by the landholder following the cessation of the environmentally relevant activity(ies); and ii. landholder is responsible for the dam, on and from an agreed date.
D29	Before surrendering this environmental authority the site must be rehabilitated to achieve a safe, stable, non-polluting landform and the relevant final land use in accordance with **Table G2**.
D30	**Register of Regulated Structures** A Register of Regulated Structures, incorporating each regulated structure, must be established and maintained by the holder.
D31	The holder must provisionally enter the required information in the Register of Regulated Structures when a design plan for a regulated dam is submitted to the administering authority.
D32	The holder must make a final entry of the required information in the Register of Regulated Structures once compliance with conditions **D11** and **D12** has been achieved.

D33	The holder must ensure that the information contained in the Register of Regulated Structures is current and complete on any given day.
D34	All entries in the Register of Regulated Structures must be approved by the chief executive officer for the holder of this authority, or their delegate, as being accurate and correct.
D35	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 Structures, in the electronic format required by the administering authority.
D36	**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 **six (6) months** of amendment of the authority adopting this schedule.
D37	All existing structures must subsequently comply with the timetable for achieving the requirements of the Manual and any further assessments in accordance with the Manual specified in **Table D1**, depending on the consequence category for each existing structure assessed in the most recent previous certification for that structure.
D38	Where an existing structure is to be managed as part of an integrated containment system for the purpose of sharing the DSA volume across the system, the integrated containment system must subsequently comply with the timetable for achieving the requirements of the Manual and any further assessments in accordance with the Manual specified in **Table D1**, depending on the consequence category in the most recent previous certification for that system.
D39	**Table D1 Transition period required for existing structures to achieve the requirements of the Manual for Assessing Consequence Categories and Hydraulic Performance of Dams** ceases to apply for a structure once any of the following events has occurred: a) it has been brought into compliance with the hydraulic performance criteria applicable to the structure under the Manual; or b) it has been decommissioned; or c) it has been certified as no longer being assessed as a regulated structure.
D40	Certification of the transitional assessment required by conditions **D36** and **D37** (as applicable) must be provided to the administering authority within **six (6) months** of amendment of the authority adopting this schedule.

Table D1: 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 consequence	Significant consequence	Low consequence
>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.
>70%-≤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.
>50-≤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.
≤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.
Regulated levee designed to prevent the ingress of clean flood water <100% compliant*	Within 5 years unless otherwise agreed with the administering authority.		

* Levees designed for the diversion of contaminated waters or protection of the structural integrity of a dam are not to be considered as part of this provision. These levees are considered a key design element of the relevant dam and transitional periods should as such align to that relevant compliance criteria and consequence category.

Agency interest: Noise and Vibration	
Condition number	**Condition**
E1	**Noise Nuisance** The holder of this environmental authority must ensure that noise generated by the mining activities does not cause the criteria in **Table E1 Noise limits at a noise sensitive place** to be exceeded at a sensitive place or commercial place.
E2	When requested by the administering authority, noise monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive or commercial place, and the results must be notified within **14 days** to the administering authority following completion of monitoring.

E3	The method of measurement and reporting of noise levels must comply with the latest edition of the administering authority's *Noise Measurement Manual*.
E4	If the environmental authority holder can provide evidence through monitoring that the limits defined in **Table E1 Noise limits at a noise sensitive place**, are not being exceeded then the holder is not in breach of condition **E1**. Monitoring must include: a) $L_{A1, adj, 15 mins}$; b) $L_{Aeq, adj, 15 mins}$; and c) the level and frequency of occurrence of impulsive or tonal noise.
E5	If monitoring indicates exceedance of the limits in **Table E1 Noise limits at a noise sensitive place**, then the environmental authority holder must: a) address the complaint including the use of appropriate dispute resolution if required; and b) immediately implement noise abatement measures so that emissions of noise from the activity do not result in further environmental nuisance.

Table E1: Noise limits at a noise sensitive place

Sensitive Place						
Noise level dB(A) measured as:	**Monday to Saturday**			**Sunday and Public Holidays**		
	7am – 6pm	**6pm – 10pm**	**10pm – 7am**	**9am – 6pm**	**6pm – 10pm**	**10pm – 9am**
$L_{Aeq, adj, 15 mins}$	CV = 50 AV = 5	CV = 45 AV = 5	CV = 40 AV = 0	CV = 45 AV = 5	CV = 40 AV = 5	CV = 35 AV = 5
$L_{A1, adj, 15 mins}$	CV = 55 AV = 10	CV = 50 AV = 10	CV = 45 AV = 5	CV = 50 AV = 10	CV = 45 AV = 10	CV = 40 AV = 5

Note:

a) CV = Critical Value.
b) AV = Adjustment Value.
c) To calculate noise limits in Table E1:
  i) If bg ≤ (CV – AV): Noise limit = bg + AV.
  ii) If (CV – AV) < bf ≤ CV: Noise limit = CV.
  iii) If bg > CV: Noise limit = bg = 0.
d) In the event that measurement bg ($L_{A90, adj, 15 mins}$) is less than 30 dB(A), then 30 dB(A) can be substituted for the measured background level.
e) Bg = background noise level ($L_{A90, adj, 15 mins}$) measured over 3 – 5 days at the nearest sensitive receptor.

E6	The holder of this environmental authority must develop a Noise Management Plan prior to the commencement of mining activities within ML70445, ML70448 and ML70449.

E7	The Noise Management Plan (as required under condition **E6**) must address, as a minimum, the following: a) a procedure for routine monitoring of real time meteorological conditions (rainfall, temperature, wind direction and wind speed) at Mackenzie North to identify periods when nearby sensitive receivers are at risk of elevated noise levels; b) implementation of a Trigger Action Response Plan, which will identify and initiate appropriate noise mitigation measures, for periods when adverse meteorological conditions combine with high mining intensity at Mackenzie North; c) noise monitoring and recording on a regular basis (as defined within the Noise Management Plan) must include the following descriptor characteristics and matters: i) $L_{A1, adj, 15 mins}$; ii) $L_{Aeq, adj, 15 mins}$; ii) the level and frequency of occurrence of impulsive or tonal noise; and iii) atmospheric conditions including wind speed and direction, location, date and time of recording.
E8	**Vibration Nuisance** Subject to conditions **E9** and **E10**, vibration from the mining activity must not cause an environmental nuisance, at any sensitive or commercial place.
E9	When requested by the administering authority, vibration monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive or commercial place, and the results must be notified within **14 days** to the administering authority following completion of monitoring.
E10	If the environmental authority holder can provide evidence through monitoring that the limits defined in **Table E2 Vibration limits at a noise sensitive place** are not being exceeded then the holder is not in breach of condition **E8**. Monitoring must include: a) location of the blast(s) within the mining area (including which bench level); b) atmospheric conditions including temperature, relative humidity and wind speed and direction; and c) location, date and time of recording.
E11	If monitoring indicates exceedance of the relevant limits in **Table E2 Vibration limits at a noise sensitive place**, then the environmental authority holder must: a) address the complaint including the use of appropriate dispute resolution if required b) immediately implement vibration abatement measures so that vibration from the activity does not result in further environmental nuisance.

Table E2: Vibration limits at a noise sensitive place

Blasting noise limits	**Sensitive or commercial place blasting noise limits**	
	7am to 6pm Monday to Friday* and 9am to 5pm Saturdays, Sundays and Public Holidays*	**All other times**
Airblast overpressure	115 dB (Linear) Peak for 9 out of 10 consecutive blasts initiated and not greater than 120 dB (Linear) Peak at any time.	No blasting
Ground vibration peak particle velocity	5mm/second peak particle velocity for 9 out of 10 consecutive blasts and not greater than 10mm/second peak particle velocity at any time.	No blasting

**Except in cases where measures need to be taken to ensure the mine area is safe and stable.*

Agency interest: Waste	
Condition number	**Condition**
F1	**Storage of Tyres** Scrap tyres stored awaiting disposal or transport for take-back and recycling, or waste to energy options must be stored in stable stacks and at least 10 metres from any other scrap tyre storage area, or combustible or flammable material, including vegetation.
F2	All reasonable and practicable fire prevention measures must be implemented, including removal of grass and other materials within a 10 metre radius of the scrap tyre storage area.
F3	**Disposal of Tyres** Where take-back, recycling or waste-to-energy is impracticable and all other stages (options) in the waste hierarchy have been considered, scrap tyres resulting from the mining activities may be disposed of on the mine site in accordance with conditions **F4 to F5**.
F4	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.
F5	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.
F6	**Waste Management** The Waste Management System and waste management arrangements must be reviewed annually and managed through the Plan of Operations.
F7	A designated area must be set aside for the segregation of economically viable, recyclable solid and liquid waste.

Agency interest: Land	
Condition number	**Condition**
G1	The mining void and levee within ML80129 is limited to the approved disturbance footprint as shown in **Figure 1 Authorised Disturbance**, and must not encroach within 100 metres of the Southern High Bank of the Mackenzie River as shown in **Figure 4 Mackenzie South Levee** and **Table G1 Southern high bank of the Mackenzie River**.

Table G1: Southern high bank of the Mackenzie River

Name of structure	**Easting (MGA GDA 94, Zone 55)**	**Northing (MGA GDA 94, Zone 55)**
Southern high bank of the Mackenzie River	696551	7425896
	696062	7425749
	695813	7425703
	695271	7425800
	694873	7425836

G2	**Cover and Material Handling** Topsoil resources that are suitable for use in rehabilitation must be salvaged ahead of mining for strategic use in rehabilitation of the mine area.
G3	An inventory of topsoil must be maintained.
G4	**Category B Environmentally Sensitive Areas** This environmental authority does not authorise disturbance of the Category B Environmentally Sensitive areas located outside of the Eastern dump expansion boundary in **Figure 3 Eastern Dump Extension** located on ML80184.
G5	**Rehabilitation Landform Criteria** All areas significantly disturbed by mining activities must be rehabilitated to a stable landform with a self-sustaining vegetation cover in accordance with **Tables G2 Final land use and rehabilitation approval schedule, G3 Landform design** and **G4 Rehabilitated slope design**.

Table G2: Final land use and rehabilitation approval schedule

Tenure Identification	Disturbance type	Projective Surface area (ha)	Post mining land description	Post mining land use	Post mining land suitability classification
ML2418 ML6992 ML70445 ML70446 ML70448 ML70449 ML80018 ML80053 ML80068 ML80108 ML80129 ML80140 ML80165 ML80184 ML700011 ML700012 ML700013	Infrastructure	837	Endemic pasture species	Low intensity cattle grazing	5
	Levee Bank	86			5
	Haul roads	218			4
	Topsoil stripped	300			3
	Spoil areas (<10% slope)	2300			4
	Spoil areas (>10% slope)	2347	Endemic pasture species	Endemic vegetation community	5
	Dams	50	Water containment	Water containment	5
		55	Pasture Species	Low intensity Cattle Grazing	
	Final voids	744	Water containment	Water containment	5
	Topsoil stockpiles	78	Endemic pasture species with a native species over-storey	Corridor conservation	5

G6	Progressive rehabilitation must commence within **12 months** of the time when an area becomes available.
G7	Complete an investigation into rehabilitation of disturbed areas and submit a report to the administering authority proposing acceptance criteria to meet the outcomes in **Tables G2 Final land use and rehabilitation approval schedule, G3 Landform design** and **G4 Rehabilitated slope design** by 31 September 2010.

Table G3: Landform design

Disturbance type	Slope range (%)	Projective surface area (ha)
Infrastructure	<10%	837
Haul roads	<5%	218
Topsoil stripped	<10%	300
Slopes of final void in competent rock	<70^{o}	744
Spoil areas	<17%	4647
Levee banks	<33%	86

Table G4: Rehabilitated slope design

Slope Angle (%)	Vertical Height (m)	Maximum Slope Length (m)
20	10	50
15	20	133
10	22	220
5	26	520
3	28	900

G8	Prior to lease relinquishment, the drainage line between the Three and Five Mile Lagoon systems must be: a) rehabilitated to an endemic species understorey with a native riparian species overstorey; b) fenced to exclude cattle; and c) designed to ensure natural drainage, which may accumulate to the west of Three Mile Lagoon, will be redirected through the Three to Five Mile Lagoon corridor.
G9	**Outstanding Rehabilitation** All outstanding rehabilitation on relevant portions of EPC893 and ML80018 must be rehabilitated according to the conditions of this environmental authority.
G10	**Residual Voids** 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 **Table G5 Residual void design**.
G11	The internal wall of a residual void that is adjacent to the Mackenzie River shall be constructed parallel to the dip and shall have a final factor of safety under all probable loading conditions for a 1 in 150 year design period (excluding seismic events) of a minimum of 1.5 using progressively validated geotechnical material properties and geological structure.

G12	Complete an investigation into residual voids and submit a report to the administering authority proposing acceptance criteria to meet the outcomes in condition **G10** and landform design criteria in **Table G5 Residual void design** by **31 September 2010**.

Table G5: Residual void design

Void Identification	Void wall - competent rock max slope (º)	Void wall - incompetent rock max slope (º)	Void maximum surface area (ha)
Plains North	70º	45º	52
Plains South	70º	45º	65
Central North	70º	45º	140
Central	70º	45º	45
Central South	70º	45º	70
Max Void	70º	45º	18
South Void	70º	45º	30
Mackenzie South	70º	45º	30
Central East	70º	45º	50
Mackenzie North	70º	45º	149
Central North Extension	70º	45º	95

G13	**Infrastructure** 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.*
G14	**Biodiversity Offset** Significant residual impacts to prescribed environmental matters are not authorised unless the impacts are authorised in condition **G15**, other than if the impacts were authorised by an existing authority issued before the commencement of the *Environmental Offsets Act 2014*.

G15	Notwithstanding condition **G14**, significant residual impacts to prescribed environmental matters are only authorised to occur if: a) For the prescribed environmental matters specified in **Table G6 Authorised significant residual impacts to prescribed environmental matters**, the impacts occur at the location(s) specified in **Figure 5 Location of Significant Residual Impacts to Prescribed Environmental Matters** for those prescribed environmental matters; and b) For the prescribed environmental matters specified in **Table G6 Authorised significant residual impacts to prescribed environmental matters**, the significant residual impacts do not exceed the maximum extent of impact specified in **Table G6 Authorised significant residual impacts to prescribed environmental matters**.

Table G6: Authorised significant residual impacts to prescribed environmental matters

Prescribed environmental matter	Maximum extent of impact
Endangered regional ecosystem – 11.4.8	14.65 ha
Endangered regional ecosystem – 11.3.1	9.7 ha
Of Concern regional ecosystem – 11.3.2	67.1 ha
Of concern regional ecosystem – 11.3.3	40.3 ha
Regional ecosystem within a defined distance from the defining banks of a watercourse – 11.4.8	1 ha
Regional ecosystem within a defined distance from the defining banks of a watercourse – 11.3.1	4.4 ha
Regional ecosystem within a defined distance from the defining banks of a watercourse – 11.3.2	48.8 ha
Regional ecosystem within a defined distance from the defining banks of a watercourse – 11.3.25	21.7 ha
Regional ecosystem within a defined distance from the defining banks of a watercourse – 11.3.3	16 ha
Connectivity area	145.7 ha
Habitat for an animal that is vulnerable wildlife – Squatter pigeon – (*Geophaps scripta scripta*)	145.7 ha

Note: *Areas in this table overlap; an area for one matter may also encompass the area of another. Queensland Government regional ecosystem mapping was used to determine the maximum extent of impacts to prescribed environmental matters.*

G16	An environmental offset must be delivered for each impact specified in **Table G6 Authorised significant residual impacts to prescribed environmental matters**.

G17	Records demonstrating that each impact to a prescribed environmental matter not listed in **Table G6 Authorised significant residual impacts to prescribed environmental matters** did not, or is not likely to, result in a significant residual impact to that matter must be: a) completed by an appropriately qualified person; and b) kept for the life of the environmental authority.
G18	The significant residual impacts to prescribed environmental matters authorised in condition **G15** for which environmental offsets are required may be carried out in stages. An environmental offset can be delivered for each stage of the impacts to prescribed environmental matters.
G19	Prior to the commencement of each stage, an analysis of the anticipated maximum extent of significant residual impacts to each prescribed environmental matter must be provided to the administering authority: a) For the forthcoming stage – the estimated significant residual impact to each prescribed environmental matter; and b) For the previous stage, if applicable – the actual significant residual impact to each prescribed environmental matter, to date.
G20	The analysis of impacts required by condition **G19** must be approved by the administering authority before the notice of election for the forthcoming stage, if applicable, is given to the administering authority.
G21	The notice of election for the staged environmental offset referred to in condition **G20**, if applicable, must be provided to the administering authority no less than three months before the proposed commencement of that stage, unless a lesser timeframe has been agreed to by the administering authority.

END OF CONDITIONS

Definitions

Key terms and/or phrases bolded in this environmental authority 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.

Words and phrases used throughout this environmental authority are defined below except where identified in the *Environmental Protection Act 1994* (Qld) or subordinate legislation. Where a word or term is not defined, the ordinary English meaning applies, and regard should be given to the Macquarie Dictionary.

"acceptance criteria" means the measures by which the actions implemented to rehabilitate the land are 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:

a) vegetation establishment, survival and succession;

b) vegetation productivity, sustained growth and structure development;

c) fauna colonisation and habitat development;

d) 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;

e) microbiological studies including recolonisation by mycorrhizal fungi, microbial biomass and respiration;

f) effects of various establishment treatments such as deep ripping, topsoil handling, seeding and fertiliser application on vegetation growth and development;

g) resilience of vegetation to disease, insect attack, drought and fire; and

h) 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 activity.

"administering authority" means the Department of Environment and Heritage Protection or its successor.

"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.

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

"airblast overpressure" means energy transmitted from the blast site within the atmosphere in the form of pressure waves, The maximum excess pressure in this wave, above ambient pressure is the peak airblast overpressure measured in decibels linear (dBL).

"ambient (or tonal) 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.

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

"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.

"ANZECC" means the *Australian and New Zealand Guidelines for Fresh Marine Water Quality 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 relative to the subject matter using the relevant protocols, standards, methods or literature.

"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 environmental authority (mining activities) under the *Environmental Protection Act 1994* (Qld) or a development approval.

"bed and banks" for a waters, river, creek, stream, lake, lagoon, pond, swamp, wetland or dam means land over which the water of the waters, lake, lagoon, pond, swamp, wetland or dam normally flows or that is normally covered by the water, whether permanently or intermittently; but does not include land adjoining or adjacent to the bed and banks that is from time to time covered by floodwater.

"beneficial use" in respect of dams means that the current or proposed owner of the land on which a dam stands, has found a use for that dam that is:

a) of benefit to that owner in that it adds real value to their business or to the general community

b) in accordance with relevant provisions of the *Environmental Protection Act 1994*

c) sustainability by virtue of written undertakings given by that owner to maintain that dam

d) the transfer and use have been approved or authorised under any relevant legislation.

"blasting" means the use of explosive materials to fracture- rock, coal and other minerals for later recovery; or structural components or other items to facilitate removal from a site or for reuse.

"bunded" means within bunding consistent with *Australian Standard 1940*.

"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'.

"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 approved by the Australian Transport Council; or

c) a lead hazardous substance within the meaning of the Workplace Health and Safety Regulation 1997;

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

e) 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

   v) a substance used for, or intended for use for mineral processing or treatment of metal, pulp and paper, textile, timber, water or wastewater; or

   vi) manufacture of plastic or synthetic rubber.

"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.

"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.

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

"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).

"cover material" means any soil or rock suitable as a germination medium or landform armouring.

"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 or both to an extent where 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, dam/structures, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc) which is to be removed after the mining activity has ceased; or

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 (such as climatic conditions);

d) areas under permanent infrastructure. Permanent infrastructure includes any infrastructure (roads, tracks, bridges, culverts, dam/structures, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc) which is to be left by agreement with the landowner; or

e) disturbance that pre-existed the grant of the tenure.

"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 affected persons and the implementation of protection measures. The plan must require dam owners to annually review and update contact information where required.

"end of pipe" means the location at which water is released to waters or land.

"environmental authority" means an environmental authority granted in relation to an environmentally relevant activity under the *Environmental Protection Act 1994*.

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

"ERE" means an endangered regional ecosystem identified in the database maintained by the administering authority called 'Regional Ecosystem Description Database' containing regional ecosystem numbers and descriptions.

"existing structure" means a structure that prior to date when EA is issued meets any or both of the following, a structure:

a) with a design that is in accordance with the Manual for Assessing Consequence Categories and Hydraulic Performance of Structures and that is considerably in progress;

b) that is under considerable construction or that is constructed.

"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.

"financial assurance" means a security required under the *Environmental Protection Act 1994* by the administering authority to cover the cost of rehabilitation or remediation of disturbed land or to secure compliance with the environmental 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.

"floodwater" means water overflowing, or that has overflowed, from waters, river, creek, stream, lake, pond, wetland or dam onto or over riparian land that is not submerged when the watercourse or lake flows between or is contained within its bed and banks.

"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.

"foreseeable future" is the period used for assessing the total probability of an event occurring. Permanent structures and ecological sustainability should be expected to still exist at the end of a 150 year foreseeable future with an acceptable probability of failure before that time.

"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 'Manual for Assessing Hazard Categories and Hydraulic Performance of Dams'.

"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)*.

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

"$L_{A\ 10,\ adj,\ 15\ mins}$" means the A-weighted sound pressure level, (adjusted for tonal character and impulsiveness of the sound) exceeded for 10% of any 15-minute measurement period, using Fast response.

"$L_{A\ 1,\ adj,\ 15\ mins}$" means the A-weighted sound pressure level, (adjusted for tonal character and impulsiveness of the sound) exceeded for 1% of any 15-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 capability" as defined in the *Technical Guidelines for the Environmental Management of Exploration and Mining in Queensland (DME 1995)*.

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

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

"landfill" means land used as a waste disposal site for lawfully putting solid waste on the land.

"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).

"low hazard dam" means any dam that is not a high or significant hazard category as assessed using the 'Manual for Assessing Hazard Categories and Hydraulic Performance of Dams' (EM635).

"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, as amended from time to time.

"maximum extent of impact" means the total, cumulative, residual extent and duration of impact to a prescribed environmental matter that will occur over a project's life after all reasonable avoidance and reasonable on-site mitigation measures have been, or will be, undertaken.

"mg/L" means milligrams per litre.

"mine affected water":

1) means the following types of water:
    a) pit water, tailings dam water, processing plant water;
    b) water contaminated by a mining activity which would have been an environmentally relevant activity under Schedule 2 or Schedule 2A of the *Environmental Protection Regulation 2008* if it had not formed part of the mining activity;
    c) rainfall runoff which has been in contact with any areas disturbed by mining activities which have not yet been 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 such runoff, provided that this water has not been mixed with pit water, tailings dam water, processing plant water or workshop water;
    d) groundwater which has been in contact with any areas disturbed by mining activities which have not yet been rehabilitated;
    e) groundwater from the mine's dewatering activities; or
    f) a mix of mine affected water (under any of paragraphs a) – f) above) and other water.
2) does not include surface water runoff which, to the extent that it has been in contact with areas disturbed by mining activities that have not yet been completely rehabilitated, has only been in contact with:
    a) land that has been rehabilitated to a stable landform and either capped or revegetated in accordance with the acceptance criteria set out in the environmental authority but only still awaiting maintenance and monitoring of the rehabilitation over a specified period of time to demonstrate rehabilitation success; or
    b) land that has partially been rehabilitated and monitoring demonstrates the relevant part of the landform with which the water has been in contact does not cause environmental harm to waters or groundwater, for example:
        i) areas that are been capped and have monitoring data demonstrating hazardous material adequately contained with the site;
        ii) evidence provided through monitoring that the relevant surface water would have met the water quality parameters for mine affected water release limits in this environmental authority, if those parameters had been applicable to the surface water runoff; or
    c) both.

"modification or modifying" (see definition of 'construction')

"natural flow" means the flow of water through waters caused by nature.

"native vegetation" means vegetation that occurs naturally in a certain area.

"notice of election" has the meaning in section 18(2) Environmental Offsets Act 2014.

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

"operational land" means the land associated with the project for which this environmental authority has been issued.

"operational plan" includes:

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

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.

"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}).

"prescribed environmental matters" 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*.

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

"protected area" means:

a) a protected area under the *Nature Conservation Act 1992*

b) a marine park under the *Marine Parks Act 2004*

c) a World Heritage Area.

"receiving environment" means all groundwater, surface water, land, and sediments that are not disturbed areas authorised by this environmental authority.

"receiving waters" means all groundwater and surface water that are not disturbed areas authorised by this environmental authority.

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

"Register of Regulated Structures" includes**:**

a) Date of entry in the register;

b) Name of the structure, 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 hazard category as assessed using the *Manual for Assessing Hazard Categories and Hydraulic Performance of Dams.*

"regulated structure" means any structure 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. A regulated structure does not include:

a) 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;

b) a sump or earthen pit used to store residual drilling material and drilling fluid only for the duration of drilling and well completion activities;

c) a flare pit.

"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.

"release event" means a surface water discharge from mine affected water storages or contaminated areas on the licensed place.

"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.

"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.

"saline drainage" The movement of waters, contaminated with salt(s), as a result of the mining activity.

"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) a dwelling, residential allotment, mobile home or caravan park, residential marina or other residential premises

b) a motel, hotel or hostel

c) an educational institution

d) a medical centre or hospital

e) a protected area under the *Nature Conservation Act 1992*, the *Marine Parks Act 2004* or a World Heritage Area

f) a public park or gardens.

"significant residual impact" has the meaning in section 8 *Environmental Offsets Act 2014.*

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

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

"structure" means dam or levee.

"storm water" means all surface water runoff from rainfall.

"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:

a) for regulated dams, an RPEQ who is a civil engineer with the required qualifications in dam safety and dam design.

b) 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. **"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.

"void" means any constructed, open excavation in the ground. **"µS/cm"** means micro siemens per centimetre.

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

"watercourse" has the meaning in Schedule 4 of the *Environmental Protection Act 1994* and means:

a) a river, creek or stream in which water flows permanently or intermittently—
   i. in a natural channel, whether artificially improved or not; or
   ii. in an artificial channel that has changed the course of the watercourse.

b) 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.

"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.

END OF DEFINITIONS

Figure 1: Authorised Disturbance

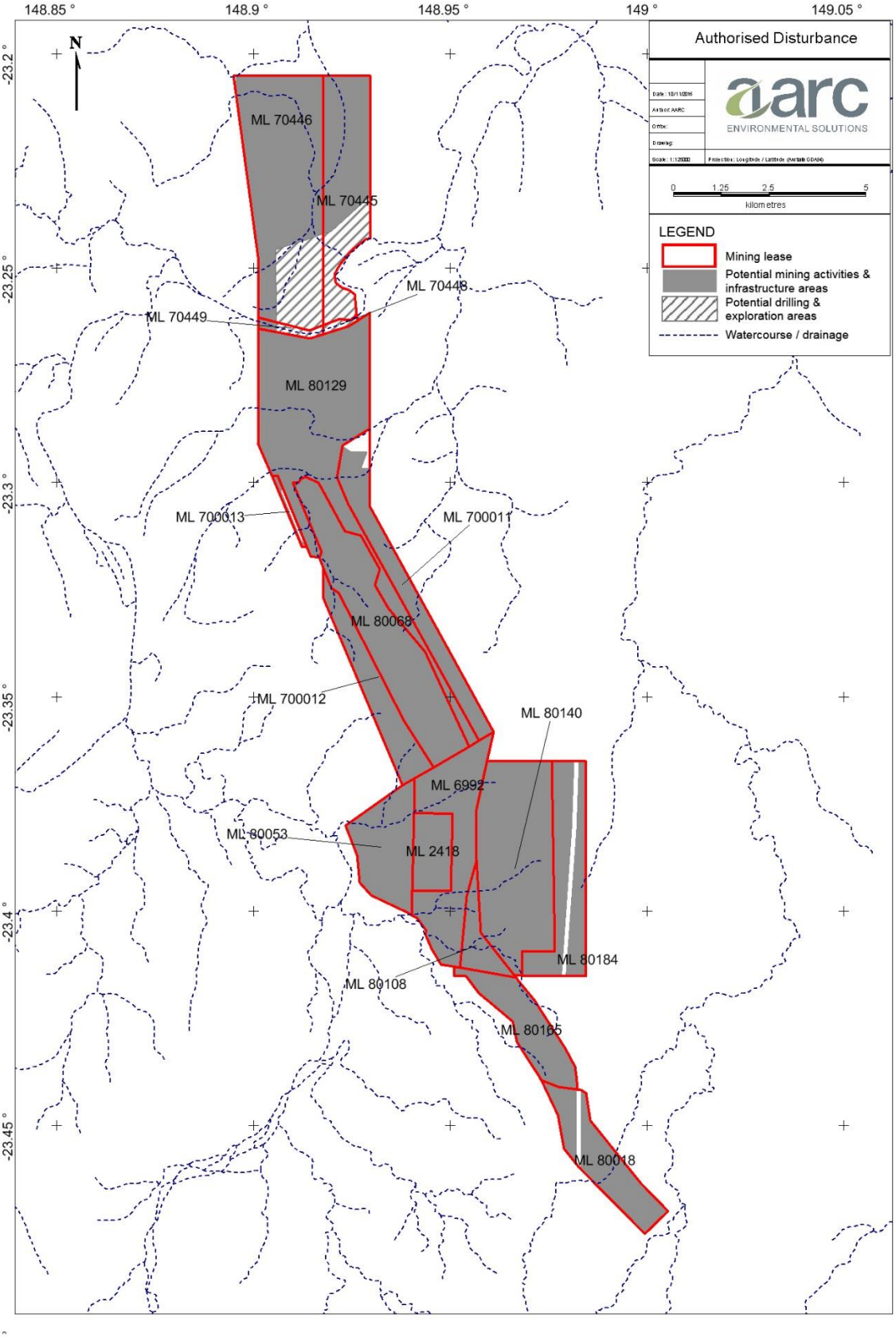


Figure 2a: Authorised Release Points and Receiving Environment Monitoring Locations – Mackenzie River

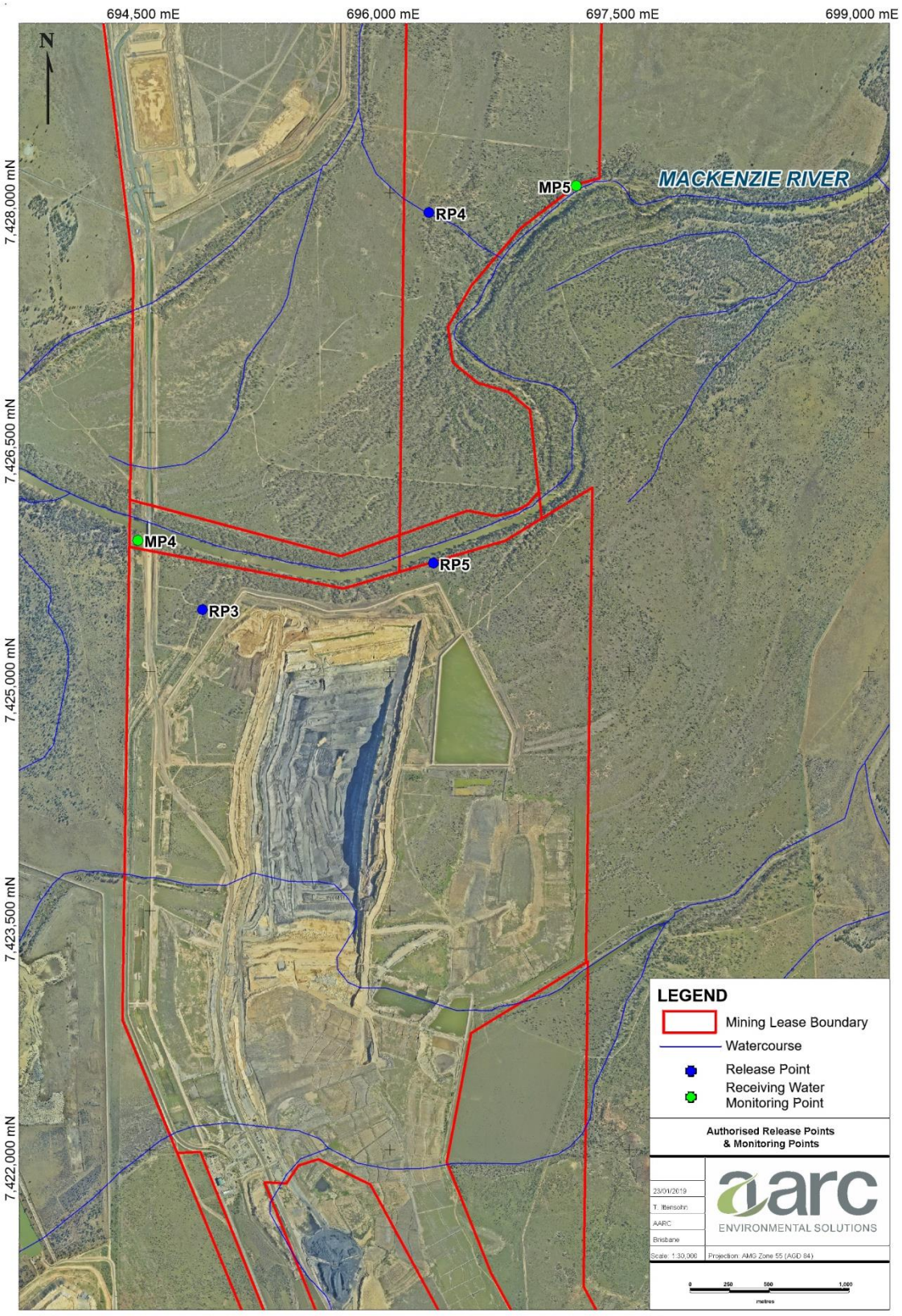


Figure 2b: Authorised Release Points and Receiving Environment Monitoring Locations – Blackwater Creek

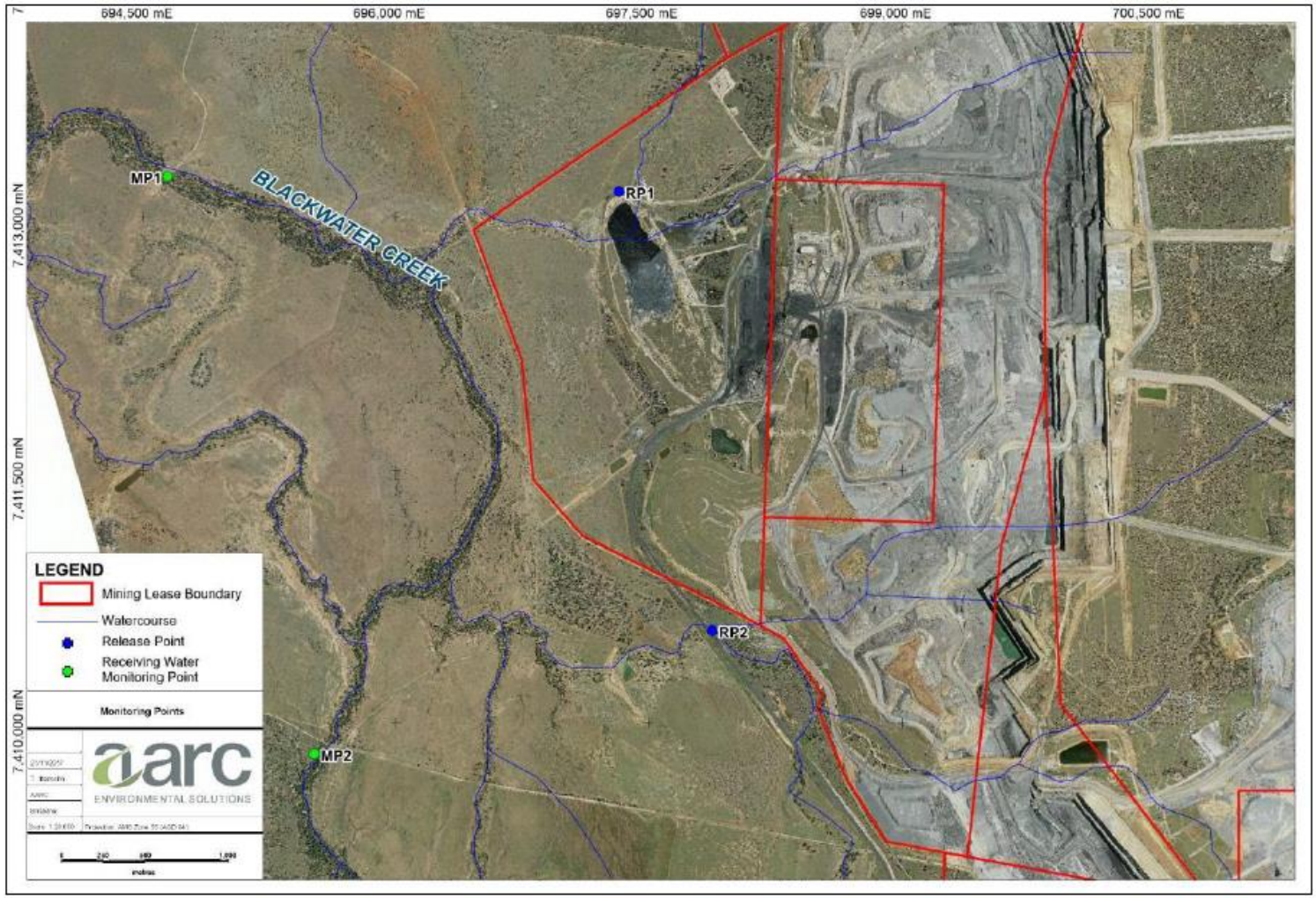


Figure 3: Eastern Dump Expansion

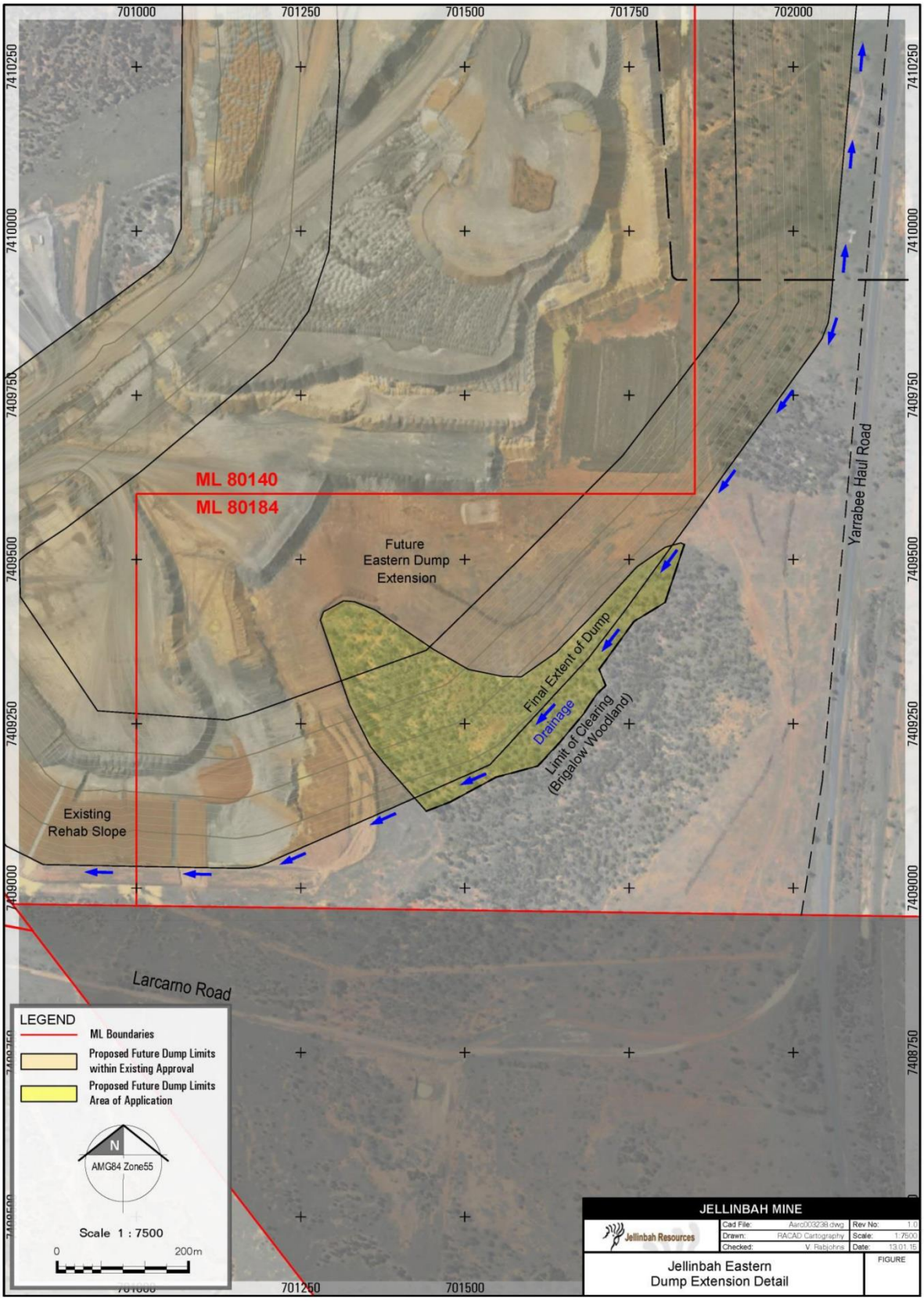


Figure 4: Mackenzie South Levee

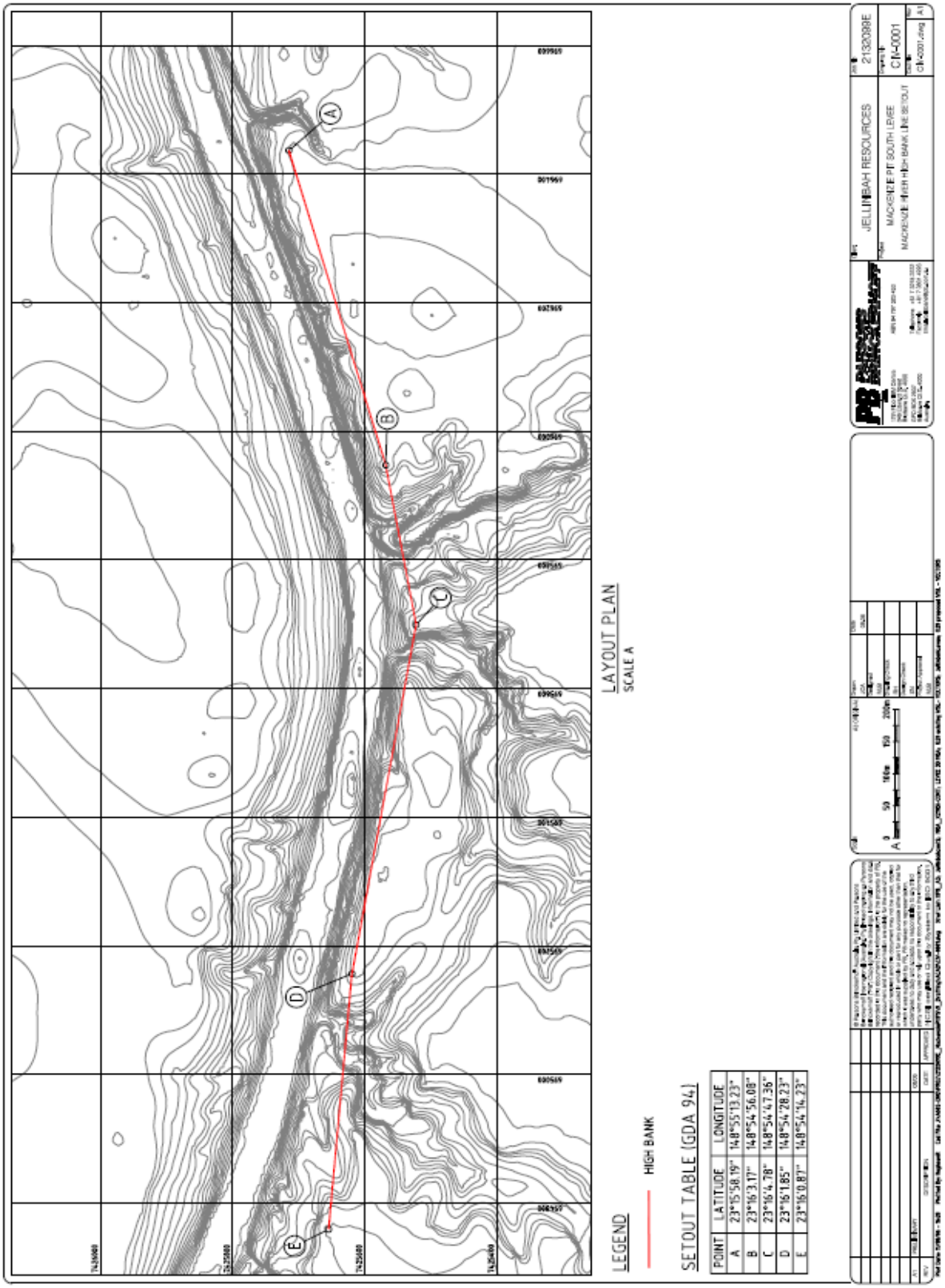
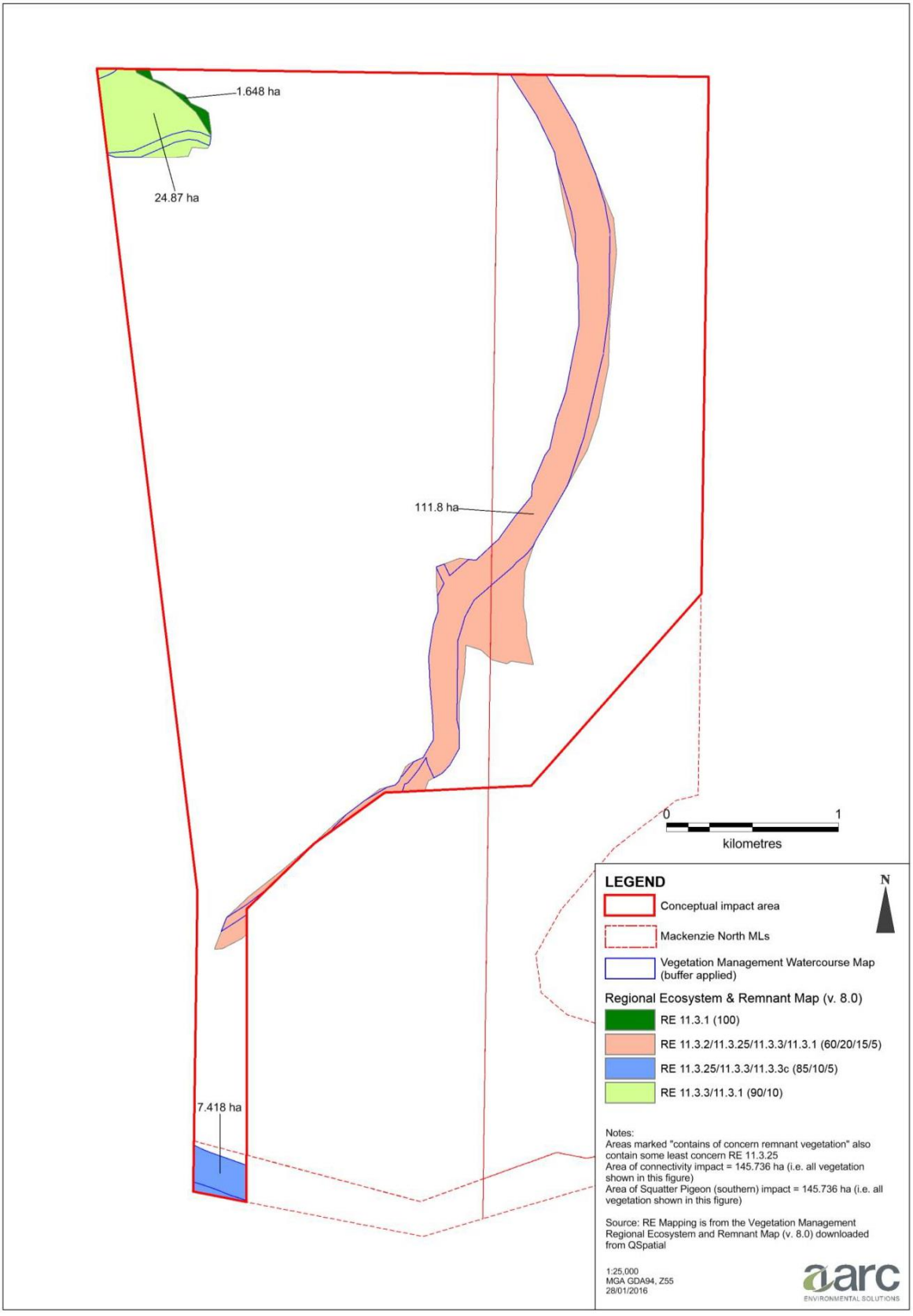


Figure 5: Location of Significant Residual Impacts to Prescribed Environmental Matters



END OF PERMIT