

# Environment Protection Licence



Licence - 395

## Licence Details

Number:	395
Anniversary Date:	01-January

## Licensee

CENTENNIAL NEWSTAN PTY LIMITED

100 MILLER ROAD

FASSIFERN NSW 2283

## Premises

NEWSTAN COLLIERY

100 MILLER ROAD

FASSIFERN NSW 2283

## Scheduled Activity

Coal Works

Mining for Coal

## Fee Based Activity

### Scale

Coal works	> 2000000-5000000 T handled
Mining for coal	> 2000000-3500000 T produced

## Region

North - Hunter

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NEWCASTLE WEST NSW 2302

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## Information about this licence

### Dictionary

A definition of terms used in the licence can be found in the dictionary at the end of this licence.

### Responsibilities of licensee

Separate to the requirements of this licence, general obligations of licensees are set out in the Protection of the Environment Operations Act 1997 ("the Act") and the Regulations made under the Act. These include obligations to:

- ensure persons associated with you comply with this licence, as set out in section 64 of the Act;
- control the pollution of waters and the pollution of air (see for example sections 120 - 132 of the Act);
- report incidents causing or threatening material environmental harm to the environment, as set out in Part 5.7 of the Act.

### Variation of licence conditions

The licence holder can apply to vary the conditions of this licence. An application form for this purpose is available from the EPA.

The EPA may also vary the conditions of the licence at any time by written notice without an application being made.

Where a licence has been granted in relation to development which was assessed under the Environmental Planning and Assessment Act 1979 in accordance with the procedures applying to integrated development, the EPA may not impose conditions which are inconsistent with the development consent conditions until the licence is first reviewed under Part 3.6 of the Act.

### Duration of licence

This licence will remain in force until the licence is surrendered by the licence holder or until it is suspended or revoked by the EPA or the Minister. A licence may only be surrendered with the written approval of the EPA.

### Licence review

The Act requires that the EPA review your licence at least every 5 years after the issue of the licence, as set out in Part 3.6 and Schedule 5 of the Act. You will receive advance notice of the licence review.

### Fees and annual return to be sent to the EPA

For each licence fee period you must pay:

- an administrative fee; and
- a load-based fee (if applicable).

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The EPA publication “A Guide to Licensing” contains information about how to calculate your licence fees. The licence requires that an Annual Return, comprising a Statement of Compliance and a summary of any monitoring required by the licence (including the recording of complaints), be submitted to the EPA. The Annual Return must be submitted within 60 days after the end of each reporting period. See condition R1 regarding the Annual Return reporting requirements.

Usually the licence fee period is the same as the reporting period.

## Transfer of licence

The licence holder can apply to transfer the licence to another person. An application form for this purpose is available from the EPA.

## Public register and access to monitoring data

Part 9.5 of the Act requires the EPA to keep a public register of details and decisions of the EPA in relation to, for example:

- licence applications;
- licence conditions and variations;
- statements of compliance;
- load based licensing information; and
- load reduction agreements.

Under s320 of the Act application can be made to the EPA for access to monitoring data which has been submitted to the EPA by licensees.

## This licence is issued to:

<b>CENTENNIAL NEWSTAN PTY LIMITED</b>
<b>100 MILLER ROAD</b>
<b>FASSIFERN NSW 2283</b>

subject to the conditions which follow.

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## 1 Administrative Conditions

### A1 What the licence authorises and regulates

A1.1 This licence authorises the carrying out of the scheduled activities listed below at the premises specified in A2. The activities are listed according to their scheduled activity classification, fee-based activity classification and the scale of the operation.

Unless otherwise further restricted by a condition of this licence, the scale at which the activity is carried out must not exceed the maximum scale specified in this condition.

Scheduled Activity	Fee Based Activity	Scale
Coal Works	Coal works	> 2000000 - 5000000 T handled
Mining for Coal	Mining for coal	> 2000000 - 3500000 T produced

### A2 Premises or plant to which this licence applies

A2.1 The licence applies to the following premises:

Premises Details
NEWSTAN COLLIERY
100 MILLER ROAD
FASSIFERN
NSW 2283
SURFACES PREMISES OF THE COLLIERY IDENTIFIED IN PLAN TITLED "PLAN OF PREMISES - SURFACE AREAS NEWSTAN EPL 395" PLAN NUMBER NS3302 DATED 24/11/2014 THAT INCLUDES NEWSTAN PIT TOP AREA, AWABA SHAFT SITE AND COMPOUND, STONY CREEK PIPELINE DOC14/292013-02 AND UNDERGROUND PREMISES (MINING FOR COAL) INCLUDES ONLY MINING FOR COAL IN THE GREAT NORTHERN, FASSIFERN AND BOREHOLE SEAMS, YOUNG WALLSEND AND WEST BOREHOLE WORKINGS AS IDENTIFIED ON PLAN TITLED "PLAN OF PREMISES UNDERGROUND WORKINGS NEWSTAN EPL 395" PLAN NUMBER NS3301 DATED 18/11/2014 DOC14/292013-01 EF13/2761.

### A3 Other activities

A3.1 This licence applies to all other activities carried on at the premises, including:

Ancillary Activity
SEWAGE TREATMENT SYSTEM

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## A4 Information supplied to the EPA

A4.1 Works and activities must be carried out in accordance with the proposal contained in the licence application, except as expressly provided by a condition of this licence.

In this condition the reference to "the licence application" includes a reference to:

a) the applications for any licences (including former pollution control approvals) which this licence replaces under the Protection of the Environment Operations (Savings and Transitional) Regulation 1998; and

b) the licence information form provided by the licensee to the EPA to assist the EPA in connection with the issuing of this licence.

## 2 Discharges to Air and Water and Applications to Land

### P1 Location of monitoring/discharge points and areas

P1.1 The following points referred to in the table below are identified in this licence for the purposes of monitoring and/or the setting of limits for the emission of pollutants to the air from the point.

<i>Air</i>			
EPA identification no.	Type of Monitoring Point	Type of Discharge Point	Location Description
7	Dust deposition gauge		Labelled D1 on map numbered NS 3304 - west of disused tailings dam
8	Dust deposition gauge		Labelled D2 on map numbered NS 3304 - east of LDP1 near Main Bywash dam
9	Dust deposition gauge		Labelled D3 on map numbered NS 3304 - north of SREA
10	Dust deposition gauge		Labelled D4 on map numbered NS 3304 - south of CPP
11	Dust deposition gauge		Labelled D5 on map numbered NS 3304 - north of Centennial Fassifern Office
12	Dust deposition gauge		Labelled D6 on map numbered NS 3304 - south east of rail loop
13	Dust deposition gauge		Labelled D7 on map numbered NS 3304 - Archery Club Miller Road
14	Dust deposition gauge		Labelled D9 on map numbered NS 3304 - SREA
15	High volume air sampler		Labelled HVS1 on map numbered NS 3304 - Hill Top North of premises
16	High volume air sampler		Labelled HVS2 on map numbered NS 3304 - south east of premises

P1.2 The following utilisation areas referred to in the table below are identified in this licence for the purposes of the monitoring and/or the setting of limits for any application of solids or liquids to the utilisation area.

P1.3 The following points referred to in the table are identified in this licence for the purposes of the monitoring and/or the setting of limits for discharges of pollutants to water from the point.

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## Water and land

EPA Identification no.	Type of Monitoring Point	Type of Discharge Point	Location Description
1	Discharge to waters Discharge water quality monitoring Volume monitoring	Discharge to waters Discharge water quality monitoring Volume monitoring	Outlet labelled as LDP1 on plan numbered NS3303 that discharges into the Main Bywash dam and then LT Creek
2	Discharge to waters. Discharge water quality monitoring	Discharge to waters. Discharge water quality monitoring	Final Pollution Dam Overflow labelled as LDP2 on plan numbered NS3303
3	Ambient water quality monitoring		Northern Arm of LT Creek upstream of LDP2, downstream from point 19 labelled SP003 on plan numbered NS3303
4	Ambient water quality monitoring		Downstream from LDP2 labelled as SP004 on plan numbered NS3303 on northern arm of LT Creek.
6	Ambient water quality monitoring		Downstream of SREA on southern arm of LT creek, upstream of Haul Road labelled as WMP13 on plan numbered NS3303
17	Discharge to waters Discharge water quality monitoring.  Volume monitoring.	Discharge to waters Discharge water quality monitoring.  Volume monitoring.	Stony Creek Pipeline Outlet labelled as LDP on plan numbered NS3303.
18	Ambient water quality monitoring		Upstream of Stony Creek Pipeline discharge at LDP labelled as WMP20 on plan numbered NS3303
19	Ambient water quality monitoring		Outlet of Main Bywash dam on northern arm of LT Creek labelled as WMP3 on plan numbered NS3303
20	Ambient water quality monitoring		Upstream on LT Creek South Arm above SREA - clean water diversion. Labelled as WMP16 on plan numbered NS3303
21	Discharge to Waters Discharge water quality monitoring	Discharge to Waters Discharge water quality monitoring	Graunchs Dam overflow weir labelled as GDOW on plan numbered NS3303

P1.4 In respect of Condition P1.3 Plan NS 3303 refers to the plan titled *"Location of Licensed Discharge Points, Surface Water Monitoring Points, Water Bodies and Water Management Devices - for Newstan EPL 395"* Revision 2 dated 19/10/15 DOC15/423982 EF13/2761.

In respect to Condition P1.1 Plan NS 3304 refers to the plan titled *"Location of Air, Noise, Weather Monitoring Points and Ventilation System - for Newstan EPL 395"* plan number NS 3304 dated 17/11/2014 DOC14/292013-04 EF13/2761.

## 3 Limit Conditions



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## L1 Pollution of waters

L1.1 Except as may be expressly provided in any other condition of this licence, the licensee must comply with section 120 of the Protection of the Environment Operations Act 1997.

## L2 Concentration limits

L2.1 For each monitoring/discharge point or utilisation area specified in the table\ below (by a point number), the concentration of a pollutant discharged at that point, or applied to that area, must not exceed the concentration limits specified for that pollutant in the table.

L2.2 Where a pH quality limit is specified in the table, the specified percentage of samples must be within the specified ranges.

L2.3 To avoid any doubt, this condition does not authorise the pollution of waters by any pollutant other than those specified in the table\.

L2.4 Water and/or Land Concentration Limits

### POINT 1

Pollutant	Units of Measure	-	-	-	100 percentile concentration limit
Aluminium (dissolved)	milligrams per litre				0.15
Barium (dissolved)	milligrams per litre				0.25
Bicarbonate alkalinity	milligrams of calcium carbonate per litre				711
Boron (dissolved)	milligrams per litre				1.3
Cadmium (dissolved)	milligrams per litre				0.0008
Copper (dissolved)	milligrams per litre				0.005
Electrical conductivity	microsiemens per centimetre				3250
Lead (dissolved)	milligrams per litre				0.038
Lithium (dissolved)	milligrams per litre				0.4

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Mercury (dissolved)	milligrams per litre	0.0006
Molybdenum (dissolved)	milligrams per litre	0.04
Nickel (dissolved)	milligrams per litre	0.0425
Nitrogen (total)	milligrams per litre	2.7
Oil and Grease	milligrams per litre	6
pH	pH	6.5-8.5
Phosphorus (total)	milligrams per litre	0.41
Selenium (total)	milligrams per litre	0.011
TKN-N	milligrams per litre	2.6
Total suspended solids	milligrams per litre	50
Zinc (dissolved)	milligrams per litre	0.04

## POINT 2

Pollutant	Units of Measure	-	-	-	100 percentile concentration limit
Oil and Grease	milligrams per litre				10
pH	pH				6.5-8.5
Total suspended solids	milligrams per litre				50

## POINT 17

Pollutant	Units of Measure	-	-	-	100 percentile concentration limit
Aluminium (dissolved)	milligrams per litre				0.22

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Antimony	milligrams per litre	0.009
Arsenic (dissolved)	milligrams per litre	0.042
Barium (dissolved)	milligrams per litre	0.25
Beryllium (dissolved)	milligrams per litre	0.004
Bicarbonate alkalinity	milligrams of calcium carbonate per litre	711
Boron (dissolved)	milligrams per litre	0.37
Cadmium (dissolved)	milligrams per litre	0.0004
Calcium	milligrams per litre	38
Chloride	milligrams per litre	516
Chromium (dissolved)	milligrams per litre	0.006
Cobalt (dissolved)	milligrams per litre	0.003
Conductivity	microsiemens per centimetre	3250
Copper (dissolved)	milligrams per litre	0.007
Iron (dissolved)	milligrams per litre	230
Lead (dissolved)	milligrams per litre	0.023
Lithium (dissolved)	milligrams per litre	0.164
Magnesium	milligrams per litre	16
Manganese (dissolved)	milligrams per litre	1.2
Mercury (dissolved)	milligrams per litre	0.0006
Molybdenum (dissolved)	milligrams per litre	0.045

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Nickel (dissolved)	milligrams per litre	0.024
Nitrogen (total)	milligrams per litre	2.7
Oil and Grease	milligrams per litre	6
pH	pH	6.5-8.5
Phosphorus (total)	milligrams per litre	0.41
Potassium	milligrams per litre	6
Selenium (total)	milligrams per litre	0.011
Silica (dissolved)	milligrams per litre	24.8
Silver (dissolved)	milligrams per litre	<0.001
Sodium	milligrams per litre	635
Sulfate	milligrams per litre	232
Tin	milligrams per litre	0.003
Titanium	milligrams per litre	10
TKN-N	milligrams per litre	2.6
Total suspended solids	milligrams per litre	50
Vanadium (dissolved)	milligrams per litre	<0.010
Zinc (dissolved)	milligrams per litre	0.04

### L3 Volume and mass limits

- L3.1 For each discharge point or utilisation area specified below (by a point number), the volume/mass of:
- liquids discharged to water; or;

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b) solids or liquids applied to the area;  
must not exceed the volume/mass limit specified for that discharge point or area.

Point	Unit of Measure	Volume/Mass Limit
1	kilolitres per day	11,000

## L4 Waste

L4.1 The licensee must not cause, permit or allow any waste to be received at the premises, except the wastes expressly referred to in the column titled "Waste" and meeting the definition, if any, in the column titled "Description" in the table below.

Any waste received at the premises must only be used for the activities referred to in relation to that waste in the column titled "Activity" in the table below.

Any waste received at the premises is subject to those limits or conditions, if any, referred to in relation to that waste contained in the column titled "Other Limits" in the table below.

This condition does not limit any other conditions in this licence.

Code	Waste	Description	Activity	Other Limits
NA	Waste	Any other waste received on the premises for storage, treatment, processing, sorting or disposal and which receipt is not a scheduled activity under Schedule 1 of the POEO Act, as in force from time to time	-	N/A
NA	General or Specific exempted waste	Waste that meets all the conditions of a resource recovery exemption under Clause 51A of the Protection of the Environment Operations (waste) Regulation 2005	As specified in each particular resource recovery exemption	N/A

## L5 Other limit conditions

### WATER TREATMENT PLANT

L5.1 The Water Treatment Plant must be operated and maintained such that the specified toxic effect of the effluent released from Point 1 on the specified test organism must not exceed the corresponding percentile limit listed for that organism in the table below.

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Species (toxic effect)	Concentration Limit (% effluent by volume)
Ceriodaphnia cf dubia reproduction (8-day EC50 reproductive impairment)	50
Eastern Rainbow Fish embryo development and post-hatch survival test (10-day EC50)	50
Freshwater shrimp Parataya australiensis survival (10-day LC50)	50

## 4 Operating Conditions

### O1 Activities must be carried out in a competent manner

O1.1 Licensed activities must be carried out in a competent manner.

This includes:

- a) the processing, handling, movement and storage of materials and substances used to carry out the activity; and
- b) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.

### O2 Maintenance of plant and equipment

O2.1 All plant and equipment installed at the premises or used in connection with the licensed activity:

- a) must be maintained in a proper and efficient condition; and
- b) must be operated in a proper and efficient manner.

O2.2 The licensee is responsible for the correct operation of the sewage treatment system on their premises.

O2.3 Correct operation involves regular supervision and system maintenance. The licensee must be aware of the system management requirements and must ensure that the necessary service contracts are in place.

O2.4 The sewage treatment system must be serviced by a suitably qualified and experienced wastewater technician at least once in each quarterly period and a minimum of four times per year.

O2.5 The licensee must record each inspection and any actions required or recommended by the technician including all results of tests performed on the sewage treatment system by the technician as required in Condition O2.4.

O2.6 The licensee must prepare a sewage treatment system maintenance program. The program must include:

- a) Certification from the system provider that the sewage treatment system is operating within its capacity;
- b) Date, time and results of all routine maintenance procedures undertaken to the sewage treatment system; and
- c) Provide written records of each quarterly inspection.

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## **O3 Dust**

- O3.1 The premises must be maintained in a condition which minimises or prevents the emission of dust from the premises.
- O3.2 Activities occurring in or on the premises must be carried out in a manner that will minimise the generation, or emission from the premises, of wind-blown or traffic generated dust.
- O3.3 All trafficable areas, coal storage areas and vehicle manoeuvring areas in or on the premises must be maintained, at all times, in a condition that will minimise the generation, or emission from the premises, of wind-blown or traffic generated dust.
- O3.4 Trucks transporting coal from the premises must be covered immediately after loading to prevent wind blown emissions and spillage. The covering must be maintained until immediately before unloading the trucks.
- O3.5 The tailgates of all haulage trucks leaving the premises must be securely fixed prior to loading or immediately after unloading to prevent loss of material.
- O3.6 Coal stockpiles must be maintained in a condition that will minimise the generation and emission of dust on the premises.

## **O4 Emergency response**

- O4.1 The licensee must maintain, and implement as necessary, a current emergency response plan for the premises. The licensee must keep the emergency response plan on the premises at all times. The emergency response plan must document systems and procedures to deal with all types of incidents (e.g. spills, explosions or fire) that may occur at the premises or that may be associated with activities that occur at the premises and which are likely to cause harm to the environment. If a current emergency response plan does not exist at the date on which this condition is attached to the licence, the licensee must develop an emergency response plan within three months of that date.

## **O5 Other operating conditions**

- O5.1 All above-ground tanks containing material that is likely to cause environmental harm must be bunded or have an alternative spill containment system in place.

# **5 Monitoring and Recording Conditions**

## **M1 Monitoring records**

- M1.1 The results of any monitoring required to be conducted by this licence or a load calculation protocol must be recorded and retained as set out in this condition.
- M1.2 All records required to be kept by this licence must be:
  - a) in a legible form, or in a form that can readily be reduced to a legible form;

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- b) kept for at least 4 years after the monitoring or event to which they relate took place; and
- c) produced in a legible form to any authorised officer of the EPA who asks to see them.

M1.3 The following records must be kept in respect of any samples required to be collected for the purposes of this licence:

- a) the date(s) on which the sample was taken;
- b) the time(s) at which the sample was collected;
- c) the point at which the sample was taken; and
- d) the name of the person who collected the sample.

## M2 Requirement to monitor concentration of pollutants discharged

M2.1 For each monitoring/discharge point or utilisation area specified below (by a point number), the licensee must monitor (by sampling and obtaining results by analysis) the concentration of each pollutant specified in Column 1. The licensee must use the sampling method, units of measure, and sample at the frequency, specified opposite in the other columns:

### M2.2 Air Monitoring Requirements

#### POINT 7,8,9,10,11,12,13,14

Pollutant	Units of measure	Frequency	Sampling Method
Particulates - Deposited Matter	grams per square metre per month	Monthly	AM-19

#### POINT 15,16

Pollutant	Units of measure	Frequency	Sampling Method
Particulate matter	micrograms per cubic metre	Every 6 days	AM-18
Total suspended particles	micrograms per cubic metre	Every 6 days	AM-15

### M2.3 Water and/ or Land Monitoring Requirements

#### POINT 1

Pollutant	Units of measure	Frequency	Sampling Method
Aluminium (dissolved)	milligrams per litre	Monthly	Composite sample
Arsenic (dissolved)	milligrams per litre	Monthly	Composite sample
Barium (dissolved)	milligrams per litre	Monthly	Composite sample
Bicarbonate alkalinity	milligrams of calcium carbonate per litre	Monthly	Composite sample



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Boron (dissolved)	milligrams per litre	Monthly	Composite sample
Cadmium (dissolved)	milligrams per litre	Monthly	Composite sample
Calcium (dissolved)	milligrams per litre	Monthly	Composite sample
Chloride (dissolved)	milligrams per litre	Monthly	Composite sample
Chromium (total)	milligrams per litre	Monthly	Composite sample
Cobalt (dissolved)	milligrams per litre	Monthly	Composite sample
Conductivity	microsiemens per centimetre	Special Frequency 4	Continuously
Copper (dissolved)	milligrams per litre	Monthly	Composite sample
Iron (dissolved)	milligrams per litre	Monthly	Composite sample
Lead (dissolved)	milligrams per litre	Monthly	Composite sample
Lithium (dissolved)	milligrams per litre	Monthly	Composite sample
Magnesium	milligrams per litre	Monthly	Composite sample
Manganese (dissolved)	milligrams per litre	Monthly	Composite sample
Mercury (dissolved)	milligrams per litre	Monthly	Composite sample
Molybdenum (dissolved)	milligrams per litre	Monthly	Composite sample
Nickel (dissolved)	milligrams per litre	Monthly	Composite sample
Nitrogen (total)	milligrams per litre	Monthly	Composite sample
Oil and Grease	milligrams per litre	Monthly	Composite sample
pH	pH	Special Frequency 4	Continuously
Phosphorus (total)	milligrams per litre	Monthly	Composite sample
Potassium (dissolved)	milligrams per litre	Monthly	Composite sample
Selenium (total)	milligrams per litre	Monthly	Composite sample
Sodium	milligrams per litre	Monthly	Composite sample
Sulfate (dissolved)	milligrams per litre	Monthly	Composite sample
TKN-N	milligrams per litre	Monthly	Composite sample
Total sulfate	milligrams per litre	Monthly	Composite sample
Total suspended solids	milligrams per litre	Weekly	Composite sample
Turbidity	nephelometric turbidity units	Special Frequency 4	Continuously
Zinc (dissolved)	milligrams per litre	Monthly	Composite sample

## POINT 2

Pollutant	Units of measure	Frequency	Sampling Method
Aluminium (dissolved)	milligrams per litre	Weekly during any discharge	Grab sample
Aluminium (total)	milligrams per litre	Weekly during any discharge	Grab sample
Antimony	milligrams per litre	Weekly during any discharge	Grab sample
Arsenic (dissolved)	milligrams per litre	Weekly during any discharge	Grab sample
Arsenic (total)	milligrams per litre	Weekly during any discharge	Grab sample

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Barium	milligrams per litre	Weekly during any discharge	Grab sample
Beryllium (dissolved)	milligrams per litre	Weekly during any discharge	Grab sample
Beryllium (total)	milligrams per litre	Weekly during any discharge	Grab sample
Boron	milligrams per litre	Weekly during any discharge	Grab sample
Cadmium (dissolved)	milligrams per litre	Weekly during any discharge	Grab sample
Cadmium (total)	milligrams per litre	Weekly during any discharge	Grab sample
Calcium	milligrams per litre	Weekly during any discharge	Grab sample
Chromium (dissolved)	milligrams per litre	Weekly during any discharge	Grab sample
Chromium (total)	milligrams per litre	Weekly during any discharge	Grab sample
Cobalt (dissolved)	milligrams per litre	Weekly during any discharge	Grab sample
Cobalt (total)	milligrams per litre	Weekly during any discharge	Grab sample
Conductivity	microsiemens per centimetre	Special Frequency 1	Grab sample
Copper (dissolved)	milligrams per litre	Weekly during any discharge	Grab sample
Copper (total)	milligrams per litre	Weekly during any discharge	Grab sample
Iron	milligrams per litre	Weekly during any discharge	Grab sample
Lead (dissolved)	milligrams per litre	Weekly during any discharge	Grab sample
Lead (total)	milligrams per litre	Weekly during any discharge	Grab sample
Lithium	milligrams per litre	Weekly during any discharge	Grab sample
Magnesium	milligrams per litre	Weekly during any discharge	Grab sample
Magnesium (dissolved)	milligrams per litre	Weekly during any discharge	Grab sample
Mercury (dissolved)	milligrams per litre	Weekly during any discharge	Grab sample
Mercury (total)	milligrams per litre	Weekly during any discharge	Grab sample
Molybdenum (dissolved)	milligrams per litre	Weekly during any discharge	Grab sample
Molybdenum (total)	milligrams per litre	Weekly during any discharge	Grab sample
Nickel (dissolved)	milligrams per litre	Weekly during any discharge	Grab sample
Nickel (total)	milligrams per litre	Weekly during any discharge	Grab sample
Nitrogen (total)	milligrams per litre	Weekly during any discharge	Grab sample

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Oil and Grease	milligrams per litre	Special Frequency 1	Grab sample
pH	pH	Special Frequency 1	Grab sample
Phosphorus	milligrams per litre	Weekly during any discharge	Grab sample
Potassium	milligrams per litre	Weekly during any discharge	Grab sample
Selenium (dissolved)	milligrams per litre	Weekly during any discharge	Grab sample
Selenium (total)	milligrams per litre	Weekly during any discharge	Grab sample
Silica	milligrams per litre	Weekly during any discharge	Grab sample
Silver (dissolved)	milligrams per litre	Weekly during any discharge	Grab sample
Silver (total)	milligrams per litre	Weekly during any discharge	Grab sample
Sodium	milligrams per litre	Weekly during any discharge	Grab sample
Sulfate	milligrams per litre	Weekly during any discharge	Grab sample
Tin	milligrams per litre	Weekly during any discharge	Grab sample
Titanium	milligrams per litre	Weekly during any discharge	Grab sample
Total Heavy Metals	milligrams per litre	Weekly during any discharge	Grab sample
Total suspended solids	milligrams per litre	Special Frequency 1	Grab sample
Turbidity	nephelometric turbidity units	Special Frequency 1	Grab sample
Vanadium (dissolved)	milligrams per litre	Weekly during any discharge	Grab sample
Vanadium (total)	milligrams per litre	Weekly during any discharge	Grab sample
Zinc (dissolved)	milligrams per litre	Weekly during any discharge	Grab sample
Zinc (total)	milligrams per litre	Weekly during any discharge	Grab sample

## POINT 3,4,6,20

Pollutant	Units of measure	Frequency	Sampling Method
Aluminium (dissolved)	milligrams per litre	Monthly during discharge	Grab sample
Aluminium (total)	milligrams per litre	Monthly during discharge	Grab sample
Arsenic (dissolved)	milligrams per litre	Monthly during discharge	Grab sample
Arsenic (total)	milligrams per litre	Monthly during discharge	Grab sample
Beryllium (dissolved)	milligrams per litre	Monthly during discharge	Grab sample

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Beryllium (total)	milligrams per litre	Monthly during discharge	Grab sample
Cadmium (dissolved)	milligrams per litre	Monthly during discharge	Grab sample
Cadmium (total)	milligrams per litre	Monthly during discharge	Grab sample
Chromium (dissolved)	milligrams per litre	Monthly during discharge	Grab sample
Chromium (total)	milligrams per litre	Monthly during discharge	Grab sample
Cobalt (dissolved)	milligrams per litre	Monthly during discharge	Grab sample
Cobalt (total)	milligrams per litre	Monthly during discharge	Grab sample
Conductivity	microsiemens per centimetre	Special Frequency 1	Grab sample
Copper (dissolved)	milligrams per litre	Monthly during discharge	Grab sample
Copper (total)	milligrams per litre	Monthly during discharge	Grab sample
Lead (dissolved)	milligrams per litre	Monthly during discharge	Grab sample
Lead (total)	milligrams per litre	Monthly during discharge	Grab sample
Mercury (dissolved)	milligrams per litre	Monthly during discharge	Grab sample
Mercury (total)	milligrams per litre	Monthly during discharge	Grab sample
Molybdenum (dissolved)	milligrams per litre	Monthly during discharge	Grab sample
Molybdenum (total)	milligrams per litre	Monthly during discharge	Grab sample
Nickel (dissolved)	milligrams per litre	Monthly during discharge	Grab sample
Nickel (total)	milligrams per litre	Monthly during discharge	Grab sample
Nitrogen (ammonia)	milligrams per litre	Monthly during discharge	Grab sample
Oil and Grease	milligrams per litre	Special Frequency 1	Grab sample
pH	pH	Special Frequency 1	Grab sample
Phosphorus	milligrams per litre	Monthly during discharge	Grab sample
Selenium (dissolved)	milligrams per litre	Monthly during discharge	Grab sample
Selenium (total)	milligrams per litre	Monthly during discharge	Grab sample
Silver (dissolved)	milligrams per litre	Monthly during discharge	Grab sample
Silver (total)	milligrams per litre	Monthly during discharge	Grab sample
Total Heavy Metals	milligrams per litre	Monthly during discharge	Grab sample

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Total suspended solids	milligrams per litre	Special Frequency 1	Grab sample
Turbidity	nephelometric turbidity units	Special Frequency 1	Grab sample
Vanadium (dissolved)	milligrams per litre	Monthly during discharge	Grab sample
Vanadium (total)	milligrams per litre	Monthly during discharge	Grab sample
Zinc (dissolved)	milligrams per litre	Monthly during discharge	Grab sample
Zinc (total)	milligrams per litre	Monthly during discharge	Grab sample

## POINT 17

Pollutant	Units of measure	Frequency	Sampling Method
Aluminium (dissolved)	milligrams per litre	Special Frequency 1	Grab sample
Aluminium (total)	milligrams per litre	Special Frequency 1	Grab sample
Antimony	milligrams per litre	Special Frequency 1	Grab sample
Arsenic (dissolved)	milligrams per litre	Special Frequency 1	Grab sample
Arsenic (total)	milligrams per litre	Special Frequency 1	Grab sample
Barium (dissolved)	milligrams per litre	Special Frequency 1	Grab sample
Beryllium (dissolved)	milligrams per litre	Special Frequency 1	Grab sample
Beryllium (total)	milligrams per litre	Special Frequency 1	Grab sample
Bicarbonate alkalinity	milligrams of calcium carbonate per litre	Special Frequency 1	Grab sample
Boron (dissolved)	milligrams per litre	Special Frequency 1	Grab sample
Cadmium (dissolved)	milligrams per litre	Special Frequency 1	Grab sample
Cadmium (total)	milligrams per litre	Special Frequency 1	Grab sample
Calcium	milligrams per litre	Special Frequency 1	Grab sample
Chloride	milligrams per litre	Special Frequency 1	Grab sample
Chromium (dissolved)	milligrams per litre	Special Frequency 1	Grab sample
Chromium (total)	milligrams per litre	Special Frequency 1	Grab sample
Cobalt (dissolved)	milligrams per litre	Special Frequency 1	Grab sample
Cobalt (total)	milligrams per litre	Special Frequency 1	Grab sample
Conductivity	microsiemens per centimetre	Special Frequency 2	Continuously
Copper (dissolved)	milligrams per litre	Special Frequency 1	Grab sample
Copper (total)	milligrams per litre	Special Frequency 1	Grab sample
Iron	milligrams per litre	Special Frequency 1	Grab sample
Iron (dissolved)	milligrams per litre	Special Frequency 1	Grab sample
Lead (dissolved)	milligrams per litre	Special Frequency 1	Grab sample
Lead (total)	milligrams per litre	Special Frequency 1	Grab sample
Lithium (dissolved)	milligrams per litre	Special Frequency 1	Grab sample
Magnesium	milligrams per litre	Special Frequency 1	Grab sample
Manganese (dissolved)	milligrams per litre	Special Frequency 1	Grab sample

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Mercury (dissolved)	milligrams per litre	Special Frequency 1	Grab sample
Mercury (total)	milligrams per litre	Special Frequency 1	Grab sample
Molybdenum (dissolved)	milligrams per litre	Special Frequency 1	Grab sample
Molybdenum (total)	milligrams per litre	Special Frequency 1	Grab sample
Nickel (dissolved)	milligrams per litre	Special Frequency 1	Grab sample
Nickel (total)	milligrams per litre	Special Frequency 1	Grab sample
Oil and Grease	milligrams per litre	Special Frequency 1	Grab sample
pH	pH	Special Frequency 1	Grab sample
Phosphorus	milligrams per litre	Special Frequency 1	Grab sample
Potassium	milligrams per litre	Special Frequency 1	Grab sample
Selenium (dissolved)	milligrams per litre	Special Frequency 1	Grab sample
Selenium (total)	milligrams per litre	Special Frequency 1	Grab sample
Silica (dissolved)	milligrams per litre	Special Frequency 1	Grab sample
Silver (dissolved)	milligrams per litre	Special Frequency 1	Grab sample
Sodium	milligrams per litre	Special Frequency 1	Grab sample
Sulfate	milligrams per litre	Special Frequency 1	Grab sample
Temperature	degrees Celsius	Special Frequency 2	Continuously
Tin	milligrams per litre	Special Frequency 1	Grab sample
Titanium	milligrams per litre	Special Frequency 1	Grab sample
TKN-N	milligrams per litre	Special Frequency 1	Grab sample
Total suspended solids	milligrams per litre	Special Frequency 1	Grab sample
Turbidity	nephelometric turbidity units	Special Frequency 2	Continuously
Vanadium (dissolved)	milligrams per litre	Special Frequency 1	Grab sample
Vanadium (total)	milligrams per litre	Special Frequency 1	Grab sample
Zinc (dissolved)	milligrams per litre	Special Frequency 1	Grab sample
Zinc (total)	milligrams per litre	Special Frequency 1	Grab sample

## POINT 18

Pollutant	Units of measure	Frequency	Sampling Method
Temperature	degrees Celsius	Special Frequency 2	Continuously

## POINT 19

Pollutant	Units of measure	Frequency	Sampling Method
Aluminium (dissolved)	milligrams per litre	Monthly	Composite sample
Copper (dissolved)	milligrams per litre	Monthly	Composite sample
Lead (dissolved)	milligrams per litre	Monthly	Composite sample
Selenium (dissolved)	milligrams per litre	Monthly	Composite sample
Zinc (dissolved)	milligrams per litre	Monthly	Composite sample

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## Points 1,19,21

Pollutant	Units of measure	Frequency	Sampling Method
Aluminium (dissolved)	milligrams per litre	Special Frequency 3	Grab sample
Arsenic (dissolved)	milligrams per litre	Special Frequency 3	Grab sample
Barium (dissolved)	milligrams per litre	Special Frequency 3	Grab sample
Bicarbonate alkalinity	milligrams of calcium carbonate per litre	Special Frequency 3	Grab sample
Boron (dissolved)	milligrams per litre	Special Frequency 3	Grab sample
Cadmium (dissolved)	milligrams per litre	Special Frequency 3	Grab sample
Calcium	milligrams per litre	Special Frequency 3	Grab sample
Chloride	milligrams per litre	Special Frequency 3	Grab sample
Cobalt (dissolved)	milligrams per litre	Special Frequency 3	Grab sample
Conductivity	microsiemens per centimetre	Special Frequency 3	Grab sample
Copper (dissolved)	milligrams per litre	Special Frequency 3	Grab sample
Iron (dissolved)	milligrams per litre	Special Frequency 3	Grab sample
Lead (dissolved)	milligrams per litre	Special Frequency 3	Grab sample
Lithium (dissolved)	milligrams per litre	Special Frequency 3	Grab sample
Magnesium	milligrams per litre	Special Frequency 3	Grab sample
Manganese (dissolved)	milligrams per litre	Special Frequency 3	Grab sample
Mercury (dissolved)	milligrams per litre	Special Frequency 3	Grab sample
Molybdenum (dissolved)	milligrams per litre	Special Frequency 3	Grab sample
Nickel (dissolved)	milligrams per litre	Special Frequency 3	Grab sample
Nitrogen (total)	milligrams per litre	Special Frequency 3	Grab sample
Oil and Grease	milligrams per litre	Special Frequency 3	Grab sample
pH	pH	Special Frequency 3	Grab sample
Phosphorus (total)	milligrams per litre	Special Frequency 3	Grab sample
Potassium (dissolved)	milligrams per litre	Special Frequency 3	Grab sample
Selenium (total)	milligrams per litre	Special Frequency 3	Grab sample
Sodium	milligrams per litre	Special Frequency 3	Grab sample
Sulfate (total)	milligrams per litre	Special Frequency 3	Grab sample
Sulfate (dissolved)	milligrams per litre	Special Frequency 3	Grab sample
TKN - N	milligrams per litre	Special Frequency 3	Grab sample
Total Suspended Solids	milligrams per litre	Special Frequency 3	Grab sample
Turbidity	nephelometric turbidity units	Special Frequency 3	Grab sample
Zinc (dissolved)	milligrams per litre	Special Frequency 3	Grab sample

Note: Special Frequency 1 means in the event of a discharge, a grab sample of the water discharged must be



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collected:

- a) within the first 6 hours of any discharge occurring; and
- b) every seven (7) days thereafter for the duration of the discharge.

Special Frequency 2 means continuous sampling during any discharge.

Special Frequency 3 means in the event of an uncontrolled discharge from Graunchs Dam through Point 1 a grab sample of water discharged must be collected daily during the duration of any discharge.

Special Frequency 4 means continuous sampling as reported as a daily average.

Note: For the purpose of this condition M2.3, the term "Continuously" means: without interruption, other than in circumstances where it is necessary to temporarily cease monitoring due to reasonable operation requirements of the licensee's online monitoring systems, such as system maintenance, start up and shut down times, and unforeseen disruptions to systems which are attended to by the licensee properly and with reasonable promptness.

- M2.4 The licensee must record, in graph form for each day, the level of pH at Point 1 at hourly intervals, averaged hourly.

## M3 Testing methods - concentration limits

- M3.1 Monitoring for the concentration of a pollutant emitted to the air required to be conducted by this licence must be done in accordance with:
- a) any methodology which is required by or under the Act to be used for the testing of the concentration of the pollutant; or
  - b) if no such requirement is imposed by or under the Act, any methodology which a condition of this licence requires to be used for that testing; or
  - c) if no such requirement is imposed by or under the Act or by a condition of this licence, any methodology approved in writing by the EPA for the purposes of that testing prior to the testing taking place.

Note: The *Protection of the Environment Operations (Clean Air) Regulation 2010* requires testing for certain purposes to be conducted in accordance with test methods contained in the publication "Approved Methods for the Sampling and Analysis of Air Pollutants in NSW".

- M3.2 Subject to any express provision to the contrary in this licence, monitoring for the concentration of a pollutant discharged to waters or applied to a utilisation area must be done in accordance with the Approved Methods Publication unless another method has been approved by the EPA in writing before any tests are conducted.

## M4 Weather monitoring

- M4.1 For each monitoring point specified in the table below, the licensee must monitor (by sampling and obtaining results by analysis) the parameters specified in Column 1. The licence must use the sampling method, units of measure, averaging period and sample at the frequency, specified opposite in the other



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columns.

POINT W1

Parameter	Units of Measure	Frequency	Averaging Period	Sampling Method
Rainfall	mm	Continuous	24 hour	AM-4
Wind direction	degrees	Continuous	1 hour	AM-2 and AM-4
Wind speed	metres per second	Continuous	1 hour	AM-2 and AM-4

M4.2 For the purpose of condition M4.1, Point W1 refers to a meteorological station established on the premises and is labelled as W1 on the plan titled "*Location of Air, Noise, Weather Monitoring Points and Ventilation System - for Newstan EPL 395*" plan numbered NS 3304 dated 17/11/2014  
DOC14/292013-04 EF13/2761

## M5 Recording of pollution complaints

M5.1 The licensee must keep a legible record of all complaints made to the licensee or any employee or agent of the licensee in relation to pollution arising from any activity to which this licence applies.

M5.2 The record must include details of the following:

- a) the date and time of the complaint;
- b) the method by which the complaint was made;
- c) any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect;
- d) the nature of the complaint;
- e) the action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant; and
- f) if no action was taken by the licensee, the reasons why no action was taken.

M5.3 The record of a complaint must be kept for at least 4 years after the complaint was made.

M5.4 The record must be produced to any authorised officer of the EPA who asks to see them.

## M6 Telephone complaints line

M6.1 The licensee must operate during its operating hours a telephone complaints line for the purpose of receiving any complaints from members of the public in relation to activities conducted at the premises or by the vehicle or mobile plant, unless otherwise specified in the licence.

M6.2 The licensee must notify the public of the complaints line telephone number and the fact that it is a complaints line so that the impacted community knows how to make a complaint.

M6.3 The preceding two conditions do not apply until 3 months after the date of the issue of this licence.

M6.4 The licensee must nominate a representative of the company that is available all all times and is capable

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of providing immediate assistance or response during emergencies or any other incidents at the premises. The name of the nominated representative and their contact details, including a telephone number, must be current at all times.

Note: This condition does not apply until two (2) weeks after the date of issue of this licence.

## M7 Requirement to monitor volume or mass

M7.1 For each discharge point or utilisation area specified below, the licensee must monitor:

- a) the volume of liquids discharged to water or applied to the area;
- b) the mass of solids applied to the area;
- c) the mass of pollutants emitted to the air;

at the frequency and using the method and units of measure, specified below.

### POINT 1

Frequency	Unit of Measure	Sampling Method
Daily during any discharge	megalitres per day	Continuously

### POINT 2

Frequency	Unit of Measure	Sampling Method
Daily during any discharge	megalitres per day	Continuously

### POINT 17

Frequency	Unit of Measure	Sampling Method
Continuous during discharge	kilolitres per day	Continuously

## M8 Other monitoring and recording conditions

### Sediment Monitoring

M8.1 The licensee must undertake a sediment monitoring program. This sediment monitoring program must be undertaken by a suitably qualified and experienced person. The sampling program must:

- a) be undertaken at 6 monthly intervals;
- b) include the sediments within the Bywash Dam located downstream of Point 1 and at three locations (including one within the intertidal zone) within LT Creek downstream of the point referred to as "WMP03";
- c) be undertaken of the sediments for the suite of nine metals provided in table 3.5.1 of the ANZECC and ARMCANZ Sediment Quality Guidelines; and
- d) a report prepared by a suitably qualified and experienced person must be provided with the Annual Return, and must include discussion of any temporal change for the purpose of continuing to assess the capacity of sediments in the downstream environment to adsorb metals. This report must:

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- i) include graphical analysis of the spatial and temporal trends in the creek;
- ii) include the raw data in an appendice; and
- iii) include the previous data collected dating back to 2010.

Note 1: The location of the point referred to as "WMP03" is shown on the plan titled "Newstan Colliery, Surface Plan, All Water Monitoring Points" dated 25 November 2009 attached to the Licence Variation Application dated 23 February 2012.

Note 2: The EPA will review the frequency of monitoring two years after commissioning of the water treatment plant and two years of monitoring data under this clause is available.

## 6 Reporting Conditions

### R1 Annual return documents

- R1.1 The licensee must complete and supply to the EPA an Annual Return in the approved form comprising:
- a) a Statement of Compliance; and
  - b) a Monitoring and Complaints Summary.

At the end of each reporting period, the EPA will provide to the licensee a copy of the form that must be completed and returned to the EPA.

- R1.2 An Annual Return must be prepared in respect of each reporting period, except as provided below.

Note: The term "reporting period" is defined in the dictionary at the end of this licence. Do not complete the Annual Return until after the end of the reporting period.

- R1.3 Where this licence is transferred from the licensee to a new licensee:
- a) the transferring licensee must prepare an Annual Return for the period commencing on the first day of the reporting period and ending on the date the application for the transfer of the licence to the new licensee is granted; and
  - b) the new licensee must prepare an Annual Return for the period commencing on the date the application for the transfer of the licence is granted and ending on the last day of the reporting period.

Note: An application to transfer a licence must be made in the approved form for this purpose.

- R1.4 Where this licence is surrendered by the licensee or revoked by the EPA or Minister, the licensee must prepare an Annual Return in respect of the period commencing on the first day of the reporting period and ending on:
- a) in relation to the surrender of a licence - the date when notice in writing of approval of the surrender is given; or
  - b) in relation to the revocation of the licence - the date from which notice revoking the licence operates.

- R1.5 The Annual Return for the reporting period must be supplied to the EPA by registered post not later than 60 days after the end of each reporting period or in the case of a transferring licence not later than 60 days after the date the transfer was granted (the 'due date').

- R1.6 The licensee must retain a copy of the Annual Return supplied to the EPA for a period of at least 4 years

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after the Annual Return was due to be supplied to the EPA.

- R1.7 Within the Annual Return, the Statement of Compliance must be certified and the Monitoring and Complaints Summary must be signed by:
- a) the licence holder; or
  - b) by a person approved in writing by the EPA to sign on behalf of the licence holder.

## R2 Notification of environmental harm

Note: The licensee or its employees must notify all relevant authorities of incidents causing or threatening material harm to the environment immediately after the person becomes aware of the incident in accordance with the requirements of Part 5.7 of the Act.

- R2.1 Notifications must be made by telephoning the Environment Line service on 131 555.
- R2.2 The licensee must provide written details of the notification to the EPA within 7 days of the date on which the incident occurred.

## R3 Written report

- R3.1 Where an authorised officer of the EPA suspects on reasonable grounds that:
- a) where this licence applies to premises, an event has occurred at the premises; or
  - b) where this licence applies to vehicles or mobile plant, an event has occurred in connection with the carrying out of the activities authorised by this licence, and the event has caused, is causing or is likely to cause material harm to the environment (whether the harm occurs on or off premises to which the licence applies), the authorised officer may request a written report of the event.
- R3.2 The licensee must make all reasonable inquiries in relation to the event and supply the report to the EPA within such time as may be specified in the request.
- R3.3 The request may require a report which includes any or all of the following information:
- a) the cause, time and duration of the event;
  - b) the type, volume and concentration of every pollutant discharged as a result of the event;
  - c) the name, address and business hours telephone number of employees or agents of the licensee, or a specified class of them, who witnessed the event;
  - d) the name, address and business hours telephone number of every other person (of whom the licensee is aware) who witnessed the event, unless the licensee has been unable to obtain that information after making reasonable effort;
  - e) action taken by the licensee in relation to the event, including any follow-up contact with any complainants;
  - f) details of any measure taken or proposed to be taken to prevent or mitigate against a recurrence of such an event; and
  - g) any other relevant matters.
- R3.4 The EPA may make a written request for further details in relation to any of the above matters if it is not satisfied with the report provided by the licensee. The licensee must provide such further details to the EPA within the time specified in the request.

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## R4 Other reporting conditions

- R4.1 The sewage treatment system maintenance program required by Condition O2.6 must be submitted annually to the EPA with the Annual Return.
- R4.2 The licensee must retain a copy of each report required by Condition O2.5 for 3 years from the date each record is made.
- R4.3 The licensee must provide on its public website a copy of all graphs produced pursuant to condition M2.4 for any preceding month by the 14<sup>th</sup> working day of the following month.

## 7 General Conditions

### G1 Copy of licence kept at the premises or plant

- G1.1 A copy of this licence must be kept at the premises to which the licence applies.
- G1.2 The licence must be produced to any authorised officer of the EPA who asks to see it.
- G1.3 The licence must be available for inspection by any employee or agent of the licensee working at the premises.

### G2 Other general conditions

#### G2.1 Completed Pollution Studies and Reduction Programs (PRPs)

PRP	Description	Completed Date
PRP 1 - Revised water management plan	Revised water management plan. Minimise discharges to LT Creeks.	02-July-2008
PRP 2 - Assessment of Potential Impacts of Metals	The licensee must conduct an assessment of metals detected in wastewater discharges from the mine in accordance with ANZECC water quality guidelines.. To obtain a greater understanding of the type and concentration of metals discharged in mine water and entering the receiving waters. To limit the concentration of metals discharged in mine water within ANZECC guidelines.	25-June-2013
Coal Mine Particulate Matter Control Best Practice	Requires licensee to conduct a site specific Best Management Practice (BMP) determination to identify ways to reduce particle emissions.	29-September-2012

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Construction of a Water Treatment Plant	Design, construct and commission a water treatment plant capable of treating at least 11ML/day of water discharged from point 1	02-March-2014
Ecotoxicological Monitoring Program	Ecotoxicological Monitoring Program	01-March-2014
PRP 6 - Macroinvertebrate and Ecotoxicological Monitoring Program	Macroinvertebrate and Ecotoxicological Monitoring Program against Reference	23-October-2015

## 8 Pollution Studies and Reduction Programs

### U1 PRP 7 -Turbidity and Total Suspended Solids Site Specific Correlation Study

U1.1 By no later than 1 February 2016, the licensee must commission a study to be undertaken by an appropriately qualified expert for the purpose of establishing the site-specific correlation between turbidity and total suspended solids. The methodology for that study must include:

- a) monitoring the turbidity and total suspended solids levels in water treatment plant inflow by way of weekly grab samples and recording the results, until the licensee has compiled at least 30 sets of data which cover the turbidity range of 10 to 100 NTU; and
- b) recording the turbidity levels in water treatment plant inflow using the licensee's instrumentation during the study, unless turbidity levels exceed 100 NTU.

U1.2 Within 3 months of the completion of the study required by condition U1.1, the licensee must submit to the EPA's Manager Hunter Region at [hunter.region@epa.nsw.gov.au](mailto:hunter.region@epa.nsw.gov.au) a Site Specific Correlation Report. The Site Specific Correlation Report must be prepared by an appropriately qualified expert:

- a) the results of the study required by condition U1.1 above;
- b) details of the correlation between total suspended solids and turbidity;
- c) a discussion of the methods used for establishing the correlation between turbidity and total suspended solids;
- d) data, in both table and graphical formats to illustrate the correlation; and
- e) an explanation of any limitations of the study and the outcomes/conclusions.

## 9 Special Conditions

### E1 Macroinvertebrate and Ecotoxicological Monitoring Programs

E1.1 The licensee must implement a macroinvertebrate monitoring program that will monitor the impacted sites of LT and Stony Creeks and compare the results against a control site. For the purpose of this condition, 'control' means a system of the same Riverstyle™ (Brierley & Fryirs) as LT and Stony Creeks monitoring reaches, but which is not impacted by point source mine groundwater discharges or other point source discharges. The monitoring program must be undertaken by a suitably qualified and experienced person and:

- a) include macroinvertebrate monitoring twice during the reporting period during both (Autumn and Spring) at:

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- i) four or more locations downstream of LT Creek Point 1 that includes a site within the intertidal estuarine zone; and
- ii) two or more locations downstream of Stony Creek Point 17 that includes a site within the intertidal estuarine zone; and
- iii) at a number of control locations that are the same Riverstyle™ (Brierley and Fryirs) as found at Points 1 and 17 and, which include an estuarine non-impacted site.

Note: For the purpose of this condition 'control' does not mean 'natural' and/or unimpacted by human activity.

E1.1.1 The results of macroinvertebrate monitoring must be provided in a report with the Annual Return.

E1.1.2 The report required by E1.1.1 must be prepared by an appropriately qualified and experienced person and incorporate analysis, including, but not necessarily limited to, a beyond before after control impact (beyond BACI) style assessment. The analysis must compare impacted and control sites and include assessment of macroinvertebrate assemblage dissimilarity between impacted and control sites, highlighting the taxa / impact responsible for the majority of the dissimilarity.

E1.2 By no later than 30 April 2016, the licensee must complete an ecotoxicological monitoring program that includes:

- a) One full direct toxicity assessment (DTA) on Point 1 discharges. The DTA must include assessment using five bioassays: Cladoceran (*Ceriodaphnia dubia*) 8 day reproduction; Microalgal (*Selenastrum capricornutum*) 72 hour growth inhibition; Rainbow Fish (*Melanotanea splendida*) 10 day embryonic development and post hatch survival; Duckweed (*Lemna disperma*) 7 day growth inhibition and 10 day shrimp (*Parataya australiensis*) (including the 96 hour results) survival; and
- b) One full dilution series bioassay (DSB) in a sample of water collected at Point 19. The DSB must include assessment of the Cladoceran (*Ceriodaphnia dubia*) 8 day reproduction bioassay.

E1.2.1 A report detailing the results of the ecotoxicological monitoring program required by Condition E1.2 must be provided to the EPA's Manager Hunter Region at [hunter.region@epa.nsw.gov.au](mailto:hunter.region@epa.nsw.gov.au) within 3 months of the results of that monitoring program being completed.

Note: The purpose of this condition is to calculate a dilution factor for Point 1 discharges and to validate the concentration limits specified in this licence for Point 1. The results of the bioassays should comply with condition L5.1.

E1.3 The licensee must complete an ecotoxicological monitoring program annually as well as immediately following any changes to mine operations with the potential to change water quality, including recommencement of mining activities. The monitoring must include:

- a) a full dilution series on Point 1 discharges using the Cladoceran (*Ceriodaphnia dubia*) 8 day reproduction bioassay, and if there is a more sensitive species identified during the assessments required by condition E1.2, using the bioassays for that species as well;
- b) screening bioassays on Point 19 discharges using the bioassay/s required by E1.3 a) above; and
- c) analysis of the water samples collected in relation to conditions E1.3 a) and E1.3 b), for all pollutants listed in the table for Point 1 in condition M2.3.

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- E1.4 A report detailing the results of any ecotoxicological monitoring completed under condition E1.3 must be prepared by a suitably qualified and experienced person and provided to the EPA's Manager Hunter Region at [hunter.region@epa.nsw.gov.au](mailto:hunter.region@epa.nsw.gov.au) within 3 months of that monitoring being completed.
  
- E1.5 At the completion of two years and then three years of monitoring, the ecotoxicological report required by condition E1.4 must incorporate temporal analysis of the preceding data dating back to the commencement of the studies.



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## Dictionary

### General Dictionary

<b>3DGM [in relation to a concentration limit]</b>	Means the three day geometric mean, which is calculated by multiplying the results of the analysis of three samples collected on consecutive days and then taking the cubed root of that amount. Where one or more of the samples is zero or below the detection limit for the analysis, then 1 or the detection limit respectively should be used in place of those samples
<b>Act</b>	Means the Protection of the Environment Operations Act 1997
<b>activity</b>	Means a scheduled or non-scheduled activity within the meaning of the Protection of the Environment Operations Act 1997
<b>actual load</b>	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
<b>AM</b>	Together with a number, means an ambient air monitoring method of that number prescribed by the <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> .
<b>AMG</b>	Australian Map Grid
<b>anniversary date</b>	The anniversary date is the anniversary each year of the date of issue of the licence. In the case of a licence continued in force by the Protection of the Environment Operations Act 1997, the date of issue of the licence is the first anniversary of the date of issue or last renewal of the licence following the commencement of the Act.
<b>annual return</b>	Is defined in R1.1
<b>Approved Methods Publication</b>	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
<b>assessable pollutants</b>	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
<b>BOD</b>	Means biochemical oxygen demand
<b>CEM</b>	Together with a number, means a continuous emission monitoring method of that number prescribed by the <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> .
<b>COD</b>	Means chemical oxygen demand
<b>composite sample</b>	Unless otherwise specifically approved in writing by the EPA, a sample consisting of 24 individual samples collected at hourly intervals and each having an equivalent volume.
<b>cond.</b>	Means conductivity
<b>environment</b>	Has the same meaning as in the Protection of the Environment Operations Act 1997
<b>environment protection legislation</b>	Has the same meaning as in the Protection of the Environment Administration Act 1991
<b>EPA</b>	Means Environment Protection Authority of New South Wales.
<b>fee-based activity classification</b>	Means the numbered short descriptions in Schedule 1 of the Protection of the Environment Operations (General) Regulation 2009.
<b>general solid waste (non-putrescible)</b>	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997

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<b>flow weighted composite sample</b>	Means a sample whose composites are sized in proportion to the flow at each composites time of collection.
<b>general solid waste (putrescible)</b>	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
<b>grab sample</b>	Means a single sample taken at a point at a single time
<b>hazardous waste</b>	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
<b>licensee</b>	Means the licence holder described at the front of this licence
<b>load calculation protocol</b>	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
<b>local authority</b>	Has the same meaning as in the Protection of the Environment Operations Act 1997
<b>material harm</b>	Has the same meaning as in section 147 Protection of the Environment Operations Act 1997
<b>MBAS</b>	Means methylene blue active substances
<b>Minister</b>	Means the Minister administering the Protection of the Environment Operations Act 1997
<b>mobile plant</b>	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
<b>motor vehicle</b>	Has the same meaning as in the Protection of the Environment Operations Act 1997
<b>O&amp;G</b>	Means oil and grease
<b>percentile [in relation to a concentration limit of a sample]</b>	Means that percentage [eg.50%] of the number of samples taken that must meet the concentration limit specified in the licence for that pollutant over a specified period of time. In this licence, the specified period of time is the Reporting Period unless otherwise stated in this licence.
<b>plant</b>	Includes all plant within the meaning of the Protection of the Environment Operations Act 1997 as well as motor vehicles.
<b>pollution of waters [or water pollution]</b>	Has the same meaning as in the Protection of the Environment Operations Act 1997
<b>premises</b>	Means the premises described in condition A2.1
<b>public authority</b>	Has the same meaning as in the Protection of the Environment Operations Act 1997
<b>regional office</b>	Means the relevant EPA office referred to in the Contacting the EPA document accompanying this licence
<b>reporting period</b>	For the purposes of this licence, the reporting period means the period of 12 months after the issue of the licence, and each subsequent period of 12 months. In the case of a licence continued in force by the Protection of the Environment Operations Act 1997, the date of issue of the licence is the first anniversary of the date of issue or last renewal of the licence following the commencement of the Act.
<b>restricted solid waste</b>	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
<b>scheduled activity</b>	Means an activity listed in Schedule 1 of the Protection of the Environment Operations Act 1997
<b>special waste</b>	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
<b>TM</b>	Together with a number, means a test method of that number prescribed by the <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> .

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<b>TSP</b>	Means total suspended particles
<b>TSS</b>	Means total suspended solids
<b>Type 1 substance</b>	Means the elements antimony, arsenic, cadmium, lead or mercury or any compound containing one or more of those elements
<b>Type 2 substance</b>	Means the elements beryllium, chromium, cobalt, manganese, nickel, selenium, tin or vanadium or any compound containing one or more of those elements
<b>utilisation area</b>	Means any area shown as a utilisation area on a map submitted with the application for this licence
<b>waste</b>	Has the same meaning as in the Protection of the Environment Operations Act 1997
<b>waste type</b>	Means liquid, restricted solid waste, general solid waste (putrescible), general solid waste (non - putrescible), special waste or hazardous waste

Ms Debbie Maddison

Environment Protection Authority

(By Delegation)

Date of this edition: 07-April-2000

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## End Notes

- 1 Licence varied by notice V/M upgrade, issued on 10-Jul-2000, which came into effect on 10-Jul-2000.
- 2 Licence varied by notice 1005872, issued on 24-Aug-2001, which came into effect on 24-Aug-2001.
- 3 Licence transferred through application 141587, approved on 21-Nov-2002, which came into effect on 07-Aug-2002.
- 4 Licence varied by notice 1073411, issued on 13-Feb-2008, which came into effect on 13-Feb-2008.
- 5 Licence varied by notice 1105209, issued on 24-Feb-2011, which came into effect on 24-Feb-2011.
- 6 Licence varied by notice 1130610, issued on 13-Jul-2011, which came into effect on 13-Jul-2011.
- 7 Licence varied by notice 1502224 issued on 20-Oct-2011
- 8 Licence varied by notice 1502524 issued on 21-Dec-2011
- 9 Licence varied by notice 1506640 issued on 15-Oct-2012
- 10 Licence varied by notice 1523776 issued on 17-Dec-2014
- 11 Licence varied by notice 1534992 issued on 17-Nov-2015