Section 55 Protection of the Environment Operations Act 1997

Environment Protection Licence

Licence Details	
Number:	2504
Anniversary Date:	01-July

Licensee
ENDEAVOUR COAL PTY LIMITED
PO BOX 514
UNANDERRA NSW 2526

Premises
3. APPIN COLLIERY - NORTH (AND WESTCLIFF COAL PREP PLANT)
WEDDERBURN ROAD
APPIN NSW 2560
1. APPIN COLLIERY - EAST
OFF APPIN ROAD
APPIN NSW 2560
2. APPIN COLLIERY - WEST
DOUGLAS PARK DRIVE
DOUGLAS PARK NSW 2569

Scheduled Activity (Act)	Licensing Fee Category (Regulation)	Scale
Mining for coal	Mining for coal	> 3500000 - 5000000 T annual production capacity

Coal works	Coal works	> 2000000 - 5000000 T annual handing capacity
Waste disposal (application to land)	Waste disposal by application to land	Any capacity

Environment Protection Licence

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Contents

Information about this licence 5
Dictionary 5
Responsibilities of licensee 5
Variation of licence conditions 5
Duration of licence 5
Licence review 5
Fees and information to be sent to the EPA 5
Transfer of licence 6
Public register and access to monitoring data 6
1 Administrative Conditions 7
A1 What the licence authorises and regulates 7
A2 Premises or plant to which this licence applies 7
A3 Other activities 9
A4 Information supplied to the EPA 9
2 Discharges to Air and Water and Applications to Land 10
P1 Location of monitoring/discharge points and areas 10
3 Limit Conditions 14
L1 Pollution of waters 14
L2 Concentration limits 14
L3 Volume and mass limits 17
L4 Waste 18
4 Operating Conditions 19
O1 Activities must be carried out in a competent manner 19

O2 Maintenance of plant and equipment 19
O3 Dust 19
O4 Effluent application to land 19
O5 Waste management 19
5 Monitoring and Recording Conditions 20
M1 Monitoring records 20
M2 Requirement to monitor concentration of pollutants discharged 20
M3 Testing methods - concentration limits 23
M4 Weather monitoring 24
M5 Recording of pollution complaints 24
M6 Telephone complaints line 24
M7 Requirement to monitor volume or mass 25
6 Reporting Conditions 26
R1 Compliance, and annual reporting requirements 26
R2 Reporting documents 27
R3 Notification of environmental harm 27
R4 Written report 28
7 General Conditions 28
G1 Copy of licence kept at the premises or plant 28
G2 Signage 28
G3 Other general conditions 29
8 Pollution Studies and Reduction Programs 32
U1 PRP 25 - Improve Water Quality in Sediment Basin Discharges 32
U2 Pollution study: Trial Hybrid Regenerative Catalytic Oxidation (HRCO) Technology for Ventilation Air Methane (VAM) Greenhouse Gas Emissions Abatement 36
U3 Pollution study: PRP - Noise Monitoring Program – Trial Hybrid Regenerative Catalytic Oxidation (HRCO) Units 38
U4 Pollution study: PRP - Post-Commissioning Air Emissions Verification – Trial Hybrid Regenerative Catalytic Oxidation (HRCO) Unit(s) 39
Dictionary 42
General Dictionary 42

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 information to be sent to the EPA

For each licence fee period you must pay:

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

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

The EPA publication "A Guide to Licensing" contains information about how to calculate your licence fees.

A licence subject to load-based licensing (LBL) requires an Annual Return to be submitted to the EPA, comprising a Statement of Compliance for Load Based Fee Calculation for each assessable pollutant required by the licence. The Annual Return must be submitted by the "due date", as defined in the dictionary at the end of the licence. Refer to the Annual Return reporting requirements under Section 6 "Reporting Conditions".

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:

Licensee
ENDEAVOUR COAL PTY LIMITED
PO BOX 514
UNANDERRA NSW 2526

subject to the conditions which follow.

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 (Act) classification, Licensing Fee Category (Regulation) 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 (Act)	Licensing Fee Category (Regulation)	Scale
Mining for coal	Mining for coal	> 3500000 - 5000000 T annual production capacity
Coal works	Coal works	> 2000000 - 5000000 T annual handing capacity
Waste disposal (application to land)	Waste disposal by application to land	Any capacity

A2 Premises or plant to which this licence applies

A2.1 The licence applies to the following premises:

Premises Details
3. APPIN COLLIERY - NORTH (AND WESTCLIFF COAL PREP PLANT)
WEDDERBURN ROAD
APPIN NSW 2560
LOT //DP, LOT //DP, LOT //DP
1. APPIN COLLIERY - EAST
OFF APPIN ROAD
APPIN NSW 2560
LOT //DP, LOT //DP, LOT //DP

2. APPIN COLLIERY - WEST
DOUGLAS PARK DRIVE
DOUGLAS PARK NSW 2569
LOT //DP, LOT //DP, LOT //DP
The defined areas of the premises are shown on maps held on EPA file DOC19/948790. Thi s includes both above ground and approved below ground areas.

Note: In addition to the land set out in the premises details table above, this licence also applies to underground coal mining areas as set out in the following leases, licences and authorisations.

(a)

. Coal Lease 381
. Coal Lease 388
. Consolidated Coal Lease 724
. Consolidated Coal Lease 767
. Mining Purposes Lease 200
. Mining Purposes Lease 201
. Mining Lease 1382
. Mining Lease 1433
. Mining Lease 1473
. Mining Lease 1574
. Mining Lease 1678
. Mining Lease 1698
. Mining Lease 1832
. Mining Lease 1847
. Mining Lease 1892

. Exploration Licence 4470

. Authorisation 248

. Authorisation 396

and

(b) for which all necessary consents or approvals for mining for coal have been obtained (including any consent or approval required under the Environmental Planning and Assessment Act 1979).

The premise also includes the Ventilation Shaft numbers 1 and 2 site with the following lot and DP numbers.

Lot 31 DP864032

The premises also includes the Ventilation Shaft 3 site with the following lot and DP numbers.

Lot 51 DP1161552

The premises also includes the Ventilation Shaft 6 site located approximately 0.5 km east of Douglas Park township with the following lot and DP numbers.

Lot 1 DP121322
Lot 1 DP576136
Lot 1 DP583323
Lot 2 DP576136
Lot 35 DP8999
Lot 37 DP8738
Lot A DP421246

The premises also includes the Ventilation Shaft 7 and 8 site located at 345 Menangle Road, Menangle with the following lot and DP number.

Lot 20A DP4450

The premises also includes the North Cliff mine pit top with the following lot and DP number.

Lot 7014 DP1030829

The premises also includes the Douglas Park sub-station with the following lot and DP number.

Lot 1 DP583323

A3 Other activities

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

Ancillary activity
Electricity generation
Resource Recovery

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.

Air

EPA Identification Number	Point Type	Point Type Description	Location Description
27	Monitoring	PM10 Monitoring	Photometer "AE-PF1" is located at the NE corner of the property boundary near the truck entry/exit point at Appin East. lat. long. -34.209797 150.794101
28	Monitoring	PM10 Monitoring	Photometer "AE-PF3" is located at the NW corner of the property boundary Appin East. lat. long -34.210104 150.791432
35	Monitoring	PM10 Monitoring	Photometer "W-PF1" is located at the junction of Appin Road and Wedderburn Road at Appin North. lat. long. -34.236380 150.833600

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.
Water and Land

EPA Identification Number	Type of Monitoring Point	Type of Discharge Point	Location Description
4	Discharge to utilisation area Discharge quality monitoring Volume Monitoring	Discharge to utilisation area Discharge quality monitoring Volume Monitoring	Spray irrigation of sewage treated effluent on grassed utilisation area. lat. long. -34.229709 150.828461
10	Discharge quality monitoring Volume monitoring		Pipe discharge outlet from Brennans Creek dam to the creek. lat. long. -34.206432 150.802706
11	Ambient water quality monitoring		Georges River approximately 50 metres upstream of the confluence with Brennans Creek. lat. long. -34.204883 150.798824
12	Ambient water quality monitoring		Georges River approximately 50 metres downstream of the confluence with Brennans Creek. lat. long. -34.204099 150.798345
18	Discharge to waters. Discharge quality and volume monitoring	Discharge to waters. Discharge quality and volume monitoring	Underflow from the stormwater filter lagoon discharging through a v-notch weir. lat. long. -34.210467 150.796312
19	Discharge to waters. Discharge quality and volume monitoring.	Discharge to waters. Discharge quality and volume monitoring.	Dyna Sand Filter outlet for treated stormwater.

			lat. long. -34.211010 150.795734
21		Discharge to Waters	Overflow spillway from main stormwater dam. lat. long. -34.211103 150.795416
23	Discharge to waters Water quality monitoring Discharge volume monitoring	Discharge to waters Water quality monitoring Discharge volume monitoring	Piped discharge outlet for stormwater. lat. long. -34.220956 150.719136
24	Discharge to waters Water quality monitoring Discharge volume monitoring	Discharge to waters Water quality monitoring Discharge volume monitoring	Piped discharge of treated mine water at Appin (West). lat. long. -34.220870 150.719059
25		Discharge to waters	Overflow spillway on sand filtration dam wall. lat. long. -34.220617 150.718679
38	Discharge to utilisation area Water quality monitoring Volume Monitoring	Discharge to utilisation area Water quality monitoring Volume Monitoring	Pipe discharge to the utilisation area from the stabilisation lagoon of the sewage treatment plant at Appin West. lat. Long. -34.217742 150.716151
39		Discharge to Water	Overflow weir on stabilisation lagoon of sewage treatment plant Appin West. lat. long. -34.220967 150.716077
40	Discharge to water Water quality monitoring Volume monitoring	Discharge to water Water quality monitoring Volume monitoring	Piped discharge of treated mine water at Appin (North). lat. long. -34.206601 150.802954

41	Discharge to water Water quality monitoring	Discharge to water Water quality monitoring	Piped discharge outlet from stormwater dam. Menangle Vent Shaft 7 & 8. lat. long. -34.1463011 150.7286913
42		Discharge to water	Overflow spillway on stormwater dam. Menangle Vent Shaft 7 & 8 lat. long. -34.1463011 150.7286913
43	Discharge to waters	Discharge to waters	Piped discharge outlet from stormwater dam. North Cliff rehabilitation site. lat. long. -34.2151353 150.8754047
44		Discharge to waters	Overflow discharge from stormwater dam. North Cliff rehabilitation site. lat. long. -34.2151353 150.8754047
45	Discharge to waters Discharge quality monitoring	Discharge to waters Discharge quality monitoring	Piped discharge outlet from stormwater dam EP3 at Appin North. lat. long. -34.2145839 150.8089035
46		Wet weather discharge	Overflow discharge from stormwater dam EP3 at Appin North. lat. Long. -34.21504806, 150.8084526
47	Discharge to waters Discharge quality monitoring	Discharge to waters Discharge quality monitoring	Piped discharge outlet from stormwater dam Pond 7 (or equivalent) at Appin North. lat. Long. -34.2115311 150.8160139
48		Wet weather discharge	Overflow discharge from stormwater dam Pond 7

			(or equivalent) at Appin North. lat. Long. -34.2118968, 150.8159851
49	Discharge to waters Discharge quality monitoring	Discharge to waters Discharge quality monitoring	Piped discharge outlet from stormwater dam 4A at Appin North. lat. long. -34.2176284, 150.8126555
50		Wet weather discharge	Overflow discharge from stormwater dam Pond 5 at Appin North lat. long. -34.211487, 150.818853

P1.4 The following points referred to in the table below are identified in this licence for the purposes of weather and/or noise monitoring and/or setting limits for the emission of noise from the premises.

Noise

EPA Identification Number	Point Type	Location description
51	Meteorological Station	Weather station. lat. long. (to be determined)

3 Limit Conditions

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.

L1.2 A discharge of water from Points 46, 48 & 50 is permitted if the discharge occurs solely as a result of rainfall at the premise exceeding a total of 65 millimetres over any consecutive five-day period.

L2 Concentration limits

L2.1 For each monitoring/discharge point or utilisation area specified in the table/s 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\s.

L2.4 Water and/or Land Concentration Limits

POINT 40

Pollutant	UOM	50 percentile concentration limit	80 percentile concentration limit	90 percentile concentration limit	100 percentile concentration limit
pH	-				6.5 - 8.5
Electrical conductivity	microsiemens per centimetre				495
Bicarbonate alkalinity	milligrams per litre		185		
Aluminium (dissolved)	micrograms per litre		55		
Cobalt (dissolved)	micrograms per litre		1.4		
Copper (dissolved)	micrograms per litre		1.4		
Nickel (dissolved)	micrograms per litre		11		
Zinc	micrograms per litre		8		
Nitrogen (total)	milligrams per litre		350		

POINT 18,19,23,24,41,43

Pollutant	UOM	50 percentile concentration limit	80 percentile concentration limit	90 percentile concentration limit	100 percentile concentration limit
pH	pH	-	-	-	6.5 - 8.5

POINT 18,19,23,41,43,45,47,49

Pollutant	UOM	50 percentile concentration limit	80 percentile concentration limit	90 percentile concentration limit	100 percentile concentration limit
Total suspended solids	milligrams per litre	-	-	-	50

POINT 23,38,4

Pollutant	UOM	50 percentile concentration limit	80 percentile concentration limit	90 percentile concentration limit	100 percentile concentration limit
BOD	milligrams per litre				50

POINT 24

Pollutant	UOM	50 percentile concentration limit	80 percentile concentration limit	90 percentile concentration limit	100 percentile concentration limit
Electrical conductivity	millisiemens per centimetre	-	-	-	600
Bicarbonate alkalinity	milligrams of calcium carbonate per litre	-	185	-	-
Aluminium (dissolved)	micrograms per litre	-	55	-	-
Cobalt (dissolved)	micrograms per litre	-	1.4	-	-
Copper (dissolved)	micrograms per litre	-	1.4	-	-
Nickel (dissolved)	micrograms per litre	-	11	-	-

Zinc (dissolved)	micrograms per litre	-	8	-	-
Nitrogen (total)	micrograms per litre	-	350	-	-

POINT 38,4

Pollutant	UOM	50 percentile concentration limit	80 percentile concentration limit	90 percentile concentration limit	100 percentile concentration limit
pH	pH	-	-	-	6.0 - 9.0

L3 Volume and mass limits

L3.1 For each discharge point or utilisation area specified below (by a point number), the volume/mass of:
a) liquids discharged to water; or;
b) solids or liquids applied to the area;
must not exceed the volume/mass limit specified for that discharge point or area.

POINT 40

Limits Unit of measure	Volume/Mass Limit
kilolitres per day	1000 min monthly avg

POINT 24

Limits Unit of measure	Volume/Mass Limit
KL/month	93000
kilolitres per day	4700

POINT 18

Limits Unit of measure	Volume/Mass Limit
kilolitres per day	1000

POINT 19

Limits Unit of measure	Volume/Mass Limit
kilolitres per day	2000

POINT 38

Limits Unit of measure	Volume/Mass Limit
kilolitres per day	80

L3.2 The Appin North water treatment plant must be operated and maintained to achieve a 90% availability during the reporting period. This excludes days when low mine water levels impact the ability to run the plant to capacity.

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.

Waste	Description	Activity	Other Limits
NA - Drilling mud and/or muddy waters from drilling operations			NA
NA - Virgin excavated natural material			NA
NA - Coal Washery Reject			NA
NA - Liquid waste from water and waste water treatment plants			NA
NA - Drill cores from exploration activity			NA

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.

O3 Dust

O3.1 The premises must be maintained in a condition which minimises or prevents the emission of dust from the premises.

O4 Effluent application to land

O4.1 Effluent application must not occur in a manner that causes surface runoff.

O4.2 Spray from effluent application must not drift beyond the boundary of the premises.

O4.3 The quantity of effluent/solids applied to the utilisation area must not exceed the capacity of the area to effectively utilise the effluent/solids.

For the purpose of this condition, 'effectively utilise' include the use of the effluent/solids for pasture or crop production, as well as the ability of the soil to absorb the nutrient, salt, hydraulic load and organic material.

O5 Waste management

O5.1 Virgin Excavated Natural Material (VENM) imported onto the premises to be used as capping material at the coal wash emplacement area must be managed in accordance with Attachment B - 'Description of Works' and the 'Fill Import Management Protocol' in the licensee's email to the EPA dated 19 October 2021 (DOC21/70390).

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;
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 EPA point identification number for 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 27,28,35

Pollutant	UOM	Frequency	Sampling Methods
PM10	micrograms per cubic metre	Monthly	Continuously

M2.3 Water and/ or Land Monitoring Requirements

POINT 10

Pollutant	UOM	Frequency	Sampling Methods
Total dissolved solids	milligrams per litre	Monthly during discharge	Grab sample
Turbidity	nephelometric turbidity units	Continuous during discharge	In line instrumentation

POINT 10,11,12,18,19,23,41,43,45,47,49

Pollutant	UOM	Frequency	Sampling Methods
Total suspended solids	milligrams per litre	Monthly during discharge	Grab sample

POINT 10,24

Pollutant	UOM	Frequency	Sampling Methods
Conductivity	microsiemens per centimetre	Continuous during discharge	In line instrumentation
pH	pH	Continuous during discharge	In line instrumentation

POINT 10,24,40

Pollutant	UOM	Frequency	Sampling Methods
Aluminium (dissolved)	milligrams per litre	Monthly during discharge	Grab sample
Arsenic (dissolved)	micrograms per litre	Monthly during discharge	Grab sample
Bicarbonate alkalinity	milligrams per litre	Monthly during discharge	Grab sample
Cadmium (dissolved)	micrograms per litre	Monthly during discharge	Grab sample
Cobalt (dissolved)	micrograms per litre	Monthly during discharge	Grab sample
Copper (dissolved)	micrograms per litre	Monthly during discharge	Grab sample
Lead (dissolved)	micrograms per litre	Monthly during discharge	Grab sample

Manganese (dissolved)	micrograms per litre	Monthly during discharge	Grab sample
Nickel (dissolved)	micrograms per litre	Monthly during discharge	Grab sample
Nitrogen (ammonia)	micrograms per litre	Monthly during discharge	Grab sample
Nitrogen (total)	micrograms per litre	Monthly during discharge	Grab sample
Oxidised nitrogen	micrograms per litre	Monthly during discharge	Grab sample
Total alkalinity	milligrams per litre	Monthly during discharge	Grab sample
Zinc (dissolved)	micrograms per litre	Monthly during discharge	Grab sample

POINT 11,12,40

Pollutant	UOM	Frequency	Sampling Methods
Conductivity	microsiemens per centimetre	Monthly during discharge	Grab sample

POINT 11,12,18,19,23,38,4,40,41,43,45,47,49

Pollutant	UOM	Frequency	Sampling Methods
pH	pH	Monthly during discharge	Grab sample

POINT 23,38

Pollutant	UOM	Frequency	Sampling Methods
BOD	milligrams per litre	Monthly during discharge	Grab sample

POINT 4

Pollutant	UOM	Frequency	Sampling Methods
Biochemical oxygen demand	milligrams per litre	Monthly during discharge	Grab sample

POINT 40

Pollutant	UOM	Frequency	Sampling Methods
Turbidity	nephelometric turbidity units	Monthly during discharge	Grab sample

Note: Where the table above specifies continuous monitoring for a pollutant, a value must be calculated from the measured data for comparison to the 100% limit in this licence. The value must be the 24 hour moving average, calculated for each hour of the day.

Note: For discharge point 10, discharge point 11 and discharge point 12, the licensee must monitor (by sampling and obtaining results by analysis) the concentration of each pollutant specified in Column 1 on the same day during a 4 hour period. The licensee must use the sampling method, units of measure and sample at the frequency specified opposite in the other columns. All samples must be representative.

Note: All continuous monitoring equipment must be operated and maintained to achieve an availability of 90% during the reporting period. When continuous monitoring equipment is unavailable for greater than 48 hours, equivalent manual sampling, testing or estimation must be undertaken on a daily basis at the monitoring point.

Note: Concentration and volume monitoring required at licence discharge points 24 and 40 may be undertaken anywhere along the pipelines from the water treatment plants to the discharge points.

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.

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.

Note: The *Protection of the Environment Operations (Clean Air) Regulation 2022* 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".

M4 Weather monitoring

M4.1 At the point(s) identified below, the licensee must monitor (by sampling and obtaining results by analysis) the parameters specified in Column 1 of the table below, using the corresponding sampling method, units of measure, averaging period and sampling frequency, specified opposite in the Columns 2, 3, 4 and 5 respectively.

POINT 51

Parameter	UOM	Sampling Method	Average Period	Frequency
Rainfall	millimetres	AM-4	1 hour	Continuous

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.

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 40

Frequency	Monitoring unit of measure	Monitoring method
Continuous	kilolitres per day	In line instrumentation

POINT 24

Frequency	Monitoring unit of measure	Monitoring method
Continuous during discharge	KL/month	Flow meter and continuous logger
Continuous during discharge	kilolitres per day	Flow meter and continuous logger

POINT 10,4

Frequency	Monitoring unit of measure	Monitoring method
Continuous	kilolitres per day	In line instrumentation

POINT 18

Frequency	Monitoring unit of measure	Monitoring method
Continuous during discharge	kilolitres per day	In line instrumentation

POINT 19

Frequency	Monitoring unit of measure	Monitoring method
Continuous during discharge	kilolitres per day	In line instrumentation

POINT 23

Frequency	Monitoring unit of measure	Monitoring method
Continuous during discharge	kilolitres per day	In line instrumentation

POINT 38

Frequency	Monitoring unit of measure	Monitoring method
Continuous	kilolitres per day	In line instrumentation

6 Reporting Conditions

R1 Compliance, and annual reporting requirements

Compliance with licence conditions

R1.1 The licensee must supply the EPA, via the EPA's online digital portal, the following details of any non-compliance with the conditions of the licence within 21 days after the licensee becomes aware of the non-compliance:

a. the date the licensee became aware of the non-compliance;
b. the date(s) the non-compliance occurred, including if the non-compliance is continuing;
c. whether the non-compliance relates to air, water/land, noise or waste matters (if applicable);
d. whether the non-compliance relates to a pollution incident;
e. the licence condition(s) not complied with;
f. a summary of particulars of the non-compliance, including (if known):
    i. the location where the non-compliance occurred;
    ii. the duration of the non-compliance;
    iii. if the non-compliance is continuing, the suspected end date of the non-compliance;
g. the cause or suspected cause of the non-compliance;
h. any action taken, or proposed to be taken, to mitigate the effects of the non-compliance; and
i. any action taken, or proposed to be taken, to prevent a recurrence of the non-compliance.

R1.2 The EPA may make a written request for further details in relation to each non-compliance reported in accordance with Condition R1.1. The licensee must provide such further details to the EPA, via the EPA's online digital portal, within the time specified in the request.

R1.3 Condition R1.1 does not apply where a non-compliance with a licence condition has been identified by the EPA as part of an EPA environmental compliance audit.

Reporting transition arrangements

R1.4 By 05 August 2026, the licensee must supply to the EPA, via the EPA's online digital portal the details required in Condition R1.1 for any non-compliance with the conditions of the licence that occurred:

i. after the date the licensee supplied their last Statement of Compliance - Licence Conditions to the EPA, and
ii. before the date of the notice of variation of licence that added this condition to this Licence.

Pollution monitoring data summary

R1.5 If the licensee undertakes monitoring as a result of a licence condition, the licensee must supply to the EPA a summary of the results of the pollution monitoring data in respect of each reporting period. The summary must be provided as a Microsoft Excel file, formatted with the following column headings:

a. EPA point identification number;
b. pollutant;
c. unit of measure;
d. number of samples required;
e. number of samples collected and analysed;
f. lowest sample value;
g. mean of sample values; and
h. highest sample value.

The pollution monitoring data summary for the reporting period must be supplied to the EPA via the EPA's online digital portal by the "due date", as defined in the dictionary at the end of this licence.

R2 Reporting documents

R2.1 The licensee must submit an Annual Return Supplement to the EPA for each reporting period with the Annual Return.
The report must include:
a) a diagram showing the location of discharge and monitoring points at the premises' water treatment plant(s);
b) the 50 percentile, 80 percentile, 90 percentile and 100 percentile values calculated from the monitoring data for each pollutant which has a corresponding concentration limits in the licence;
c) the amount of daily rainfall measured at a rain gauge at the premises, or at a Bureau of Meteorology rain gauge closest to the premises.

R3 Notification of environmental harm

R3.1 Notifications must be made by telephoning the Environment Line service on 131 555.

R3.2 The licensee must provide written details of the notification to the EPA within 7 days of the date on which they became aware of the incident.

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.

R4 Written report

R4.1 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.

R4.2 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.

R4.3 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.

R4.4 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.

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 Signage

G2.1 Each monitoring and discharge point must be clearly marked by a sign that indicates the EPA point identification number.

G3 Other general conditions

G3.1 Completed Programs

Program	Description	Completed Date
PRP 1: Mine Water Discharge quality monitoring	Mine Water Discharge quality monitoring. Assess the impact of the discharge of mine water on the quality of Georges River	6/03/2003
PRP2: Provide a report to the EPA regarding the outcome	Provide a report to the EPA regarding the outcome of the 'Appin Minewater process Water Trial' and its impact on the quality of the waters in Brennans Creek Dam. PRP NO LONGER REQUIRED. Assess the impact of the importation of off site saline waters for use in the Westcliff Washery, particularly on the impact on the waters of Brennans Creek Dam and then on the receiving waters of teh Georges River	7/06/2004
PRP3: Operation of the the utilisation area and the sewa	The PRP looks at the operation of the the utilisation area and the sewage treatment plant. The licensee must meet the BOD limits in L3.3 by 1/1/04. Improved quality of treated effluent irrigated to land	20/02/2004
PRP 4: Georges River Ecological Assessment Report	PRP 4: Georges River Ecological Assessment Report - Provide a report on a design to undertake an ecological assessment to determine is there are any significant impacts on the ecology of waters receiving mine water discharges.. Following the completion of chemical analyses of minewaters and ambient receiving waters, this study will	5/06/2004

	assist in determining long term mitigation measures	
PRP 5: Coal Tracking from Truck Wash	PRP 5: Coal Tracking from Truck Wash - Provide a report to investigate options to minimise tracking of coal from the premises - internal Endeavour Coal Operational Excellence Group. Minimise pollution of waters	1/09/2005
PRP 6 - Georges River Ecological Assessment	PRP 6 - Georges River Ecological Assessment. Investigate and report on any ecologically significant impact on the surface waters receiving the mine waters discharged from Westcliff Colliery premises is occurring, including Brennans Creek and the Georges River	3/01/2005
PRP 7 - Brennans Creek Discharge Trial	PRP 7 - Brennans Creek Discharge Trial. Trial controlled discharges of water from Brennans Creek Dam an the Reclaim Pond in an endeavour to minimise the frequency of rain induced uncontrolled releases over the dam spillway.	31/03/2006
PRP 8 - Materials Storage	PRP 8 - Materials Storage. Ensure materials are stored at the premises in a way that contains leaks and spills and minimizes odour and dust	30/04/2005
PRP 9 - Georges River Ecological Assessment (Conti	PRP 9 - Georges River Ecological Assessment (Continuation). Further investigate and report on the surface waters receiving mine water discharged from Westcliff Colliery to determine if there is any ecological significant impact.	31/03/2006

PRP10 - Reduction in Salinity from Brennans Ck Dam	PRP 10 - Reduction in Salinity from Brennans Creek Dam (LDP 10). Stage 2: Investigation of Strategies, Technologies or Works to achieve the salinity discharge limit.. Derive a scientifically justifiable salinty limit that will apply to dry weather dischar	30/03/2010
PRP 11 - Investigation into Brine Disposal and Re-use	Investigate options for the beneficial use and disposal of the brine stream from the desalination plant.	31/12/2009
PRP17 - 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	26/09/2012
PRP11 - Brennans Creek Discharge Toxicity Study (West Cliff Mine)	A two stage PRP to undertake monitoring to identify the toxic components of minewater discharged from Brenans Creek Dam.	26/07/2012
PRP18 - Modification to Brennans Creek Dam off-take	Change the configuration of discharge point 10 from a pipe discharging from the bottom of BCD to a floating off take.	30/06/2013
PRP 21 - Implementation of Dust Control Best Management Practices	Implementation of dust control practices identified under PRP 17 - Coal Mine Particulate Matter Control Best Practice	29/01/2015
PRP 22 - Investigation to reduce Coal Dust Tracked onto Roads from West Cliff Colliery	Investigation of measures to reduce tracking of coal dust onto Wedderburn and Appin Roads by coal trucks exiting West Cliff Colliery	29/01/2015
PRP 23 - Imlementation of Dust Control Works on Wedderburn Road	Implementation of dust control works to reduce drag out onto	30/07/2015

	Wedderburn Road identified in previous investigative PRP 22.	
EIP1 - Implementation of Dust Control Works on Wedderburn Road	Implementation of dust control works to reduce drag out onto Wedderburn Road identified in previous investigative PRP 22.	31/07/2015
EIP 2 Georges River Environmental Improvement Program	EIP 2 replaces PRP 19 and PRP 20 to require environmental monitoring and minewater treatment at the Appin Colliery	28/02/2018
PRP 24 - Assessment of Residual Toxicity in Discharges from Points 24 and 40	Assessment of cause and reduction of toxicity in LDP 24 & 40	10/05/2024

8 Pollution Studies and Reduction Programs

U1 PRP 25 - Improve Water Quality in Sediment Basin Discharges

U1.1 Objective

To improve the quality of water discharged from sedimentation basins (discharge points 45, 47, and 49) to Brennans Creek to meet specified water quality criteria, and to assess and implement options for diverting wet weather discharges to minimise impacts on Brennans Creek Dam and the downstream Georges River, thereby contributing to the achievement of relevant water quality objectives for these waterways.

1.Treatment of Water Up to Design Storm Event

Rain falling on coal storage and handling areas, the coal wash emplacement and unvegetated areas of the premises is captured in sedimentation basins for settling before discharge to Brennans Creek (including Brennans Creek Dam). The discharges of water from these basins are conditionally permitted under the licence through discharge points 45, 47, and 49 (Appin North pit top) and point19 (Appin East pit top). The discharges contain levels of pH, electrical conductivity, alkalinity, dissolved metals and nutrients that are elevated above background receiving waters and national water quality criteria.

Requirement

The licensee must undertake works and activities to improve water quality to meet the water quality criteria specified in Table 1 at the final discharge point from any treatment process prior to release to Brennans Creek.

These water quality criteria are to be met in discharges resulting from the capture of rainfall events up to a 95th percentile design storm event (occurring over a preceding 5-day period), or if a different period is used, to achieve an annual average overflow frequency from the sedimentation

basins of 1 spill per year.

If as a consequence of this condition, or as a result of proposed changes to the coal wash emplacement area, alternative basins or water management systems are proposed to be installed, the new or re-arranged system must meet the water quality criteria in Table 1 under the rainfall criteria described above.

Due Date: 31 December 2027

U1.2 Table 1 - Discharge Water Quality Performance Criteria

Pollutant	Unit of Measure	Concentration or Level
Physical Stressors		
pH	pH units	6.5
Electrical Conductivity (@25 deg C)	uS/cm	155
Toxicants		
Bicarbonate Alkalinity (as CaCO3)	mg/L	185
Aluminium (dissolved)	ug/L	55
Calcium (minimum)	ug/L	500
Cobalt (dissolved)	ug/L	1.4
Copper (dissolved)	ug/L	1.4
Nickel	ug/L	11
Zinc	ug/L	8
Nutrients		
Total Nitrogen	ug/L	250
Toxicity		
Chronic toxicity	Ceriodaphnia dubia, US EPA 2002, (EPA-821-R-02-013), Dilution water: [Specify Source]	EC10 reproduction >100% sample

Note: 1. The criteria in table 1 will form the basis for pollution concentration limits applying to discharges from licence points 45,47, and 49 (Appin North pit top) and point 19 (Appin East pit top) after the specified due date.

2. Any proposed water treatment system should be designed to achieve these values at all times.

3. In determining the final limits, the EPA will also take into consideration the actual measured performance of the installed equipment when operated in a proper and efficient manner.

U1.3 2. Transfer of Wet Weather Discharges

Pending the outcome of the following options assessment, discharges from sedimentation basin overflow points are conditionally allowed to Brennans Creek Dam under the licence through points 46, 48, and 50 (Appin North pit top). These discharges can occur as a result of heavy and prolonged rainfall at the premise exceeding a total of 65 millimetres over any consecutive five-day period. These discharges flow into Brennans Creek and an unnamed tributary which enters Brennans Creek Dam. These discharges contain elevated levels of suspended solids, pH, electrical conductivity, alkalinity, dissolved metals and nutrients which are raised in the dam water. Levels of pH and conductivity remain elevated in the dam for a significant period of time.

Requirement

The licensee must examine reasonable and feasible options to divert water from discharge points 46, 48, and 50 to discharge to Brennans Creek downstream of the dam. The licensee must also consider options to increase water storage and treatment capacity at the premises through the installation of an additional sediment basin/s that leads to a single discharge point downstream in Brennans Creek, rather than having the three separate discharge points 46, 48 and 50.

This examination must include:

1. Hydrological modelling to quantify the reduction in frequency of overflows to the dam occurring under various rainfall conditions for each diversion option.
2. Feasibility studies, including preliminary designs and assessments of locational constraints, for each potential diversion infrastructure (e.g., pipelines, channels, storage).
3. A preliminary environmental impact assessment of each diversion option, considering potential impacts on downstream receiving waters, including flow regimes and water quality. The assessment must consider pollutant loads and impacts on downstream pools within the river system.
4. A comparative cost-benefit analysis of the diversion options versus enhanced on-site storage and treatment alternatives, including absolute costs and the cost-effectiveness of each approach.
5. A hierarchy of preferred options with clear justification based on the above analysis. .

The option assessment, along with supporting documentation, must be included in the Water Quality Improvement Report (Requirement 4). The report should also include a proposed timeline for implementing any chosen diversion option, subject to EPA approval.

U1.4 3. Consultant Approval

The licensee must submit to the EPA for approval, the name, qualifications, and experience of a consultant or company possessing expertise in coal mine water treatment technologies, hydrological modelling, and environmental engineering relevant to water quality management, to undertake the work required by this condition. The submission should clearly demonstrate the consultant's relevant experience in similar projects and their understanding of the regulatory requirements. The EPA will review the submitted information and provide approval within 21 days of receipt.

Due Date: 31 October 2025

U1.5 4. Water Quality Improvement Report

The licensee must submit a Water Quality Improvement report to the EPA authored by the approved consultant outlining a preferred option and timeframes for achieving the water quality criteria stated in clause 1 and option(s) in clause2 of this condition. This report must detail:

a) All options examined to meet the goals outlined in 1 and 2. Advantages and disadvantages of each option and a comprehensive justification of the preferred option(s), considering technical feasibility, environmental benefits, and cost-effectiveness.

b) A full explanation of the methodology used in the analysis, including details of the calibrated and validated water-balance modelling undertaken to assess the effectiveness of different scenarios.

c) A proposal with time frames to isolate all clean water diversions at the premises so they do not receive coal impacted stormwater.

d) A full description of the recommended option(s) including proposed modifications to water management systems, including storage, transfer, and treatment processes. This must include process flow diagrams, maps indicating the location of proposed infrastructure, and descriptive analyses of the proposed systems.

e) The specifications and operational principles of the planned water transfer, storage, and treatment infrastructure, including design parameters and expected performance. For treatment technologies, this must include expected removal efficiencies for key pollutants and details on waste management.

U1.6

f) A detailed project timeline, encompassing all necessary work and activities for both achieving the water quality criteria (Clause 1) and implementing the preferred wet weather diversion option (Clause 2), including key milestones and completion dates.

g) A risk assessment of the proposed options, considering potential failure modes and outlining contingency measures to address potential issues.

h) A detailed monitoring program to assess the effectiveness of the implemented water quality improvements in meeting the discharge criteria in Table 1 and improving the receiving water quality and biota in Brennans Creek and the Georges River. This program should specify monitoring locations, parameters, frequency, and analytical methods.

i) A framework for adaptive management, outlining how the licensee will monitor the outcomes of the implemented measures and the process for responding if the desired water quality and ecological improvements are not being achieved.

j) A consideration of the cumulative impacts of discharges from all licensed points at the Appin Coal Mine, including the Appin East site, on the Georges River water quality.

k) A detailed assessment of the quality of water being discharged from each sediment basin at the premises, including Dam EP3, Pond 7 and Dam 4A. The assessment must compare and rank the influence that each sediment basin has on the water quality in Brennans Creek with consideration given to pollutant loads from each source.

Due Date: 30 June 2026

U2 Pollution study: Trial Hybrid Regenerative Catalytic Oxidation (HRCO) Technology for Ventilation Air Methane (VAM) Greenhouse Gas Emissions Abatement

U2.1 Objective

This Pollution Reduction Program requires the construction and use of Hybrid Regenerative Catalytic Oxidation (HRCO) units at Appin Mine No. 2 Vent Shaft to evaluate their performance in reducing VAM emissions

Requirements

The licensee must construct, commission, operate, and decommission the HRCO units at Appin Ventilation Shaft No. 2 (VS2) in accordance with the Review of Environmental Factors: CATCH4 Project (dated July 2026) and the conditions of this licence. The location of the units is shown in Figure 6-1 below copied from the REF.

Operational Environmental Management Plan (OEMP)

Prior to commencing construction, the licensee must prepare and implement an Operational Environmental Management Plan (OEMP) detailing environmental controls for noise, air quality, condensate drainage, chemical/gas storage, and emergency response.

Notification of the Commencement of Operations

The licensee must inform the EPA when the HRCO trial units have commenced their operational phase within 14 days of commencement of operations.

Trial Monitoring Requirements

During the operational phase of the trial, the licensee must measure and record:

1. Inlet methane concentration (% v/v) and volumetric flow rate (m3/s) ducted to the HRCO units.
2. Outlet methane concentration (% v/v) and process exhaust temperature (0C).

3. Operational availability (uptime hours) and reasons for any unplanned trial bypasses or shutdowns.

Final Report and Compliance Deadlines

The licensee must submit a Final Trial Report to the EPA via info@epa.nsw.gov.au within 6 months of trial completion. The report must include:

1. Quantification of total VAM volume treated and net greenhouse gas reductions achieved (t CO_2-e).
2. Calculated methane destruction efficiency across varying operating temperatures and inlet gas concentrations.
3. Assessment of catalyst durability, thermal efficiency, operational safety interlocks, and applicability for full-scale deployment across NSW underground coal operations.

Note that the Final Report may be the same as the Final Report provided to Low Emissions Technology Australia provided that it includes the above requirements

Decommissioning

Within 6 months of the conclusion of the operational trial, all temporary plant, ducting, CNG storage, and associated infrastructure must be decommissioned and removed from the premises, and the site returned to its original state, unless otherwise approved in writing by the EPA.

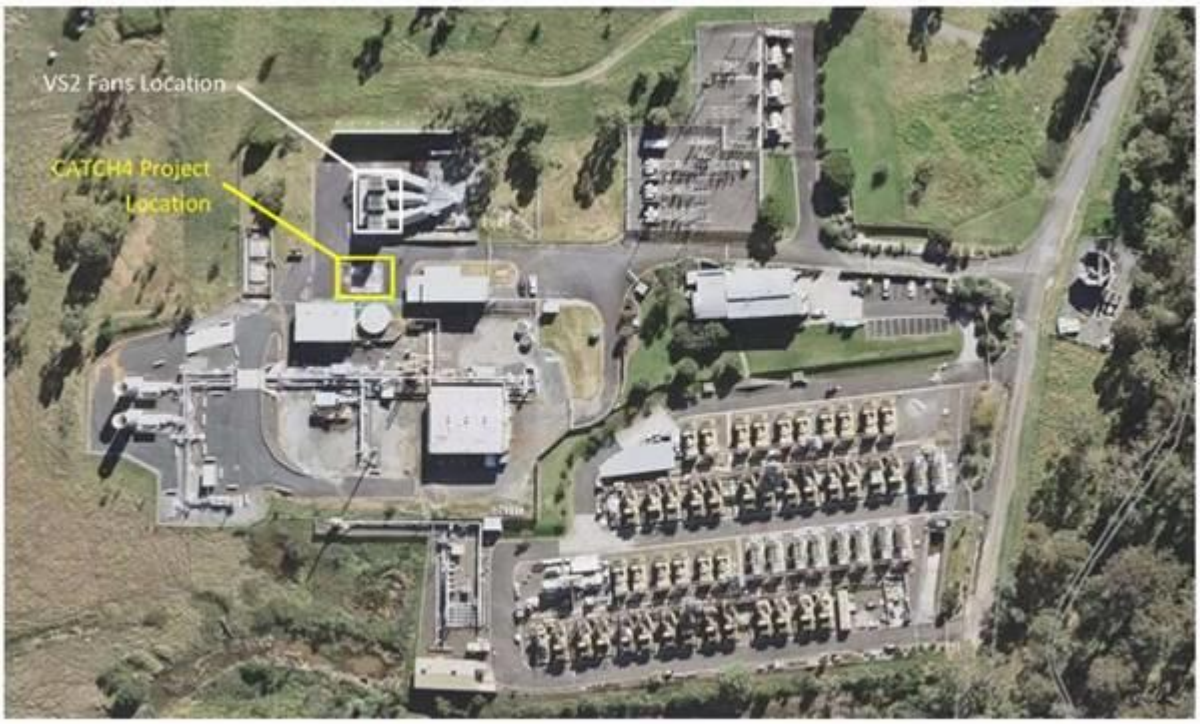

Figure 6-1: Location of the CATCH4 Project at Ventilation Shaft 2, Appin East Surface Facility

U3 Pollution study: PRP - Noise Monitoring Program – Trial Hybrid Regenerative Catalytic Oxidation (HRCO) Units

U3.1 Objective

The objective of this Pollution Reduction Study is to undertake a Noise Monitoring Program to characterise, verify, and assess noise emissions from the Hybrid Regenerative Catalytic Oxidation (HRCO) units at Appin Mine No. 2 Vent Shaft. Given the novel nature of this technology, data collected under this study will verify predicted plant and equipment noise levels and inform future regulatory decisions for similar installations.

Requirement

The licensee must carry out the Noise Monitoring Program in accordance with the following requirements:

1. Competent Person: The program must be designed and conducted by a competent person as per the requirements of Section 2.2 of the Approved Methods for the Measurement and Analysis of Environmental Noise in NSW.
2. Sound Power Level (SWL) Determination: Determine the sound power levels (Lw) of the HRCO units and key sub-components under full operational capacity using direct acoustic measurements in accordance with relevant Australian/International Standards (AS 1217 series, ISO 3744, ISO 3746, or ISO 9614).
3. Methodology: Noise monitoring methodologies and data assessments must comply with the NSW EPA Noise Policy for Industry (2017) and Approved Methods for the Measurement and Analysis of Environmental Noise in NSW.

Monitoring Report Submission

Within 90 days of achieving normal operational throughput for the HRCO units, the licensee must submit a Noise Monitoring Report to the EPA via info@epa.nsw.gov.au. The report must include:

1. Acoustic Results & Data Analysis: Measured Sound Power Levels (Lw) of individual HRCO components and overall unit operations and a comparison table evaluating actual measured noise levels against the predicted noise levels set out in the CATCH4 Noise and Vibration Assessment GM3 – Ventilation Site 2, Appin Mine Prepared for Mining3 by Spoke Acoustics Pty Ltd.
2. Compliance Assessment: An assessment of compliance of the Ventilation Shaft 2 site including noise from operation of the Hybrid Regenerative Catalytic Oxidation (HRCO) units against the noise project criteria set out in Development Approval MP08_0150 (as modified) including evaluation of any modifying factors (tonality, low-frequency, intermittency).

U4 Pollution study: PRP - Post-Commissioning Air Emissions Verification – Trial Hybrid Regenerative Catalytic Oxidation (HRCO) Unit(s)

U4.1 Objective

The objective of this Pollution Reduction Study is to undertake an Operational Air Monitoring Program to characterise, verify, and assess air emissions from Hybrid Regenerative Catalytic Oxidation (HRCO) unit(s) at Appin Mine No. 2 Vent Shaft. Data collected under this study will verify predicted stack emissions against the criteria specified in the CATCH4 Phase 2 Project – Pilot HRCO Plant Air quality impact assessment, Mining3, 10 July 2026 (the VAM AQIA).

Requirement

1. The licensee must engage a suitably qualified person[i] to undertake post-commissioning air emissions sampling to verify the emissions to air from the discharge points outlined in Table 1 (below):

Table 1

EPA Identification	Location Description	Type of Monitoring Point	Type of Discharge Point
Stack or discharge point from HRCO	Hybrid Regenerative Catalytic Oxidation (HRCO) pilot units located at Ventilation Shaft 2	Air quality monitoring	Discharge to air

2. Post-commissioning sampling must be completed within 60 days of achieving normal operational throughput for the HRCO units at Ventilation Shaft 2.

3. Sampling must be performed for all pollutants and parameters in accordance with Table 2. All sampling and analysis must be undertaken in accordance with the Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales.

Table 2

Pollutant	Units of measure	Reference Conditions	Sampling Method
Temperature	degrees Celsius	-	TM-2
Velocity	metres per second	-	TM-2
Moisture	Percent	-	TM-22

Oxygen	Percent	Dry, 273K, 101.3 kPa	TM-25
Carbon dioxide	Percent	Dry, 273K, 101.3 kPa	TM-24
Nitogen oxides (NOx), as NO_2	Milligrams per cubic metre	Dry, 273K, 101.3 kPa	TM-11
Carbon monoxide	Milligrams per cubic metre	Dry, 273K, 101.3 kPa	TM-32

4. A minimum of one round of sampling must be performed to provide a suitable characterisation of the emissions during normal operations.

5. Sampling must be conducted when plant/process conditions are representative of normal operations. Supporting evidence must demonstrate that the plant / process was operating under normal, representative conditions at the time of sampling.

6. An air emissions verification report (the Report) must be prepared and must contain, as a minimum, the following information:

7. A comparison against the values provided in table 6.1 (Air quality emissions inventory) of the VAM AQIA. The comparison must include:

- stack flowrate (m^3/s)
- stack velocity (m/s)
- stack temperature (°C)
- oxides of nitrogen (mg/m^3 and g/s)
- carbon monoxide (mg/m^3 and g/s)

8. A description of the process operating conditions at the time of sampling, including:

- description of the process (including HRCO unit design capacity i.e. maximum production rates and HRCO average production rates)
- An outline of the HRCO production rates and other relevant operating conditions at the time of sampling
- Process flow diagram showing all inputs and outputs

9. Supporting evidence must include:

- Confirmation that the plant / process was operating under normal, representative conditions at the time of sampling.
- A detailed description of the sampling location and an evaluation against TM-1 (selection of sampling positions). Engineering drawings, schematics or photographs should be included to support the description.
- All information required to be reported under Section 5 of the Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales.

10. The report must be submitted to the EPA via info@epa.nsw.gov.au no later than 60 days after completing the post-commissioning sampling.

[i] A professional is generally accepted as "suitably qualified" if they possess:

- Relevant Tertiary Qualifications: A degree in environmental engineering, chemical engineering, meteorology, atmospheric science, or a closely related discipline.
- Professional Membership: Membership in recognized professional bodies, most notably the Clean Air Society of Australia and New Zealand (CASANZ).
- Demonstrated Track Record: A proven history of operating regulatory dispersion models (like AERMOD or CALPUFF).

Dictionary

General Dictionary

3DGM [in relation to a concentration limit]	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
Act	Means the Protection of the Environment Operations Act 1997
activity	Means a scheduled or non-scheduled activity within the meaning of the Protection of the Environment Operations Act 1997
actual load	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2022
AM	Together with a number, means an ambient air monitoring method of that number prescribed by the Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales.
AMG	Australian Map Grid
anniversary date	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.
Approved Methods Publication	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2022
assessable pollutants	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2022
BOD	Means biochemical oxygen demand
CEM	Together with a number, means a continuous emission monitoring method of that number prescribed by the *Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales*.

COD	Means chemical oxygen demand
composite sample	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.
cond.	Means conductivity
due date	Means: i) not later than 60 days after the end of each reporting period; or ii) in the case of a transferring licence - not later than 60 days after the date the transfer was granted.
environment	Has the same meaning as in the Protection of the Environment Operations Act 1997
environment protection legislation	Has the same meaning as in the Protection of the Environment Administration Act 1991
EPA	Means the Environment Protection Authority of New South Wales.
EPA Online digital portal	Means eConnect EPA
general solid waste (non-putrescible)	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
flow weighted composite sample	Means a sample whose composites are sized in proportion to the flow at each composites time of collection.
general solid waste (putrescible)	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
grab sample	Means a single sample taken at a point at a single time
hazardous waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
licensee	Means the licence holder described at the front of this licence
Licensing Fee Category (Regulation)	Means the numbered short descriptions in Schedule 1 of the Protection of the Environment Operations (General) Regulation 2022.
load calculation protocol	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2022

local authority	Has the same meaning as in the Protection of the Environment Operations Act 1997
material harm	Has the same meaning as in section 147 of the Protection of the Environment Operations Act 1997
MBAS	Means methylene blue active substances
Minister	Means the Minister administering the Protection of the Environment Operations Act 1997
mobile plant	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
motor vehicle	Has the same meaning as in the Protection of the Environment Operations Act 1997
O&G	Means oil and grease
Percentile [in relation to a concentration limit of a sample]	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.
plant	Includes all plant within the meaning of the Protection of the Environment Operations Act 1997 as well as motor vehicles.
pollution incident	Has the same meaning as in the Protection of the Environment Operations Act 1997
Pollution of waters [or water pollution]	Has the same meaning as in the Protection of the Environment Operations Act 1997
premises	Means the premises described in condition A2.1
public authority	Has the same meaning as in the Protection of the Environment Operations Act 1997
regional office	Means the relevant EPA office referred to in the Contacting the EPA document accompanying this licence
reporting period	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.

restricted solid waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
scheduled activity	Means an activity listed in Schedule 1 of the Protection of the Environment Operations Act 1997
special waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
TM	Together with a number, means a test method of that number prescribed by the Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales.
TSP	Means total suspended particles
TSS	Means total suspended solids
Type 1 substance	Means the elements antimony, arsenic, cadmium, lead or mercury or any compound containing one or more of those elements
Type 2 substance	Means the elements beryllium, chromium, cobalt, manganese, nickel, selenium, tin or vanadium or any compound containing one or more of those elements
utilisation area	Means any area shown as a utilisation area on a map submitted with the application for this licence
waste	Has the same meaning as in the Protection of the Environment Operations Act 1997
waste type	Means liquid, restricted solid waste, general solid waste (putrescible), general solid waste (non - putrescible), special waste or hazardous waste
wellhead	Has the same meaning as in Schedule 1 of the Protection of the Environment Operations (General) Regulation 2022

Megan Whelan
Manager Field Operations
ENVIRONMENT PROTECTION AUTHORITY NSW

End Notes

Licence varied by notice POEO-3747, issued on 15-10-2026

Licence varied by notice POEO-1451, issued on 05-06-2026

Licence varied by notice POEO-1451, issued on 05-06-2026

Licence varied by notice 1653469 issued on 03-Oct-2025

Licence varied by notice 1651041 issued on 24-Sep-2025

Licence varied by notice 1638256 issued on 05-Jun-2024

Licence varied by notice 1630681 issued on 31-Jan-2024

Licence fee period changed by notice 1629146 on 19-May-2023

Licence varied by notice 1620619 issued on 29-Jul-2022

Licence varied by notice 1618184 issued on 01-May-2022

Licence varied by notice 1613982 issued on 24-Nov-2021

Licence varied by notice 1610677 issued on 06-Aug-2021

Licence varied by notice 1606736 issued on 20-Mar-2021

Licence varied by notice 1604679 issued on 12-Jan-2021

Licence varied by notice 1588267 issued on 13-Mar-2020

Licence varied by notice 1575934 issued on 02-Sep-2019

Licence varied by notice 1560310 issued on 22-Dec-2017

Licence varied by notice 1554863 issued on 01-Aug-2017

Licence varied by notice 1546867 issued on 21-Dec-2016

Licence varied by notice 1542883 issued on 01-Aug-2016

Licence varied by notice 1539390 issued on 31-Mar-2016

Licence varied by notice 1527985 issued on 11-Feb-2015

Licence varied by notice 1525721 issued on 28-Oct-2014

Licence varied by notice 1515381 issued on 25-Feb-2014

Licence varied by notice 1508855 issued on 24-Apr-2013

Licence varied by notice 1504090 issued on 22-Mar-2012

Licence varied by notice 1502947 issued on 19-Dec-2011

Licence varied by notice 1501766 issued on 19-Oct-2011

Licence varied by notice 1129625, issued on 28-Jun-2011, which came into effect on 28-Jun-2011.

Licence varied by notice 1114258, issued on 29-Jun-2010, which came into effect on 29-Jun-2010.

Licence varied by notice 1110208, issued on 24-Dec-2009, which came into effect on 24-Dec-2009.

Licence varied by notice 1104170, issued on 06-Nov-2009, which came into effect on 06-Nov-2009.

Licence varied by notice 1096767, issued on 14-Jan-2009, which came into effect on 14-Jan-2009.

Condition A1.3 Not applicable varied by notice issued on <issue date> which came into effect on <effective date>

Licence varied by notice 1085626, issued on 02-Jul-2008, which came into effect on 02-Jul-2008.

Licence varied by notice 1085199, issued on 01-May-2008, which came into effect on 01-May-2008.

Licence varied by notice 1073110, issued on 30-May-2007, which came into effect on 30-May-2007.

Licence varied by change to DEC Region allocation, issued on 16-Mar-2006, which came into effect on 16-Mar-2006.

Licence varied by notice 1046029, issued on 05-Apr-2005, which came into effect on 30-Apr-2005.

Licence varied by change to EPA file number, issued on 02-Feb-2005, which came into effect on 02-Feb-2005.

Licence varied by notice 1043281, issued on 06-Jan-2005, which came into effect on 31-Jan-2005.

Licence varied by correction to EPA Region, issued on 22-Nov-2004, which came into effect on 22-Nov-2004.

Licence varied by notice 1041777, issued on 25-Oct-2004, which came into effect on 19-Nov-2004.

Licence varied by notice 1040023, issued on 20-Sep-2004, which came into effect on 15-Oct-2004.

Licence varied by notice 1037771, issued on 18-Jun-2004, which came into effect on 13-Jul-2004.

Licence varied by notice 1034664, issued on 11-May-2004, which came into effect on 05-Jun-2004.

Licence varied by notice 1029826, issued on 15-Oct-2003, which came into effect on 22-Oct-2003.

Licence varied by notice 1025524, issued on 10-Jul-2003, which came into effect on 04-Aug-2003.

Licence varied by correction to EPA Sub Region data record, issued on 17-Sep-2002, which came into effect on 17-Sep-2002.

Licence transferred through application 141377, approved on 08-Aug-2002, which came into effect on 01-Jul-2002.

Licence varied by notice 1008874, issued on 09-Jan-2002, which came into effect on 09-Jan-2002.