



Appendix D

Revised Environmental Risk Assessment



Table 1
 Revised Environmental Risk Assessment

Ref	Environmental Issue	Activity / Contributors	Consequence	Probability	Risk Rating
1	Air Quality	Vegetation clearing & Topsoil Stripping	2	A	High (10 H)
		Overburden emplacement	2	A	High (10 H)
		Greenhouse gas emissions	2	B	Medium (14 M)
		Dragline rehandle	1	A	Medium (15 M)
		Exhaust emissions from plant and equipment	1	A	Medium (15 M)
		Dust generation from coal stockpiles	2	C	Medium (18 M)
		Coal and overburden haulage	1	B	Medium (19 M)
		Coal handling facility	1	C	Low (22 L)
		Blasting of overburden	1	C	Low (22 L)
		Spontaneous Combustion odours	1	C	Low (22 L)
2	Noise and Vibration	Exhaust emissions from plant and equipment	2	A	High (10 H)
		Overburden emplacement	2	A	High (10 H)
		Coal and overburden haulage	2	A	High (10 H)
		Blasting	2	A	High (10 H)
		Coal handling facility	2	B	Medium (14 M)
		Excavator/Dragline operating in pit	2	B	Medium (14 M)
		Road traffic travelling to and from the mine	2	C	Medium (18 M)
3	Groundwater	Groundwater inflow/seepage into pit	2	A	High (10 H)
		Loss of groundwater aquifers/ dewatering due to open cut mining	2	A	High (10 H)
		Potential for heavy metals and saline ingress to groundwater supply	2	A	High (10 H)
		Impacts to adjoining groundwater users	2	C	Medium (18 M)
		Contamination of groundwater due to fuel or chemical spill	2	D	Low (21 L)
4	Rehabilitation, Final landform and void management	Integrated landform with surrounding landscape	2	A	High (10 H)
		Progressive rehabilitation	2	A	High (10 H)
		Water storage (saline) and fly ash emplacement	2	A	High (10 H)
		Erosion	2	C	Medium (18 M)

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		Spontaneous combustion	2	C	Medium (18 M)
		Potential impacts from rehabilitation preparation	2	B	Medium (14 M)
		Final void management	2	B	Medium (14 M)
		Long-term protection and management	2	B	Medium (14 M)
		Weed infestation and feral animals on disturbed areas	1	C	Low (22 L)
		Contaminated land	1	C	Low (22 L)
5	Flora and Fauna	Impacts on threatened species or communities	2	A	High (10 H)
		Vegetation clearing	2	A	High (10 H)
		Dirty water runoff entering local waterways	1	C	Low (22 L)
		Fuel or chemical spill	1	C	Low (22 L)
		Re-use of cleared materials	1	C	Low (22 L)
		Weed infestation and feral animals	1	C	Low (22 L)
6	Surface Water	Surplus water management	2	B	Medium (14 M)
		Dirty water management	2	C	Medium (18 M)
		Dirty water runoff entering local waterways	2	C	Medium (18 M)
		Sedimentation and erosion of local waterways	2	D	Low (21 L)
		Fuel or chemical spill	2	D	Low (21 L)
		Alteration to natural/overland drainage flow	2	D	Low (21 L)
		Post-mining impacts on surface water flow and quality	1	D	Low (24 L)
		Potential for saline ingress and void water management	1	D	Low (24 L)
7	Spontaneous Combustion	Dozer and truck movements for stockpiling inert material for capping	2	B	Medium (14 M)
		Spreading of inert material	2	B	Medium (14 M)
		Stockpiling of inert material	2	B	Medium (14 M)
		Odour	2	C	Medium (18 M)
		Greenhouse Gas emissions	2	C	Medium (18 M)
		Health effects on employees and neighbouring community	1	E	Low (25 E)
8	Soils and land capability	Topsoil stripping	2	B	Medium (14 M)

Ref	Environmental Issue	Activity / Contributors	Consequence	Probability	Risk Rating
		Loss of productive topsoil	2	B	Medium (14 M)
		Runoff from stockpiles increasing sediment load	2	C	Medium (18 M)
		Loss/deterioration of land capability and agricultural suitability	2	D	Low (21 L)
		Stockpiling / Management of topsoil	2	D	Low (21 L)
9	Visual and Lighting	Visibility from public locations	2	C	Medium (18 M)
		Lighting impacts on neighbouring residents during 24 hour operations	1	C	Low (22 L)
10	Aboriginal Archaeology and Cultural Heritage	Damage to Aboriginal artefacts or sites	2	C	Medium (18 M)
		Loss of cultural heritage	2	D	Low (21 L)
11	Non-Aboriginal Heritage	Damage to heritage items	2	C	Medium (18 M)
12	Traffic and Transport	Mine employees travelling to work	1	C	Low (22 L)
		Deliveries to the mine	1	C	Low (22 L)
		Train movements	1	C	Low (22 L)
13	Waste	General waste management	1	C	Low (22 L)
		Rejects management	1	C	Low (22 L)
		Sewage management	1	C	Low (22 L)
14	Hazardous Materials	Storage of dangerous goods, including hydrocarbons and explosives	1	C	Low (22 L)
		Radiation source management	1	C	Low (22 L)
		Soil and/or water contamination from spills and leaks	1	C	Low (22 L)
		Risk associated with mining closer to prescribed dams	1	C	Low (22 L)
15	Socio-economics	Revenue and employment	1	C	Low (22 L)

ANGLO COAL AUSTRALIA PTY LTD – SHE RISK MATRIX						
		Hazard Effect/ Consequence				
Loss Type		1 Insignificant	2 Minor	3 Moderate	4 Major	5 Catastrophic
(P) Harm to People		Slight injury or health effects – first aid/ minor medical treatment level	Minor injury or health effects – restricted work or minor lost workday case	Major injury or health effects – major lost workday case/ permanent disability	Permanent total disabilities, single fatality	Multiple fatalities
(E) Environmental Impact		Environmental nuisance	Material environmental harm	Serious environmental harm	Major environmental harm	Extreme environmental harm
(A) Asset Damage & Other Consequential Losses		Slight damage <\$0.01M No disruption to operation	Minor damage \$0.01M to\$0.1M. Brief disruption to operation	Local damage \$0.1M to\$1.0M, partial shutdown	Major damage \$1.0M to\$10.0M. Partial loss of operation	Extreme damage > \$10.0M. Substantial or total loss of operation
(R) Impact on Reputation		Slight impact – public awareness may exist but no public concern	Limited impact – some local public concern	Considerable impact – regional public concern	National impact – national public concern	International impact – international public attention
Likelihood	Likelihood Examples (use only as a guide)	Risk Rating				
A (Almost certain)	Likely that the unwanted event could several times per year at this location	15 (M)	10 (H)	6 (H)	2 (Ex)	1 (Ex)
B (Likely)	Likely that the unwanted event could several times per year in Anglo Coal Australia; or could happen annually	19 (M)	14 (M)	9 (H)	4 (Ex)	3 (Ex)
C (Possible)	The unwanted event could well have occurred in Anglo Coal Australia at some time in the past 10 years	22 (L)	18 (M)	13 (H)	8 (H)	5 (Ex)
D (Unlikely)	The unwanted event has happened in the mining industry at some time; or could happen in 100 years	24 (L)	21 (L)	17 (M)	12 (H)	7 (H)
E (Rare)	The unwanted event has never been known to occur in the mining industry; or is highly unlikely that it could ever occur	25 (L)	23 (L)	20 (M)	16 (M)	11 (H)

Risk Matrix Rating	Risk Level	Guidelines for Risk Management
1 to 5	(Ex) – Extreme	Eliminate, avoid or implement specific plans/ procedures to manage & monitor
6 to 13	(H) – High	Proactively manage via the SHE Management System
14 to 20	(M) – Medium	Manage via the SHE Management System
21 to 25	(L) – Low	Monitor & manage as appropriate via the SHE Management System

**PRINCIPAL
HAZARDS**