

Objection form

Sections 71 and 260 *Mineral Resources Act 1989*

Form Number MRA-20 Version Number 4

Sections 216 and 217 *Environmental Protection Act 1994*

Objection to mining lease or mining claim tenement grant or application or amendment application for environmental authority (mining lease or mining claim)

This form should be used to make an objection in relation to:

- *the grant of a mining lease or mining claim; and/or*
- *an environmental authority (mining lease or mining claim) application; and/or*
- *a draft environmental authority for an environmental authority (mining lease or mining claim) application; and/or*
- *a condition included in a draft environmental authority for an environmental authority (mining lease or mining claim) application.*

When completed, this form should be forwarded to the Mining Registrar, Department of Natural Resources and Mines district in which the mining tenement is located, and a copy served upon the applicant for the mining tenement and environmental authority.

Date: 20 February 2013

Your name: Coast and Country Association of Queensland Inc.

Your contact details:

c/o Sean Ryan

Environmental Defenders Office (Qld) Inc.

30 Hardgrave Road

West End 4101

Ph 07 3211 4466

Fax 07 3211 4655

To: (Insert address of mining registrar)

Mining Registrar

Department of Natural Resources and Mines

PO Box 3679

RED HILL QLD 4701

Telephone: (07) 4669 0815 Facsimile (07) 4662 4966



Objection form

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Attention: Alex Grundy, Mining Registrar

(Insert contact officer's name)

Objection form

Objection to mining lease or mining claim tenement grant or application or amendment application for environmental authority (mining lease or mining claim)

Re: Application for tenement: mining lease; or mining claim

Application for environmental authority: mining lease; or mining claim

Tenement numbers: ML70426 Draft Environmental Authority (Mining Lease) number MIN101017310
By (applicant's name): Hancock Coal Pty Ltd (ACN 130 249 973)
For the proposed (description of activity): The Alpha Coal Project, an open cut thermal coal mine with a proposed production rate of 30 million tonnes of coal per annum with 45 million tonnes per annum run of mine coal to be extracted. The mining lease period applied for is 40 years. The proposed mine is 50km north of the township of Alpha, approximately 360km south-west of Mackay in the Galilee Basin, Queensland.
On land described as (description of operational land): The land within Mining Lease Application (MLA70426), 50km north of the township of Alpha, comprising approximately 64 769 hectares of which approximately 22 500 hectares is proposed to be disturbed by mining operations.

I / we hereby give notice of objection¹ in relation to:

(Tick one or more of the options below).

Note: You can object to the environmental authority application or amendment application, draft environmental authority and/or condition(s) included in the draft environmental authority.

- (1) the grant of the mining tenement(s) mentioned above
- (2) the environmental authority application or amendment application
- (3) the draft environmental authority for the application or amendment application²
- (4) a condition/conditions included in the draft environmental authority for the application or amendment application.

¹ According to the provisions of the *Environmental Protection Act 1994*, a properly made objection in relation to an environmental authority (mining lease or mining claim) is one that:

- is written;
- is signed by or for each entity (signatory) who made the objection;
- states the name of and address for each signatory;
- is made to the administering authority;
- is received on or before the last day of the objection period; and
- states the grounds of the objection and the facts and circumstances relied on in support of the grounds.

The administering authority must accept a properly made objection, and may also accept a written objection in relation to an environmental authority (mining lease or mining claim) even if it is not a properly made objection.

² If the application is a code compliant application for the environmental authority, the applicant cannot object to the draft environmental authority.

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The objection is as follows:

Describe the grounds of the objection

Note: Where the objector has ticked more than one option (1 to 4) above, the objector must identify which type of objection (1 to 4) each of the grounds described below relate.

Grounds of the objection:


Please see attachment A

Facts and circumstances relied on in support of the grounds of the objection:

Please see Attachment A, page 12

Each entity/signatory to this objection must be stated below

(Note: This is not a petition. If you sign this page you will be required to participate in proceedings before the Land Court regarding your objection).

1	NAME Derec Davies	SIGNATURE 	DATE 20/02/2013
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Objection form

Objection to mining lease or mining claim tenement grant or application or amendment application for environmental authority (mining lease or mining claim)

POSTAL ADDRESS 1/20 Brook St, South Brisbane QLD 4101		TELEPHONE: 0421835587 FACSIMILE: E-MAIL: coastandcountryqld@gmail.com	
2	NAME	SIGNATURE	DATE
POSTAL ADDRESS		TELEPHONE: FACSIMILE: E-MAIL:	
3	NAME	SIGNATURE	DATE
POSTAL ADDRESS		TELEPHONE: FACSIMILE: E-MAIL:	
4	NAME	SIGNATURE	DATE
POSTAL ADDRESS		TELEPHONE: FACSIMILE: E-MAIL:	
5	NAME	SIGNATURE	DATE
POSTAL ADDRESS		TELEPHONE: FACSIMILE: E-MAIL:	
6	NAME	SIGNATURE	DATE
POSTAL ADDRESS		TELEPHONE: FACSIMILE: E-MAIL:	
7	NAME	SIGNATURE	DATE

Objection form

Objection to mining lease or mining claim tenement grant or application or amendment application for environmental authority (mining lease or mining claim)

POSTAL ADDRESS	TELEPHONE: FACSIMILE: E-MAIL:
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Further information for objectors

Mineral Resources Act 1989 provisions

An entity may on or before the last date set for the receipt of objections lodge with the mining registrar an objection in writing in the approved form.

An objection must state the grounds of objection and the facts and circumstances relied on by you in support of those grounds.

An objector to any application for a mining claim or mining lease must serve upon the applicant, on or before the last objection day, a copy of the objection lodged by the objector.

Amendment or withdrawal of an objection

If the administering authority has accepted an objection in relation to an environmental authority (mining lease or mining claim), the entity who made the objection may, by written notice in the approved form:

- (a) within the objection period, amend or replace the objection³; or
- (b) at any time before the objection decision is made, withdraw the objection.

However a notice may be given only as follows:

- (a) before the objection period ends⁴ - by giving it to the Mining Registrar of the relevant Department of Natural Resources and Mines district in which the proposal is located;
- (b) after the objection period ends⁵ - by filing it with the Registrar, the Land Court, Brisbane⁶ and giving a copy to each of the following—
 - i) the Mining Registrar at the relevant Department of Natural Resources and Mines district office, and
 - ii) Permit and Licence Management,
Department of Environment and Heritage Protection,
GPO Box 2454,
Brisbane Qld 4001.

³ Use prepared notice template titled "Notice amending or replacing an objection to an environmental authority (mining lease or mining claim) application".

⁴ Use prepared notice template titled "Notice of withdrawal of an objection to an environmental authority (mining lease or mining claim) application - prior to end of objection period".

⁵ Use prepared notice template titled "Notice to the Land Court of withdrawal of an objection (after end of objection period) to an environmental authority (mining lease or mining claim) application".

⁶ Level 8, 363 George Street Brisbane or GPO Box 5266 Brisbane Qld 4001

ATTACHMENT A

Grounds of Objection

1. The application for the environmental authority (**the EA Application**) for the Alpha Coal Project (**the Project**) should be refused under the *Environmental Protection Act 1994* (Qld) (**EP Act**) considering:
 - (a) **Groundwater**: It has not adequately demonstrated that the Project will not have an unacceptable adverse impact on groundwater having regard to the considerations stated in s 3 and s 223(a) and (c) of the EP Act. In particular:
 - i. The impacts on ground water present a threat of serious and irreversible environmental damage, yet full scientific certainty regarding those impacts is absent due to inadequate provision of scientific information. Given the scale of the Project, the EA Application should be refused considering s 223(c) of the EP Act and the principles of ecologically sustainable development as set out in the 'National Strategy for Ecologically Sustainable Development';
 - ii. It has not been adequately demonstrated that the Project will not have an unacceptable adverse impact on the character, resilience and values of the receiving environment by changes to the quality and quantity of groundwater considering s 223(c) and standard criteria (e) of the EP Act;
 - iii. The EA Application fails to adequately comply with the relevant regulatory requirements to, considering ss 223(a) and 223(b) of the EP Act:
 - A. provide enough supporting information in respect of ground water to allow the administering authority to decide the application considering s 154(2) of the EP Act; or
 - B. describe the adverse impacts of the mining activities on groundwater values considering s 203 of the EP Act.
 - (b) **Surface water**: The Project will have adverse impacts and potentially severe and long term adverse impacts on the quantity, quality and ecology of surface water having regard to the considerations stated in ss 3, 223(a) and 223(c) of the EP Act. In particular:
 - i. The impacts on surface water present a threat of serious and irreversible environmental damage, yet full scientific certainty regarding those impacts is absent due to inadequate provision of scientific information. Given the scale of the Project, the EA Application should be refused considering s 223(c) of the EP Act and the principles of ecologically sustainable development as set out in the 'National Strategy for Ecologically Sustainable Development';
 - ii. It has not been adequately demonstrated that the Project will not have an unacceptable adverse impact on the character, resilience and values of the receiving environment by contamination of surface water as required by s 223(c) and standard criteria (e) of the EP Act;

- (c) **Climate change:** The Project will increase the likelihood, severity and longevity of the environmental harms that will result from climate change considering the combined effect of ss 3, 14, 223, 493A and Schedule 4 (Dictionary) of the EP Act. In particular:
- i. The environmental authority applied for would authorise environmental harm that would otherwise be unlawful under ss 437, 438 and 493A of the EP Act.
 - ii. The environmental harm that would be authorised is defined in s 14 of the EP Act to include “any adverse effect, or potential adverse effect (whether temporary or permanent and of whatever magnitude, duration or frequency) on an environmental value, and includes environmental nuisance” caused by an activity:

“(a) whether the harm is a direct or indirect result of the activity; or

(b) whether the harm results from the activity alone or from the combined effects of the activity and other activities or factors”.
 - iii. The criteria the Land Court must consider, under s 223(c) of the EP Act, in making the objection decision for the application are necessarily with respect to the quantum of environmental harm that would be authorised by the grant of the environmental authority applied for, defined to include these indirect and combined effects.
 - iv. In respect of the EA Application this includes:
 - A. the harm from emissions from the transport and use of the coal which are an indirect result of the mining activity; and
 - B. the harm from climate change resulting from the combined effect of the mining activity and other activities and factors.
 - v. The emissions from the mining, transportation and use of the coal will increase the likelihood, severity and longevity of climate change with significant and long term adverse impacts on the environment, including but not limited to the Great Barrier Reef, which warrant refusal considering the combined effect of ss 3, 14, 223, 437, 438, 493A and Schedule 4 (Dictionary) of the EP Act.
- (d) **Economics:** The Project will have adverse economic impacts that have not been adequately assessed considering s 3 and s 223(a) and (c) of the EP Act. In particular:
- i. The definition of environment in the EP Act is broad and includes, amongst other things, social and economic conditions considering s 8 of the EP Act.
 - ii. The Project will have adverse economic impacts and potentially severe adverse economic impacts caused by these proposed mining operations on local, regional, State and global economies and communities considering s 223 (c) and standard criteria (a) and (e) of the EP Act, including:
 - A. Downward pressure on employment in other industries by directly competing for labour or economic pressure on other industries through, for example, upward pressure on the currency exchange rate;

- B. Economic costs of impacts on the environment through the loss of vegetation, biodiversity and through the impacts which result from the contribution of the Project to climate change.
 - iii. A net economic benefit from the Project has not been demonstrated through a total cost benefit analysis which includes assessment of the adverse economic impacts.
 - iv. Because of failure to supply a cost benefit analysis referred to above, the EA Application fails to adequately comply with the relevant regulatory requirements to, considering ss 223(a) and 223(b) of the EP Act:
 - A. provide enough supporting information in respect of economics to allow the administering authority to decide the application considering s 154(2) of the EP Act; or
 - B. describe the adverse impacts of the mining activities on economic values considering s 203 of the EP Act.
 - v. There is not sufficient economic need for the project to justify the impacts and risks set out in grounds 1(a)-1(d) above.
 - (e) **Public Interest:** The adverse impacts and risks of the Project to groundwater, surface water, the climate and the economy described in 1(a) to 1 (d) above collectively outweigh the purported benefits of the Project and justify refusal on the basis that it is not in the public interest considering s 223(c) and standard criteria (i) of the EP Act.
2. The application for the mining lease (**the Lease Application**) for the Project should be refused under the *Mineral Resources Act 1989* (Qld) (**MR Act**) considering:
- (a) **Groundwater:** It has not been adequately demonstrated that it will not have an unacceptable adverse impact on groundwater considering s 269(4)(j), (l) and (m) of the MR Act. In particular:
 - i. It has not been adequately demonstrated that the Project will not have an unacceptable adverse impact on the environment by changes to the quality and quantity of groundwater considering s 269(4)(j) of the MR Act;
 - ii. The absence of adequate scientific information about a potential impact with severe and long term impacts is good reason to refuse Lease Application considering s 269(4)(l) of the MR Act; and
 - iii. The adverse environmental impacts and potentially severe adverse environmental impacts caused by these proposed mining operations on groundwater make it an inappropriate use of the land when current land use does not pose a similar threat considering s 269(4)(m) of the MR Act.
 - (b) **Surface water:** The Project will have adverse impacts and potentially severe and long term adverse impacts on the quantity, quality and ecology of surface water considering s 269(4)(j), (l) and (m) of the MR Act. In particular:
 - i. The Project will have an unacceptable adverse impact on the environment by adverse impacts on surface water quality, quantity and ecology considering s 269(4)(j) of the MR Act;

- ii. The absence of adequate scientific information about a potentially severe and long term impacts is good reason to refuse Lease Application considering s 269(4)(l) of the MR Act; and
 - iii. The adverse environmental impacts and potentially severe adverse environmental impacts caused by these proposed mining operations on surface water by the creation of a permanent final void, alienating the land from current and future productive use, make it an inappropriate use of the land when current land use does not pose a similar threat considering s 269(4)(m) of the MR Act.
- (c) **Climate change:** The Project will increase the likelihood, severity and longevity of the environmental harms that will result from climate change considering the combined effect of s 269(4)(j) and (l) of the MR Act.
- (d) **Economic and social matters:** The Project will have adverse economic impacts that have not been adequately assessed considering s 269(4)(j) and (l) of the MR Act. In particular:
- i. The definition of environment in the MR Act is broad and includes, amongst other things, social and economic conditions considering s 8 of the EP Act.
 - ii. The Project will have adverse economic impacts and potentially severe adverse economic impacts caused by these proposed mining operations on local, regional, State and global economies and communities considering s 269(4)(j) Act, including:
 - A. Downward pressure on employment in other industries by directly competing for labour or economic pressure on other industries through, for example, upward pressure on the currency exchange rate;
 - B. Economic costs of impacts on the environment through the loss of vegetation, biodiversity and through the impacts which result from the contribution of the Project to climate change.
 - iii. The adverse economic impacts of the Project have not been adequately assessed through a cost benefit analysis.
 - iv. The failure to demonstrate a net economic benefit from the Project, through a total cost benefit analysis which includes assessment of the adverse economic impacts, is a good reason to refuse the Project considering s 269(4)(l) of the MR Act.
 - v. the adverse economic impacts and the potentially severe adverse economic impacts caused by these proposed mining operations on groundwater make it an inappropriate use of the land when current land use does not pose a similar threat.
 - vi. There is not sufficient economic need for the project to justify the impacts and risks set out in grounds 2(a)-2(d) above.
- (e) **Public Interest:** The adverse impacts and risks of the Project to groundwater, surface water and the economy described in 2(a) to 2(d) above collectively outweigh the purported benefits of the Project and justify refusal on the basis that it would prejudice the public right and interest considering s 269(4)(k) of the MR Act.

3. In the alternative to 1 and 2 above, if the mine is not refused, conditions included in the draft environmental authority for the application should be varied to address grounds raised in 1 and 2 above.

Facts and Circumstances

The general facts and circumstances in relation to the mine and application process to support Grounds 1-3 are:

1. The applicants applied for an environmental authority (mining lease) under the *Environmental Protection Act 1994 (Qld) (EP Act)* and a mining lease under the *Mineral Resources Act 1989 (Qld) (MR Act)* for the Alpha Coal Project (**the Project**) on or about 17 December 2009.
2. The Coordinator-General declared the Project a significant project for which an environmental impact state (EIS) was required under the *State Development and Public Works Organisation Act 1971 (Qld) (SDPWO Act)* on 24 October 2008.
3. The Applicant submitted an EIS in November 2010, a supplementary EIS in August 2011, an addendum to the supplementary EIS in November 2011 and additional supplementary documentation for the Project released with the Coordinator-General's report in May 2012, for approval under the SDPWO Act (**EIS documents**).
4. According to the EIS documents, the Project is a proposed open-cut coal mine north of the township of Alpha, approximately 360km south west of Mackay in the Galilee Basin, Queensland.
5. According to the EIS documents, the area of the proposed Project and its surroundings is predominantly used for agriculture, particularly grazing.
6. The proposed mine is situated in the Galilee Basin in the catchment of the Burdekin River which flows into wetlands and the Great Barrier Reef.
7. According to the EIS documents and the application documents, the thermal coal deposits for the Project are estimated to be 2.6 billion tonnes, and are located within Mining Lease Application 70426 (**MLA**), which comprises approximately 64 769 hectares.
8. According to the EIS documents and the Coordinator-General's report, approximately 22,500 hectares of the mining lease area is proposed to be disturbed by mining operations using dragline, truck and shovel equipment.
9. According to the Lease Application, the mining lease application is for 40 years with an annual extraction rate of around 45 million tonnes per annum Run of Mine (**ROM**) coal.
10. The Coordinator-General's report on the mine under the SDPWO Act was delivered on 29 May 2012. The Coordinator-General recommended that the mine be approved subject to conditions.
11. The Interim Independent Expert Scientific Committee on Coal Seam Gas and Coal Mining provided 'Advice to Decision Maker on Coal Mining Project' on 20 July 2012 in relation to the Project, many if not all of the Committee's recommendations have not been carried out.

12. The Certificate of Public Notice for the application for the Mining Lease and Environmental Authority was issued on 19 December 2012.

The facts and circumstances to support Ground 1(a) and 2(a) (Groundwater) are:

13. According to the EIS documents, the proposed mine is 10-15km from the eastern margin of the Great Artesian Basin.
14. According to the EIS documents, without conceding its accuracy, the mine will lead to a decline in groundwater levels of up to 5m within a 10km circumference of mining areas.
15. According to the EIS documents, the existing quantity and quality of groundwater in and near the mine area has high environmental values for agricultural purposes surface water features and other values that may receive baseflow from groundwater.
16. The detail of scientific information provided on the scale and likelihood of the impacts that this project will have on groundwater resources are not commensurate with the scale of the Project and risks to the environmental values.
17. The baseline groundwater studies of the quantity and quality of groundwater that have been done are inadequate to establish the likely extent of the impact of the mine.
18. The regional cumulative impacts covering surface water, groundwater, geomorphological, hydrological and ecological impacts, has not been adequately assessed.
19. A regional water balance has not been undertaken.
20. There is insufficient information to assess the impact that this Project's groundwater drawdown and potential contamination could have on the Great Artesian Basin.
21. The final void, which will cover approximately 2000 hectares, will impact on groundwater equilibrium and may lead to groundwater contamination. There has been no assessment of the expected water quality of the final void and as such, the extent of these impacts is unknown.
22. Lowered groundwater levels (drawdown) will interfere with groundwater dependent agriculture and may affect spring and surface water features in the area surrounding the MLA.
23. Any potential contamination of groundwater will interfere with groundwater dependent agriculture and may affect spring and surface water features in the area surrounding the MLA.
24. Neither the Coordinator-General's report nor the draft environmental authority require the applicants to reach mutually suitable make-good agreements with landowners potentially affected by adverse impacts on the availability and quality of groundwater as a result of the mining operations.
25. Given the reliance on groundwater for agricultural purposes, a standard make good agreement must be entered into with all landowners potentially affected by adverse impacts on the availability and quality of groundwater as a result of mining operations.

26. The proposed monitoring and management of groundwater quantity and quality is inadequate, given the risks referred to above and the scale of the Project.

The facts and circumstances to support Ground 1(b) and 2(b) (Surface Water) are:

27. The proposed mine is situated in the Galilee Basin in the catchment of the Burdekin River which flows into wetlands and the Great Barrier Reef.

28. The existing quantity and quality of surface water in and near the mine area is suitable for biological integrity, other values and primary industry uses.

29. The baseline surface water studies of the quantity and quality of surface water that have been done are inadequate to establish the likely extent of the impact of the mine.

30. The region's hydrology and water quality may be affected by the scale of the proposed Project, significantly reducing the quantity of surface water in the region, through:

(a) acid water drainage, especially after water quality in the final void deteriorates;

(b) the diversion of Lagoon Creek;

(c) emergency discharges of contaminated water; and

(d) leachate from the onsite landfill; and the use of overburden to backfill open-cut pits.

31. There is insufficient information to assess the extent of the impact that acid water drainage from the final void or increasing salinity in the final void will have on the water quality of the Burdekin Catchment.

32. The regional cumulative impacts covering surface water, groundwater, geomorphological, hydrological and ecological impacts, has not been adequately assessed.

33. A regional water balance has not been undertaken.

34. As specific risks cannot be quantified without an adequate water balance, surface water cumulative impact study, or solute balance, it is difficult to assess the adequacy of mitigation measures to reduce impacts to an acceptable level, including acid water drainage which may impact on the water quality of the Burdekin Catchment.

35. The final void, which will cover approximately 2000 hectares, will impact on surface water flow and potentially impact on surface water quality. There has been no assessment of the expected water quality of the final void and as such, the extent of these impacts is unknown.

36. The proposed Tailings Dam will leak contaminants into the local environment.

37. The draft environmental authority does not adequately provide for pollutant monitoring of water, sediment, wildlife and vegetation.

38. The bioaccumulation of pollutants from the Project will harm local and reef ecology.

39. The Project fails to adequately assess the cumulative impacts on local ecology from creek diversions.
40. The final void alienates 2000 hectares of land from a more productive future use.
41. The proposed monitoring and management of surface water quantity, quality and ecology is inadequate, given the risks referred to above and the scale of the Project.

The facts and circumstances relied in in support of Ground 1(c) and 2(c) (Climate Change) are as follows:

Climate change

42. Anthropogenic emissions of greenhouse gases, principally carbon dioxide, trap heat and warm the planet in a process termed the greenhouse effect.
43. Anthropogenic emissions of carbon dioxide mix with sea water, increasing the acidity of the oceans in a process termed ocean acidification.
44. The greenhouse effect and ocean acidification form part of climate change.
45. Anthropogenic carbon dioxide emissions elevate carbon dioxide concentrations in the atmosphere for at least 300 years, such that further emissions within this period accumulate in the atmosphere.
46. Since the Industrial Revolution carbon dioxide has accumulated in the atmosphere, increasing concentrations from approximately 280 parts per million (ppm) to around 395 ppm.
47. The resilience of the receiving environment to accept emissions while maintaining conditions similar to those on which human civilisation developed, and to which life on Earth is adapted (that at approximately 350 ppm or less of carbon dioxide), was exceeded in about 1990. Any further emissions will exacerbate the severity and longevity of climate change impacts.
48. The resilience of the receiving environment to accept further emissions with a reasonable (approximately 80%) likelihood of not causing dangerous anthropogenic climate change (that is exceeding 2 degrees warming above pre-industrial times which would occur at approximately 450ppm of carbon dioxide) is approximately 529 billion tonnes of carbon dioxide between 2011 and 2050. To have a 50% chance of avoiding dangerous anthropogenic climate change the 'carbon budget' is 1080 billion tonnes. Any further emissions will increase the likelihood of dangerous anthropogenic climate change.
49. If not mitigated, the environment harm caused by climate change includes:
 - (a) Globally:
 - (i) increased global temperatures;
 - (ii) increased sea levels;
 - (iii) increase in frequency of hot extremes, heat waves, heavy precipitation and flooding – all with concomitant increased risks to property and human health and safety;
 - (iv) costs of approximately \$8 per tonne of carbon dioxide emitted, rising 2% each year; and
 - (v) total costs of approximately 5% of Global GDP each year (approximately \$3.5 trillion in 2011 and rising each year after that);
 - (b) In Australia:

- (i) increased sea levels;
 - (ii) increased average surface temperature;
 - (iii) more frequent heatwaves and droughts;
 - (iv) an increase in the proportion of severe tropical cyclones
 - (v) change in rainfall patterns across Australia, with more intense rainfall in many areas;
 - (vi) costs to the Australian economy rising to about 3% of GDP per annum in 2050; and
- (c) In Queensland:
- (i) increased flooding, erosion and damage in coastal areas due to increased numbers of severe tropical cyclones;
 - (ii) increased numbers of hot days and warm nights, placing increased stress on the population and infrastructure;
 - (iii) changes to terrestrial biodiversity with a potential loss of half the existing high-altitude Wet Tropics rainforest from a 1 °C increase in temperature;
 - (iv) changes to marine biodiversity particularly in the Great Barrier Reef due to increased acidification of oceans annual bleaching of up to 97 per cent of the Great Barrier Reef and associated large-scale mortality, if the average sea-surface temperature increases by 2 °C – with concomitant costs to Queensland of approximately \$1 billion per annum over the next century;
 - (v) changes to marine species distribution, with potential impact on the fishing industry, due to changes in currents;
 - (vi) reduced breeding habitat of seabirds and turtles due to sea level rise
 - (vii) increased spread of disease due to changed conditions for vectors; and
 - (viii) increased heat-related illnesses.

Contribution of project to climate change

50. Without conceding the accuracy of the calculation, estimates provided by the EIS documents of the total emissions from the fugitive emissions, diesel combustion, explosives and electricity consumption within the mine for the life of Project are between 24,509,177 and 65,152,187 tonnes of carbon dioxide equivalents.
51. By failing to also estimate to emissions from transport and use of the product coal produced by the Project, the proponent fails to estimate the total direct and indirect emissions that will occur as a result of approval of the Project.
52. The EIS documents state a number of different estimates and methods of calculating the volume of coal expected to result from the project. Depending on which of those estimates and methods is used the emissions from the burning of the coal that will result from the approval of the Project varies between approximately 2.143 and approximately 2.866 billion tonnes of carbon dioxide.
53. The total emissions that will result from the approval of the project will increase the severity, longevity and likelihood of the environmental harms of climate change mentioned in paragraph 49 above with a cost to the global environment of approximately \$30 billion over the life of the project.

54. The emissions of the mine will significantly further exceed the resilience of the receiving environment to maintain conditions similar to those on which human civilisation developed and to which life on Earth is adapted.
55. The emissions of the mine will be significant step towards exceeding the resilience of the environment to dangerous anthropogenic climate change.

The facts and circumstances to support Ground 1(d) and 2(d) (Economics) are:

56. The proponent asserts that the Project will be of economic benefit to Queensland however this is based on input output modelling and assesses only the positive impact on economic activity rather than the positive and negative impacts on the economy more broadly and on community welfare.
57. To determine if the project provides a net economic benefit to Queensland and the local community a cost benefit analysis must be undertaken.
58. A full cost benefit analysis of the Project has not been carried out.
59. The applicant is ultimately largely foreign owned. Profits or benefits sent outside Queensland, for example to owners or foreign workers or importation of goods are not appropriately included as benefits to Queensland in any cost benefit analysis.
60. The economic impact assessment by the applicant overstates the employment impacts by failing to incorporate any negative impacts which may occur on net employment. A more appropriate cost benefit analysis would show any negative impacts on total employment such as in agriculture and manufacturing. Further, the project may overall produce little benefit to employment in Queensland or even a net loss of employment in Queensland.
61. Burning of coal overseas will create greenhouse gas emissions that will have a negative economic impact on the world, Australia and Queensland including on the ecology and economy of Queensland, particularly the Great Barrier Reef.
62. There is no need for this coal. The world has many other energy sources. If this mine does not go ahead it will exert some upwards pressure on coal prices. This reduction in supply and increase in price of coal will push some consumers towards other energy sources which are already becoming cheaper. It is not correct that the same amount of coal would be obtained from another sources and burnt to create the same amount of greenhouse gas emissions.

DEREK DAVIES
