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environmental licences & permits

Environmental Authority (Mining Lease) Non Code Compliant Level 1 Mining Project
Permit[1] Number: MIN100579107
Section *250 — Environmental Protection Act 1994*

Takes Effect From: ***Grant of Tenure***

Details

Permit Holder(s)	Name	Address
Principal Holder	Xstrata Coal Queensland Pty Ltd	Level 10, Riverside Centre, 123 Eagle Street BRISBANE QLD 4000
Joint Holder	ICRA NCA Pty Ltd	Level 24, Comalco Place, 12 Creek St BRISBANE QLD 4000
Joint Holder	Itochu Coal Resources Australia Pty Limited	Level 24, Comalco Place, 12 Creek St BRISBANE QLD 4000
Joint Holder	Sumisho Coal Australia Pty Limited	Level 6, 44 Martin Place SYDNEY SOUTH NSW 2000

Activity(s)	Location(s)
Mining Lease	ML10333
Mining Lease	ML1005
Mining Lease	ML1006
Mining Lease	ML1007
Mining Lease	ML1008
Mining Lease	ML1009
Mining Lease	ML1015
Mining Lease	ML1037
Mining Lease	ML1064
Mining Lease	ML10111
Mining Lease	ML10250

The anniversary date of the environmental authority is *25 June.*

The environmental authority is subject to the attached conditions of approval.

Ricci Churchill
Delegate
Environmental Protection Agency

25/6/08

[1] Permit includes licences, approvals, permits, authorisations, certificates, sanctions or equivalent/similar as required by legislation administered by the Environmental Protection Agency and the Queensland Parks and Wildlife Service

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CONDITIONS OF ENVIRONMENTAL AUTHORITY

Agency Interest: General

G1 **Financial Assurance**
Provide a financial assurance in the amount and form required by the administering authority prior to the commencement of activities proposed under this environmental authority.
NOTE: The calculation of financial assurance for condition (G1) must be in accordance with Guideline 17 and may include a performance discount. The amount is defined as the maximum total rehabilitation cost for complete rehabilitation of all disturbed areas, which may vary on an annual basis due to progressive rehabilitation. The amount required for the financial assurance must be the highest Total Rehabilitation Cost calculated for any year of the Plan of Operations and calculated using the formula: (Financial Assurance = Highest Total Annual Rehabilitation Cost x Percentage Required).

G2 The financial assurance is to remain in force until the administering authority is satisfied that no claim on the assurance is likely.
NOTE: Where progressive rehabilitation is completed and acceptable to the administering authority, progressive reductions to the amount of financial assurance will be applicable where rehabilitation has been completed in accordance with the acceptance criteria defined within this environmental authority.

G3 **Maintenance of measures, plant and equipment**
The environmental authority holder must ensure:
- that all measures, plant and equipment necessary to ensure compliance with the conditions of this environmental authority are installed; and
- that such measures, plant and equipment are maintained in a proper condition; and
- that such measures, plant and equipment are operated in a proper manner.

G4 **Monitoring**
Record, compile and keep for a minimum of five years all monitoring results required by this environmental authority and make available for inspection all or any of these records upon request by the administering authority.

G5 Where monitoring is a requirement of this environmental authority, ensure that a competent person(s) conducts all monitoring.

G6 **Storage and handling of flammable and combustible liquids**
Flammable and combustible liquids must be contained within an on-site containment system and controlled in a manner that prevents environmental harm (other than trivial harm). Storages must be compliant with and maintained in accordance with AS 1940 - Storage and Handling of Flammable and Combustible Liquids of 1993.

G7 **Definitions**
Words and phrases used throughout this EA are defined in "Definitions" located at the conclusion of this environmental authority. Where a definition for a term used in this EA is sought and the term is not defined within this EA, the definitions in the *Environmental Protection Act 1994*, its Regulations and Environmental Protection Policies must be used.

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Agency Interest: Air

A1 The release of dust or particulate matter or both resulting from the mining activity must not cause an environmental nuisance, at any sensitive place excluding locations where written agreements are in place between the environmental authority holder and the affected party. The administering authority must be notified of any such agreement within 14 days of its implementation.

A2 When requested by the administering authority, dust and particulate monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive place, and the results must be notified within 14 days to the administering authority following completion of monitoring.

A3 If monitoring indicates a nuisance is being caused in the opinion of an authorised officer, then the environmental authority holder must:
(a) address the complaint including the use of appropriate dispute resolution if required; and/or
(b) Immediately implement dust abatement measures so that emissions of dust from the activity do not result in further environmental nuisance.

A4 The environmental authority holder must be able to provide evidence (when requested by the administering authority) that spontaneous combustion management procedures are implemented at the site and at a minimum consider the following:
(i) identification of spontaneous combustion areas; and
(ii) remedial actions and inspections required for spontaneous combustion areas.

Agency Interest: Water

WA1 The environmental authority holder must be able to provide evidence (when requested by the administering authority) that Water Management procedures are implemented at the site and at a minimum consider the following:
(i) Maximisation of recycle water usage ; and
(ii) Minimisation of the generation of acid water ; and
(iii) Maximisation of the disposal of acid water through evaporation ; and
(iv) Monitoring of water movements on site (clean and mine affected); and
(v) Separation of clean and mine affected catchments; and
(vi) Control of the movements of mine affected water throughout the site to minimise spills, leaks or unplanned discharges to the environment and
(vii) Emergency response requirements for any spills, leaks or unplanned discharges and implement remedial actions to prevent re-occurrence; and
(viii) Performance of routine water monitoring to ensure on site and off site water quality criteria is being met.

WA2 Erosion protection and sediment control measures must be installed and maintained in accordance with the site Erosion and sediment control program. Sediment control dams will be designed for a 1 in 10 year - 24 hour event.

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WA3 Contaminants must not be released directly or indirectly to any waters other than in accordance with the contaminant release requirements, conditions and limits in this environmental authority.

WA4 Release of contaminants to waters must only occur at the release points specified in Table 1 – Release points to water and identified in Appendix 1 – Release points and monitoring locations aerial 1 and Appendix 2 – Release points and monitoring locations aerial 2.

Table 1 – Release Points to Water

Release Point and Identifier	Description of Waste Water Releases	Description of Source	Description of Receiving Waters	Release Point Location
Coal Preparation Plant Anti Pollution Pond Spillway	Mine affected water	Coal Preparation Plant Anti Pollution Pond	Three Mile Creek	Latitude: 7,725,977 Longitude: 581,647
Strathmore Creek Weir	Mine affected water	Colinta Dam	Strathmore Creek	Latitude: 7,730,269 Longitude: 577,437

Table 2 – Release point contaminant limits and monitoring frequency

Monitoring Point	Parameter	Units	Limit	Limit Type	Monitoring Frequency
Coal Preparation Plant Anti Pollution Pond Spillway (Latitude: 7,725,977 Longitude: 581,647)	EC	µS/cm	3000	Maximum	Hourly
	pH	-	4 - 9	Range	hourly
	Filtered Aluminium	mg/L	5	Maximum	daily
	Sulphate	mg/L	1000	Maximum	daily when EC>2000

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WA5 The only contaminants that may be released to waters at the release points are mine affected waters from the sources specified in Table 1 – Release points to water, in compliance with the contaminant release limits, specified in Table 2 – Release point contaminant limits and monitoring frequency and Table 3 - Receiving water contaminant limits and monitoring frequency.

Table 3 - Receiving water contaminant limits and monitoring frequency

Monitoring Point	Parameter	Units	Limit	Limit Type	Monitoring Frequency
Three Mile Creek – Glendoo Road Causeway Latitude: 7,724,184 (AGD 84) Longitude: 581,647 (AGD 84)	EC	µS/cm	3000	Maximum	Hourly
	pH	-	4 - 9	Range	hourly
	Filtered Aluminium	mg/L	5	Maximum	daily
	Sulphate	mg/L	1000	Maximum	daily when EC>2000
Strathmore Creek Weir (Latitude: 7,730,269 Longitude: 577,437)	EC	µS/cm	3000	Maximum	Hourly
	pH	-	5 - 9	Range	hourly
	Filtered Aluminium	mg/L	5	Maximum	daily
	Sulphate	mg/L	1000	Maximum	daily when EC>2000

WA6 Authorised releases of storm water contaminated by mining activities to Three Mile Creek in accordance with conditions WA3, WA4 and WA5 shall be only during periods of natural flow events. The duration of a natural flow event shall not be extended as a consequence of the mine water release.

WA7 **Sewage effluent**
All effluent released from the treatment plant system must be monitored at the frequency and for the parameters specified in Table 4 - Sewage effluent quality targets for dust suppression and irrigation.

WA8 Sewage effluent used for dust suppression or irrigation must not exceed sewage effluent release limits defined in Table 4 - Sewage effluent quality targets for dust suppression and irrigation.

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Table 4 - Sewage effluent quality targets for dust suppression and irrigation

Quality characteristics	Release limit	Units	Limit type	Monitoring frequency
5-day Biochemical Oxygen Demand (uninhibited)	50	mg/l	Max	quarterly
pH	5-9		Range	monthly
Faecal Coliforms, based on the average of a minimum of five samples collected	1000	Colonies per 100 millilitres	Max	quarterly

WA9 Sewage effluent used for dust suppression or irrigation must not cause spray drift or over spray to any sensitive or commercial place.

WA10 Sewage effluent from sewage treatment facilities must be reused or evaporated and must not be directly released from the sewage treatment plant to any water way or drainage line.

WA11 **Groundwater**
Groundwater affected by the mining activities must be monitored at the locations defined in Table 5 – Groundwater monitoring locations and for the parameters and frequencies defined in Table 6 – Groundwater monitoring program.

Table 5 – Groundwater monitoring locations

Monitoring Point	Description	Latitude (AGD 66, Zone 55)	Longitude (AGD 66, Zone 55)
1	GLE01	7722051.9	574987.9
2	GLE02	7722095.0	576923.0
3	GLE03	7723049.5	578923.6
4	GLE04	7725005.2	578500.3
5	GLE05	7725014.8	579619.7
6	GLE06	7724926.2	582143.9
7	GLE07	7725036.2	584047.2
8	GLE08	7724978.5	588058.3
9	BLA02	7728866.7	576962.8
10	BLA01	7725049.3	584040.6
11	BOW01	7725045.1	584042.2
12	DEN01	7722096.0	576927.0

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Monitoring Point	Description	Latitude (AGD 66, Zone 55)	Longitude (AGD 66, Zone 55)
13	DEN02	7724377.1	578089.2
14	GAR01	7725932.3	585935.6
15	GAR02	7725472.9	587174.0
16	GAR03	7725580.8	586260.9
17	MB1	7731027.7	578798.2
18	MB2	7731108.8	578455.2
19	MB3	7731149.3	578184.6
20	MB5	7730715.3	577790.0
21	MB6	7730480.0	577707.3
22	MB7	7730332.9	577798.9
23	RH1B	7726295.9	587599.2
24	RH2B	7726115.2	587639.7
25	RH4B	7726314.8	587799.6
26	RH2D	7726117.6	587646.0
27	BEL01	7717718.0	590023.2
28	BEL02	7717480.5	590366.8
29	BEL03	7716466.4	590242.9

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Table 6 – Groundwater monitoring program

Parameter	Method	Frequency
pH	In field	Monthly
Electrical conductivity	In field	Monthly
Temperature	In field	Monthly
Standing Water Levels	Electronic water level meter	Monthly
pH	PC Titrator	Quarterly
Conductivity	PC Titrator	Quarterly
Total Dissolved Solids	Gravimetric	Quarterly
Suspended Solids	Gravimetric	Quarterly
Dissolved Sulphate by ICP-AES	ICP-AES	Quarterly
Dissolved major Cations / Anions	ICP-AES and ICP-MS	Quarterly
Dissolved Metals	ICP-AES and ICP-MS	Quarterly
Dissolved Mercury	FIMS	Quarterly
Acidity	Titration	Quarterly
Fluoride	PC Titrator	Quarterly
TPH (C_6-C_{36})	GC/MS & GC/FID	Six Monthly
Polynuclear Aromatic Hydrocarbons	GC/MS	Six Monthly
BTEX	GC/MS	Six Monthly

WA12 Groundwater monitoring data must be reviewed on an annual basis and supplied with the Annual Return. The review must include the assessment of groundwater levels and quality data, and the suitability of the monitoring network. This assessment may be used by the Administering Authority to justify an amendment of this environmental authority to apply groundwater contaminant trigger limits.

WA13 The method of water sampling required by this environmental authority must comply with that set out in the latest edition of the Environmental Protection Agency's Water Quality Sampling Manual.

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Agency Interest: Land

L1 **Rehabilitation landform criteria**
All areas significantly disturbed by mining activities must be rehabilitated to a stable landform with a self-sustaining vegetation cover in accordance with Table 7 – Landform Design.

Table 7 - Landform Design

Disturbance type	Slope range (%)
Residual Void(s)	Angle of repose
Tailings dam top	Maximum 16.7 percent, (6 to 1)
Tailings dam wall	Maximum 25 percent, (4 to 1)
Rejects	Maximum 25 percent, (4 to 1)
Waste rock dump(s)	Maximum 25 percent (4 to 1) external slopes and out of pit dumps,, internal and in pit slopes, average of 16.7 percent (6 to 1)
Infrastructure and Camp(s)	Maximum 16.7 percent, (6 to 1)
ROM area(s)	Maximum 25 percent (4 to 1) external slopes, internal average of 16.7 percent (6 to 1)

L2 Progressive rehabilitation must commence within 2 years of areas becoming available within the operational land.

L3 The environmental authority holder must submit an annual report on the results of the Rehabilitation Monitoring Program to the administering authority, with each annual return.

L4 Overburden must be characterised prior to disturbance to determine the net acid generating potential of the spoil.

L5 Inert material with a net acid generating pH (NAG) ≥ 4 must be used in rehabilitation to cover acid generating spoil, to an average depth of 1 metre and not less than 0.5 metres.

L6 Sufficient quantities of cover materials must be salvaged for strategic use in rehabilitation.

L7 A cover material inventory must be maintained.

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L8 **Residual void outcome**
Residual voids must comply with the following outcomes;
(a) residual voids must not cause any environmental harm to land, surface waters or any recognised groundwater aquifer, other than the environmental harm constituted by the existence of the residual void itself and subject to any other condition within this environmental authority; and
(b) residual voids must comply with Table 7 – Landform Design.

L9 At Belmore, final voids must be backfilled to depressions with a maximum 12 metre depth from the top of the void.

L10 **Infrastructure**
All infrastructure, constructed by or for the environmental authority holder during the mining activities including water storage structures, must be removed from the site prior to mining lease surrender, except where agreed in writing by the post mining land owner / holder.

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

L11 **Contaminated Land**
A register of all chemicals stored on site must be maintained.

Agency Interest: Noise

N1 **Noise nuisance**

Subject to Conditions N2 and N3 noise from the mining activity must not cause an environmental nuisance, at any sensitive place excluding locations where written agreements are in place between the environmental authority holder and the affected party. The administering authority must be notified of any such agreement within 14 days of its implementation.

N2 When requested by the administering authority, noise monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive, and the results must be notified within 14 days to the administering authority following completion of monitoring.

N3 If the environmental authority holder can provide evidence through monitoring that the limits defined in Table 8 – Noise Limits inclusive, are not being exceeded then the holder is not in breach of Condition (N1). Monitoring must include:
(a) $L_{A,\ max\ adj,\ T}$; and
(b) the level and frequency of occurrence of impulsive or tonal noise; and
(c) atmospheric conditions including wind speed and direction; and
(d) location, date and time of recording.

N4 If monitoring indicates exceedence of the limits in Table 8 – Noise Limits, then the environmental authority holder must:
(a) address the complaint including the use of appropriate dispute resolution if required; and/or
(b) Immediately implement noise abatement measures so that emissions of noise from the activity do not result in further environmental nuisance.

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